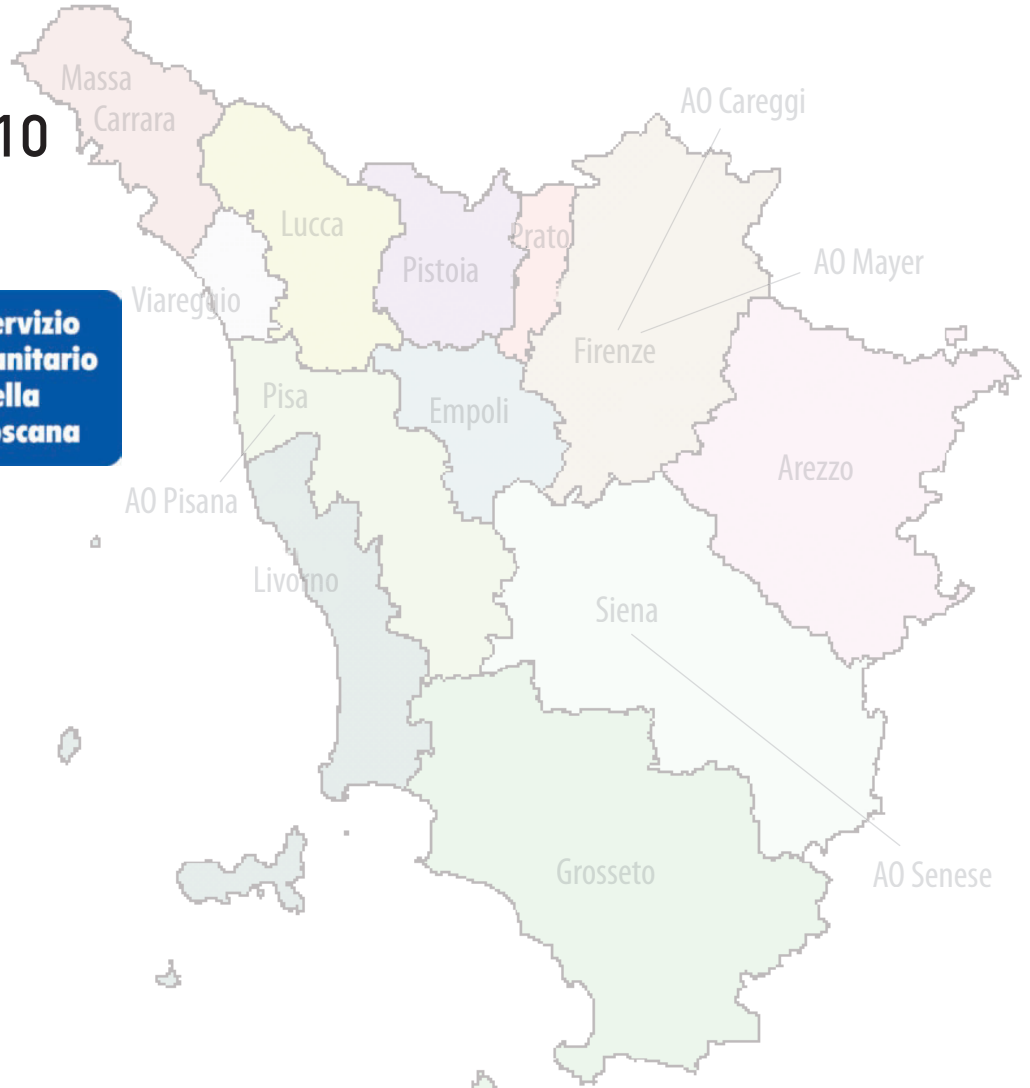


# The Performance Evaluation System of Health Care in Tuscany

Report 2010



**Servizio Sanitario della Toscana**





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Edizioni del Poligrafico Fiorentino

ISBN 978-88-902492-6-6

*Graphics layout, translation, editing, pagination:*  
CentroImmagine, Lucca, Italy



Tuscany Region

Scuola Superiore Sant'Anna of Pisa

Istituto di Management

Laboratorio Management e Sanità

# **The Performance Evaluation System of Health Care in Tuscany**

Report 2010





This volume, edited by Sabina Nuti and Linda Marcacci, was prepared thanks to the effort of the entire research team of the Laboratorio Management e Sanità of Scuola Superiore Sant'Anna, supported by managers and staff of the Directorate General of Citizenship Rights and Social Cohesion and by other entities in the Tuscan Health System, such as ARS (Regional Health Agency of Tuscany), ISPO (Institute for the Study and Prevention of Cancer), OTT (Organization Transplant Tuscany) and ITT (Tuscan Cancer Institute).

In particular, we thank Serenella Acciai, Emanuela Balocchini, Simona Carli, Mario Cecchi, Cecilia Chiarugi, Giovanna Faenzi, Chiara Gherardeschi, Luca Giorgetti, Loredano Giorni, Maria Chiara Innocenti, Andrea Leto, Maria Teresa Mechi, Marco Menchini, Carla Rizzuti, Lorenzo Roti, Beatrice Sassi, Riccardo Tartaglia, Barbara Trambusti, Daniela Volpi, Alberto Zanobini, and the General Managers of the Local Health Authorities and of the Teaching Hospitals, who participated with professionalism and a spirit of collaboration to update the Performance Evaluation System and to implement it in support of the system management.

In the context of the Performance Evaluation System, the Laboratorio Management e Sanità has been granted the following two patents:

- “Performance Evaluation System of Health Authorities”, patent number 0001358839, issued on April 10<sup>th</sup> 2009 by the Italian Ministry of Economic Development, Patent and Trademark Office.
- “Method for Managing Multi-dimensional Indicators of Performance for Services Companies”, patent number 0001389298, issued on June 14<sup>th</sup> 2011 by the Italian Ministry of Economic Development, Patent and Trademark Office.



## NOTES TO TRANSLATION

**AOU – Azienda Ospedaliero-Universitaria:** Teaching Hospital

**Area Vasta:** Following the regional law 40/2005 the Tuscan territory was divided into three “areas”, called “Aree Vaste”. Each Area Vasta includes different local health authorities, which are grouped on the basis of their geographical position, and a Teaching Hospital. In Tuscany there are three Aree Vaste : Centre – Northwest – Southeast.

**BPs – Buone Pratiche:** Good Practices

**CCN – Capitale Circolante Netto:** Net Working Capital

**CE – Conto Economico:** Income Statement/Profit and Loss Account

**DGR – Decreto Giunta Regionale:** Regional Committee Decree

**DM – Decreto Ministeriale:** Ministry Decree

**ESTAV – Ente per i Servizi Tecnico Amministrativi di Area Vasta:** Institutes which provide technical and administrative support to the Aree Vaste.

**Flusso LA – Flusso Livelli di Assistenza:** Flow on levels of care

**Flusso SP – Flusso Stato Patrimoniale:** Flow on balance sheet

**Flusso SPA – Flusso Scheda Prestazioni Ambulatoriali:** Flow on Outpatient Services

**GRC – Gestione Rischio Clinico:** Clinical Risk Management

**IRCSS – Istituto di Ricovero e Cura a Carattere Scientifico:** Scientific Institute for Admission and Treatment

**ISPO – Istituto per lo Studio e la Prevenzione Oncologica:** Institute for the Study and Prevention of Cancer

**PISLL – Prevenzione igiene e sicurezza sui luoghi di lavoro:** Prevention Hygiene and Safety on Workplace

**PNAA – Piano Nazionale per l'alimentazione degli Animali:** National Plan for Animal Feeding

**PNR – Piano Nazionale Residui:** National Plan for Residuals

**PRAA – Piano Regionale Alimentazione degli Animali:** Regional Plan for Animal Feeding

**PSR – Piano Sanitario Regionale:** Regional Health Plan

**SDO – Scheda di Dimissione Ospedaliera:** Hospital Discharge File

**SIAN – Servizi Igiene degli Alimenti e Nutrizione:** Food Hygiene and Nutrition Services

**SPV – Sanità Pubblica Veterinaria:** Public Veterinary Health

**TO – Tasso di Ospedalizzazione:** Hospitalization Rate

**TSO – Trattamento Sanitario Obbligatorio:** CHT – Compulsory Health Treatment





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## PREFACE

The Performance Evaluation System of Health Care in Tuscany – Report 2010, now in its fifth edition, has established itself as a comprehensive reference for the Health Care System that, over the years, has spread beyond regional boundaries.

Supervision and comparison of performance by different players, the enhancement of the best results, and needs-based planning are fundamental for our Public Health System.

The results evaluation policy and the ongoing improvement of the organizational processes and the final service, are the core activities of a sophisticated public administration at the service of citizens.

We receive frequent encouragement from citizens, groups, and health care providers, prodding us to improve the system and to find suitable and innovative solutions in order to develop our services and health policies.

The New Health and Social Care Plan gives us an opportunity to develop a unique programming of health and social services, that will allow us to universally deal with health problems caused by different factors.

Knowing that we are caught between our need for economic stability and the quest for quality provides us an incentive and a constant reference for our activity. We are convinced that we can achieve this balance if all together we can make a cultural leap that characterizes a renewed approach to care and support for the Tuscan people.

Trust and passion, concepts that cannot be translated into laws or circulars, should condition our actions aimed to provide and achieve an overall view.

This optimism is mainly a call for the sense of practice and service, even more critical in this moment of profound and difficult economic and financial crisis. Social and health-care professionals are key players in effecting the changes that we must support and realize, with a perspective to promote human capital to its fullest potential.

Daniela Scaramuccia  
Health Councillor  
Tuscany Regional Government





# THE ITALIAN HEALTHCARE SYSTEM

The Italian healthcare system is characterized by the following essential principles:

- it is **universal**, therefore it is accessible to the entire population;
- it is **comprehensive**, since it provides the full range of prevention and treatment services;
- it is (almost) **free of charge** at the point of delivery;
- it is financed from **general taxation**;
- it is **regionally** based.

The system is organized at three levels: national, regional and local. At the national level the Ministry of Health determines the “Essential Health Benefits Package” (LEA – Livelli Essenziali di Assistenza), outlines the services to which the entire population is entitled under conditions of uniformity, and allocates to the regions the financial resources deriving from the taxation funds and appropriated by Parliament. Moreover, the Ministry of Health has the task of promoting the achievement of health objectives and serves as a guide for the uniform implementation of prevention and care throughout the national territory, in order to ensure equity in access to the national health service. If necessary, the Ministry may also intervene in cases of persistent or serious mismanagement.

The recent national legislative reforms have transferred the political, administrative and financial responsibilities regarding the provision of health care from the regional government to each single region. As a consequence of such policy of *devolution*, Italy has now 21 regional health systems which significantly differ from one another. At the regional level governments are now responsible for planning healthcare activities, organizing supply on the basis of the population’s needs, financing local health authorities and the overall system and monitoring quality, appropriateness and efficiency of the services provided. They also deal with legislative and administrative aspects.

At the local level, healthcare organizations can be divided into three different levels:

- local health authorities (LHAs);
- public hospital trusts (highly specialized hospitals, which are often Teaching Hospitals);
- private accredited providers.

In Tuscany local health authorities are geographically based organizations responsible for providing comprehensive care to citizens. A general manager, appointed by the regional government on the basis of professional qualifications and technical skills, runs each local health authority and is responsible for ensuring the sound financial performance of the organization and for fulfilling the objectives laid out by the regional health plan. Each Region allocates to all the LHAs within its territory the National Health Fund transferred by the Ministry of Health according to a weighted capitation mechanism. Additional compensation is given for cross-boundary flows, which vary significantly among regions and within the same region.

LHAs must ensure three levels of care: community and primary health care, hospital care and prevention. To provide these levels of care, each LHA has three main facilities: a department for preventive health care, one or more directly managed hospitals, and one or more districts.

General Practitioners play a crucial role, acting as “gate-keepers” between patients and the health system. They filter patients’ requests, prescribe them drugs or treatments, and finally, whenever necessary, address them to the hospital.

In Tuscany the Regional Health System is currently composed by 12 LHAs and 5 Teaching Hospitals. Each LHA is composed of one or more districts; the whole Tuscan region has in total 34 districts: in each district there is at least one hospital and one emergency department.

In 2000 the Tuscan Region started a process of reorganization of the healthcare system, which led to significant changes. In particular, as for hospital activities, following the regional law 40/2005 the Tuscan territory was divided into three “areas”, called “Aree Vaste” (Centre – Northwest – Southeast). Each Area Vasta includes different local health authorities, which are grouped on the basis of their geographical position, and a Teaching Hospital. The Aree Vaste have been assigned the tasks of planning and coordinating hospital services so that every medical specialty is covered within the territory of each Area Vasta and no outflows of patients to another Area Vasta incur.

Moreover, the regional law 40/2005 established the constitution of new public bodies, in the form of consortia, called “Società della Salute” (SdS). Such organisms are made up of the Tuscan municipalities belonging to the same district-area and the LHA of reference within that territory.



The SdS are voluntary bodies and have been set up in order to:

- fully integrate healthcare activities with welfare services provided by local bodies;
- ensure that local activities are well managed and meet the population's needs with reference to health;
- promote organizational, technical and managerial innovation as regards local/district services;
- monitor health determinants and contrast of inequalities by promoting prevention activities, developing primary care and strengthening the role of general practice.

Currently in Tuscany there are 28 Società della Salute which plan their activities by means of the so-called “Piani Integrati di Salute – PIS” (Integrated Plans for Health). PIS include the objectives to be achieved, which are set on the basis of the specific characteristics of the territory in which each SdS operates. PIS also establish the actions to be taken and the solutions to be adopted to ensure the population's health and meet citizens' needs; they also define tools for control, monitoring and evaluation of results.

Finally, under regional law 40/2005 three technical and administrative boards (one for each Area Vasta) called ESTAV, have been established. As a consequence of such reform, the following functions have been transferred from LHAs and THs to the ESTAV:

- supplying of goods and services;
- managing the warehouses and the logistics aspects;
- managing the information services;
- managing maintenance services, contracts and conveyance;
- organizing and managing training activities for personnel;
- recruiting personnel;
- paying personnel.

## THE HEALTH SYSTEM IN TUSCANY: KEY FIGURES

- 3.7 million inhabitants
- € 6.8 billion for healthcare spending in 2010:
  - 5.0% prevention
  - 42% hospitals services
  - 53% district & primary care
- 17 Public Local Health Authorities:
  - 12 Local Health Authorities (ASL) and
  - 5 Teaching Hospitals (AOU).
  - All ASL and AOU are integrated in clinical and coordination networks called “Area Vasta”
    - Northwest Area Vasta: 1 AO and 5 ASL + 1 Estav
    - Centre Area Vasta: 2 AO and 4 ASL + 1 Estav
    - Southeast Area Vasta: 1 AO and 3 ASL + 1 Estav
- 52,541 employees (13.98 per 1,000 inhabitants)
- 14,716 private and public hospital beds (3.92 per 1,000 inhabitants)



# THE PERFORMANCE EVALUATION SYSTEM OF HEALTH CARE IN TUSCANY

by Sabina Nuti

## 1 The multi-dimensional reporting system of results

This report presents the results achieved by Health Care in Tuscany for the year 2010.

The Tuscany Region for many years now, considers the performance evaluation system presented in the following paragraphs, as an essential instrument for managing the Regional Health System. Strategic long-term objectives are monitored concurrently with short-term goals, and expense management as well is integrated in the evaluation in order to highlight the overall value created for citizens. Even though it is important for the Local Health Authorities to achieve economic and financial balance, this is certainly not enough. It is fundamental that the collective resources, adequately and effectively used, create “customer value”, guaranteeing a high-quality, equal-access to healthcare for all citizens.

With these assumptions, the Laboratorio Management e Sanità (MeS), established by the Scuola Superiore Sant’Anna, in collaboration with the Tuscany Region, designed the Performance Evaluation System for all Tuscan Local Health Authorities in 2005. The performance evaluation system has been deployed every year since, and helps measure the strategic effectiveness and efficiency of each Authority, both within the territory in which it operates, and within the Regional System of which it is a part.

The System is now used to support planning and programming processes at both levels, territorial and regional, and is connected to the Incentive Management System. In turn, the individual Authorities have connected it to their internal budgeting process.

Every year, the Performance Evaluation System and the new indicators are subject to the supervision of a scientific committee of international experts and are shared, in many respects, with a network of Italian regions that have adopted the same evaluation system. The network is composed of the following regions: Basilicata, Liguria, Marches, Piedmont, Umbria, Aosta Valley, the Autonomous Province of Bolzano, and the Autonomous Province of Trento. Together with the representatives of these regions, the evaluation system is reviewed, in order to adapt it to the changes taking place in the system, to make it increasingly more effective to support decision making in the Region and in the Health Authorities, and to allow an on-going comparison of results.

In a multi-dimensional perspective, the results achieved by the Tuscan Health Authorities, and by the Health System compositely, are analysed according to six dimensions, thereby highlighting the fundamental aspects of performance in a complex system. (see Figure 1).

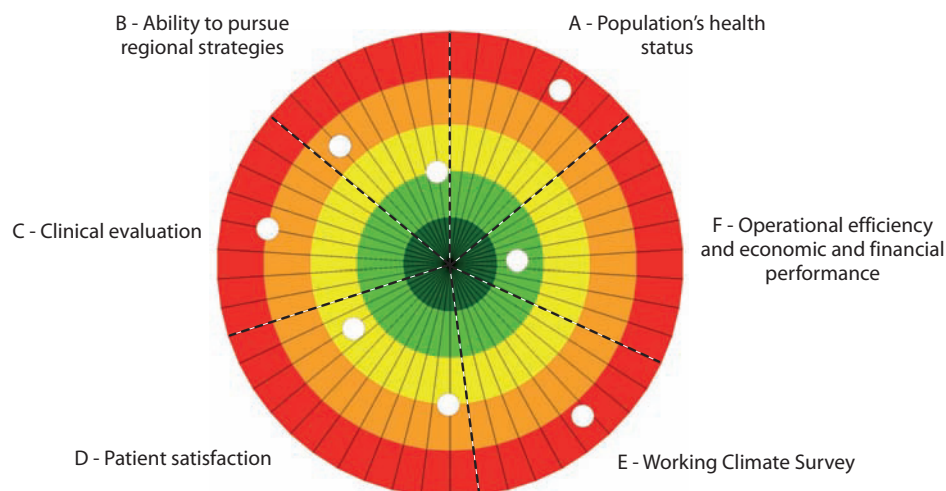


Figure 1 – The six dimensions of evaluation





The dimensions of evaluation are:

**A. Population’s health status.**

Some indicators, such as mortality in the first year of life or death from different pathologies, move slowly over time. Management choices made in the past, are responsible for the improvement seen today. Indicators belonging to this dimension are both the start and end point of all health systems.

**B. Ability to pursue regional strategies.**

The Tuscan Health Authorities are responsible not only for their ability to be efficient and effective autonomous entities, but also for their team-work within the Regional Health System, in order to optimise synergies and to ensure equal access and treatment for the entire population. In this sense it is important that the Authorities are able to enhance the regional strategic guidelines, by applying the Regional Health Plan and regional resolutions in the time and modes required.

**C. Clinical evaluation.**

This dimension includes the results of quality, appropriateness, efficiency, demand management, and of the effectiveness of hospital activities and prevention measures.

**D. Patient satisfaction.**

This dimension considers the assessment of Health Services by citizens and users. The opinion of the citizen/ customer, in order to be of help to the strategic and organizational decisions of the Health Authorities, must be articulated in detail, taking into account primary and secondary aspects. This evaluation goes beyond customer satisfaction; it also takes into account the patient experience as reported by interviewed patients.

**E. Working Climate Survey.**

This dimension considers satisfaction of health care professionals. Many studies establish a significant correlation between the employees satisfaction, the working climate within a Authority, and customer satisfaction. Aiming at improving results, therefore, requires a significant focus on management systems and mechanisms that would support the involvement and responsibility of operators in the improvement objectives for the services provided.

**F. Operational efficiency and economic and financial performance.**

This dimension considers the Authority’s ability to achieve the three conditions of balance of economic and financial dynamics: income, expenses and investments. Also subject to observation are indicators of operational efficiency that can indicate the productivity of resources and the deployment of management tools aimed at optimizing and rationalizing the use of available resources, such as the functioning of the internal services (management control, provisions, information system, etc.) and the ability of the Authority to use basic management tools (planning and control procedures, training, internal communication, etc.).

The evaluation has been expressed in five sections:

- ▶ Green: the highest target, reflecting an excellent performance. On a five-level scale of assessment the score in this section is between 4 and 5;
- ▶ Light green: indicates good performance ranging between 3 and 4;
- ▶ Yellow: the rating is between 2 and 3 and the performance is average, but there is certainly scope for improvement;
- ▶ Orange: the rating is between 1 and 2 and the situation is worrying. The performance must be improved;
- ▶ Red: when performance is below the unit 1.

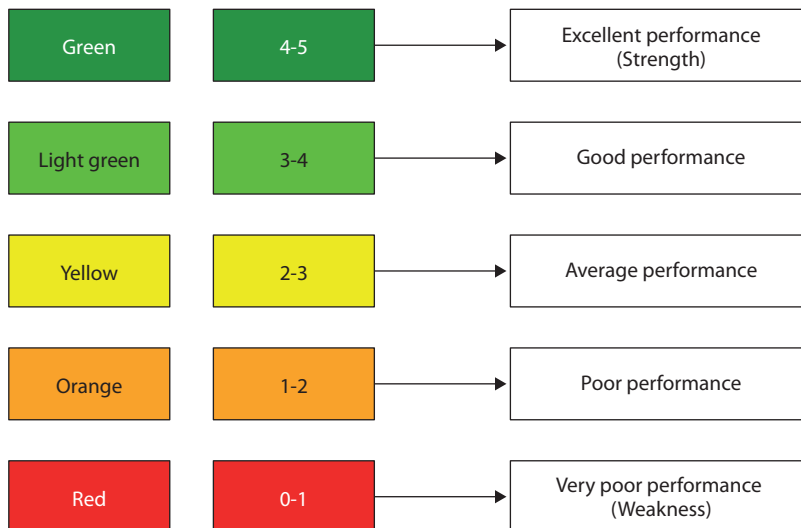


Figure 2 – The evaluation sections

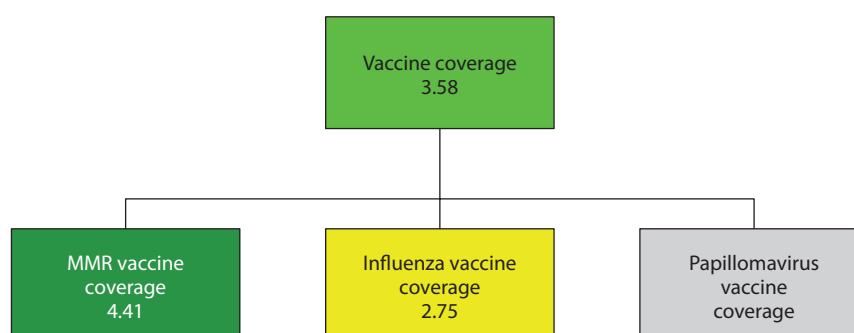


In order to position the values of the indicators identified for each dimension of the evaluation system, the following criteria were used, within the five sections:

- ▶ when present, the recognised international standard (for example, the maximum rate of caesarean births advocated by the WHO);
- ▶ in the absence of an international reference standard a regional standard was considered, defined by a regional resolution or by the Regional Health Plan;
- ▶ in the absence of a regional standard the regional average was considered and corrected with possible factors of risk adjustment (usually age and sex), to enable comparison between Authorities.

## The indicators of the System 2

Each Authority's performance is reported within its own target, in which there are the concise values of about 50 selected indicators. Some indicators are the synthesis of a "tree" of other indicators. For example, the evaluation of vaccine coverage is the average of two sub-indicators: MMR- and influenza vaccine coverage for people above 65 years (see Figure 3). The third sub-indicator, relative to papillomavirus, is for "observation", so it is not assessed, and it does not contribute to the scoring.



**Figure 3** – The evaluation tree of vaccine coverage

More than 200 overall indicators are evaluated annually. Their actual number may vary because each year the Region, particularly within the dimension relating to the ability to pursue strategic objectives, may change the objectives, and the results to be monitored according to the strategic priorities of the year. Moreover, the results may have a different timing of measurement and evaluation based on relevance and the possibility to effect quick improvements in the results. Waiting times, for example, are measured on a monthly basis, while citizen satisfaction with specific services is measured every two years.

The dimensions of the evaluation system include indicators based on data coming from the Regional Information System, from the Authority's budgets, and from statistical systematic surveys, conducted directly by the Laboratorio Management e Sanità to ensure uniformity of methodologies, essential to obtain comparable data.

The following tables show the indicators selected for each of the six dimensions of evaluation and the sub-indicators constituting the evaluation trees, used when the evaluation comprises several indicators. Where possible, we reported data concerning the period 2008-2010.



Code	Indicators and Sub-indicators Target 2010 Tuscany Regional Government	Value 2005 2007	Value 2006 2008	
<b>POPULATION'S HEALTH STATUS (A)</b>				
<b>A1</b>	<b>Infant Mortality</b>			
<b>A1.1</b>	Infant Mortality in the first year of life	2,77	2,70	
<b>A1.2</b>	Early neonatal mortality (in the first 6 days of life)	1,24	1,20	
<b>A1.3</b>	Neonatal mortality (in the first 28 days of life)	1,98	1,94	
<b>A2</b>	<b>Cancer mortality</b>	168,97	166,01	
<b>A3</b>	<b>Circulatory disease mortality</b>	172,11	166,40	
<b>A4</b>	<b>Suicide mortality</b>	5,19	5,28	
<b>A5</b>	<b>Potential Years of Life Lost (PYLL)</b>	3614,50	3557,30	
Code	Indicators and Sub-indicators Target 2010 Tuscany Regional Government	Value 2008	Value 2009	Value 2010
<b>ABILITY TO PURSUE REGIONAL STRATEGIES (B)</b>				
<b>B2</b>	<b>Lifestyles (PASSI)</b>			
<b>B2.1</b>	<b>Physical activity</b>			
<b>B2.1.1</b>	Percentage of sedentary people	26,03		28,67
<b>B2.1.2</b>	Percentage of sedentary people advised by the doctor to exercise	30,44		31,80
<b>B2.2</b>	<b>Nutritional situation</b>			
<b>B2.2.1</b>	Percentage of obese people	9,84		8,05
<b>B2.2.2</b>	Percentage of overweight or obese people advised by the doctor to lose or maintain weight	55,26		47,99
<b>B2.2.3</b>	Percentage of overweight or obese people advised by the doctor to exercise	41,72		39,20
<b>B2.3</b>	<b>Alcohol consumption</b>			
<b>B2.3.1</b>	Percentage of people binge drinking and/or drinking between meals	10,79		
<b>B2.3.2</b>	Percentage of people binge drinking and/or drinking between meals advised by the doctor to drink less	5,42		
<b>B2.4</b>	<b>Smoking</b>			
<b>B2.4.1</b>	Percentage of smokers	29,20		30,38
<b>B2.4.2</b>	Percentage of smokers advised by the doctor to quit smoking	54,93		28,93
<b>B4</b>	<b>Pain Management Strategies</b>			
<b>B4.1</b>	<b>Pain-related medicine consumption</b>			
<b>B4.1.1</b>	Opioid consumption			1,59
<b>B4.1.3</b>	Morphine consumption		2,38	2,26
<b>B4.1.4</b>	Hospital morphine consumption		0,75	
<b>B5</b>	<b>Extension and participation in cancer screenings</b>			
<b>B5.1</b>	<b>Mammography Screening</b>			
<b>B5.1.1</b>	Adjusted extension of mammography screening			96,15
<b>B5.1.2</b>	Adjusted participation in mammography screening	69,10	70,50	72,65
<b>B5.2</b>	<b>Cervical Screening</b>			
<b>B5.2.1</b>	Adjusted extension of cervical screening	99,38	97,92	99,66
<b>B5.2.2</b>	Adjusted participation in cervical screening	54,40	54,90	54,71
<b>B5.3</b>	<b>Colorectal Screening</b>			
<b>B5.3.1</b>	Adjusted extension of colorectal screening	69,38	69,38	81,88
<b>B5.3.2</b>	Adjusted participation in colorectal screening	50,90	53,00	51,18
<b>B6</b>	<b>Donations</b>			
<b>B6.1</b>	<b>Organ donations</b>			
<b>B6.1.1</b>	Percentage of detected encephalic deaths	48,52	53,59	55,10
<b>B6.1.2</b>	Percentage of actual donors	53,99	56,21	53,74
<b>B6.1.3</b>	Brain injury death rate per million residents	147,40	154,00	136,72
<b>B6.2</b>	<b>Blood donations</b>			
<b>B6.2.1</b>	Plasma non-compliance index for the industry		0,51	0,50
<b>B6.2.2</b>	Blood, plasma and blood platelets donation rates per 1,000 residents	98,00	102,00	103,00



Code	Indicators and Sub-indicators Target 2010 Tuscany Regional Government	Value 2008	Value 2009	Value 2010
<b>B7</b>	<b>Vaccine coverage</b>			
<b>B7.1</b>	MMR vaccine coverage	92,36	92,56	92,04
<b>B7.2</b>	Influenza vaccine coverage for residents over 65	69,47	71,11	68,76
<b>B7.3</b>	<i>Papillomavirus (HPV) vaccine coverage</i>			25,08
<b>B8</b>	<b>Data Management</b>			
<b>B8.1</b>	Timeliness of data transfer to the Regional Information System		67,56	69,01
<b>B8.2</b>	<b>Timeliness and compliance of services delivered with regard to prevention</b>			
<b>B8.2.1</b>	Timeliness of services delivered with reference to prevention		92,00	92,00
<b>B8.2.2</b>	Compliance of services delivered with reference to prevention		92,00	91,67
<b>B8.3</b>	Timeliness of data transmission with respect to public health			7,42
<b>B9</b>	<b>Equity and Access</b>			
<b>B9.5</b>	<b>Hospitalization of patients with chronic diseases by education</b>			
<b>B9.5.1</b>	Hospitalization for heart failure rates ratio by education		1,53	1,24
<b>B9.5.2</b>	Hospitalization for diabetes rates ratio by education		1,73	1,34
<b>B9.5.3</b>	Hospitalization for COPD rates ratio by education		2,06	1,62
<b>B9.5.4</b>	Hospitalization for pneumonia rates ratio by education		1,64	1,41
<b>B9.6</b>	Urgent hospitalization rates ratio by education	1,41	1,73	1,52
<b>B9.7</b>	NTSV cesarean birth rates ratio by education		0,99	0,94
<b>B9.8</b>	<i>VPI hospitalization rates ratio by citizenship</i>		6,71	7,33
<b>B11</b>	<b>Complexity (Teaching Hospitals)</b>			
<b>B11.1</b>	<i>Average DRG weights</i>	1,70	1,64	1,65
<b>B11.1.1</b>	<i>Average medical DRG weights</i>	1,01	1,03	1,04
<b>B11.1.2</b>	<i>Average surgical DRG weights</i>	2,61	2,30	2,29
<b>B11.1.2.1</b>	<i>Percentage of high-complexity surgical DRGs</i>	41,14	33,92	34,18
<b>B11.1.2.2</b>	<i>Average weight of high-complexity surgical DRGs</i>	4,61	4,63	4,62
<b>B12</b>	<b>Mobility (Teaching Hospitals)</b>			
<b>B12.1</b>	<b>Outflow (Teaching Hospitals)</b>			
<b>B12.1.1</b>	<b>Outflow outside the Area Vasta territory</b>			
<b>B12.1.1.1</b>	Outflow rate outside the Area Vasta territory	7,60	7,85	8,85
<b>B12.1.1.2</b>	Outflow rate outside the Area Vasta territory per high-complexity DRG	9,73	9,78	11,79
<b>B12.1.2</b>	<b>Extra-regional outflow</b>			
<b>B12.1.2.1</b>	Overall extra-regional outflow rate	6,45	5,99	4,84
<b>B12.1.2.2</b>	Extra-regional outflow rate per high-complexity DRG	7,46	6,75	5,01
<b>B12.2</b>	<b>Inflows</b>			
<b>B12.2.1</b>	<i>Inflow outside the Area Vasta territory per high-complexity DRG</i>	10,49	11,02	10,29
<b>B12.2.2</b>	<b>Extra Region inflow</b>			
<b>B12.2.2.1</b>	Extra-regional inflow	17,63	17,44	17,25
<b>B12.2.2.2</b>	Extra-regional inflow per high-complexity DRG	12,98	14,11	14,19
<b>B13</b>	<b>Continuity of care: maternal and child path</b>			31,44
<b>B15</b>	<b>Research Productivity (Teaching Hospitals)</b>			
<b>B16</b>	<b>Communication and citizen participation</b>			
<b>B16.1</b>	<b>Service Charter System</b>			
<b>B16.1.1</b>	Percentage of achieved commitments according to the Service Charter	71,99	78,40	81,14
<b>B16.1.2</b>	Participation Committee	50,00	53,12	51,47
<b>B16.2</b>	Front-office	75,63	79,69	79,78
<b>B16.3</b>	Citizen satisfaction with communication	14,33		23,60
<b>B17</b>	<b>Strategies for surgical activity</b>			
<b>B17.1</b>	Volume trend for planned surgery			2,34
<b>B17.1.1</b>	<i>Volume trend for planned surgery – inpatient</i>			4,06



Code	Indicators and Sub-indicators Target 2010 Tuscany Regional Government	Value 2008	Value 2009	Value 2010
<b>B17.1.2</b>	Volume trend for planned surgery – outpatient			-2,83
<b>B17.2</b>	Extra Region outflow trend for basic surgical specialties (Local Health Authorities)		7,82	
<b>B17.3</b>	Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals)		2,04	
<b>B17.4</b>	Surgical activity weightage trend for planned inpatient hospitalization			-0,55
<b>B20</b>	<b>Percentage of first outpatient specialist visits booked within 15 days</b>			36,00
<b>B20.1</b>	Percentage of first cardiac visits booked within 15 days			36,34
<b>B20.2</b>	Percentage of first gynaecological visits booked within 15 days			34,10
<b>B20.3</b>	Percentage of first neurological visits booked within 15 days			38,20
<b>B20.4</b>	Percentage of first orthopaedic visits booked within 15 days			32,50
<b>B20.5</b>	Percentage of first ENT visits booked within 15 days			57,50
<b>B20.6</b>	Percentage of first ophthalmological visits booked within 15 days			24,50
<b>B20.7</b>	Percentage of first dermatological visits booked within 15 days			36,96
<b>B20.8</b>	Percentage of first urological visits booked within 15 days			35,50
<b>B20.9</b>	Percentage of first general surgery visits booked within 15 days			61,10
<b>B21</b>	<b>Percentage of diagnostic tests booked within 30 days</b>			61,00
<b>B21.1</b>	Percentage of CT without contrast booked within 30 days			62,90
<b>B21.2</b>	Percentage of CT with contrast booked within 30 days			57,88
<b>B21.3</b>	Percentage of MRI without contrast booked within 30 days			54,00
<b>B21.4</b>	Percentage of MRI with contrast booked within 30 days			52,00
<b>B21.5</b>	Percentage of ultrasound scans booked within 30 days			66,84
<b>B21.6</b>	Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days			78,03
<b>B21.7</b>	Percentage of Echo Colour Doppler booked within 30 days			49,70
<b>B22</b>	<b>Adapted Physical Activity (APA)</b>			
<b>B22.1</b>	No. of APA low disability programmes per 1,000 residents aged ≥ 65 years			1,24
<b>B22.2</b>	No. of APA high disability programmes per 15,000 residents aged ≥ 65 years			1,35
<b>CLINICAL EVALUATION (C)</b>				
<b>C1</b>	<b>Ability to manage demand</b>			
<b>C1.1</b>	Standardized hospitalization rate per 1,000 residents	151,18	147,43	143,50
<b>C1.1.1.1</b>	Standardized hospitalization rate of acute medical DRG 0-64 years per 1,000 residents	43,76	41,64	40,34
<b>C1.1.1</b>	Standardized hospitalization rate for acute inpatient admissions per 1,000 residents		103,50	102,31
<b>C1.1.1.2</b>	Standardized hospitalization rate for emergency acute inpatient admissions per 1,000 residents		49,75	50,08
<b>C1.1.1.3</b>	Standardized hospitalization rate for planned acute inpatient admissions per 1,000 residents		51,14	49,74
<b>C1.1.1.3.1</b>	Standardized hospitalization rate for planned acute inpatient admissions with medical DRG per 1,000 residents		18,11	16,00
<b>C1.1.2</b>	Standardized hospitalization rate for acute outpatient admissions per 1,000 residents		40,32	37,67
<b>C1.1.2.1</b>	Standardized hospitalization rate for acute medical outpatient admissions per 1,000 residents	17,82	16,60	16,50
<b>C1.1.2.2</b>	Standardized hospitalization rate for acute surgical outpatient admissions per 1,000 residents		19,95	17,35
<b>C2a</b>	<b>Performance index for average hospital stay</b>		0,00	-0,12
<b>C3</b>	<b>Preoperative average hospital stay</b>	1,14	0,91	0,79
<b>C3.1</b>	Preoperative average hospital stay for more than 1 day		1,32	1,19
<b>C14</b>	<b>Medical Appropriateness</b>			
<b>C4.8</b>	Medical LEA DRG: hospitalization rate per 10,000 residents (Health Care Agreement 2010)		255,68	245,88
<b>C14.2</b>	Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010)	43,25	43,58	44,33
<b>C14.2.1</b>	Percentage of medical outpatient admissions for diagnostic purposes – adults		36,11	34,18
<b>C14.2.2</b>	Percentage of medical outpatient admissions for diagnostic purposes – paediatrics		76,96	77,89
<b>C14.3</b>	Percentage of short medical inpatient admissions (Health Care Agreement 2010)		19,93	20,20
<b>C14.3.1</b>	Percentage of short medical inpatient admissions – adults		18,81	19,00
<b>C14.3.2</b>	Percentage of short medical inpatient admissions – paediatrics		29,16	29,34
<b>C14.3.3</b>	Percentage of short medical planned inpatient admissions		28,38	29,82
<b>C14.4</b>	Percentage of medical admissions over the threshold for patients ≥ 65 years (Health Care Agreement 2010)		3,33	3,14



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<b>C14.4.1</b>	Percentage of medical admissions over the global threshold		3,49	3,29
<b>C4</b>	<b>Surgical Appropriateness</b>			
<b>C4.1</b>	<b>Percentage of medical DRGs discharges from surgical wards (Health Care Agreement 2010)</b>			
<b>C4.1.1</b>	Percentage of medical DRGs discharges from surgical wards: inpatient admissions	22,69	17,43	16,02
<b>C4.1.1.1</b>	Percentage of medical DRGs discharges from surgical wards: planned inpatient admissions	12,46	8,67	8,02
<b>C4.1.1.2</b>	Percentage of medical DRGs discharges from surgical wards: urgent inpatient admissions		37,14	34,80
<b>C4.1.2</b>	Percentage of medical DRGs discharges from surgical wards: outpatient admissions	15,95	15,90	15,88
<b>C4.4</b>	Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day	51,39	53,21	55,48
<b>C4.12</b>	Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010)		58,90	54,87
<b>C5a</b>	<b>Process Quality</b>			
<b>C5.2</b>	Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010)	44,82	51,65	55,08
<b>C5.12</b>	Percentage of femur fractures operated per fractures diagnosed		88,76	90,08
<b>C5.3</b>	Percentage of transurethral prostatectomies	55,92	57,03	61,73
<b>C5.7</b>	Percentage of mitral valve repair (Teaching Hospitals)	65,93	62,47	64,20
<b>C5.8</b>	Percentage of non-invasive mechanical ventilation		27,78	33,84
<b>C5.10</b>	Percentage of planned laparoscopic colon resections		29,30	32,03
<b>C5.11</b>	Percentage of urgent laparoscopic appendectomies for women between 15 and 49 years	67,71	72,46	82,11
<b>C5b</b>	<b>Outcome Quality</b>			
<b>C5.1</b>	Percentage of readmissions within 30 days with the same MDC	5,79	5,41	5,14
<b>C5.1.1</b>	Percentage of medical readmissions within 30 days with the same MDC	8,03	7,28	7,04
<b>C5.1.2</b>	Percentage of surgical readmissions within 30 days with the same MDC	3,13	2,72	2,56
<b>C6</b>	<b>Clinical Risk and Patient Safety</b>			
<b>C6.1</b>	Index of Claims		8,85	7,31
<b>C6.1.1</b>	Index of Claims – events in hospitals			5,12
<b>C6.1.2</b>	Index of Claims – events in local facilities			0,05
<b>C6.1.3</b>	Index of administrative efficiency			69,80
<b>C6.2</b>	Incident Reporting system development			
<b>C6.2.1</b>	Index of audit diffusion			2,49
<b>C6.2.2</b>	Index of Mortality and Morbidity report diffusion			4,13
<b>C6.4</b>	<b>Patient Safety</b>			
<b>C6.4.1</b>	Postoperative sepsis in elective surgery	2,63	2,86	2,95
<b>C6.4.2</b>	Intrahospital mortality of patients discharged with low mortality DRGs	1,02	0,57	0,59
<b>C6.4.3</b>	Vein thrombosis or pulmonary embolism following surgery	2,17	1,96	2,28
<b>C6.5</b>	Level of best practices diffusion			1,68
<b>C6.6</b>	Patient fall control capability		7,52	10,78
<b>C7</b>	<b>Maternal and Child Care</b>			
<b>C7.1</b>	Percentage of caesarean births (NTSV)	20,59	20,33	20,34
<b>C7.1.1</b>	Raw percentage of caesarean births	28,04	28,08	26,21
<b>C7.2</b>	Percentage of induced labour	16,71	18,24	18,32
<b>C7.3</b>	Percentage of episiotomy (NTSV)	37,96	35,01	33,51
<b>C7.5</b>	Outflow rate for childbirth	17,34	17,11	17,02
<b>C7.6</b>	Percentage of operative vaginal deliveries (forceps or vacuum)	5,26	5,85	6,86
<b>C7.7</b>	Paediatric hospitalization rate per 100 residents (0-14 years)		10,52	11,38
<b>C7.8</b>	Percentage of eye screening on healthy infants			85,75
<b>C7.9</b>	Percentage of audiology screening on healthy infants			84,79
<b>C7.10</b>	Voluntary Pregnancy Interruption (VPI) rates per 1,000 residents		7,78	7,34
<b>C7.12</b>	Percentage of breastfeeding within 2 hours			75,37
<b>C8a</b>	<b>Area-Hospital Integration</b>			
<b>C8a.1</b>	Percentage of admissions with > 30 days stay per area of residence		0,96	0,93



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<b>C8a.3</b>	Underage conception rate per 1,000 resident women (12-17 years)	3,56		
<b>C8a.11</b>	Index of Retention to Drug Addiction Services			
<b>C8a.12</b>	Discharge rate with activation of integrated home care per 100,000 residents		18,83	23,19
<b>C11a.4.1</b>	Pneumonia hospitalization rate per 100,000 residents (20-74 years)		97,24	94,82
<b>C8a.19</b>	<b>Basic Paediatrics</b>			
<b>C8a.19.1</b>	Hospitalization rate for paediatric asthma per 100,000 residents (2-17 years)	52,98	38,96	44,41
<b>C8a.19.2</b>	Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq$ 17 years)	210,29	170,36	183,01
<b>C9</b>	<b>Appropriateness of Drug Prescription</b>			
<b>C9.6.1</b>	<b>Statins (Lipid Lowering)</b>			
<b>C9.6.1.2</b>	Percentage of statin-treated patients		37,99	40,16
<b>C9.6.1.3</b>	Statin consumption in combination with other drugs		70,10	83,62
<b>C9.2</b>	Percentage of statin-treated patients abandoning drug therapy	21,29	16,28	15,29
<b>C9.6.2</b>	<b>Antihypertensives</b>			
<b>C9.3</b>	Incidence of sartans (Antihypertensive)			41,87
<b>C9.7</b>	<b>Gastrointestinal</b>			
<b>C9.1</b>	Consumption of Proton Pump Inhibitors (Antacid)			24,29
<b>C9.8</b>	<b>Antimicrobials</b>			
<b>C9.8.1.1</b>	Consumption of antibiotics		23,43	22,89
<b>C9.8.1.2</b>	Incidence of injectable antibiotics		27,18	27,56
<b>C9.9</b>	<b>Nervous System</b>			
<b>C9.4</b>	Consumption of selective serotonin reuptake inhibitors (antidepressants)			48,27
<b>C9.9.1.1</b>	Percentage of antidepressant-treated patients abandoning drug therapy		29,20	27,92
<b>C9.11</b>	Percentage of antidepressant-treated patients			27,57
<b>C9.5</b>	Consumption of other antidepressants (Antidepressants)			11,63
<b>C20</b>	<b>Appropriateness of Drug Prescription in the Hospital</b>			
<b>C9.12</b>	Consumption of antibiotics within the ward		1,14	1,28
<b>C9.13</b>	Incidence of injectable antibiotics within the ward		61,51	47,25
<b>C11a</b>	<b>Effectiveness of Chronic Care management</b>			
<b>C11a.1</b>	<b>Cardiac Insufficiency</b>			
<b>C11a.1.1</b>	Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years)		193,95	188,95
<b>C11a.1.2</b>	Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium	51,60	53,60	56,00
<b>C11a.1.3</b>	Percentage of residents with heart failure treated with ACE inhibitor – sartans	58,90	58,00	58,40
<b>C11a.1.4</b>	Percentage of residents with heart failure treated with beta blocker	34,80	36,80	39,60
<b>C11a.2</b>	<b>Diabetes</b>			
<b>C11a.2.1</b>	Overall hospitalization rate for diabetes per 100,000 residents (20-74 years)		21,11	21,44
<b>C11a.2.2</b>	Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin	60,30	62,80	66,80
<b>C11a.2.3</b>	Percentage of residents with diabetes with at least one Retina examination	29,90	31,00	31,30
<b>C11a.2.4</b>	Major amputation rate for diabetes per million residents		36,95	41,29
<b>C11a.2.4.1</b>	Revascularisation rate in patients with diabetes per 100,000 residents		844,11	879,89
<b>C11a.2.4.2</b>	Percentage of revascularisation in patients with diabetes		63,15	66,16
<b>C11a.3</b>	<b>COPD</b>			
<b>C11a.3.1</b>	Hospitalization rate for COPD per 100,000 residents (50-74 years)		59,37	50,90
<b>C11a.5</b>	<b>Ictus</b>			
<b>C11a.5.1</b>	Percentage of residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation	60,20	60,00	61,70
<b>C11a.6</b>	<b>Hypertension</b>			
<b>C11a.6.1</b>	Percentage of residents with hypertension with at least one measurement of Lipid Profile	48,20	49,70	51,70
<b>C13</b>	<b>Ambulatory and Diagnostic service rate</b>			
<b>C13.1</b>	Ambulatory service rate per 1,000 residents	2876,51	2902,69	2982,02
<b>C13.2</b>	Diagnostic imaging service rate			



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<b>C13.2.1</b>	Standardized CT performance rate per 1,000 residents	56,94	55,96	59,61
<b>C13.2.2</b>	Standardized MRI performance rate per 1,000 residents	59,61	60,32	71,35
<b>C13.2.2.1</b>	Musculoskeletal MRI performance rate for 1,000 residents (≥ 65 years)			23,71
<b>C13.2.3</b>	Standardized Echo Colour Doppler performance rate per 1,000 residents	61,98	62,22	63,85
<b>C13.2.4</b>	Ultrasound performance raw rate per 1,000 residents	244,50	246,39	249,25
<b>C13.2.5</b>	Traditional X-ray performance raw rate per 1,000 residents	465,60	458,09	454,44
<b>C15</b>	<b>Mental Health</b>			
<b>C8a.13</b>	Percentage of re-admissions for adult psychiatric patients within 30 days	15,62	13,96	13,39
<b>C8a.13.1</b>	Adjusted percentage of adult psychiatric patient re-admissions within 1 year	27,16	25,98	25,35
<b>C8a.13.2</b>	Percentage of adult psychiatric patient re-admissions within 7 days	7,73	7,07	7,00
<b>C8a.5</b>	Hospitalization rate for psychiatric disorders per 100,000 adult residents	299,59	299,73	280,94
<b>C8a.5.1</b>	Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents		62,44	57,81
<b>C8a.5.2</b>	Hospitalization rate for mood disorders per 100,000 adult residents		73,86	72,39
<b>C8a.5.3</b>	Hospitalization rate for mild to moderate depression per 100,000 adult residents		28,03	24,36
<b>C8a.5.4</b>	Hospitalization rate for anxiety and adjustment disorders per 100,000 adult residents		13,79	13,10
<b>C8a.5.5</b>	Hospitalization rate for personality disorders per 100,000 adult residents		22,36	19,94
<b>C8a.5.6</b>	Hospitalization rate for other mental health diagnoses per 100,000 adult residents		31,58	30,04
<b>C8a.6</b>	Percentage of CHT hospitalizations for psychiatric disorders	2,60	2,81	2,85
<b>C8a.7</b>	Hospitalization rate for psychiatric disorders per 100,000 underage residents	101,94	111,31	124,03
<b>C16</b>	<b>Emergency Department</b>			
<b>C16.1</b>	Percentage of yellow code patients visited within 30 minutes			69,62
<b>C16.2</b>	Percentage of green code patients visited within 1 hour			76,20
<b>C16.3</b>	Percentage of green code patients not referred to hospital with length of stay ≤ 4h			82,11
<b>C16.4</b>	Percentage of patients referred to hospital with length of stay ≤ 8h			91,19
<b>D9</b>	Percentage of people leaving the ED without being treated			3,86
<b>PATIENT SATISFACTION (D)</b>				
<b>D15a</b>	<b>Citizen Experience with District Services</b>	67,63		64,33
<b>D17</b>	<b>Women's experience with maternal and child path</b>			58,39
<b>D18</b>	<b>Percentage of hospitalized patients leaving AMA (Against Medical Advice)</b>		0,89	0,94
<b>WORKING CLIMATE SURVEY (E)</b>				
<b>E1</b>	<b>Participation rate in the Working Climate Survey</b>	43,64		41,97
<b>E2</b>	<b>Employee absence rate</b>	5,94	5,69	6,35
<b>E3</b>	<b>Employee accident rate</b>	4,93	4,89	4,61
<b>E9</b>	<b>Training activities</b>	2,94		2,97
<b>E10</b>	<b>Evaluation of management according to employees</b>	3,01		3,16
<b>E12</b>	<i>Evaluation of management according to executives</i>	3,22		3,17
<b>E11</b>	<b>Evaluation of Communication and information according to employees</b>	2,60		2,78
<b>E13</b>	<i>Evaluation of Communication and information according to executives</i>	3,46		3,41
<b>THE EVALUATION OF OPERATING EFFICIENCY AND FINANCIAL PERFORMANCE(F)</b>				
<b>F1</b>	<b>Financial Performance</b>			
<b>F1.1</b>	Overall Financial Performance	-1,18	-0,68	
<b>F1.2</b>	Return on Sales	0,73	1,01	
<b>F1.3</b>	Return on Investment (Teaching Hospital)	0,73	1,00	
<b>F3</b>	<b>Assets and Liability Performance</b>			
<b>F3.1</b>	Current ratio	0,74	0,69	
<b>F3.2</b>	<b>Investment Policies</b>			
<b>F3.2.1</b>	<i>Incidence of lease payments</i>	6,70	5,96	
<b>F3.2.2</b>	<i>Percentage of technical obsolescence</i>	70,38	59,03	
<b>F3.2.3</b>	<i>Percentage of new investments</i>	10,28	11,47	





Code	Indicators and Sub-indicators Target 2010 Tuscany Regional Government	Value 2008	Value 2009	Value 2010
<b>F3.3</b>	<i>Net working capitalratio</i>	-0,12	-0,17	
<b>F3.4</b>	<b>Financing costs</b>			
<b>F3.4.1</b>	<i>Return on Debt (ROD)</i>	-4,73	-3,01	
<b>F3.4.2</b>	<i>Trade Payables Days</i>	167,56	206,90	
<b>F7</b>	<b>Internal Services</b>	2,83		3,13
<b>F8</b>	<b>Budget's knowledge by executives</b>	3,22		3,42
<b>F9</b>	<b>Budget's knowledge by employees</b>	66,61		64,50
<b>F10a</b>	<b>Pharmaceutical Expenditure</b>			
<b>F10</b>	Pharmaceutical expense per capita	219,15	214,09	214,12
<b>F10.2</b>	<i>Hospital pharmaceutical expense</i>		42,08	54,83
<b>F11</b>	<b>Extra-regional compensation index</b>		0,90	
<b>F12a</b>	<b>Efficiency of Drug Prescription</b>			
<b>F12a.14</b>	Percentage of off-patent molecules		56,09	59,68
<b>F12a.15.1</b>	<b>Statins (Lipid Lowering)</b>			
<b>F12a.2</b>	Percentage of statins off patents	47,08	48,08	50,92
<b>F12a.15.2</b>	<b>Antihypertensives</b>			
<b>F12a.3</b>	Percentage of off-patent ACE inhibitors (Antihypertensive)	81,76	94,72	94,72
<b>F12a.6</b>	Percentage of off-patent dihydropyridine derivatives (Antihypertensive)	58,10	65,87	80,59
<b>F12a.7</b>	Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent	54,09	85,22	84,33
<b>F12a.11</b>	Percentage of Losartan on sartans		17,03	18,40
<b>F12a.12</b>	Percentage of Losartan on sartans in combination with other drugs		16,93	16,92
<b>F12a.16</b>	<b>Gastrointestinal</b>			
<b>F12a.1</b>	Percentage of off-patent proton pump inhibitors (Antacid)	79,76	82,30	84,06
<b>F12a.17</b>	<b>Antimicrobials</b>			
<b>F12a.9</b>	Percentage of off-patent fluoroquinolone (Antibiotics)	32,13	33,48	34,64
<b>F12a.13</b>	Antibiotics: average cost per box		8,92	8,28
<b>F12a.18</b>	<b>Nervous System</b>			
<b>F12a.5</b>	Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants)	87,00	85,58	84,32
<b>F12a.10</b>	Percentage of other off-patent antidepressants (Anti-hypertension)		84,99	79,95
<b>F20</b>	<b>Efficiency of Hospital Drug Prescription</b>			
<b>F20.1</b>	<i>Biological cancer drugs: incidence on expenses</i>		45,14	45,45
<b>F20.2</b>	<i>Biological immunosuppressive drugs: incidence on expenses</i>		41,00	43,02
<b>F20.3</b>	Percentage of erythropoietin off patent		0,11	1,76
<b>F20.4</b>	Percentage of somatotropin off patent		3,23	3,94
<b>F20.5</b>	Percentage of Filgrastim off patent		0,86	20,24
<b>F15</b>	<b>Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)</b>			
<b>F15.1</b>	<b>Territory coverage</b>			
<b>F15.1.4</b>	<i>Territory Coverage with respect to training activity per 1,000 workers</i>	6,14	4,62	4,75
<b>F15.1.6</b>	Territory Coverage with respect to the various construction sites inspected	119,90	114,78	111,17
<b>F15.1.7</b>	<i>Territory Coverage with respect to services delivered n. 25-26-72</i>			1,08
<b>F15.1.8</b>	Territory Coverage with respect to the number of farms checked			150,14
<b>F15.2</b>	<b>Efficiency</b>			
<b>F15.2.2</b>	<i>Efficiency with respect to the training period for external users</i>	19,30	13,75	14,81
<b>F15.2.4</b>	Efficiency with respect to services delivered n. 25-26-27-72			44,03
<b>F15.2.5</b>	<i>Efficiency with respect to the number of prescriptions</i>			11,19
<b>F15.3</b>	<b>Results</b>			
<b>F15.3.1</b>	Standardized rate of accidents			32,17
<b>F15.3.3</b>	<i>Results with respect to the number of prescriptions</i>			29,88
<b>F15.4</b>	<b>Flows</b>			



Code	Indicators and Sub-indicators Target 2010 Tuscany Regional Government	Value 2008	Value 2009	Value 2010
F15.4.1	Punctuality with regard to flows		8,33	2,78
F15.4.2	Data quality with regard to flows			
<b>F16</b>	<b>Efficiency and Effectiveness in Food Safety and Nutrition Services (SPV-IAN)</b>			
<b>F16.1</b>	<b>Information flows</b>			
F16.1.1	Information flows delayed with respect to due date	4,44	0,37	4,82
F16.1.2	Information flows with non-compliant forms	0,11		2,01
F16.1.3	Data quality with regard to flows	0,05	1,82	3,70
<b>F16.2</b>	<b>Nutrition</b>			95,54
<i>F16.2.1</i>	<i>Percentage of completed nutritional plans of the total planned</i>			94,24
<i>F16.2.2</i>	<i>Percentage of completed checklists of validated national plans</i>			96,84
<b>F16.3</b>	<b>Food Safety and Plans for Residuals</b>			
F16.3.1	Samples analysed for the National Plan for Animal Feeding (PNAA) and the National Plan for Residuals (PNR)	103,01	101,53	103,47
F16.3.2	Adherence to quarterly programming plans for PNAA and PNR		91,50	96,09
<b>F16.4</b>	<b>Categorisation (Territory coverage)</b>			
F16.4.1	Categorisation – No. of companies in risk group 1			100,00
F16.4.2	Categorisation – No. of companies in risk group 2			24,30
<b>F16.5</b>	<b>Production efficiency</b>			
F16.5.1	Production efficiency for services delivered n. 49		39,16	38,81
F16.5.2	Production efficiency for services delivered n. 4		5,67	7,07
F16.5.3	Production efficiency for services delivered n. 43		19,38	21,60
<b>F16.6</b>	<b>Organisational efficiency</b>			
F16.6.1	Non-compliance certificate ISO 9001: 2000			100,00
F16.6.2	Quality Management System (SGQ) Internal Control Performance			95,83
<b>F16.7</b>	<b>Checklist National Database (NDB) Teramo</b>			
F16.7.1	Checklist for cattle			8,05
F16.7.2	Checklist for ovine and caprine			3,80
F16.7.3	Checklist for swine			1,56
<b>F16.8</b>	<b>Pharmacovigilance</b>			
F16.8.1	Pharmacovigilance – Wholesale			96,15
F16.8.2	Pharmacovigilance – Pharmacies		31,00	32,79
<b>F17</b>	<b>Health expenditure per capita</b>			
<b>F19</b>	<b>Expenditure per DRG fee</b>	1,53	1,56	
<i>F19.1</i>	<i>Expenditure per DRG value (Hospital Care)</i>	1,52	1,56	
<i>F19.2</i>	<i>Expenditure per fee with reference to outpatient care</i>	1,56	1,54	

*indicators in italics are not for evaluation*



### 3 Representation of the results: the Target

In order to adequately represent the results reported by each Authority in each level, it was necessary to find a simple and clear mode that could quickly highlight the performance of the Authority analysed. In the bibliography and managerial equipment, the use of the “spider web” metaphor, that is, a multi-dimensional framework in which the results are placed on the “web” and where the closer the results are to the centre the worst they are, was frequently utilised.

The MeS Laboratory research group has opted for a symbology that was even easier and with an immediate positive value. In fact, the concept of a “target” with five different assessment sections, divided into six circular sectors, representative of the six levels, has been used. Those Authorities capable of meeting their targets and achieving a good performance at different levels will see their results reported near the centre of the target, in the green zone, while negative results will appear in the sections more distant from the centre.

If we consider the Tuscan Health System performance on the basis of the indicators developed within our Health Authorities, and we represent the Regional performance by means of the target, the performance obtained for 2010 is represented in Fig. 5.

In this case, the placement of the results is concentrated in the intermediate sections as the performance is the average of the results achieved by the Authorities of the System (Figure 5).

The Evaluation System for 2010 is available from: <http://performance.sssup.it/toscana>; this report is fully downloadable, in pdf format, from the MeS Laboratory website: [www.meslab.sssup.it](http://www.meslab.sssup.it).

#### T - Toscana 2010

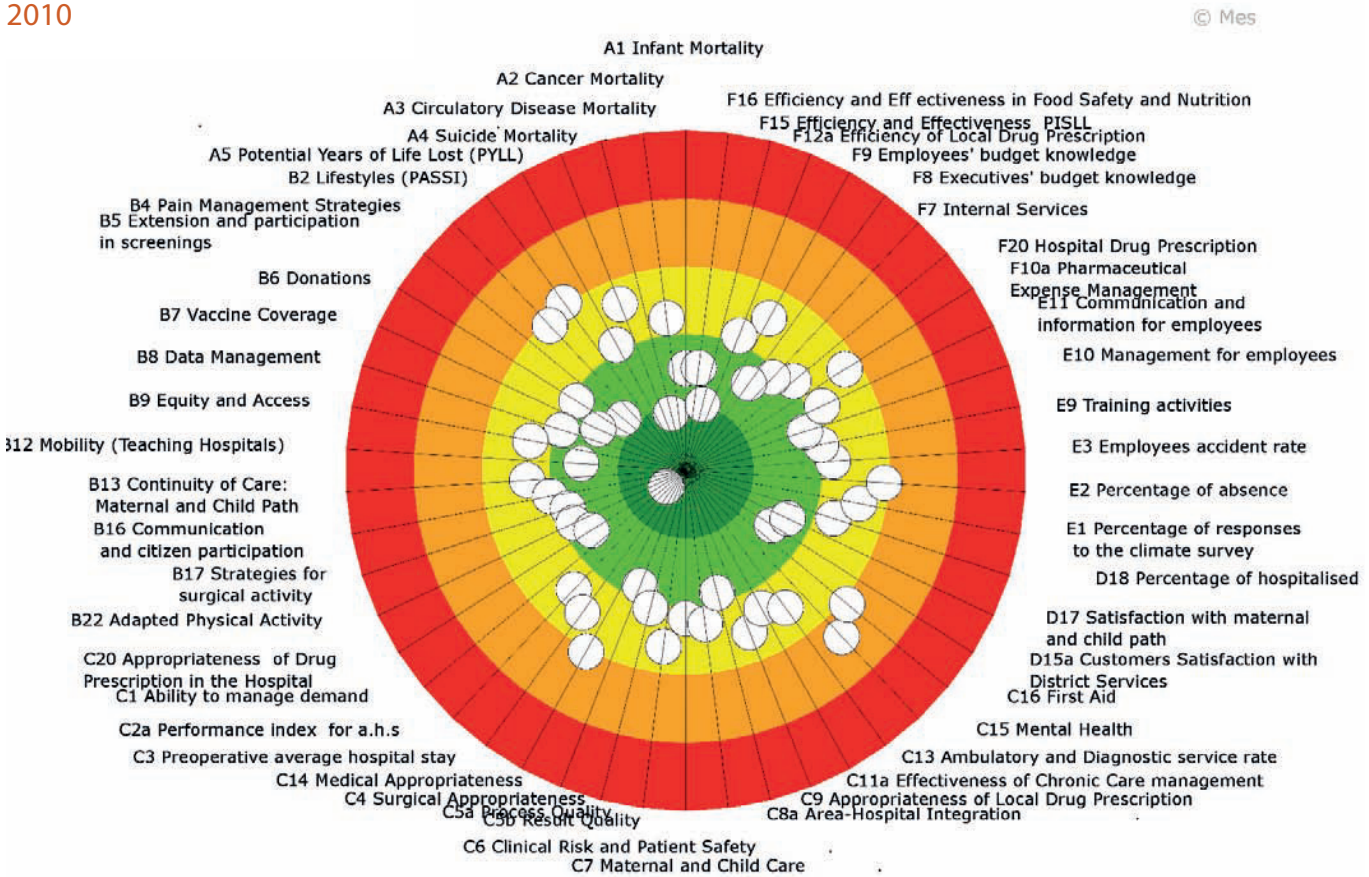


Figure 5 – The Tuscan Health System's Target 2010



# THE PERFORMANCE EVALUATION OF TUSCAN HEALTH AUTHORITIES 2010

*edited by Sabina Nuti*

The following paragraphs contain a performance summary of each Health Authority in Tuscany in 2010.

The results of each Authority have been analysed and discussed, throughout the year, during the regular meetings between the Regional Department of Health and Authorities' Direction on programming and control of management. Researchers of the MeS Laboratory have also worked directly with health professionals and with management to further analyse critical issues, especially to promote best practices. In fact in the training provided by the Scuola Superiore Sant' Anna, as well as in conferences, workshops and publications, ample space has been devoted to explain and promote organizational procedures, operational decisions, and implement projects that allowed the Authorities to either achieve an excellent performance or make significant improvements. It is worth emphasising that the Evaluation System is available online from: <http://performance.ssup.it/toscana>, in which there is a section where professionals, the public, and health workers can send comments, suggestions and proposals to help improve the System.

It should be noted that the evaluation refers to 2010, except for those indicators for which data were not available at the time of the present report. In particular, indicators relating to the population's health status (A1, A2, A3, A4, and A5) refer to the 2006-2008 period, and economic indicators (F1, F3, F11, F17, and F19) refer to 2009.

The targets relating to Local Health Authorities and those relating to Regional Teaching Hospitals are partly different, because the missions of these two entities are different. In particular, in the former, there are many indicators monitored for activities performed at the local level, while for the latter the assessment is made specifically on the capacity to provide high complexity clinical care, and on research capacity.



## Ausl 1 of Massa Carrara

Overall the Ausl 1 of Massa Carrara registered decent performance, although there are still some problems. It has 2 indicators in the green section, 14 in the light green one, 15 in the yellow one, 6 in the orange one, and 4 in the red section. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

Although the Authority registered an improvement over the previous year, there are significant problems in demand management, that is, in the correct orientation of the customer towards the most appropriate care. The hospitalization rate is the highest in the Region, a significant difference compared to any other Ausl. This situation is determined by the inability of the Emergency Department to act as a filter, and its higher propensity to hospitalise patients compared to other Tuscan Authorities. For example, there are the critical results reported on the indicator (C14) about medical appropriateness, in which the hospitalization rate for medical DRGs LEA (C4.8), and the percentage of medical outpatient admissions for diagnostic purposes (C14.2) are still very high. Also the results for Mental Health (C15) are below expectation, as the percentage of re-admissions for adult psychiatric patients has very high values.

As for surgical appropriateness (C4) the percentage of surgical DRGs LEA provided in Day-Surgery (C4.12) is quite high, but less when compared to 2009, while the percentage of laparoscopic cholecystectomies in Day-Surgery and inpatient admissions with length of stay 0-1 day (C4.4) is still critical.

With respect to hospital care, excellent results are recorded in the process quality (C5a), especially with reference to the percentage of femur fractures operated within 2 days, and the percentage of transurethral prostatectomy (C5.3). Good results are also registered for the quality of results (C5b) and clinical risk (C6), especially for the development of the incident reporting system (C6.2) and the fall control capability (C6.6).

With regard to the maternal and child path (C7), the data on caesarean sections (C7.1) are significantly worse, increasing from 17% to 23%, while the episiotomy rate (C7.3) is decreasing.

With regard to the ability to pursue regional strategies, the Authority has recorded the best performance in Tuscany for the extension of the screening mammography (B5.1.1) and cervical screening (B5.2.1). A marked improvement in the extension of colorectal screening, which increased from 20% in the 2008-2009 period to 77% in 2009-2010 is also noted. As for the indicators of vaccine coverage the one of MMR (B7.1) is very good, while the one of influenza vaccine (B7.2) is poor.

Citizen assessment reveals the implementation of the regional best practices related to the quality of the Authority's services (D15a). As for the internal evaluation, the situation is critical, certainly due to the complex circumstances in which the Authority found itself in 2010, which did not allow it to conduct the organizational climate survey. The percentage of employee absence (E2), which is among the highest at the regional level, and the accident rate (E3), which worsened compared to 2009, can be considered important proxies of the difficult motivational situation for employees of the Authority.

The compensation index (F11) (2009 figure), in which costs for the extra-regional outflow exceed the revenues for the in-flow remains critical.

In the case of pharmaceuticals, the percentage of patients treated with statins (C9.6.1.2) appears to be a best practice at regional level, while the consumption of sartans (C9.3) and of statins in combination with other drugs (C9.6.1.3) is still too high. As for efficiency of prescriptions (F12a) the results recorded are generally good, despite a reduced incidence in the use of losartan (F12a.11 and F12a.12). The overall expenditure on local pharmaceuticals (F10a) is at average levels.

Economic data for 2010 are not yet conclusive, but certainly in 2010 the Authority will have to deal with a significant loss.

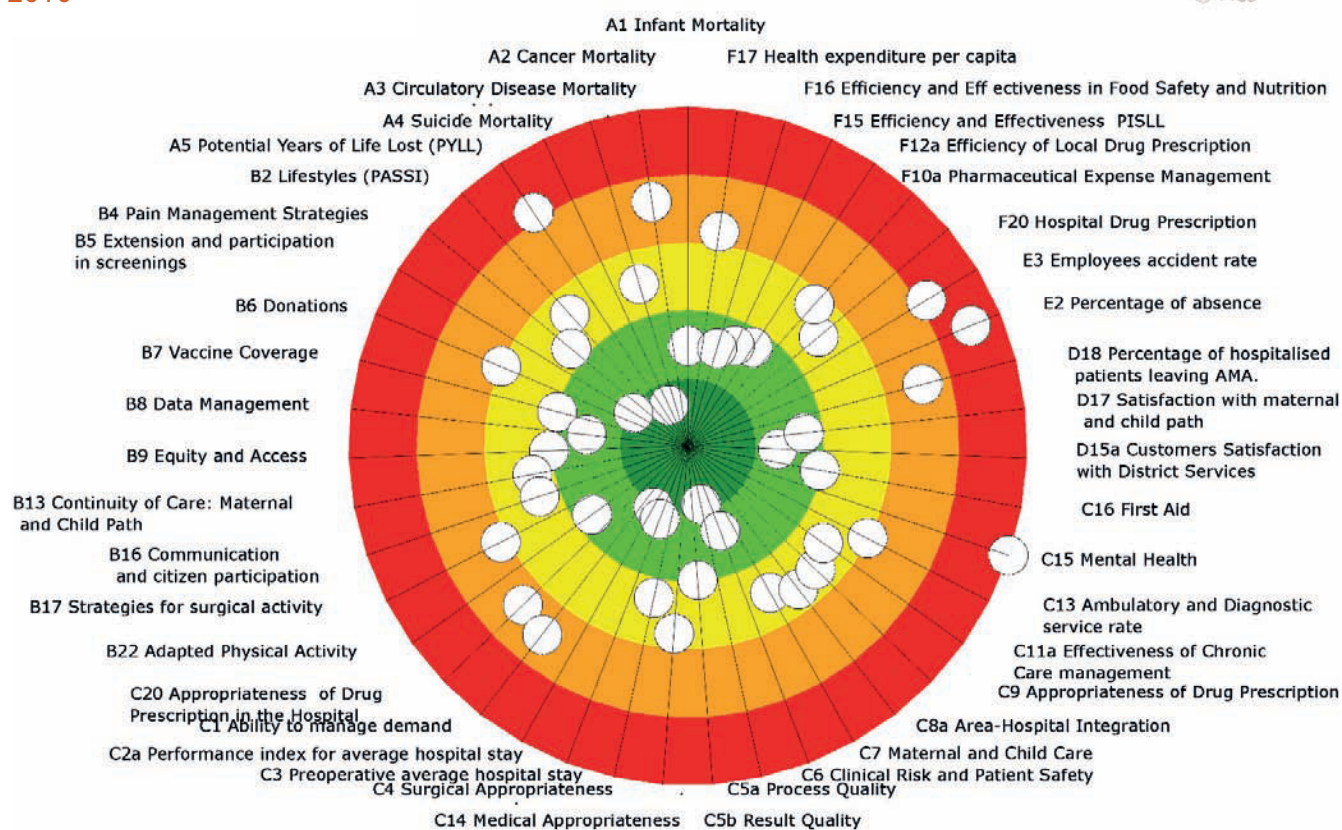


Figure 1 – 2010 Evaluation criteria for the AUSL 1 of Massa Carrara

Indicators with the best performance at the regional level	
B2.3.2	Percentage of people binge drinking and/or drinking between meals advised by the doctor to drink less
B5.1.1	Adjusted extension of mammography screening
B5.2.1	Adjusted extension of cervical screening
B8.3	Timeliness of data transmission with respect to public health
B9.5.3	Hospitalization for COPD rates ratio by education
C9.6.1.2	Percentage of statin-treated patients
F12a.2	Percentage of statins off patents
F12a.7	Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent
F15.4.1	Punctuality with regard to flows
F15.4.2	Data quality with regard to flows
F16.1.2	Information flows with non-compliant forms
F16.4.1	Categorisation – No. of companies in risk group 1
F16.6.1	Non-compliance certificate ISO 9001: 2000

Figure 2 – Best Practice for the AUSL 1 of Massa Carrara



## Ausl 2 of Lucca

The performance of the Ausl 2 of Lucca is very good, with 8 indicators in the green section, 18 in light green, 18 in yellow, 3 in orange, and 1 in the red section. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

As for the ability to pursue regional strategies (B), regional best practices are being achieved both in donations of organs and in blood donations. Excellent results can also be observed in the timely submission of data to the Region (B8.1). Even with a good coverage of cancer screening (B5), the Authority still has room for improvement, especially with regard to participation in colorectal screening (B5.3.2).

The assessment of the health care dimension is very good, with no indicators in the orange or red sections: particularly good performance is registered for the hospitalization rate (C1), for the average pre-operative hospital stay (C3), and for Area-Hospital integration (C8a), in which the percentage of admissions with a length of stay of more than 30 days is the best regional performance. The management of chronic diseases (C11a), particularly the low hospitalization rate for heart failure and COPD, the latter less than half compared to the previous year's figure, is also a regional best. As for the use of diagnostic services (C13) there is a considerable increase of MRIs, compared to 2009.

The Authority registered good performance in both medical appropriateness (C14) and in surgical appropriateness (C4), in particular we note that the percentage of laparoscopic cholecystectomy in day surgery and inpatient admissions 0-1 day (C4.4) with a value of 92.54% is the best result of the Region.

Good results are obtained on clinical risk (C6), particularly in the low level of compensation, in the good fall control capability, and in the use of audits. While mortality and morbidity reviews, and good practices are not yet widespread.

With regard to the maternal and child path (C7), the Authority is placed in an intermediate position, but significant improvements can be noted in both the episiotomy rate, which in a few years changed from critical to the best regional result, and for the outflow for childbirth, which, although still negative, has decreased.

With reference to the external evaluation, the Authority has positive values on customer satisfaction for the Authority's services and the maternal and child path.

Indicators for the evaluation of the working climate survey (E1) show an average result, with a response rate of 45.66%. The percentage of employee absence (E2) is quite high.

As for pharmaceuticals, the only indicator in the red section of the target is the one regarding pharmaceutical expense (F10), while efficiency of prescription (F12) is good. The consumption of antidepressants is very high.

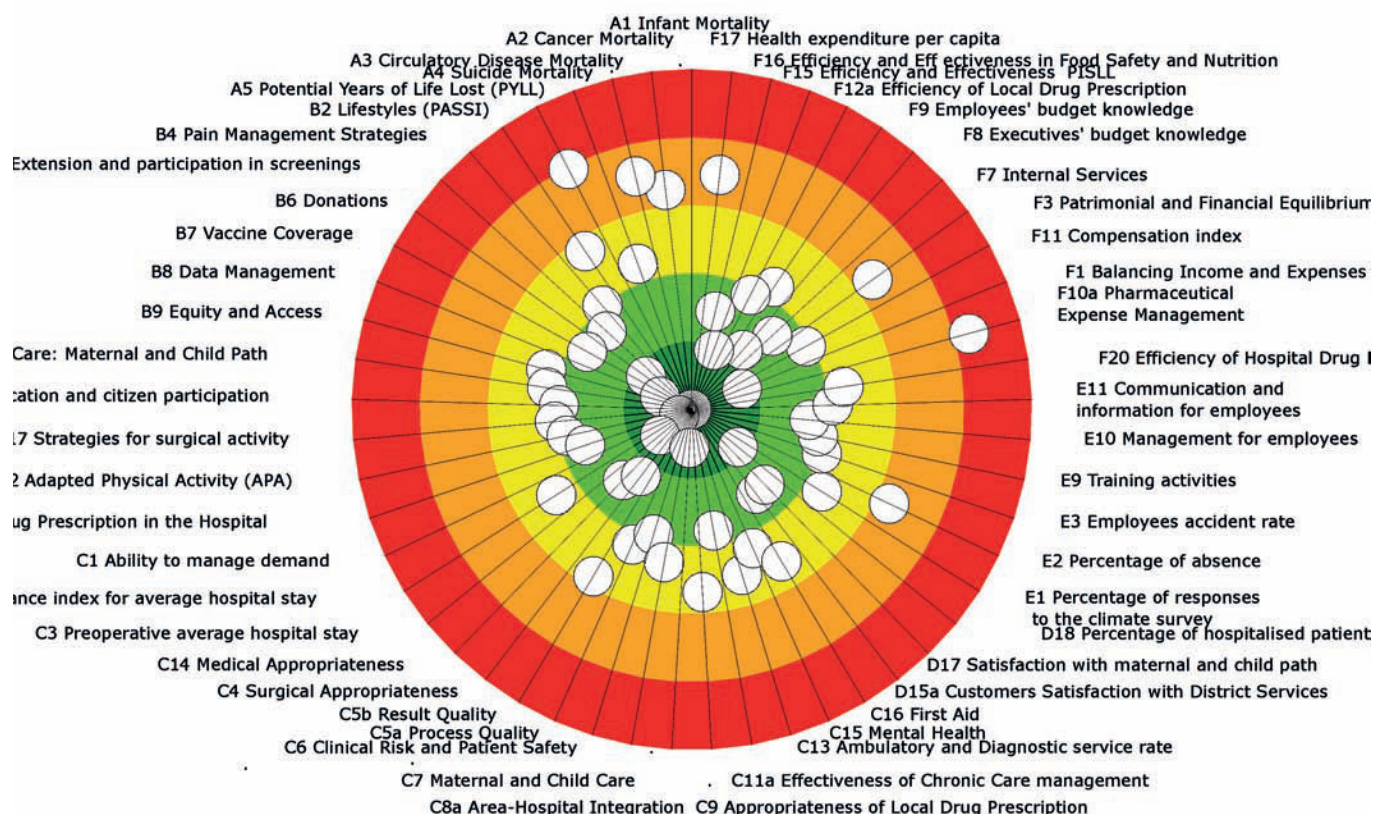


Figure 3 – 2010 Evaluation criteria for the AUSL 2 of Lucca

Indicators with the best performance at the regional level	
A1.1	Infant Mortality in the first year of life
B2.4.1	Percentage of smokers
B6.1.2	Percentage of actual donors
B6.2.2	Blood, plasma and blood platelets donation rates per 1,000 residents
B8.1	Timeliness of data transfer to the Regional Information System
B9.5.2	Hospitalization for diabetes rates ratio by education
C11a.1.1	Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years)
C11a.1.4	Percentage of residents with heart failure treated with beta blocker
C11a.3.1	Hospitalization rate for COPD per 100,000 residents (50-74 years)
C11a.4.1	Pneumonia hospitalization rate per 100,000 residents (20-74 years)
C11a.6.1	Percentage of residents with hypertension with at least one measurement of Lipid Profile
C4.4	Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day
C7.3	Percentage of episiotomy (NTSV)
C8a.1	Percentage of admissions with > 30 days stay per area of residence
F12a.11	Percentage of Losartan on sartans
F16.1.1	Information flows delayed with respect to due date
F16.7.2	Checklist for ovine and caprine
F16.7.3	Checklist for swine

Figure 4 – Best Practice for the AUSL 1 of Lucca





## Ausl 3 of Pistoia

The Ausl 3 of Pistoia presents good performance, with 4 indicators in the green section, 22 in light green, 16 in yellow, 4 in orange, and 2 in the red one. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority. The Ausl thus continues the positive trend in increasing the percentage of indicators monitored, with an increase of 64% compared to 2009, becoming one of the Authorities that achieved the most important progress at the regional level.

With reference to the achievement of regional strategies, it shows a best performance with reference to pain management (B4), and to the coverage for the MMR vaccine (B7.1). There are good results on cancer screening (B5), except for colorectal screening, which is always very critical, while for mammography and cervical screenings the Ausl 3 achieves excellent results. Attention should be paid to surgical activity (B17), where the volume of surgical inpatient admissions decreased by 8% compared to 2009.

Regarding the health care evaluation, there are excellent results for demand management (C1), efficiency in terms of average hospital stay (C2a), and the process quality (C5a), in which the Authority is the best among local Authorities. There are good results for clinical risk (C6) and the appropriateness of both medical (C14) and surgical (C4) practices, although the rate of medical re-admissions demonstrates that there is still room for improvement. The percentage of defections from the Emergency Department (C16) is critical, with a high percentage of patients leaving voluntarily before and after the medical examination.

As for the territorial part, there is a good evaluation about the Area-Hospital integration (C8a) and Mental Health (C15), while the management of chronic diseases (C11a) shows a differentiated picture: in particular the number of hospitalizations due to diabetes is higher than the regional average, while the major amputations for diabetes are the second best performance of the region. The Ausl registers the highest number of CTs in the region, but the lowest number of MRIs.

With reference to the external evaluation, the Authority gets the best result on the maternal and child path (D17), especially with regard to trust in physicians, nurses and obstetricians.

The working climate survey is mainly characterized by a low number of accidents (E3), which decreased by more than half compared to the previous year, making it one of the best regional results.

With regard to the pharmaceutical section, particularly positive is the drug expenditure per capita (F10) and efficiency (F12a). As for pharmaceutical appropriateness (C9), this is a best practice with respect to patients who leave therapy with statins, although the consumption of antidepressants is very high.

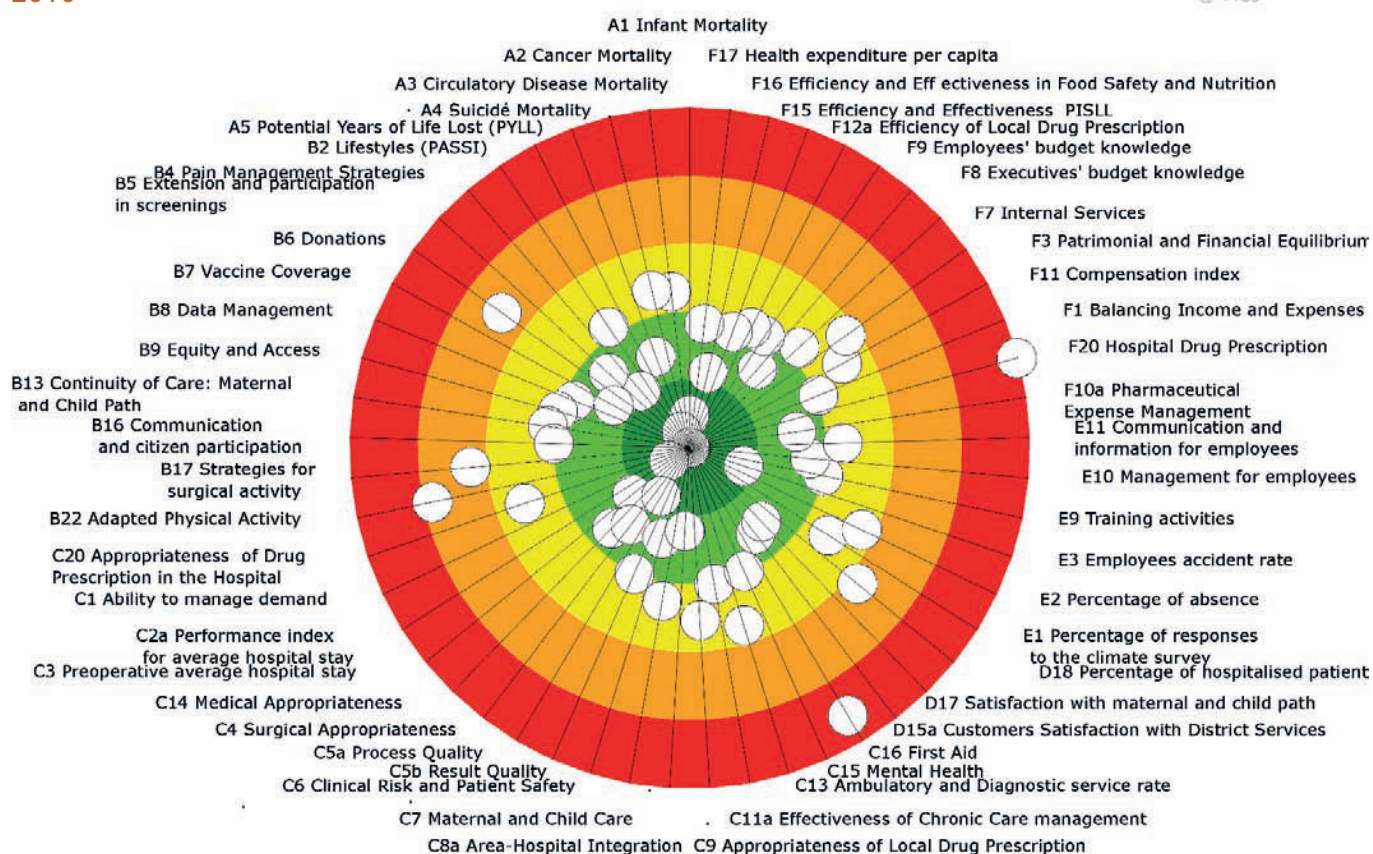


Figure 5 – 2010 Evaluation criteria for the AUSL 3 of Pistoia

Indicators with the best performance at the regional level	
A5	Potential Years of Life Lost (PYLL)
B5.1.2	Adjusted participation in mammography screening
B7.1	MMR vaccine coverage
C11a.1.2	Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium
C13.2.1	Standardized CT performance rate per 1,000 residents
C9.2	Percentage of statin-treated patients abandoning drug therapy
F16.5.2	Production efficiency for services delivered n. 4

Figure 6 – Best Practice for the AUSL 3 of Pistoia



## Ausl 4 of Prato

The Ausl 4 of Prato has a good performance, with 6 indicators in the green section, 21 in light green, 14 in yellow, 4 in orange, and 3 in the red one. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

As for the ability to pursue regional strategies, most of the indicators are in the green section, in particular an excellent performance has been registered with reference to participation in cervical screening (B5.2.2) and to the influenza vaccine coverage (B7.2), both becoming best regional performance. Also good is the timeliness of data transmission to the regional information system (B8). A critical result is in the strategy for pain management (B4), which registered the lowest consumption of morphine in the area.

With regard to health assessment, the Authority has the best result with the lowest average pre-operative hospital stay (C3) at the regional level. There are excellent results on clinical quality, which registered a very low level of re-admissions within 30 days (C5.1), and transurethral prostatectomies (C5.3). There is still room for improvement in the percentage of femur fractures operated within 2 days that increased sharply from 30% last year to 45%. Weaknesses are found in the average length of stay (C2a) and in the percentage of defections from the Emergency Department (C16), in which the Authority is positioned as the worst performer at the regional level. However, it showed a turnaround in the last quarter. Particularly positive values relate to Mental Health (C15) and to the maternal and child path (C7), where the Caesarean birth rate is still the lowest in the region.

Women also give a positive assessment on the birth path (D17), with particular reference to the pre-partum programme.

The participation in the working climate survey (E1) is much larger than in the previous year, rising from 38% to 50%. The rate of employee absence (E2) is in line with the regional average, while the rate of injuries to employees (E3) is placed in the green section.

Regarding the pharmaceutical expense (F10a) it is confirmed as one of the lowest in Tuscany, while efficiency and appropriateness of prescription (C9 and F12) have room for improvement, particularly with regard to patient's participation and to the use of off-patent drugs.

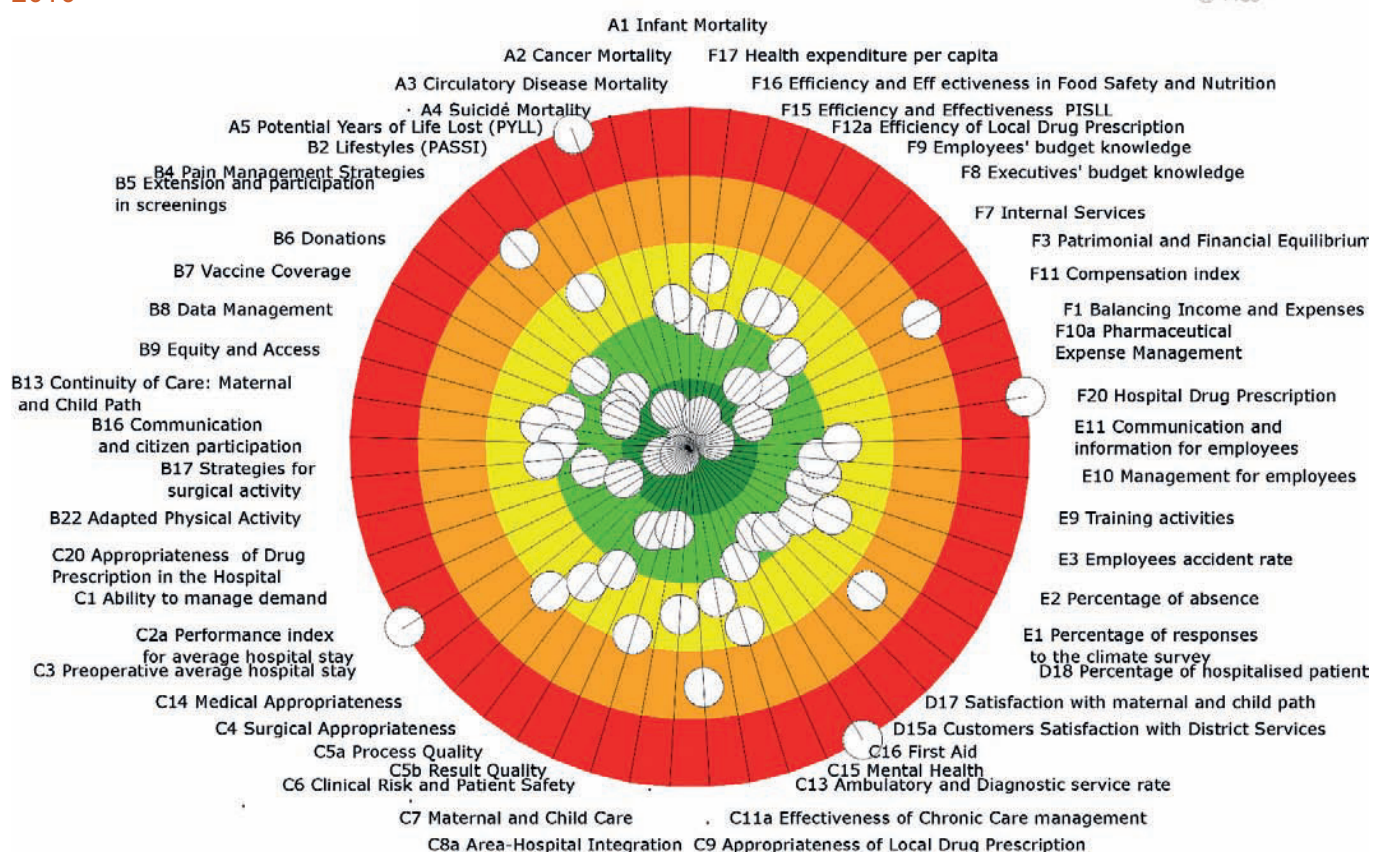


Figure 7 – 2010 Evaluation criteria for the AUSL 4 of Prato

Indicators with the best performance at the regional level	
<b>B2.4.2</b>	Percentage of smokers advised by the doctor to quit smoking
<b>B5.2.2</b>	Adjusted participation in cervical screening
<b>B7.2</b>	Influenza vaccine coverage for residents over 65
<b>C11a.5.1</b>	Percentage of residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation
<b>C3</b>	<b>Preoperative average hospital stay</b>
<b>C5.3</b>	Percentage of transurethral prostatectomies
<b>C7.1</b>	Percentage of caesarean births (NTSV)
<b>F12a.13</b>	Antibiotics: average cost per box
<b>F16.7.1</b>	Checklist for cattle
<b>F3.1</b>	Current ratio

Figure 8 – Best Practice for the AUSL 4 of Prato



## Ausl 5 of Pisa

The Ausl 5 of Pisa in 2010 has registered an excellent performance and it demonstrated its capacity for further improvement in many of the monitored indicators: it shows 11 indicators in the green section, 22 in light green, 11 in yellow, 3 in orange, and 1 in red. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

In terms of management, good performance is registered thanks to the great involvement of all sectors of the Authority: this is demonstrated by the high participation of employees in the working climate survey (E1), the evaluation of management (E10) and of communication and information within the Authority (E11), as well as the knowledge and participation in planning and management processes (F9).

As for the attainment of regional strategies, there is a best performance in the Region in relation to data management (B8), strategies for surgical activity (B17), and donations (B6). A good score of the indicator that monitors the extension and participation in cancer screening (B5), with excellent values on the extension of colorectal screening (B5.3.1) and mammography (B5.1.1), are confirmed. There are, though, some critical evaluations relative to low levels of opioid and morphine consumption (B4) and to influenza vaccine coverage for the elderly (B7.2).

With regard to the health assessment, the Authority demonstrates an appropriate use of care settings, as shown by the indicators of appropriateness (C4, C14), although the indicator on surgical DRGs LEA to be carried out in Day-Surgery (C4.12) can still be improved. Excellent are also efficiency and clinical quality: there are, in fact, best practices on average hospitalization (C2a) and on the percentage of urgent laparoscopic appendectomies (C5.11). In terms of clinical risk (C6), the Authority shows a good spread of the incident reporting system (C6.2), while the number of certified good practices is still low (C6.5).

The maternal and child path has a low rate of caesarean births (C7.1), the best result on induced labour (C7.2), and the use of episiotomy (C7.3) continues to decrease. The indicator on defections from the Emergency Department (C16) is critical.

The Authority has good ability in Area-Hospital integration (C8a), in particular showing a best practice relative to the hospitalization rate for paediatric gastroenteritis (C8a.19.2). However, it shows room for improvement with reference to management of diabetic patients, for whom there are far too many hospitalizations and amputations of diabetic foot, a responsibility shared with the Teaching Hospital (AOU) of Pisa.

The external evaluation shows a good level of citizen satisfaction with the Authority's services (D15), in particular with reference to the professionalism of the staff of the Authority.

Weakness is registered in relation to the pharmaceutical part: pharmaceutical expense is in fact higher than the regional average (F10a). The efficiency of drug prescription (F12a, F20), is at the regional average: for some categories of drugs it shows an excellent or good score, while for others it is critical. As for appropriateness of hospital prescription (C20), this is at the optimum level, thanks to the proper use of antibiotics.

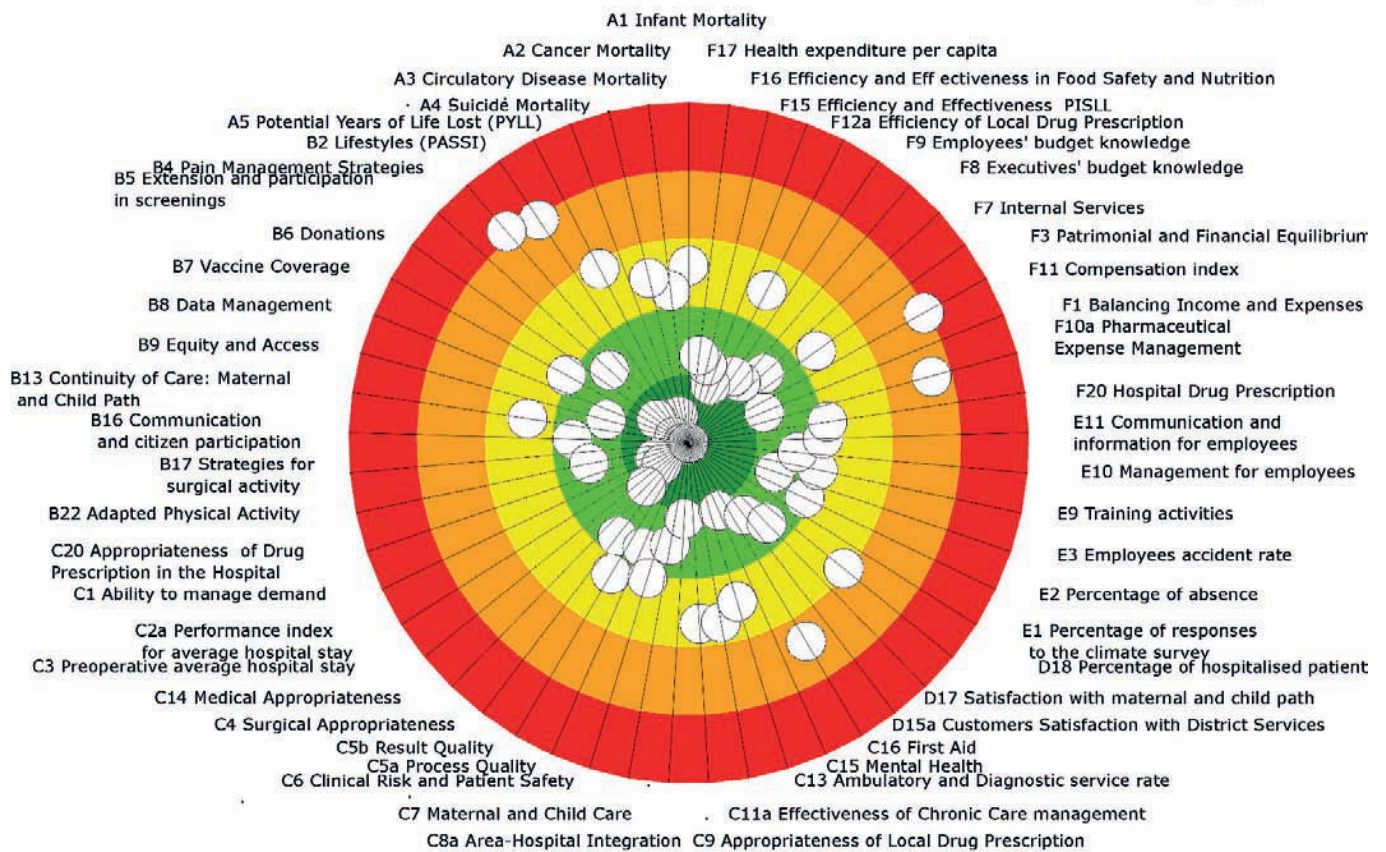


Figure 9 – 2010 Evaluation criteria for the AUSL 5 of Pisa

Indicators with the best performance at the regional level	
<b>A4</b>	<b>Suicide mortality</b>
<b>B16.1.1</b>	Percentage of achieved commitments according to the Service Charter
<b>B17.2</b>	Extra Region outflow trend for basic surgical specialties (Local Health Authorities)
<b>C14.4</b>	Percentage of medical admissions over the threshold for patients $\geq 65$ years (Health Care Agreement 2010)
<b>C2a</b>	<b>Performance index for average hospital stay</b>
<b>C5.11</b>	Percentage of urgent laparoscopic appendectomies for women between 15 and 49 years
<b>C6.2.2</b>	Index of Mortality and Morbidity report diffusion
<b>C7.2</b>	Percentage of induced labour
<b>C7.8</b>	Percentage of eye screening on healthy infants
<b>C7.9</b>	Percentage of audiology screening on healthy infants
<b>C8a.19.2</b>	Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq 17$ years)
<b>C9.12</b>	Consumption of antibiotics within the ward
<b>E1</b>	<b>Participation rate in the Working Climate Survey</b>
<b>F16.5.3</b>	Production efficiency for services delivered n. 43
<b>F17</b>	<b>Health expenditure per capita</b>
<b>F20.4</b>	Percentage of somatotropin off patent
<b>F9</b>	<b>Budget's knowledge by employees</b>

Figure 10 – Best Practice for the AUSL 5 of Pisa



## Ausl 6 of Livorno

The Ausl 6 of Livorno in 2010 shows a decent performance, a significant improvement compared to 2009. In terms of percentage, in fact, 64% of the indicators show a better performance compared to 2009. In particular, for the year 2010 the Authority has 2 indicators in the green section, 16 in light green, 17 in yellow, 10 in orange, and 3 in red. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

Regarding the pursuit of regional strategies, the Ausl registers best practices for the extension of colorectal screening (B5.3.1), and excellent values for the extension of the cervical screening (B5.2.1) and for the percentage of actual donors (B6.1.2). The figure relating to data management (B8) shows room for improvement, especially with reference to the timeliness of data transmission to the information system (B8.1).

A generally good result is shown by the indicator that measures equity and access (B9), with good values in relation to hospitalization for cardiac insufficiency of patients with low academic qualifications (B9.5.1), to hospitalization for diabetes according to educational qualification, and to the percentage of Caesarean NTSV according to educational qualification (B9.7).

As for the social and medical evaluation, there is still room for improvement in relation to the average hospital stay (C2a), as well as the average pre-operative hospital stay (C3). The Authority registered an high capacity for demand management (C1), with a standardised hospitalization rate per 1.000 residents of 142.83 (C1.1).

Generally good is the result for surgical appropriateness (C4). Excellent is the percentage of medical DRGs for patients discharged from surgical wards (C4.1), thanks to the percentage of medical DRGs for patients discharged from surgical wards in outpatient admissions (C4.1.2). While good, the data on inpatient admissions (C4.1.1), show room for improvement.

Regarding the indicator of the process quality (C5.a), the Authority shows a performance that should be improved and it is one of the few Authorities with a negative trend in relation to the percentage of femur fractures operated within two days (C5.2). A good trend is shown in the percentage of urgent laparoscopic appendectomies for women aged 15-49 (C5.11).

The Quality of Result (C5b), that is, the percentage of re-admissions within 30 days (C5.1), shows room for improvement, especially with reference to medical admissions (C5.1.1).

There are highly critical results related to Clinical Risk (C6). The development of the incident reporting system (C6.2), regarding both the spread of audits and reviews of mortality and morbidity and, especially, the fall control capability (C6.6) needs improvement. There are no certified good practices (C6.5), and the index of claims (C6.1) is also critical.

The indicators of the maternal and child path (C7) are in line with results of previous years, and show room for improvement, both in relation to the adjusted percentage of caesarean births (C7.1) and to the outflow for childbirth (C7.5). A positive value is the percentage of induced labour (C7.2).

As for Area-Hospital integration (C8a), the overall result, as compared to the previous year, decreased greatly. The excellent hospitalization rate for pneumonia (C11a.4.1), and the good data on the percentage of admissions with a length of stay of more than 30 days (C8a.1) are confirmed. One of the worst data points, compared to regional results, concerns the hospitalization rate for paediatric gastroenteritis, with significant negative trends (C8a.19.2).

The Emergency Department is characterized by a "not completely satisfactory" performance, and the data on the percentage of voluntary discharge of patients during hospitalization (D18) continues to be too high, although the trend is improving.

With regard to pharmaceuticals, the appropriateness of hospital drug prescription (C20) is generally good. But there is considerable scope for improvement on the appropriateness of drug prescription (C9) and on the general indicator that monitors the efficiency of drug prescription (F12a).

The employee evaluation is very good, and the rate of employee injuries has improved (E3).

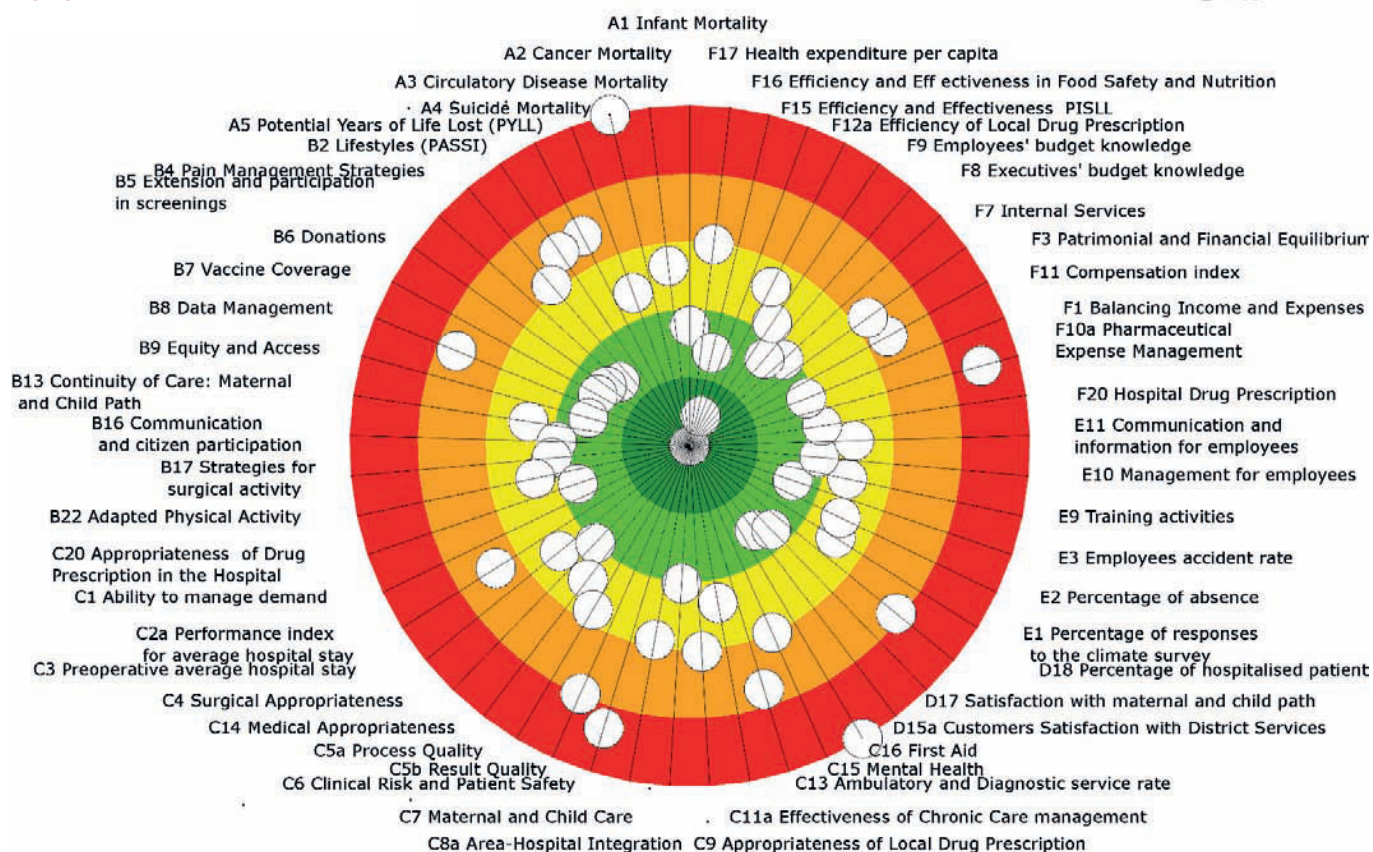


Figure 11 – 2010 Evaluation criteria for the AUSL 6 of Livorno

Indicators with the best performance at the regional level	
<b>B5.3.1</b>	Adjusted extension of colorectal screening
<b>F16.3.1</b>	Samples analysed for the National Plan for Animal Feeding (PNAA) and the National Plan for Residuals (PNR)
<b>F16.8.2</b>	Pharmacovigilance – Pharmacies

Figure 12 – Best Practice for the AUSL 6 of Livorno





## Ausl 7 of Siena

The performance of the Ausl of 7 Siena is generally very good, with a high concentration of results in the central sections of the target. In particular, it has 6 indicators in the green section, 22 in light green, 14 in yellow, 5 in orange, and 1 in red. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

Regarding the pursuit of regional strategies, the Authority has performed well in cancer prevention activities (B5), with an excellent value in the extension of colorectal screening (B5.3.1), while it presents the worst data at the regional level for the extension of the mammography screening (B5.1.1). Particularly positive is the performance related to equity and access (B9).

With reference to the clinical evaluation, generally very positive, the figure on hospitalization efficiency for the average length of stay for acute illnesses (C2a), is higher than the regional average, and shows room for improvement. Strong data on the average pre-operative hospital stay for scheduled surgery (C3) are confirmed, and the general indicator that monitors demand management (C1), with a standardised hospitalization rate per 1,000 residents of 145.36 (C1.1) is also very positive.

Generally good is surgical appropriateness (C4), excellent is the percentage of medical DRGs discharged from surgical wards (C4.1), thanks to the percentage of medical DRGs discharged from inpatient admissions in surgical wards (C4.1.1). The medical appropriateness (C14) is negatively influenced by the high hospitalization rate per 10,000 residents in relation to medical DRG LEA (C4.8) and by the very critical data on the percentage of medical admissions for patients over 65 years (C14.4), but both have an improving trend. Results are good for sub-indicators on the percentage of medical outpatient admissions for diagnostic purposes (C14.2) and the percentage of short medical inpatient admissions (C14.3).

Regarding the indicator that measures the overall process quality (C5.a), the Authority shows a good performance with an excellent value for the percentage of transurethral prostatectomy (C5.3). It has best practices for Quality of Result (C5b), that is, the percentage of re-admissions within 30 days (C5.1).

The performance of indicators for the management of clinical risk (C6) is good.

Generally excellent are also indicators of the Maternal and Child path (C7), with an excellent result in the percentage of caesarean births and an excellent value on the rate of episiotomy NTSV (C7.3). The Ausl also records the lowest data in the Region in relation to outflow for childbirth (C7.5).

As for Area-Hospital integration (C8a), the overall performance is the most critical, especially with reference to the hospitalization rate for pneumonia (C11 A.4.1) and the hospitalization rate for paediatric gastroenteritis (C8a.19.2). The performance relative to the percentage of admissions with a length of stay of more than 30 days (C8a.1) is improving.

The care effectiveness in chronic diseases (C11a) shows a performance with important critical points: although improving, it is still the worst regional figure relative to residents with heart failure treated with beta-blockers (C11a.1.4) and to the hospitalization rate for COPD (C11a.3.1). Excellent is the overall performance for the Mental Health path (C15), with best practices in relation to the percentage of re-admissions within 7 days for adult patients in Psychiatry (C8a.13.2).

High, and therefore critical is the figure on the percentage of voluntary discharges of patients during hospitalization (D18).

As for appropriateness of hospital drug prescription (C20), the indicator is generally good. The appropriateness of drug prescription (C9) and the efficiency of drug prescription (F12a) show a greater variability among the indicators composing them, and for some of them there is considerable room for improvement.

With regard to the percentage of participation in the internal working climate survey (E1), it shows a very good level of employee involvement in the organisational strategies.

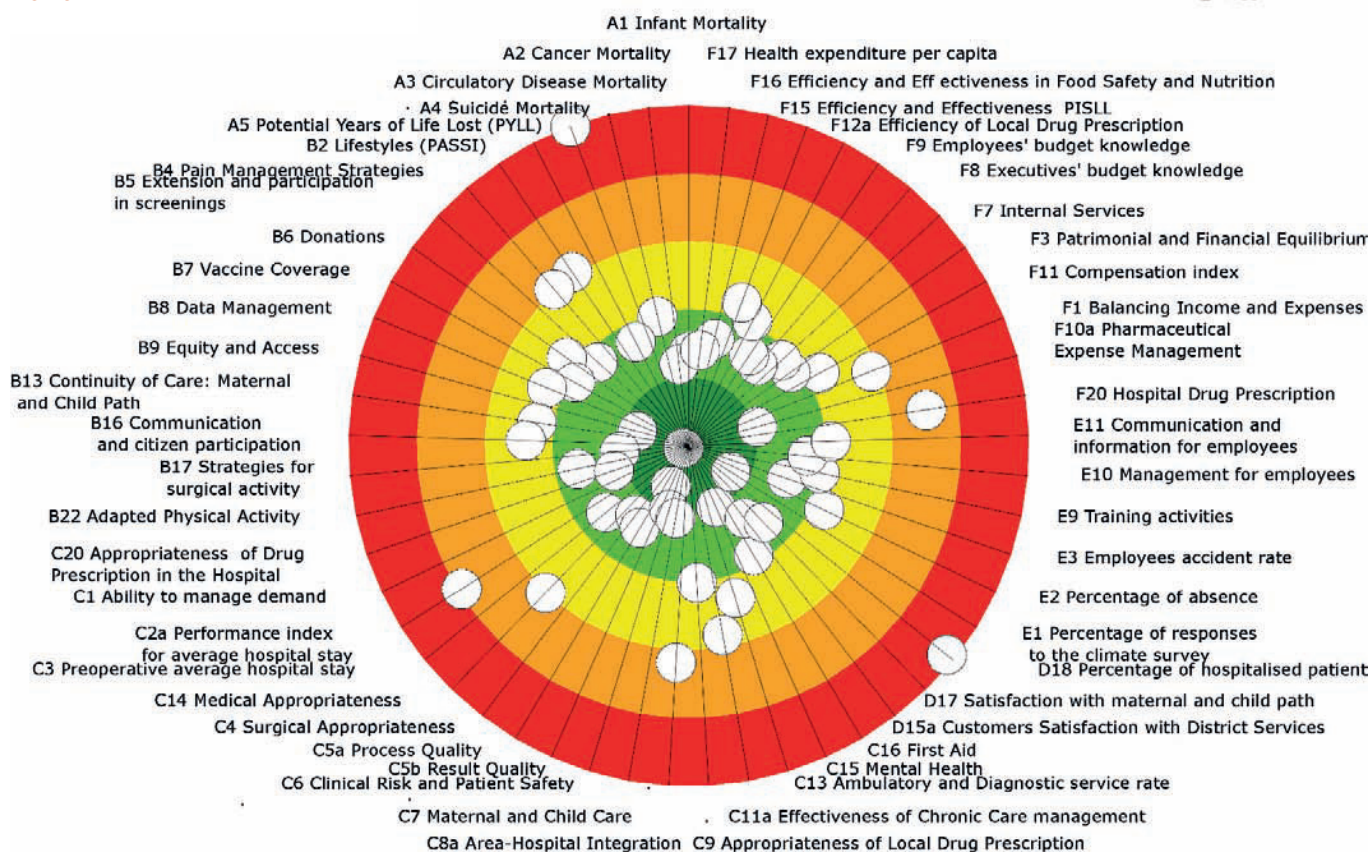


Figure 13 – 2010 Evaluation criteria for the AUSL 7 of Siena

Indicators with the best performance at the regional level	
<b>B2.2.1</b>	Percentage of obese people
<b>B5.3.2</b>	Adjusted participation in colorectal screening
<b>B8.2.1</b>	Timeliness of services delivered with reference to prevention
<b>C5.1</b>	Percentage of readmissions within 30 days with the same MDC
<b>C7.5</b>	Outflow rate for childbirth
<b>C8a.13.2</b>	Percentage of adult psychiatric patient re-admissions within 7 days

Figure 14 – Best Practice for the AUSL 7 of Siena



## Ausl 8 of Arezzo

The Ausl 8 of Arezzo shows overall a very good performance. It has 3 indicators in the green section, 25 in light green, 15 in yellow, 5 in orange, and none in the red section. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

The section related to the pursuit of regional strategies, shows good results with reference to prevention: it registered the best results at the regional level with regard to screening (B5) and to vaccine coverage (B7).

As for the clinical evaluation, the Authority achieved good results in both medical appropriateness (C14), and surgical appropriateness (C4). Good performance is reported also with respect to clinical risk management, with excellent values with respect to the development of the Incident Reporting System (C6.2) and the fall control capability (C6.6).

Regarding the Area-Hospital integration, the Authority reaches a good result thanks to the control of the hospitalization rate > 30 days (C8a.1). At the local level with reference to the care effectiveness of chronic disease (C11a), there is a good performance, especially on the management of diabetes. As for the management of cardiac insufficiency, instead, there is a critical issue in the percentage of patients treated with beta blockers. The Authority has only 42% of patients treated with beta blockers, well below the threshold of 80%, but still above the national average. We also note that the Authority has the highest rate in the region for the performance of magnetic resonance for residents (C13).

As for patient satisfaction, the Authority presents values of customer satisfaction (D15a) in line with the regional average, and this is true also for the maternal and child path (D17). Similarly there are values aligned with the regional average for the working climate survey, in particular with reference to injury rate, and the employee absence.

With regard to pharmaceuticals, although the data concerning the appropriateness of prescriptions (C9) is in line with the average, there are some problems in the use of statins in combination with other drugs, sartans, and antibiotics, which are the highest values in the region. However, the trend in the second half of 2010 shows a marked improvement in almost all parameters, except for the use of statins in combination with other drugs. As for pharmaceutical efficiency (F12), which measures the use of off-patent drugs, there is room for improvement, especially in certain categories. The Authority also has expenditure levels (F10) higher than the regional average. Again, a significant improvement trend in the second half of the year, should be noted.

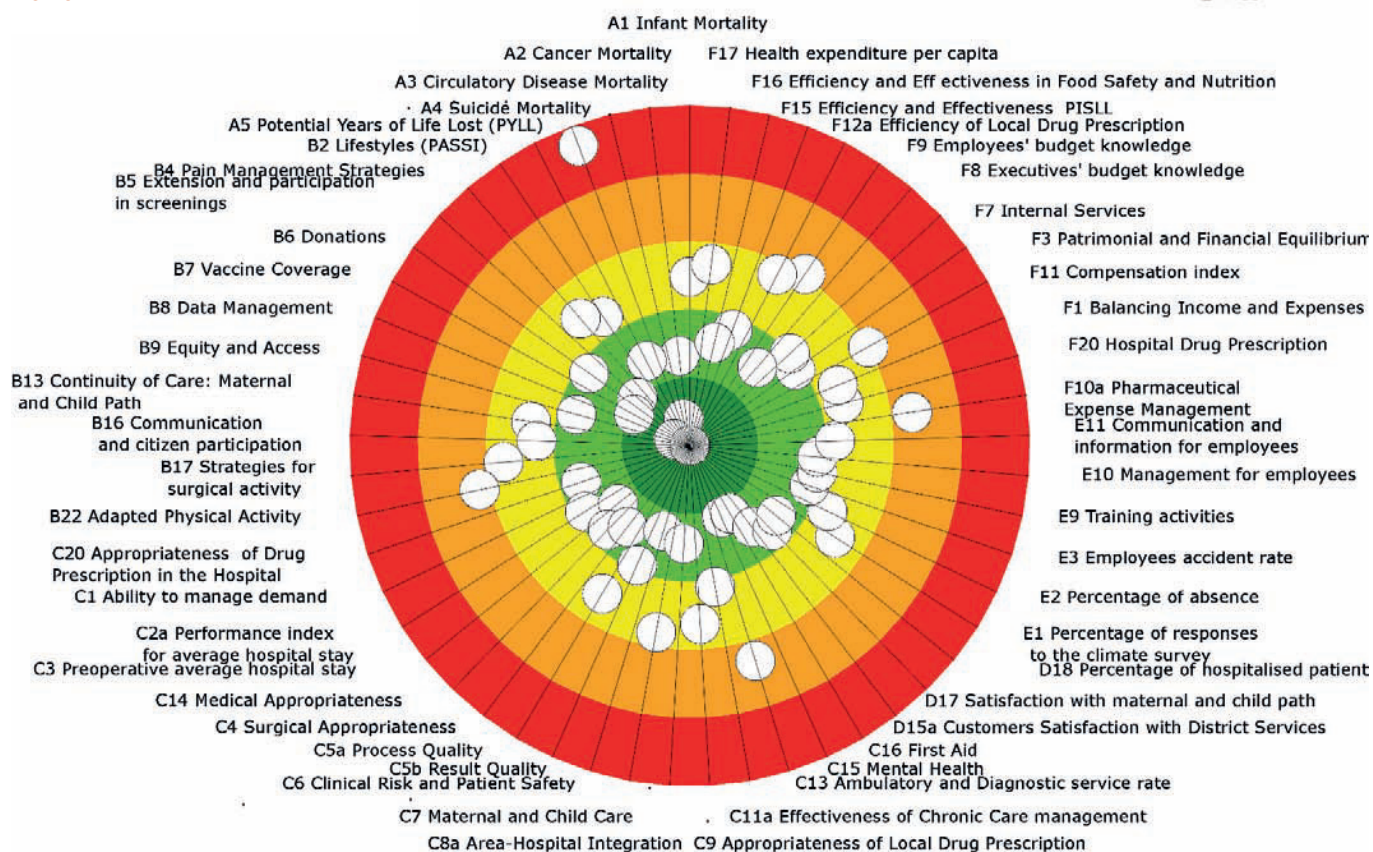


Figure 15 – 2010 Evaluation criteria for the AUSL 8 of Arezzo

Indicators with the best performance at the regional level	
<b>B2.1.1</b>	Percentage of sedentary people
<b>B4.1.1</b>	Opioid consumption
<b>C11a.2.4</b>	Major amputation rate for diabetes per million residents
<b>C13.2.2</b>	Standardized MRI performance rate per 1,000 residents
<b>F16.4.2</b>	Categorisation – No. of companies in risk group 2

Figure 16 – Best Practice for the AUSL 8 of Arezzo



## Ausl 9 of Grosseto

The Ausl 9 of Grosseto has a good performance. There are 8 indicators in the green section, 20 in light green, 13 in yellow, 6 in orange, and 1 in red. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

Positive results are registered in the Authority's ability to pursue regional strategies. In particular, the Authority recorded an excellent performance relative to strategic equity and access (B9), for which it has the best practice at the regional level with reference to the indicators of urgent hospitalization rates according to educational qualification (B9.6), pneumonia hospitalization rates according to educational qualification (B9.5.4), and percentage of Caesarean NTSV according to educational qualification (B9.7). Excellent results are registered also with reference to the MMR vaccine coverage (B7.1), timeliness and compliance of services delivered with regard to prevention (B8.2), and the Authority's Committee for participation (B16.2).

With regard to cancer screening (B5), the improvement that began in 2009 in the extension of colorectal screening (B5.3.1) has been completed in 2010, meeting the target of 100%. Attention should be paid, instead, on participation in colorectal screening, which decreased compared to the previous year. We also registered a weakness relative to timeliness of data transfer (B8.1), worse than in the previous year. Surgical appropriateness (C4) together with the result quality with reference to control of re-admissions within 30 days (C5.b), showed excellent results. Equally good was the ability to control admissions with a length of stay of more than 30 days that denotes the local ability to avoid re-admissions (C8a.1).

As for demand management the Authority shows a great capacity of control with reference to hospitalizations for residents, recording the lowest hospitalization rate at the regional level (C1.1), and with a constant tendency to further reduction. Excellent results are also registered with reference to care effectiveness for some chronic diseases, such as diabetes, with a hospitalization rate (C11a.2.1) significantly improved if compared to the previous year, that decreased from 19.69% to 11.64% per 100,000 residents, making it the best practice at regional level.

Important results were achieved also with reference to the Health Care Agreement. The Authority, in addition to the achievement of significant results in pursuing the objectives set, has further improved on the trend of 2008-2009.

Excellent results are also registered for clinical risk management, with the best results in the spread of audits (C6.2.1) and in patient fall control (C6.6).

The improvements observed in 2009 with reference to the reduction in caesarean births (C7.1) do not persist in 2010. There is, instead, an increase that changed the Authority's performance from good to average.

The defections from the Emergency Department (D9), considered a proxy of patient satisfaction, are the lowest in the region. Good customer evaluations of Authority services have been expressed, albeit below the regional average, on issues of organization, and of the birth path.

With regard to pharmaceuticals, we note that there is room for improvement in efficiency of prescription that is in the use of molecules that are not covered by patent (F12a.14), and in patient participation in statin therapy (C9).

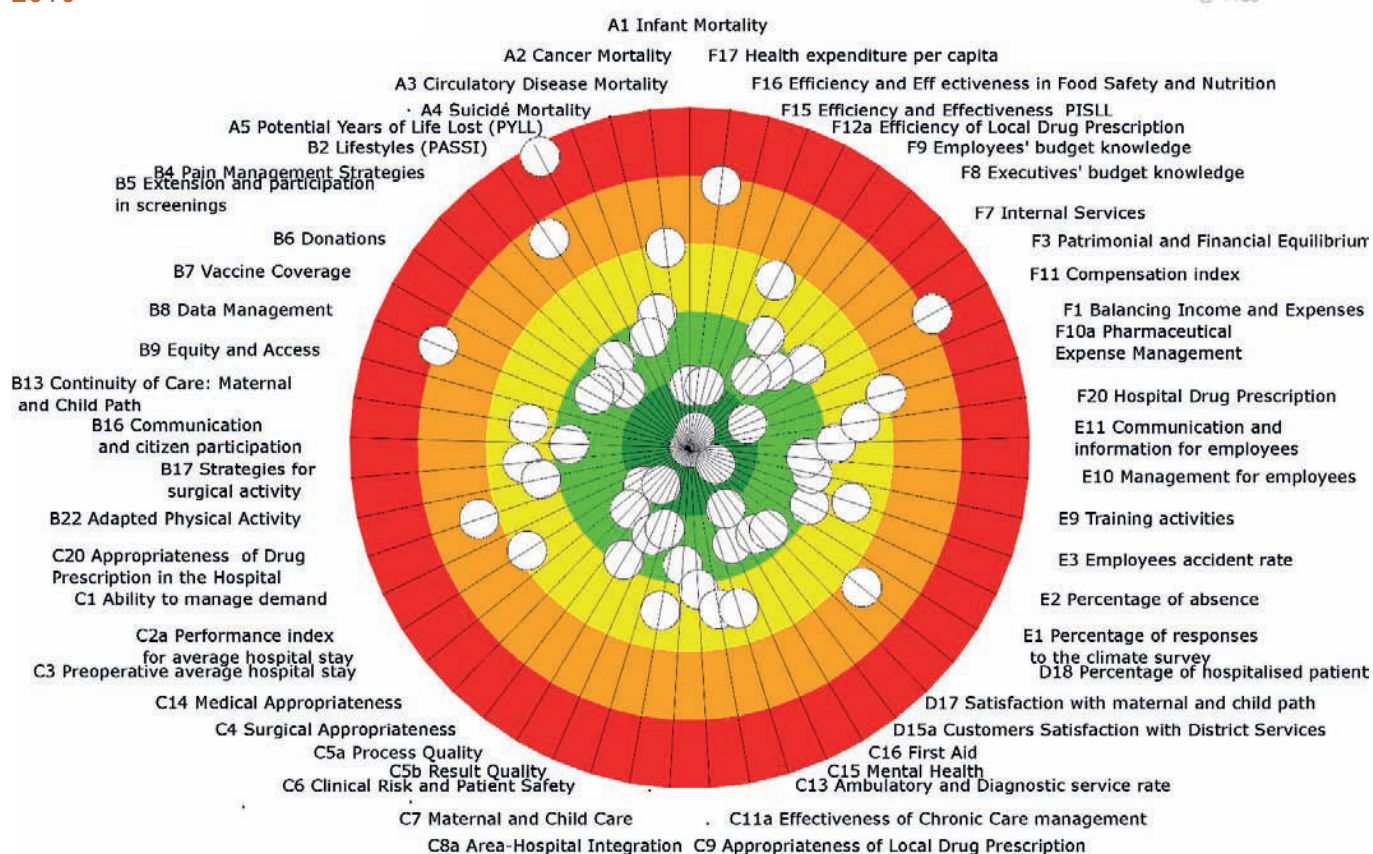


Figure 17 – 2010 Evaluation criteria for the AUSL 9 of Grosseto

Indicators with the best performance at the regional level	
<b>B9.5.4</b>	Hospitalization for pneumonia rates ratio by education
<b>B9.6</b>	Urgent hospitalization rates ratio by education
<b>B9.7</b>	NTSV cesarean birth rates ratio by education
<b>C1.1</b>	Standardized hospitalization rate per 1,000 residents
<b>C11a.2.1</b>	Overall hospitalization rate for diabetes per 100,000 residents (20-74 years)
<b>C11a.2.3</b>	Percentage of residents with diabetes with at least one Retina examination
<b>C14.3</b>	Percentage of short medical inpatient admissions (Health Care Agreement 2010)
<b>C4.8</b>	Medical LEA DRG: hospitalization rate per 10,000 residents (Health Care Agreement 2010)
<b>C6.2.1</b>	Index of audit diffusion
<b>C6.5</b>	Level of best practices diffusion
<b>C6.6</b>	Patient fall control capability
<b>C8a.13</b>	Percentage of re-admissions for adult psychiatric patients within 30 days
<b>C9.4</b>	Consumption of selective serotonin reuptake inhibitors (antidepressants)
<b>C9.5</b>	Consumption of other antidepressants (Antidepressants)
<b>C9.8.1.2</b>	Incidence of injectable antibiotics
<b>D9</b>	Percentage of people leaving the ED without being treated
<b>F15.2.4</b>	Efficiency with respect to services delivered n. 25-26-27-72

Figure 18 – Best Practice for the AUSL 9 of Grosseto



## Ausl 10 of Firenze

The Ausl 10 of Firenze has a good performance, with 6 indicators in the green section, 15 in light green, 18 in yellow, 6 in orange, and 3 in red. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

With regard to the pursuit of regional strategies, the Authority recorded excellent results in terms of communication and citizen participation (B16) and of vaccine coverage (B7). Generally good results for cancer screening (B5), in particular also this year the regional goal relative to the extension of cervical screening (B5.2.1) has been exceeded, a phenomenon which is not observed, however, for the other two screenings, while there is a negative trend in participation. The indicators of equity and access (B9), pain management (B4.1.3), and adapted physical activity (B22) are still critical.

The clinical evaluation section shows an excellent performance on medical appropriateness, in particular the percentage of outpatient medical admissions for diagnostic purposes (C14.2, indicator of the Health Care Agreement 2010-2012) is the lowest at the regional level, and in sharp decrease compared to the previous year. Excellent results are shown also for surgical appropriateness (C4), with the best result in the performance of surgical DRG LEA (C4.12 – percentage of standards achieved per percentage of Day-Surgery) combined with an excellent management of beds in surgical wards. The number of patients with medical DRGs discharged from surgical wards both in inpatient admission (C4.1.1) and in outpatient admission (C4.1.2) is among the lowest in the region. The use of laparoscopy in cholecystectomy (C4.4) keeps improving, confirming the progressively improving trend compared to the 2008-2009 period.

As for clinical risk management (C6) the level of diffusion of the audits, of the reviews of mortality and morbidity, and of the quality and the development of the incident reporting system, are critical, while the index of Claims (C6.1) is very low, and further decreased compared to 2009.

Good results are also registered for the maternal and child path, with low rates of caesarean NTSV (C7.1) and episiotomy (C7.3), although with a slight increase compared to the previous year. The induced labour rate (C7.2) has improved and passed from the orange to the yellow section. With regard to satisfaction with the Birth Path, women express great confidence in the staff at the birth points (B17.2) and evaluate as good the pre-partum programmes (D17.1).

With regard to the territorial activities, care efficiency of chronic diseases related to cardiac insufficiency (see sub-indicators of C11a.1) and pneumonia (C11a.4.1) are still critical. On the other hand, the Area-Hospital integration is positive, with a percentage of re-admissions with a length of stay of more than 30 days below the regional average (C8a.1) and the hospitalization rate for paediatric gastroenteritis per 100,000 residents of 134, 07% (C8a.19.2).

Mental Health (C15) was a weakness of the Authority also in 2010, with some important problems, such as the percentage of re-admissions for adult psychiatric patients within 30 days (C8a.13), despite an improvement compared to 2009.

Customer satisfaction with the Authority's services is good (D15), and the percentage of voluntary discharge of patients in inpatient settings is fairly low (D18).

Extremely positive is the indicator on employee absence (E2), which achieved the best performance at the regional level also in 2010. The Authority's performance worsened, instead, (from light green to yellow) in the case of employee accident rate (E3) which registered almost the same values of 2008, even slightly exceeding them.

Pharmaceutical expense per capita (F10) is slightly higher than the regional average, while the efficiency of drug prescription shows improvement. The Authority recorded the lowest percentage of statins (F12a.2), fluoroquinolone (F12a.9), and ACE inhibitors associated with other drugs (F12a.7) not covered by patent.

An excellent result is registered for the indicator on the efficiency and effectiveness of prevention services in the workplace (F15), with the best regional performance in the case of accident rate (F15.3.1).

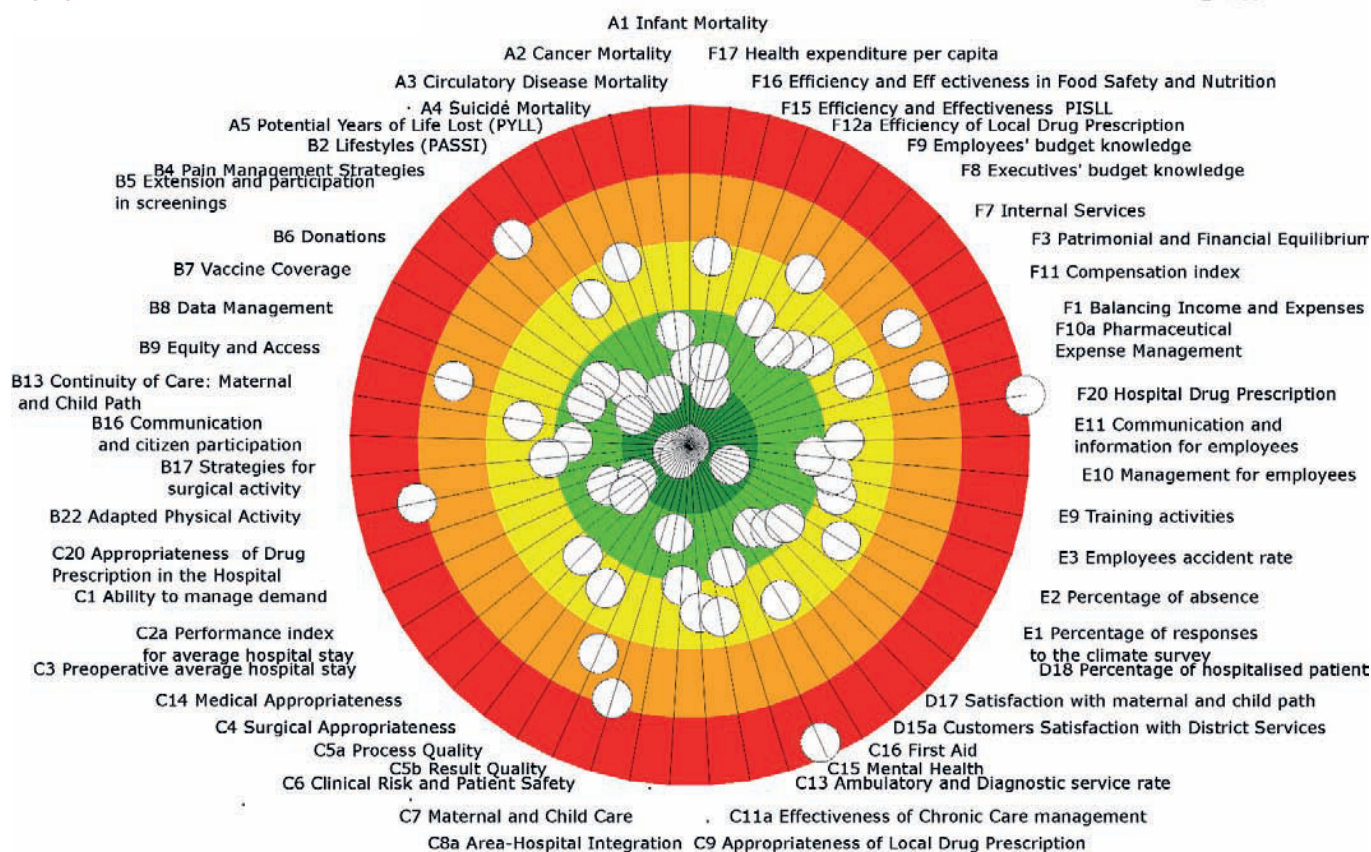


Figure 19 – 2010 Evaluation criteria for the AUSL 10 of Firenze

Indicators with the best performance at the regional level	
<b>A3</b>	<b>Circulatory disease mortality</b>
<b>B16.1.2</b>	Participation Committee
<b>B16.2</b>	Front-office
<b>B2.2.2</b>	Percentage of overweight or obese people advised by the doctor to lose or maintain weight
<b>C14.2</b>	Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010)
<b>C4.12</b>	Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010)
<b>C9.13</b>	Incidence of injectable antibiotics within the ward
<b>C9.9.1.1</b>	Percentage of antidepressant-treated patients abandoning drug therapy
<b>E2</b>	<b>Employee absence rate</b>
<b>F15.3.1</b>	Standardized rate of accidents

Figure 20 – Best Practice for the AUSL 10 of Firenze





## Ausl 11 of Empoli

The Ausl 11 of Empoli has, also in 2010, one of the best regional targets, recording an excellent performance. The Authority has 6 indicators in the green section, 22 in light green, 17 in yellow, 2 in orange, and 1 in red, apart from the A part: Population's Health Status. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

In pursuit of regional strategies, the Authority recorded a strong performance on equity and access for patients with heart failure (B9.5.1). It also recorded a positive trend in the volumes of the scheduled surgical activity (B17.1).

Good performance has been registered with reference to screening, with a significant improvement in participation in the mammography screening (B5.1.2), which increased from 66.20% in 2009 to 77.80% in 2010. Also good is the percentage of participation in cervical screening (B5.2.2), although it decreased slightly since the previous year, while its extension deserves attention due to a constant decrease in the last three years (94.82% in 2008, 82.59% in 2009 and 72.55% in 2010).

Regarding the social and health dimension, excellent is the demand management (C1.1) and the performance index for the average hospital stay for acute illnesses (C2a). Generally good is also the result for surgical appropriateness, although a weakness is detected in the percentage of surgical DRGs LEA in Day-Surgery.

As for effectiveness of care for chronic diseases, the highest percentage at the regional level of diabetic patients with at least one measurement of glycosylated haemoglobin (C11a.2.2): 72.5%, has been observed. Also with reference to diabetic patients a good hospitalization rate per 100,000 residents: 17.15% decreased by almost 18% compared to 2009 has been noted. The Authority achieves excellent results, the best at the regional level, in the activation of adapted physical activity (B22) programmes. Also good is the result of the Authority's performance with reference to Mental Health (C15).

Some critical points have been observed with reference to the maternal and child path (C7), with an increase of about 9% in caesarean births NTSV (C7.1), a high percentage of both induced labour (C7.2): 19.64%, constantly increasing since 2008, and outflow for childbirth (C7.5). Similarly, attention is due to the Emergency Department (C16), which records a high percentage of patients leaving the ER after triage registration (D9).

As for the citizens' evaluation there are very good results on the Authority's opening hours (D15.1.2) and women's satisfaction with the information they receive at the beginning of pregnancy about the birth path (D17.1.2), but it should be improved with reference to information on breastfeeding (I7.2.4), which is not always consistent, and depends on the operator providing the service.

The Authority shows good results with reference to resources devoted to pharmaceuticals, with an expense per capita (F10) which is the lowest at the regional level, and a very low hospital pharmaceutical expense (F10.2) when compared with other regional results despite an increase compared to 2009. Excellent results are also obtained at the local level in terms of efficiency of prescription (F12a).

With regard to pharmaceuticals, the Authority has excellent results: it shows the best practice in the use of antacids (C9.1), in the incidence of sartans (Antihypertensive) (C9.3), and in consumption of statins in combination with other drugs (C9.6.1.3). The indicators that measure the participation of patients in statin therapy (C9.2) and the use of antidepressants (C9.9.1.1) are in the light green section. The pharmaceutical expenditure per capita (F10) is the lowest at regional level. The only critical result relates to the local consumption of major opioids (provided under the National Health System and in direct supply) (B4.1.1), which is among the lowest in the region.

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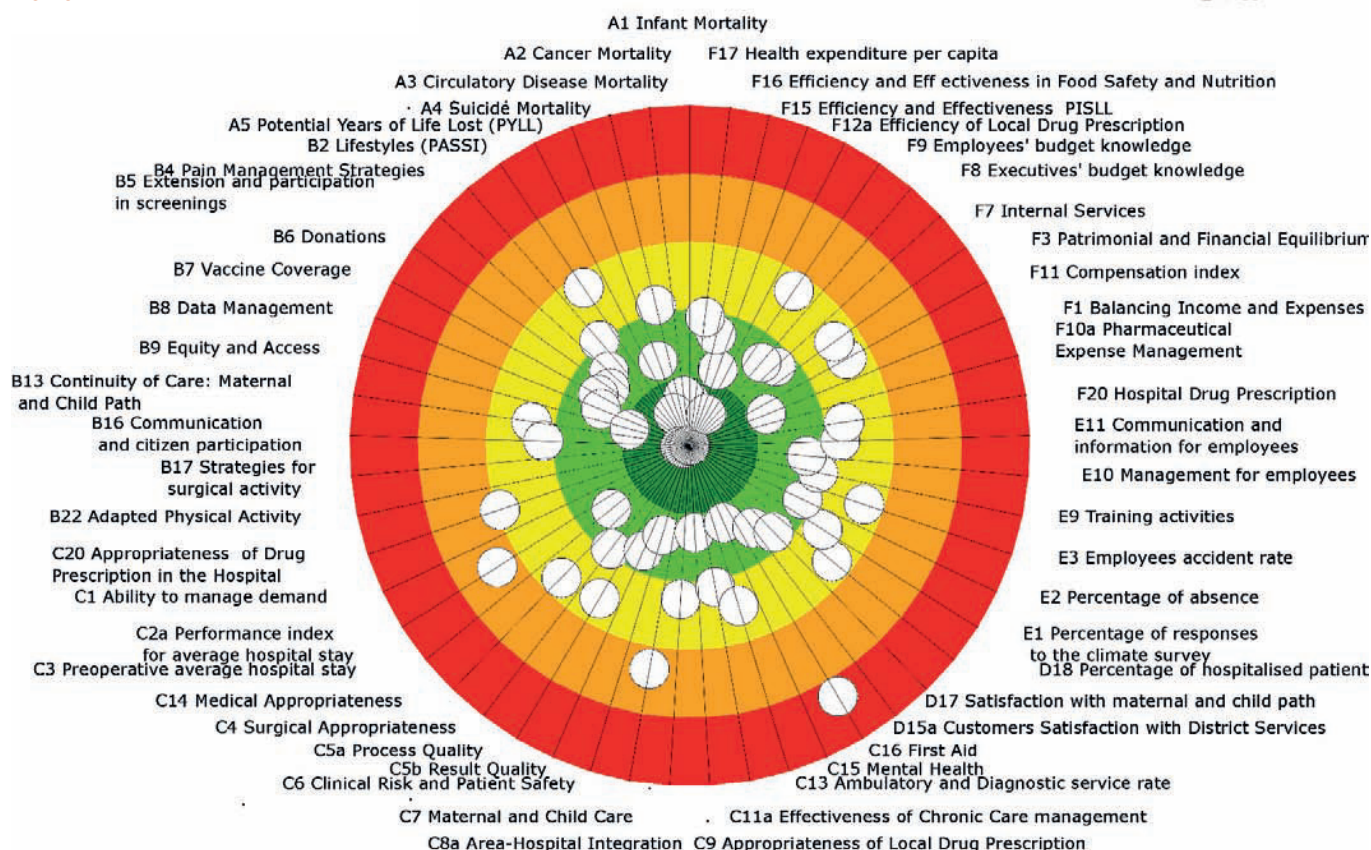


Figure 21 – 2010 Evaluation criteria for the AUSL 11 of Empoli

Indicators with the best performance at the regional level	
<b>A2</b>	<b>Cancer mortality</b>
<b>B17.1</b>	Volume trend for planned surgery
<b>B2.2.3</b>	Percentage of overweight or obese people advised by the doctor to exercise
<b>B22.1</b>	No. of APA low disability programmes per 1,000 residents aged ≥ 65 years
<b>B22.2</b>	No. of APA high disability programmes per 15,000 residents aged ≥ 65 years
<b>B8.2.2</b>	Compliance of services delivered with reference to prevention
<b>B9.5.1</b>	Hospitalization for heart failure rates ratio by education
<b>C11a.1.3</b>	Percentage of residents with heart failure treated with ACE inhibitor – sartans
<b>C11a.2.2</b>	Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin
<b>C9.1</b>	Consumption of Proton Pump Inhibitors (Antacid)
<b>C9.3</b>	Incidence of sartans (Antihypertensive)
<b>C9.6.1.3</b>	Statin consumption in combination with other drugs
<b>F10</b>	Pharmaceutical expense per capita
<b>F12a.1</b>	Percentage of off-patent proton pump inhibitors (Antacid)
<b>F12a.10</b>	Percentage of other off-patent antidepressants (Anti-hypertension)
<b>F12a.12</b>	Percentage of Losartan on sartans in combination with other drugs
<b>F12a.14</b>	Percentage of off-patent molecules
<b>F12a.3</b>	Percentage of off-patent ACE inhibitors (Antihypertensive)
<b>F12a.5</b>	Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants)
<b>F12a.6</b>	Percentage of off-patent dihydropyridine derivatives (Antihypertensive)
<b>F12a.9</b>	Percentage of off-patent fluoroquinolone (Antibiotics)
<b>F16.5.1</b>	Production efficiency for services delivered n. 49

Figure 22 – Best Practice for the AUSL 11 of Empoli



## Ausl 12 of Viareggio

The Ausl 12 of Viareggio shows an excellent performance in 2010. It has 5 indicators in the green section, 25 in light green, 15 in yellow, 3 in orange section, and none in the red section. The indicators relating to the population's health are not included because they do not refer to the year 2010 and are only partly determined by the services provided by the Authority.

Regarding the pursuit of regional strategies, as part of the strategies for pain management (B4) the Authority records the best regional practice with respect to local use of morphine (B4.1.3), while data are critical with reference to the local use of major opioids (provided under the National Health System and in direct supply, B4.1.1).

As for prevention, excellent are the data on extension of mammography screening (B5.1.1), cervical screening (B5.2.1), and colorectal screening (B5.3.1). Excellent results also for the indicator that monitors data management (B8), but with room for improvement with respect to the timeliness of services delivered with reference to prevention (B8.2.1).

The indicator that measures equity and access (B9) shows excellent performance in relation to the hospitalization rates for diabetes according to educational qualification (B9.5.2) and NTSV caesarean births rates according to educational qualification (B9.7).

In the Ausl of Viareggio there are no high disability Adapted Physical Activity programmes (B22.2), but it is in line with the regional average with reference to low disability programmes (B22.1).

As for the clinical evaluation, demand management (C1) shows very positive data regarding the hospitalization rate (C1.1.2). Very good, and further improving, is the figure for efficiency of admission regarding the average length of stay for acute illnesses (C2a), as well as the figure for the average pre-operative stay for scheduled surgery (C3). Data on surgical appropriateness (C4) present room for improvement. The Authority still maintains an excellent performance in the regional objective relative to the percentage of medical DRGs discharged from surgical wards for inpatient admissions (C4.1.1). While the percentage of standards met with reference to the percentage of Day-Surgery for surgical DRGs LEA (C4.12) is negative.

With regard to the Process Quality (C5.a), the Authority shows a negative performance and is one of the few Authorities with a deteriorating trend in the percentage of urgent laparoscopic appendectomies for women 15-49 years (C5.11). Whereas the percentage of femur fractures operated within two days (C5.2) is a best practice.

In relation to Clinical Risk (C6), the Authority shows an excellent performance with reference to the development of the incident reporting system (C6.2), both in terms of the spread of the audits and of reviews of mortality and morbidity. Good results are registered with reference to fall control capability (C6.6) and, with room for improvement, certification of good practices (C6.5) and the index of claims (C6.1).

Indicators of the Maternal and Child path (C7) show excellent values with respect to the percentage of caesarean births, and episiotomy. Extremely negative and worsening is the rate of induced labour (C7.2) as well as data related to the outflow for childbirth.

As for effectiveness of care in chronic diseases (C11a), excellent results are registered for hospitalization rates for diabetes (C11a.2.1) and COPD (C11a.3.1).

In terms of appropriateness of hospital drug prescription (F20), the indicator is generally good, and there is considerable room for improvement for the appropriateness of drug prescription (C9), with a best practice regarding the use of antibiotics (C9.8.1.1). Good results are registered for the general indicator that monitors the efficiency of drug prescription (F12a).

With regard to internal evaluation, the indicator that measures participation in the working climate survey (E1) is still worsening. While very good and improving significantly, even compared to the year 2008, is the rate of injuries of employees (E3).

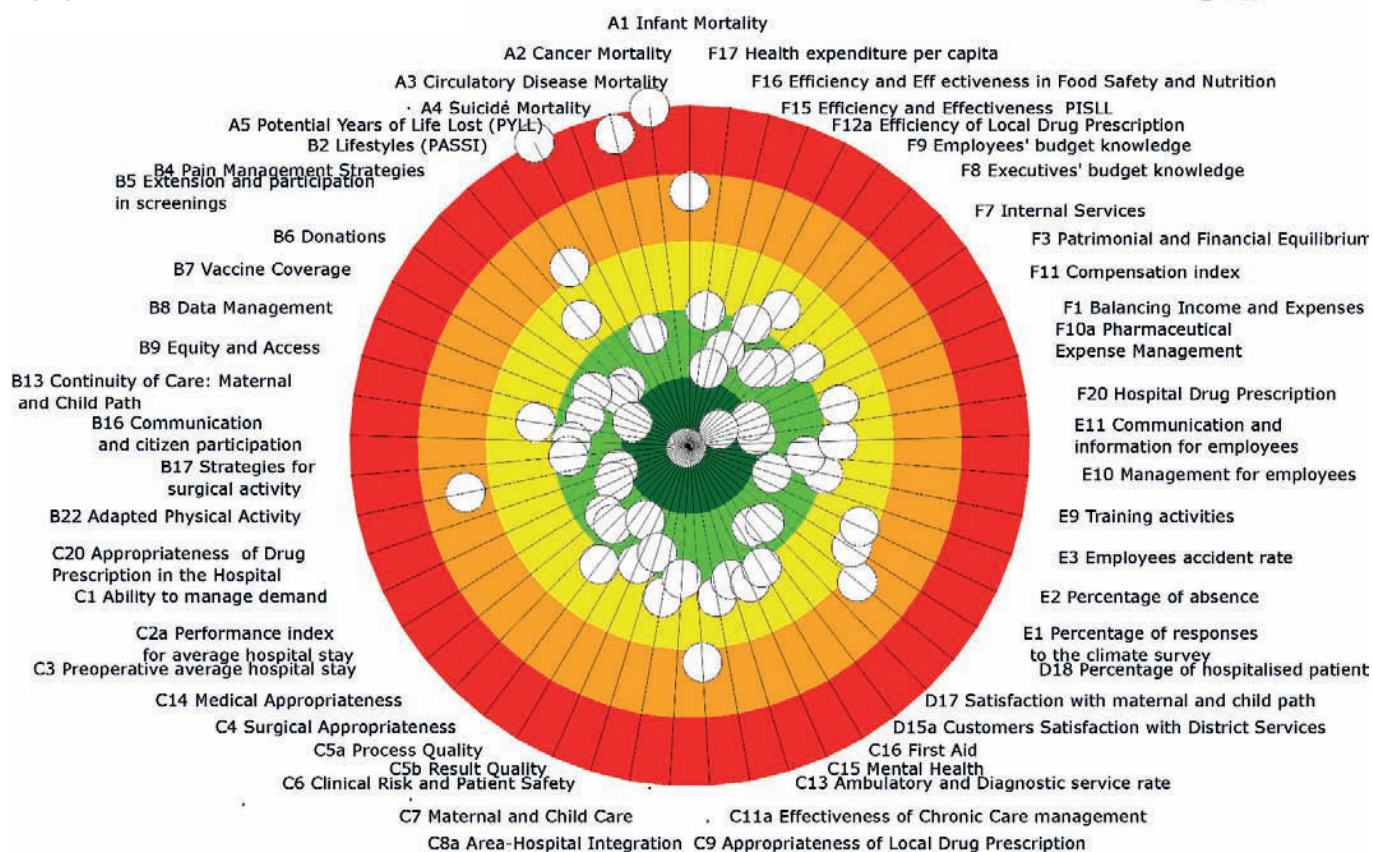


Figure 23 – 2010 Evaluation criteria for the AUSL 12 of Viareggio

Indicators with the best performance at the regional level	
<b>B2.1.2</b>	Percentage of sedentary people advised by the doctor to exercise
<b>B2.3.1</b>	Percentage of people binge drinking and/or drinking between meals
<b>B4.1.3</b>	Morphine consumption
<b>C5.2</b>	Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010)
<b>C9.8.1.1</b>	Consumption of antibiotics
<b>F11</b>	<b>Extra-regional compensation index</b>
<b>F15.1.6</b>	Territory Coverage with respect to the various construction sites inspected
<b>F15.1.8</b>	Territory Coverage with respect to the number of farms checked
<b>F16.1.3</b>	Data quality with regard to flows
<b>F16.3.2</b>	Adherence to quarterly programming plans for PNAA and PNR
<b>F16.6.2</b>	Quality Management System (SGQ) Internal Control Performance
<b>F20.5</b>	Percentage of Filgrastim off patent

Figure 24 – Best Practice for the AUSL 12 of Viareggio



## Teaching Hospital of Pisa

The performance of the Teaching Hospital of Pisa is good: it has 3 indicators in the green section, 8 in light green, 9 in yellow, 6 in orange, and 5 in the red section.

Regarding the pursuit of regional strategies, the Hospital confirms first of all the regional best practice in the overall extra-regional inflow (B12.2.), with a slight increase in high-complexity patients compared to previous years. The indicator for the timeliness of data transmission to the Regional Information System (B8) is critical.

The good overall performance of surgical appropriateness (C4), with specific regard to the percentage of medical DRGs discharged from surgical wards and to the percentage of laparoscopic cholecystectomies in Day Surgery (C4.4) is confirmed. As for medical appropriateness (C14) there is a critical issue in the percentage of medical outpatient admissions for diagnostic purposes (C14.2), that is, patients who may have the same performance with outpatient services or Day-Service.

Very good are also the data on the average length of stay (C2a) compared to other Teaching Hospitals.

The indicator that measures the process quality (C5.a) shows a good result in relation to adopted surgical techniques, particularly with regard to transurethral prostatectomy (C5.3), to the urgent laparoscopic appendectomies (C5.11), and to scheduled laparoscopic colon resections (C5.10), which increased significantly compared to the previous two years: +51%. The quality of results (C5b), that is, the percentage of re-admissions within 30 days, can be improved, with reference to both medical and surgical admissions.

Performance on clinical risk (C6) still shows weaknesses, especially in the development of the incident reporting system (C6.2): the audits and reviews of mortality and morbidity are still not widespread. The indicator concerning the certification of good practices (C6.5) shows room for improvement, while the fall control capability (C6.6) is good.

The issues relative to the performance indicator about the Maternal and Child path (C7) are confirmed: despite a slight improvement compared to 2009, the percentage of NTSV caesarean births (C7.1) is still the worst figure at the regional level, while the percentage of NTSV episiotomy (C7.3) and, more slightly, the percentage of induced labour (C7.2) are improving significantly. The percentage of breastfeeding within 2 hours (C7.12) is still low.

As for Patient Satisfaction, the percentage of discharges of patients in inpatient settings (D18) is among the highest in the region.

With regard to the Working Climate Survey, the Hospital shows one of the lowest values of employee participation (E1), with a significant worsening trend compared to the previous year. A negative trend is also observed in the percentage of employee absence (E2).

Best in the region is the performance with regard to efficiency of hospital prescription (F20), with data significantly higher in relation to the percentage of off-patent drugs provided with reference to a few drug categories.

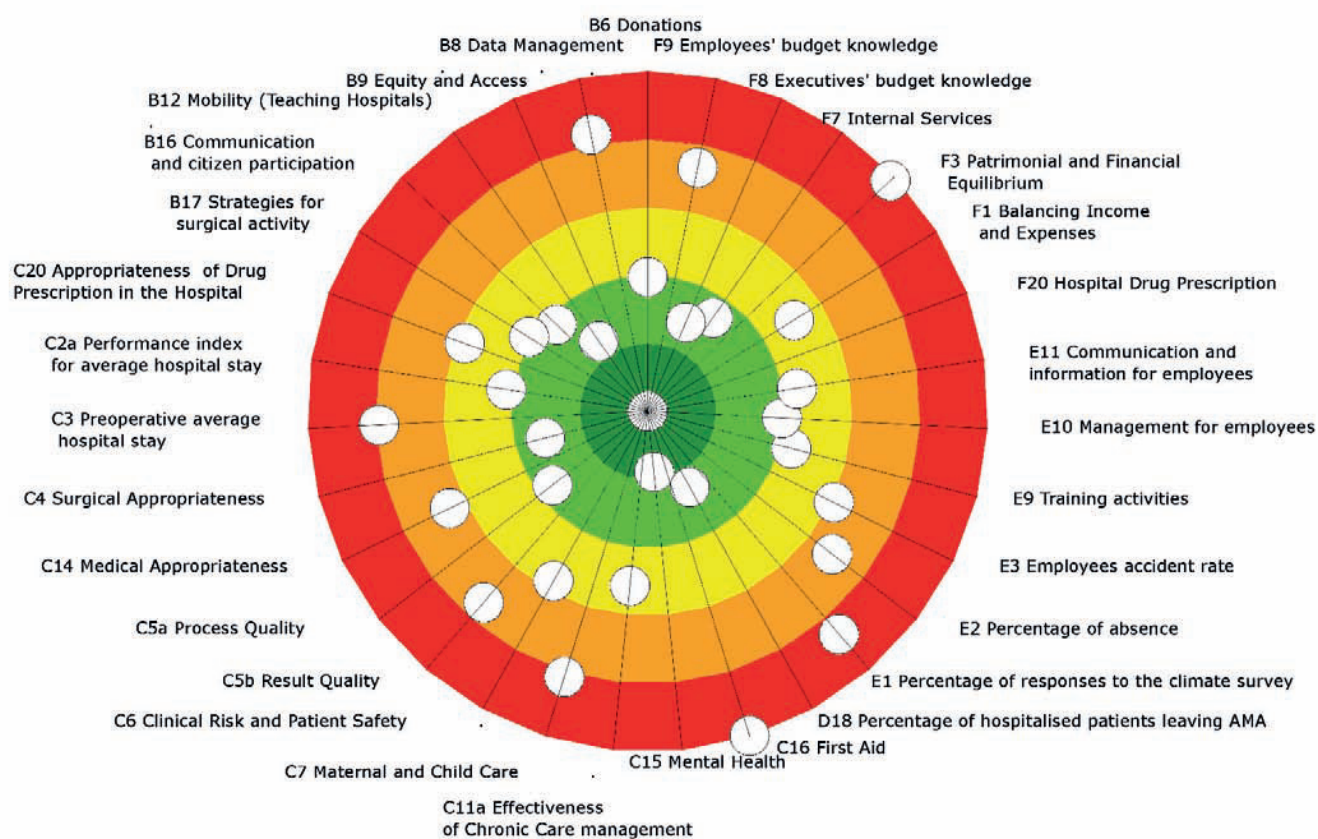


Figure 25 – 2010 Evaluation criteria for the AOU of Pisa

Indicators with the best performance at the regional level	
B12.2.2.1	Extra-Regional inflow
F20.3	Percentage of erythropoietin off patent

Figure 26 – Best Practice for the AOU of Pisa



## Teaching Hospital of Siena

The performance of the Teaching Hospital of Siena is quite good with 1 indicator in the green section, 8 in light green, 9 in yellow, 5 in orange, and 8 in red.

Regarding the pursuit of regional strategies, the indicator that measures mobility (B12) is generally good, with strengths in the extra-regional inflow for some specialties even for high-complexity patients, while in 2009 the critical data of outflow for high-complexity DRGs showed an improvement over the previous year.

The Hospital shows the best regional data regarding the percentage of brain death identified (B6.1.1), while the indicator of timeliness of data transmission to the regional information system (B8), which is performed through the data transmission of the Information System of Estav, with worsening trends, is critical.

Clinical evaluation shows a weakness in relation to hospitalization efficiency for both the average pre-operative hospital stay (C3), and the performance index of average stay (C2a), although both have improved.

Considerable scope for improvement is also found in relation to surgical appropriateness (C4): the percentage of medical DRGs discharged from outpatient surgical wards is critical, while excellent is that of inpatient admissions. In terms of medical appropriateness (C14) the performance is very negative, with some critical issues in the percentage of medical outpatient admissions for diagnostic purposes (C14.2) and in the percentage of medical admissions over the threshold for patients aged above 65 years (C14.4), even if these indicators are slightly improving.

With regard to the process quality (C5a), the hospital still makes little use of the laparoscopic technique, while, although still low, femur fractures operated within two days (C5.2) are increasing.

The critical issues relative to the performance for the Maternal and Child path (C7) are confirmed: the percentage of NTSV caesarean births (C7.1) is one of the worst data points at the regional level with a negative trend, while a positive value is shown by the percentage of NTSV episiotomy (C7.3) and, slightly higher, the percentage of induced labour (C7.2).

Performance relative to clinical risk management (C6) shows room for improvement especially in the development of the incident reporting system (C6.2). Excellent are the data on fall control capability (C6.6) and on the index of claims (C6.1), although there is no certified good practice.

The Hospital shows the lowest value in the percentage of employees who participated in the working climate survey (E1), with a significant worsening trend compared to the previous year. A strong negative trend is also reflected in the percentage of employee absence (E2) which, in 2009, had one of the best values in the Region.

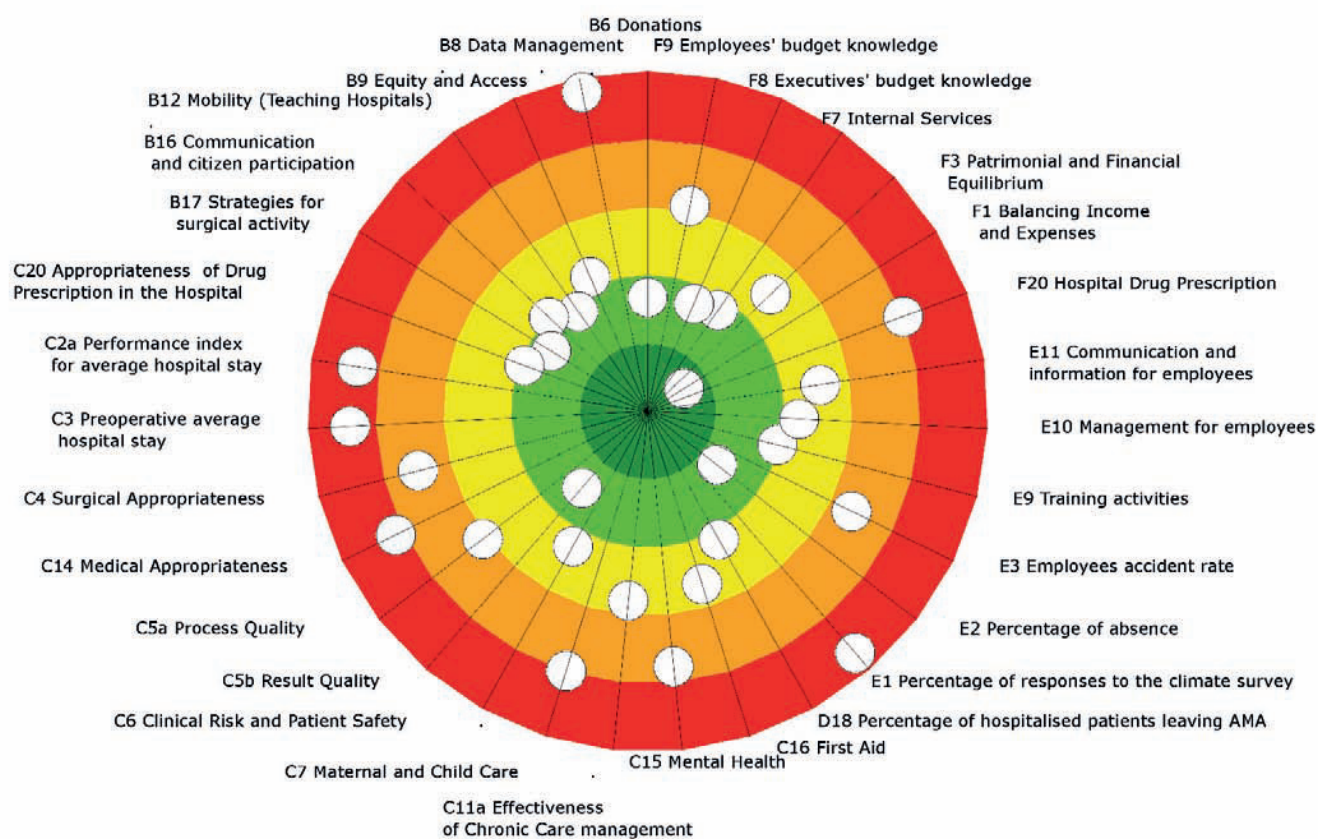


Figure 27 – 2010 Evaluation criteria for the AOU of Siena

Indicators with the best performance at the regional level	
<b>B6.1.1</b>	Percentage of detected encephalic deaths
<b>F1.3</b>	Return on Investment (Teaching Hospital)

Figure 28 – Best Practice for the AOU of Siena





## Teaching Hospital Careggi

The overall performance of the Teaching Hospital Careggi is discrete: 1 indicator is in the green section, 5 in light green, 11 in yellow, 8 in orange, and 6 in red.

Regarding the pursuit of regional strategies, the Hospital has the best regional performance related to the control of out-flow of high complexity patients outside the Area Vasta territory or extra-Region (B12.1), and it can improve with regard to the extra-regional inflow (B12.2). Still very critical is the indicator relative to timeliness of data transmission to the regional information system (B8).

As for the clinical evaluation, a weakness is shown in relation to the efficiency of hospitalization, both in the average pre-operative hospital stay (C3) and the performance index of average hospitalization (C2a), although it improved compared to the previous year. Critical is the surgical appropriateness (C4), in particular the percentage of medical DRGs discharged from outpatient surgical wards (C4.1.2), and in surgical DRGs LEA performed in Day-Surgery (C4.12). However, the positive trend in the percentage of laparoscopic cholecystectomies in Day-Surgery and hospitalization 0-1 day (C4.4) continues.

Medical appropriateness (C.14) shows a negative performance, although with a slight improvement, in the overall percentage of medical admissions over the threshold (C14.4.1), which highlights the difficulty of the Health Authority of Florence to organise paths to facilitate timely discharge of frail patients.

With regard to the process quality (C5a), the Hospital shows an excellent performance in relation to the percentage of urgent laparoscopic appendectomies for women aged 15-49 (C5.11) and a good one on transurethral prostatectomies (C5.3). However, the percentage of femur fractures operated within two days (C5.2) is still very critical, the worst at regional level. In 2011, there is an on-going reorganisation of the path in orthopaedic surgery, which will allow substantial improvements. The percentage of re-admissions within 30 days (C5b) can be improved, on both medical and surgical admissions.

The indicator that measures the performance of clinical risk (C6) still shows weaknesses, particularly in the development of the incident reporting system (C6.2): both audits and reviews of mortality and morbidity are still not widespread, and there are also critical issues with regard to the fall control capability (C6.6), and to certified best practices (C6.5). There is a rather positive result, though, concerning the index of claims (C6.1).

As for the performance indicator of the maternal and child path, compared with other Hospitals, the best result on the percentage of Caesarean births is registered, although if compared to the Local Authorities there is still room for improvement.

With reference to patient satisfaction, the percentage of voluntary discharge of patients from hospital (D18) is low, and this indicates good customer satisfaction.

The indicators that measure the percentage of participation in the working climate survey (E1) and the accident rate for employees (E3) are improving, showing a process of organizational change in progress.

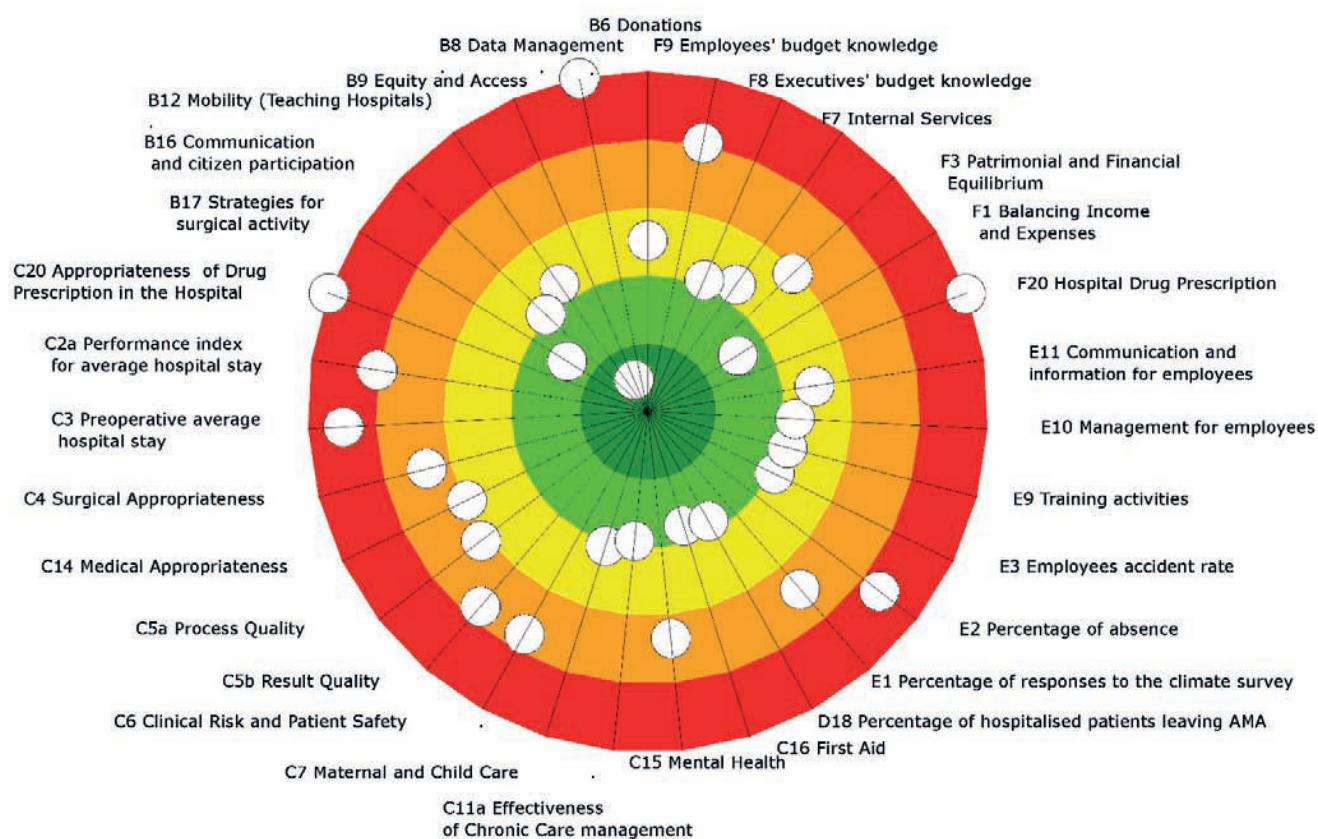


Figure 29 – 2010 Evaluation criteria for the AOU Careggi

Indicators with the best performance at the regional level	
<b>B12.1.1.1</b>	Outflow rate outside the Area Vasta territory
<b>B12.1.1.2</b>	Outflow rate outside the Area Vasta territory per high-complexity DRG
<b>B12.1.2.1</b>	Overall extra-regional outflow rate
<b>B12.1.2.2</b>	Extra-regional outflow rate per high-complexity DRG
<b>B17.3</b>	Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals)

Figure 30 – Best Practice for the AOU Careggi



## Teaching Hospital Meyer

The Teaching Hospital Meyer as a Children's Hospital of regional reference, presents some peculiarities in relation to the age of its customers, and for this reason, many indicators of the Evaluation System should be interpreted in light of this specificity.

The performance for the year 2010 is very good and has 5 indicators in the green section, 11 in light green, 3 in yellow, 3 in orange, and 3 in red.

Regarding the pursuit of regional strategies, the indicator that measures mobility (B12) shows a Regional best practice, with an excellent percentage of inflows from outside the region and best practices for high-complexity DRGs, with further improvement compared to previous years.

As for the clinical evaluation, the very positive figure for the efficiency of hospitalization for both the average hospital stay for acute illnesses (C2a) and the average pre-operative hospital stay for scheduled surgery (C3) is confirmed.

An excellent performance in relation to surgical appropriateness (C4), both with reference to the percentage of medical DRGs discharged from inpatient surgical wards and to outpatient admissions, with a significant improvement compared to the previous year (from 29% to 8%) has been observed.

With reference to medical appropriateness (C14), instead, there are some weaknesses in the percentage of medical outpatient admissions for diagnostic purposes (C14.2) and in relation to the percentage of short medical inpatient admissions (C14.3). However, since it refers only to paediatric patients it is less critical.

Regarding the indicator that measures the quality of results (C5b), the Meyer Hospital obtained the worst regional performance with reference to the percentage of re-admissions within 30 days (C5.1), particularly penalised by surgical re-admissions.

It registers best practices with respect to Clinical Risk (C6), with excellent results in the development of the incident reporting system (C6.2), for both the spread of audits and the reviews of mortality and morbidity.

Best performance is also registered with reference to voluntary discharges (D18) that show the lowest figure at the regional level, which indicates patient satisfaction.

The indicator that measures the percentage of participation in the working climate survey (E1) worsened. However, the percentage of absences (E2) is firmly positive and there is an excellent performance in the employees injury rate (E3) thanks to an improvement compared to previous years.

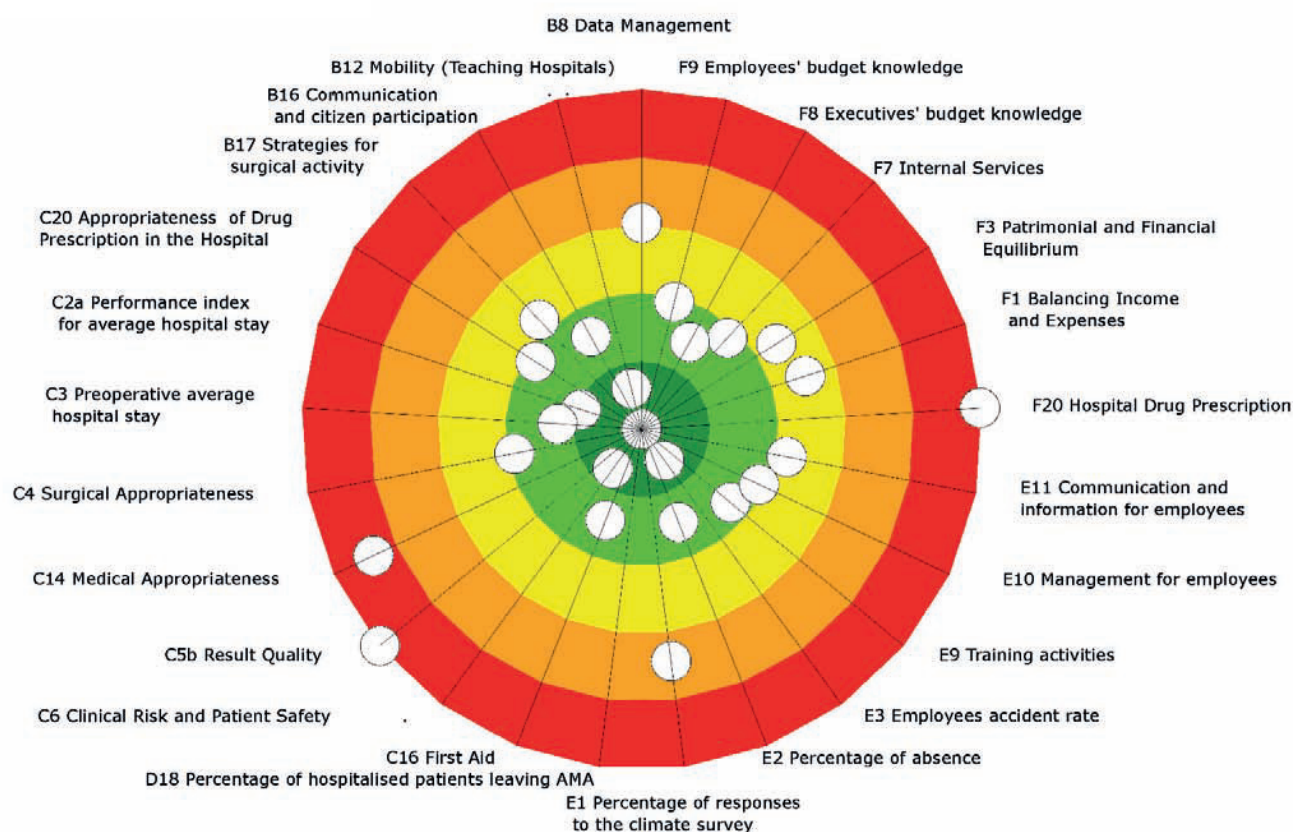


Figure 31 – 2010 Evaluation criteria for the AOU Meyer

Indicators with the best performance at the regional level	
<b>B12.2.2.2</b>	Extra-regional inflow per high-complexity DRG
<b>C6.1</b>	Index of Claims
<b>D18</b>	<b>Percentage of hospitalized patients leaving AMA (Against Medical Advice)</b>

Figure 32 – Best Practice for the AOU Meyer



## The performance of the Fondazione Monasterio

Since 2010 the performance indicators applicable to the Fondazione Monasterio have increased. These have been evaluated however, taking into account the particularities of this structure, a tertiary research hospital specialised in cardiac diseases and cardiac surgery, for both adults and paediatric/neonatal patients.

The performance for the year 2010 is very good, with 7 indicators in the green section, 7 in light green, 6 in yellow, 2 in orange, and 1 in red.

Regarding the pursuit of regional strategies, the indicator that measures mobility (B12) is a regional best practice with good values in the percentage of extra-regional inflows, particularly for high complexity patients, registering an increase compared to previous years.

The indicator of timeliness of data transmission to the regional information system (B8) is good; however, this trend is worsening.

The clinical evaluation remains very positive. The figure for the efficiency of hospitalization with reference to the average length of stay for acute illnesses (C2a) is improving. The figure for the average pre-operative hospital stay for scheduled surgery (C3) is less good, even if it shows a positive trend.

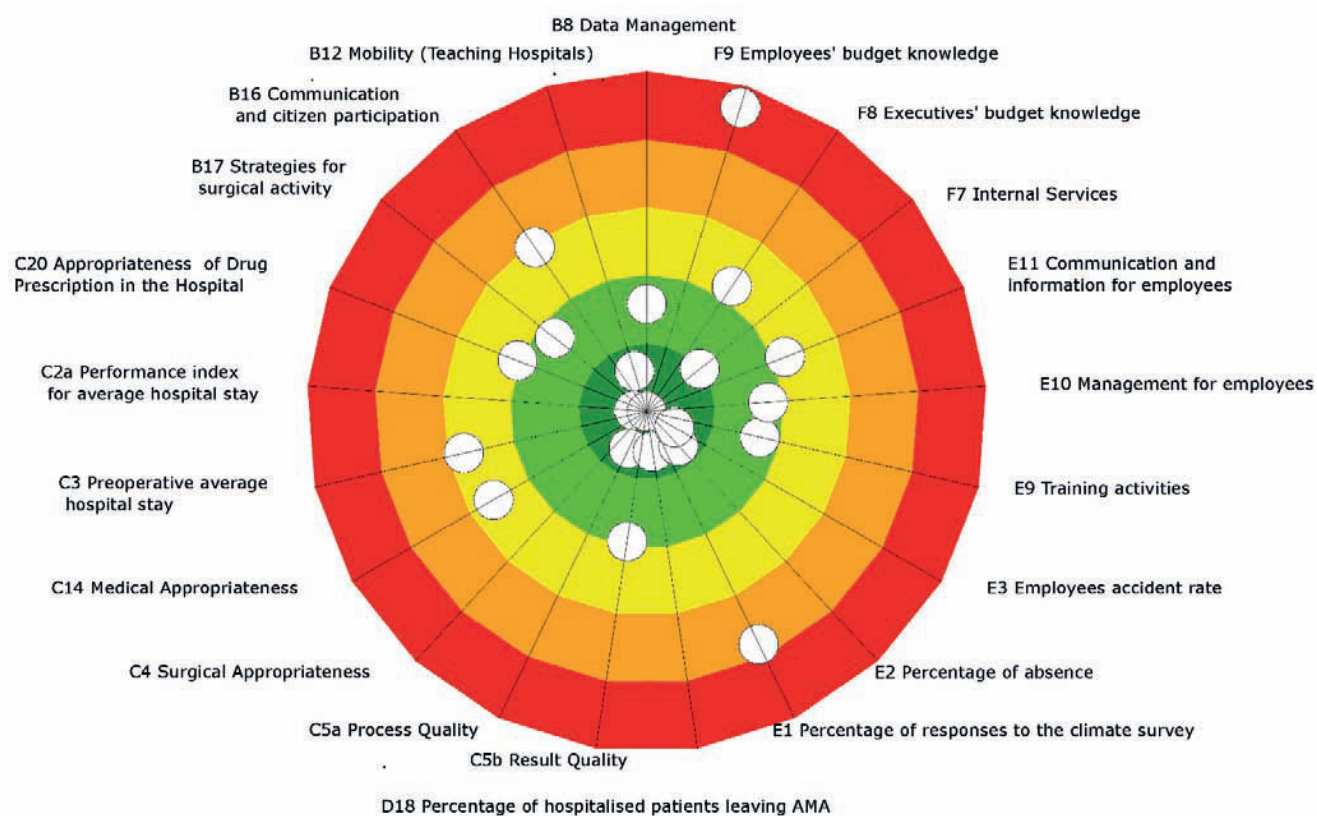
Surgical appropriateness (C4) is confirmed as the regional best practice, with reference to the percentage of medical DRGs discharged from surgical wards (C4.1).

With reference to medical appropriateness (C14), however, there are some weaknesses, with a negative performance recorded in the percentage of medical outpatient admissions for diagnostic purposes (C14.2).

Regarding the indicator that measures the process quality (C5a), the Fondazione Monasterio shows the best regional performance with a best practice in relation to the percentage of patients treated with non-invasive mechanical ventilation (C5.8).

As for patient satisfaction, discharge of patients in inpatient settings (D18) show an excellent result, with a very low value, which demonstrates the satisfaction and confidence of patients in the structure.

The participation of employees in the working climate survey (E1) significantly worsened, although it should be noted that the staff had taken part in a similar survey just a year ago. The rate of employee absence (E2) remains positive. Also the employee accident rate (E3) is another Regional best practice.



**Figure 33** – 2010 Evaluation criteria for the AOU Monasterio Foundation

<b>Indicators with the best performance at the regional level</b>	
<b>C5.7</b>	Percentage of mitral valve repair (Teaching Hospitals)
<b>C5.8</b>	Percentage of non-invasive mechanical ventilation
<b>E3</b>	<b>Employee accident rate</b>
<b>F1.1</b>	Overall Financial Performance

**Figure 34** – Best Practice for the AOU Monasterio Foundation





## PART II

# EVALUATION OF THE POPULATION'S HEALTH STATUS

*by Barbara Lupi*

The Performance Evaluation System of Health Care in Tuscany was created as a managerial tool for the Authorities' management with reference to both the ability to provide citizens with adequate services in terms of quality and volume, and to sustainability and economic impact for the development of the territory.

As a managerial tool, the System has focused on short- and medium term indicators. In addition, there are a series of indicators that focus on the population's health, which is the ultimate goal of the entire healthcare system. Including the most relevant outcome results in the evaluation system ensures that attention is given to the global picture, and not just to individual indicators.

It is clear that the outcome results move slowly over time and depend on many factors, only partly attributable to the actions of healthcare institutions. It is equally true that every healthcare professional should take responsibility to contribute to improving the population's health.

The indicators selected for part A aim to provide the Authorities with an overall picture of the population's health status, as a prerequisite for every policy and implemented action. It is therefore necessary to note that these indicators should not be considered, within the framework of the target, as real performance indicators of the system: their assessment, in fact, has not been modelled according to the results logic of high, medium or low values. Instead it is a "scrutiny" system which aims at highlighting (using the same colours of the target groups) particular circumstances or needs relative to social and health services. Health problems are represented by the risks and damages, both individual and collective, that the population faces and experiences with regard to their health. The analysis of such problems is related to the analysis of the results produced by the Health System in terms of effectiveness and both analyses can have the same indicators, in which problems and results are defined through measurable objectives. If, for example, the general objective of a health system is to improve the health of the reference population, then the evaluation of the overall level of health through one or more indicators will be at the same time a result indicator and, for consistency's sake, indicator of the health problem to be addressed as a starting point for further improvement (Bellini et al. 2002).

Although there are some recognised limitations in the use of mortality as an estimator of the need for health, the mortality rates continue to be used as macro indicators of the health of a population, partly because mortality statistics remain the most common source of information available and comparable about health problems [OECD 2006]. The most important health planning documents, international (WHO), national (National Health Plan), and regional (Health Plans and Social and Health Plans), indicate the increase of life expectancy and the reduction of some specific causes of mortality as the health objective toward which to strive. With this in mind, five mortality indicators were selected, four indicators for specific causes of death: infant mortality, cardiovascular diseases, cancer, suicide and a general indicator for mortality, which is the standard rate of potential years of life lost. The main causes of death in OECD countries are related to cardiovascular diseases (such as heart attack and stroke), cancer, respiratory diseases (such as asthma, emphysema and bronchitis), and external causes of death (such as traffic accidents, accidental falls, suicide and homicide) [OECD 2006].

In Italy cardiovascular diseases cause 40% of deaths in men and almost 50% in women, while tumours are responsible for 33% of male and 24% of female deaths. In Tuscany, diseases of the cardiovascular system alone cause 30% of deaths, representing the most important cause of death. Approximately 30% of the adult population is hypertensive and 10% of those over sixty-five suffers from heart failure (PSR 2005-2007). Among men, ischemic heart diseases (heart attacks and other coronary artery diseases) prevail, whereas among women cerebrovascular diseases predominate, particularly stroke. Cancer is the second leading cause of death in Tuscany, 28.6% of total mortality. Among the neoplastic diseases, the leading causes of death for men are lung-, colorectal-, prostate- and stomach cancer, while among women the main causes are breast-, colorectal-, stomach- and ovary cancer (Tuscan Cancer Institute). As for the suicide mortality, Tuscany is one of the few regions that consider suicide as a public health issue, while nowadays it is frequently not perceived as such. Suicidal behaviours, in fact, are an important public health problem in developed countries: among the ten countries with the highest suicide rates in the world, nine are in Europe [Relazione Sanitaria Regionale (Regional Health Report) 2003-2005]. In OECD countries suicide mortality rates are three to four times higher for men than for women, and this difference has remained stable over time [OECD 2006]. The same trend is found in Tuscany.

In this Report we present the latest mortality data available relative to the period 2006-2008.





## 2.1 Indicator A1: Infant Mortality

The infant mortality rate is considered a very important indicator of a population's health status because it not only reflects the health of new-borns (hence that of the mother, as well as the quality of maternal and child care), but also the general level of socio-economic welfare and development of a country. Many factors affect infant mortality rates, not all attributable exclusively to the health care sector. Not only is post-natal care crucial to an infant's health status, but also biological factors such as the mother's age, her medical history, the birth order, as well as social, cultural, and economic factors, such as, the level of urbanization of the birthplace, housing conditions, and parents' employment and income.

This is why the score assigned to this indicator does not express an assessment of the initiatives of the local health authorities or hospitals, but aims to describe the overall socio-economic strengths and weaknesses in a given geographical area, in order to help identify and implement future operational and strategic planning.

The infant mortality rate is sub-divided into three indicators which reflect the infant's risk of death during the first year of life:

- ◆ A1.1 – Mortality in the first year of life: the crucial elements affecting mortality risk are both the availability and quality of health care, as well as the incidence of background factors (such as trauma and infectious disease transmission) connected with the mother's conditions and living habits;
- ◆ A1.2 – Early Neonatal Mortality (from birth to 6 days): in which the seriousness of birth complications, for example, is crucial. The drop in infant mortality figures registered in Tuscany from 1987-2008 is credited to the drop in early neonatal mortality;
- ◆ A1.3 – Neonatal Mortality (first 28 days of life): in which biological factors connected with the mother's health, the progress of pregnancy and childbirth conditions, and the presence of congenital malformations incompatible with life, are predominant. In Early Neonatal Mortality and Neonatal Mortality the availability and quality of health care are crucial.

Indicator	Performance	Year
A1 – Infant mortality	● 3,50	2006-2008

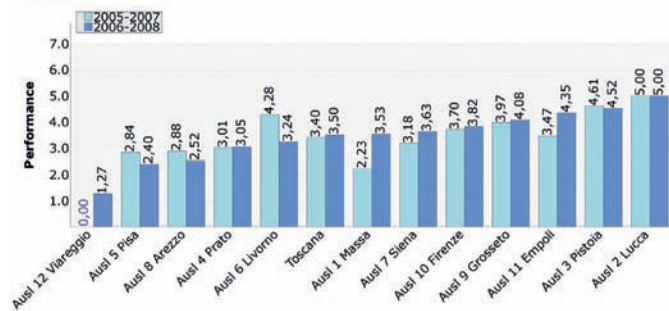
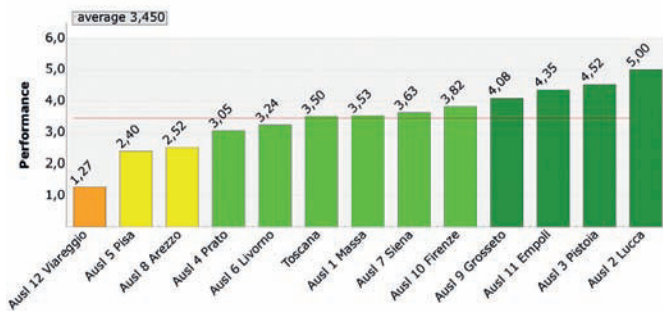
### A1 Infant Mortality

A1.1 – Infant Mortality in the first year of life: 2,70 Rate per 1,000 ■;

A1.2 – Early Neonatal Mortality: 1,20 Rate per 1,000;

A1.3 – Neonatal Mortality: 1,94 Rate per 1,000.

### A1 – Infant Mortality



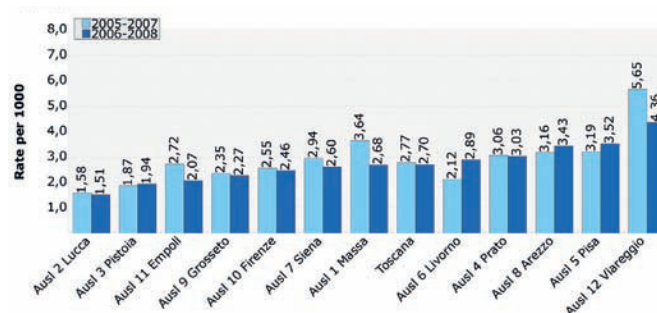
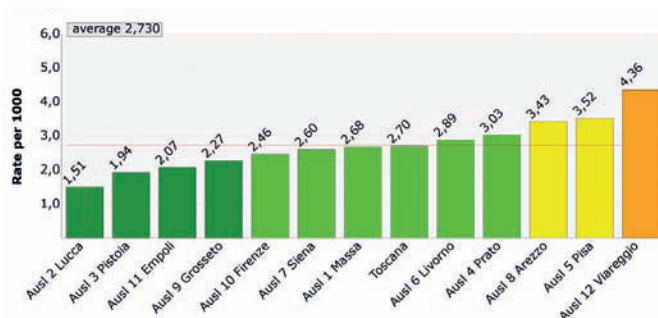
### Indicator A1: Infant Mortality

**Notes** This is the indicator of the tree A1, therefore it does not have its own value. It is only an evaluation, the score of which is the score of the indicator A1.1.



## Indicator A1.1: Infant Mortality in the first year of life 2.2

### A1.1 – Infant Mortality in the first year of life



### A1.1 Infant Mortality in the first year of life

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	3,50	2,77	2,70	-2,53	264,00	263,00	95.243,00	97.463,00
T - Ausl 1 Massa	3,53	3,64	2,68	-26,37	17,00	13,00	4.664,00	4.842,00
T - Ausl 2 Lucca	5,00	1,58	1,51	-4,43	9,00	9,00	5.693,00	5.962,00
T - Ausl 3 Pistoia	4,52	1,87	1,94	3,74	14,00	15,00	7.496,00	7.739,00
T - Ausl 4 Prato	3,05	3,06	3,03	-0,98	24,00	24,00	7.852,00	7.922,00
T - Ausl 5 Pisa	2,40	3,19	3,52	10,34	28,00	32,00	8.784,00	9.087,00
T - Ausl 6 Livorno	3,24	2,12	2,89	36,32	18,00	25,00	8.488,00	8.654,00
T - Ausl 7 Siena	3,63	2,94	2,60	-11,56	20,00	18,00	6.806,00	6.920,00
T - Ausl 8 Arezzo	2,52	3,16	3,43	8,54	28,00	31,00	8.850,00	9.038,00
T - Ausl 9 Grosseto	4,08	2,35	2,27	-3,40	12,00	12,00	5.109,00	5.293,00
T - Ausl 10 Firenze	3,82	2,55	2,46	-3,53	53,00	52,00	20.805,00	21.111,00
T - Ausl 11 Empoli	4,35	2,72	2,07	-23,90	18,00	14,00	6.623,00	6.769,00
T - Ausl 12 Viareggio	1,27	5,65	4,36	-22,83	23,00	18,00	4.073,00	4.126,00

## Indicator A1: Infant Mortality

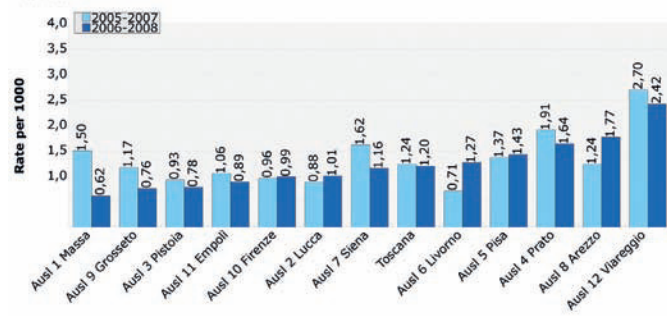
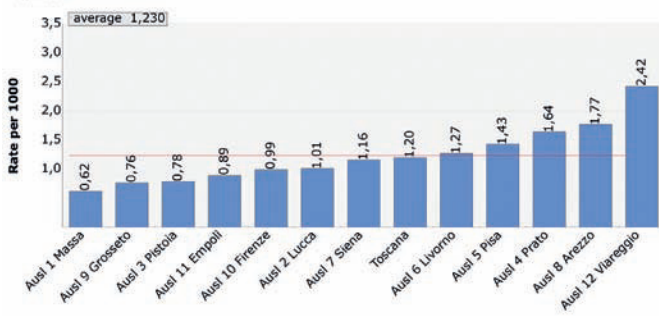
### A1.1 Infant Mortality in the first year of life

<b>Definition:</b>	Mortality Rate during the first year of life, per 1,000 live births
<b>Numerator:</b>	Number of deaths in the first year of life
<b>Denominator:</b>	Number of resident live births
<b>Formula:</b>	$\frac{\text{No. of deaths in the first year of life}}{\text{No. of resident live births}} \times 1,000$
<b>Source:</b>	Regional Mortality Registry ( <i>Registro di Mortalità Regionale-RMR</i> – Operational Unit of Environmental and Occupational Epidemiology ( <i>U.O. Epidemiologia Ambientale e Occupazionale</i> ), ISPO)
<b>Reference:</b>	National average, triennium 2003-2005



## 2.3 Indicator A1.2: Early neonatal mortality (in the first 6 days of life)

### A1.2 – Early neonatal mortality (in the first 6 days of life)



### A1.2 Early neonatal mortality (in the first 6 days of life)

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	not assessed	1,24	1,20	-3,23	118,00	117,00	95.243,00	97.463,00
T - Asl 1 Massa	not assessed	1,50	0,62	-58,67	7,00	3,00	4.664,00	4.842,00
T - Asl 2 Lucca	not assessed	0,88	1,01	14,77	5,00	6,00	5.693,00	5.962,00
T - Asl 3 Pistoia	not assessed	0,93	0,78	-16,13	7,00	6,00	7.496,00	7.739,00
T - Asl 4 Prato	not assessed	1,91	1,64	-14,14	15,00	13,00	7.852,00	7.922,00
T - Asl 5 Pisa	not assessed	1,37	1,43	4,38	12,00	13,00	8.784,00	9.087,00
T - Asl 6 Livorno	not assessed	0,71	1,27	78,87	6,00	11,00	8.488,00	8.654,00
T - Asl 7 Siena	not assessed	1,62	1,16	-28,40	11,00	8,00	6.806,00	6.920,00
T - Asl 8 Arezzo	not assessed	1,24	1,77	42,74	11,00	16,00	8.850,00	9.038,00
T - Asl 9 Grosseto	not assessed	1,17	0,76	-35,04	6,00	4,00	5.109,00	5.293,00
T - Asl 10 Firenze	not assessed	0,96	0,99	3,13	20,00	21,00	20.805,00	21.111,00
T - Asl 11 Empoli	not assessed	1,06	0,89	-16,04	7,00	6,00	6.623,00	6.769,00
T - Asl 12 Viareggio	not assessed	2,70	2,42	-10,37	11,00	10,00	4.073,00	4.126,00

## Indicator A1: Infant Mortality

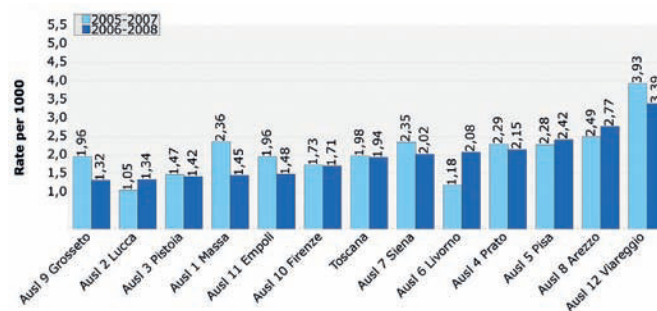
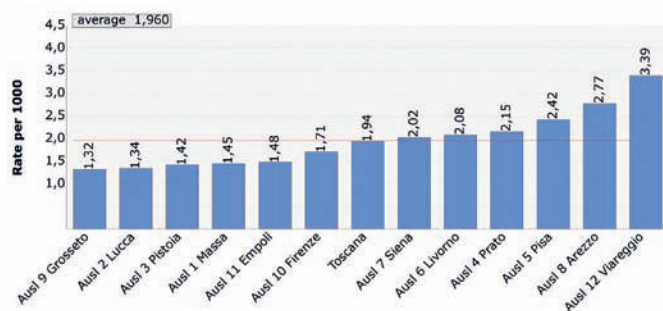
### A1.2 Early neonatal mortality (in the first 6 days of life)

<b>Definition:</b>	Mortality rate in the first 6 days of life, per 1,000 live births
<b>Numerator:</b>	Number of deaths in the first 6 days of life, per 1,000 live births
<b>Denominator:</b>	Number of resident live births
<b>Formula:</b>	$\frac{\text{No. of deaths in the first 6 days of life, per 1,000 live births}}{\text{No. of resident live births}} \times 1,000$
<b>Source:</b>	Regional Mortality Registry ( <i>Registro di Mortalità Regionale-RMR</i> ) – Operational Unit of Environmental and Occupational Epidemiology ( <i>U.O. Epidemiologia Ambientale e Occupazionale</i> ), ISPO



## Indicator A1.3: Neonatal mortality (in the first 28 days of life) 2.4

### A1.3 – Neonatal mortality (in the first 28 days of life)



### A1.3 Neonatal mortality (in the first 28 days of life)

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	not assessed	1,98	1,94	-2,02	189,00	189,00	95.243,00	97.463,00
T - Ausl 1 Massa	not assessed	2,36	1,45	-38,56	11,00	7,00	4.664,00	4.842,00
T - Ausl 2 Lucca	not assessed	1,05	1,34	27,62	6,00	8,00	5.693,00	5.962,00
T - Ausl 3 Pistoia	not assessed	1,47	1,42	-3,40	11,00	11,00	7.496,00	7.739,00
T - Ausl 4 Prato	not assessed	2,29	2,15	-6,11	18,00	17,00	7.852,00	7.922,00
T - Ausl 5 Pisa	not assessed	2,28	2,42	6,14	20,00	22,00	8.784,00	9.087,00
T - Ausl 6 Livorno	not assessed	1,18	2,08	76,27	10,00	18,00	8.488,00	8.654,00
T - Ausl 7 Siena	not assessed	2,35	2,02	-14,04	16,00	14,00	6.806,00	6.920,00
T - Ausl 8 Arezzo	not assessed	2,49	2,77	11,24	22,00	25,00	8.850,00	9.038,00
T - Ausl 9 Grosseto	not assessed	1,96	1,32	-32,65	10,00	7,00	5.109,00	5.293,00
T - Ausl 10 Firenze	not assessed	1,73	1,71	-1,16	36,00	36,00	20.805,00	21.111,00
T - Ausl 11 Empoli	not assessed	1,96	1,48	-24,49	13,00	10,00	6.623,00	6.769,00
T - Ausl 12 Viareggio	not assessed	3,93	3,39	-13,74	16,00	14,00	4.073,00	4.126,00

## Indicator A1: Infant Mortality

### A1.3 Neonatal mortality (in the first 28 days of life)

<b>Definition:</b>	Mortality rate in the first 28 days of life, per 1,000 live births
<b>Numerator:</b>	Number of deaths in the first 28 days of life, per 1,000 live births
<b>Denominator:</b>	Number of resident live births
<b>Formula:</b>	$\frac{\text{No. of deaths in the first 28 days of life, per 1,000 live births}}{\text{No. of resident live births}} \times 1,000$
<b>Source:</b>	Regional Mortality Registry ( <i>Registro di Mortalità Regionale-RMR</i> ) – Operational Unit of Environmental and Occupational Epidemiology ( <i>U.O. Epidemiologia Ambientale e Occupazionale</i> ), ISPO

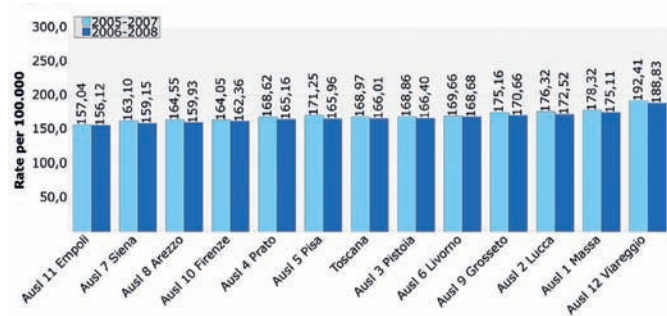
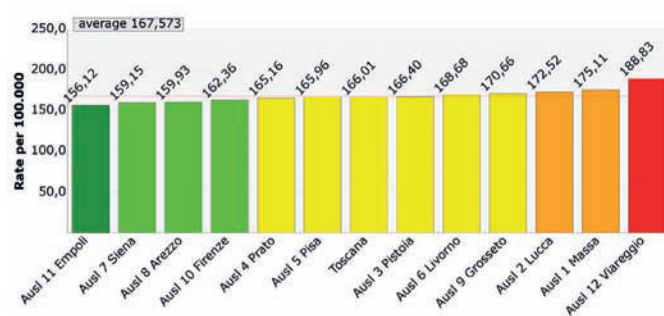


## 2.5 Indicator A2: Cancer mortality

Oncological diseases have gradually become an important benchmark reflecting the overall health and well-being of modern society (Osservasalute Report 2009). In Italy there were approximately 250,000 new cases of cancer and 125,000 cancer related deaths in 2008 (about 12,000 per year in Tuscany equivalent to 30% of all deaths registered amongst the residents). Data from the past few years show a drop in mortality across the country, although the drop is more significant in the Centre-North than it is in the South. This is mainly due to the improvement in the effectiveness of treatments, and to the improved timeliness of diagnosis due to screening programmes which are now widespread ([www.epicentro.iss.it](http://www.epicentro.iss.it)). It is worth noting, however, that since 2004, cancer mortality rates in men in Tuscany, as well as in other Italian regions, mainly in the Centre-North of the country, exceeded mortality rates related to circulatory diseases. This indicator is now included in the evaluation systems that assess the health of the population, in order to ultimately improve health care services.

Indicator	Value	Average	Performance	Year
A2 – Cancer mortality	166,01 Rate per 100,000	167,57 Rate per 100,000	● 2,75	2006-2008

### A2 – Cancer mortality



### A2 Cancer Mortality

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	2,75	168,97	166,01	-1,75	36.018,00	35.999,00	10.895.711,00	10.979.104,00
T - Ausl 1 Massa	1,36	178,32	175,11	-1,80	2.100,00	2.104,00	603.165,00	605.506,00
T - Ausl 2 Lucca	1,75	176,32	172,52	-2,16	2.205,00	2.205,00	649.218,00	655.562,00
T - Ausl 3 Pistoia	2,69	168,86	166,40	-1,46	2.710,00	2.703,00	842.648,00	853.590,00
T - Ausl 4 Prato	2,88	168,62	165,16	-2,05	2.073,00	2.079,00	729.820,00	735.040,00
T - Ausl 5 Pisa	2,76	171,25	165,96	-3,09	3.202,00	3.178,00	978.618,00	988.068,00
T - Ausl 6 Livorno	2,34	169,66	168,68	-0,58	3.577,00	3.613,00	1.037.195,00	1.044.396,00
T - Ausl 7 Siena	3,80	163,10	159,15	-2,42	2.715,00	2.705,00	788.462,00	794.964,00
T - Ausl 8 Arezzo	3,68	164,55	159,93	-2,81	3.225,00	3.196,00	1.010.596,00	1.020.515,00
T - Ausl 9 Grosseto	2,04	175,16	170,66	-2,57	2.416,00	2.381,00	661.038,00	666.850,00
T - Ausl 10 Firenze	3,31	164,05	162,36	-1,03	8.004,00	8.040,00	2.407.618,00	2.417.220,00
T - Ausl 11 Empoli	4,26	157,04	156,12	-0,59	1.987,00	2.000,00	690.499,00	697.940,00
T - Ausl 12 Viareggio	0,00	192,41	188,83	-1,86	1.804,00	1.795,00	496.835,00	499.452,00

## Indicator A2: Cancer Mortality

### A2 Cancer Mortality Rate

<b>Definition:</b>	Cancer Mortality Rate
<b>Numerator:</b>	Number of cancer deaths
<b>Denominator:</b>	Total number of residents
<b>Formula:</b>	$\frac{\text{No. of cancer deaths}}{\text{Total No. of residents}} \times 100,000$
<b>Notes:</b>	Code ICD-9 CM: 140 - 239
<b>Source:</b>	Regional Mortality Registry ( <i>Registro di Mortalità Regionale-RMR</i> ) – Operational Unit of Environmental and Occupational Epidemiology ( <i>U.O. Epidemiologia Ambientale e Occupazionale</i> ), ISPO
<b>Reference:</b>	Regional average, triennium 2006-2008
<b>Standardization:</b>	Age (standard: European population)
<b>Meaning:</b>	This indicators shows the prevalence of cancer in the resident population

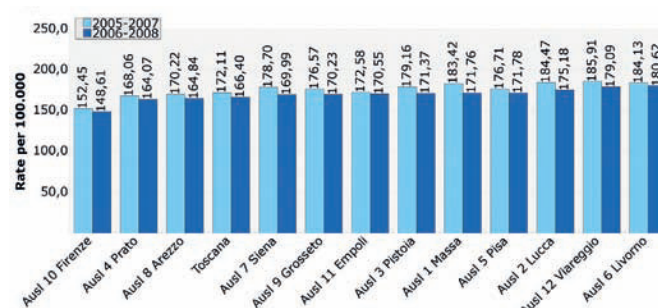
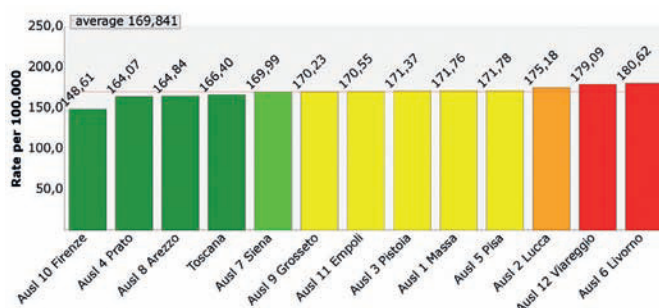


## Indicator A3: Circulatory disease mortality 2.6

Nationally, cardio-vascular disease is the major cause of death (42% of all deaths each year). The World Health Organization (WHO) prioritises the need to combat the same, given their propensity to spread amongst different populations, irrespective of wealth (Osservasalute Report 2009). However, mortality rates due to circulatory diseases are decreasing in Tuscany and elsewhere in the country. Like other indicators of the population's health, this indicator does not evaluate the effectiveness of Local Health Authorities, which is but one of many of the determinants of cardiovascular disease mortality, but provides useful information about the territory and its health needs, in order to review and improve prevention programmes and management.

Indicator	Value	Average	Performance	Year
A3 – Circulatory disease mortality	166,40 Rate per 100,000	169,84 Rate per 100,000	● 4,13	2006-2008

### A3 – Circulatory disease mortality



### A3 Circulatory disease mortality

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	4,13	172,11	166,40	-3,32	48.273,00	48.456,00	10.895.711,00	10.979.104,00
T - Ausl 1 Massa	2,51	183,42	171,76	-6,36	2.849,00	2.784,00	603.165,00	605.506,00
T - Ausl 2 Lucca	1,48	184,47	175,18	-5,04	3.059,00	3.016,00	649.218,00	655.562,00
T - Ausl 3 Pistoia	2,63	179,16	171,37	-4,35	3.796,00	3.799,00	842.648,00	853.590,00
T - Ausl 4 Prato	4,84	168,06	164,07	-2,37	2.578,00	2.643,00	729.820,00	735.040,00
T - Ausl 5 Pisa	2,51	176,71	171,78	-2,79	4.365,00	4.409,00	978.618,00	988.068,00
T - Ausl 6 Livorno	0,00	184,13	180,62	-1,91	5.128,00	5.247,00	1.037.195,00	1.044.396,00
T - Ausl 7 Siena	3,05	178,70	169,99	-4,87	4.071,00	4.025,00	788.462,00	794.964,00
T - Ausl 8 Arezzo	4,60	170,22	164,84	-3,16	4.466,00	4.468,00	1.010.596,00	1.020.515,00
T - Ausl 9 Grosseto	2,97	176,57	170,23	-3,59	3.166,00	3.129,00	661.038,00	666.850,00
T - Ausl 10 Firenze	5,00	152,45	148,61	-2,52	9.746,00	9.823,00	2.407.618,00	2.417.220,00
T - Ausl 11 Empoli	2,88	172,58	170,55	-1,18	2.874,00	2.954,00	690.499,00	697.940,00
T - Ausl 12 Viareggio	0,30	185,91	179,09	-3,67	2.175,00	2.159,00	496.835,00	499.452,00

## Indicator A3: Circulatory disease mortality

### A3 Circulatory Disease Mortality Rate

<b>Definition:</b>	Mortality rate related to circulatory system diseases
<b>Numerator:</b>	Number of deaths due to circulatory diseases
<b>Denominator:</b>	Total number of residents
<b>Formula:</b>	$\frac{\text{No. of deaths due to circulatory diseases}}{\text{No. of residents}} \times 100,000$
<b>Notes:</b>	Code ICD – 9 cm: 390-459
<b>Source:</b>	Regional Mortality Registry ( <i>Registro di Mortalità Regionale-RMR</i> ) – Operational Unit of Environmental and Occupational Epidemiology ( <i>U.O. Epidemiologia Ambientale e Occupazionale</i> ), ISPO
<b>Reference:</b>	Regional average, triennium 2006-2008
<b>Standardization:</b>	Age (standard: European population)
<b>Meaning:</b>	This indicators shows the prevalence of circulatory system diseases in the resident population

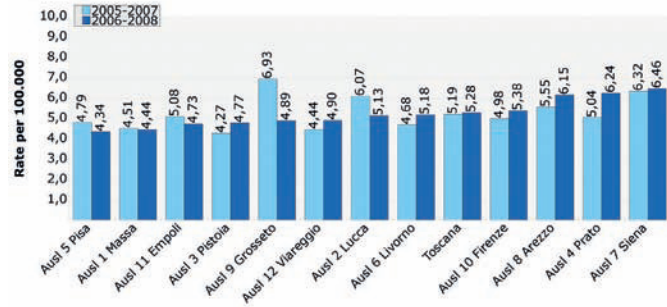
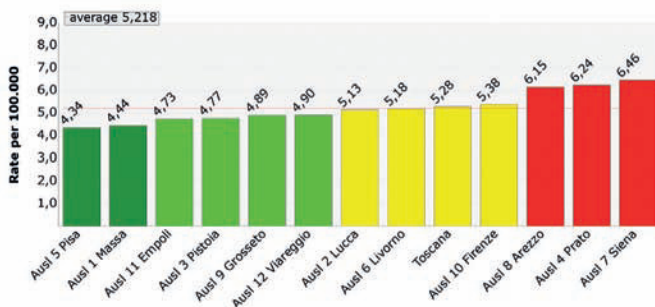


## 2.7 Indicator A4: Suicide mortality

In many countries suicide mortality is not recognised as a public health issue despite data suggesting the opposite. According to the World Health Organisation (WHO) suicide is in the top 20 causes of death worldwide and according to this data, about a million people take their own lives every year. In 2006, Italy registered 3701 suicide cases (www.who.int), while the 2004 ISTAT report had already showed a worrying upward trend in both attempted and completed suicides. In Tuscany, the downward trend in suicide mortality over the last 10 years, goes against the national average. Like the other indicators of the population's health, the suicide mortality rate does not judge the effectiveness of Local Health Authorities, but helps to provide a narrative for prioritising and planning new programmes.

Indicator	Value	Average	Performance	Year
A4 – Suicide mortality	5,28 Rate per 100,000	5,22 Rate per 100,000	● 2,37	2006-2008

### A4 – Suicide mortality



### A4 Suicide mortality

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	2,37	5,19	5,28	1,73	757,00	795,00	10.895.711,00	10.979.104,00
T - AUSL 1 Massa	4,34	4,51	4,44	-1,55	34,00	36,00	603.165,00	605.506,00
T - AUSL 2 Lucca	2,72	6,07	5,13	-15,49	48,00	43,00	649.218,00	655.562,00
T - AUSL 3 Pistoia	3,57	4,27	4,77	11,71	47,00	55,00	842.648,00	853.590,00
T - AUSL 4 Prato	0,09	5,04	6,24	23,81	46,00	56,00	729.820,00	735.040,00
T - AUSL 5 Pisa	4,58	4,79	4,34	-9,39	66,00	63,00	978.618,00	988.068,00
T - AUSL 6 Livorno	2,61	4,68	5,18	10,68	67,00	76,00	1.037.195,00	1.044.396,00
T - AUSL 7 Siena	0,00	6,32	6,46	2,22	79,00	86,00	788.462,00	794.964,00
T - AUSL 8 Arezzo	0,30	5,55	6,15	10,81	73,00	79,00	1.010.596,00	1.020.515,00
T - AUSL 9 Grosseto	3,27	6,93	4,89	-29,44	61,00	49,00	661.038,00	666.850,00
T - AUSL 10 Firenze	2,13	4,98	5,38	8,03	161,00	172,00	2.407.618,00	2.417.220,00
T - AUSL 11 Empoli	3,67	5,08	4,73	-6,89	48,00	46,00	690.499,00	697.940,00
T - AUSL 12 Viareggio	3,26	4,44	4,90	10,36	27,00	34,00	496.835,00	499.452,00

## Indicator A4: Suicide mortality

### A4 Suicide mortality

<b>Definition:</b>	Suicide Mortality Rate
<b>Numerator:</b>	Number of deaths from suicide
<b>Denominator:</b>	Total number of residents
<b>Formula:</b>	$\frac{\text{No. of deaths from suicide (Ausl)}}{\text{No. of residents}} \times 100,000$
<b>Notes:</b>	Code ICD – 9 cm: E950-E959
<b>Source:</b>	Regional Mortality Registry (Registro di Mortalità Regionale-RMR) – Operational Unit of Environmental and Occupational Epidemiology (U.O. Epidemiologia Ambientale e Occupazionale), ISPO
<b>Reference:</b>	Regional average, triennium 2006-2008
<b>Standardization:</b>	Age (standard: European population)



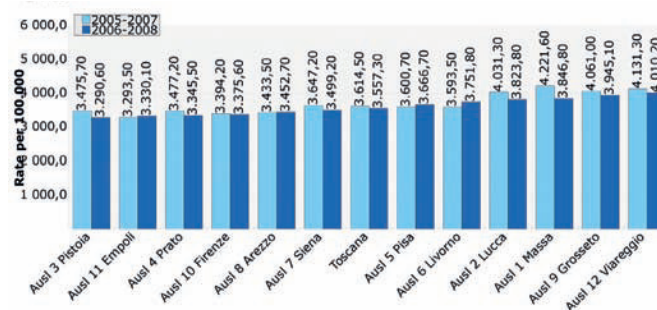
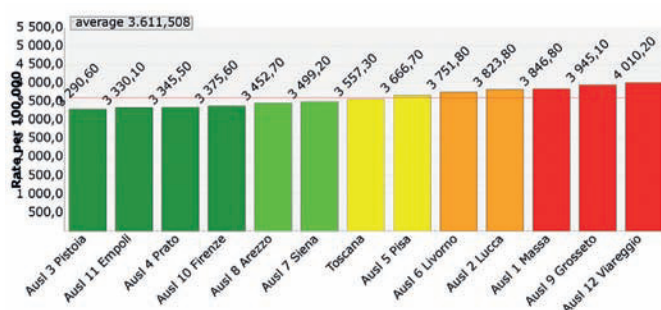
## Indicator A5: Potential Years of Life Lost (PYLL) 2.8

Potential years of life lost (PYLL) are the number of years potentially liveable but forfeited due to an identified cause. Deaths over the age of 75 are not included in the indicator. The calculation is a weighted average of the sum of age-specific mortality rates and the difference between the age of death and the reference age (in our case 75 years): for example, for a child who died at the age of 5 we consider 70 years of potential life lost.

Considering both, the number of deaths and the age at which they occur, this indicator assigns a higher weight to early deaths, enabling us to analyse early mortality vis-à-vis the different causes of death. Therefore, its values are much higher as the disease is widespread, as it occurs at a young age and rapidly leads to death. The PYLL should not be considered as an indicator of the system's performance, as local authorities can affect it only partially. It is a descriptive indicator particularly useful for planning and priority setting, and it effectively and immediately shows the consequences of the various causes of death.

Indicator	Value	Average	Performance	Year
A5 – Potential years of life lost	3557,30 Rate per 100,000	3611,51 Rate per 100,000	● 2,89	2006-2008

### A5 – Potential Years of Life Lost (PYLL)



### A5 Potential Years of Life Lost (PYLL)

Health Authority	Score 2006-2008	Value 2005-2007	Value 2006-2008	Delta %	Numerator 2005-2007	Numerator 2006-2008	Denominator 2005-2007	Denominator 2006-2008
T - Toscana	2,89	3.614,50	3.557,30	-1,58	31.606,00	31.037,00	9.632.638,00	9.693.820,00
T - Ausl 1 Massa	0,88	4.221,60	3.846,80	-8,88	1.998,00	1.908,00	530.667,00	531.812,00
T - Ausl 2 Lucca	1,03	4.031,30	3.823,80	-5,15	2.092,00	2.041,00	573.183,00	578.290,00
T - Ausl 3 Pistoia	4,74	3.475,70	3.290,60	-5,33	2.363,00	2.330,00	749.247,00	758.106,00
T - Ausl 4 Prato	4,36	3.477,20	3.345,50	-3,79	1.948,00	1.862,00	660.519,50	664.121,00
T - Ausl 5 Pisa	2,13	3.600,70	3.666,70	1,83	2.793,00	2.739,00	869.885,00	877.536,00
T - Ausl 6 Livorno	1,54	3.593,50	3.751,80	4,41	3.133,00	3.145,00	913.367,50	918.374,00
T - Ausl 7 Siena	3,29	3.647,20	3.499,20	-4,06	2.280,00	2.182,00	685.204,00	690.174,00
T - Ausl 8 Arezzo	3,61	3.433,50	3.452,70	0,56	2.721,00	2.676,00	893.754,00	902.006,00
T - Ausl 9 Grosseto	0,19	4.061,00	3.945,10	-2,85	2.172,00	2.155,00	578.921,00	583.331,00
T - Ausl 10 Firenze	4,15	3.394,20	3.375,60	-0,55	6.674,00	6.544,00	2.119.421,50	2.124.152,00
T - Ausl 11 Empoli	4,47	3.293,50	3.330,10	1,11	1.752,00	1.779,00	615.531,50	621.328,00
T - Ausl 12 Viareggio	0,00	4.131,30	4.010,20	-2,93	1.680,00	1.676,00	442.937,00	444.591,00

## Indicator A5: Potential Years of Life Lost (PYLL)

### A5 Potential Years of Life Lost (PYLL)

<b>Definition:</b>	Potential Years of Life Lost (PYLL)
<b>Notes:</b>	<p>Potential years of life lost (PYLL) is the number of years potentially liveable but forfeited due to an identified cause of death. Deaths over the age of 75 are not included in the indicator.</p> <p><i>Absoluted values</i></p> <p>The difference between age class at the moment of death and the maximum age limit of 75 years is calculated for each death. The number of deaths for each age class is multiplied for the years of life not lived. PYLL corresponds to the sum of the results thus obtained for each age class between 0 and 75 years. PYLL are additive to different causes of death, this facilitates the grouping of the various causes of death without having to recalculate the corresponding PYLL.</p>
<b>Source:</b>	Regional Mortality Registry ( <i>Registro di Mortalità Regionale-RMR</i> ) – Operational Unit of Environmental and Occupational Epidemiology ( <i>U.O. Epidemiologia Ambientale e Occupazionale</i> ), ISPO
<b>Reference:</b>	Regional average, triennium 2006-2008
<b>Standardization:</b>	Age (standard: European population)







## PART III

# EVALUATION OF THE ABILITY TO PURSUE REGIONAL STRATEGIES

*by Sara Barsanti and Maria Sole Bramanti*

This area of evaluation (area B) is designed to evaluate the ability of health authorities to pursue the regional strategies. The indicators included in this dimension are partly modified each year according to the priorities set by the Region. In particular, the Regional Health Plan 2008-2010, which remains valid also for 2011, offers special projects of regional interest that are associated with precise strategic choices and actions. Many of the indicators selected in this assessment area aim, therefore, at monitoring the achievement of these strategies. In particular the evaluation fields of this area for 2010 focus on:

- ◆ timely access, considering both diagnostic and outpatient waiting times;
- ◆ quality of care pathways and participation of patients;
- ◆ equity of access, considering any gaps related to socioeconomic characteristics of patients;
- ◆ prevention through the evaluation of cancer screening and main vaccines, and health promotion, considering indicators on lifestyles and adapted physical activity;
- ◆ complexity of the system, given the case mix of the Teaching Hospitals and the surgical strategies;
- ◆ system level planning, in terms of outgoing and inflows for Area Vasta;
- ◆ innovation in terms of information systems, by measuring the latency of flows, and scientific output capacity of the Teaching Hospitals.

Due to the complexity and diversity of the strategies to be evaluated, the indicators in this dimension are heterogeneous in both data sources and in the methodology. The data sources used are:

- ◆ regional health data flows, such as indicators B11 and B12 related to the complexity and mobility for the Teaching Hospitals;
- ◆ sample surveys, such as indicator B13 for maternal and child care;
- ◆ ad hoc surveys, such as the indicator B15 for the research capacity of the Teaching Hospitals;
- ◆ data from regional and national institutions or agencies, such as the indicator B5 that monitors the progress of cancer screening.

The PSR (Regional Health Plan) 2008-2010, like the previous one, pays particular attention to the quality of health services, both in terms of timeliness and equal access to the system. The waiting time for visits and diagnostics is a critical issue in using these services. There are two indicators that monitor the waiting time that pending the implementation of the new ministerial guidelines (PNGLA 2010-2012), establishing priority codes, replace the indicator B3 “Waiting times”: the indicator “Percentage of outpatient specialist visits booked within 15 days – B20” and the indicator “Percentage of diagnostic tests booked within 30 days – B21”.

With regard to equity of the health service, instead, the importance of reducing inequality of access and use of health services for population segments based on socio-economic determinants has been confirmed. It is extremely important, in fact, including an equity lens in the management logic, in order to increase operators’ awareness of procedures for service provision (Nutti, Barsanti 2006). The “Equity and Access – B9” was built in order to monitor hospitalization rates according to the patient’s education.

As for prevention, the indicators monitor cancer screenings and the main vaccines. For cancer screenings, the Region set specific objectives to be achieved by 2010 both in terms of extension and of participation in mammography, cervical, and colorectal screening. The indicator “Extension and participation in cancer screening – B5” refers to the monitoring of the three screening programmes activated by Health Authorities. It measures the achievement of the objectives for both the extension of invitations to programmes and participation in them. Particular attention is also given to vaccines: The indicator “Vaccine Coverage – B7” measures the actual vaccine coverage, among some population groups, for influenza, measles, mumps and rubella (MMR) and, since 2010, also for the papilloma virus.



In terms of health promotion two new indicators have been added: the B2 (added in 2009 as A6) on the lifestyles of the population, based on the logic of the ministerial project “Gaining Health”, and deriving from the results of the survey PASSI 2008-09, and the B22 dedicated to adapted physical activity, a project that the Tuscany Regional Government is carrying out within the Chronic Care Model.

Considering the quality of paths, reference is made to specific strategies and indicators for evaluation. The special project “Care and Management of Pain” is devoted to regional strategies for pain management: the indicator “Strategies for pain management – B4” aims to evaluate the performance of the Health Authorities in the distribution of opioids in pain management and patient care. The organ donation process, an area of particular regional attention, is monitored by the indicator “Processes of organ donation – B6.” Finally, the indicator “Continuity of care: maternal and child path – B13” expresses the evaluation of mothers regarding the coordination of different levels of care and services in the birth path. Given the complexity of the health system and its importance in terms of research and innovation, the region has focused on the development of research, on the one hand, and on the other hand, of the information systems. In particular, the indicator “Timeliness of data submission to the Regional Information System – B8” measures the ability of Authorities to send the data and information present in the regional information flows, quickly and punctually. However, with respect to research activity, the indicator B15 offers a scientific monitoring of the productivity of 4 Teaching Hospitals and the Monasterio Foundation in terms of publications in impact factor journals.

For the Teaching Hospitals (AOU), as third level facilities, two specific indicators are also calculated: “Complexity – B11” and “Mobility – B12”. The indicator B11 monitors the case mix, with a focus on DRGs with high complexity. The indicator B12 assess the ability of the Teaching Hospital to attract patients from other regions, from one point of view, and to reduce the outflows amongst the different Area Vasta, from the other. The Region, in fact, has set as its goal the reduction of the outflow, both outside the region and amongst the different Area Vasta.



## Indicator B2: Lifestyles (PASSI) 3.1

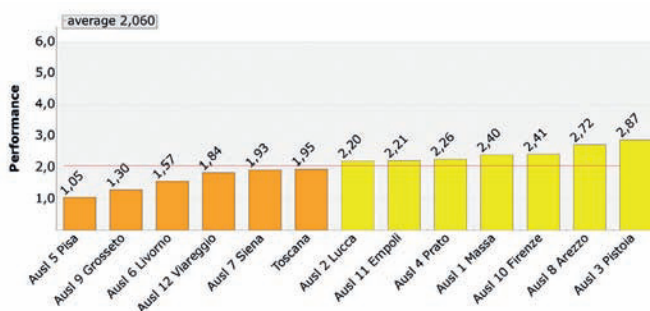
Attention to lifestyle is an important and welcomed paradigm shift for Local Health Authorities. The 4 major risk factors (smoking, alcohol, improper diet, and physical inactivity) largely modifiable and clearly identified as the main determinants of the most common chronic diseases in our country, are well known and it is clear that inattention to them leads to an increase in premature deaths and avoidable diseases. The Regional Tuscan Government has always been attentive to prevention policies and healthy lifestyles, and in fact it adheres to the national programme “Guadagnare Salute – Rendere facili le scelte salutari” (Get Health – Making Healthy Choices Easier). This programme, through intensive and targeted communication and propaganda activities, discourages citizens from initiating smoking, encourages them to consume plenty of fruit and vegetables, to reduce alcohol intake and alcohol abuse, to consume fewer calorie-rich food and beverages, and to embrace physical activity. Since 2007 every Local Health Authority of Tuscany gathers data on the population’s lifestyles by means of the survey “PASSI” (Progressi nelle Aziende Sanitarie per la Salute in Italia - Progress of the Local Authorities for Health in Italy). PASSI is the Italian monitoring system on health-related behaviours in the adult population organized by the Ministry of Labour, Health, and Welfare and the Istituto Superiore di Sanità (ISS – Superior Health Institute). The programme started in 2005 as an experimental approach to monitor behavioural risk factors and to oversee prevention programmes for chronic diseases. Since 2007 PASSI monitors behavioural risk factors amongst the resident population aged between 18 and 69 for the 20 participating regions and their Local Health Authorities. In Tuscany, in 2008, in order to provide indicators about the resident population’s lifestyles to the area-district local government, the MeS Laboratory carried out a poll amongst the registered population by expanding the sample of the regional survey PASSI, to reach a representative sample at the area-district level. The number of additional completed polls amounts to approximately 1,615, which together with those completed by the Authorities allows an estimation of the frequency and evolution of the behavioural risk factors for health, and the diffusion of preventive measures at both the Local Health Authority level and the district level.

Indicator	Performance	Year
B2 – Lifestyles (PASSI)	● 1,70	2010

### B2 Lifestyles (PASSI)

- B2.1 – Physical activity: ■
  - B2.1.1 – Percentage of sedentary people: 28,67% ■
  - B2.1.2 – Percentage of sedentary people advised by the doctor to exercise: 31,80% ■
- B2.2 – Nutritional situation: ■
  - B2.2.1 – Percentage of obese people: 8,05% ■
  - B2.2.2 – Percentage of overweight or obese people advised by the doctor to lose or maintain weight: 47,98% ■
  - B2.2.3 – Percentage of overweight or obese people advised by a doctor to exercise: 39,20% ■
- B2.3 – Alcohol consumption: ■
  - B2.3.1 – Percentage of people binge drinking and/or drinking between meals: 10,79% ■
  - B2.3.2 – Percentage of people binge drinking and/or drinking between meals advised by the doctor to drink less: 5,42% ■
- B2.4 – Smoking: ■
  - B2.4.1 – Percentage of smokers: 30,38% ■
  - B2.4.2 – Percentage of smokers advised by the doctor to quit smoking: 51,02% ■

### B2 – Lifestyles (PASSI)



### Indicator B2: Lifestyles (PASSI)

#### Notes

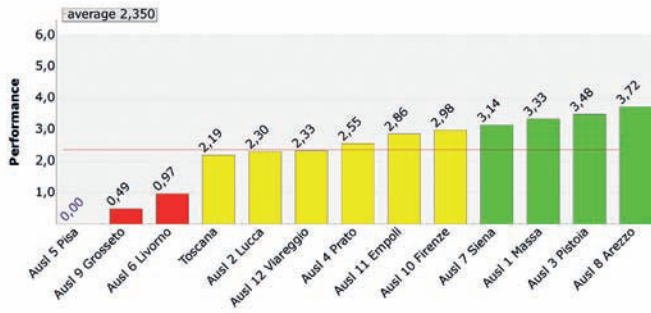
Indicator B2 has not got its own values but it has got evaluation scores equal to the average evaluations of the following indicators: B2.1, B2.2, B2.3, B2.4.



### 3.2 Indicator B2.1: Physical activity

Regular physical activity promotes a healthy lifestyle and according to experts helps reduce overall mortality risk by 10%. Physical activity not only helps protect against the onset of many diseases but also helps to combat and treat many diseases.

#### B2.1 – Physical activity

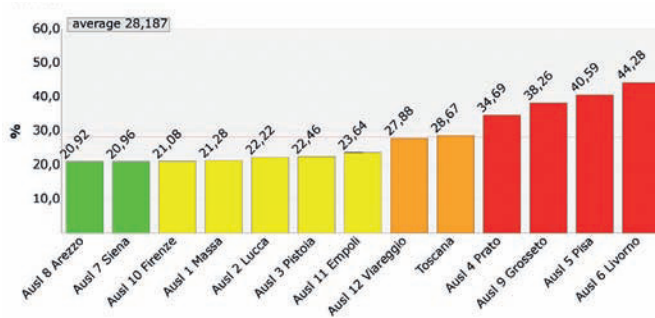




### Indicator B2.1.1: Percentage of sedentary people 3.3

A sedentary lifestyle, spreading in all developed countries, is a major risk factor for chronic disease such as diabetes, cardiovascular diseases, osteoporosis, and depression. Moreover, insufficient physical activity, combined with a poor diet, contributes to the rising rates of obesity. A sedentary person is defined as one whose profession does not involve manual labour and one who does not engage in any physical activity. 29.1% of the national population is sedentary (2008).

#### B2.1.1 – Percentage of sedentary people



#### B2.1.1 Percentage of sedentary people

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	28,67%	1,73	855,00	2.982,00	2010
T - Ausl 1 Massa	21,28%	2,96	50,00	235,00	2010
T - Ausl 2 Lucca	22,22%	2,81	58,00	261,00	2010
T - Ausl 3 Pistoia	22,46%	2,77	53,00	236,00	2010
T - Ausl 4 Prato	34,69%	0,73	94,00	271,00	2010
T - Ausl 5 Pisa	40,59%	0,00	110,00	271,00	2010
T - Ausl 6 Livorno	44,28%	0,00	120,00	271,00	2010
T - Ausl 7 Siena	20,96%	3,02	48,00	229,00	2010
T - Ausl 8 Arezzo	20,92%	3,02	50,00	239,00	2010
T - Ausl 9 Grosseto	38,26%	0,13	101,00	264,00	2010
T - Ausl 10 Firenze	21,08%	3,00	43,00	204,00	2010
T - Ausl 11 Empoli	23,64%	2,57	65,00	275,00	2010
T - Ausl 12 Viareggio	27,88%	1,86	63,00	226,00	2010

### Indicator B2: Lifestyles (PASSI)

#### B2.1.1 Percentage of sedentary people

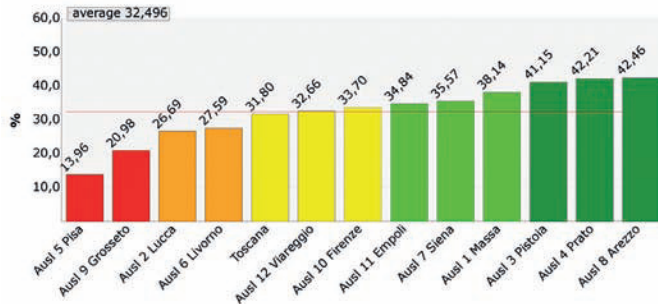
<b>Definition:</b>	Percentage of sedentary people
<b>Numerator:</b>	Number of sedentary people
<b>Denominator:</b>	Number of sedentary and non-sedentary people interviewed
<b>Formula:</b>	$\frac{\text{No. of sedentary people}}{\text{No. of sedentary and non-sedentary people interviewed}} \times 100$
<b>Notes:</b>	Level of "sedentary" physical activity: people with no heavy work and no leisure-time physical activity.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia</i> – Progress of the Local Authorities for Health in Italy)
<b>Reference:</b>	Regional Average



### 3.4 Indicator B2.1.2: Percentage of sedentary people advised by the doctor to exercise

It is important that healthcare professionals encourage patients to engage in appropriate physical activity. Their advice, combined with other interventions, may help increase regular physical activity among both the general population and groups at risk of chronic diseases. Nationally, 31.1% of interviewees confirmed that a physician or other healthcare professional advised them to undertake more physical activity (2008).

#### B2.1.2 – Percentage of sedentary people advised by the doctor to exercise



**B2.1.2** Percentage of sedentary people advised by the doctor to exercise

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	31,80%	2,64	835,00	2.626,00	2010
T - Ausl 1 Massa	38,14%	3,70	82,00	215,00	2010
T - Ausl 2 Lucca	26,69%	1,79	67,00	251,00	2010
T - Ausl 3 Pistoia	41,15%	4,20	79,00	192,00	2010
T - Ausl 4 Prato	42,21%	4,38	103,00	244,00	2010
T - Ausl 5 Pisa	13,96%	0,00	37,00	265,00	2010
T - Ausl 6 Livorno	27,59%	1,94	72,00	261,00	2010
T - Ausl 7 Siena	35,57%	3,27	69,00	194,00	2010
T - Ausl 8 Arezzo	42,46%	4,42	76,00	179,00	2010
T - Ausl 9 Grosseto	20,98%	0,84	47,00	224,00	2010
T - Ausl 10 Firenze	33,70%	2,96	61,00	181,00	2010
T - Ausl 11 Empoli	34,84%	3,15	77,00	221,00	2010
T - Ausl 12 Viareggio	32,66%	2,79	65,00	199,00	2010

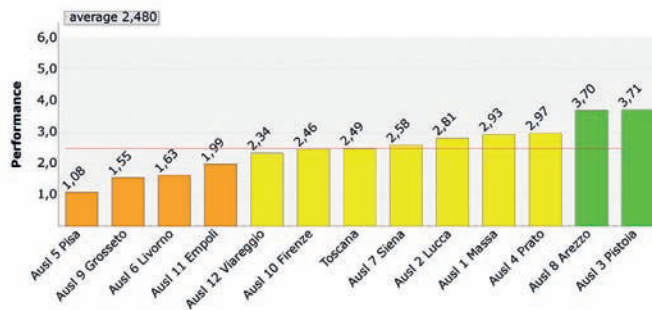
### Indicator B2: Lifestyles (PASSI)

#### B2.1.2 Percentage of sedentary people advised by the doctor to exercise

<b>Definition:</b>	Percentage of sedentary people advised by the doctor to exercise amongst those who have visited a doctor in the last year
<b>Numerator:</b>	No. of sedentary people who have been advised to exercise
<b>Denominator:</b>	Number of sedentary people who have and who have not been advised by a doctor to exercise
<b>Formula:</b>	$\frac{\text{No. of sedentary people advised by the doctor to exercise}}{\text{No. of sedentary people advised and not advised by a doctor to exercise}} \times 100$
<b>Notes:</b>	Level of "sedentary" physical activity: people with no heavy work and no leisure-time physical activity. We consider people who claim to have visited a doctor in the last 12 months.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia</i> – Progress of the Local Authorities for Health in Italy)
<b>Reference:</b>	Regional Average

**Indicator B2.2: Nutritional situation 3.5**

Nutrition plays a determining role in a population's health. Excess weight can induce or exacerbate disease such as hypertension, diabetes, cardiovascular disease, ictus or some cancers such as endometrial-, colorectal-, gallbladder- and breast cancer.

**B2.2 – Nutritional situation**

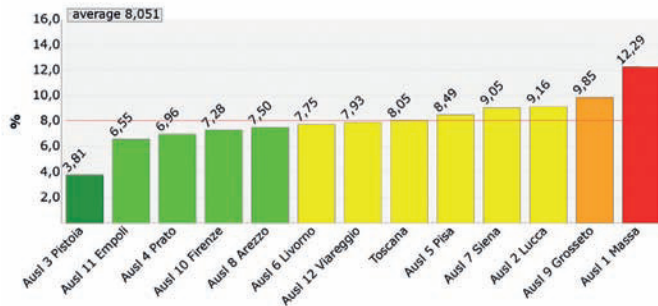




### 3.6 Indicator B2.2.1: Percentage of obese people

Obesity is a global major public health issue. Obesity is defined as “excess of body fat compared to Lean Body Mass, both in terms of absolute amount and of fat distribution in certain areas”. Weight must be evaluated in relation to the Body Mass Index (BMI) value, which is defined as the weight in kilograms divided by the square of the height in metres (kg/m<sup>2</sup>). BMI is divided into four categories: underweight (BMI < 18.5), normal weight (BMI < 18.5 to 24.9), overweight (BMI 25 –29.9), obese (BMI ≥ 30). The national rate of obese people represents about 10.3% of total respondents (2008).

#### B2.2.1 – Percentage of obese people



#### B2.2.1 Percentage of obese people

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	8,05%	2,73	241,00	2.993,00	2010
T - Ausl 1 Massa	12,29%	0,62	29,00	236,00	2010
T - Ausl 2 Lucca	9,16%	2,18	24,00	262,00	2010
T - Ausl 3 Pistoia	3,81%	4,85	9,00	236,00	2010
T - Ausl 4 Prato	6,96%	3,28	19,00	273,00	2010
T - Ausl 5 Pisa	8,49%	2,52	23,00	271,00	2010
T - Ausl 6 Livorno	7,75%	2,89	21,00	271,00	2010
T - Ausl 7 Siena	9,05%	2,23	21,00	232,00	2010
T - Ausl 8 Arezzo	7,50%	3,01	18,00	240,00	2010
T - Ausl 9 Grosseto	9,85%	1,84	26,00	264,00	2010
T - Ausl 10 Firenze	7,28%	3,12	15,00	206,00	2010
T - Ausl 11 Empoli	6,55%	3,49	18,00	275,00	2010
T - Ausl 12 Viareggio	7,93%	2,80	18,00	227,00	2010

### Indicator B2: Lifestyles (PASSI)

#### B2.2.1 Percentage of obese people

<b>Definition:</b>	Percentage of obese people
<b>Numerator:</b>	Number of obese people
<b>Denominator:</b>	Total number of obese, overweight, normal-weight, and underweight people
<b>Formula:</b>	$\frac{\text{No. of obese people}}{\text{Overall No. of obese, overweight, normal-weight, and underweight people}} \times 100$
<b>Notes:</b>	Individuals who have a Body Mass Index (BMI) ≥ 30 are considered “obese”. Weight characteristics are set in relation to the BMI value, which is defined as the weight in kilograms divided by the square of the height in metres (kg/m <sup>2</sup> ). BMI is divided into four categories: underweight (BMI < 18,5), normal weight (BMI < 18,5 to 24,9), overweight (BMI 25 –29,9), obese (BMI ≥ 30).
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia – Progress of the Local Authorities for Health in Italy</i> )
<b>Reference:</b>	Regional Average



## Indicator B2.2.2: Percentage of overweight or obese people advised by the doctor to lose 3.7 or maintain weight

Excess weight (overweight/obesity), although a health risk, can be addressed. It is important that healthcare professionals emphasize this aspect. Nationally, 57% of overweight/obese people confirmed that a physician or other healthcare professional advised them to lose weight.

### B2.2.2 – Percentage of overweight or obese people advised by the doctor to lose or maintain weight



### B2.2.2 Percentage of overweight or obese people advised by the doctor to lose or maintain weight

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	47,98%	2,27	500,00	1.042,00	2010
T - Ausl 1 Massa	68,06%	4,95	49,00	72,00	2010
T - Ausl 2 Lucca	57,30%	3,52	51,00	89,00	2010
T - Ausl 3 Pistoia	53,42%	3,00	39,00	73,00	2010
T - Ausl 4 Prato	50,54%	2,62	47,00	93,00	2010
T - Ausl 5 Pisa	26,36%	0,00	29,00	110,00	2010
T - Ausl 6 Livorno	31,03%	0,01	27,00	87,00	2010
T - Ausl 7 Siena	52,00%	2,81	39,00	75,00	2010
T - Ausl 8 Arezzo	69,05%	5,00	58,00	84,00	2010
T - Ausl 9 Grosseto	45,10%	1,89	46,00	102,00	2010
T - Ausl 10 Firenze	44,30%	1,78	35,00	79,00	2010
T - Ausl 11 Empoli	49,46%	2,47	46,00	93,00	2010
T - Ausl 12 Viareggio	40,00%	1,21	34,00	85,00	2010

## Indicator B2: Lifestyles (PASSI)

### B2.2.2 Percentage of overweight or obese people advised by the doctor to lose or maintain weight

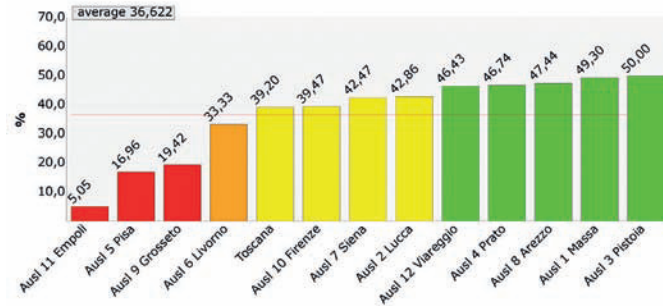
<b>Definition:</b>	Percentage of overweight or obese people advised by the doctor to lose or maintain weight, amongst those who have visited a doctor in the last year.
<b>Numerator:</b>	No. of overweight or obese people advised by the doctor to lose or maintain weight
<b>Denominator:</b>	No. of overweight or obese people advised or not advised by the doctor to lose or maintain weight
<b>Formula:</b>	$\frac{\text{No. of overweight or obese people advised by the doctor to lose or maintain weight}}{\text{No. of overweight or obese people advised or not advised by the doctor to lose or maintain weight}} \times 100$
<b>Notes:</b>	Individuals who have a Body Mass Index (BMI) $\geq 30$ are considered "obese". Individuals who have a Body Mass Index (BMI) between 25 and 29,9 are considered overweight. We consider people who claim to have visited a doctor in the last 12 months.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia</i> – Progress of the Local Authorities for Health in Italy)
<b>Reference:</b>	Regional Average



### 3.8 Indicator B2.2.3: Percentage of overweight or obese people advised by the doctor to exercise

Nationally 38% of overweight/obese people confirmed that a physician or other healthcare professional advised them to exercise regularly (2008).

#### B2.2.3 – Percentage of overweight or obese people advised by the doctor to exercise



#### B2.2.3 Percentage of overweight or obese people advised by the doctor to exercise

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	39,20%	2,45	403,00	1.028,00	2010
T - Ausl 1 Massa	49,30%	3,23	35,00	71,00	2010
T - Ausl 2 Lucca	42,86%	2,73	39,00	91,00	2010
T - Ausl 3 Pistoia	50,00%	3,28	35,00	70,00	2010
T - Ausl 4 Prato	46,74%	3,03	43,00	92,00	2010
T - Ausl 5 Pisa	16,96%	0,74	19,00	112,00	2010
T - Ausl 6 Livorno	33,33%	2,00	29,00	87,00	2010
T - Ausl 7 Siena	42,47%	2,70	31,00	73,00	2010
T - Ausl 8 Arezzo	47,44%	3,08	37,00	78,00	2010
T - Ausl 9 Grosseto	19,42%	0,93	20,00	103,00	2010
T - Ausl 10 Firenze	39,47%	2,47	30,00	76,00	2010
T - Ausl 11 Empoli	5,05%	0,00	46,00	911,00	2010
T - Ausl 12 Viareggio	46,43%	3,00	39,00	84,00	2010

### Indicator B2: Lifestyles (PASSI)

#### B2.2.3 Percentage of overweight or obese people advised by the doctor to exercise

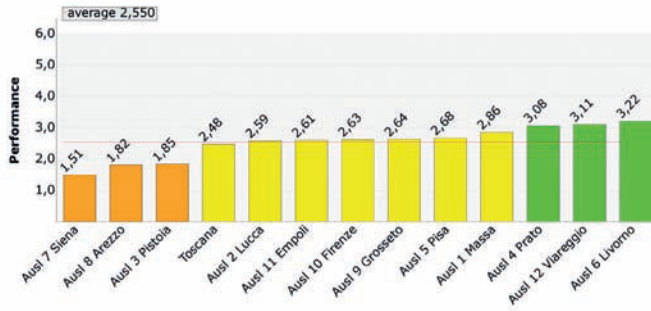
<b>Definition:</b>	Percentage of overweight or obese people advised by a doctor to exercise, amongst those who have visited a doctor in the last year
<b>Numerator:</b>	No. of overweight or obese people advised by a doctor to lose or maintain weight
<b>Denominator:</b>	No. of overweight or obese people advised or not advised by the doctor to exercise
<b>Formula:</b>	$\frac{\text{No. of overweight or obese people advised by the doctor to lose or maintain weight}}{\text{No. of overweight or obese people advised or not advised by the doctor to exercise}} \times 100$
<b>Notes:</b>	Individuals who have a Body Mass Index (BMI) $\geq 30$ are considered "obese". Individuals who have a Body Mass Index (BMI) between 25 and 29,9 are considered overweight. We consider people who claim to have visited a doctor in the last 12 months.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia</i> – Progress of the Local Authorities for Health in Italy)
<b>Reference:</b>	Regional Average



**Indicator B2.3: Alcohol consumption 3.9**

Reducing the excessive consumption of alcohol has become an increasingly important objective in the promotion of a healthy lifestyle. Alcohol-induced damage is not limited to the imbiber, but adversely affects families and whole communities. It is estimated that 9% of the costs of public health care is linked to the use/abuse of alcohol.

**B2.3 – Alcohol consumption**

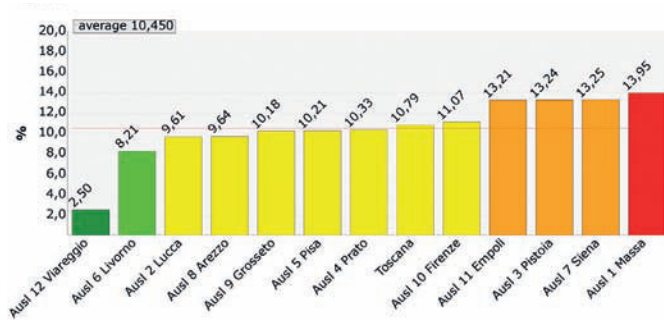




### 3.10 Indicator B2.3.1: Percentage of people binge drinking and/or drinking between meals

Although alcohol consumption is fairly widespread, much can be learnt from the details. The indicator detects alcohol consumption in the surveyed population considering people who drink between meals and those who indulge in heavy drinking (binge drinkers). According to the World Health Organization (WHO), a binge drinker is someone who consumes 6 or more units of alcohol on a single occasion at least once a month.

#### B2.3.1 – Percentage of people binge drinking and/or drinking between meals



**B2.3.1** Percentage of people binge drinking and/or drinking between meals

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	10,79%	2,36	701,00	6.494,00	2008
T - Ausl 1 Massa	13,95%	0,90	41,00	294,00	2008
T - Ausl 2 Lucca	9,61%	2,91	42,00	437,00	2008
T - Ausl 3 Pistoia	13,24%	1,22	58,00	438,00	2008
T - Ausl 4 Prato	10,33%	2,58	41,00	397,00	2008
T - Ausl 5 Pisa	10,21%	2,63	53,00	519,00	2008
T - Ausl 6 Livorno	8,21%	3,56	67,00	816,00	2008
T - Ausl 7 Siena	13,25%	1,22	99,00	747,00	2008
T - Ausl 8 Arezzo	9,64%	2,90	70,00	726,00	2008
T - Ausl 9 Grosseto	10,18%	2,65	73,00	717,00	2008
T - Ausl 10 Firenze	11,07%	2,24	80,00	723,00	2008
T - Ausl 11 Empoli	13,21%	1,24	74,00	560,00	2008
T - Ausl 12 Viareggio	2,50%	5,00	3,00	120,00	2008

## Indicator B2: Lifestyles (PASSI)

### B2.3.1 Percentage of people binge drinking and/or drinking between meals

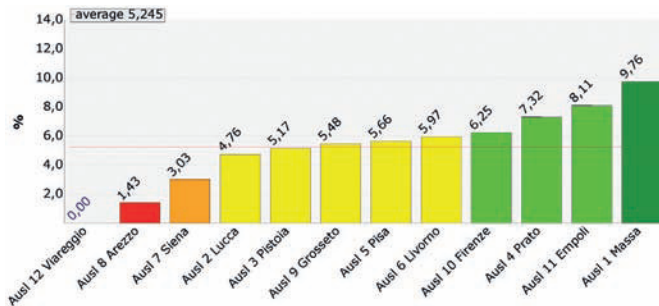
<b>Definition:</b>	Percentage of people binge drinking and/or drinking between meals
<b>Numerator:</b>	No. of people binge drinking and/or drinking between meals
<b>Denominator:</b>	No. of interviewees by Area-District
<b>Formula:</b>	$\frac{\text{No. of people binge drinking and/or drinking between meals}}{\text{No. of interviewees by Area-District}} \times 100$
<b>Notes:</b>	Binge drinker: According to the World Health Organization (WHO), a binge drinker is someone who consumes 6 or more units of alcohol on a single occasion at least once a month. One Unit of Alcohol (U.A.) is the equivalent of around 12g of pure alcohol, the amount contained in a small glass of wine (125 ml) of average alcoholic strength, a 330 ml can or bottle of average strength beer or a 40 ml serving of spirits. Alcohol has 7 kcal per gram (Def. <i>Istituto Nazionale di Ricerca per gli Alimenti, and la Nutrizione – INRAN – National Research Institute for Food and Nutrition</i> )
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia – Progress of the Local Authorities for Health in Italy</i> ) – 2008
<b>Reference:</b>	Regional Average, 2008



## Indicator B2.3.2: Percentage of people binge drinking and/or drinking between meals advised 3.11 by the doctor to drink less

Physicians and other healthcare professionals can play an important role in the prevention of alcohol abuse by publicising its adverse affects.

### B2.3.2 – Percentage of people binge drinking and/or drinking between meals advised by the doctor to drink less



### B2.3.2 Percentage of people binge drinking and/or drinking between meals advised by the doctor to drink less

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	5,42%	2,60	38,00	701,00	2008
T - Ausl 1 Massa	9,76%	4,82	4,00	41,00	2008
T - Ausl 2 Lucca	4,76%	2,26	2,00	42,00	2008
T - Ausl 3 Pistoia	5,17%	2,47	3,00	58,00	2008
T - Ausl 4 Prato	7,32%	3,57	3,00	41,00	2008
T - Ausl 5 Pisa	5,66%	2,72	3,00	53,00	2008
T - Ausl 6 Livorno	5,97%	2,88	4,00	67,00	2008
T - Ausl 7 Siena	3,03%	1,79	3,00	99,00	2008
T - Ausl 8 Arezzo	1,43%	0,74	1,00	70,00	2008
T - Ausl 9 Grosseto	5,48%	2,63	4,00	73,00	2008
T - Ausl 10 Firenze	6,25%	3,03	5,00	80,00	2008
T - Ausl 11 Empoli	8,11%	3,98	6,00	74,00	2008
T - Ausl 12 Viareggio	0,00%	0,01	0,00	3,00	2008

## Indicator B2: Lifestyles (PASSI)

### B2.3.2 Percentage of people binge drinking and/or drinking between meals advised by the doctor to drink less

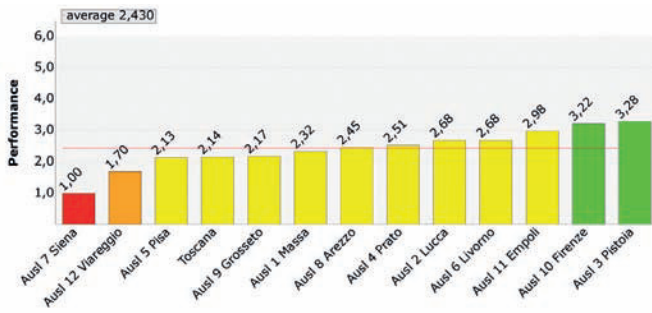
<b>Definition:</b>	Percentage of people binge drinking and/or drinking between meals advised by a doctor to drink less, amongst those who have visited a doctor in the last year.
<b>Numerator:</b>	No. of people binge drinking and/or drinking between meals advised by a doctor to drink less
<b>Denominator:</b>	No. of people binge drinking and/or drinking between meals
<b>Formula:</b>	$\frac{\text{No. of people binge drinking and/or drinking between meals advised by a doctor to drink less}}{\text{No. of people binge drinking and/or drinking between meals}} \times 100$
<b>Notes:</b>	Binge drinker: According to the World Health Organization (WHO), a binge drinker is someone who consumes 6 or more units of alcoholic on a single occasion at least once a month. We consider people who claim to have visited a doctor in the last 12 months.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia</i> – Progress of the Local Authorities for Health in Italy) – 2008
<b>Reference:</b>	Regional Average, 2008



### 3.12 Indicator B2.4: Smoking

Smoking is a major cause of many chronic degenerative diseases, affecting especially the respiratory- and the cardiovascular apparatus. Moreover, smoking is a major, but avoidable early mortality risk. According to experts, 12% of healthy life is lost due to premature death or disability, associated to smoking.

#### B2.4 – Smoking

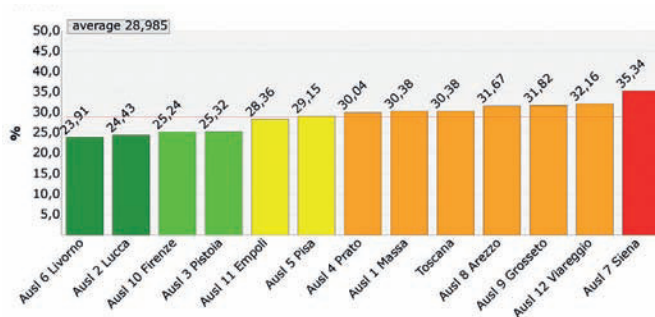




## Indicator B2.4.1: Percentage of smokers 3.13

The adverse effects of smoking impact not only the smokers themselves but those exposed to second-hand smoke. A smoker is defined as a person who has smoked more than 100 cigarettes in his/her lifetime and who smokes either daily or occasionally, or who quit smoking since less than 6 months. Smokers represent 29.8% of respondents at the national level (2008).

### B2.4.1 – Percentage of smokers



### B2.4.1 Percentage of smokers

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	30,38%	1,86	868,00	3.000,00	2010
T - Ausl 1 Massa	30,38%	1,86	72,00	237,00	2010
T - Ausl 2 Lucca	24,43%	4,24	64,00	262,00	2010
T - Ausl 3 Pistoia	25,32%	3,88	60,00	237,00	2010
T - Ausl 4 Prato	30,04%	2,00	82,00	273,00	2010
T - Ausl 5 Pisa	29,15%	2,35	79,00	271,00	2010
T - Ausl 6 Livorno	23,91%	4,44	66,00	276,00	2010
T - Ausl 7 Siena	35,34%	0,00	82,00	232,00	2010
T - Ausl 8 Arezzo	31,67%	1,34	76,00	240,00	2010
T - Ausl 9 Grosseto	31,82%	1,28	84,00	264,00	2010
T - Ausl 10 Firenze	25,24%	3,91	52,00	206,00	2010
T - Ausl 11 Empoli	28,36%	2,66	78,00	275,00	2010
T - Ausl 12 Viareggio	32,16%	1,15	73,00	227,00	2010

## Indicator B2: Lifestyles (PASSI)

### B2.4.1 Percentage of smokers

<b>Definition:</b>	Percentage of smokers
<b>Numerator:</b>	No. of smokers
<b>Denominator:</b>	Total number of smokers and non-smokers
<b>Formula:</b>	$\frac{\text{No. of smokers}}{\text{Total number of smokers and non-smoker}} \times 100$
<b>Notes:</b>	A smoker is defined as a person who has smoked more than 100 cigarettes in his/her lifetime and who smokes either daily or occasionally, or who quit smoking since less than 6 months.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia – Progress of the Local Authorities for Health in Italy</i> )
<b>Reference:</b>	Regional Average

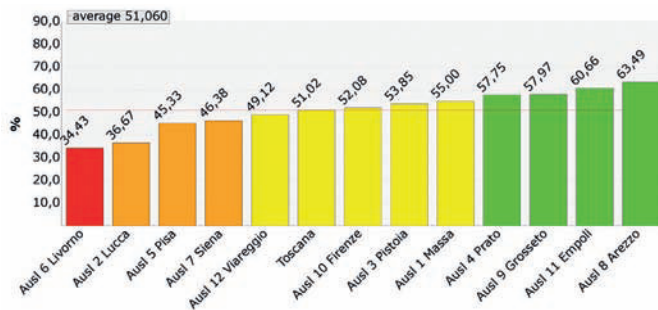




### 3.14 Indicator B2.4.2: Percentage of smokers advised by the doctor to quit smoking

Scientific evidence shows that quitting smoking cuts the risk of myocardial infarct (heart attack) by half, after one year of abstinence. After 15 years of abstinence, the risk equals that of a non-smoker. Nationally, 61% of smokers have been advised by a healthcare professional to quit smoking (2008).

#### B2.4.2 – Percentage of smokers advised by the doctor to quit smoking



#### B2.4.2 Percentage of smokers advised by the doctor to quit smoking

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	51,02%	2,42	374,00	733,00	2010
T - Asl 1 Massa	55,00%	2,78	33,00	60,00	2010
T - Asl 2 Lucca	36,67%	1,12	22,00	60,00	2010
T - Asl 3 Pistoia	53,85%	2,68	21,00	39,00	2010
T - Asl 4 Prato	57,75%	3,03	41,00	71,00	2010
T - Asl 5 Pisa	45,33%	1,90	34,00	75,00	2010
T - Asl 6 Livorno	34,43%	0,91	21,00	61,00	2010
T - Asl 7 Siena	46,38%	2,00	32,00	69,00	2010
T - Asl 8 Arezzo	63,49%	3,55	40,00	63,00	2010
T - Asl 9 Grosseto	57,97%	3,05	40,00	69,00	2010
T - Asl 10 Firenze	52,08%	2,52	25,00	48,00	2010
T - Asl 11 Empoli	60,66%	3,30	37,00	61,00	2010
T - Asl 12 Viareggio	49,12%	2,25	28,00	57,00	2010

### Indicator B2: Lifestyles (PASSI)

#### B2.4.2 Percentage of smokers advised by the doctor to quit smoking

<b>Definition:</b>	Percentage of smokers advised by the doctor to quit smoking, amongst those who have visited a doctor in the last year
<b>Numerator:</b>	No. of smokers advised by the doctor to quit smoking
<b>Denominator:</b>	Total number of smokers advised or not advised by a doctor to quit smoking
<b>Formula:</b>	$\frac{\text{No. of smokers advised by the doctor to quit smoking (50-74 year population)}}{\text{Total number of smokers advised or not advised by a doctor to quit smoking}} \times 100$
<b>Notes:</b>	A smoker is defined as a person who has smoked more than 100 cigarettes in his/her lifetime and who smokes either daily or occasionally, or who quit smoking since less than 6 months.
<b>Source:</b>	PASSI Survey ( <i>Progressi delle Aziende Sanitarie per la Salute in Italia</i> – Progress of the Local Authorities for Health in Italy)
<b>Reference:</b>	Regional Average



## Indicator B4: Pain Management Strategies 3.15

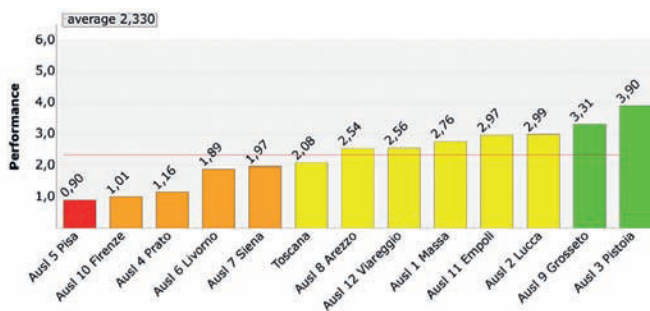
The indicator B4 reflects the need to monitor the programmes for pain control management [Regional Healthcare Plan (RHP) 2005-2007 and RHP 2008-2010]. The indicator evaluates the Local Health Authorities for the availability of opioids and also in terms of patient satisfaction with pain control in the emergency department and the ordinary hospitalization service. However, in 2010, B4 was calculated only for the pharmaceutical section because the customer satisfaction surveys were not undertaken. Survey results will be available for 2011. Results from a patient satisfaction survey on the emergency services are available in Report 2009, page 107. With respect to hospitalization, on the other hand, see Report 2008, page 101. Data on drugs consumption come from the Innovation, Appropriateness, and Drug Policies Division, Tuscan Regional Government.

Indicator	Performance	Year
B4 – Pain Management Strategies	● 2,08	2010

### B4 Pain Management Strategies

- B4.1 – Pain-related medicine consumption: ■
  - B4.1.1 – Opioid consumption: 1,59 DDD per 1000 ab/die ■
  - B4.1.3 – Morphine consumption: 2,26 mg pro capite ■

### B4 – Pain Management Strategies

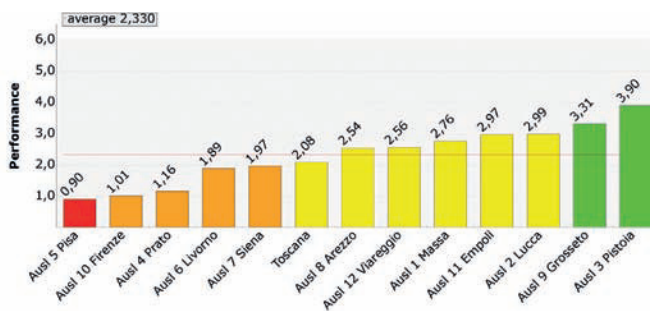


## Indicator B4: Pain Management Strategies

**Notes** Indicator B4 has a value equal to the average score of indicators: B4.1.1, and B4.1.3.

## Indicator B4.1: Pain-related medicine consumption 3.16

### B4.1 – Pain-related medicine consumption

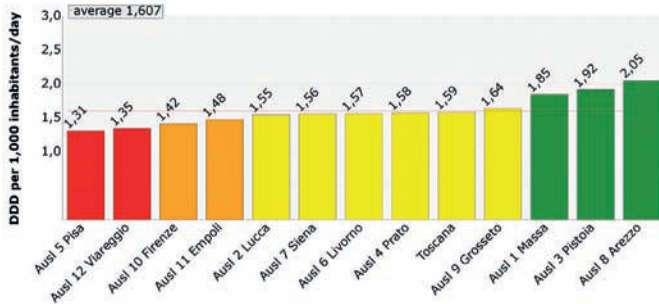




### 3.17 Indicator B4.1.1: Opioid consumption

Opioid drugs are widely used in pain therapy. The indicator measures the usage of major opioids, or those indicated in severe pain treatment, distributed through local pharmacies under the National Health Service, as well as those distributed directly by the Local Health Authority.

#### B4.1.1 – Opioid consumption



#### B4.1.1 Opioid consumption

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	1,59 DDD per 1000 ab /die	2,39	-	-	2010
T - Ausl 1 Massa	1,85 DDD per 1000 ab /die	4,17	-	-	2010
T - Ausl 2 Lucca	1,55 DDD per 1000 ab /die	2,14	-	-	2010
T - Ausl 3 Pistoia	1,92 DDD per 1000 ab /die	4,64	-	-	2010
T - Ausl 4 Prato	1,58 DDD per 1000 ab /die	2,32	-	-	2010
T - Ausl 5 Pisa	1,31 DDD per 1000 ab /die	0,49	-	-	2010
T - Ausl 6 Livorno	1,57 DDD per 1000 ab /die	2,26	-	-	2010
T - Ausl 7 Siena	1,56 DDD per 1000 ab /die	2,18	-	-	2010
T - Ausl 8 Arezzo	2,05 DDD per 1000 ab /die	5,00	-	-	2010
T - Ausl 9 Grosseto	1,64 DDD per 1000 ab /die	2,74	-	-	2010
T - Ausl 10 Firenze	1,42 DDD per 1000 ab /die	1,25	-	-	2010
T - Ausl 11 Empoli	1,48 DDD per 1000 ab /die	1,65	-	-	2010
T - Ausl 12 Viareggio	1,35 DDD per 1000 ab /die	0,78	-	-	2010

### Indicator B4: Pain Management Strategies

#### B4.1.1 Opioid consumption

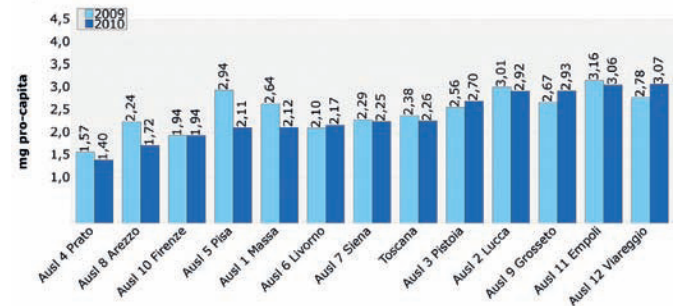
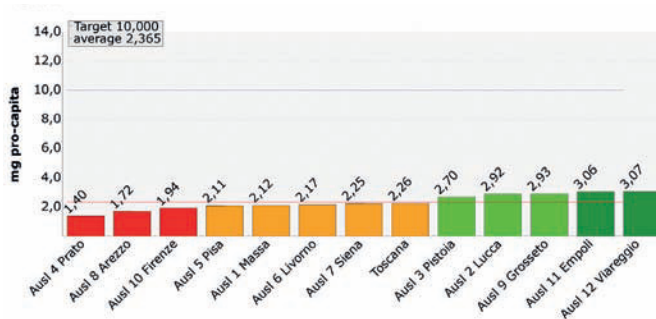
<b>Definition:</b>	Daily consumption of major opioids provided by local pharmacies under the National Health Service and with direct supply per 1,000 residents
<b>Numerator:</b>	DDD (Defined Daily Dose) for major opioids supply per year per active principle x 1,000
<b>Denominator:</b>	No. of residents x 365
<b>Formula:</b>	$\frac{\text{DDD for major opioids supply per year per active principle} \times 1,000}{\text{No. of residents} \times 365}$
<b>Notes:</b>	<p>Opioids drugs are ATC (Anatomical-Therapeutic Classification) class N02A.</p> <p>Only major opioids, recommended in severe pain treatment (WHO pain scale) are included in the calculation of the indicator: ATC N02AA01 <i>Morphine</i>, ATC N02AE01 <i>Buprenorphine</i>, ATC N02AB03 <i>Fentanyl</i>, ATC N02AA05 <i>Oxycodone</i> and ATC N02AA03 <i>Hydromorphone</i>.</p> <p>Drugs consumption is regulated according to the Defined Daily Dose (DDD) which is the maintenance dose per day in adults, relative to the main therapeutic indication for the substance. This unit allows the comparison between different medications containing the same substance in different dosage.</p> <p>This indicator allows the comparison between different dosage with regard to different populations and different time periods.</p> <p>The data is per supplying Authority, with regard to medications provided under the National Health Service, and per Local Health Authority with regard to direct supply.</p>
<b>Source:</b>	SFERA data, FED flow Settore Politiche del Farmaco, Appropriatelyzza, and Innovazione, Tuscany Region (Innovation, Appropriateness, and Drug Policies Division, Tuscan Regional Government).
<b>Reference:</b>	Regional Average, 2010



## Indicator B4.1.3: Morphine consumption 3.18

The WHO establishes morphine consumption per capita as an indicator of the quality of pain therapy, and Italy is still far below European standards. The indicator measures the dosage of morphine distributed through local pharmacies under the National Health Service, as well as that distributed directly by the Local Health Authority.

### B4.1.3 – Morphine consumption



### B4.1.3 Morphine consumption

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,78	2,38	2,26	-5,14	8.842.810,00	8.421.280,88	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	1,35	2,64	2,12	-19,69	549.980,00	442.243,00	208.243,00	208.590,43
T - Ausl 2 Lucca	3,84	3,01	2,92	-3,08	667.270,00	651.232,50	221.833,00	223.233,14
T - Ausl 3 Pistoia	3,16	2,56	2,70	5,41	728.680,00	774.969,50	284.890,00	287.186,25
T - Ausl 4 Prato	0,00	1,57	1,40	-11,11	357.370,00	321.266,00	228.153,00	230.207,15
T - Ausl 5 Pisa	1,30	2,94	2,11	-28,35	973.560,00	702.737,88	330.965,00	333.610,65
T - Ausl 6 Livorno	1,51	2,10	2,17	3,49	755.450,00	786.075,50	359.932,00	361.701,50
T - Ausl 7 Siena	1,75	2,29	2,25	-1,84	633.400,00	624.859,00	276.356,00	277.973,21
T - Ausl 8 Arezzo	0,08	2,24	1,72	-23,42	761.550,00	586.902,00	340.122,00	342.125,54
T - Ausl 9 Grosseto	3,89	2,67	2,93	9,75	629.370,00	691.831,00	235.623,00	236.097,05
T - Ausl 10 Firenze	0,78	1,94	1,94	0,00	1.603.670,00	1.614.082,00	827.628,00	831.972,25
T - Ausl 11 Empoli	4,29	3,16	3,06	-3,13	717.260,00	700.609,50	226.838,00	228.879,91
T - Ausl 12 Viareggio	4,33	2,78	3,07	10,54	465.250,00	517.973,00	167.235,00	168.552,92

## Indicator B4: Pain Management Strategies

### B4.1.3 Morphine consumption

<b>Definition:</b>	Per capita morphine consumption, distributed by local pharmacies under the National Health Service and with direct supply
<b>Numerator:</b>	Milligrams of morphine distributed
<b>Denominator:</b>	Population on 1 January 2010 calculated according to the PSR – Piano Sanitario Regionale (Regional Health Plan) 2008-2010 criteria,
<b>Formula:</b>	$\frac{\text{Milligrams of morphine distributed}}{\text{Population on 1 January 2010 calculated according to ER R 2008-2010 criteria}}$
<b>Notes:</b>	Morphine is an ATC (Anatomical-Therapeutic Classification) class N02AA01. The data is per supplying Authority, with regard to medications provided under the National Health Service, and per Local Health Authority with regard to direct supply.
<b>Source:</b>	SFERA data, FED flow Settore Politiche del Farmaco, Appropriately, and Innovazione, Tuscany Region (Innovation, Appropriateness, and Drug Policies Division, Tuscan Regional Government).
<b>Reference:</b>	Regional goal – 10 mg per capita



### 3.19 Indicator B5: Extension and participation in cancer screenings

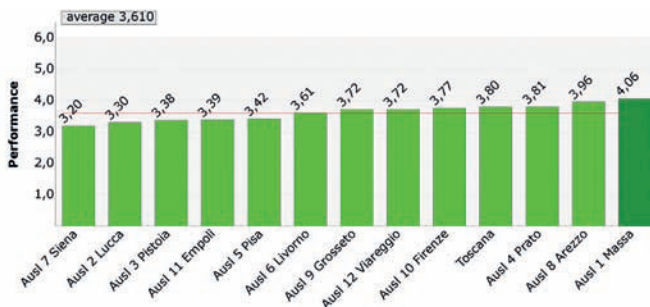
As confirmed by the current Health Plan, the Local Health Authorities of Tuscany in recent years have shown a strong commitment to making final arrangements for cancer screening programmes. Comparing the regional data with the overall Italian average, it is clear that Tuscany scores are higher than the national averages, although the objectives set out in the Regional Health Plan are not fully achieved. While an extension of the programme may be guaranteed through a service management that enhances access for each customer, there are some unmanageable factors affecting participation levels. For example, many women benefit from preventive screening outside the realm of the public healthcare network. For mammographies and cervical screening, participation below 80% should be considered as critical (the figure should be understood over a two-year period, in the first case, and over a three-year period in the second case); colorectal screening values below 60% (over a two-year period) are considered nearly critical. Participation objectives are 80% for mammographies, 70% for colorectal screening and 60% for cervical screening. The data were collected by ISPO (Institute for Oncologic Study and Prevention) and at present the figures are provisional.

Indicator	Performance	Year
B5 – Extension and participation in cancer screening	● 3,80	2010

#### B5 Extension and participation in cancer screenings

- B5.1 – Mammography Screening: ■
  - B5.1.1 – Adjusted extension of mammography screening: 96,15% ■
  - B5.1.2 – Adjusted participation in mammography screening: 72,65% ■
- B5.2 – Cervical Screening: ■
  - B5.2.1 – Adjusted extension of cervical screening: 99,66% ■
  - B5.2.2 – Adjusted participation in a cervical screening: 54,71% ■
- B5.3 – Colorectal Screening: ■
  - B5.3.1 – Adjusted extension of colorectal screening: 81,88% ■
  - B5.3.2 – Adjusted participation in a colorectal screening: 51,18% ■

#### B5 – Extension and participation in cancer screenings

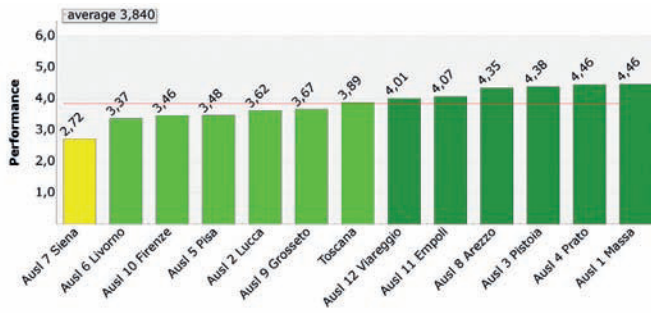


### Indicator B5: Extension and participation in cancer screenings

Notes
<p>The indicator has a value equal to the average score of indicators: B5.1, B5.2, B5.3.</p> <p>Indicator B5.1 has a value equal to the average score of indicators: B5.1.1, B5.1.2.</p> <p>Indicator B5.2 has a value equal to the average score of indicators: B5.2.1, B5.2.2.</p> <p>Indicator B5.3 has a value equal to the average score of indicators: B5.3.1, B5.3.2.</p>



B5.1 – Mammography Screening

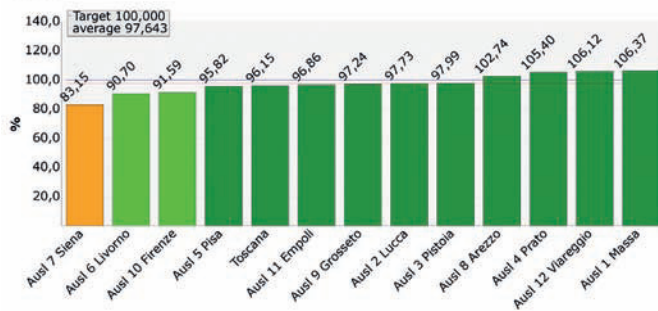




### 3.21 Indicator B5.1.1: Adjusted extension of mammography screening

Mammograms are targeted to women aged between 50 and 69 years. The extension measures the number of women invited for the screening, with respect to the target population; the regional objective is 100%. Since 2010, a correction criterion is applied also to the calculation of the extension of screening mammography. Such correction consists in subtracting from the denominator the number of women excluded before being invited. The comparison of trends with previous years' is therefore not available.

#### B5.1.1 – Adjusted extension of mammography screening



#### B5.1.1 Adjusted extension of mammography screening

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	96,15%	4,23	-	-	2009-2010
T - Asl 1 Massa	106,37%	5,00	-	-	2009-2010
T - Asl 2 Lucca	97,73%	4,55	-	-	2009-2010
T - Asl 3 Pistoia	97,99%	4,60	-	-	2009-2010
T - Asl 4 Prato	105,40%	5,00	-	-	2009-2010
T - Asl 5 Pisa	95,82%	4,16	-	-	2009-2010
T - Asl 6 Livorno	90,70%	3,14	-	-	2009-2010
T - Asl 7 Siena	83,15%	1,63	-	-	2009-2010
T - Asl 8 Arezzo	102,74%	5,00	-	-	2009-2010
T - Asl 9 Grosseto	97,24%	4,45	-	-	2009-2010
T - Asl 10 Firenze	91,59%	3,32	-	-	2009-2010
T - Asl 11 Empoli	96,86%	4,37	-	-	2009-2010
T - Asl 12 Viareggio	106,12%	5,00	-	-	2009-2010

### Indicator B5: Extension and participation in cancer screenings

#### B5.1.1 Adjusted extension of mammography screening

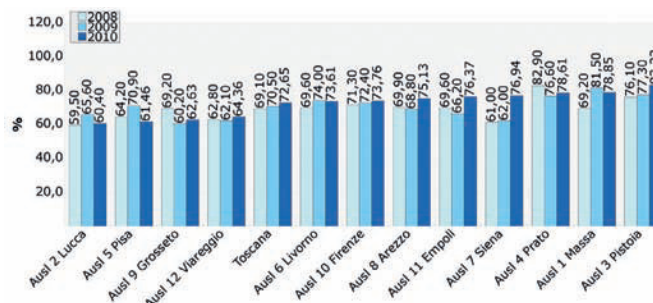
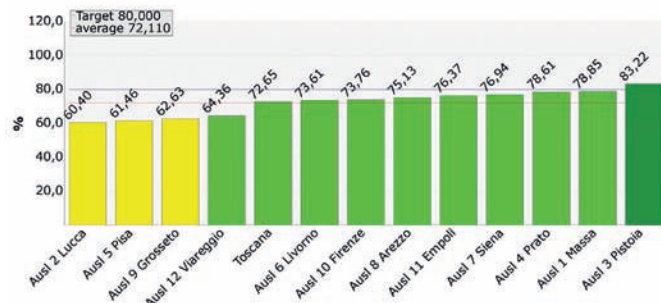
<b>Definition:</b>	Percentage of women invited to have a mammography screening with respect to the target population (women aged between 50 and 69 years)
<b>Numerator:</b>	No. of women invited to have a screening in two years
<b>Denominator:</b>	Target population (50-69)
<b>Formula:</b>	$\frac{\text{No. of women invited to have a screening in two years}}{\text{Target population (50-69)}} \times 100$
<b>Notes:</b>	Women excluded before being invited are not calculated in the proper extension
<b>Source:</b>	ISPO
<b>Reference:</b>	Regional goal: > 100%



## Indicator B5.1.2: Adjusted participation in mammography screening 3.22

Mammographies are targeted for women aged between 50 and 69 years. This indicator measures the percentage of eligible women who underwent screening. The regional goal is 80%.

### B5.1.2 – Adjusted participation in mammography screening



### B5.1.2 Adjusted participation in mammography screening

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,54	70,50	72,65	3,05	147.986,00	149.882,00	223.616,00	203.303,00
T - AuS 1 Massa	3,93	81,50	78,85	-3,25	9.194,00	11.252,00	11.175,00	14.270,00
T - AuS 2 Lucca	2,70	65,60	60,40	-7,93	8.841,00	7.991,00	14.410,00	13.231,00
T - AuS 3 Pistoia	4,16	77,30	83,22	7,66	11.911,00	14.180,00	16.321,00	17.399,00
T - AuS 4 Prato	3,91	76,60	78,61	2,62	11.761,00	12.136,00	16.306,00	15.439,00
T - AuS 5 Pisa	2,79	70,90	61,46	-13,32	13.436,00	11.052,00	21.044,00	17.983,00
T - AuS 6 Livorno	3,60	74,00	73,61	-0,53	15.534,00	15.200,00	21.733,00	20.649,00
T - AuS 7 Siena	3,81	62,00	76,94	24,10	8.733,00	9.282,00	14.127,00	12.454,00
T - AuS 8 Arezzo	3,70	68,80	75,13	9,19	13.626,00	13.820,00	21.467,00	18.396,00
T - AuS 9 Grosseto	2,89	60,20	62,63	4,03	7.834,00	7.174,00	15.011,00	11.455,00
T - AuS 10 Firenze	3,61	72,40	73,76	1,88	32.404,00	30.967,00	47.934,00	41.986,00
T - AuS 11 Empoli	3,77	66,20	76,37	15,36	8.008,00	8.873,00	12.670,00	11.619,00
T - AuS 12 Viareggio	3,02	62,10	64,36	3,64	6.704,00	11.425,00	11.368,00	11.425,00

## Indicator B5: Extension and participation in cancer screenings

### B5.1.2 Adjusted participation in mammography screening

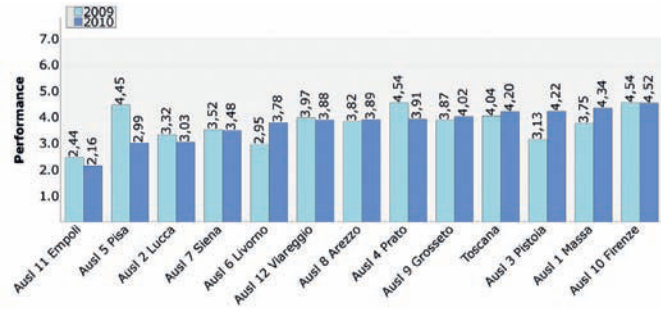
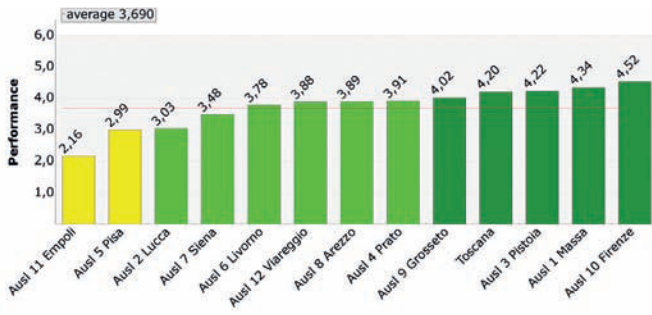
<b>Definition:</b>	Percentage of women who participated in a mammography screening compared to those who were invited
<b>Numerator:</b>	No. of women who participated in a mammography screening
<b>Denominator:</b>	No. of women invited to a mammography screening
<b>Formula:</b>	$\frac{\text{No. of women who participated in a mammography screening}}{\text{No. of women invited to a mammography screening}} \times 100$
<b>Notes:</b>	Women excluded after being invited and undelivered invites are not calculated in adjusted participation
<b>Source:</b>	ISPO
<b>Reference:</b>	Regional goal: > 80%





### 3.23 Indicator B5.2: Cervical Screening

#### B5.2 – Cervical Screening

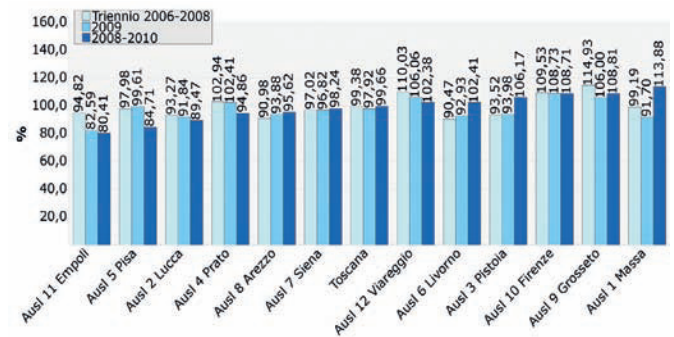
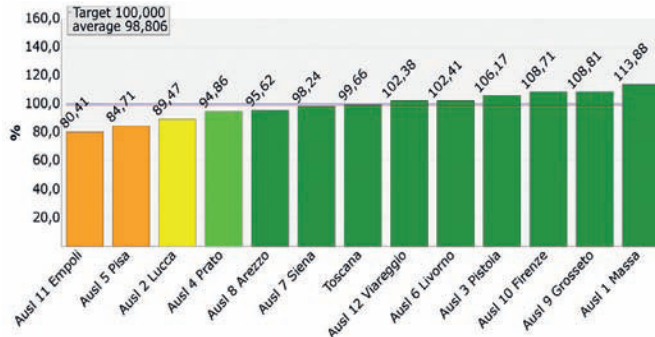




## Indicator B5.2.1: Adjusted extension of cervical screening 3.24

Cervical screening is aimed for women aged between 25 and 64 years. The indicator measures the percentage of eligible women invited to undergo the screening. The regional objective is 100%.

### B5.2.1 – Adjusted extension of cervical screening



### B5.2.1 Adjusted extension of cervical screening

Health Authority	Value 2009	Value 2008-2010	Delta %	Numerator 2009	Numerator 2008-2010	Denominator 2009	Denominator 2008-2010
T - Toscana	97,92	99,66	1,782	–	–	–	–
T - Ausl 1 Massa	91,70	113,88	24,188	–	–	–	–
T - Ausl 2 Lucca	91,84	89,47	-2,576	–	–	–	–
T - Ausl 3 Pistoia	93,98	106,17	12,967	–	–	–	–
T - Ausl 4 Prato	102,41	94,86	-7,373	–	–	–	–
T - Ausl 5 Pisa	99,61	84,71	-14,959	–	–	–	–
T - Ausl 6 Livorno	92,93	102,41	10,198	–	–	–	–
T - Ausl 7 Siena	96,82	98,24	1,465	–	–	–	–
T - Ausl 8 Arezzo	93,88	95,62	1,855	–	–	–	–
T - Ausl 9 Grosseto	106,00	108,81	2,654	–	–	–	–
T - Ausl 10 Firenze	108,73	108,71	-0,015	–	–	–	–
T - Ausl 11 Empoli	82,59	80,41	-2,638	–	–	–	–
T - Ausl 12 Viareggio	106,06	102,38	-3,47	–	–	–	–

## Indicator B5: Extension and participation in cancer screenings

### B5.2.1 Adjusted extension of cervical screening

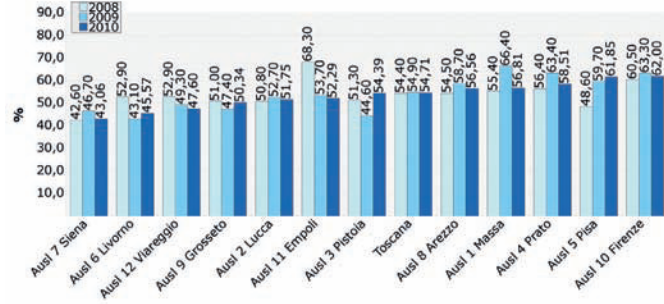
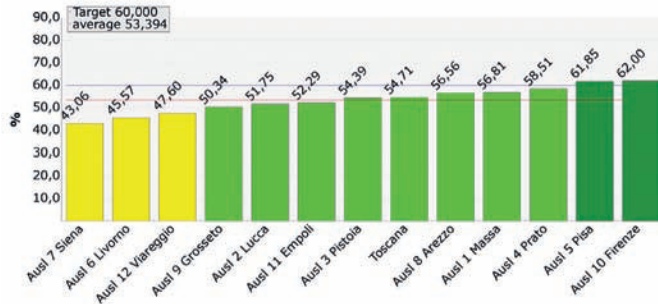
<b>Definition:</b>	Percentage of women invited to a cervical screening with regard to the target population (25-64)
<b>Numerator:</b>	No. of women invited to a screening in three consecutive years
<b>Denominator:</b>	Target population (25-64)
<b>Formula:</b>	$\frac{\text{No. of women invited to a screening in three consecutive years}}{\text{Target population (25-64)}} \times 100$
<b>Notes:</b>	Women excluded before being invited are not calculated in the proper extension
<b>Source:</b>	ISPO
<b>Reference:</b>	Regional goal: > 100%



### 3.25 Indicator B5.2.2: Adjusted participation in cervical screening

Cervical screening is aimed for women aged between 25 and 64 years. The indicator measures the percentage of women who underwent the screening as compared to the number of women invited to do so. The regional objective is 60%.

#### B5.2.2 – Adjusted participation in cervical screening



#### B5.2.2 Adjusted participation in cervical screening

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,47	54,90	54,71	-0,35	147.648,00	164.837,00	297.452,00	301.295,00
T - Ausl 1 Massa	3,68	66,40	56,81	-14,44	10.848,00	13.841,00	16.589,00	24.364,00
T - Ausl 2 Lucca	3,18	52,70	51,75	-1,79	7.970,00	9.353,00	17.225,00	18.072,00
T - Ausl 3 Pistoia	3,44	44,60	54,39	21,95	10.350,00	11.105,00	25.437,00	20.418,00
T - Ausl 4 Prato	3,85	63,40	58,51	-7,71	11.670,00	10.419,00	20.825,00	17.807,00
T - Ausl 5 Pisa	4,05	59,70	61,85	3,59	11.396,00	16.459,00	21.861,00	26.610,00
T - Ausl 6 Livorno	2,56	43,10	45,57	5,73	13.978,00	15.515,00	33.929,00	34.047,00
T - Ausl 7 Siena	2,31	46,70	43,06	-7,78	9.666,00	8.687,00	21.515,00	20.172,00
T - Ausl 8 Arezzo	3,66	58,70	56,56	-3,64	13.606,00	12.850,00	28.257,00	22.719,00
T - Ausl 9 Grosseto	3,03	47,40	50,34	6,21	8.399,00	9.346,00	19.701,00	18.564,00
T - Ausl 10 Firenze	4,05	63,30	62,00	-2,06	38.939,00	41.380,00	69.839,00	66.745,00
T - Ausl 11 Empoli	3,23	53,70	52,29	-2,63	3.899,00	8.456,00	7.648,00	16.172,00
T - Ausl 12 Viareggio	2,76	49,30	47,60	-3,45	6.927,00	7.428,00	14.626,00	15.605,00

### Indicator B5: Extension and participation in cancer screenings

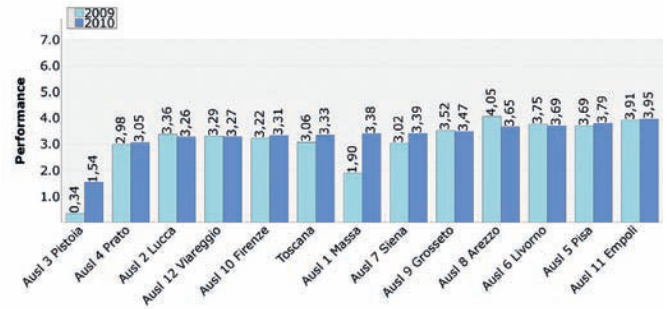
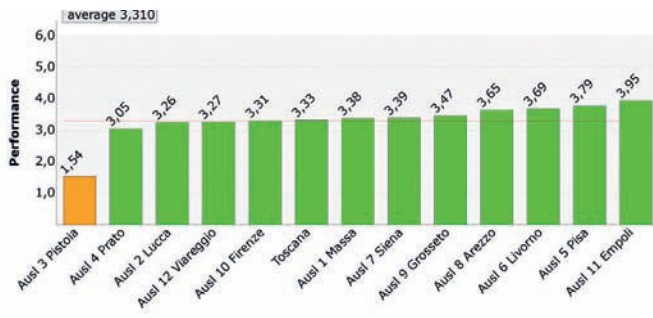
#### B5.2.2 Adjusted participation in a cervical screening

<b>Definition:</b>	Percentage of women who participated in a cervical screening compared to those who were invited
<b>Numerator:</b>	No. of women who participated in a cervical screening
<b>Denominator:</b>	No. of women invited to a cervical screening
<b>Formula:</b>	$\frac{\text{No. of women who participated in a cervical screening}}{\text{No. of women invited to a cervical screening}} \times 100$
<b>Notes:</b>	Women excluded after being invited and undelivered invites are not calculated in adjusted participation
<b>Source:</b>	ISPO
<b>Reference:</b>	Regional goal: > 60%



**Indicator B5.3: Colorectal Screening 3.26**

**B5.3 – Colorectal Screening**

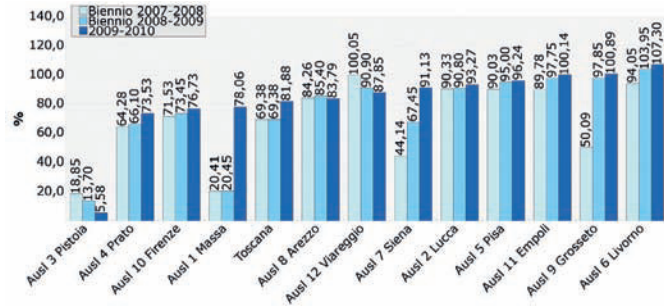
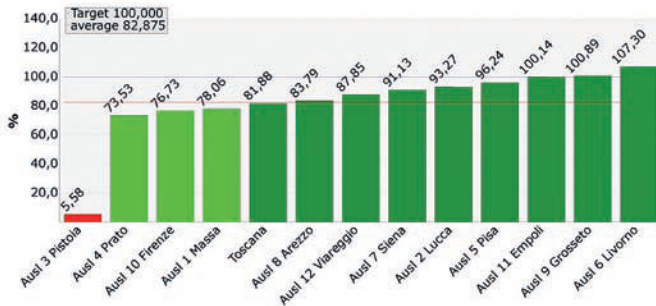




### 3.27 Indicator B5.3.1: Adjusted extension of colorectal screening

Colorectal screening is aimed at people of both sexes aged between 50 and 70 years. The extension measures the number of people invited with respect to the target population, during the two-year reference period. The regional objective is 100%.

#### B5.3.1 – Adjusted extension of colorectal screening



#### B5.3.1 Adjusted extension of colorectal screening

Health Authority	Score 2009-2010	Value 2008-2009	Value 2009-2010	Delta %	Numerator 2008-2009	Numerator 2009-2010	Denominator 2008-2009	Denominator 2009-2010
T - Toscana	4,09	69,38	81,88	18,01	372.927,00	–	491.331,00	–
T - Ausl 1 Massa	3,90	20,45	78,06	281,73	6.248,00	–	27.970,00	–
T - Ausl 2 Lucca	4,66	90,80	93,27	2,72	25.731,00	–	29.421,00	–
T - Ausl 3 Pistoia	0,28	13,70	5,58	-59,24	0,00	–	37.371,00	–
T - Ausl 4 Prato	3,68	66,10	73,53	11,23	22.669,00	–	31.504,00	–
T - Ausl 5 Pisa	4,81	95,00	96,24	1,30	41.292,00	–	44.420,00	–
T - Ausl 6 Livorno	5,00	103,95	107,30	3,22	52.861,00	–	48.810,00	–
T - Ausl 7 Siena	4,56	67,45	91,13	35,11	33.054,00	–	35.042,00	–
T - Ausl 8 Arezzo	4,19	85,40	83,79	-1,88	35.940,00	–	45.014,00	–
T - Ausl 9 Grosseto	5,00	97,85	100,89	3,11	28.901,00	–	30.434,00	–
T - Ausl 10 Firenze	3,84	73,45	76,73	4,46	82.252,00	–	110.001,00	–
T - Ausl 11 Empoli	5,00	97,75	100,14	2,44	26.045,00	–	29.481,00	–
T - Ausl 12 Viareggio	4,39	90,90	87,85	-3,36	17.934,00	–	21.860,00	–

## Indicator B5: Extension and participation in cancer screenings

#### B5.3.1 Adjusted extension of colorectal screening

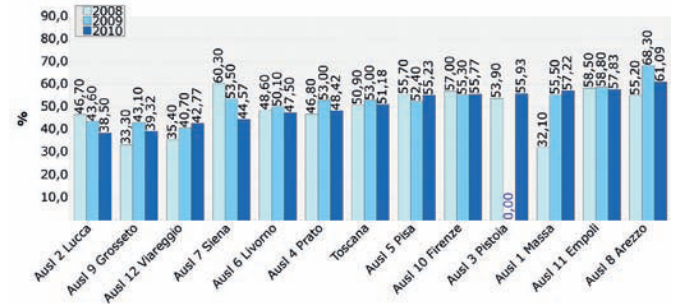
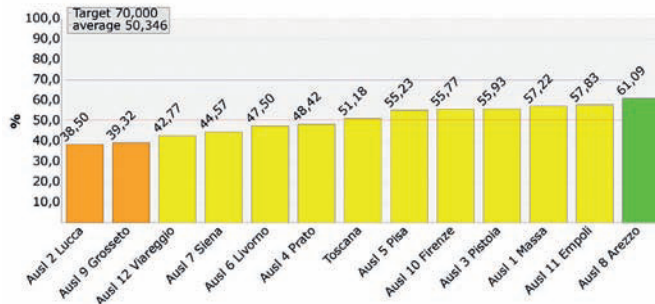
<b>Definition:</b>	Percentage of people invited to a colorectal screening with respect to the target population (50-70)
<b>Numerator:</b>	No. of people invited to a colorectal screening in two years
<b>Denominator:</b>	Target population (50-70)
<b>Formula:</b>	$\frac{\text{No. of people invited to a colorectal screening in two years}}{\text{Target population (50-70)}} \times 100$
<b>Notes:</b>	People excluded before being invited are not calculated in the adjusted extension
<b>Source:</b>	ISPO
<b>Reference:</b>	Regional goal: > 100%



## Indicator B5.3.2: Adjusted participation in colorectal screening 3.28

Colorectal screening is aimed at people of both sexes aged between 50 and 70 years. The indicator measures the percentage of people who underwent the screening compared to the number of people invited to do so. The regional objective is 70%.

### B5.3.2 – Adjusted participation in colorectal screening



### B5.3.2 Adjusted participation in colorectal screening

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,56	53,00	51,18	-3,44	190.553,00	202.568,00	372.927,00	395.824,00
T - Asl 1 Massa	2,86	55,50	57,22	3,10	3.418,00	18.936,00	6.248,00	33.904,00
T - Asl 2 Lucca	1,85	43,60	38,50	-11,70	10.541,00	10.937,00	25.731,00	28.410,00
T - Asl 3 Pistoia	2,80	0,00	55,93	(*)	0,00	2.298,00	0,00	4.109,00
T - Asl 4 Prato	2,42	53,00	48,42	-8,64	11.903,00	11.069,00	22.669,00	22.859,00
T - Asl 5 Pisa	2,76	52,40	55,23	5,41	20.876,00	24.319,00	41.292,00	44.029,00
T - Asl 6 Livorno	2,37	50,10	47,50	-5,19	25.816,00	23.462,00	52.861,00	49.394,00
T - Asl 7 Siena	2,23	53,50	44,57	-16,69	17.095,00	13.015,00	33.054,00	29.202,00
T - Asl 8 Arezzo	3,11	68,30	61,09	-10,56	23.215,00	21.532,00	35.940,00	35.264,00
T - Asl 9 Grosseto	1,93	43,10	39,32	-8,77	11.293,00	11.113,00	28.901,00	28.264,00
T - Asl 10 Firenze	2,79	55,30	55,77	0,85	44.222,00	44.470,00	82.252,00	79.740,00
T - Asl 11 Empoli	2,89	58,80	57,83	-1,64	14.957,00	14.116,00	26.045,00	24.408,00
T - Asl 12 Viareggio	2,14	40,70	42,77	5,09	7.217,00	7.303,00	17.934,00	17.069,00

## Indicator B5: Extension and participation in cancer screenings

### B5.3.2 Adjusted participation in colorectal screening

<b>Definition:</b>	Percentage of people who participated in a colorectal screening compared to people invited
<b>Numerator:</b>	No. of people who participated in a colorectal screening
<b>Denominator:</b>	No. of people invited to a colorectal screening
<b>Formula:</b>	$\frac{\text{No. of people who participated in a colorectal screening}}{\text{No. of people invited to a colorectal screening}} \times 100$
<b>Notes:</b>	People excluded after being invited and undelivered invites are not calculated in adjusted participation
<b>Source:</b>	ISPO
<b>Reference:</b>	Regional goal: > 70%



### 3.29 Indicator B6: Donations

Since several years, the shortage of organs, compared to the waiting lists, has been identified as the central problem of transplantation activities in all European countries. It is important to improve the organization in order to overcome the challenges involved in the identification of potential donors and in the subsequent activation of brain death assessment procedures. Hence the need to assess the robustness of the identification- donation- and organ extraction process, in order to tap the potential donations at individual health facilities and identify the stages that need to be improved in the process chain.

The need for blood and its components is constantly increasing due to the aging of the population, the increase in surgery, and transplantation. The availability of blood, plasma and blood platelets, used for therapeutic purposes, is highly dependent on citizens who are willing to donate. Furthermore, in order to protect public health and to prevent the transmission of infectious diseases, it is important that during the stages of collection, processing, distribution, and utilization all necessary precautionary measures are taken. The Tuscan Transfusion System is complex. It provides an efficient network model, the principal nodes of which are transfusion facilities, voluntary groups and health organizations. The Regional Blood Centre is the hub of the network and it is the instrument of governance.

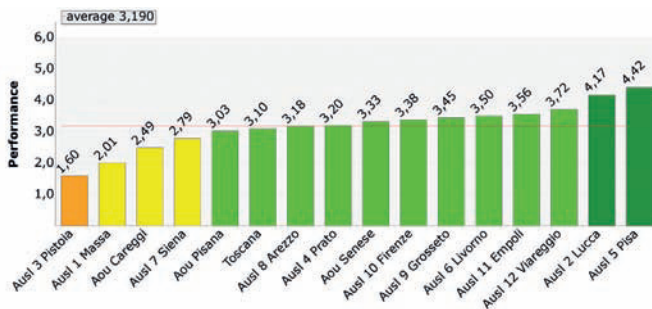
Starting from this year, the indicator for blood, plasma and blood platelets donation rate has become an evaluation indicator. The value of the indicator B6 is calculated on the average of the evaluations of indicators: B6.1.1 “Percentage of encephalic deaths”, B6.1.2 “Percentage of actual donors”, and B6.2.2 “Blood, plasma and blood platelets donation rate per 1000 residents”.

Indicator	Performance	Year
B6 – Donations	● 3,10	2010

#### B6 Donations

- B6.1 – Organ donations:
  - B6.1.1 – Percentage of detected encephalic deaths: 55,10% ■
  - B6.1.2 – Percentage of actual donors: 53,74% ■
  - B6.1.3 – Brain injury death rate per million residents: 136,72 x Mln
- B6.2 – Blood donations:
  - B6.2.1 – Plasma non-compliance index for the industry: 0,50 x 1,000
  - B6.2.2 – Blood, plasma and blood platelets donation rates per 1,000 residents: 103,00 x 1,000 ■

#### B6 – Donations



#### Indicator B6: Donations

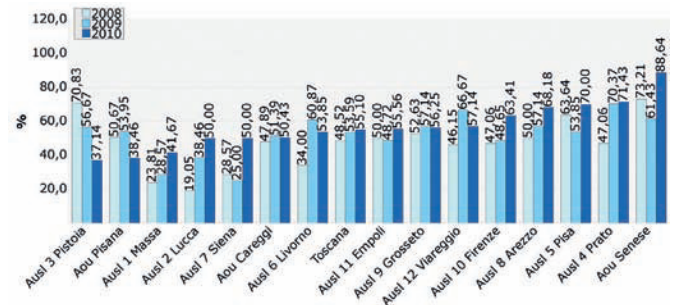
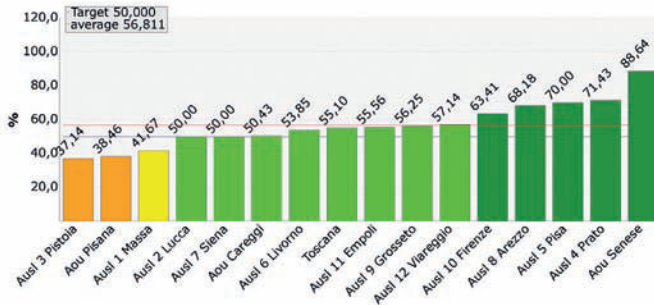
Notes
<p>This indicator has a value equal to the average score of the following indicators: B6.1 and B6.2</p> <p>The indicator B6.1 has a value equal to the average score of the following indicators: B6.1.1 and B6.1.2</p> <p>The indicator has a value equal to the score of the indicator B6.2.2.</p>



### Indicator B6.1.1: Percentage of detected encephalic deaths 3.30

This indicator reflects the ability to identify potential organ donors (brain dead patients). The indicator considers only brain deaths that occur in the intensive care unit (ICU).

#### B6.1.1 – Percentage of detected encephalic deaths



#### B6.1.1 Percentage of detected encephalic deaths

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,52	53,59	55,10	2,82	306,00	281,00	571,00	510,00
T - Ausl 1 Massa	2,18	28,57	41,67	45,85	6,00	5,00	21,00	12,00
T - Ausl 2 Lucca	3,01	38,46	50,00	30,01	5,00	3,00	13,00	6,00
T - Ausl 3 Pistoia	1,72	56,67	37,14	-34,46	17,00	13,00	30,00	35,00
T - Ausl 4 Prato	5,00	70,37	71,43	1,51	19,00	20,00	27,00	28,00
T - Ausl 5 Pisa	5,00	53,85	70,00	29,99	7,00	7,00	13,00	10,00
T - Ausl 6 Livorno	3,39	60,87	53,85	-11,53	28,00	21,00	46,00	39,00
T - Ausl 7 Siena	3,01	25,00	50,00	100,00	2,00	6,00	8,00	12,00
T - Ausl 8 Arezzo	4,83	57,14	68,18	19,32	8,00	15,00	14,00	22,00
T - Ausl 9 Grosseto	3,63	57,14	56,25	-1,56	12,00	18,00	21,00	32,00
T - Ausl 10 Firenze	4,35	48,65	63,41	30,34	18,00	26,00	37,00	41,00
T - Ausl 11 Empoli	3,57	48,72	55,56	14,04	19,00	15,00	39,00	27,00
T - Ausl 12 Viareggio	3,72	66,67	57,14	-14,29	4,00	4,00	6,00	7,00
T - Aou Pisana	1,86	53,95	38,46	-28,71	41,00	30,00	76,00	78,00
T - Aou Senese	5,00	61,43	88,64	44,29	43,00	39,00	70,00	44,00
T - Aou Careggi	3,05	51,39	50,43	-1,87	74,00	58,00	144,00	115,00

### Indicator B6: Donations

#### B6.1.1 Percentage of detected encephalic deaths

<b>Definition:</b>	Percentage of detected encephalic deaths
<b>Numerator:</b>	No. of encephalic deaths
<b>Denominator:</b>	No. of deaths with brain injuries in the ICUs provided with mechanical ventilation
<b>Formula:</b>	$\frac{\text{No. of encephalic deaths}}{\text{No. of deaths with brain injuries in the ICUs}} \times 100$
<b>Source:</b>	Organ and Tissue Donation Quality Programme ( <i>Programma Qualità Donazione Organi e Tessuti OTT</i> )
<b>Reference:</b>	Regional goal: > 50%
<b>Meaning:</b>	This indicator assesses quality in detection of potential donors in the ICUs.

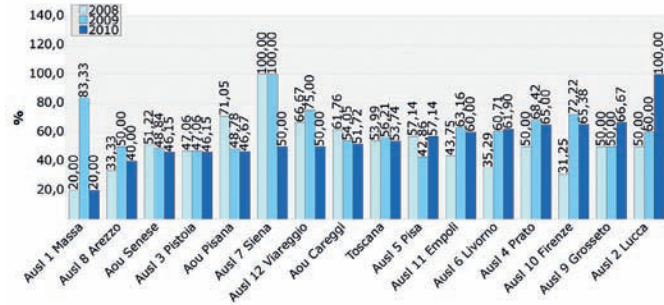
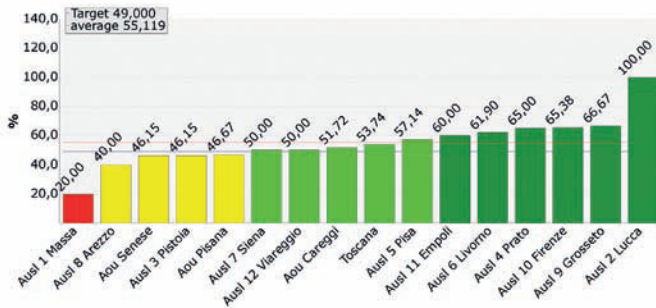




### 3.31 Indicator B6.1.2: Percentage of actual donors

The percentage of actual donors considers the results of the entire organ donation process, making an aggregate measure of all stages: reporting of encephalic deaths, a waiting period, verification of death, discussion with family members, various local and organizational factors, and the final extraction of the organs.

#### B6.1.2 – Percentage of actual donors



#### B6.1.2 Percentage of actual donors

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,48	56,21	53,74	-4,39	172,00	151,00	306,00	281,00
T - Ausl 1 Massa	0,11	83,33	20,00	-76,00	5,00	1,00	6,00	5,00
T - Ausl 2 Lucca	5,00	60,00	100,00	66,67	3,00	3,00	5,00	3,00
T - Ausl 3 Pistoia	2,73	47,06	46,15	-1,93	8,00	6,00	17,00	13,00
T - Ausl 4 Prato	4,61	68,42	65,00	-5,00	13,00	13,00	19,00	20,00
T - Ausl 5 Pisa	3,82	42,86	57,14	33,32	3,00	4,00	7,00	7,00
T - Ausl 6 Livorno	4,30	60,71	61,90	1,96	17,00	13,00	28,00	21,00
T - Ausl 7 Siena	3,11	100,00	50,00	-50,00	2,00	3,00	2,00	6,00
T - Ausl 8 Arezzo	2,11	50,00	40,00	-20,00	4,00	6,00	8,00	15,00
T - Ausl 9 Grosseto	4,78	50,00	66,67	33,34	6,00	12,00	12,00	18,00
T - Ausl 10 Firenze	4,65	72,22	65,38	-9,47	13,00	17,00	18,00	26,00
T - Ausl 11 Empoli	4,11	63,16	60,00	-5,00	12,00	9,00	19,00	15,00
T - Ausl 12 Viareggio	3,11	75,00	50,00	-33,33	3,00	2,00	4,00	4,00
T - Aou Pisana	2,78	48,78	46,67	-4,33	20,00	14,00	41,00	30,00
T - Aou Senese	2,73	48,84	46,15	-5,51	21,00	18,00	43,00	39,00
T - Aou Careggi	3,28	54,05	51,72	-4,31	40,00	30,00	74,00	58,00

## Indicator B6: Donations

### B6.1.2 Percentage of actual donors

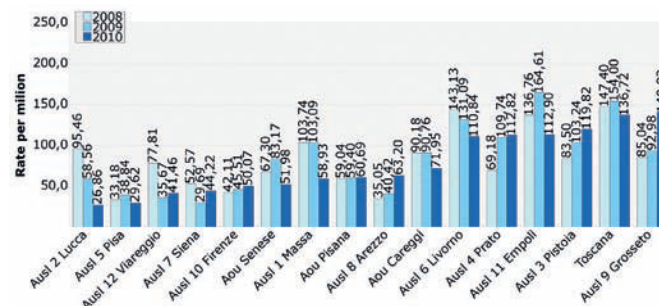
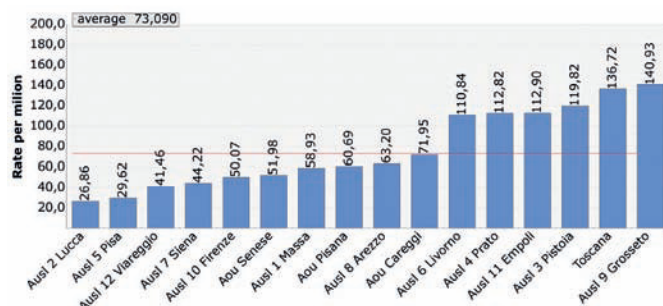
<b>Definition:</b>	Percentage of actual organ donors
<b>Numerator:</b>	No. of actual organ donors
<b>Denominator:</b>	No. of encephalic deaths
<b>Formula:</b>	$\frac{\text{No. of actual organ donors}}{\text{No. of encephalic deaths}} \times 100$
<b>Source:</b>	Organ and Tissue Donation Quality Programme ( <i>Programma Qualità Donazione Organi e Tessuti OTT</i> )
<b>Reference:</b>	Regional goal: > 49%
<b>Meaning:</b>	This indicator assesses the quality of the donation process during the stages following the detection.



### Indicator B6.1.3: Brain injury death rate per million residents 3.32

Brain injury death rate in the Intensive Care Unit (ICU) is used to indirectly assess the Authority's management of the beds in the ICU compared with the number of patients with brain injuries. A smaller number of beds for intensive care, as compared with the overall number of beds, results in the possibility that some patients with acute brain injury may not have access to recovery rooms equipped with a mechanical ventilator – that allows brain-dead patients to live at least 12 hours – but are instead transported to the general medicine unit or to the neurological unit.

#### B6.1.3 – Brain injury death rate per million residents



#### B6.1.3 Brain injury death rate per million residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	154,00	136,72	-11,22	571,00	510,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	103,09	58,93	-42,84	21,00	12,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	58,56	26,86	-54,13	13,00	6,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	103,24	119,82	16,06	30,00	35,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	109,74	112,82	2,81	27,00	28,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	38,84	29,62	-23,74	13,00	10,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	131,09	110,84	-15,45	46,00	39,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	29,69	44,22	48,94	8,00	12,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	40,42	63,20	56,36	14,00	22,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	92,98	140,93	51,57	21,00	32,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	45,51	50,07	10,02	37,00	41,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	164,61	112,90	-31,41	39,00	27,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	35,67	41,46	16,23	6,00	7,00	168.201,00	168.823,00
T - Aou Pisana	not assessed	59,40	60,69	2,17	76,00	78,00	1.279.525,00	1.285.253,00
T - Aou Senese	not assessed	83,17	51,98	-37,50	70,00	44,00	841.658,00	846.555,00
T - Aou Careggi	not assessed	90,76	71,95	-20,72	144,00	115,00	1.586.635,00	1.598.322,00

## Indicator B6: Donations

#### B6.1.3 Brain injury death rate per million residents

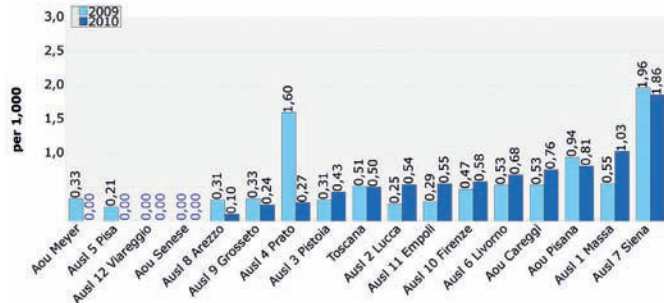
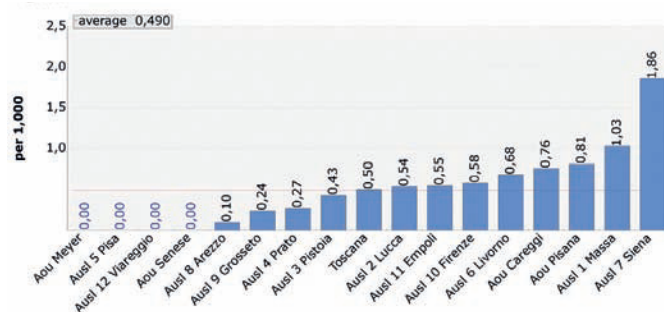
<b>Definition:</b>	Brain injury death rate per million residents
<b>Numerator:</b>	No. of brain injury deaths in ICUs
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{No. of brain injury deaths in ICUs}}{\text{Resident population}} \times 1,000,000$
<b>Notes:</b>	The population of the Area Vasta is considered as the reference population of the Teaching Hospitals. Tuscan population under age 14 is the reference population for the Meyer Teaching Hospital
<b>Source:</b>	Organ and Tissue Donation Quality Programme ( <i>Programma Qualità Donazione Organi e Tessuti OTT</i> )
<b>Reference:</b>	Regional goal: > 95 pmp for Local Health Authorities, > 67 pmp for Teaching Hospitals and > 10 pmp for Meyer Teaching Hospital
<b>Meaning:</b>	This indicator evaluates the Authority's management of hospital beds in the ICU compared with patients with brain injuries



### 3.33 Indicator B6.2.1: Plasma non-compliance index for the industry

This indicator assesses the quality of plasma for the processing at the next stage (pharmaceutical industry) as it highlights procedural anomalies that do not allow the treatment of plasma by the industry.

#### B6.2.1 – Plasma non-compliance index for the industry



#### B6.2.1 Plasma non-compliance index for the industry

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	0,51	0,50	-1,96	96,00	97,00	189.784,00	195.111,00
T - Ausl 1 Massa	not assessed	0,55	1,03	87,27	5,00	11,00	9.115,00	10.695,00
T - Ausl 2 Lucca	not assessed	0,25	0,54	116,00	4,00	8,00	16.093,00	14.914,00
T - Ausl 3 Pistoia	not assessed	0,31	0,43	38,71	4,00	6,00	13.002,00	14.102,00
T - Ausl 4 Prato	not assessed	1,60	0,27	-83,13	16,00	3,00	9.993,00	10.927,00
T - Ausl 5 Pisa	not assessed	0,21	0,00	-100,00	2,00	0,00	9.685,00	10.251,00
T - Ausl 6 Livorno	not assessed	0,53	0,68	28,30	11,00	14,00	20.812,00	20.564,00
T - Ausl 7 Siena	not assessed	1,96	1,86	-5,10	15,00	15,00	7.662,00	8.047,00
T - Ausl 8 Arezzo	not assessed	0,31	0,10	-67,74	6,00	2,00	19.283,00	19.392,00
T - Ausl 9 Grosseto	not assessed	0,33	0,24	-27,27	4,00	3,00	12.273,00	12.326,00
T - Ausl 10 Firenze	not assessed	0,47	0,58	23,40	11,00	15,00	23.403,00	25.671,00
T - Ausl 11 Empoli	not assessed	0,29	0,55	89,66	4,00	8,00	13.938,00	14.476,00
T - Ausl 12 Viareggio	not assessed	0,00	0,00	(*)	0,00	0,00	11.849,00	11.949,00
T - Aou Pisana	not assessed	0,94	0,81	-13,83	10,00	8,00	10.685,00	9.860,00
T - Aou Senese	not assessed	0,00	0,00	(*)	0,00	0,00	3.270,00	3.073,00
T - Aou Careggi	not assessed	0,53	0,76	43,40	3,00	4,00	5.651,00	5.279,00
T - Aou Meyer	not assessed	0,33	0,00	-100,00	1,00	0,00	3.070,00	3.585,00

## Indicator B6: Donations

#### B6.2.1 Plasma non-compliance index for the industry

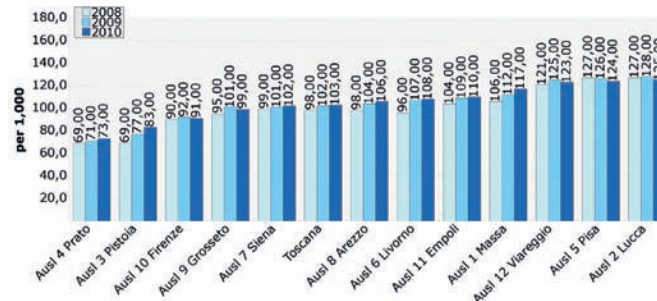
<b>Definition:</b>	Plasma non-compliance index for the pharmaceutical industry
<b>Numerator:</b>	Sum of the Number of blocks of NC1+ NC2 + NC3 per Local Health Authority
<b>Denominator:</b>	Overall Number of donations per Local Health Authority physically checked
<b>Formula:</b>	$\frac{\text{Sum of the Number of blocks (NC1+ NC2 + NC3) per Local Health Authority}}{\text{Overall Number of donations per Local Health Authority physically checked}} \times 1,000$
<b>Notes:</b>	NC1= Not present in the Bleeding List; NC2= Hemolysed; NC3= Nonstandard labelling. Data monitoring: annual (period 1 January-31 December). A donation may have a number of blocks according to different types of non-compliance. The value per thousand is calculated on the total number of physically checked donations per Local Health Authority.
<b>Source:</b>	Quality Assurance Kedrion – Annual physically checked plasma monitoring; (1 January-31 December)
<b>Reference:</b>	Regional goal: > 1,41%
<b>Meaning:</b>	This is an indicator of the quality of plasma for the industry as it highlights procedural anomalies that do not allow the treatment of plasma donations (Kedrion).



## Indicator B6.2.2: Blood, plasma and blood platelets donation rates per 1,000 residents 3.34

Blood donation rate measures the willingness of the population within a local health authority to donate blood, plasma and blood platelets.

### B6.2.2 – Blood, plasma and blood platelets donation rates per 1,000 residents



### B6.2.2 Blood, plasma and blood platelets donation rates per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,28	102,00	103,00	0,98	238.075,00	240.732,00	2.333.391,00	2.343.549,00
T - Ausl 1 Massa	3,74	112,00	117,00	4,46	14.378,00	15.066,00	128.353,00	128.411,00
T - Ausl 2 Lucca	4,50	128,00	125,00	-2,34	17.804,00	17.435,00	138.988,00	139.554,00
T - Ausl 3 Pistoia	0,35	77,00	83,00	7,79	14.219,00	15.430,00	184.688,00	184.956,00
T - Ausl 4 Prato	0,00	71,00	73,00	2,82	11.187,00	11.575,00	158.347,00	159.277,00
T - Ausl 5 Pisa	4,45	126,00	124,00	-1,59	26.775,00	26.637,00	212.742,00	214.113,00
T - Ausl 6 Livorno	2,81	107,00	108,00	0,93	23.663,00	23.840,00	220.797,00	220.658,00
T - Ausl 7 Siena	2,25	101,00	102,00	0,99	16.801,00	17.187,00	166.866,00	167.847,00
T - Ausl 8 Arezzo	2,59	104,00	106,00	1,92	22.823,00	23.291,00	219.292,00	220.127,00
T - Ausl 9 Grosseto	1,94	101,00	99,00	-1,98	14.332,00	14.154,00	141.600,00	142.474,00
T - Ausl 10 Firenze	1,13	92,00	91,00	-1,09	46.448,00	46.329,00	505.175,00	508.125,00
T - Ausl 11 Empoli	3,00	109,00	110,00	0,92	16.257,00	16.563,00	149.597,00	150.732,00
T - Ausl 12 Viareggio	4,34	125,00	123,00	-1,60	13.388,00	13.225,00	106.946,00	107.275,00
T - Aou Pisana	4,45	0,00	124,00	(*)	0,00	26.637,00	0,00	214.113,00
T - Aou Senese	2,25	0,00	102,00	(*)	0,00	17.187,00	0,00	167.847,00
T - Aou Careggi	1,13	0,00	91,00	(*)	0,00	46.329,00	0,00	508.125,00

## Indicator B6: Donations

### B6.2.2 Blood, plasma and blood platelets donation rates per 1,000 residents

<b>Definition:</b>	Donation of blood, plasma and blood platelets, per 1,000 residents
<b>Numerator:</b>	Total number of blood, plasma and blood platelets donations
<b>Denominator:</b>	No. of residents aged between 18 and 65 years
<b>Formula:</b>	$\frac{\text{No. of donations}}{\text{No. of residents (18-65)}} \times 1,000$
<b>Notes:</b>	We consider the population aged between 18 and 65 years of the Local Health Authority of residence.
<b>Source:</b>	Tuscany Regional Government –Regional Statistical System
<b>Reference:</b>	Regional average 2010
<b>Meaning:</b>	The indicator measures propensity to donate blood, plasma and blood platelets within the population aged between 18 and 65 years in the Local Health Authority of residence.



### 3.35 Indicator B7: Vaccine Coverage

The vaccine coverage indicator considers the influenza vaccine coverage and the MMR (measles, mumps and rubella) vaccine coverage among the respective reference population. Influenza is a major public health issue. The social costs are high and in industrialized countries, mortality from influenza is the third leading cause of death from infectious diseases, immediately after AIDS and tuberculosis. The main tool to combat flu is vaccination.

This year, the indicator on the vaccine coverage against the Papillomavirus (HPV), a viral agent that can trigger the onset of female genital infections and, in the long run even cervical cancer, the second most frequent type of cancer in women, has been introduced.

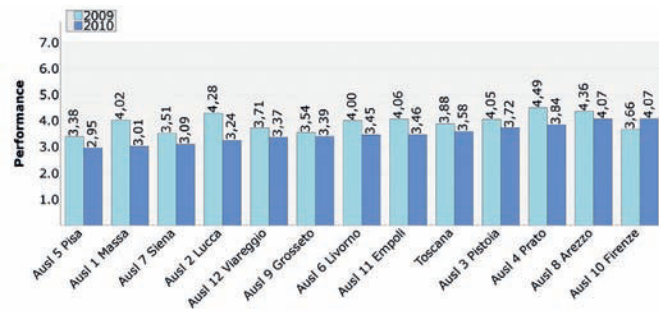
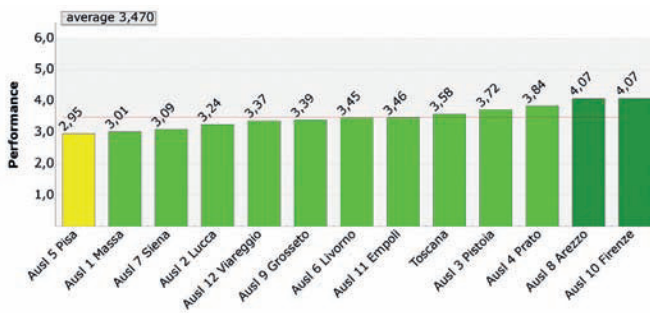
The data come from the Hygiene and Public Health Division of the Directorate General of Citizenship Rights and Social Cohesion of the Tuscany Regional Government.

Indicator	Performance	Year
B7 – Vaccine Coverage	● 3,58	2010

#### ● B7 Vaccine Coverage

- B7.1 – MMR vaccine coverage: 92,04% ■
- B7.2 – Influenza vaccine coverage for residence over 65: 68,76% ■
- B7.3 – Papillomavirus (HPV) vaccine coverage: 25,08%

#### B7 – Vaccine Coverage



### Indicator B7: Vaccine Coverage

#### Notes

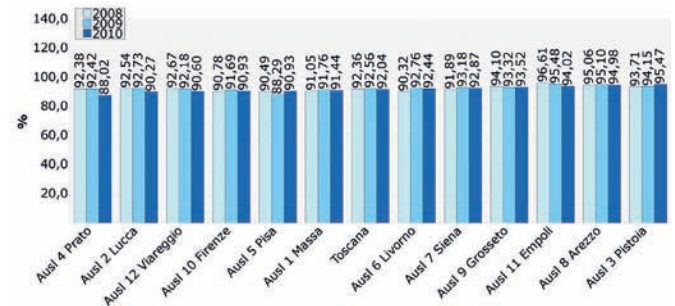
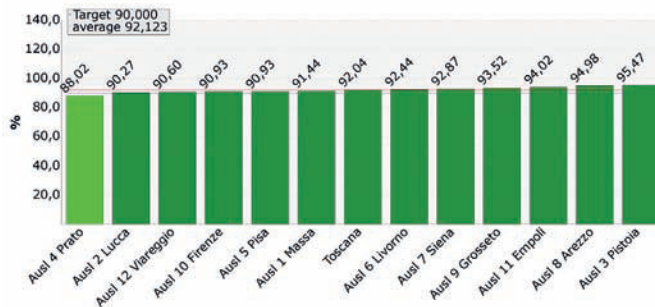
The indicator has a value equal to the average score of indicators: B7.1, B7.2.



## Indicator B7.1: MMR vaccine coverage 3.36

The MMR vaccine is a single vaccine which prevents the onset of measles, mumps and rubella. The calculation of vaccine coverage for MMR is the percentage of vaccination cycles completed by 31 December each year, compared to the number of children eligible for vaccination. The goal is 90% national coverage of the target population.

### B7.1 – MMR vaccine coverage



### B7.1 MMR vaccine coverage

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,41	92,56	92,04	-0,57	30.681,00	30.870,00	33.146,00	33.541,00
T - Ausl 1 Massa	4,29	91,76	91,44	-0,35	1.481,00	1.548,00	1.614,00	1.693,00
T - Ausl 2 Lucca	4,05	92,73	90,27	-2,65	1.887,00	1.902,00	2.035,00	2.107,00
T - Ausl 3 Pistoia	5,00	94,15	95,47	1,40	2.511,00	2.571,00	2.667,00	2.693,00
T - Ausl 4 Prato	3,60	92,42	88,02	-4,76	2.462,00	2.300,00	2.664,00	2.613,00
T - Ausl 5 Pisa	4,19	88,29	90,93	2,99	2.767,00	2.828,00	3.134,00	3.110,00
T - Ausl 6 Livorno	4,49	92,76	92,44	-0,34	2.753,00	2.655,00	2.968,00	2.872,00
T - Ausl 7 Siena	4,57	93,18	92,87	-0,34	2.240,00	2.174,00	2.404,00	2.341,00
T - Ausl 8 Arezzo	5,00	95,10	94,98	-0,12	2.822,00	2.859,00	2.967,00	3.010,00
T - Ausl 9 Grosseto	4,70	93,32	93,52	0,22	1.690,00	1.790,00	1.811,00	1.914,00
T - Ausl 10 Firenze	4,19	91,69	90,93	-0,83	6.684,00	6.703,00	7.290,00	7.372,00
T - Ausl 11 Empoli	4,80	95,48	94,02	-1,53	2.111,00	2.278,00	2.211,00	2.423,00
T - Ausl 12 Viareggio	4,12	92,18	90,60	-1,72	1.273,00	1.262,00	1.381,00	1.393,00

## Indicator B7: Vaccine Coverage

### B7.1 MMR vaccine coverage

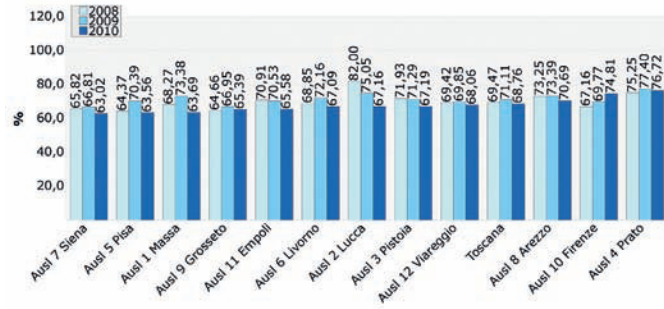
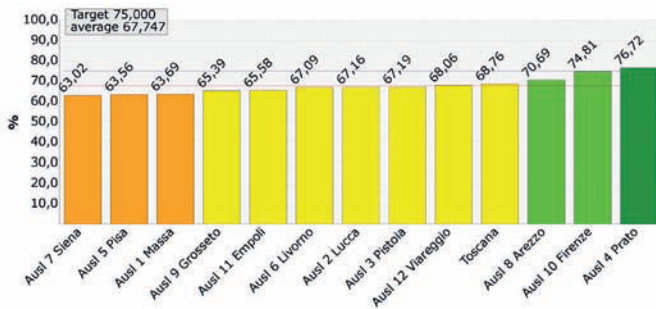
<b>Definition:</b>	MMR vaccine coverage (measles, mumps, rubella) for locally resident children who turn 24 months in the year of the survey
<b>Numerator:</b>	MMR vaccine cycles completed by 31 December (full basic cycle 1 dose)
<b>Denominator:</b>	No. of eligible children who turn 24 months in the year of the survey
<b>Formula:</b>	$\frac{\text{MMR vaccine cycles completed by 31 December}}{\text{No. of eligible children who turn 24 months}} \times 100$
<b>Notes:</b>	National Vaccine Plan 2005-2007
<b>Source:</b>	Division of Public Health and Veterinary Medicine Services, Directorate General Citizenship Rights and Social Cohesion, Tuscany Regional Government ( <i>Settore Servizi di prevenzione in sanità pubblica e veterinaria, Direzione Generale Diritti di cittadinanza e coesione sociale, Regione Toscana</i> )
<b>Reference:</b>	Regional goal: > 90%



### 3.37 Indicator B7.2: Influenza vaccine coverage for residents over 65

The influenza vaccine is administered by the family physician or by the Local Health Authority vaccine centre and it is recommended, during the winter, for individuals at risk, such as elderly people, people with chronic illnesses, family members of patients at high risk, professionals at risk, etc. Residents aged over 65 are considered the priority target for vaccination. The indicator, therefore, is calculated as a percentage of vaccinations administered on subjects over 65, compared to the total resident population of this age group, as per ISTAT data. The regional objective is 75% coverage of the target population.

#### B7.2 – Influenza vaccine coverage for residents over 65



#### B7.2 Influenza vaccine coverage for residents over 65

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,75	71,11	68,76	-3,30	613.412,00	596.158,00	862.680,00	867.010,00
T - Ausl 1 Massa	1,74	73,38	63,69	-13,20	36.085,00	31.420,00	49.177,00	49.330,00
T - Ausl 2 Lucca	2,43	75,05	67,16	-10,52	38.919,00	35.078,00	51.859,00	52.233,00
T - Ausl 3 Pistoia	2,44	71,29	67,19	-5,75	46.638,00	44.342,00	65.424,00	65.996,00
T - Ausl 4 Prato	4,07	77,40	76,72	-0,87	38.527,00	38.521,00	49.775,00	50.207,00
T - Ausl 5 Pisa	1,71	70,39	63,56	-9,71	53.418,00	48.553,00	75.884,00	76.393,00
T - Ausl 6 Livorno	2,42	72,16	67,09	-7,02	61.195,00	57.437,00	84.803,00	85.610,00
T - Ausl 7 Siena	1,60	66,81	63,02	-5,68	44.186,00	41.768,00	66.139,00	66.281,00
T - Ausl 8 Arezzo	3,14	73,39	70,69	-3,68	57.311,00	55.312,00	78.096,00	78.247,00
T - Ausl 9 Grosseto	2,08	66,95	65,39	-2,33	37.478,00	36.524,00	55.975,00	55.857,00
T - Ausl 10 Firenze	3,96	69,77	74,81	7,22	136.495,00	146.809,00	195.625,00	196.243,00
T - Ausl 11 Empoli	2,12	70,53	65,58	-7,01	36.240,00	33.872,00	51.382,00	51.646,00
T - Ausl 12 Viareggio	2,61	69,85	68,06	-2,56	26.920,00	26.522,00	38.541,00	38.967,00

### Indicator B7: Vaccine Coverage

#### B7.2 Influenza vaccine coverage for residents over 65

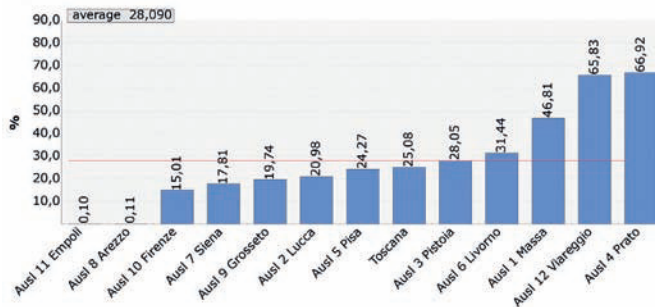
<b>Definition:</b>	Influenza vaccine coverage in the target population
<b>Numerator:</b>	Vaccinations administered to individuals aged 65 and over
<b>Denominator:</b>	Population aged 65 and over
<b>Formula:</b>	$\frac{\text{Vaccinations administered to individuals aged 65 and over}}{\text{Population aged 65 and over}} \times 100$
<b>Source:</b>	Division of Public Health and Veterinary Medicine Services, Directorate General Citizenship Rights and Social Cohesion, Tuscany Regional Government ( <i>Settore Servizi di prevenzione in sanità pubblica e veterinaria, Direzione Generale Diritti di cittadinanza e coesione sociale, Regione Toscana</i> )
<b>Reference:</b>	Regional goal: > 75%



### Indicator B7.3: Papillomavirus (HPV) vaccine coverage 3.38

The vaccination against human papillomavirus (HPV), responsible for female genital infections, and in the long run even for the onset of cervical cancer, is administered by all vaccine centres of the Local Health Authorities of residence. It consists of three intramuscular injections administered within six months. This vaccination campaign goes alongside, but does not replace the Pap test screening program, which remains the fundamental instrument for the prevention of cervical cancer. The indicator of papillomavirus (HPV) vaccine coverage, introduced for the first time this year, and still under observation, is the percentage of vaccination cycles completed by 31 December of the survey year, compared to the number of girls in their 12th year of life. This age range, which precedes initiation of sexual activity, is the most suitable for universal vaccination which aims at the best possible immune response.

#### B7.3 – Papillomavirus (HPV) vaccine coverage



#### B7.3 Papillomavirus (HPV) vaccine coverage

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	25,08%	not assessed	3.514,00	14.011,00	2010
T - Ausl 1 Massa	46,81%	not assessed	352,00	752,00	2010
T - Ausl 2 Lucca	20,98%	not assessed	197,00	939,00	2010
T - Ausl 3 Pistoia	28,05%	not assessed	313,00	1.116,00	2010
T - Ausl 4 Prato	66,92%	not assessed	712,00	1.064,00	2010
T - Ausl 5 Pisa	24,27%	not assessed	322,00	1.327,00	2010
T - Ausl 6 Livorno	31,44%	not assessed	405,00	1.288,00	2010
T - Ausl 7 Siena	17,81%	not assessed	184,00	1.033,00	2010
T - Ausl 8 Arezzo	0,11%	not assessed	1,00	909,00	2010
T - Ausl 9 Grosseto	19,74%	not assessed	153,00	775,00	2010
T - Ausl 10 Firenze	15,01%	not assessed	479,00	3.192,00	2010
T - Ausl 11 Empoli	0,10%	not assessed	1,00	1.016,00	2010
T - Ausl 12 Viareggio	65,83%	not assessed	395,00	600,00	2010

### Indicator B7: Vaccine Coverage

#### B7.3 Papillomavirus (HPV) vaccine coverage

<b>Definition:</b>	HPV vaccine coverage in the target population
<b>Numerator:</b>	Vaccine cycles completed by 31 December of the year of survey for locally resident girls born in 1999
<b>Denominator:</b>	No. of eligible locally resident girls born in 1999.
<b>Formula:</b>	$\frac{\text{Vaccine cycles completed by 31 december in the year of survey}}{\text{No. of eligible locally resident girls born in 1999}} \times 100$
<b>Notes:</b>	Tuscany Regional Government Resolution No. of 1176, 28/12/2010 - 2.4.1 – Regional Human Papillomavirus (HPV) vaccination programme - Tuscany Regional Government Resolution No. of 448, 31/03/2010 Tuscany Regional Government Resolution No. of 856, 27/10/2008
<b>Source:</b>	Division of Public Health and Veterinary Medicine Services, Directorate General Citizenship Rights and Social Cohesion, Tuscany Regional Government ( <i>Settore Servizi di prevenzione in sanità pubblica e veterinaria, Direzione Generale Diritti di cittadinanza e coesione sociale, Regione Toscana</i> )
<b>Reference:</b>	≥ 70%





### 3.39 Indicator B8: Data Management

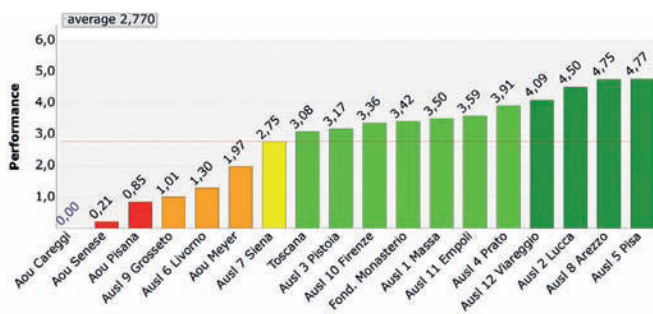
B8 indicator measures the quality and timeliness of the Health Information System.

Indicator	Performance	Year
B8 – Data Management	● 3,08	2010

#### B8 Data Management:

- B8.1 – Timeliness of data transfer to the Regional Information System: 69,01 ■
- B8.2 – Timeliness and compliance of services delivered with regard to prevention: ■
  - B8.2.1 – Timeliness of services delivered with reference to prevention: 92,00 ■
  - B8.2.2 – Compliance of services delivered with reference to prevention: 91,67 ■
- B8.3 – Timeliness of data transmission with respect to public health: 7,42 ■

#### B8 – Data Management



#### Indicator B8: Data Management

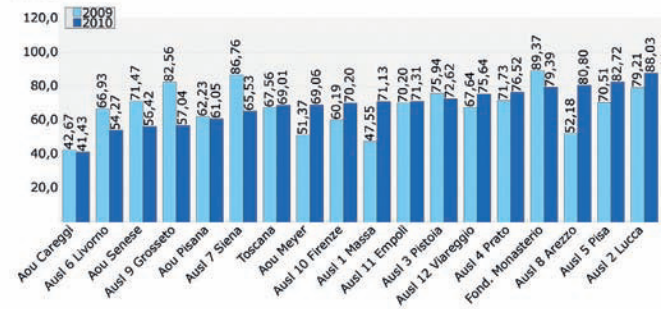
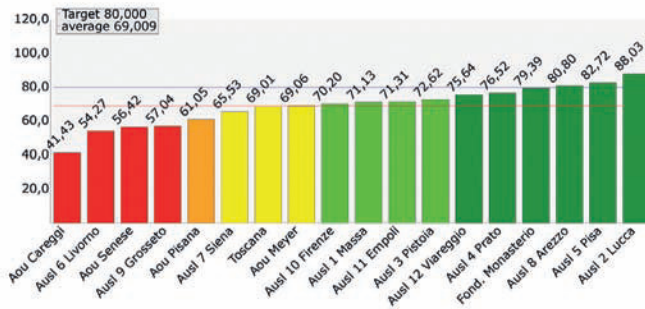
Notes	Description
	This indicator has a value equal to the weighted average score of the following indicators: B8.1 – Timeliness of data transfer to the Regional Information System, B8.2 – Timeliness and compliance of finished products with regard to prevention, B8.3 – Timeliness of data transmission with respect to public health care.
	The weights are:
	– B8.1: 70%
	– B8.2: 10%
	– B8.3: 20%



## Indicator B8.1: Timeliness of data transfer to the Regional Information System 3.40

The evaluation of information flows on the latency has been adapted, since June 2008, to the Regional Resolution No. 440 of 8 June 2008, thus changing the calculation of the latency previously adopted by the evaluation system. The indicator B8.1 is set on the percentage of compliance with deadlines for data transmission in accordance with the Resolution. For each flow is then detected the date of first transmission and, if it is in line with that established in the resolution, it will be positively evaluated. The target for each Health Authority is at least 80%. The data source is the Information System and Information Technology Division of the Directorate General of Citizenship Rights and Social Cohesion of the Tuscany Region.

### B8.1 – Timeliness of data transfer to the Regional Information System



### B8.1 Timeliness of data transfer to the Regional Information System

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,81	67,56	69,01	2,14	–	–	–	–
T - Aou 1 Massa	3,24	47,55	71,13	49,59	–	–	–	–
T - Aou 2 Lucca	5,00	79,21	88,03	11,13	–	–	–	–
T - Aou 3 Pistoia	3,53	75,94	72,62	-4,37	–	–	–	–
T - Aou 4 Prato	4,31	71,73	76,52	6,68	–	–	–	–
T - Aou 5 Pisa	5,00	70,51	82,72	17,32	–	–	–	–
T - Aou 6 Livorno	0,00	66,93	54,27	-18,92	–	–	–	–
T - Aou 7 Siena	2,12	86,76	65,53	-24,47	–	–	–	–
T - Aou 8 Arezzo	5,00	52,18	80,80	54,85	–	–	–	–
T - Aou 9 Grosseto	0,42	82,56	57,04	-30,91	–	–	–	–
T - Aou 10 Firenze	3,05	60,19	70,20	16,63	–	–	–	–
T - Aou 11 Empoli	3,27	70,20	71,31	1,58	–	–	–	–
T - Aou 12 Viareggio	4,14	67,64	75,64	11,83	–	–	–	–
T - Aou Pisana	1,22	62,23	61,05	-1,90	–	–	–	–
T - Aou Senese	0,29	71,47	56,42	-21,06	–	–	–	–
T - Aou Careggi	0,00	42,67	41,43	-2,91	–	–	–	–
T - Aou Meyer	2,82	51,37	69,06	34,44	–	–	–	–
T - Fond. Monasterio	4,89	89,37	79,39	-11,17	–	–	–	–

## Indicator B8: Data Management

### B8.1 Timeliness of data transfer to the Regional Information System

<b>Definition:</b>	Timeliness of data transfer to the Regional Information System
<b>Formula:</b>	$\frac{\sum (FLU_i \times W_i)}{\sum W_i}$ <i>In which:</i> FLU <sub>i</sub> indicates the balance of records that "arrived on time" with regard to the streams (i) being calculated W <sub>i</sub> indicates the weightage applied to each stream: sdo:2; spa:1,5; spf:0; fed:1,5; fes:1; VIP:0,25; as:0,1; cap:0,25; ric 0,3
<b>Notes:</b>	Regional streams considered for the calculation of the latency index in 2008 are: SDO – Nosological index SPA – Ambulatory services SPF – Pharmaceutical services FED – Directly supplied drugs FES – Drugs supplied by the Hospital VIP – Voluntary Interruption of Pregnancy (VIP) AS – Discharges from Care Institutes after miscarriage. CAP – Birth Attendance Certificates RIC – Prescription book
<b>Source:</b>	Regional Information System ( <i>Sistema Informativo Regionale</i> )
<b>Reference:</b>	Regional goal: > 80%



### 3.41 Indicator B8.2: Timeliness and compliance of services delivered with regard to prevention

The indicator B8.2 was introduced in 2009. It aims to evaluate compliance and timeliness of the information flow on Services Delivered with regard to Prevention, established by Resolution 670 of 1 September 2008. In particular, the Tuscany Regional Government, in the note of 11 May 2010 (prot. AOO-GRT/128897/Q.20) identified the set of essential products for 2010. The transfer of information about these products, in accordance with procedures, is required by 31 March 2011.

\* ISP Division (Hygiene and Public Health):

- PF 1 (Expression of opinion upon request for authorization purposes);
- PF 2 (Local Unit checked for Public Health);
- PF 10 (Intervention Report);
- PF 17 (Vaccination Campaign) currently being tested for Local Health Authorities 1, 3, 10, and 8;
- PF 19 (Intervention infectious disease notification);
- PF 69 (Opinion for new production lessons);

\*IAN Sector (Food Hygiene and Nutrition):

- PF 4 (Local Unit checked for Food Safety);
- PF 10 (Intervention Report);
- PF 12 (Edibility assessment) except for food safety;
- PF 49 (Establishment approved / registered under official control);
- PF 69 (Opinion for new production lessons);
- PF 73 (Intervention nutrition watch) currently being tested for Local Health Authorities 1, 2, 4, and 11;
- PF 74 (Group nutrition counselling path) currently being tested for Local Health Authorities number 2, 3, and 7;
- PF 75 (Individual nutrition counselling session) currently being tested for Local Health Authorities number 3, 5, 8, and 12;
- PF 76 (Drafting / revision of nutrition plan) currently being tested for Local Health Authorities number 6, 10, and 9;
- PF 77 (Evaluation, validation, and use checking of nutrition plan) currently being tested for Local Health Authorities number 1, 4, and 8;
- PF 78 (Intervention nutrition education) currently being tested for Local Health Authorities number 5, 10, and 9; PF 79 [Nutrition consultation (inter-institutional programmes)] currently being tested for Local Health Authorities number 6, 12, 11, and 7;

\*SPV (Veterinary Public Health):

- PF 1 (Expression of opinion upon request for authorization purposes);
- PF 2 (Local Unit checked for Public Health);
- PF 4 (Local Unit checked for Food Safety);
- PF 10 (Intervention Report);
- PF 43 (Livestock farming under control);
- PF 48 (Interventions aimed at the destruction of dead animals) currently being tested for Local Health Authorities 2, 3, 4, and 9;
- PF 49 (Establishment approved / registered under official control);
- PF 69 (Opinion for new production lessons);

\*Sector PISLL (Prevention, Hygiene and Safety in the Workplace):

- PF 1 (expression of opinion upon request for authorization purposes);
- PF 25 (Local Unit checked for work risks);
- PF 26 (Construction sites checked for work risks);
- PF 27 (Penal sanction procedure within the PISLL);
- PF 69 (Opinion for new production lessons);
- PF 71 (Occupational hygiene investigation) currently being tested for Local Health Authorities 6, 12, 11, and 7;
- PF 72 (Quarry checked for work risks);

\*MS Sector (Sports Medicine):

- PF 37 (Medical fitness for sport certificate);

\*ML Sector (Forensic Medicine):

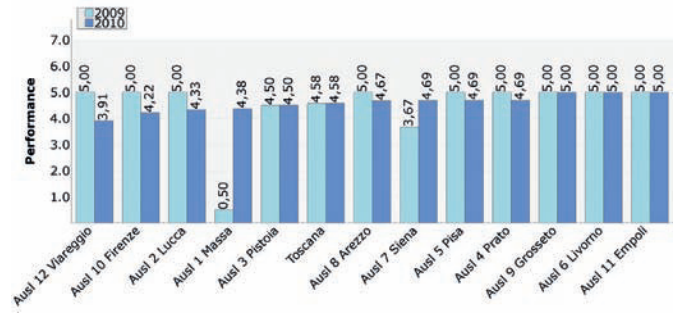
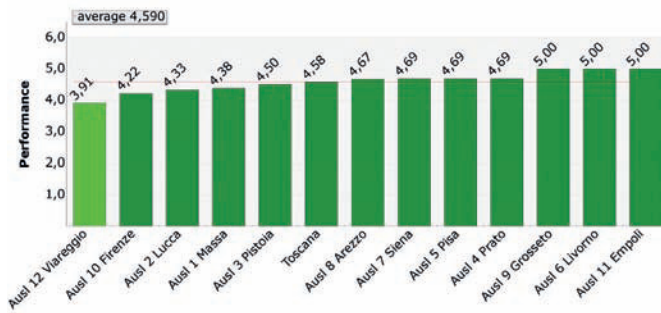
- PF 55 (Civil invalidity, blindness, and deaf-mutism);



PF 56 [Disability assessment (Law 104/92)];  
 PF 57 [Employment for disabled people (Law 68/99)].

Finished products with reference to Forensic Medicine were not considered in the analysis according to the Note of 17 May 2011 (prot. AOO-GRT/12581/Q.100.170), as a result of problems found by the application used in Forensic Medicine in the generation of finished products. PF 1 was not considered in the analysis because, according to an initial assessment made by the working group Finished Products System, a misinterpretation on the insertion of the PF does not make it measurable. The indicator B8.2 is divided into two sub-indicators: B8.2.1 and B8.2.2, evaluating respectively timeliness and compliance of “essential” finished products.

**B8.2 – Timeliness and compliance of services delivered with regard to prevention**

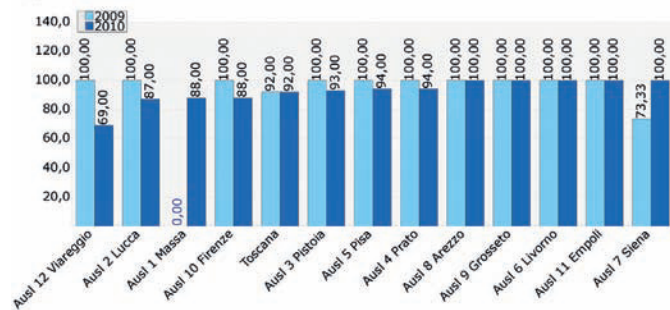
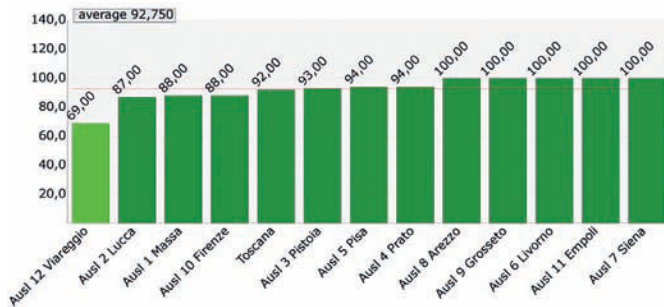




### 3.42 Indicator B8.2.1: Timeliness of services delivered with reference to prevention

The sub-indicator B.2.1 indicates, for each Health Authority, the % of services delivered in time compared to the total of “essential” products required. The delivery of products is considered timely if it was received by the Tuscany Region by 31 March 2010 as stated in the note 11.05.2010 (prot.AOO-GRT/128897/Q.20).

#### B8.2.1 – Timeliness of services delivered with reference to prevention



#### B8.2.1 Timeliness of services delivered with reference to prevention

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,58	92,00	92,00	0,00	165,00	165,00	180,00	180,00
T - Ausl 1 Massa	4,38	0,00	88,00	(*)	0,00	14,00	15,00	16,00
T - Ausl 2 Lucca	4,33	100,00	87,00	-13,00	15,00	13,00	15,00	15,00
T - Ausl 3 Pistoia	4,67	100,00	93,00	-7,00	15,00	15,00	15,00	15,00
T - Ausl 4 Prato	4,69	100,00	94,00	-6,00	15,00	16,00	15,00	16,00
T - Ausl 5 Pisa	4,69	100,00	94,00	-6,00	15,00	15,00	15,00	16,00
T - Ausl 6 Livorno	5,00	100,00	100,00	0,00	15,00	16,00	15,00	16,00
T - Ausl 7 Siena	5,00	73,33	100,00	36,37	11,00	15,00	15,00	16,00
T - Ausl 8 Arezzo	5,00	100,00	100,00	0,00	15,00	15,00	15,00	15,00
T - Ausl 9 Grosseto	5,00	100,00	100,00	0,00	15,00	14,00	15,00	16,00
T - Ausl 10 Firenze	4,38	100,00	88,00	-12,00	15,00	15,00	15,00	16,00
T - Ausl 11 Empoli	5,00	100,00	100,00	0,00	15,00	16,00	15,00	16,00
T - Ausl 12 Viareggio	3,44	100,00	69,00	-31,00	15,00	10,00	15,00	16,00

## Indicator B8: Data Management

### B8.2.1 Timeliness of services delivered with reference to prevention

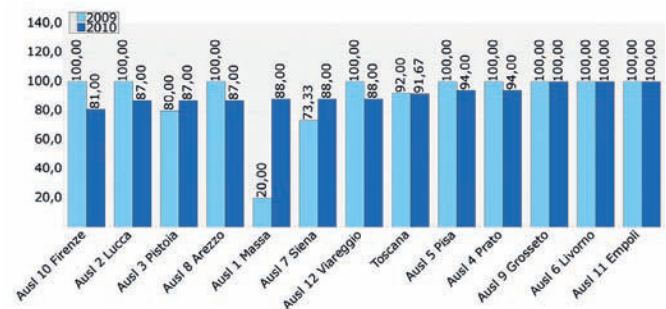
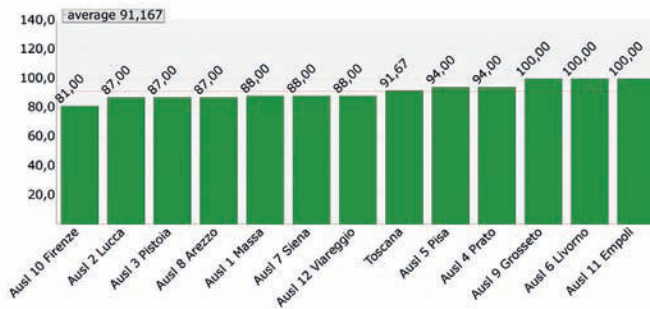
<b>Definition:</b>	Timeliness of finished products
<b>Numerator:</b>	Timely finished products
<b>Denominator:</b>	Essential finished products
<b>Formula:</b>	$\frac{\text{Timely finished products}}{\text{Essential finished products}}$
<b>Notes:</b>	Finished products are considered as timely when delivered by 31 March. Non-delivered finished products are considered as delayed. As for departments that do not include Sports Medicine, products of such division are not considered in the analysis.
<b>Source:</b>	Tuscany Regional Government
<b>Reference:</b>	100%



## Indicator B8.2.2: Compliance of services delivered with reference to prevention 3.43

The sub-indicator B8.2.2 indicates for each Authority, the percentage of complying products compared to the “essential” products required. The products are considered “complying” when data are received as report printed directly from the application Metis\_Prodotti as stated in the note of 11 May 2010 (prot. AOO-GRT/128897/Q.20). In all other cases, the data are classified as “non-compliant”.

### B8.2.2 – Compliance of services delivered with reference to prevention



### B8.2.2 Compliance of services delivered with reference to prevention

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,58	92,00	91,67	-0,36	165,00	165,00	180,00	180,00
T - Ausl 1 Massa	4,38	20,00	88,00	340,00	3,00	14,00	15,00	16,00
T - Ausl 2 Lucca	4,33	100,00	87,00	-13,00	15,00	13,00	15,00	15,00
T - Ausl 3 Pistoia	4,33	80,00	87,00	8,75	12,00	14,00	15,00	15,00
T - Ausl 4 Prato	4,69	100,00	94,00	-6,00	15,00	16,00	15,00	16,00
T - Ausl 5 Pisa	4,69	100,00	94,00	-6,00	15,00	15,00	15,00	16,00
T - Ausl 6 Livorno	5,00	100,00	100,00	0,00	15,00	16,00	15,00	16,00
T - Ausl 7 Siena	4,38	73,33	88,00	20,01	11,00	15,00	15,00	16,00
T - Ausl 8 Arezzo	4,33	100,00	87,00	-13,00	15,00	13,00	15,00	15,00
T - Ausl 9 Grosseto	5,00	100,00	100,00	0,00	15,00	14,00	15,00	16,00
T - Ausl 10 Firenze	4,06	100,00	81,00	-19,00	15,00	14,00	15,00	16,00
T - Ausl 11 Empoli	5,00	100,00	100,00	0,00	15,00	16,00	15,00	16,00
T - Ausl 12 Viareggio	4,38	100,00	88,00	-12,00	15,00	13,00	15,00	16,00

## Indicator B8: Data Management

### B8.2.2 Compliance of services delivered with reference to prevention

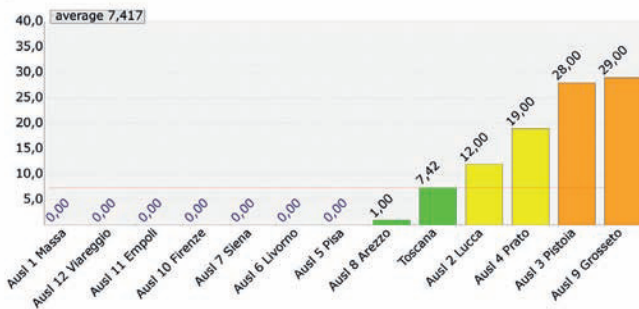
<b>Definition:</b>	Adequacy of finished products
<b>Numerator:</b>	Adequate finished products
<b>Denominator:</b>	Essential finished products
<b>Formula:</b>	$\frac{\text{Adequate finished products}}{\text{Essential finished products}}$
<b>Notes:</b>	Adequate mode means that the transmission of reports is processed by means of the software Metis_Prodotti, both in paper and electronic format. Non-delivered finished products are considered as inadequate. As for departments that do not include Sports Medicine, products of such division are not considered in the analysis.
<b>Source:</b>	Tuscany Regional Government
<b>Reference:</b>	100%



### 3.44 Indicator B8.3: Timeliness of data transmission with respect to public health

Executive decree No. 5877, dated 5 December 2008, approved the data flows of the Predictive and Preventive Medicine Division and their transmission method, and determines the date by which the data must be received by the Region from the Authorities (31 March of the year following the survey). This indicator measures the delay in sending the data with respect to the date established in the Decree.

#### B8.3 – Timeliness of data transmission with respect to public health



#### B8.3 Timeliness of data transmission with respect to public health

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	7,42	3,27	-	-	2010
T - Ausl 1 Massa	0,00	4,01	-	-	2010
T - Ausl 2 Lucca	12,00	2,81	-	-	2010
T - Ausl 3 Pistoia	28,00	1,21	-	-	2010
T - Ausl 4 Prato	19,00	2,11	-	-	2010
T - Ausl 5 Pisa	0,00	4,01	-	-	2010
T - Ausl 6 Livorno	0,00	4,01	-	-	2010
T - Ausl 7 Siena	0,00	4,01	-	-	2010
T - Ausl 8 Arezzo	1,00	3,91	-	-	2010
T - Ausl 9 Grosseto	29,00	1,11	-	-	2010
T - Ausl 10 Firenze	0,00	4,01	-	-	2010
T - Ausl 11 Empoli	0,00	4,01	-	-	2010
T - Ausl 12 Viareggio	0,00	4,01	-	-	2010

### Indicator B8: Data Management

#### B8.3 Timeliness of data transmission with respect to public health

<b>Definition:</b>	Timeliness of Government data transmission with respect to public health care
<b>Notes:</b>	The value of the indicator is the Number of days of delay in data delivery compared to the due date as set by Managerial Decree, 5 December 2008, 5877, that is 31 March of the year following the survey.
<b>Source:</b>	Regional Information System ( <i>Sistema Informativo Regionale</i> )
<b>Reference:</b>	Regional average, 2010



## Indicator B9: Equity and Access 3.45

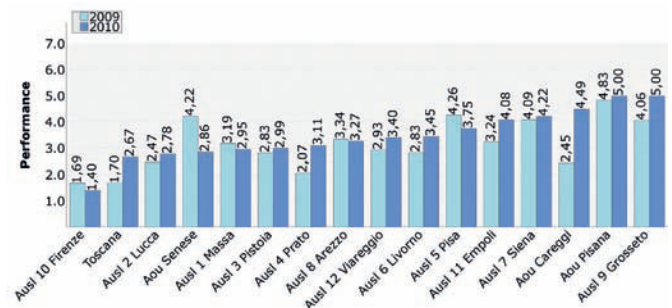
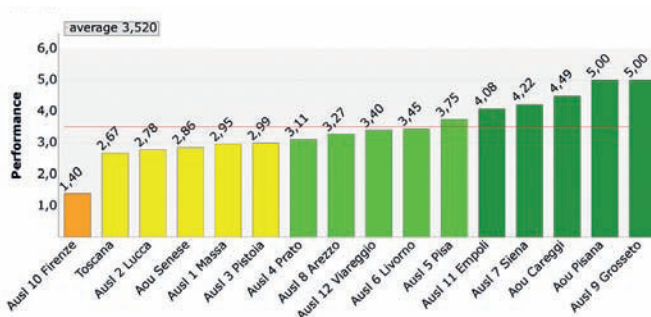
Equal access to health services, without distinction due to socio-economic or educational backgrounds of users, is not only a central principle of a universal healthcare system, but also an indication of proper planning of the services. Educational qualifications and the citizenship of users are the variables on the basis of which discrimination can be determined. The educational qualification variable was used to analyse the hospitalization rates for chronic diseases, emergency admissions, and NTSV caesarean births. The citizenship variable, on the other hand, was used for the analysis of hospitalization rates for Voluntary Pregnancy Interruption (VPI). In order to verify the possible difference in access between different population groups, hospitalization rates between persons of high and low educational qualifications and between foreign- and Italian women were calculated. From the methodological point of view it was calculated the age-standardised hospitalization rate per educational qualification, using as denominator the scholastic population by five-years age range according to the ISTAT census of 2001. The Italian population according to 2001 census has been used as standard population. Values equal to 1 in the rate ratio indicate a possible equality, values greater than 1 indicate a possible inequality against the less educated, and values below 1 indicate a possible inequality against the more educated.

Indicator	Performance	Year
B9 – Equity and Access	● 2,67	2010

### B9 Equity and Access:

- B9.5 – Hospitalization of patients with chronic diseases by education: ■
  - B9.5.1 – Hospitalization for heart failure rates ratio by education: 1,24 ■
  - B9.5.2 – Hospitalization for diabetes rates ratio by education: 1,34 ■
  - B9.5.3 – Hospitalization for COPD rates ratio by education: 1,62 ■
  - B9.5.4 – Hospitalization for pneumonia rates ratio by education: 1,41 ■
- B9.6 – Urgent hospitalization rates ratio by education: 1,52 ■
- B9.7 – NTSV caesarean birth rates ratio by education: 0,94 ■
- B9.8 – VPI hospitalization rates ratio by citizenship: 7,33

### B9 – Equity and Access



## Indicator B9: Equity and Access

### Notes

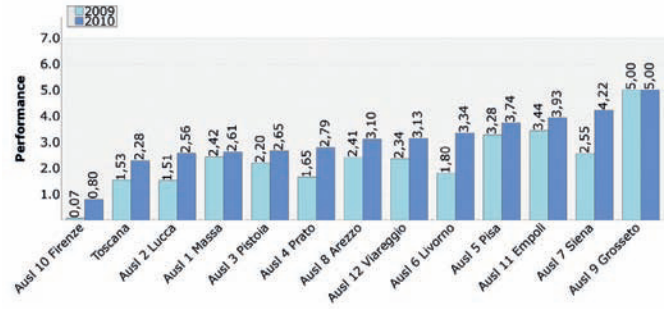
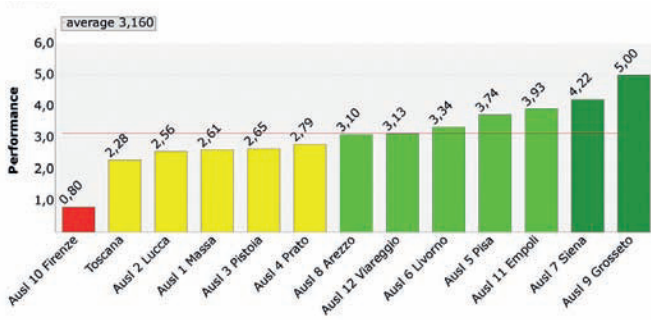
The indicator B9 has a value equal to the average score of indicators: B9.5, B9.6, B9.7  
 The indicator B9.5 has a value equal to the average score of indicators: 9.5.1, B9.5.2, B9.5.3, B9.5.4





### 3.46 Indicator B9.5: Hospitalization of patients with chronic diseases by education

#### B9.5 – Hospitalization of patients with chronic diseases by education

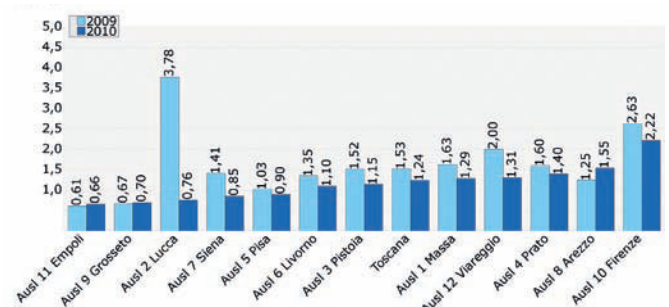
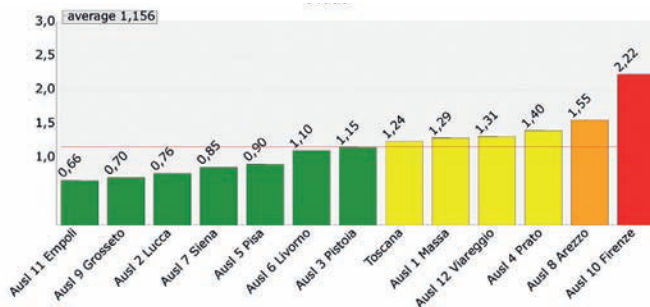




## Indicator B9.5.1: Hospitalization for heart failure rates ratio by education 3.47

The indicator shows the relationship between hospitalization rates, per age group for heart failure of people with low educational qualifications (no title, primary school, middle school) compared to people with a high degree (diploma, degree).

### B9.5.1 – Hospitalization for heart failure rates ratio by education



### B9.5.1 Hospitalization for heart failure rates ratio by education

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,87	1,53	1,24	-19,05	169,48	174,24	110,56	140,69
T - Ausl 1 Massa	2,71	1,63	1,29	-21,05	236,76	101,86	144,98	79,16
T - Ausl 2 Lucca	5,00	3,78	0,76	-79,80	110,16	80,38	29,15	105,26
T - Ausl 3 Pistoia	4,05	1,52	1,15	-24,50	131,57	139,61	86,78	121,66
T - Ausl 4 Prato	2,35	1,60	1,40	-12,76	214,15	190,66	134,25	136,59
T - Ausl 5 Pisa	5,00	1,03	0,90	-13,00	132,03	203,17	128,78	226,74
T - Ausl 6 Livorno	5,00	1,35	1,10	-18,60	174,94	176,93	129,93	161,01
T - Ausl 7 Siena	5,00	1,41	0,85	-39,68	106,52	140,58	75,37	165,28
T - Ausl 8 Arezzo	1,90	1,25	1,55	24,08	186,56	206,35	149,51	133,05
T - Ausl 9 Grosseto	5,00	0,67	0,70	4,32	138,53	140,91	206,35	201,61
T - Ausl 10 Firenze	0,78	2,63	2,22	-15,44	230,28	225,57	87,49	101,43
T - Ausl 11 Empoli	5,00	0,61	0,66	7,76	139,23	162,10	226,52	246,60
T - Ausl 12 Viareggio	2,65	2,00	1,31	-34,72	109,49	191,53	54,71	146,69

## Indicator B9: Equity and Availability

### B9.5.1 Hospitalization for heart failure rates ratio by education

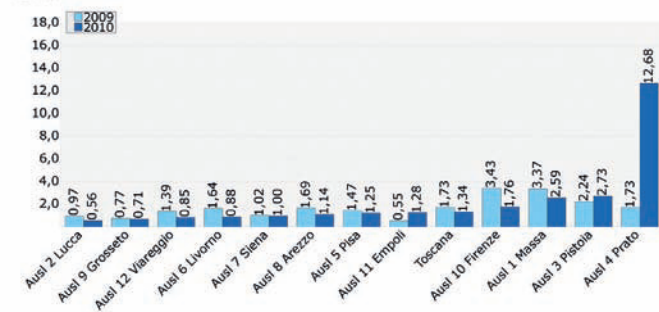
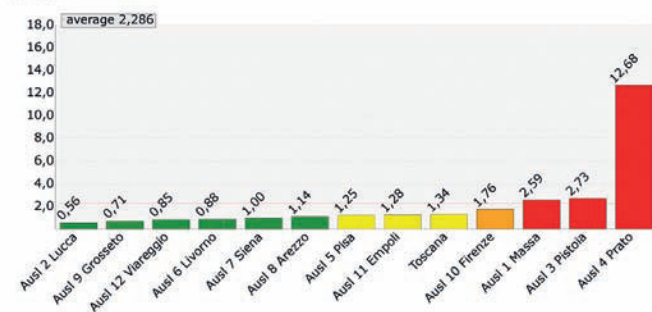
<b>Definition:</b>	Proportion of standard hospitalization rates for heart failure by age for patients with high and low education
<b>Numerator:</b>	Standardised hospitalization rates for heart failure according to age for patients with low education
<b>Denominator:</b>	Standardised hospitalization rates for heart failure according to age for patients with high education
<b>Formula:</b>	$\frac{\text{No. of admissions for heart failure of low qualified people}}{\text{Low qualified population between 50 and 74 years}} \bigg/ \frac{\text{No. of admissions for heart failure of highly qualified people}}{\text{Highly qualified population between 50 and 74 years}}$
<b>Notes:</b>	<p>We consider only inpatient admissions of residents of Tuscany, residents of other regions are excluded. Discharges from the spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75) and admissions in unaccredited private hospitals are not considered.</p> <p>Codes ICD9-CM for principal Diagnosis: 428.*, 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93 Discharges with codes: 00.5*, 35.***, 36-**, 37.** from any division are excluded.</p> <p>As for the denominator, data about the population listed with reference to educational qualification is according to ISTAT census 2001. Educational qualifications are classified as follows: – Low educational qualification = No qualification + Primary School qualification+ Middle School qualification – High educational qualification = Secondary School diploma + Degree + Other University qualifications.</p>
<b>Source:</b>	Regional Information System – (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Age (the standard population is the resident population in Italy in 2001, source ISTAT).



### 3.48 Indicator B9.5.2: Hospitalization for diabetes rates ratio by education

The indicator shows the relationship between hospitalization rates per age group for diabetes for people with low educational qualifications (no title, primary school, and middle school) compared to people with a high degree (diploma, degree).

#### B9.5.2 – Hospitalization for diabetes rates ratio by education



#### B9.5.2 Hospitalization for diabetes rates ratio by education

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,55	1,73	1,34	-22,87	18,75	18,49	10,83	13,85
T - Axl 1 Massa	0,41	3,37	2,59	-23,27	28,62	31,31	8,49	12,10
T - Axl 2 Lucca	5,00	0,97	0,56	-42,27	10,79	9,34	11,13	16,70
T - Axl 3 Pistoia	0,27	2,24	2,73	22,13	19,52	33,95	8,72	12,42
T - Axl 4 Prato	0,00	1,73	12,68	631,36	36,33	15,32	20,95	1,21
T - Axl 5 Pisa	2,82	1,47	1,25	-14,53	20,54	34,96	13,99	27,86
T - Axl 6 Livorno	5,00	1,64	0,88	-46,37	22,76	21,61	13,91	24,63
T - Axl 7 Siena	4,49	1,02	1,00	-1,55	13,04	15,15	12,82	15,13
T - Axl 8 Arezzo	4,28	1,69	1,14	-32,62	19,53	13,22	11,59	11,64
T - Axl 9 Grosseto	5,00	0,77	0,71	-7,81	16,64	9,41	21,63	13,27
T - Axl 10 Firenze	1,48	3,43	1,76	-48,61	26,29	24,98	7,67	14,18
T - Axl 11 Empoli	2,73	0,55	1,28	132,96	18,19	16,80	33,08	13,11
T - Axl 12 Viareggio	5,00	1,39	0,85	-39,02	8,74	12,39	6,30	14,65

### Indicator B9: Equity and Availability

#### B9.5.2 Hospitalization for diabetes rates ratio by education

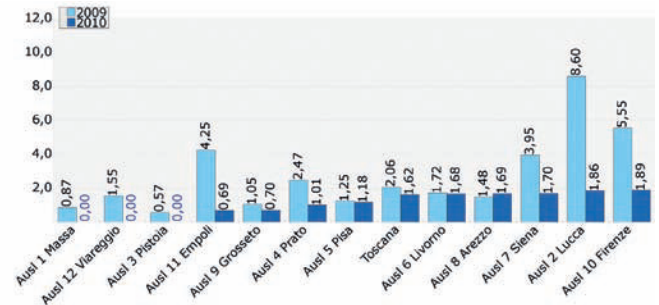
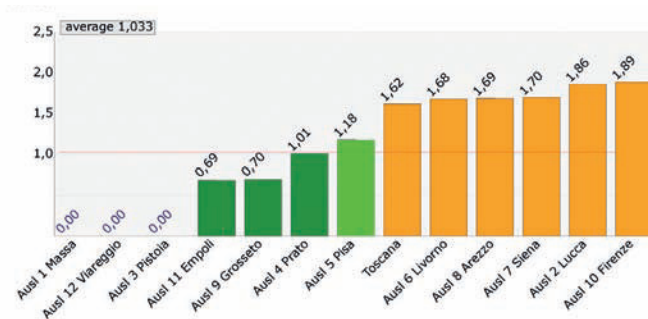
<b>Definition:</b>	Proportion of standardised hospitalization rates for diabetes according to age for patients with high and low education
<b>Numerator:</b>	Standard hospitalization rates for diabetes according to age for patients with low education
<b>Denominator:</b>	Standard hospitalization rates for Diabetes according to age for patients with high education
<b>Formula:</b>	$\frac{\text{No. of admissions for Diabetes 20-74 of low qualified people}}{\text{Low qualified population between 20 and 74 years}} \div \frac{\text{No. of admissions for Diabetes 20-74 of highly qualified}}{\text{Highly qualified population between 20 and 74 years}}$
<b>Notes:</b>	<p>We consider only inpatient admissions of residents of Tuscany, residents of other regions are excluded.</p> <p>Exclusions:</p> <ul style="list-style-type: none"> <li>- DRGs 113 and 114</li> <li>- Codes 36 and 39.5</li> <li>- Discharges from the spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)</li> <li>- Discharges with MDC 14 (Pregnancy, Birth, and Puerperium) and 15 (Neonatal diseases)</li> <li>- Admissions in unaccredited private hospitals</li> </ul> <p>Codes ICD9-CM for principal Diagnosis: 250.xx Diabetes mellitus</p> <p>As for the denominator, data about the population listed with reference to educational qualifications is according to ISTAT census 2001</p> <p>Educational qualifications are classified as follows:</p> <ul style="list-style-type: none"> <li>- Low educational qualification = No qualification + Primary School qualification + Middle School qualification</li> <li>- High educational qualification = Secondary School diploma + Degree + Other University qualifications</li> </ul>
<b>Source:</b>	Regional Information System – (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Age (The standard population is the resident population in Italy in 2001, source ISTAT).



### Indicator B9.5.3: Hospitalization for COPD rates ratio by education 3.49

The indicator shows the relationship between hospitalization rates per age group for COPD (Chronic Obstructive Pulmonary Disease) for people with low educational qualifications (no title, primary school, and middle school) compared to people with a high degree (diploma, degree).

#### B9.5.3 – Hospitalization for COPD rates ratio by education



#### B9.5.3 Hospitalization for COPD rates ratio by education

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,76	2,06	1,62	-21,33	49,23	46,54	23,89	28,72
T - Ausl 1 Massa	5,00	0,87	0,00	-100,00	40,97	33,10	46,92	0,00
T - Ausl 2 Lucca	1,27	8,60	1,86	-78,32	41,86	12,08	4,87	6,48
T - Ausl 3 Pistoia	5,00	0,57	0,00	-100,00	31,41	38,37	54,92	0,00
T - Ausl 4 Prato	4,41	2,47	1,01	-59,16	108,23	54,64	43,84	54,17
T - Ausl 5 Pisa	3,49	1,25	1,18	-5,96	31,15	41,09	24,88	34,96
T - Ausl 6 Livorno	1,64	1,72	1,68	-2,24	44,92	59,85	26,07	35,59
T - Ausl 7 Siena	1,60	3,95	1,70	-56,90	36,95	47,27	9,34	27,77
T - Ausl 8 Arezzo	1,63	1,48	1,69	13,98	41,10	58,33	27,71	34,58
T - Ausl 9 Grosseto	5,00	1,05	0,70	-33,33	68,88	44,31	65,47	63,29
T - Ausl 10 Firenze	1,22	5,55	1,89	-65,95	61,53	53,43	11,09	28,28
T - Ausl 11 Empoli	5,00	4,25	0,69	-83,84	46,80	53,91	11,00	78,49
T - Ausl 12 Viareggio	5,00	1,55	0,00	-100,00	20,77	29,45	13,42	0,00

## Indicator B9: Equity and Availability

### B9.5.3 Hospitalization for COPD rates ratio by education

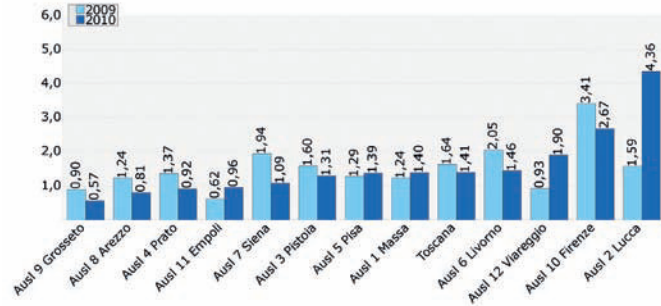
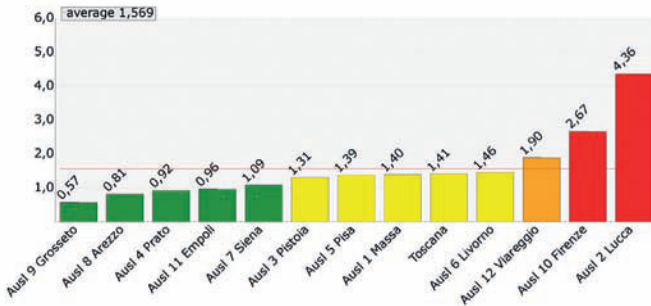
<b>Definition:</b>	Proportion of standard hospitalization rates for COPD according to age for patients with high and low education
<b>Numerator:</b>	Standard hospitalization rates for COPD according to age for patients with low education.
<b>Denominator:</b>	Standard hospitalization rates for COPD according to age for patients with high education
<b>Formula:</b>	$\frac{\text{No. of admissions for COPD 50-74 of low qualified people}}{\text{Low qualified population between 50 and 74 years}} \div \frac{\text{No. of admissions for COPD 50-74 of highly qualified people}}{\text{Highly qualified population between 50 and 74 years}}$
<b>Notes:</b>	<p>We consider only inpatient admissions of residents of Tuscany, residents of other regions are excluded. Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75) and admissions in unaccredited private hospitals are not considered.</p> <p>Codes ICD9-CM for principal Diagnosis: 490: Bronchitis, either acute or chronic 491*: Chronic bronchitis 492*: Emphysema 496*: Chronic obstructive airway diseases, not elsewhere classified</p> <p>As for the denominator, data about the population listed with reference to educational qualification is according to ISTAT census 2001. Educational qualifications are classified as follows: – Low educational qualification = No qualification + Primary School qualification + Middle School qualification – High educational qualification = Secondary School diploma + Degree + Other University qualifications.</p>
<b>Source:</b>	Regional Information System – (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Age (The standard population is the resident population in Italy in 2001, source ISTAT).



### 3.50 Indicator B9.5.4: Hospitalization for pneumonia rates ratio by education

The indicator shows the relationship between hospitalization rates per age group for pneumonia for people with low educational qualifications (no title, primary school, and middle school) compared to people with a high degree (diploma, degree).

#### B9.5.4 – Hospitalization for pneumonia rates ratio by education



#### B9.5.4 Hospitalization for pneumonia rates ratio by education

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,29	1,64	1,41	-13,79	77,53	81,19	47,31	57,43
T - Ausl 1 Massa	2,33	1,24	1,40	12,95	120,42	95,58	97,46	68,24
T - Ausl 2 Lucca	0,00	1,59	4,36	174,13	57,15	48,39	35,99	11,10
T - Ausl 3 Pistoia	2,63	1,60	1,31	-18,12	75,41	83,49	47,21	63,73
T - Ausl 4 Prato	5,00	1,37	0,92	-32,75	118,82	98,05	86,53	106,42
T - Ausl 5 Pisa	2,37	1,29	1,39	7,58	54,24	92,09	42,02	66,36
T - Ausl 6 Livorno	2,13	2,05	1,46	-28,72	64,34	60,42	31,40	41,35
T - Ausl 7 Siena	5,00	1,94	1,09	-44,01	75,26	74,08	38,78	68,20
T - Ausl 8 Arezzo	5,00	1,24	0,81	-34,34	87,12	87,63	70,42	107,63
T - Ausl 9 Grosseto	5,00	0,90	0,57	-36,89	93,58	80,60	104,18	141,90
T - Ausl 10 Firenze	0,33	3,41	2,67	-21,74	127,13	135,66	37,31	50,84
T - Ausl 11 Empoli	4,92	0,62	0,96	54,52	59,21	84,61	95,34	88,32
T - Ausl 12 Viareggio	1,21	0,93	1,90	103,84	51,00	77,82	54,65	41,05

### Indicator B9: Equity and Availability

#### B9.5.4 Hospitalization for pneumonia rates ratio by education

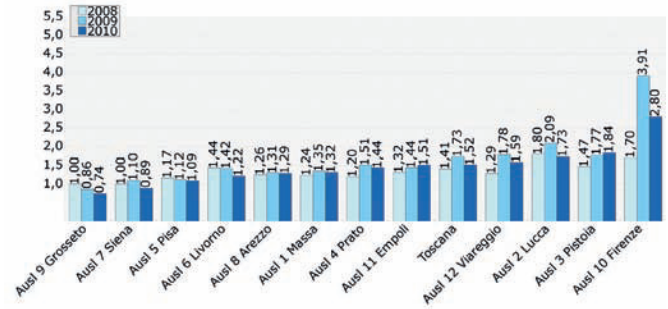
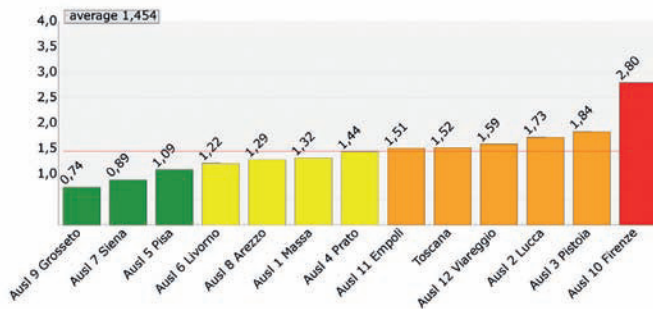
<b>Definition:</b>	Proportion of standard hospitalization rates for pneumonia according to age for patients with high and low education
<b>Numerator:</b>	Standard hospitalization rates for pneumonia according to age for patients with low education
<b>Denominator:</b>	Standard hospitalization rates for pneumonia according to age for patients with high education
<b>Formula:</b>	$\frac{\text{No. of admissions for pneumonia 20-74 of low qualified people}}{\text{Low qualified population between 20 and 74 years}} \div \frac{\text{No. of admissions for pneumonia 20-74 of highly qualified people}}{\text{Highly qualified population between 20 and 74 years}}$
<b>Notes:</b>	<p>We consider only inpatient admissions of residents of Tuscany, residents of other regions are excluded.</p> <p>Discharges from the spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75) and admissions in unaccredited private hospitals are not considered.</p> <p>DRG codes: 79-80-89-90</p> <p>Exclusions codes ICD9-CM:</p> <ul style="list-style-type: none"> <li>– 010.xx, 011.xx, 012.xx for principal Diagnosis: Primary pulmonary and respiratory tuberculosis</li> <li>– 482.84 for principal or secondary Diagnosis: Legionnaires disease</li> <li>– 506.0, 506.1, 506.2, 506.3 for principal or secondary Diagnosis: Pathological respiratory conditions due to inhalation of chemical fumes and vapours</li> <li>– 507.0, 507.1, 507.8 for principal or secondary Diagnosis: Foreign bodies and liquid aspiration pneumonia.</li> </ul> <p>As for the denominator, data about the population listed with reference to educational qualification is according to the ISTAT census 2001 with regard to five-yearly age classes.</p> <p>Educational qualifications are classified as follows:</p> <ul style="list-style-type: none"> <li>– Low educational qualification = No qualification + Primary School qualification + Middle School qualification</li> <li>– High educational qualification = Secondary School diploma + Degree + Other University qualifications.</li> </ul>
<b>Source:</b>	Regional Information System – (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Age (The standard population is the resident population in Italy in 2001, source ISTAT).



## Indicator B9.6: Urgent hospitalization rates ratio by education 3.51

The indicator shows the relationship between hospitalization rates per age group for emergency room admission for people with low educational qualifications (no title, primary school, middle school) compared to people with a high degree (diploma, degree). Any inequalities against less educated people could indicate either a greater spread, among the less educated population, of more severe diseases, or a greater difficulty for such groups to avail themselves of care pathways provided by the Authorities.

### B9.6 – Urgent hospitalization rates ratio by education



### B9.6 Urgent hospitalization rates ratio by education

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,95	1,73	1,52	-12,18	44,60	46,35	25,72	30,44
T - Ausl 1 Massa	2,60	1,35	1,32	-2,15	61,30	56,60	45,49	42,93
T - Ausl 2 Lucca	1,55	2,09	1,73	-17,65	60,17	58,74	28,72	34,05
T - Ausl 3 Pistoia	1,32	1,77	1,84	3,85	56,08	63,72	31,67	34,66
T - Ausl 4 Prato	2,19	1,51	1,44	-4,47	51,74	58,40	34,25	40,47
T - Ausl 5 Pisa	5,00	1,12	1,09	-3,25	35,76	44,05	31,81	40,50
T - Ausl 6 Livorno	2,95	1,42	1,22	-14,14	46,63	44,35	32,92	36,47
T - Ausl 7 Siena	5,00	1,10	0,89	-19,27	30,92	35,10	28,14	39,56
T - Ausl 8 Arezzo	2,70	1,31	1,29	-1,66	40,34	43,06	30,75	33,37
T - Ausl 9 Grosseto	5,00	0,86	0,74	-13,42	44,98	46,75	52,30	62,79
T - Ausl 10 Firenze	0,20	3,91	2,80	-28,41	60,80	58,66	15,54	20,94
T - Ausl 11 Empoli	1,98	1,44	1,51	4,85	58,51	57,07	40,63	37,80
T - Ausl 12 Viareggio	1,82	1,78	1,59	-10,54	41,57	51,35	23,37	32,27

## Indicator B9: Equity and Access

### B9.6 Urgent hospitalization rates ratio by education

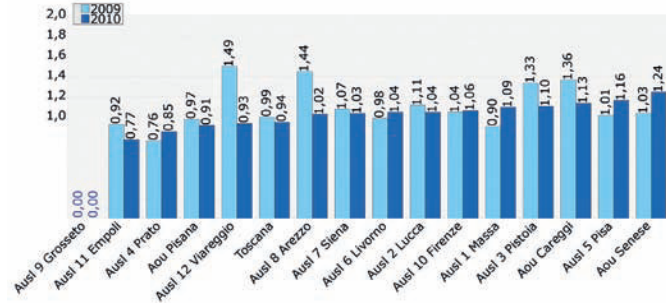
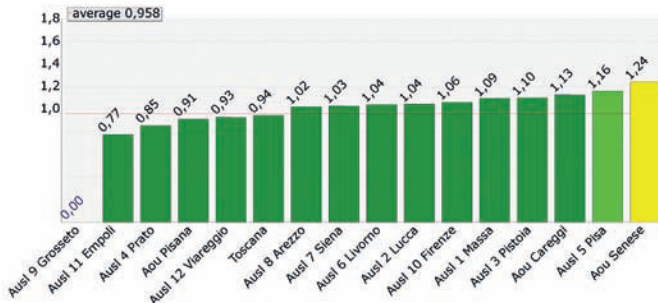
<b>Definition:</b>	Proportion of urgent hospitalization rates according to age for patients with high and low education
<b>Numerator:</b>	Standard urgent hospitalization rates according to age for patients with low education
<b>Denominator:</b>	Standard urgent hospitalization rates according to age for patients with high education
<b>Formula:</b>	$\frac{\text{No. of urgent admissions of low qualified people}}{\text{No. of low qualified residents}} \bigg/ \frac{\text{No. of urgent admissions of highly qualified people}}{\text{No. of highly qualified residents}}$
<b>Notes:</b>	<p>We consider only inpatient admissions of residents of Tuscany, residents of other regions are excluded.            Excluded admissions:</p> <ul style="list-style-type: none"> <li>– in unaccredited private hospitals</li> <li>– of people under 20 years</li> </ul> <p>As for the denominator, data about the population listed with reference to educational qualification is according to the ISTAT census 2001. Educational qualifications are classified as follows:</p> <ul style="list-style-type: none"> <li>– Low educational qualification = No qualification + Primary School qualification + Middle School qualification</li> <li>– High educational qualification = Secondary School diploma + Degree + Other University qualifications.</li> </ul>
<b>Source:</b>	Regional Information System – (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Age (The standard population is the resident population in Italy in 2001, source ISTAT).



### 3.52 Indicator B9.7: NTSV cesarean birth rates ratio by education

The indicator compares the percentage of Nulliparous, Term, Cephalic, Singleton Delivery (NTSV) cesarean births for women with low educational qualifications (no title, primary school, middle school) compared to women with a high degree (diploma, degree).

B9.7 – NTSV cesarean birth rates ratio by education



B9.7 NTSV cesarean birth rates ratio by education

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	5,00	0,99	0,94	-4,43	20,26	19,34	20,51	20,49
T - Ausl 1 Massa	5,00	0,90	1,09	21,86	16,19	23,63	18,03	21,59
T - Ausl 2 Lucca	4,07	1,11	1,04	-5,96	26,02	20,86	23,47	20,00
T - Ausl 3 Pistoia	5,00	1,33	1,10	-17,12	20,72	18,44	15,61	16,76
T - Ausl 4 Prato	5,00	0,76	0,85	12,96	9,21	10,39	12,20	12,18
T - Ausl 5 Pisa	3,80	1,01	1,16	15,00	16,67	21,05	16,52	18,15
T - Ausl 6 Livorno	4,10	0,98	1,04	6,27	26,28	24,59	26,87	23,65
T - Ausl 7 Siena	4,23	1,07	1,03	-3,61	19,72	17,24	18,51	16,79
T - Ausl 8 Arezzo	4,30	1,44	1,02	-29,43	27,37	21,81	18,94	21,39
T - Ausl 9 Grosseto	5,00	0,00	0,00	(*)	0,00	0,00	18,23	18,84
T - Ausl 10 Firenze	5,00	1,04	1,06	1,75	17,72	16,91	17,01	15,95
T - Ausl 11 Empoli	5,00	0,92	0,77	-15,60	19,11	19,10	20,85	24,69
T - Ausl 12 Viareggio	5,00	1,49	0,93	-37,91	34,29	14,29	23,00	15,44
T - Aou Pisana	5,00	0,97	0,91	-5,73	30,85	30,82	31,92	33,83
T - Aou Senese	2,86	1,03	1,24	20,99	27,78	35,92	27,03	28,89
T - Aou Careggi	4,49	1,36	1,13	-17,51	29,82	22,00	21,86	19,55

## Indicator B9: Equity and Access

B9.7 NTSV cesarean birth rates ratio by education

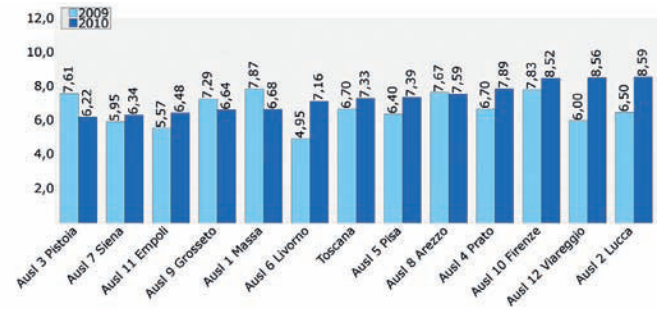
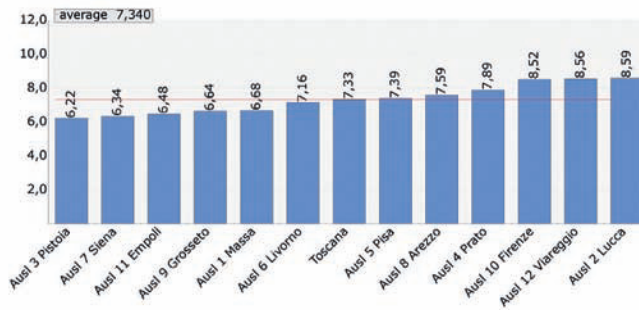
<b>Definition:</b>	Proportion of NTSV cesarean births on low qualified people as compared to highly qualified people
<b>Numerator:</b>	Percentage of NTSV cesarean births for women with low education
<b>Denominator:</b>	Percentage of NTSV cesarean births for women with high education
<b>Formula:</b>	$\frac{\text{No. of NTSV cesarean births per low qualification}}{\text{No. of NTSV births per low qualification}} \bigg/ \frac{\text{No. of NTSV cesarean births per high qualification}}{\text{No. of NTSV births per high qualification}}$
<b>Notes:</b>	<p>NTSV (Nulliparous, Term, Cephalic, Singleton Delivery):</p> <ul style="list-style-type: none"> <li>• primiparous women,</li> <li>• full-term births between the 38th and 43rd week of amenorrhoea included</li> <li>• single birth,</li> <li>• vertex birth</li> </ul> <p>Medically assisted procreation births are excluded. We consider women aged between 14 and 49 years. Educational qualifications are classified as follows:</p> <ul style="list-style-type: none"> <li>- Low educational qualification = No qualification + Primary School qualification + Middle School qualification</li> <li>- High educational qualification = Secondary School diploma + Degree + Other University qualifications.</li> </ul>
<b>Source:</b>	Regional Information System – CAP Flow ( <i>Sistema Informativo Regionale - Flusso CAP</i> )
<b>Reference:</b>	Age (The standard population is the resident population in Italy in 2001, source ISTAT).



## Indicator B9.8: VPI hospitalization rates ratio by citizenship 3.53

The indicator shows hospitalization rates for Voluntary Pregnancy Interruption for foreign- and Italian Tuscan residents.

### B9.8 – VPI hospitalization rates ratio by citizenship



### B9.8 VPI hospitalization rates ratio by citizenship

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	6,70	7,33	9,39	16,11	15,92	2,40	2,17
T - Asl 1 Massa	not assessed	7,87	6,68	-15,09	21,21	18,28	2,69	2,73
T - Asl 2 Lucca	not assessed	6,50	8,59	32,20	13,05	14,73	2,01	1,71
T - Asl 3 Pistoia	not assessed	7,61	6,22	-18,29	16,56	13,94	2,17	2,24
T - Asl 4 Prato	not assessed	6,70	7,89	17,75	15,72	15,65	2,35	1,99
T - Asl 5 Pisa	not assessed	6,40	7,39	15,49	14,71	15,41	2,30	2,09
T - Asl 6 Livorno	not assessed	4,95	7,16	44,52	15,69	14,92	3,17	2,08
T - Asl 7 Siena	not assessed	5,95	6,34	6,56	15,34	15,88	2,58	2,50
T - Asl 8 Arezzo	not assessed	7,67	7,59	-1,10	14,77	14,89	1,93	1,96
T - Asl 9 Grosseto	not assessed	7,29	6,64	-8,95	20,28	17,23	2,78	2,59
T - Asl 10 Firenze	not assessed	7,83	8,52	8,77	17,15	16,46	2,19	1,93
T - Asl 11 Empoli	not assessed	5,57	6,48	16,38	13,38	16,11	2,40	2,48
T - Asl 12 Viareggio	not assessed	6,00	8,56	42,72	16,66	22,13	2,78	2,59

## Indicator B9: Equity and Access

### B9.8 VIP hospitalization rates ratio by citizenship

<b>Definition:</b>	VPI hospitalization rates ratio by citizenship
<b>Numerator:</b>	VPI rate per 1,000 foreign female residents
<b>Denominator:</b>	VPI rate per 1,000 Italian female residents
<b>Formula:</b>	$\frac{\text{No. of VPI for foreign women}}{\text{No. of foreign women residents of Tuscany}} \bigg/ \frac{\text{No. of VPI for Italian women}}{\text{No. of Italian women residents of Tuscany}}$
<b>Notes:</b>	<p>Unaccredited private hospitals are excluded</p> <p>Voluntary Pregnancy Interruption is identified by:</p> <ul style="list-style-type: none"> <li>– Discharge Diagnosis 635.**</li> <li>– Main intervention on codes 69.01 and 69.51</li> <li>– Or principal Diagnosis: 635.xx and secondary Diagnosis</li> <li>• V617 (another unwanted pregnancy) or</li> <li>• V5883 (Therapeutic drug monitoring treatment)</li> </ul> <p>in the presence of code 99.24 (Injections of other hormones – first and possible second oral administration) in any procedure.</p> <p>Women considered in the numerator come from countries with strong migration pressure and residents of Tuscany (Temporary foreigners are excluded)</p> <p>As for the denominator only Tuscan women are considered (residents of Tuscany with Italian citizenship)</p> <p>We also consider hospitalizations outside the region.</p>
<b>Source:</b>	SDO Flow ( <i>Flusso SDO</i> )





### 3.54 Indicator B11: Complexity (Teaching Hospitals)

Teaching Hospitals within the Regional Health System are third-level reference facilities aimed at providing health care to Tuscans suffering from considerably complex diseases. In order to evaluate such competence this indicator measures the case mix and the complexity of the cases treated by each Teaching Hospital by means of the DRG (Diagnosis-Related Groups) classification system. Such a system classifies discharged patients based on commonality of care received and resources consumed. Each DRG has a weight expressing the degree of complexity with regards to both costs and clinical activity. Funding for each DRG is directly proportional to its weight. DRGs scoring higher than 2.5 are regarded as highly-complex.

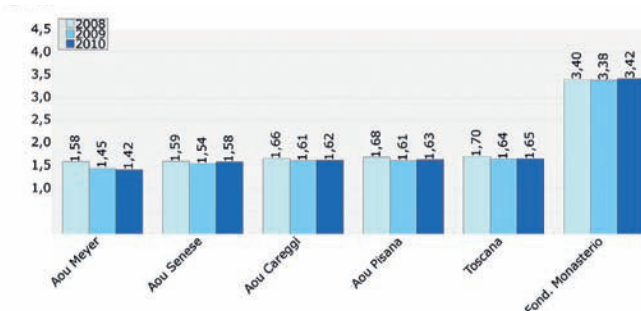
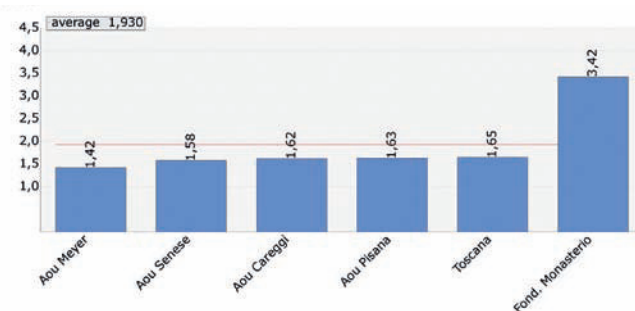
Only standard medical or surgical hospitalizations are taken into consideration in order to calculate these indicators. As for the surgical-related section further detail is provided relating to the percentage of high complexity DRGs and average weight.

#### **B11 Complexity (Teaching Hospitals):**

- B11.1 – Average DRG weights: 1,65
  - B11.1.1 – Average medical DRG weights: 1,04
  - B11.1.2 – Average surgical DRG weights: 2,29
    - B11.1.2.1 – Percentage of high-complexity surgical DRGs: 34,18
    - B11.1.2.2 – Average weight of high-complexity surgical DRGs: 4,62



## B11.1 – Average DRG weights



## B11.1 Average Diagnosis-Related Group (DRG) weights

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	1,64	1,65	0,76	247.836	251.678,89	151.170	152.349,00
T - Aou Pisana	not assessed	1,61	1,63	(*)	85.012	85.002,14	52.759	52.270,00
T - Aou Senese	not assessed	1,54	1,58	(*)	45.386	46.640,14	29.434	29.555,00
T - Aou Careggi	not assessed	1,61	1,62	(*)	91.697	92.503,30	56.823	57.185,00
T - Aou Meyer	not assessed	1,45	1,42	(*)	11.471	12.911,86	7.930	9.061,00
T - Fond. Monasterio	not assessed	3,38	3,42	(*)	14.270	14.621,45	4.224	4.278,00

## Indicator B11: Complexity (Teaching Hospitals)

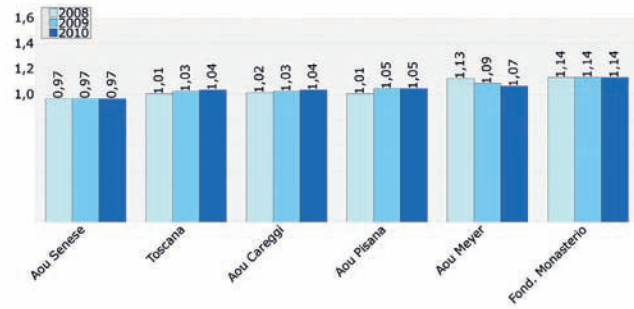
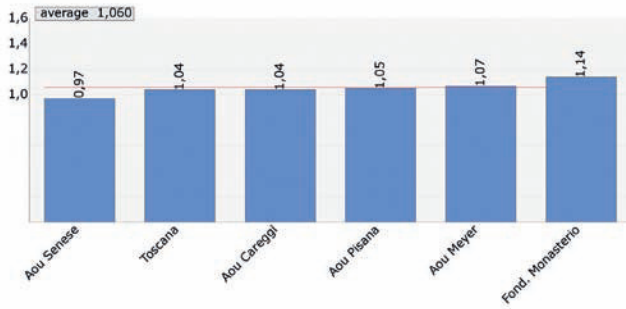
## B11.1 Average Diagnosis-Related Group (DRG) weights

<b>Definition:</b>	Average DRG weights
<b>Numerator:</b>	Sum of DRG weights
<b>Denominator:</b>	Number of discharges
<b>Formula:</b>	$\frac{\text{Sum of DRG weights}}{\text{Number of discharges}}$
<b>Notes:</b>	We consider only inpatient admissions.
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Meaning:</b>	DRG weight applied to each admission reflects the complexity in the case history, that is, the degree of relative commitment both in terms of costs and of clinical commitment of each DRG with respect to the standard average cost per admission.



### 3.56 Indicator B11.1.1: Average medical DRG weights

#### B11.1.1 – Average medical DRG weights



#### B11.1.1 Average medical DRG weights

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	1,03	1,04	0,54	80.389	80.441,81	78.264	77.683,00
T - Aou Pisana	not assessed	1,05	1,05	(*)	26.997	27.108,90	25.779	25.705,00
T - Aou Senese	not assessed	0,97	0,97	(*)	17.038	16.459,44	17.552	16.913,00
T - Aou Careggi	not assessed	1,03	1,04	(*)	29.422	29.444,75	28.635	28.222,00
T - Aou Meyer	not assessed	1,09	1,07	(*)	4.889	5.385,29	4.505	5.045,00
T - Fond. Monasterio	not assessed	1,14	1,14	(*)	2.043	2.043,43	1.793	1.798,00

### Indicator B11: Complexity (Teaching Hospitals)

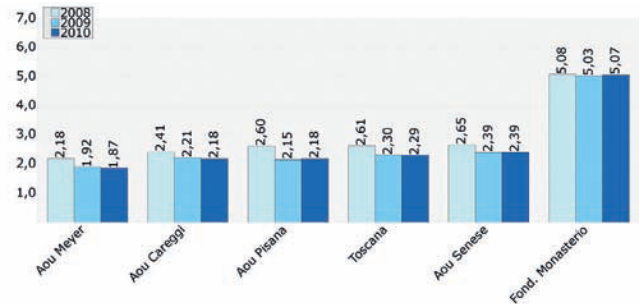
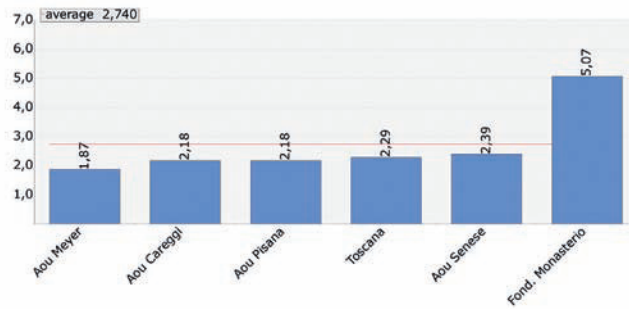
#### B11.1.1 Average medical DRG weights

<b>Definition:</b>	Average medical DRG weights
<b>Numerator:</b>	Sum of the weight of medical DRGs
<b>Denominator:</b>	No. of discharges with a medical DRG
<b>Formula:</b>	$\frac{\text{Sum of the weight of medical DRGs}}{\text{No. of discharges with a medical DRG}}$
<b>Notes:</b>	We consider only inpatient admissions
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Meaning:</b>	DRG weight applied to each admission reflects the complexity in the case history, that is, the degree of relative commitment both in terms of costs and of clinical commitment of each DRG with respect to the standard average cost per admission.



## Indicator B11.1.2: Average surgical DRG weights **3.57**

### B11.1.2 – Average surgical DRG weights



### B11.1.2 Average surgical DRG weights

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	2,30	2,29	-0,29	167.447	171.236,91	72.904	74.665,00
T - Aou Pisana	not assessed	2,15	2,18	(*)	58.015	57.893,24	26.980	26.565,00
T - Aou Senese	not assessed	2,39	2,39	(*)	28.348	30.180,70	11.882	12.642,00
T - Aou Careggi	not assessed	2,21	2,18	(*)	62.275	63.058,38	28.186	28.962,00
T - Aou Meyer	not assessed	1,92	1,87	(*)	6.582	7.526,57	3.425	4.016,00
T - Fond. Monasterio	not assessed	5,03	5,07	(*)	12.227	12.578,02	2.431	2.480,00

## Indicator B11: Complexity (Teaching Hospitals)

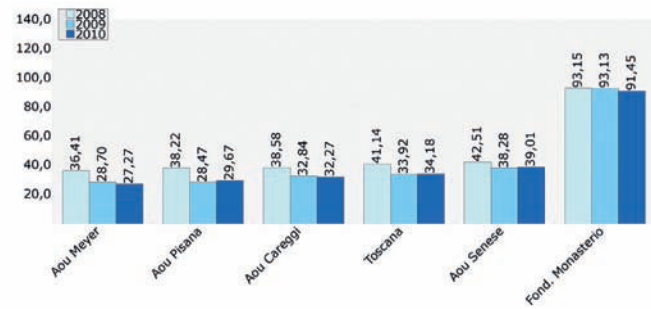
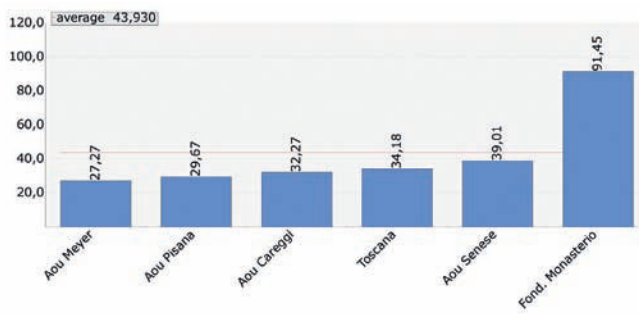
### B11.1.2 Average surgical DRG weights

<b>Definition:</b>	Average surgical DRG weights
<b>Numerator:</b>	Sum of the weight of surgical DRGs
<b>Denominator:</b>	No. of discharges with a surgical DRG
<b>Formula:</b>	$\frac{\text{Sum of the weight of surgical DRGs}}{\text{No. of discharges with a surgical DRG}}$
<b>Notes:</b>	We consider only inpatient admissions
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Meaning:</b>	DRG weight applied to each admission reflects the complexity in the case history, that is, the degree of relative commitment both in terms of costs and of clinical commitment of each DRG with respect to the standard average cost per admission.



### 3.58 Indicator B11.1.2.1: Percentage of high-complexity surgical DRGs

#### B11.1.2.1 – Percentage of high-complexity surgical DRGs



#### B11.1.2.1 Percentage of high-complexity surgical DRGs

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	33,92	34,18	0,77	24.732	25.522,00	72.904	74.665,00
T - Aou Pisana	not assessed	28,47	29,67	(*)	7.680	7.881,00	26.980	26.565,00
T - Aou Senese	not assessed	38,28	39,01	(*)	4.548	4.932,00	11.882	12.642,00
T - Aou Careggi	not assessed	32,84	32,27	(*)	9.257	9.346,00	28.186	28.962,00
T - Aou Meyer	not assessed	28,70	27,27	(*)	983	1.095,00	3.425	4.016,00
T - Fond. Monasterio	not assessed	93,13	91,45	(*)	2.264	2.268,00	2.431	2.480,00

### Indicator B11: Complexity (Teaching Hospitals)

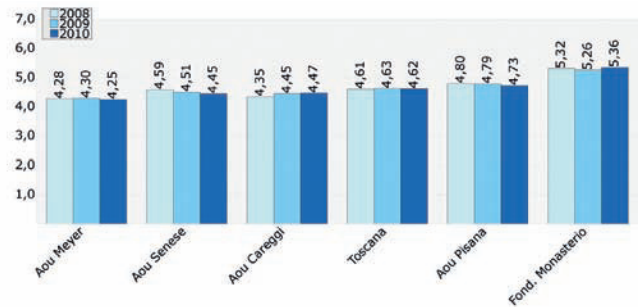
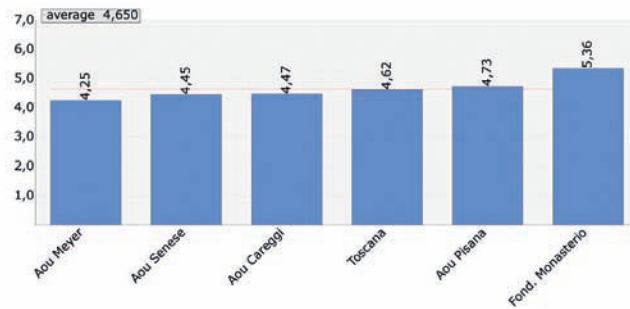
#### B11.1.2.1 Percentage of high-complexity surgical DRGs

<b>Definition:</b>	Percentage of high-complexity surgical DRGs
<b>Numerator:</b>	No. of surgical DRGs with weight $\geq 2.5$
<b>Denominator:</b>	No. of discharges with a surgical DRG
<b>Formula:</b>	$\frac{\text{No. of surgical DRGs with weight } \geq 2.5}{\text{No. of discharges with a surgical DRG}}$
<b>Notes:</b>	We consider only inpatient admissions High-complexity DRGs are those with weight $\geq 2.5$
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Meaning:</b>	DRG weight applied to each admission reflects the complexity in the case history, that is, the degree of relative commitment both in terms of costs and of clinical commitment of each DRG with respect to the standard average cost per admission.



## Indicator B11.1.2.2: Average weight of high-complexity surgical DRGs 3.59

### B11.1.2.2 – Average weight of high-complexity surgical DRGs



#### B11.1.2.2 Average weight of high-complexity surgical DRGs

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	4,63	4,62	-0,29	114.621	117.826,82	24.732	25.522,00
T - Aou Pisana	not assessed	4,79	4,73	(*)	36.787	37.306,92	7.680	7.881,00
T - Aou Senese	not assessed	4,51	4,45	(*)	20.514	21.942,20	4.548	4.932,00
T - Aou Careggi	not assessed	4,45	4,47	(*)	41.178	41.758,96	9.257	9.346,00
T - Aou Meyer	not assessed	4,30	4,25	(*)	4.229	4.653,39	983	1.095,00
T - Fond. Monasterio	not assessed	5,26	5,36	(*)	11.913	12.165,35	2.264	2.268,00

## Indicator B11: Complexity (Teaching Hospitals)

### B11.1.2.2 Average weight of high-complexity surgical DRGs

<b>Definition:</b>	Average weight of high-complexity surgical DRGs
<b>Numerator:</b>	Sum of the weight of surgical DRGs with weight $\geq 2.5$
<b>Denominator:</b>	No. of discharges with a surgical DRG weight $\geq 2.5$
<b>Formula:</b>	$\frac{\text{Sum of the weight of surgical DRGs with weight } \geq 2.5}{\text{No. of discharges with a surgical DRG weight } \geq 2.5}$
<b>Notes:</b>	We consider only inpatient admissions
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Meaning:</b>	DRG weight applied to each admission reflects the complexity in the case history, that is, the degree of relative commitment both in terms of costs and of clinical commitment of each DRG with respect to the standard average cost per admission.



### 3.60 Indicator B12: Mobility (Teaching Hospitals)

Travel or mobility beyond regional borders for health reasons impacts regional planning as well as the development of shared inter-regional policies. Citizens should find adequate responses to their health needs within their territory. Mobility statistics are therefore important in evaluating services available in the territory and, in general, in assessing healthcare supply and demand from the point of view of resource optimisation and quality improvement.

The indicator considers incoming and outflow mobility with regards to hospitalization beyond the Area Vasta territory and beyond the Region.

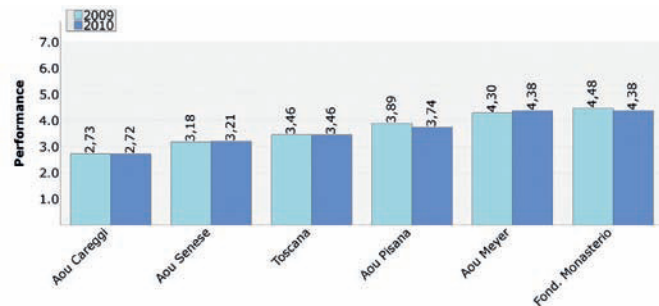
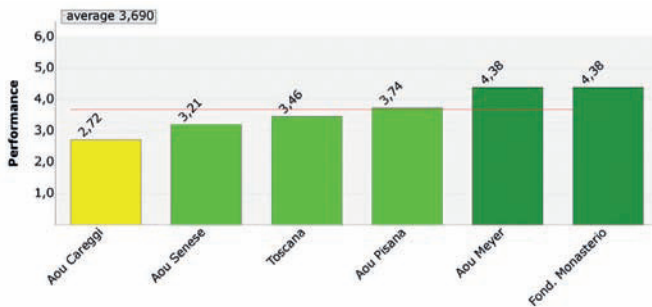
The data of outflow trends relate to each hospital but it is valid for the entire Area Vasta.

Indicator	Performance	Year
B12 – Mobility (Teaching Hospitals)	● 3,46	2010

#### B12 Mobility (Teaching Hospitals):

- B12.1 – Outflow (Teaching Hospitals): ■
  - B12.1.1 – Outflow outside the Area Vasta territory: ■
    - B12.1.1.1 – Outflow rate outside the Area Vasta territory: 8,85% ■
    - B12.1.1.2 – Outflow outside the Area Vasta territory per high-complexity DRG: 11,79% ■
  - B12.1.2 – Extra Region Outflow: ■
    - B12.1.2.1 – Overall Extra Regional outflow: 4,84% ■
    - B12.1.2.2 – Extra-regional outflow rate per high-complexity DRG: 5,01% ■
- B12.2 – Inflows: ■
  - B12.2.1 – Inflow outside the Area Vasta territory per high-complexity DRG: 10,29
  - B12.2.2 – Extra Region Inflow: [only evaluation] ■
    - B12.2.2.1 – Extra-regional inflow: 17,25% ■
    - B12.2.2.2 – Extra-regional inflow per high-complexity DRG: 14,19% ■

#### B12 – Mobility (Teaching Hospitals)



#### Indicator B12: Mobility (Teaching Hospitals)

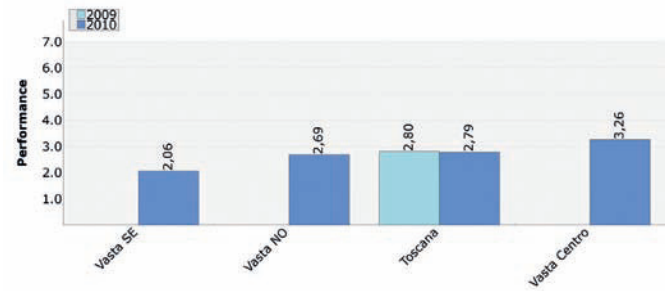
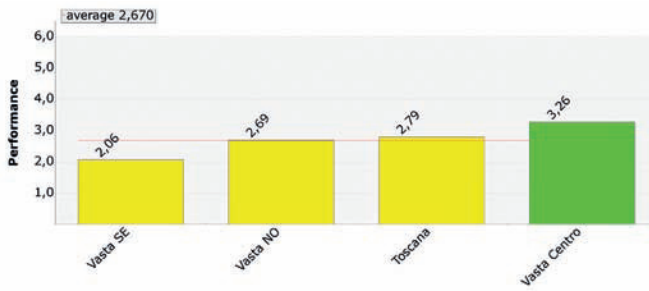
##### Notes

This indicator has a value equal to the average score of the following indicators: B12.1 – Outflow and B12.2 – Inflows.  
 The indicator B12.1 – Outflow Trends has a value equal to the average score of the following indicators: B12.1.1 – Outflow Trends outside the Area Vasta territory and B12.1.2 – Extra region outflow.  
 The indicator B12.1.1 – Outflow outside the Area Vasta territory has a value equal to the average score of the following indicators: B12.1.1.1 – Percentage of outflow outside the Area Vasta territory and % B12.1.1.2 – Percentage of outflow outside the Area Vasta territory per high-complexity DRG%.  
 The indicator B12.1.2 – Extra regional Outflow Trends has a value equal to the average score of the following indicators: B12.1.2.1 – Overall percentage of extra regional outflow and B12.1.2.2 – Percentage of extra regional outflow per high-complexity DRG.  
 The indicator B12.2 – Inflows has a value equal to the average score of the following indicators: B12.2.2  
 The indicator B12.2.2 – Extra regional Inflows has a value equal to the score of the following indicators: B12.2.2.1 – Percentage of extra regional inflows and B12.2.2.2 – Percentage of extra regional inflows per high-complexity DRG.



**Indicator B12.1: Outflow (Teaching Hospitals) 3.61**

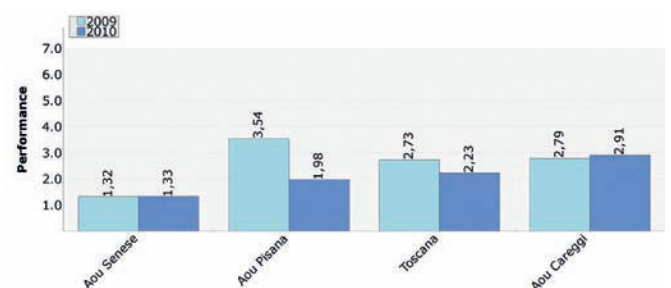
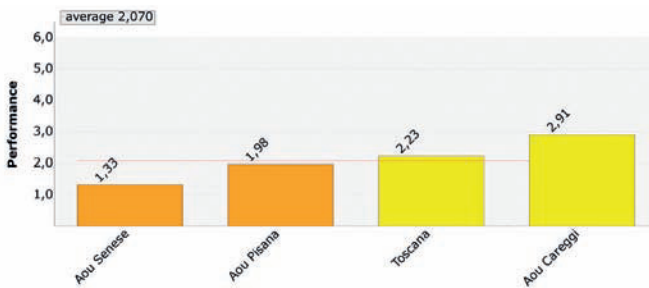
**B12.1 – Outflow**



**Indicator B12.1.1: Outflow outside the Area Vasta territory 3.62**

The regional organisation requires each Area Vasta to take responsibility for the health needs of its own citizens in order to avoid the need to travel for health purposes, except in the case of some specialised regional centres and for cross-border migration to and from neighbouring regions, due to geographical contiguity and territorial redeployment of health services. The level of outflows from the Area Vasta territory is considered as an indicator of a failure to meet citizens' needs due to either a lack of supply (deficiency or unavailability in services), or to a problem in the quality (real or perceived) of available care.

**B12.1.1 – Outflow outside the Area Vasta territory**

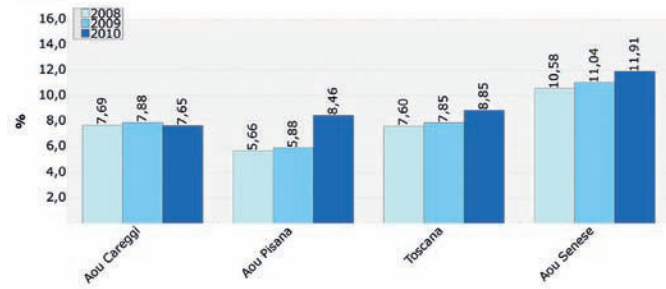
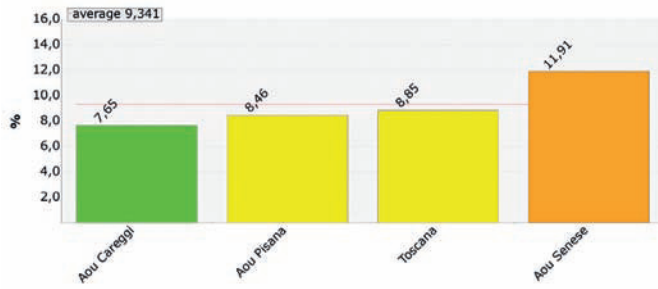






### 3.63 Indicator B12.1.1.1: Outflow rate outside the Area Vasta territory

#### B12.1.1.1 – Outflow rate outside the Area Vasta territory



#### B12.1.1.1 Outflow rate outside the Area Vasta territory

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Assessment	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,72	7,85	8,85	12,80	3,05	45.599	50.949,00	581.147	575.669,00
T - Aou Pisana	2,85	5,88	8,46	(*)	3,71	12.197	17.019,00	207.394	201.075,00
T - Aou Senese	1,70	11,04	11,91	(*)	1,99	13.846	14.731,00	125.428	123.731,00
T - Aou Careggi	3,12	7,88	7,65	(*)	3,04	19.556	19.199,00	248.325	250.863,00

### Indicator B12: Mobility (Teaching Hospitals)

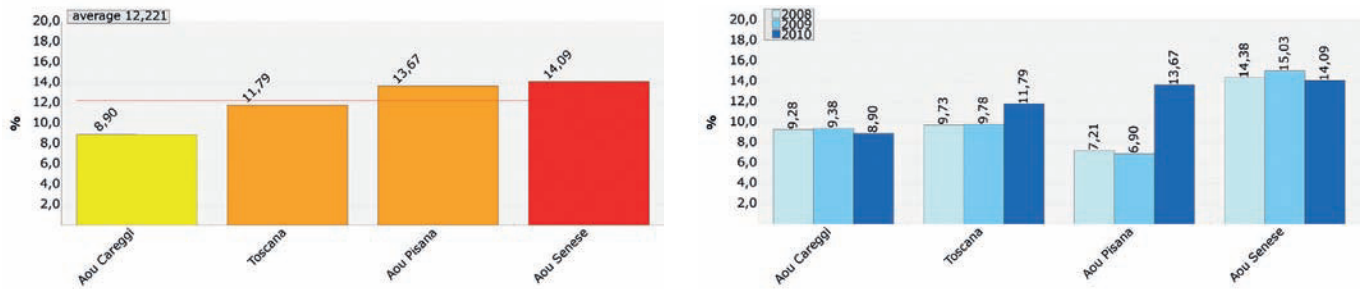
#### B12.1.1.1 Outflow rate outside the Area Vasta territory

<b>Definition:</b>	Intra Regional outflow outside the Area Vasta territory per all DRGs
<b>Numerator:</b>	No. of residents in the Area Vasta territory who were discharged outside it in Tuscany
<b>Denominator:</b>	No. of residents in the Area Vasta territory discharged in Tuscany
<b>Formula:</b>	$\frac{\text{No. of residents in the Area Vasta territory who were discharged outside it in Tuscany}}{\text{No. of residents in the Area Vasta territory discharged in Tuscany}} \times 100$
<b>Notes:</b>	Unaccredited private hospitals are not considered
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Teaching Hospitals average 2008
<b>Meaning:</b>	The indicator evaluates the Number of citizens moving to an Area Vasta other than the one of residence for any hospitalization



## Indicator B12.1.1.2: Outflow rate outside the Area Vasta territory per high-complexity DRG 3.64

### B12.1.1.2 – Outflow rate outside the Area Vasta territory per high-complexity DRG



### B12.1.1.2 Outflow rate outside the Area Vasta territory per high-complexity DRG

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Assessment	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,74	9,78	11,79	20,60	2,41	5.392	6.795,00	55.139	57.619,00
T - Aou Pisana	1,11	6,90	13,67	(*)	3,37	1.373	2.795,00	19.912	20.440,00
T - Aou Senese	0,97	15,03	14,09	(*)	0,66	1.903	1.877,00	12.663	13.320,00
T - Aou Careggi	2,70	9,38	8,90	(*)	2,54	2.116	2.123,00	22.564	23.859,00

## Indicator B12: Mobility (Teaching Hospitals)

### B12.1.1.2 Outflow rate outside the Area Vasta territory per high-complexity DRG

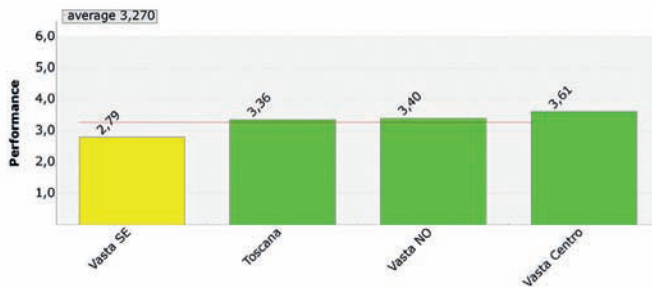
<b>Definition:</b>	Intra Regional outflow outside the Area Vasta territory per high-complexity DRG
<b>Numerator:</b>	No. of residents in the Area Vasta territory discharged outside it in Tuscany with high-complexity DRG
<b>Denominator:</b>	No. of residents in the Area Vasta territory discharged in Tuscany with high-complexity DRG
<b>Formula:</b>	$\frac{\text{No. of residents in the Area Vasta territory discharged outside it in Tuscany with high-complexity DRG}}{\text{No. of residents in the Area Vasta territory discharged in Tuscany with high-complexity DRG}} \times 100$
<b>Notes:</b>	High-complexity DRGs are those with weight $\geq 2.5$ Unaccredited private hospitals are not considered.
<b>Source:</b>	Regional Information System – SDO stream ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Teaching Hospitals average 2008
<b>Meaning:</b>	The indicator evaluates the number of citizens moving to an Area Vasta other than the one of residence for high-complexity hospitalizations.



### 3.65 Indicator B12.1.2: Extra-regional outflow

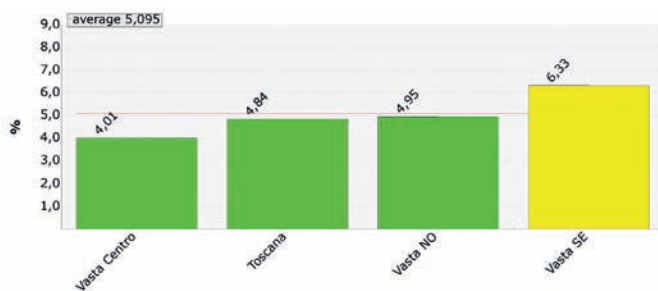
The region is committed to curtail the need for its residents to seek healthcare beyond the region's borders by guaranteeing specialised centres for the treatment of complex diseases.

#### B12.1.2 – Extra-regional outflow



### 3.66 Indicator B12.1.2.1: Overall extra-regional outflow

#### B12.1.2.1 – Overall extra-regional outflow



#### B12.1.2.1 Overall extra-regional outflow

Health Authority	Value	Assessment	Numerator	Denominator
T - Toscana	5,99	3,00	37.042	618.189
T - Aou Pisana	4,56	3,48	11.874	260.199
T - Aou Senese	5,96	3,01	13.149	220.543
T - Aou Careggi	8,74	2,09	12.019	137.447

### Indicator B12: Mobility (Teaching Hospitals)

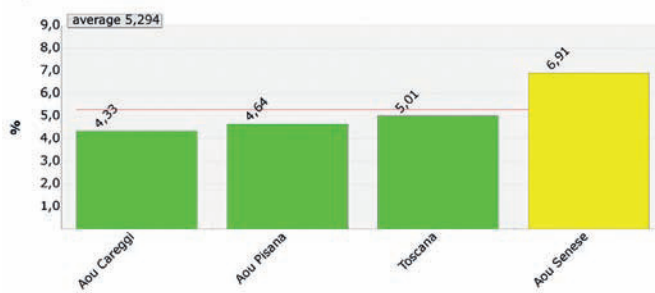
#### B12.1.2.1 Overall extra-regional outflow

<b>Definition:</b>	Overall extra-regional outflow rates
<b>Numerator:</b>	No. of discharges in other regions of residents of Tuscany
<b>Denominator:</b>	No. of residents of Tuscany discharged
<b>Formula:</b>	$\frac{\text{No. of discharges in other regions of residents of Tuscany}}{\text{No. of residents of Tuscany discharged}} \times 100$
<b>Notes:</b>	Unaccredited private hospitals are not considered.
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Average of the different Area Vasta structures, 2008



## Indicator B12.1.2.2: Extra-regional outflow rate per high-complexity DRG 3.67

### B12.1.2.2 – Extra-regional outflow rate per high-complexity DRG



#### B12.1.2.2 Extra-regional outflow rate per high-complexity DRG

Health Authority	Value	Assessment	Numerator	Denominator
T - Toscana	6,75	2,75	1.601	23.718
T - Aou Pisana	6,85	2,72	599	8.741
T - Aou Senese	9,41	1,86	501	5.322
T - Aou Careggi	5,19	3,27	501	9.655

## Indicator B12: Mobility (Teaching Hospitals)

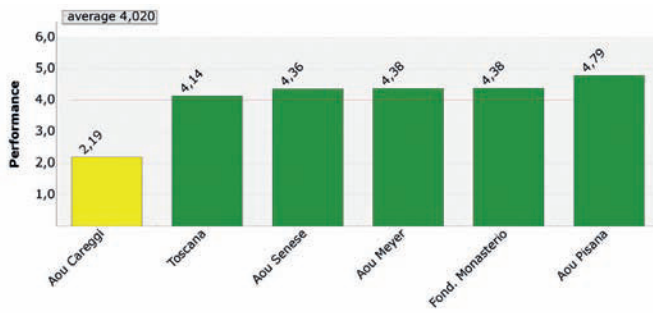
### B12.1.2.2 Extra-regional outflow rate per high-complexity DRG

<b>Definition:</b>	Extra-regional outflow rate per high-complexity DRG
<b>Numerator:</b>	No. of discharges of residents of Tuscany with high-complexity DRG in other regions
<b>Denominator:</b>	No. of discharges of residents of Tuscany in other regions
<b>Formula:</b>	$\frac{\text{No. of discharges of residents of Tuscany with high-complexity DRG in other regions}}{\text{No. of discharges of residents of Tuscany in other regions}} \times 100$
<b>Notes:</b>	High-complexity DRGs are those with weight $\geq 2.5$ Unaccredited private hospitals are not considered
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Average of Teaching Hospitals 2008
<b>Meaning:</b>	The indicator calculates the percentage of high-complexity cases in Tuscan patients discharged in other regions.



### 3.68 Indicator B12.2: Inflows

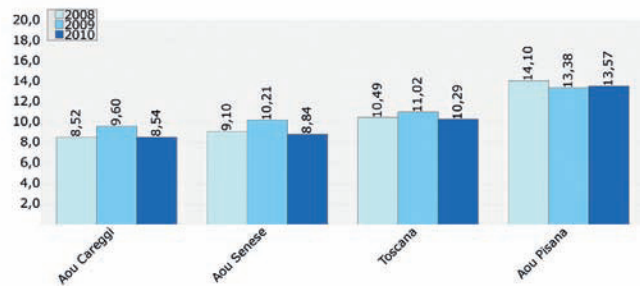
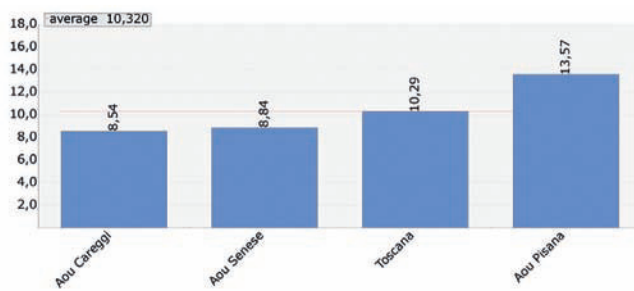
#### B12.2 – Inflows



### 3.69 Indicator B12.2.1: Inflow outside the Area Vasta territory per high-complexity DRG

This indicator calculates the percentage of hospitalization per high complexity DRG in relation to residents outside the Area Vasta territory. Unlike the previous indicators, it is not intended for evaluation, as such an eventuality is not encouraged at the regional level, given that the Tuscan Health System is based on a collaborative logic and not on a competitive one.

#### B12.2.1 – Inflow outside the Area Vasta territory per high-complexity DRG



#### B12.2.1 Inflow outside the Area Vasta territory per high-complexity DRG

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	11,02	10,29	-6,67	2.295	2.220,00	20.818	21.584,00
T - Aou Pisana	not assessed	13,38	13,57	(*)	957	979,00	7.153	7.214,00
T - Aou Senese	not assessed	10,21	8,84	(*)	438	420,00	4.290	4.751,00
T - Aou Careggi	not assessed	9,60	8,54	(*)	900	821,00	9.375	9.619,00

### Indicator B12: Mobility (Teaching Hospitals)

#### B12.2.1 Inflow outside the Area Vasta territory per high-complexity DRG

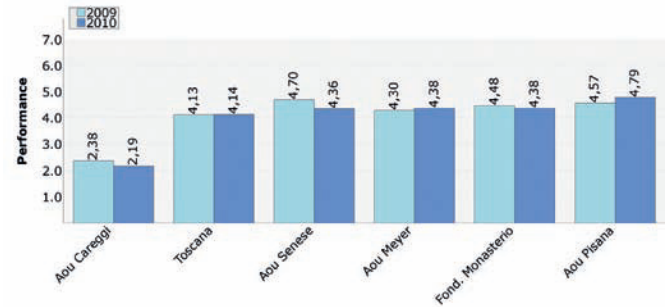
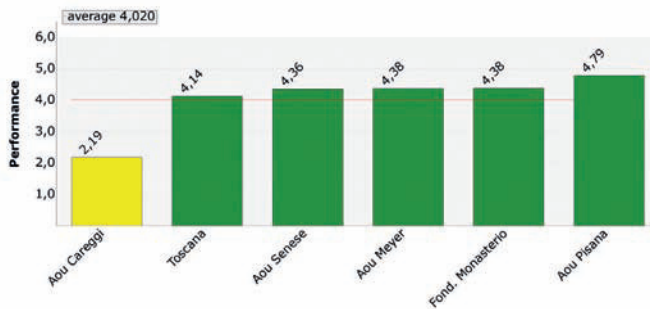
<b>Definition:</b>	Intra Regional inflow outside the Area Vasta territory per high-complexity DRG
<b>Numerator:</b>	No. of Tuscans resident outside the Area Vasta territory with high-complexity DRG discharged
<b>Denominator:</b>	No. of Tuscans with high-complexity DRG discharged
<b>Formula:</b>	$\frac{\text{No. of Tuscans resident outside the Area Vasta territory with high-complexity DRG discharged}}{\text{No. of Tuscans with high-complexity DRG discharged}} \times 100$
<b>Notes:</b>	High-complexity DRGs are those with weight $\geq 2.5$
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Average of Teaching Hospitals 2008
<b>Meaning:</b>	The indicator calculates the number of citizens coming from a different Area Vasta for high-complexity hospitalizations.



## Indicator B12.2.2: Extra Region Inflow 3.70

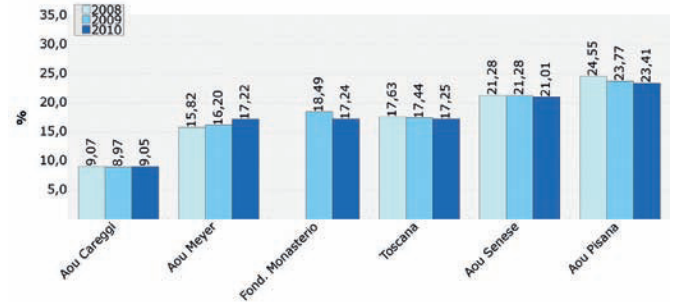
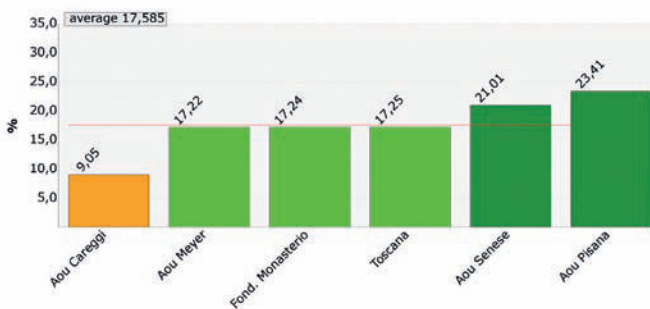
The ability to attract customers from other regions confirms that the excellence of the Tuscan Health System is recognized nationally. Inflows positively impact the local economy. The following indicators highlight both the hospitalization percentage of inflows into Tuscan Teaching Hospitals, and the volume of such hospitalizations for complex diseases, that is, with a DRG weight above 2.5.

### B12.2.2 – Extra region Inflow



## Indicator B12.2.2.1: Extra-regional inflow 3.71

### B12.2.2.1 – Extra-regional inflow



### B12.2.2.1 Extra-regional inflow

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Assessment	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,45	17,44	17,25	-1,09	3,49	39.275	38.922,00	225.229	225.675,00
T - Aou Pisana	4,68	23,77	23,41	(*)	4,75	19.097	17.801,00	80.334	76.051,00
T - Aou Senese	4,20	21,28	21,01	(*)	4,26	8.783	8.342,00	41.267	39.706,00
T - Aou Careggi	1,81	8,97	9,05	(*)	1,79	6.839	6.817,00	76.210	75.296,00
T - Aou Meyer	3,44	16,20	17,22	(*)	3,24	3.634	5.079,00	22.431	29.499,00
T - Fond. Monasterio	3,45	18,49	17,24	(*)	3,70	922	883,00	4.987	5.123,00

## Indicator B12: Mobility (Teaching Hospitals)

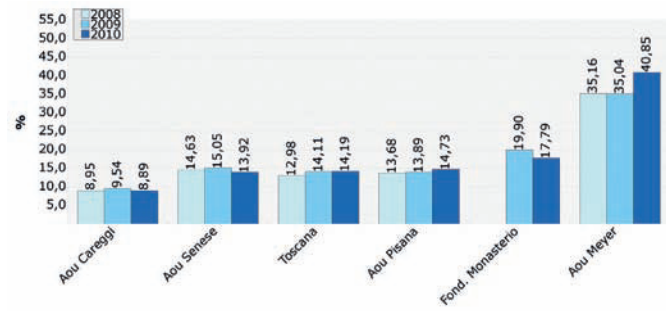
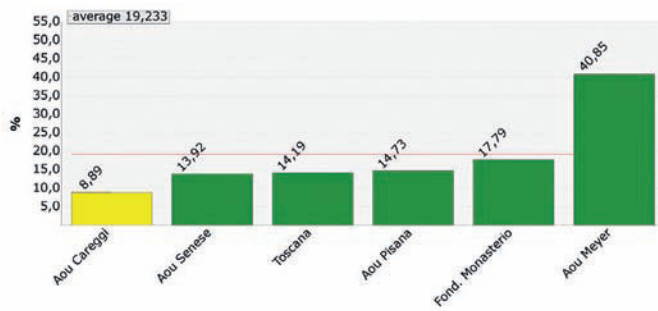
### B12.2.2.1 Extra-regional inflow

<b>Definition:</b>	Extra-regional inflow rate
<b>Numerator:</b>	No. of non-residents discharged in Tuscany
<b>Denominator:</b>	No. of discharges in Tuscany
<b>Formula:</b>	$\frac{\text{No. of non-residents discharged in Tuscany}}{\text{No. of discharges in Tuscany}} \times 100$
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Average of Teaching Hospitals 2008



### 3.72 Indicator B12.2.2.2: Extra-regional inflow per high-complexity DRG

#### B12.2.2.2 – Extra-regional inflow per high-complexity DRG



#### B12.2.2.2 Extra-regional inflow per high-complexity DRG

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Assessment	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,59	14,11	14,19	0,58	4,55	3.880	4.043,00	27.504	28.495,00
T - Aou Pisana	4,86	13,89	14,73	(*)	4,45	1.154	1.246,00	8.307	8.460,00
T - Aou Senese	4,46	15,05	13,92	(*)	5,00	760	768,00	5.050	5.519,00
T - Aou Careggi	2,44	9,54	8,89	(*)	2,77	989	938,00	10.364	10.557,00
T - Aou Meyer	5,00	35,04	40,85	(*)	5,00	519	685,00	1.481	1.677,00
T - Fond. Monasterio	5,00	19,90	17,79	(*)	5,00	458	406,00	2.302	2.282,00

### Indicator B12: Mobility (Teaching Hospitals)

#### B12.2.2.2 Extra-regional inflow per high-complexity DRG

<b>Definition:</b>	High-complexity extra Regional inflow rate
<b>Numerator:</b>	No. of non-residents with high-complexity DRG discharged in Tuscany
<b>Denominator:</b>	No. of discharges with high-complexity DRG
<b>Formula:</b>	$\frac{\text{No. of non-residents with high-complexity DRG discharged in Tuscany}}{\text{No. of discharges with high-complexity DRG}} \times 100$
<b>Notes:</b>	High-complexity DRGs are those with weight $\geq 2.5$
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Average of Teaching Hospitals 2008
<b>Meaning:</b>	The indicator calculates the percentage of high-complexity cases in non-resident discharged patients.



## Indicator B13: Continuity of Care: Maternal and Child Path 3.73

Protocols and procedures, shared within medical facilities and between hospital- and territorial facilities ensure a seamless continuity of care and improve uniform standards and interactions amongst the various branches of the system, and therefore have always been crucial in improving the care pathways, one of which is the birth pathway. Indicator B13 summarizes the satisfaction with regards to the skill of healthcare professionals to coordinate with each other at different stages of the pathway, based on the experiences of women who agreed to participate in the web and telephone survey “The Birth Pathway in Tuscany: The Experience of Women” (See Part V – The external evaluation). The indicator is calculated on the basis of the answers to the question: “Do you think there is coordination among the healthcare operators during the whole birth pathway?”

Indicator	Performance	Year
B13 – Continuity of care maternal and child path	● 2,66	2010

### B13 Continuity of care: maternal and child path

#### B13 – Continuity of care: maternal and child path



#### B13 Continuity of care in the maternal and child path

Do you think there is coordination among the healthcare operators during the whole birth pathway?

Local Health Authority	Absolutely not	Little coordination	Enough coordination	Much coordination	Very much coordination	Total	Observations	Value
T - Toscana	3,35	17,08	48,12	26,44	5,00	100	3.998	2,66
AUSL1MC	4,00	17,00	47,00	25,00	7,00	100	200	2,68
AUSL2LU	1,33	15,04	44,25	33,19	6,19	100	226	2,85
AUSL3PT	3,32	8,97	47,51	33,55	6,64	100	301	2,89
AUSL4PO	1,94	16,13	45,48	31,61	4,84	100	310	2,77
AUSL5PI	3,53	17,95	50,00	24,04	4,49	100	312	2,60
AUSL6LI	2,52	19,33	48,32	26,89	2,94	100	238	2,61
AUSL7SI	3,34	16,43	44,29	29,53	6,41	100	359	2,74
AUSL8AR	3,23	17,42	49,35	25,16	4,84	100	310	2,64
AUSL9GR	3,91	17,97	46,88	28,13	3,13	100	128	2,61
AUSL10FI	4,24	20,07	49,31	22,49	3,89	100	1.156	2,52
AUSL11EM	2,37	15,42	54,55	23,32	4,35	100	253	2,65
AUSL12VI	4,62	13,87	49,13	24,86	7,51	100	173	2,71



### Indicator B13: Continuity of care: maternal and child path

#### B13 Women's assessment on the level of coordination among the healthcare operators of the birth path

<b>Definition:</b>	Women's assessment on the level of coordination among the healthcare operators of the birth path.
<b>Notes:</b>	Women who decided to take part in the survey were asked to answer to some questions. A value was then assigned to each of their answers by using a scale from 0 to 100.
<b>Question:</b>	B13 - "Do you think there is coordination among the healthcare operators during the whole birth pathway?"
<b>Source:</b>	CAWI and CATI Survey: "The birth pathway in Tuscany. Women's experience" – 2010 – MeS Laboratory.
<b>Target population:</b>	All women who gave birth in maternity facilities in Tuscany were invited to complete the questionnaire on the web (CAWI - Computer assisted web interviews - method), or contact the regional toll free number and request to be interviewed by telephone (CATI - Computer assisted telephone interviews - method).





### 3.74 Indicator B15: Research Productivity (Teaching Hospitals)

Indicator B15 monitors the research activities of Teaching Hospitals and of the Monasterio Foundation specifically regarding articles published in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) in 2010. To obtain the list of such articles a cross-database search has been done by joining the Monasterio Foundation and the four Teaching Hospitals' staff members' databases (only medical and non-medical directors were considered) with the ISI Web of Science articles' database. In order to verify the list of articles and to limit the risks of homonymy only those articles where the name of the institution coincided with one of the four Teaching Hospitals or the Monasterio Foundation were selected. Only articles were considered. All publications classified as Proceedings Papers, Letters, Reviews, and Meeting Abstracts by the ISI Web of Science were excluded. The indicator used to monitor the scientific production is the Impact Factor (IF): the IF of a journal measures the average frequency with which the journal has been cited in one year. The IF is calculated by dividing the current number of citations of articles published in the previous two years by the number of articles published in the same time period. If the year of publication of the articles is too recent to allow time to achieve a significant reach of the literature, the IF of the journal is associated to them. The indicators monitor the Impact Factor according to three different aspects: average IF of directors and subordinates, the IF of individual articles and the average and median IF for specialized topics, considering the percentage of specialized topics in which the IF is higher than the one reported by ISI. The articles' list taken from ISI was submitted to the Directorate-General in March 2010 and sent to the Authorities in the following months to verify the completeness and correctness of the data. At the time of publication of the report only the Monasterio Foundation answered the request for verification of the selected articles. The published data are thus only partial and indicative.

#### **B15 Research productivity (Teaching Hospitals):**

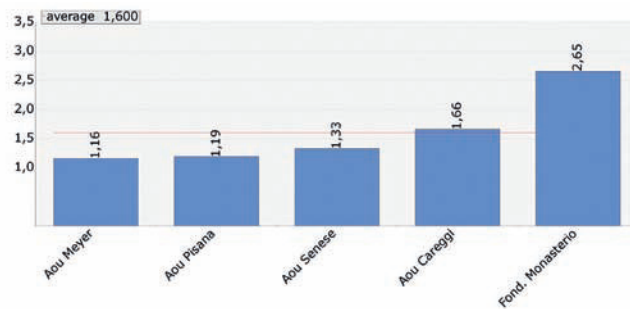
- B15.1 – Average Impact Factor (IF) per Manager
  - B15.1.1 – Average Impact Factor (IF) per Manager
  - B15.1.2 – Average Impact Factor (IF) per Employee
- B15.2 – Impact Factor (IF) per article
  - B15.2.1 – Overall Impact Factor
  - B15.2.2 – Average Impact Factor per Article
  - B15.2.3 – Median Impact Factor per Article
- B15.3 – Impact Factor (IF) per specialized topics
  - B15.3.1 – Percentage of specialized topics with average IF higher than the specialized topic IF reported by ISI
  - B15.3.2 – Percentage of specialized topics with median IF higher than the specialized topic IF reported by ISI



## Indicator B15.1.1: Average Impact Factor per Manager 3.75

The indicator measures the average IF per manager, as a staff member mainly devoted to research.

### B15.1.1 – Average Impact Factor per Manager



#### B15.1.1 Average Impact Factor per Manager

Health Authority	Value	Assessment	Num	Den	Year
T - Aou Pisana	1,19	not assessed	1.347,43	1.132,00	2010
T - Aou Senese	1,33	not assessed	926,42	698,00	2010
T - Aou Careggi	1,66	not assessed	2.073,06	1.249,00	2010
T - Aou Meyer	1,16	not assessed	263,66	228,00	2010
T - Fond. Monasterio	2,65	not assessed	326,49	123,00	2010

## Indicator B15: Research Productivity (Teaching Hospitals)

### B15.1.1 Average Impact Factor per Manager

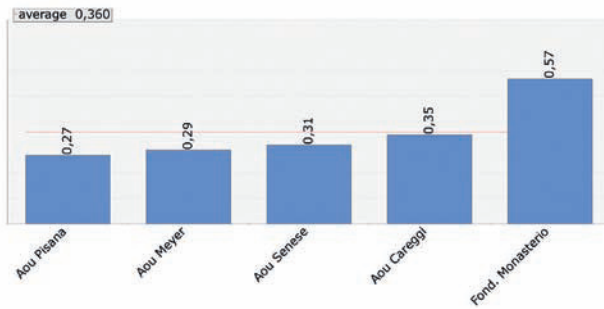
<b>Definition:</b>	Average Impact Factor per manager
<b>Numerator:</b>	Sum of the IF per article
<b>Denominator:</b>	No. of managers, medical and non-medical, both in University and in Hospital
<b>Formula:</b>	$\frac{\text{Sum of the IF per article}}{\text{No. of managers, medical and non-medical, both in University and in Hospital}}$
<b>Notes:</b>	Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the manager are used to find the articles. Publications not listed as “article” by ISI and articles whose impact factor is zero are not considered.
<b>Source:</b>	Journal Citation Report- ISI Web of Science



### 3.76 Indicator B15.1.2: Average Impact Factor per Employee

The indicator measures the average IF per employee, calculating thus the entire hospital staff.

#### B15.1.2 – Average Impact Factor per Employee



#### B15.1.2 Average Impact Factor per Employee

Health Authority	Value	Assessment	Num	Den	Year
T - Aou Pisana	0,27	not assessed	1.347,43	4.914,00	2010
T - Aou Senese	0,31	not assessed	926,42	3.020,00	2010
T - Aou Careggi	0,35	not assessed	2.073,06	5.853,00	2010
T - Aou Meyer	0,29	not assessed	263,66	919,00	2010
T - Fond. Monasterio	0,57	not assessed	326,49	570,00	2010

### Indicator B15: Research Productivity (Teaching Hospitals)

#### B15.1.2 Average Impact Factor per Employee

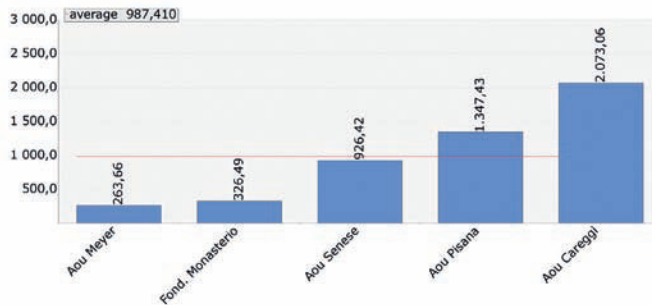
<b>Definition:</b>	Average Impact Factor per employee
<b>Numerator:</b>	Sum of the IF per article
<b>Denominator:</b>	Overall Number of employees
<b>Formula:</b>	$\frac{\text{Sum of the IF per article}}{\text{Overall Number of employees}}$
<b>Notes:</b>	Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the subordinate are used to find the articles. Publications not listed as “article” by ISI and articles whose impact factor is zero are not considered.
<b>Source:</b>	Journal Citation Report- ISI Web of Science



## Indicator B15.2.1: Overall Impact Factor 3.77

The indicator measures the total IF of the articles for each hospital. The indicator is influenced by the structure of each hospital and therefore is not useful for benchmarking.

### B15.2.1 – Overall Impact Factor



### B15.2.1 Overall Impact Factor

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Aou Pisana	1.347,43	not assessed	–	–	2010
T - Aou Senese	926,42	not assessed	–	–	2010
T - Aou Careggi	2.073,06	not assessed	–	–	2010
T - Aou Meyer	263,66	not assessed	–	–	2010
T - Fond. Monasterio	326,49	not assessed	–	–	2010

## Indicator B15: Research Productivity (Teaching Hospitals)

### B15.2.1 Overall Impact Factor

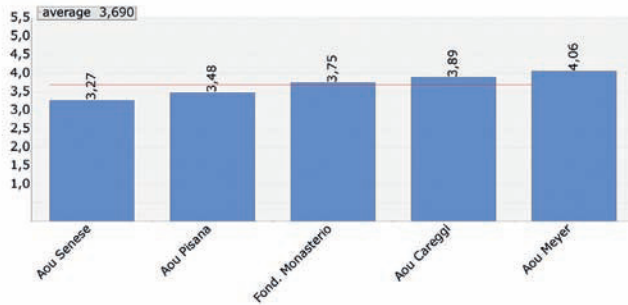
<b>Definition:</b>	Overall Impact Factor
<b>Formula:</b>	Sum of IF of each article
<b>Notes:</b>	Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the manager are used to find the articles. Publications not listed as “article” by ISI and articles whose impact factor is zero are not considered.
<b>Source:</b>	Journal Citation Report- ISI Web of Science



### 3.78 Indicator B15.2.2: Average Impact Factor per Article

This indicator measures the average IF per article for each Hospital. To correctly understand the data, the interpretation of the indicator should be associated with the number of publications for each Hospital as listed in the table.

#### B15.2.2 – Average Impact Factor per Article



#### B15.2.2 Average Impact Factor per Article

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Aou Pisana	3,48	not assessed	1.347,43	387,00	2010
T - Aou Senese	3,27	not assessed	926,42	283,00	2010
T - Aou Careggi	3,89	not assessed	2.073,06	533,00	2010
T - Aou Meyer	4,06	not assessed	263,66	65,00	2010
T - Fond. Monasterio	3,75	not assessed	326,49	87,00	2010

### Indicator B15: Research Productivity (Teaching Hospitals)

#### B15.2.2 Average Impact Factor per Article

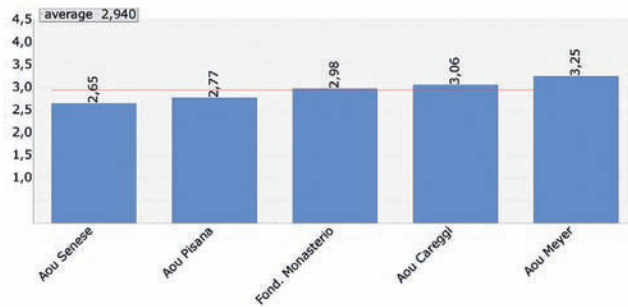
<b>Definition:</b>	Average Impact Factor per Article
<b>Numerator:</b>	Sum of the IF per article
<b>Denominator:</b>	No. of articles
<b>Formula:</b>	$\frac{\text{Sum of the IF per article}}{\text{No. of articles}}$
<b>Notes:</b>	Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the managers are used to find the articles. Publications not listed as “article” by ISI and articles whose impact factor is zero are not considered.
<b>Source:</b>	Journal Citation Report- ISI Web of Science



### Indicator B15.2.3: Median Impact Factor per Article 3.79

This indicator measures the median IF per article for each Hospital. To correctly understand the data, the interpretation of the indicator should be associated with the number of publications for each Hospital as listed in the table.

#### B15.2.3 – Median Impact Factor per Article



#### B15.2.3 Median Impact Factor per Article

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Aou Pisana	2,77	not assessed	1.347,43	387,00	2010
T - Aou Senese	2,65	not assessed	926,42	283,00	2010
T - Aou Careggi	3,06	not assessed	2.073,06	533,00	2010
T - Aou Meyer	3,25	not assessed	263,66	65,00	2010
T - Fond. Monasterio	2,98	not assessed	326,49	87,00	2010

### Indicator B15: Research Productivity (Teaching Hospitals)

#### B15.2.3 Median Impact Factor per Article

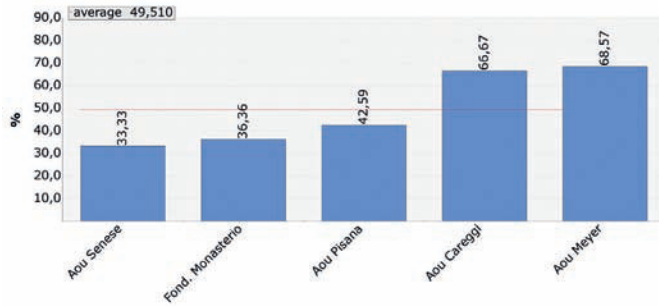
<b>Definition:</b>	Median Impact Factor per Article
<b>Formula:</b>	The median is calculated according to the distribution of the IF for each article
<b>Notes:</b>	Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the directors are used to find the articles. Publications not listed as “article” by ISI and articles whose impact factor is zero are not considered.
<b>Source:</b>	Journal Citation Report- ISI Web of Science



### 3.80 Indicator B15.3.1: Percentage of specialized topics with average IF higher than the specialized topic IF reported by ISI

For each specialized topic listed by JCR, such as surgery, anaesthesia, general practice, internal medicine, paediatrics, clinical neurology etc., the average IF for each Hospital has been calculated and compared with the aggregate IF for each category reported by ISI. The indicator shows the percentage of specialized topics with an average IF per Hospital greater than the aggregate IF reported by ISI.

#### B15.3.1 – Percentage of specialized topics with average IF higher than the specialized topic IF reported by ISI



#### B15.3.1 Percentage of specialized topics with average IF higher than the specialized topic IF reported by ISI

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Aou Pisana	42,59%	not assessed	23,00	54,00	2010
T - Aou Senese	33,33%	not assessed	18,00	54,00	2010
T - Aou Careggi	66,67%	not assessed	42,00	63,00	2010
T - Aou Meyer	68,57%	not assessed	24,00	35,00	2010
T - Fond. Monasterio	36,36%	not assessed	12,00	33,00	2010

### Indicator B15: Research Productivity (Teaching Hospitals)

#### B15.3.1 Percentage of specialized topics with average IF higher than the specialized topic IF reported by ISI

<b>Definition:</b>	Percentage of specialties whose average IF is higher than the IF per specialty reported by ISI
<b>Numerator:</b>	No. of specialties whose average IF per Hospital is higher than the aggregate IF reported by ISI
<b>Denominator:</b>	No. of specialties about which each hospital has published articles
<b>Formula:</b>	$\frac{\text{No. of specialties whose average IF per Hospital is higher than the aggregate IF reported by ISI}}{\text{No. of specialties about which each hospital has published articles}}$
<b>Notes:</b>	<p>Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the directors are used to find the articles.</p> <p>Publications not listed as “article” by ISI, and articles whose Impact Factor is zero are not considered.</p> <p>Each journal reviewed by ISI may pertain to one or more specialties.</p>
<b>Source:</b>	Journal Citation Report– ISI Web of Science



## AOU CAREGGI

### B15.3.1 Average, median and aggregate IF by specialization (ISI)

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Allergy	3	3,63	6,00	3,37	2,46	9,17	6,38
Anatomy & Morphology	1	1,86	1,71	0,00	1,71	1,71	1,71
Andrology	3	2,05	3,25	0,79	2,34	3,71	3,71
Anesthesiology	13	2,66	2,82	1,52	1,06	5,37	2,86
Behavioral Sciences	1	2,75	3,48	0,00	3,48	3,48	3,48
Biochemistry & Molecular Biology	9	4,22	3,96	1,88	1,63	7,39	4,29
Biophysics	2	3,10	3,00	0,00	3,00	3,00	3,00
Biotechnology & Applied Microbiology	3	3,03	4,36	2,97	2,20	7,75	3,13
Cardiac & Cardiovascular Systems	53	3,78	3,41	2,33	0,71	12,64	3,06
Cell & Tissue Engineering	2	3,26	4,98	3,92	2,20	7,75	4,98
Cell Biology	8	6,48	4,04	1,95	1,63	7,75	3,85
Chemistry, Medicinal	15	5,83	3,10	1,61	0,75	4,80	3,23
Clinical Neurology	42	2,98	3,68	2,10	1,12	8,17	3,14
Critical Care Medicine	3	3,81	5,40	4,59	2,63	10,69	2,87
Dentistry, Oral Surgery & Medicine	32	1,73	1,46	0,60	0,94	3,55	1,33
Dermatology	13	2,28	2,81	1,44	0,97	5,54	2,06
Emergency Medicine	3	1,63	1,85	0,54	1,54	2,48	1,54
Endocrinology & Metabolism	29	3,88	3,95	1,76	0,31	6,72	3,54
Engineering, Biomedical	5	2,55	4,35	2,85	1,58	7,37	3,54
Environmental Sciences	1	2,48	1,22	0,00	1,22	1,22	1,22
Gastroenterology & Hepatology	10	3,50	7,61	3,62	2,97	12,90	9,36
Genetics & Heredity	13	4,52	5,58	8,77	1,57	34,28	3,13
Geriatrics & Gerontology	9	2,77	1,79	0,86	0,98	3,08	1,26
Gerontology	2	2,77	3,08	0,00	3,08	3,08	3,08
Health Care Sciences & Services	1	1,97	2,46	0,00	2,46	2,46	2,46
Health Policy & Services	1	1,97	2,46	0,00	2,46	2,46	2,46
Hematology	38	5,23	5,43	3,25	1,35	10,56	4,45
Immunology	21	4,33	3,77	1,95	1,05	9,17	3,12
Infectious Diseases	8	3,54	3,04	1,20	1,05	4,21	3,45
Integrative & Complementary /Medicine	1	1,60	2,06	0,00	2,06	2,06	2,06
Medical Laboratory Technology	6	2,05	1,99	0,29	1,71	2,54	1,89
Medicine, General & Internai	17	4,10	6,12	9,59	0,10	30,76	2,37
Medicine, Research & Experimental	14	3,46	2,83	1,23	1,17	5,00	2,67
Microbiology	7	3,56	4,41	0,64	4,01	5,73	4,16
Neuroimaging	2	4,01	4,52	1,73	3,30	5,74	4,52





### AOU CAREGGI

#### B15.3.1 Average, median and aggregate IF by specialization (ISI)

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Neurosciences	35	3,86	3,13	1,36	0,58	6,99	3,29
Nutrition & Dietetics	11	2,87	3,83	1,60	1,31	6,31	3,52
Obstetrics & Gynecology	15	2,19	2,15	0,82	1,36	3,86	1,87
Oncology	49	4,50	5,27	5,40	0,86	17,79	3,13
Ophthalmology	9	2,34	1,75	0,83	0,62	2,93	1,76
Orthopedics	5	3,34	1,46	0,54	0,82	2,07	1,33
Otorhinolaryngology	3	1,35	1,72	0,98	0,58	2,28	2,28
Pathology	23	2,64	2,65	1,39	0,91	4,60	2,96
Paediatrics	3	1,82	2,10	1,72	1,07	4,09	1,14
Peripheral Vascular Disease	35	4,55	3,78	2,09	1,06	9,21	3,52
Pharmacology & Pharmacy	32	2,92	2,75	1,39	1,17	6,99	2,59
Physiology	7	3,18	3,14	0,84	1,33	3,73	3,17
Psychiatry	15	3,37	4,03	1,43	2,08	6,99	3,72
Psychology	5	2,65	3,97	1,82	0,98	5,37	5,01
Psychology, Clinical	2	2,65	5,01	0,00	5,01	5,01	5,01
Psychology, Multidisciplinary	1	2,65	3,48	0,00	3,48	3,48	3,48
Psychology, Psychoanalysis	1	2,65	5,37	0,00	5,37	5,37	5,37
Public, Environmental & Occupational Health	5	2,37	2,98	1,71	1,22	5,59	2,80
Radiology, Nuclear Medicine & Medical Imaging	25	2,37	3,33	1,43	1,17	6,34	3,15
Reproductive Biology	1	2,69	3,86	0,00	3,86	3,86	3,86
Respiratory System	13	2,40	3,47	2,44	1,06	10,69	3,06
Rheumatology	22	2,78	4,89	2,36	1,49	8,11	3,85
Surgery	39	2,09	2,59	1,34	0,62	7,90	2,70
Toxicology	5	2,56	2,61	0,97	1,22	3,54	2,46
Transplantation	4	2,07	3,13	0,15	3,00	3,25	3,13
Tropical Medicine	1	2,07	2,80	0,00	2,80	2,80	2,80
Urology & Nephrology	33	2,95	4,63	1,82	0,90	7,69	4,88
Virology	4	3,65	2,50	0,47	1,98	3,12	2,45

### AOU MEYER

#### B15.3.1 Average, median and aggregate IF by specialization (ISI)

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Allergy	1	3,63	2,68	0,00	2,68	2,68	2,68
Biochemical Research Methods	1	3,39	2,43	0,00	2,43	2,43	2,43
Biophysics	1	3,10	3,10	0,00	3,10	3,10	3,10
Biotechnology & Applied Microbiology	2	3,03	7,49	0,36	7,23	7,75	7,49
Celi Biology	2	5,83	4,08	5,19	0,41	7,75	4,08
Clinical Neurology	14	2,98	3,63	2,72	0,43	9,49	3,11
Computer Science, Interdisciplinary Applications	1	1,27	3,54	0,00	3,54	3,54	3,54
Critical Care Medicine	1	3,81	1,11	0,00	1,11	1,11	1,11
Endocrinology & Metabolism	1	3,88	3,20	0,00	3,20	3,20	3,20
Engineering, Biomedical	1	2,55	3,54	0,00	3,54	3,54	3,54
Engineering, Electrical & Electronic	1	0,98	3,54	0,00	3,54	3,54	3,54
Gastroenterology & Hepatology	1	3,50	2,18	0,00	2,18	2,18	2,18
Genetics & Heredity	4	4,52	3,49	1,16	2,19	5,00	3,38
Hematology	6	5,23	6,73	3,64	1,82	10,56	7,08
Imaging Science & Photographie Technology	1	0,69	3,54	0,00	3,54	3,54	3,54
Immunology	2	4,33	1,54	1,61	0,41	2,68	1,54
Infections Diseases	3	3,54	4,34	3,39	1,82	8,20	3,01
Medicine, Research & Experimental	1	3,46	5,00	0,00	5,00	5,00	5,00
Microbiology	2	3,56	5,31	4,08	2,43	8,20	5,31
Neurosciences	6	3,86	4,61	3,44	1,12	9,49	3,51
Nutrition & Dietetics	2	2,87	2,52	0,48	2,18	2,37	2,52
Oncology	3	4,50	5,83	3,15	2,19	7,75	7,54
Pathology	6	2,64	3,14	1,19	1,71	4,80	3,30
Paediatrics	15	1,82	3,38	3,14	0,43	10,69	2,18
Peripheral Vascular Disease	3	4,55	3,05	1,37	1,71	4,45	2,98
Pharmacology & Pharmacy	2	2,92	2,28	1,11	1,49	3,06	2,28
Radiology, Nuclear Medicine & Medical Imaging	3	1,80	4,35	1,80	3,10	6,42	3,54
Respiratory System	5	3,40	3,89	3,96	1,11	10,69	1,82
Rheumatology	2	3,78	1,94	0,64	1,49	2,40	1,94
Spectroscopy	2	1,56	2,01	1,54	0,92	3,10	2,01
Surgery	5	2,09	2,30	1,97	1,19	5,75	1,21
Toxicology	2	2,56	9,96	11,07	2,13	17,79	9,96
Transplantation	3	2,07	3,10	0,27	2,80	3,25	3,25
Tropical Medicine	1	2,07	2,80	0,00	2,80	2,80	2,80
Urology & Nephrology	4	2,95	3,38	1,21	1,71	4,45	3,68



## AOU PISANA

### B15.3.1 Average, median and aggregate IF by specialization (ISI)

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Allergy	1	3,63	2,46	0,00	2,46	2,46	2,46
Anesthesiology	6	2,66	1,86	0,89	1,06	3,61	1,61
Behavioral Sciences	2	3,11	1,90	1,00	1,19	2,61	1,90
Biochemical Research Methods	1	3,39	2,43	0,00	2,43	2,43	2,43
Biochemistry & Molecular Biology	11	4,22	3,25	2,11	1,44	7,39	2,72
Biophysics	1	3,10	3,10	0,00	3,10	3,10	3,10
Biotechnology & Applied Microbiology	5	3,03	2,06	0,96	1,42	3,69	1,58
Cardiac & Cardiovascular Systems	22	3,78	2,91	2,05	0,89	9,80	2,36
Cell & Tissue Engineering	1	6,48	2,20	0,00	2,20	2,20	2,20
Cell Biology	7	5,83	4,93	5,83	1,44	17,35	2,20
Chemistry, Medicinal	1	2,62	3,27	0,00	3,27	3,27	3,27
Clinical Neurology	41	2,98	3,27	2,78	0,76	18,13	2,90
Critical Care Medicine	1	4,81	5,17	0,00	5,17	5,17	5,17
Dentistry, Oral Surgery & Medicine	7	1,73	1,94	1,14	0,64	3,55	1,58
Dermatology	3	2,28	3,55	1,24	2,12	4,26	4,26
Endocrinology & Metabolism	57	3,88	4,57	2,66	1,35	17,35	4,28
Engineering, Biomedical	3	3,55	3,92	3,05	1,58	7,37	2,82
Environmental Sciences	1	2,48	2,87	0,00	2,87	2,87	2,87
Gastroenterology & Hepatology	17	3,50	3,78	3,78	0,67	12,90	2,09
Genetics & Heredity	13	4,52	6,24	8,62	1,54	34,28	3,48
Geriatrics & Gerontology	3	2,77	3,76	1,94	2,21	5,94	3,13
Health Care Sciences & Services	1	1,97	1,49	0,00	1,49	1,49	1,49
Hematology	8	5,23	3,45	2,33	0,94	6,42	2,36
Immunology	9	4,33	3,69	2,31	1,44	7,23	3,01
Infections Diseases	4	3,54	3,50	0,67	2,61	4,01	3,68
Medical Informatics	1	1,90	1,49	0,00	1,49	1,49	1,49
Medical Laboratory Technology	4	2,05	2,02	0,30	1,73	2,43	1,95
Medicine, General & Internal	8	4,10	5,53	9,51	0,20	28,90	2,25
Medicine, Research & Experimental	13	3,46	3,38	3,65	1,54	15,39	2,24
Microbiology	8	3,56	3,19	0,63	2,43	4,01	2,95
Neuroimaging	1	4,01	0,76	0,00	0,76	0,76	0,76
Neurosciences	35	3,86	2,87	1,66	1,00	9,32	2,51
Nutrition & Dietetics	1	2,87	3,52	0,00	3,52	3,52	3,52
Obstetrics & Gynecology	11	2,19	2,55	1,15	1,36	3,97	2,18
Oncology	39	4,50	3,80	2,55	1,27	14,47	2,74

## AOU PISANA

### B15.3.1 Average, median and aggregate IF by specialization (ISI)

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Orthopedics	2	1,87	1,54	0,59	1,13	1,96	1,54
Otorhinolaryngology	9	1,35	1,20	0,39	0,42	1,84	1,17
Pathology	4	2,64	1,63	0,57	0,91	2,31	1,65
Paediatrics	5	1,82	2,54	1,23	1,15	4,09	3,02
Peripheral Vascular Disease	11	4,55	3,96	2,00	1,10	6,61	4,52
Pharmacology & Pharmacy	33	2,92	2,89	1,05	1,41	5,95	2,63
Physiology	4	3,18	3,21	0,73	2,16	3,73	3,48
Psychiatry	23	3,37	2,85	0,83	1,19	4,19	2,75
Psychology	3	2,65	2,00	0,25	1,71	2,15	2,15
Public, Environmental & Occupational Health	4	2,37	3,31	0,51	2,55	3,64	3,52
Radiology, Nuclear Medicine & Medical Imaging	33	2,68	2,56	1,50	0,71	6,42	1,95
Reproductive Biology	3	2,69	3,65	0,56	3,01	3,97	3,97
Respiratory System	7	3,40	3,71	1,60	1,06	5,53	3,14
Rheumatology	16	3,78	2,95	0,79	1,67	4,15	2,55
Surgery	19	2,09	2,32	1,48	0,67	6,43	2,00
Toxicology	5	2,56	3,12	0,47	2,43	3,52	3,24
Transplantation	4	2,75	3,87	1,86	2,00	6,43	3,52
Tropical Medicine	1	2,07	2,55	0,00	2,55	2,55	2,55



**AOU SENESE**

**B15.3.1 Average, median and aggregate IF by specialization (ISI)**

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Allergy	1	3,63	2,68	0,00	2,68	2,68	2,68
Anatomy & Morphology	2	1,86	1,53	0,85	0,93	2,13	1,53
Andrology	2	2,05	1,57	1,09	0,80	2,34	1,57
Biochemistry & Molecular Biology	4	4,22	2,93	0,45	2,54	3,56	2,81
Biophysics	2	3,10	3,05	0,07	3,00	3,10	3,05
Biotechnology & Applied Microbiology	2	3,03	1,53	0,16	1,42	1,64	1,53
Cardiac & Cardiovascular Systems	10	3,78	4,95	4,22	0,63	12,64	3,64
Cell Biology	4	5,83	3,94	1,28	2,02	4,59	4,59
Chemistry, Medicinal	6	2,62	3,92	0,99	2,65	4,80	4,02
Clinical Neurology	50	3,98	3,33	2,26	0,45	9,32	2,93
Critical Care Medicine	1	5,81	1,95	0,00	1,95	1,95	1,95
Dentistry, Oral Surgery & Medicine	21	1,73	1,97	0,65	0,88	2,95	1,96
Dermatology	5	2,28	2,33	1,09	1,55	4,26	1,95
Endocrinology & Metabolism	19	4,88	3,84	1,66	1,35	6,55	3,54
Engineering, Biomedical	2	4,55	2,92	0,00	2,92	2,92	2,92
Gastroenterology & Hepatology	5	4,50	1,97	0,60	0,99	2,44	2,18
Genetics & Heredity	10	4,52	3,93	3,20	1,54	12,30	2,95
Geriatics & Gerontology	2	2,77	1,92	0,94	1,26	2,58	1,92
Health Care Sciences & Services	2	1,97	1,29	0,27	1,10	1,49	1,29
Hematology	17	5,23	5,31	3,70	1,07	10,56	3,00
Immunology	17	5,33	2,84	0,67	1,52	4,21	3,00
Infectious Diseases	6	3,54	2,79	0,69	1,98	4,01	2,74
Medical Informatics	2	1,69	1,69	0,29	1,49	1,90	1,69
Medicine, General & Internal	3	4,10	1,46	0,07	1,39	1,52	1,49
Medicine, Research & Experimental	10	3,46	2,38	0,99	0,94	3,62	2,24
Microbiology	6	4,56	2,60	0,79	1,64	4,01	2,49
Neuroimaging	3	4,01	5,74	0,00	5,74	5,74	5,74
Neurosciences	31	4,86	3,21	2,10	0,86	9,32	2,72
Nutrition & Dietetics	2	3,87	2,39	0,30	2,18	2,60	2,39
Obstetrics & Gynecology	12	2,19	2,70	0,96	0,91	3,97	2,67
Oncology	30	4,50	3,80	4,04	0,86	17,79	2,64
Ophthalmology	8	2,34	2,51	1,61	0,89	5,49	2,49
Orthopedics	1	1,87	3,89	0,00	3,89	3,89	3,89
Otorhinolaryngology	1	1,35	0,98	0,00	0,98	0,98	0,98
Pathology	9	2,64	3,56	1,96	0,43	5,67	3,06

**AOU SENESE**

**B15.3.1 Average, median and aggregate IF by specialization (ISI)**

Specialization	N. obs.	IF by specialization as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Peripheral Vascular Disease	6	4,55	5,31	2,99	1,17	9,21	5,78
Pharmacology & Pharmacy	13	2,92	2,72	1,01	0,94	4,87	2,96
Physiology		3,18	4,59	0,00	4,59	4,59	4,59
Psychiatry	6	3,37	2,64	1,61	0,73	4,87	2,75
Psychology	2	3,85	1,83	1,56	0,73	2,93	1,83
Psychology, Clinical	1	3,85	2,93	0,00	2,93	2,93	2,93
Public, Environmental & Occupational Health	2	2,37	0,79	0,82	0,21	1,37	0,79
Radiology, Nuclear Medicine & Medical Imaging	10	2,63	3,19	1,90	0,93	5,74	2,71
Rehabilitation	2	1,69	1,33	0,32	1,10	1,56	1,33
Reproductive Biology	9	2,69	2,74	1,11	0,80	3,97	2,77
Respiratory System	5	3,40	4,30	1,62	2,33	6,36	3,64
Rheumatology	8	3,78	3,17	2,23	1,19	8,11	2,40
Substance Abuse	1	2,78	0,73	0,00	0,73	0,73	0,73
Surgery	17	2,09	2,45	1,68	0,63	7,90	2,40
Transplantation	3	2,75	2,77	0,68	2,00	3,31	3,00
Tropical Medicine	1	2,07	1,37	0,00	1,37	1,37	1,37
Urology & Nephrology	2	2,95	2,54	1,08	1,78	3,31	2,54
Virology	5	3,65	2,89	0,80	1,98	4,11	2,76



## FONDAZIONE MONASTERIO

### B15.3.1 Average, median and aggregate IF by specialization (ISI)

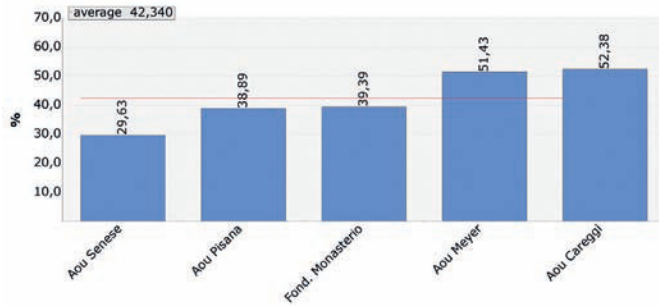
Specialization	N. obs.	IF by specializa- tion as per ISI	Average IF by specialization	Std dev	Minimum	Maximum	Median IF by specialization
Acoustics	2	0,84	1,60	0,59	1,18	2,02	1,60
Biochemistry & Molecular Biology	5	4,22	3,79	2,07	1,18	6,40	3,12
Biology	3	1,34	5,03	1,18	4,35	6,40	4,35
Cardiac & Cardiovascular Systems	38	3,78	4,42	3,44	0,71	14,82	3,52
Cell Biology	4	5,83	3,41	2,18	1,18	6,40	3,03
Chemistry, Multidisciplinary	1	1,22	5,95	0,00	5,95	5,95	5,95
Chemistry, Physical	1	2,00	0,81	0,00	0,81	0,81	0,81
Clinical Neurology	1	2,98	2,98	0,00	2,98	2,98	2,98
Critical Care Medicine	2	3,81	8,53	3,05	6,37	10,69	8,53
Endocrinology & Metabolism	3	3,88	2,99	2,18	1,35	5,46	2,16
Engineering, Biomedical	3	2,55	1,70	0,22	1,58	1,96	1,58
Gastroenterology & Hepatology	2	3,50	8,31	6,49	3,72	12,90	8,31
Hematology	5	5,23	7,55	4,84	1,85	14,82	6,42
Immunology	1	4,33	3,12	0,00	3,12	3,12	3,12
Instruments & Instrumentation	1	0,99	0,81	0,00	0,81	0,81	0,81
Marine & Freshwater Biology	2	1,35	1,05	0,00	1,05	1,05	1,05
Materials Science, Biomaterials	1	1,96	1,96	0,00	1,96	1,96	1,96
Medical Laboratory Technology	8	2,05	2,00	0,22	1,89	2,54	1,89
Medicine, General & Internal	2	4,10	3,44	1,13	2,64	4,25	3,44
Medicine, Research & Experimental	4	3,46	1,74	0,82	1,05	2,64	1,64
Multidisciplinary Sciences	2	0,63	4,35	0,00	4,35	4,35	4,35
Neurosciences	2	3,86	4,22	1,75	2,98	5,46	4,22
Peripheral Vascular Disease	6	4,55	6,57	4,69	1,85	14,82	4,52
Pharmacology & Pharmacy	2	2,92	4,09	2,62	2,24	5,95	4,09
Physics, Atomic, Molecular & Chemical	4	1,54	0,82	0,01	0,81	0,82	0,82
Physiology	2	3,18	2,61	0,63	2,16	3,06	2,61
Radiology, Nuclear Medicine & Medical Imaging	10	2,68	2,08	0,69	1,18	3,23	2,15
Respiratory System	2	3,40	6,54	5,86	2,40	10,69	6,54
Rheumatology	1	3,78	1,19	0,00	1,19	1,19	1,19
Spectroscopy	4	1,56	0,82	0,01	0,81	0,82	0,82
Surgery	2	2,09	3,06	0,94	2,40	3,72	3,05
Transplantation	1	2,75	3,72	0,00	3,72	3,72	3,72
Urology & Nephrology	1	2,95	6,19	0,00	6,19	6,19	6,19



### 3.81 Indicator B15.3.2: Percentage of specialized topics with median IF higher than the specialized topic IF reported by ISI

For each specialized topic listed by JCR, such as surgery, anaesthesia, general practice, internal medicine, paediatrics, clinical neurology etc., the average IF for each Hospital has been calculated and compared with the aggregate IF for each category reported by ISI. The indicator shows the percentage of specialized topics with a median IF per Hospital greater than the aggregate IF reported by ISI.

#### B15.3.2 – Percentage of specialized topics with median IF higher than the specialized topic IF reported by ISI



#### B15.3.2 Percentage of specialized topics with median IF higher than the specialized topic IF reported by ISI

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Aou Pisana	38,89%	not assessed	21,00	54,00	2010
T - Aou Senese	29,63%	not assessed	16,00	54,00	2010
T - Aou Careggi	52,38%	not assessed	33,00	63,00	2010
T - Aou Meyer	51,43%	not assessed	18,00	35,00	2010
T - Fond. Monasterio	39,39%	not assessed	13,00	33,00	2010

### Indicator B15: Research Productivity (Teaching Hospitals)

#### B15.3.2 Percentage of specialized topics with median IF higher than the specialized topic IF reported by ISI

<b>Definition:</b>	Percentage of specialties whose median IF is higher than the IF per specialty reported by ISI
<b>Numerator:</b>	No. of specialties whose median IF per Hospital is higher than the aggregate IF reported by ISI
<b>Denominator:</b>	No. of specialties about which each hospital has published articles
<b>Formula:</b>	$\frac{\text{No. of specialties whose median IF per Hospital is higher than the aggregate IF reported by ISI}}{\text{No. of specialties about which each hospital has published articles}}$
<b>Notes:</b>	Only publications in international journals reviewed by the Journal Citation Report (JCR – Science Edition 2009) are analysed. The last name and the initials of the first name of the directors are used to find the articles. Publications not listed as “article” by ISI, and articles whose Impact Factor is zero are not considered. Each journal reviewed by ISI may pertain to one or more specialties.
<b>Source:</b>	Journal Citation Report– ISI Web of Science



## Indicator B16: Communication and citizen participation 3.82

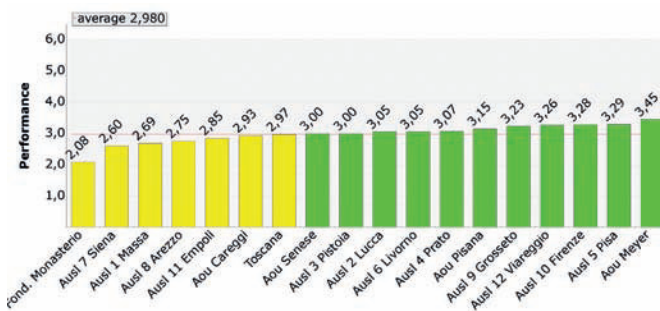
Communication and patient participation in both their medical care and in the organization of the Health System itself are the basic pre-conditions to guarantee a proper, well informed, and equal access to health care. The indicator B16 compares the hospitals' own declarations about their policies on information, services and patient participation with patient satisfaction surveys.

Indicator	Performance	Year
B16 – Communication and citizen participation	● 2,97	2010

### B16 Communication and citizen participation

- B16.1 Service Charter System: ■
  - B16.1.1 – Percentage of achieved commitments according to the Service Charter: 81,14% ■
  - B16.1.2 – Participation Committee: 51,47% ■
- B16.2 – Front-office: 79,78% ■
- B16.3 – Citizen satisfaction with communication: ■

### B16 – Communication and citizen participation



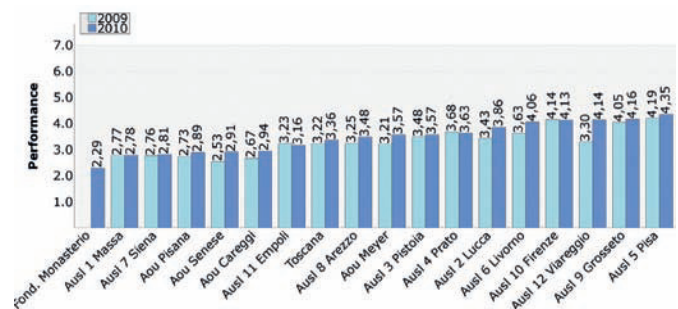
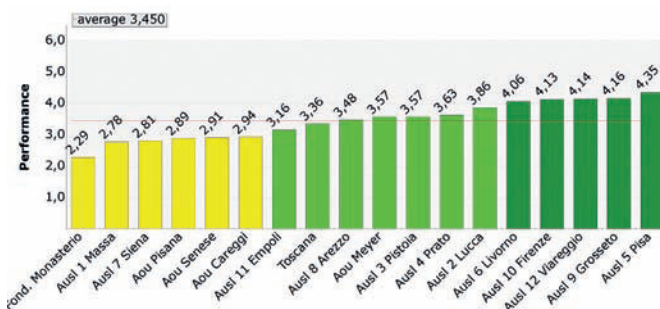
## Indicator B16: Communication and citizen participation

Notes
The indicator B16 has a value equal to the weighted average score of indicators: B16.1, B16.2, B16.3. These three indicators have a different weight with regard to the calculation of the overall score: B16.1 accounts for 40%, B16.2 accounts for 10% and B16.3 accounts for 50%. The indicator B16.1 has a value equal to the weighted average score of indicators: B16.1.1 (accounting for 80%) and B16.1.2 (accounting for 20%).

## Indicator B16.1: Service Charter System 3.83

Indicator B16.1 considers the Service Charter, the purpose of which is to inform patients about available services and the guaranteed levels of quality, with particular emphasis on the human aspect, the right to information, and the protection of patient rights. In this respect, the Regional Council approved a list of 32 standards, common for all Local Health Authorities. Examples include a single contact number for service information, the increase of time-slots for medical services in hospitals, and the availability of cultural mediation for foreign patients. The first part of the indicator refers to achieved objectives. Given the particular importance of the presence or absence of a participation Committee, it was decided to add an additional scaled indicator for the same, as per the Authorities.

### B16.1 – Service Charter System

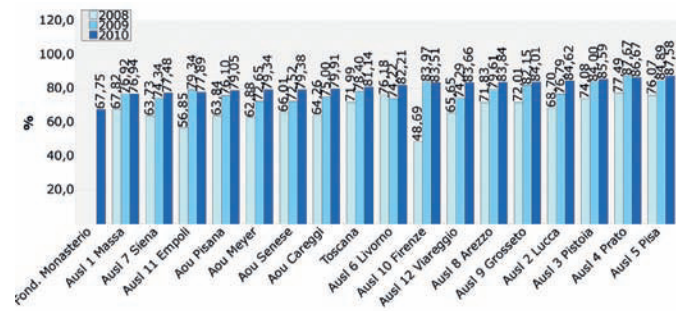
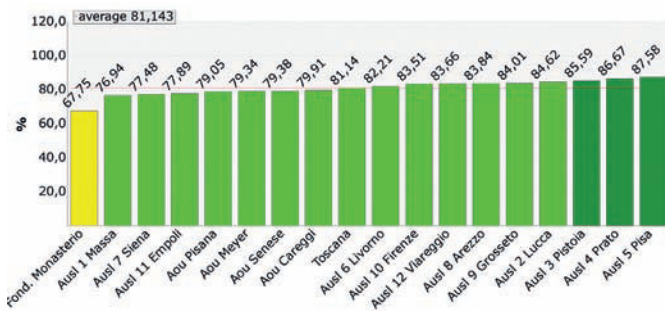




### 3.84 Indicator B16.1.1: Percentage of achieved commitments according to the Service Charter

The indicator assesses how many of the 32 standards of the Service Charter the Authorities have achieved (B16.1.1).

#### B16.1.1 – Percentage of achieved commitments according to the Service Charter



#### B16.1.1 Percentage of achieved commitments according to the Service Charter

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,75	78,40	81,14	3,49	-	-	-	-
T - Ausl 1 Massa	3,47	76,92	76,94	0,03	-	-	-	-
T - Ausl 2 Lucca	3,98	76,79	84,62	10,20	-	-	-	-
T - Ausl 3 Pistoia	4,05	84,00	85,59	1,89	-	-	-	-
T - Ausl 4 Prato	4,12	87,67	86,67	-1,14	-	-	-	-
T - Ausl 5 Pisa	4,18	84,89	87,58	3,17	-	-	-	-
T - Ausl 6 Livorno	3,82	74,22	82,21	10,77	-	-	-	-
T - Ausl 7 Siena	3,51	74,34	77,48	4,22	-	-	-	-
T - Ausl 8 Arezzo	3,93	79,61	83,84	5,31	-	-	-	-
T - Ausl 9 Grosseto	3,94	82,15	84,01	2,26	-	-	-	-
T - Ausl 10 Firenze	3,91	83,97	83,51	-0,55	-	-	-	-
T - Ausl 11 Empoli	3,54	79,34	77,89	-1,83	-	-	-	-
T - Ausl 12 Viareggio	3,92	74,29	83,66	12,61	-	-	-	-
T - Aou Pisana	3,61	76,10	79,05	3,88	-	-	-	-
T - Aou Senese	3,64	72,52	79,38	9,46	-	-	-	-
T - Aou Careggi	3,67	75,00	79,91	6,55	-	-	-	-
T - Aou Meyer	3,63	72,65	79,34	9,21	-	-	-	-
T - Fond. Monasterio	2,86	0,00	67,75	(*)	-	-	-	-

### Indicator B16: Communication and citizen participation

#### B16.1.1 Percentage of achieved commitments according to the Service Charter

<b>Definition:</b>	The indicator calculates to what extent the Local Health Authorities have achieved the objectives established at the Regional level.
<b>Numerator:</b>	Number of achieved commitments
<b>Denominator:</b>	32 commitments established at the Regional level
<b>Formula:</b>	$\frac{\text{No. of achieved commitments}}{32}$
<b>Notes:</b>	The indicator accounts for 80% of B16.1
<b>Source:</b>	Regional Information System – Service Charter flow ( <i>Sistema Informativo Regionale – Flusso Carta dei Servizi</i> )
<b>Reference:</b>	Regional objective according to the commitments established in the Service Charter.

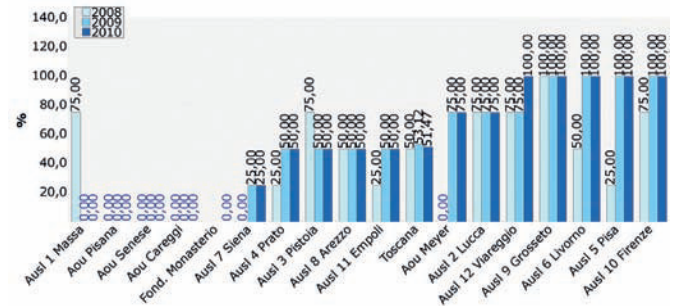
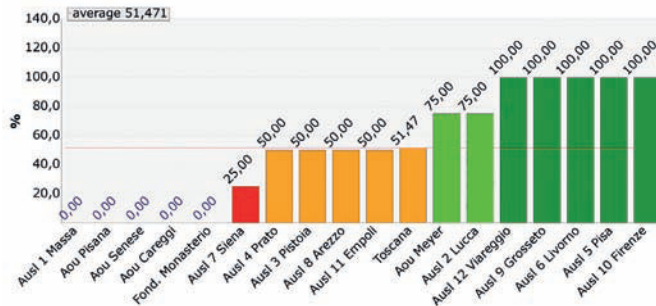


## Indicator B16.1.2: Participation Committee 3.85

Given the particular importance of the presence or absence of a Participation Committee, it was decided to add an additional indicator for the same. (B16.1.2). The evaluation of this indicator calculates the following points:

1. If there is an Internal Committee, or if the Authority avails itself of the Committee(s) of the SDS (Società della Salute – Health Societies (Associations)),
2. If the Internal Committee works in conjunction with the SDS' Committee,
3. If the Committee (either the Internal or the SDS) holds at a minimum a quarterly meetings, or if it collaborates on the Service Charter.
4. If the Committee conducts inspections on the basis of regional and/or internal instructions.

### B16.1.2 – Participation Committee



### B16.1.2 Participation Committee

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,77	53,12	51,47	-3,11	-	-	-	-
T - Ausl 1 Massa	0,00	0,00	0,00	(*)	-	-	-	-
T - Ausl 2 Lucca	3,34	75,00	75,00	0,00	-	-	-	-
T - Ausl 3 Pistoia	1,68	50,00	50,00	0,00	-	-	-	-
T - Ausl 4 Prato	1,68	50,00	50,00	0,00	-	-	-	-
T - Ausl 5 Pisa	5,00	100,00	100,00	0,00	-	-	-	-
T - Ausl 6 Livorno	5,00	100,00	100,00	0,00	-	-	-	-
T - Ausl 7 Siena	0,01	25,00	25,00	0,00	-	-	-	-
T - Ausl 8 Arezzo	1,68	50,00	50,00	0,00	-	-	-	-
T - Ausl 9 Grosseto	5,00	100,00	100,00	0,00	-	-	-	-
T - Ausl 10 Firenze	5,00	100,00	100,00	0,00	-	-	-	-
T - Ausl 11 Empoli	1,68	50,00	50,00	0,00	-	-	-	-
T - Ausl 12 Viareggio	5,00	75,00	100,00	33,33	-	-	-	-
T - Aou Pisana	0,00	0,00	0,00	(*)	-	-	-	-
T - Aou Senese	0,00	0,00	0,00	(*)	-	-	-	-
T - Aou Careggi	0,00	0,00	0,00	(*)	-	-	-	-
T - Aou Meyer	3,34	75,00	75,00	0,00	-	-	-	-
T - Fond. Monasterio	0,00	0,00	0,00	(*)	-	-	-	-

## Indicator B16: Communication and citizen participation

### B16.1.2 Participation Committee

<b>Definition:</b>	The indicator assesses the presence of an internal Participation Committee and its work procedures.
<b>Notes:</b>	<p>The indicator accounts for 20% of B16.1.</p> <p>There is a list of entries, each one of them has a score:</p> <ul style="list-style-type: none"> <li>• there is an internal Committee: 5 points</li> <li>• if NOT, the Authority avails itself of the Committee(s) of the SDS: 5 points</li> <li>• if YES, the Internal Committee works in conjunction with the SDS' Committee: 5 points</li> <li>• the Committee (either the Internal or the SDS) has at least quarterly meetings, or it collaborates on the Service Charter: 5 points</li> <li>• the Committee conducts inspections on the basis of regional and/or internal instructions: 5 points</li> </ul> <p>Authorities may thus be awarded with a score from 0 to 20 that, which is then converted on a scale of 100, in order to allow comparison with previous years.</p>
<b>Source:</b>	Regional Information System – Service Charter flow ( <i>Sistema Informativo Regionale – Flusso Carta dei Servizi</i> )
<b>Reference:</b>	Regional objective according to the commitments established in the Service Charter.

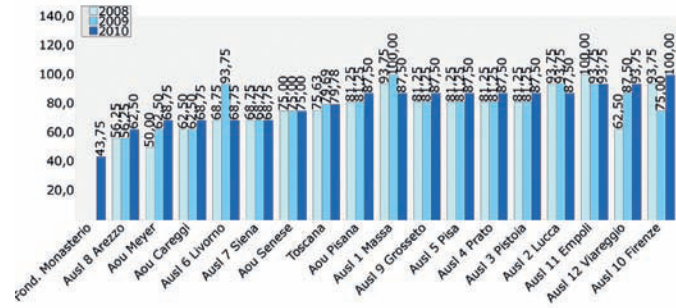
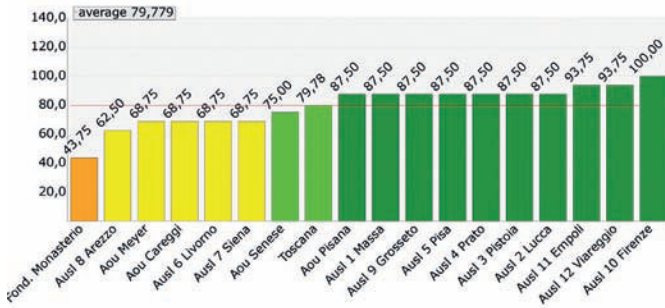




### 3.86 Indicator B16.2: Front-office

The indicator B16.2 evaluates front-office services, specifically the daily opening hours of the front-office telephone service. An excellent performance is assigned to Authorities offering such service during Saturdays and Sundays.

#### B16.2 – Front-office



#### B16.2 Front-office

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,66	79,69	79,78	0,12	-	-	-	-
T - Ausl 1 Massa	4,18	100,00	87,50	-12,50	-	-	-	-
T - Ausl 2 Lucca	4,18	93,75	87,50	-6,67	-	-	-	-
T - Ausl 3 Pistoia	4,18	81,25	87,50	7,69	-	-	-	-
T - Ausl 4 Prato	4,18	81,25	87,50	7,69	-	-	-	-
T - Ausl 5 Pisa	4,18	81,25	87,50	7,69	-	-	-	-
T - Ausl 6 Livorno	2,93	93,75	68,75	-26,67	-	-	-	-
T - Ausl 7 Siena	2,93	68,75	68,75	0,00	-	-	-	-
T - Ausl 8 Arezzo	2,51	56,25	62,50	11,11	-	-	-	-
T - Ausl 9 Grosseto	4,18	81,25	87,50	7,69	-	-	-	-
T - Ausl 10 Firenze	5,00	75,00	100,00	33,33	-	-	-	-
T - Ausl 11 Empoli	4,59	93,75	93,75	0,00	-	-	-	-
T - Ausl 12 Viareggio	4,59	87,50	93,75	7,14	-	-	-	-
T - Aou Pisana	4,18	81,25	87,50	7,69	-	-	-	-
T - Aou Senese	3,34	75,00	75,00	0,00	-	-	-	-
T - Aou Careggi	2,93	62,50	68,75	10,00	-	-	-	-
T - Aou Meyer	2,93	62,50	68,75	10,00	-	-	-	-
T - Fond. Monasterio	1,26	0,00	43,75	(*)	-	-	-	-

### Indicator B16: Communication and citizen participation

#### B16.2 Front-office

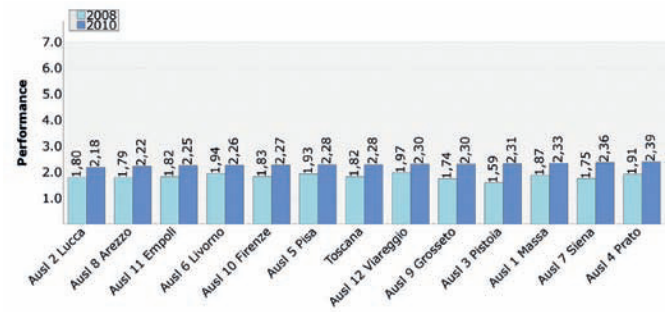
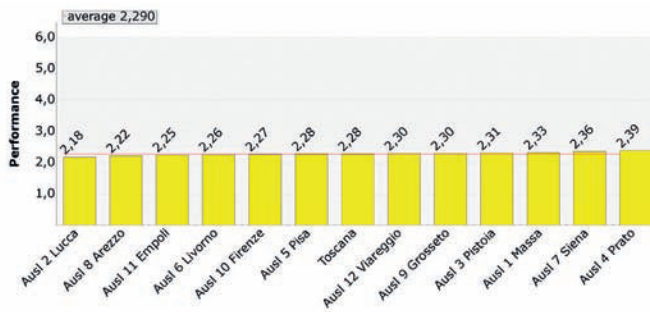
<b>Definition:</b>	The indicator calculates to what extent Local Health Authorities have improved the Service Charter System, with particular reference to the the front office contact centre.						
<b>Notes:</b>	<p>The evaluation is based on the opening hours of the front office contact centre as follows:</p> <table border="1" style="margin-left: 20px;"> <tr><td>Reference for front office hours:</td></tr> <tr><td>0 Mornings only</td></tr> <tr><td>25 mornings and some afternoons</td></tr> <tr><td>50 am /pm &lt; 8 hours</td></tr> <tr><td>75 am /pm ≥ 8 hours</td></tr> <tr><td>100 Also Saturdays and Sundays</td></tr> </table>	Reference for front office hours:	0 Mornings only	25 mornings and some afternoons	50 am /pm < 8 hours	75 am /pm ≥ 8 hours	100 Also Saturdays and Sundays
Reference for front office hours:							
0 Mornings only							
25 mornings and some afternoons							
50 am /pm < 8 hours							
75 am /pm ≥ 8 hours							
100 Also Saturdays and Sundays							
<b>Source:</b>	Regional Information System – Service Charter flow (Sistema Informativo Regionale – Flusso Carta dei Servizi)						
<b>Reference:</b>	Regional objective according to the commitments established in the Service Charter.						



### Indicator B16.3: Citizen satisfaction with communication 3.87

A population satisfaction survey regarding health services was conducted in 2010. The indicator B16.3 is based on responses to the question “On a scale of 1 to 5, do you consider yourself well-informed about the services provided by your Local Health Authority (ASL)?”. The range of possible responses varies from “not at all” (1) to “completely” (5). The reference population is the adult Tuscan resident population according to Istat (National Institute of Statistics) data of 2009, while the list from which the sample was extracted is that of landline subscribers in Tuscany. The total regional sample numbers 7020 citizens, interviewed by telephone using the CATI method (Computer Assisted Telephone Interviewing).

#### B16.3 – Citizen satisfaction with communication



#### B16.3 Information capacity

From 1 to 5, how satisfied are you with the information on the services supplied by your AUSL (That is on how and where to access the services)?

Local Health Authority	Very satisfied	Satisfied	Quite satisfied	Non very much	Not at all	Total	Observations	Value
AUSL 1 MC	3,66	23,63	38,34	24,03	10,34	100	350	2,33
AUSL 2 LU	1,54	19,64	40,51	28,40	9,91	100	348	2,18
AUSL 3 PT	2,88	20,48	42,35	27,08	7,21	100	341	2,31
AUSL 4 PO	3,88	21,75	42,51	25,20	6,66	100	322	2,39
AUSL 5 PI	3,34	20,74	39,86	26,84	9,22	100	506	2,28
AUSL 6 LI	2,16	21,73	41,86	23,14	11,11	100	892	2,26
AUSL 7 SI	2,40	23,32	42,37	24,67	7,26	100	651	2,36
AUSL 8 AR	3,40	18,14	39,72	30,12	8,62	100	809	2,22
AUSL 9 GR	2,89	21,18	40,75	27,46	7,72	100	681	2,30
AUSL 10 FI	2,51	20,18	44,83	21,04	11,44	100	644	2,27
AUSL 11 EM	0,70	19,67	47,23	23,45	8,95	100	312	2,25
AUSL 12 VI	4,08	20,24	39,86	27,35	8,46	100	335	2,30
Toscana	2,76	20,84	41,35	25,84	9,20	100	5991	2,27



### 3.88 Indicator B17: Strategies for surgical activity

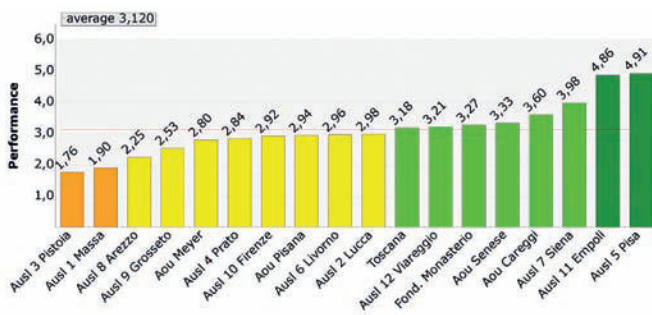
The Tuscan Health System has recently undergone a reorganization. It is thus essential to evaluate over time how the changes affect the volume and complexity of surgery, as well as whether they lead to a reduction in outbound patients. Understanding the impact of the changes of the reorganisation will help in the ongoing improvement of medical procedures.

Indicator	Performance	Year
B17 – Strategies for surgical activity	● 3,18	2010

#### B17 Strategies for surgical activity

- B17.1 Volume trend for planned surgery: 2,34% ■
  - B17.1.1 – Volume trend for planned surgery – inpatient: 4,06%
  - B17.1.2 – Volume trend for planned surgery – outpatient: –2,83%
- B17.2 – Extra Region outflow trend for basic surgical specialties (Local Health Authorities): 7,44% ■
- B17.3 – Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals): 5,69% ■
- B17.4 – Surgical activity weightage trend for planned inpatient hospitalization: –0,54%

#### B17 – Strategies for surgical activity



### Indicator B17: Strategies for surgical activity

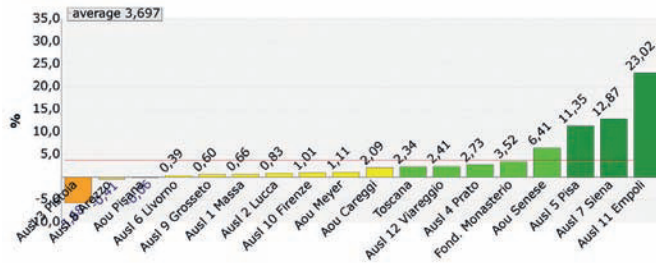
Notes	This indicator has a value equal to the weighted average score of the indicators listed below:			
	WEIGHT INDICATOR	B17.1	B17.2	B17.3
		Volume trend for planned surgery	Extra Region outflow trend for basic surgical specialties (Local Health Authorities)	Extra-regional outflow rate for highly specialized surgery (Teaching Hospitals)
	AUSL	70%	30%	
	AOU	70%		30%
AOUM	100%			
Fond Monasterio	100%			



## Indicator B17.1: Volume trend for planned surgery 3.89

The indicator monitors whether over the course of time, more or less surgical procedures are carried out, as compared to the previous year. This data should be considered together with that of surgical activity conducted during a physician/surgeon's visiting hours, as some Authorities may have rightly moved some services from an inpatient to an outpatient setting. Unfortunately, data for out-patient surgical activity are unavailable at present, thus the indicator is of limited relevance.

### B17.1 – Volume trend for planned surgery



### B17.1 Volume trend for planned surgery

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	2,34%	3,04	3.504,00	149.521,00	2010
T - Ausl 1 Massa	0,66%	2,71	51,00	7.748,00	2010
T - Ausl 2 Lucca	0,83%	2,75	51,00	6.158,00	2010
T - Ausl 3 Pistoia	-5,68%	1,47	-376,00	6.620,00	2010
T - Ausl 4 Prato	2,73%	3,12	161,00	5.890,00	2010
T - Ausl 5 Pisa	11,35%	5,00	469,00	4.131,00	2010
T - Ausl 6 Livorno	0,39%	2,66	36,00	9.235,00	2010
T - Ausl 7 Siena	12,87%	5,00	513,00	3.987,00	2010
T - Ausl 8 Arezzo	-0,41%	2,50	-47,00	11.402,00	2010
T - Ausl 9 Grosseto	0,60%	2,70	38,00	6.287,00	2010
T - Ausl 10 Firenze	1,01%	2,78	108,00	10.677,00	2010
T - Ausl 11 Empoli	23,02%	5,00	1.122,00	4.873,00	2010
T - Ausl 12 Viareggio	2,41%	3,05	148,00	6.140,00	2010
T - Aou Pisana	-0,06%	2,57	-15,00	26.778,00	2010
T - Aou Senese	6,41%	3,84	655,00	10.221,00	2010
T - Aou Careggi	2,09%	2,99	494,00	23.686,00	2010
T - Aou Meyer	1,11%	2,80	48,00	4.324,00	2010
T - Fond. Monasterio	3,52%	3,27	48,00	1.364,00	2010

## Indicator B17: Strategies for surgical activity

### B17.1 Volume trend for planned surgery

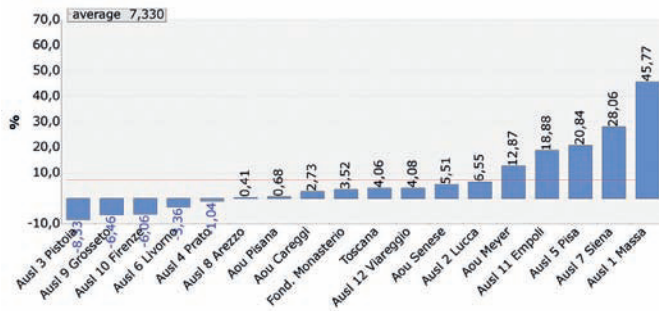
<b>Definition:</b>	Surgical volume trends
<b>Numerator:</b>	Difference between activity volumes year X and year X-1
<b>Denominator:</b>	Activity volumes year X-1
<b>Formula:</b>	$\frac{\text{Activity volumes year X less (minus) activity volumes year X-1}}{\text{Activity volumes year X-1}} \times 100$
<b>Notes:</b>	<p>Admissions considered:</p> <ul style="list-style-type: none"> <li>– in public facilities</li> <li>– with surgical DRG</li> <li>– both inpatient and outpatient</li> <li>– planned with or without pre-hospitalization</li> </ul> <p>The following DRGs are excluded: 370 – Cesarean birth with CC, 371 – Cesarean birth without CC, 374 – Vaginal birth with sterilization and/or dilation and curettage, 375 – Vaginal birth with other interventions except sterilization and/or dilation and curettage, 377 – Postpartum and post abortion diagnoses with surgery, 381 – Abortion with dilation and curettage, aspiration curettage or hysterotomy, 42 – interventions on intraocular structures except retina, iris and lens, 266 – Skin graft and / or debridement except for skin ulcers / cellulitis without CC, 364 – dilation and curettage, conization except for malignancy, 315 – Other operations on kidney and urinary tract, 169 – Mouth procedures without CC, 360 – Vagina, cervix and vulva procedures, 39 – Lens procedures with or without vitrectomy, 6 – Carpal Tunnel Decompression</p>
<b>Source:</b>	Regional Information System – SDO flow (Sistema Informativo Regionale – Flusso SDO)
<b>Reference:</b>	Regional average 2010



### 3.90 Indicator B17.1.1: Volume trend for planned surgery – inpatient

The percentage change of scheduled surgery, over the previous year, is calculated considering in-patient surgery only.

#### B17.1.1 – Volume trend for planned surgery – inpatient



#### B17.1.1 Volume trend for planned surgery – inpatient

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	4,06%	not assessed	4.560,00	112.229,00	2010
T - AUsl 1 Massa	45,77%	not assessed	1.789,00	3.909,00	2010
T - AUsl 2 Lucca	6,55%	not assessed	292,00	4.460,00	2010
T - AUsl 3 Pistoia	-8,33%	not assessed	-374,00	4.489,00	2010
T - AUsl 4 Prato	-1,04%	not assessed	-46,00	4.443,00	2010
T - AUsl 5 Pisa	20,84%	not assessed	612,00	2.937,00	2010
T - AUsl 6 Livorno	-3,36%	not assessed	-237,00	7.058,00	2010
T - AUsl 7 Siena	28,06%	not assessed	684,00	2.438,00	2010
T - AUsl 8 Arezzo	0,41%	not assessed	34,00	8.364,00	2010
T - AUsl 9 Grosseto	-6,46%	not assessed	-292,00	4.523,00	2010
T - AUsl 10 Firenze	-6,06%	not assessed	-407,00	6.715,00	2010
T - AUsl 11 Empoli	18,88%	not assessed	790,00	4.184,00	2010
T - AUsl 12 Viareggio	4,08%	not assessed	193,00	4.731,00	2010
T - Aou Pisana	0,68%	not assessed	147,00	21.739,00	2010
T - Aou Senese	5,51%	not assessed	458,00	8.317,00	2010
T - Aou Careggi	2,73%	not assessed	547,00	20.057,00	2010
T - Aou Meyer	12,87%	not assessed	322,00	2.501,00	2010
T - Fond. Monasterio	3,52%	not assessed	48,00	1.364,00	2010

### Indicator B17: Strategies for surgical activity

#### B17.1.1 Volume trend for planned surgery – inpatient

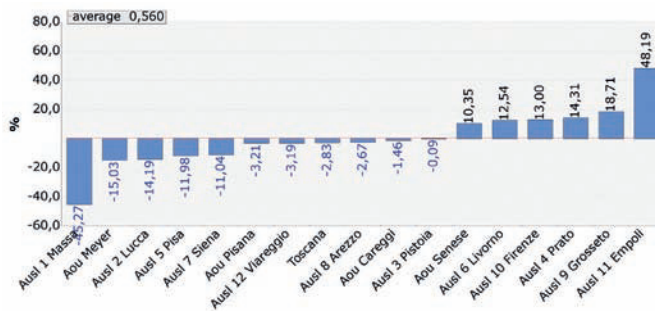
<b>Definition:</b>	Surgical volume trends for inpatient hospitalization
<b>Numerator:</b>	Difference between activity volumes year X and year X-1
<b>Denominator:</b>	Activity volumes year X-1
<b>Formula:</b>	$\frac{\text{Activity volumes year X less (minus) activity volumes year X-1}}{\text{Activity volumes year X-1}} \times 100$
<b>Notes:</b>	<p>Admissions considered:</p> <ul style="list-style-type: none"> <li>– in public facilities</li> <li>– with surgical DRG</li> <li>– both inpatient and outpatient</li> <li>– planned with or without pre-hospitalization</li> </ul> <p>The following DRGs are excluded: 370 – Cesarean birth with CC, 371 – Cesarean birth without CC, 374 – Vaginal birth with sterilization and/or dilation and curettage, 375 – Vaginal birth with other interventions except sterilization and/or dilation and curettage, 377 – Postpartum and post abortion diagnoses with surgery, 381 – Abortion with dilation and curettage, aspiration curettage or hysterotomy, 42 – interventions on intraocular structures except retina, iris and lens, 266 – Skin graft and / or debridement except for skin ulcers / cellulitis without CC, 364 – dilation and curettage, conization except for malignancy, 315 – Other operations on kidney and urinary tract, 169 – Mouth procedures without CC, 360 – Vagina, cervix and vulva procedures, 39 – Lens procedures with or without vitrectomy, 6 – Carpal Tunnel Decompression</p>
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale – Flusso SDO</i> )



## Indicator B17.1.2: Volume trend for planned surgery – outpatient 3.91

The percentage change of scheduled surgery, over the previous year, is calculated considering outpatient surgery only.

### B17.1.2 – Volume trend for planned surgery – outpatient



### B17.1.2 Volume trend for planned surgery: outpatient

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	-2,83%	not assessed	-1.056,00	37.292,00	2010
T - Ausl 1 Massa	-45,27%	not assessed	-1.738,00	3.839,00	2010
T - Ausl 2 Lucca	-14,19%	not assessed	-241,00	1.698,00	2010
T - Ausl 3 Pistoia	-0,09%	not assessed	-2,00	2.131,00	2010
T - Ausl 4 Prato	14,31%	not assessed	207,00	1.447,00	2010
T - Ausl 5 Pisa	-11,98%	not assessed	-143,00	1.194,00	2010
T - Ausl 6 Livorno	12,54%	not assessed	273,00	2.177,00	2010
T - Ausl 7 Siena	-11,04%	not assessed	-171,00	1.549,00	2010
T - Ausl 8 Arezzo	-2,67%	not assessed	-81,00	3.038,00	2010
T - Ausl 9 Grosseto	18,71%	not assessed	330,00	1.764,00	2010
T - Ausl 10 Firenze	13,00%	not assessed	515,00	3.962,00	2010
T - Ausl 11 Empoli	48,19%	not assessed	332,00	689,00	2010
T - Ausl 12 Viareggio	-3,19%	not assessed	-45,00	1.409,00	2010
T - Aou Pisana	-3,21%	not assessed	-162,00	5.039,00	2010
T - Aou Senese	10,35%	not assessed	197,00	1.904,00	2010
T - Aou Careggi	-1,46%	not assessed	-53,00	3.629,00	2010
T - Aou Meyer	-15,03%	not assessed	-274,00	1.823,00	2010

## Indicator B17: Strategies for surgical activity

### B17.1.2 Volume trend for planned surgery: outpatient

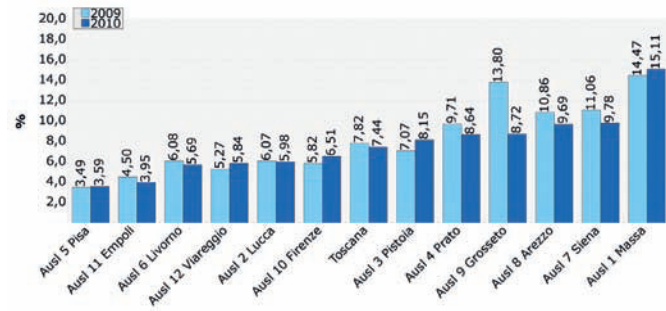
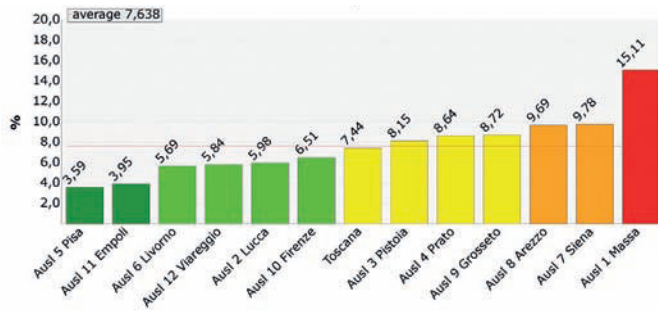
<b>Definition:</b>	Surgical volume trends for outpatient hospitalization
<b>Numerator:</b>	Difference between activity volumes year X and year X-1
<b>Denominator:</b>	Activity volumes year X-1
<b>Formula:</b>	$\frac{\text{Activity volumes year X less (minus) activity volumes year X-1}}{\text{Activity volumes year X-1}} \times 100$
<b>Notes:</b>	<p>Admissions considered:</p> <ul style="list-style-type: none"> <li>– in public facilities</li> <li>– with surgical DRG</li> <li>– both inpatient and outpatient</li> <li>– planned with or without pre-hospitalization</li> </ul> <p>The following DRGs are excluded: 370 – Cesarean birth with CC, 371 – Cesarean birth without CC, 374 – Vaginal birth with sterilization and/or dilation and curettage, 375 – Vaginal birth with other interventions except sterilization and/or dilation and curettage, 377 – Postpartum and post abortion diagnoses with surgery, 381 – Abortion with dilation and curettage, aspiration curettage or hysterotomy, 42 – interventions on intraocular structures except retina, iris and lens, 266 – Skin graft and / or debridement except for skin ulcers / cellulitis without CC, 364 – dilation and curettage, conization except for malignancy, 315 – Other operations on kidney and urinary tract, 169 – Mouth procedures without CC, 360 – Vagina, cervix and vulva procedures, 39 – Lens procedures with or without vitrectomy, 6 – Carpal Tunnel Decompression</p>
<b>Source:</b>	Regional Information System – SDO flow (Sistema Informativo Regionale – Flusso SDO)



### 3.92 Indicator B17.2: Extra Region outflow trend for basic surgical specialties (Local Health Authorities)

The indicator calculates, by Local Authority, out-bound mobility broken down by the following categories: general surgery, vascular surgery, ophthalmology, orthopaedics, obstetrics/gynaecology, otolaryngology, paediatrics and urology. 2010 data were not available at the time of publication of the present report as the figures for extra-regional flow have not yet been received. The diagrams below refer to 2009.

#### B17.2 – Extra Region outflow trend for basic surgical specialties (Local Health Authorities)



#### B17.2 Extra Region outflow trend for basic surgical specialties (Local Health Authorities)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,78	7,82	7,44	-4,78	13.484,00	12.474,00	172.514,00	167.601,00
T - AUSL 1 Massa	0,00	14,47	15,11	4,41	1.563,00	1.575,00	10.801,00	10.424,00
T - AUSL 2 Lucca	3,51	6,07	5,98	-1,48	629,00	592,00	10.366,00	9.903,00
T - AUSL 3 Pistoia	2,42	7,07	8,15	15,21	893,00	993,00	12.622,00	12.183,00
T - AUSL 4 Prato	2,18	9,71	8,64	-11,04	1.216,00	1.070,00	12.520,00	12.384,00
T - AUSL 5 Pisa	4,71	3,49	3,59	2,66	566,00	542,00	16.199,00	15.110,00
T - AUSL 6 Livorno	3,65	6,08	5,69	-6,39	1.022,00	899,00	16.799,00	15.786,00
T - AUSL 7 Siena	1,61	11,06	9,78	-11,53	1.328,00	1.186,00	12.011,00	12.124,00
T - AUSL 8 Arezzo	1,66	10,86	9,69	-10,83	1.890,00	1.613,00	17.398,00	16.652,00
T - AUSL 9 Grosseto	2,14	13,80	8,72	-36,78	1.453,00	866,00	10.529,00	9.927,00
T - AUSL 10 Firenze	3,24	5,82	6,51	11,89	2.034,00	2.265,00	34.934,00	34.767,00
T - AUSL 11 Empoli	4,52	4,50	3,95	-12,26	449,00	415,00	9.968,00	10.500,00
T - AUSL 12 Viareggio	3,58	5,27	5,84	10,82	441,00	458,00	8.367,00	7.841,00

### Indicator B17: Strategies for surgical activity

#### B17.2 Extra Region outflow trend for basic surgical specialties (Local Health Authorities)

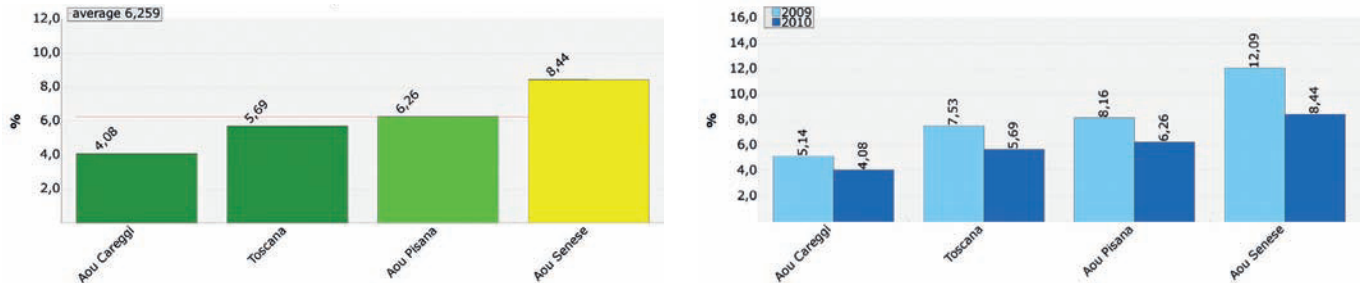
<b>Definition:</b>	Extra Region outflow trend for basic surgical specialties
<b>Numerator:</b>	No. of Tuscan residents discharged in other Regions for basic surgical specialty
<b>Denominator:</b>	No. of Tuscan residents discharged for basic surgical specialty
<b>Formula:</b>	$\frac{\text{No. of Tuscan residents discharged in other Regions for basic surgical specialty}}{\text{No. of Tuscan residents discharged for basic surgical specialty}} \times 100$
<b>Notes:</b>	Unaccredited private hospitals are not considered. We consider: – only surgical DRGs – planned inpatient surgical interventions W or W/O pre-hospitalization and outpatient interventions – specialties related to basic hospital performances provided by the Authority: 09 – General Surgery, 14 – Vascular Surgery, 34 – Ophthalmology, 36 – Orthopaedics and Traumatology, 37 – Obstetrics and Gynecology, 38 – Otorhinolaryngology, 39 – Paediatrics, 43 – Urology.
<b>Source:</b>	Regional Information System – SDO flow (Sistema Informativo Regionale – Flusso SDO)
<b>Reference:</b>	Average of Authorities 2009



### Indicator B17.3: Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals) 3.93

The indicator calculates, by Teaching Hospital, the out-bound mobility broken down in the following categories: paediatric cardiac surgery, cardiac surgery, maxillofacial surgery, paediatric surgery, plastic surgery, thoracic surgery, neurosurgery, dentistry and stomatology, coronary care unit, paediatric neurosurgery. The diagrams below refer to 2009.

#### B17.3 – Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals)



#### B17.3 Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Assessment	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,23	2,04	5,69	-24,39	2,98	297	1.008,00	14.583	17.700,00
T - Aou Pisana	3,80	1,22	6,26	(*)	3,39	71	456,00	5.821	7.282,00
T - Aou Senese	2,13	8,98	8,44	(*)	-	214	246,00	2.384	2.916,00
T - Aou Careggi	5,00	0,16	4,08	(*)	3,92	6	306,00	3.735	7.502,00
T - Aou Meyer	-	0,23	-	-	3,89	6	-	2.643	-

### Indicator B17: Strategies for surgical activity

#### B17.3 Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals)

<b>Definition:</b>	Extra-regional outflow rate for highly specialised surgery (Teaching Hospitals)
<b>Numerator:</b>	No. of Tuscan residents discharged in other Regions for highly specialised surgery
<b>Denominator:</b>	No. of Tuscan residents discharged for highly specialised surgery
<b>Formula:</b>	$\frac{\text{No. of Tuscan residents discharged in other Regions for highly specialised surgery}}{\text{No. of Tuscan residents discharged for highly specialised surgery}} \times 100$
<b>Notes:</b>	<p>Unaccredited private hospitals are not considered.</p> <p>We consider:</p> <ul style="list-style-type: none"> <li>– only surgical DRGs</li> <li>– planned inpatient surgical interventions W or W/O pre-hospitalization and outpatient interventions</li> <li>– specialties related to basic hospital performances provided by the Authority:</li> </ul> <p>06 – Paediatric Cardiac Surgery, 07 – Cardiac Surgery, 10 – Oral and Maxillofacial Surgery, 11 – Paediatric Surgery, 12 – Plastic surgery, 13 – Thoracic Surgery, 30 – Neurosurgery, 35 – Dentistry and Stomatology, 50 – Coronary Unit, 76 – Paediatric Neurosurgery</p>
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale – Flusso SDO</i> )
<b>Reference:</b>	Average of Teaching Hospitals 2009

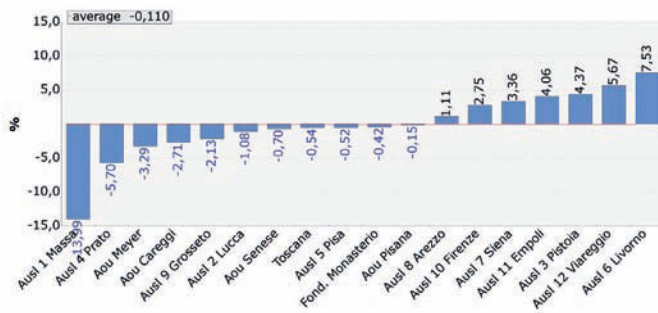




### 3.94 Indicator B17.4: Surgical activity weightage trend for planned inpatient hospitalization

This indicator analyses the volume of scheduled surgical activities over the previous year, as a percentage change.

#### B17.4 – Surgical activity weightage trend for planned inpatient hospitalization



#### B17.4 Surgical activity weightage trend for planned inpatient hospitalization

Health Authority	Value	Assessment	Numetator	Denominator	Year
T - Toscana	-0,54%	not assessed	-0,01	1,91	2010
T - Ausl 1 Massa	-13,99%	not assessed	-0,31	2,23	2010
T - Ausl 2 Lucca	-1,08%	not assessed	-0,02	1,42	2010
T - Ausl 3 Pistoia	4,37%	not assessed	0,07	1,56	2010
T - Ausl 4 Prato	-5,70%	not assessed	-0,08	1,45	2010
T - Ausl 5 Pisa	-0,52%	not assessed	-0,01	1,49	2010
T - Ausl 6 Livorno	7,53%	not assessed	0,12	1,59	2010
T - Ausl 7 Siena	3,36%	not assessed	0,05	1,40	2010
T - Ausl 8 Arezzo	1,11%	not assessed	0,02	1,62	2010
T - Ausl 9 Grosseto	-2,13%	not assessed	-0,03	1,59	2010
T - Ausl 10 Firenze	2,75%	not assessed	0,05	1,71	2010
T - Ausl 11 Empoli	4,06%	not assessed	0,07	1,62	2010
T - Ausl 12 Viareggio	5,67%	not assessed	0,08	1,40	2010
T - Aou Pisana	-0,15%	not assessed	0,00	2,22	2010
T - Aou Senese	-0,70%	not assessed	-0,02	2,23	2010
T - Aou Careggi	-2,71%	not assessed	-0,06	2,10	2010
T - Aou Meyer	-3,29%	not assessed	-0,06	1,85	2010
T - Fond. Monasterio	-0,42%	not assessed	-0,02	5,44	2010

### Indicator B17: Strategies for surgical activity

#### B17.4 Surgical activity weightage trend for planned inpatient hospitalization

<b>Definition:</b>	Surgical activity weightage trend for planned inpatient hospitalization
<b>Numerator:</b>	Difference between activity volumes year X and year X-1
<b>Denominator:</b>	Activity volumes year X-1
<b>Formula:</b>	$\frac{\text{Activity volumes year X less (minus) activity volumes year X-1}}{\text{Activity volumes year X-1}} \times 100$
<b>Notes:</b>	<p>Admissions considered:</p> <ul style="list-style-type: none"> <li>– in public facilities</li> <li>– with surgical DRG</li> <li>– both inpatient and outpatient</li> <li>– planned with or without pre-hospitalization</li> </ul> <p>The following DRGs are excluded: 370 – Cesarean birth with CC, 371 – Cesarean birth without CC, 374 – Vaginal birth with sterilization and/or dilation and curettage, 375 – Vaginal birth with other interventions except sterilization and/or dilation and curettage, 377 – Postpartum and post abortion diagnoses with surgery, 381 – Abortion with dilation and curettage, aspiration curettage or hysterotomy, 42 – interventions on intraocular structures except retina, iris and lens, 266 – Skin graft and / or debridement except for skin ulcers / cellulitis without CC, 364 – dilation and curettage, conization except for malignancy, 315 – Other operations on kidney and urinary tract, 169 – Mouth procedures without CC, 360 – Vagina, cervix and vulva procedures, 39 – Lens procedures with or without vitrectomy, 6 – Carpal Tunnel Decompression</p>
<b>Source:</b>	Regional Information System – SDO flow ( <i>Sistema Informativo Regionale – Flusso SDO</i> )



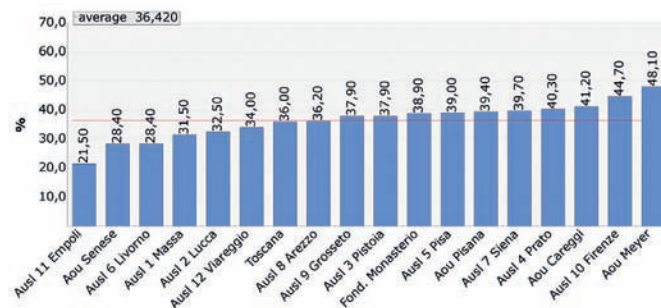
## Indicator B20: Percentage of first outpatient specialist visits booked within 15 days 3.95

In 2010 a new indicator was introduced to replace the “B3-Waiting times for specialist visits” indicator. The new indicator is B20: “Percentage of specialist visits booked within 15 days”. It measures the percentage of specialist visits booked within 15 days of the booking date and includes the following specialisations: cardiology, gynaecology, neurology, orthopaedics, otolaryngology (ENT), ophthalmology, dermatology, urology, general surgery. The data source is the TAT stream.

### B20 Percentage of first outpatient specialist visits booked within 15 days:

- B20.1 – Percentage of first cardiac visits booked within 15 days: 36,34%
- B20.2 – Percentage of first gynaecological visits booked within 15 days: 34,10%
- B20.3 – Percentage of first neurological visits booked within 15 days: 38,20%
- B20.4 – Percentage of first orthopaedic visits booked within 15 days: 32,50%
- B20.5 – Percentage of first ENT visits booked within 15 days: 57,50%
- B20.6 – Percentage of first ophthalmological visits booked within 15 days: 24,50%
- B20.7 – Percentage of first dermatological visits booked within 15 days: 36,96%
- B20.8 – Percentage of first urological visits booked within 15 days: 35,50%
- B20.9 – Percentage of first general surgery visits booked within 15 days: 61,10%

### B20 – Percentage of first outpatient specialist visits booked within 15 days



### B20 Percentage of first outpatient specialist visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	36,00%	not assessed	518.588,00	1.431.606,00	2010
T - Ausl 1 Massa	31,50%	not assessed	34.478,00	109.453,00	2010
T - Ausl 2 Lucca	32,50%	not assessed	27.179,00	83.694,00	2010
T - Ausl 3 Pistoia	37,90%	not assessed	37.656,00	99.315,00	2010
T - Ausl 4 Prato	40,30%	not assessed	36.810,00	91.413,00	2010
T - Ausl 5 Pisa	39,00%	not assessed	37.162,00	95.205,00	2010
T - Ausl 6 Livorno	28,40%	not assessed	37.197,00	130.924,00	2010
T - Ausl 7 Siena	39,70%	not assessed	43.941,00	110.609,00	2010
T - Ausl 8 Arezzo	36,20%	not assessed	48.260,00	133.181,00	2010
T - Ausl 9 Grosseto	37,90%	not assessed	40.229,00	106.227,00	2010
T - Ausl 10 Firenze	44,70%	not assessed	92.949,00	207.891,00	2010
T - Ausl 11 Empoli	21,50%	not assessed	17.323,00	80.663,00	2010
T - Ausl 12 Viareggio	34,00%	not assessed	17.473,00	51.387,00	2010
T - Aou Pisana	39,40%	not assessed	23.518,00	59.669,00	2010
T - Aou Senese	28,40%	not assessed	11.932,00	41.975,00	2010
T - Aou Careggi	41,20%	not assessed	10.065,00	24.403,00	2010
T - Aou Meyer	48,10%	not assessed	1.347,00	2.800,00	2010
T - Fond. Monasterio	38,90%	not assessed	1.069,00	2.747,00	2010

## Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

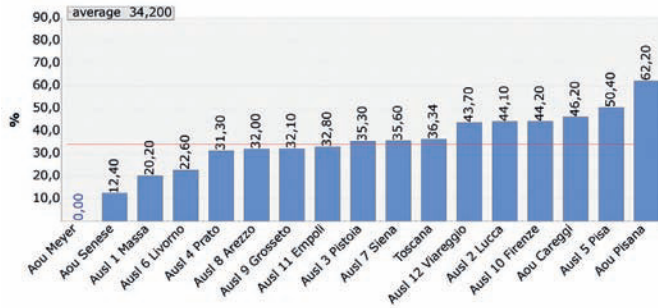
<b>Definition:</b>	Percentage of first outpatient specialist visits booked within 15 days
<b>Numerator:</b>	Number of first outpatient specialist visits booked within 15 days
<b>Denominator:</b>	Number of first outpatient specialist visits booked
<b>Formula:</b>	$\frac{\text{Number of first outpatient specialist visits booked within 15 days}}{\text{Number of first outpatient specialist visits booked}} \times 100$
<b>Notes:</b>	In the calculation of the indicator we consider the following ambulatory visits: cardiology, gynaecology, ophthalmology, dermatology, neurology, orthopedics, otorhinolaryngology, urology, general surgery.
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



### 3.96 Indicator B20.1: Percentage of first cardiac visits booked within 15 days

This new indicator for 2010 measures the percentage of cardiac visits booked within 15 days of the booking date, compared to the total bookings of cardiac visits.

#### B20.1 – Percentage of first cardiac visits booked within 15 days



#### B20.1 Percentage of first cardiac visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	36,34%	not assessed	57.942,00	162,89	2010
T - Ausl 1 Massa	20,20%	not assessed	2.405,00	11,90	2010
T - Ausl 2 Lucca	44,10%	not assessed	3.608,00	8,18	2010
T - Ausl 3 Pistoia	35,30%	not assessed	4.056,00	11,49	2010
T - Ausl 4 Prato	31,30%	not assessed	4.113,00	13,78	2010
T - Ausl 5 Pisa	50,40%	not assessed	7.319,00	14,51	2010
T - Ausl 6 Livorno	22,60%	not assessed	3.257,00	14,43	2010
T - Ausl 7 Siena	35,60%	not assessed	4.398,00	12,35	2010
T - Ausl 8 Arezzo	32,00%	not assessed	5.728,00	17,93	2010
T - Ausl 9 Grosseto	32,10%	not assessed	4.865,00	15,15	2010
T - Ausl 10 Firenze	44,20%	not assessed	7.931,00	17,95	2010
T - Ausl 11 Empoli	32,80%	not assessed	3.318,00	10,12	2010
T - Ausl 12 Viareggio	43,70%	not assessed	2.179,00	4,98	2010
T - Aou Pisana	62,20%	not assessed	3.092,00	4,97	2010
T - Aou Senese	12,40%	not assessed	260,00	2,10	2010
T - Aou Careggi	46,20%	not assessed	144,00	312,00	2010
T - Aou Meyer	0,00%	not assessed	0,00	0,00	2010

### Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

#### B20.1 Percentage of first cardiac visits booked within 15 days

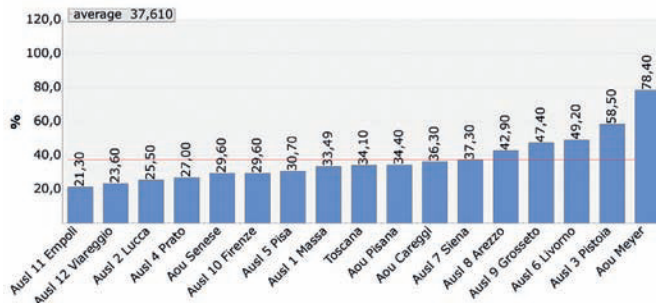
<b>Definition:</b>	Percentage of first cardiologic visits booked within 15 days
<b>Numerator:</b>	Number of first cardiologic visits booked within 15 days
<b>Denominator:</b>	Number of first cardiologic visits booked
<b>Formula:</b>	$\frac{\text{Number of first cardiologic visits booked within 15 days}}{\text{Number of first cardiologic visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



## Indicator B20.2: Percentage of first gynaecological visits booked within 15 days 3.97

This new indicator for 2010 measures the percentage of gynaecological visits booked within 15 days of the booking date, compared to the total bookings of gynaecological visits.

### B20.2 – Percentage of first gynaecological visits booked within 15 days



### B20.2 Percentage of first gynaecological visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	34,10%	not assessed	43.171,00	126.776,00	2010
T - Ausl 1 Massa	33,49%	not assessed	5.727,00	17.146,00	2010
T - Ausl 2 Lucca	25,50%	not assessed	1.189,00	4.663,00	2010
T - Ausl 3 Pistoia	58,50%	not assessed	3.720,00	6.358,00	2010
T - Ausl 4 Prato	27,00%	not assessed	2.259,00	8.377,00	2010
T - Ausl 5 Pisa	30,70%	not assessed	4.240,00	13.811,00	2010
T - Ausl 6 Livorno	49,20%	not assessed	2.141,00	4.350,00	2010
T - Ausl 7 Siena	37,30%	not assessed	4.789,00	12.854,00	2010
T - Ausl 8 Arezzo	42,90%	not assessed	1.620,00	3.773,00	2010
T - Ausl 9 Grosseto	47,40%	not assessed	2.657,00	5.602,00	2010
T - Ausl 10 Firenze	29,60%	not assessed	7.182,00	24.288,00	2010
T - Ausl 11 Empoli	21,30%	not assessed	1.676,00	7.855,00	2010
T - Ausl 12 Viareggio	23,60%	not assessed	739,00	3.130,00	2010
T - Aou Pisana	34,40%	not assessed	2.297,00	6.670,00	2010
T - Aou Senese	29,60%	not assessed	652,00	2.206,00	2010
T - Aou Careggi	36,30%	not assessed	1.903,00	5.207,00	2010
T - Aou Meyer	78,40%	not assessed	381,00	486,00	2010

## Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

### B20.2 Percentage of first gynaecologic visits booked within 15 days

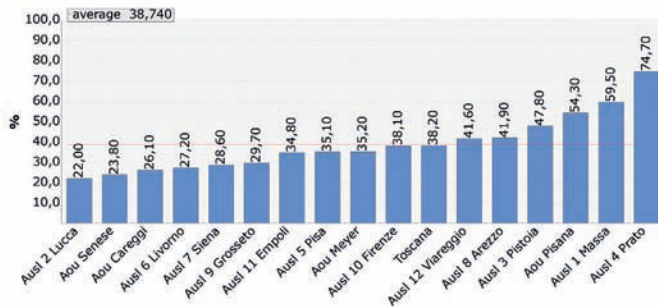
<b>Definition:</b>	Percentage of first gynaecologic visits booked within 15 days
<b>Numerator:</b>	Number of first gynaecologic visits booked within 15 days
<b>Denominator:</b>	Number of first gynaecologic visits booked
<b>Formula:</b>	$\frac{\text{Number of first gynaecologic visits booked within 15 days}}{\text{Number of first gynaecologic visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



### 3.98 Indicator B20.3: Percentage of first neurological visits booked within 15 days

This new indicator for 2010 measures the percentage of neurological visits booked within 15 days of the booking date, compared to the total bookings of neurological visits.

#### B20.3 – Percentage of first neurological visits booked within 15 days



#### B20.3 Percentage of first neurological visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	38,20%	not assessed	30.395,00	79.501,00	2010
T - Ausl 1 Massa	59,50%	not assessed	2.579,00	4.334,00	2010
T - Ausl 2 Lucca	22,00%	not assessed	1.216,00	5.520,00	2010
T - Ausl 3 Pistoia	47,80%	not assessed	3.624,00	7.585,00	2010
T - Ausl 4 Prato	74,70%	not assessed	3.068,00	4.105,00	2010
T - Ausl 5 Pisa	35,10%	not assessed	575,00	1.636,00	2010
T - Ausl 6 Livorno	27,20%	not assessed	2.105,00	77.403,00	2010
T - Ausl 7 Siena	28,60%	not assessed	1.934,00	6.754,00	2010
T - Ausl 8 Arezzo	41,90%	not assessed	3.053,00	7.285,00	2010
T - Ausl 9 Grosseto	29,70%	not assessed	1.944,00	6.553,00	2010
T - Ausl 10 Firenze	38,10%	not assessed	3.235,00	8.490,00	2010
T - Ausl 11 Empoli	34,80%	not assessed	1.753,00	5.044,00	2010
T - Ausl 12 Viareggio	41,60%	not assessed	984,00	2.366,00	2010
T - Aou Pisana	54,30%	not assessed	2.358,00	4.339,00	2010
T - Aou Senese	23,80%	not assessed	1.232,00	5.175,00	2010
T - Aou Careggi	26,10%	not assessed	486,00	1.865,00	2010
T - Aou Meyer	35,20%	not assessed	249,00	707,00	2010

### Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

#### B20.3 Percentage of first neurological visits booked within 15 days

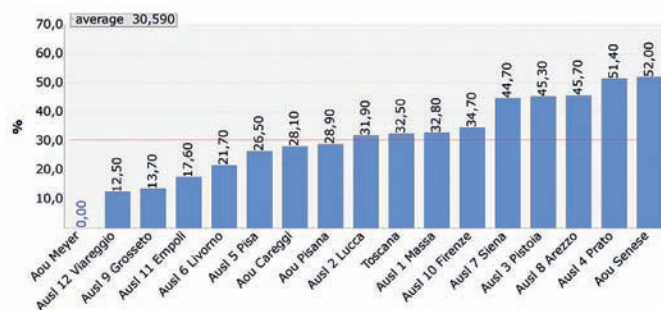
<b>Definition:</b>	Percentage of first neurological visits booked within 15 days
<b>Numerator:</b>	Number of first neurological visits booked within 15 days
<b>Denominator:</b>	Number of first neurological visits booked
<b>Formula:</b>	$\frac{\text{Number of first neurological visits booked within 15 days}}{\text{Number of first neurological visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



## Indicator B20.4: Percentage of first orthopaedic visits booked within 15 days 3.99

This new indicator for 2010 measures the percentage of orthopaedic visits booked within 15 days of the booking date, compared to the total bookings of orthopaedic visits.

### B20.4 – Percentage of first orthopaedic visits booked within 15 days



### B20.4 Percentage of first orthopaedic visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	32,50%	not assessed	41.637,00	155,30	2010
T - Ausl 1 Massa	32,80%	not assessed	5,59	13,32	2010
T - Ausl 2 Lucca	31,90%	not assessed	2,25	7,07	2010
T - Ausl 3 Pistoia	45,30%	not assessed	1,81	9,41	2010
T - Ausl 4 Prato	51,40%	not assessed	2,15	9,54	2010
T - Ausl 5 Pisa	26,50%	not assessed	4,42	11,63	2010
T - Ausl 6 Livorno	21,70%	not assessed	2,98	15,37	2010
T - Ausl 7 Siena	44,70%	not assessed	1,75	12,31	2010
T - Ausl 8 Arezzo	45,70%	not assessed	2,94	15.280,00	2010
T - Ausl 9 Grosseto	13,70%	not assessed	3.170,00	10,24	2010
T - Ausl 10 Firenze	34,70%	not assessed	4,60	21,86	2010
T - Ausl 11 Empoli	17,60%	not assessed	4,29	9,68	2010
T - Ausl 12 Viareggio	12,50%	not assessed	2.660,00	5,70	2010
T - Aou Pisana	28,90%	not assessed	2,04	7,23	2010
T - Aou Senese	52,00%	not assessed	755,00	1,88	2010
T - Aou Careggi	28,10%	not assessed	226,00	4,81	2010
T - Aou Meyer	0,00%	not assessed	0,00	0,00	2010

## Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

### B20.4 Percentage of first orthopaedic visits booked within 15 days

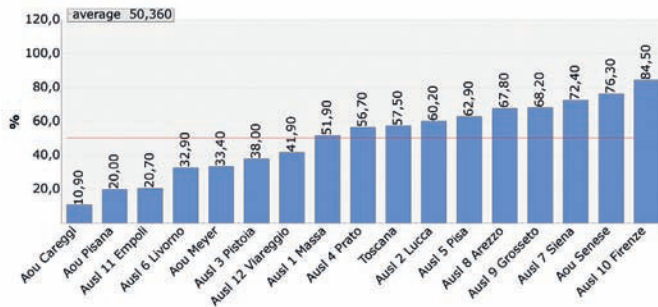
<b>Definition:</b>	Percentage of first orthopaedic visits booked within 15 days
<b>Numerator:</b>	Number of first orthopaedic visits booked within 15 days
<b>Denominator:</b>	Number of first orthopaedic visits booked
<b>Formula:</b>	$\frac{\text{Number of first orthopaedic visits booked within 15 days}}{\text{Number of first orthopaedic visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



### 3.100 Indicator B20.5: Percentage of first ENT visits booked within 15 days

This new indicator for 2010 measures the percentage of ENT (Ear Nose Throat) visits booked within 15 days of the booking date, compared to the total bookings of ENT visits.

#### B20.5 – Percentage of first ENT visits booked within 15 days



#### B20.5 Percentage of first ENT visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	57,50%	not assessed	101,94	177,20	2010
T - Ausl 1 Massa	51,90%	not assessed	6,79	13,08	2010
T - Ausl 2 Lucca	60,20%	not assessed	7,10	11,78	2010
T - Ausl 3 Pistoia	38,00%	not assessed	5,54	14,57	2010
T - Ausl 4 Prato	56,70%	not assessed	7.930,00	13,98	2010
T - Ausl 5 Pisa	62,90%	not assessed	6,73	10,70	2010
T - Ausl 6 Livorno	32,90%	not assessed	5,35	16,26	2010
T - Ausl 7 Siena	72,40%	not assessed	8,08	11,16	2010
T - Ausl 8 Arezzo	67,80%	not assessed	10,94	16,13	2010
T - Ausl 9 Grosseto	68,20%	not assessed	10,12	14,84	2010
T - Ausl 10 Firenze	84,50%	not assessed	24,31	28,77	2010
T - Ausl 11 Empoli	20,70%	not assessed	1,91	9,21	2010
T - Ausl 12 Viareggio	41,90%	not assessed	2,31	5,52	2010
T - Aou Pisana	20,00%	not assessed	985,00	4,92	2010
T - Aou Senese	76,30%	not assessed	3,61	4,73	2010
T - Aou Careggi	10,90%	not assessed	128,00	1.171,00	2010
T - Aou Meyer	33,40%	not assessed	135,00	404,00	2010

### Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

#### B20.5 Percentage of first ENT visits booked within 15 days

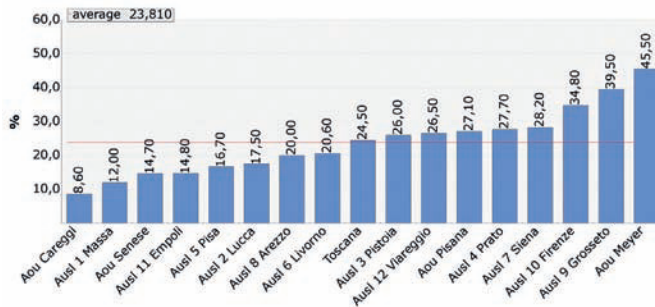
<b>Definition:</b>	Percentage of first ENT visits booked within 15 days
<b>Numerator:</b>	Number of first ENT visits booked within 15 days
<b>Denominator:</b>	Number of first ENT visits booked
<b>Formula:</b>	$\frac{\text{Number of first ENT visits booked within 15 days}}{\text{Number of first ENT visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



## Indicator B20.6: Percentage of first ophthalmological visits booked within 15 days 3.101

This new indicator for 2010 measures the percentage of ophthalmological visits booked within 15 days of the booking date, compared to the total bookings of ophthalmological visits.

### B20.6 – Percentage of first ophthalmological visits booked within 15 days



### B20.6 Percentage of first ophthalmological visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	24,50%	not assessed	94,59	386,33	2010
T - Ausl 1 Massa	12,00%	not assessed	3,30	27,47	2010
T - Ausl 2 Lucca	17,50%	not assessed	3,94	22,55	2010
T - Ausl 3 Pistoia	26,00%	not assessed	6,02	23,21	2010
T - Ausl 4 Prato	27,70%	not assessed	6,08	21,97	2010
T - Ausl 5 Pisa	16,70%	not assessed	4,19	25,04	2010
T - Ausl 6 Livorno	20,60%	not assessed	6,97	33,74	2010
T - Ausl 7 Siena	28,20%	not assessed	9,81	34,73	2010
T - Ausl 8 Arezzo	20,00%	not assessed	8,26	41,28	2010
T - Ausl 9 Grosseto	39,50%	not assessed	11,81	29,92	2010
T - Ausl 10 Firenze	34,80%	not assessed	20,30	58,28	2010
T - Ausl 11 Empoli	14,80%	not assessed	2,69	18,16	2010
T - Ausl 12 Viareggio	26,50%	not assessed	4,33	16,35	2010
T - Aou Pisana	27,10%	not assessed	3,92	14,47	2010
T - Aou Senese	14,70%	not assessed	2,28	15,52	2010
T - Aou Careggi	8,60%	not assessed	223,00	2,60	2010
T - Aou Meyer	45,50%	not assessed	472,00	1,04	2010

## Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

### B20.6 Percentage of first ophthalmological visits booked within 15 days

<b>Definition:</b>	Percentage of first ophthalmological visits booked within 15 days
<b>Numerator:</b>	Number of first ophthalmological visits booked within 15 days
<b>Denominator:</b>	Number of first ophthalmological visits booked
<b>Formula:</b>	$\frac{\text{Number of first ophthalmological visits booked within 15 days}}{\text{Number of first ophthalmological visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )

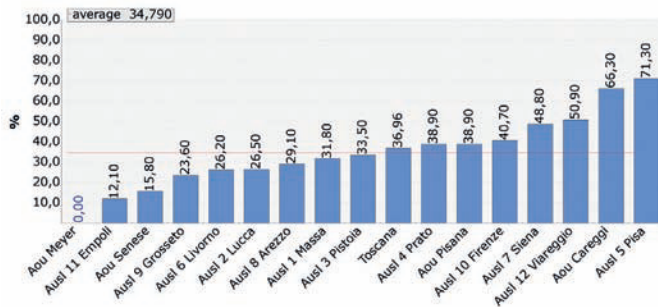




### 3.102 Indicator B20.7: Percentage of first dermatological visits booked within 15 days

This new indicator for 2010 measures the percentage of dermatological visits booked within 15 days of the booking date, compared to the total bookings of dermatological visits.

#### B20.7 – Percentage of first dermatological visits booked within 15 days



#### B20.7 Percentage of first dermatological visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	36,96%	not assessed	70.119,00	204.171,00	2010
T - Ausl 1 Massa	31,80%	not assessed	4.165,00	13.114,00	2010
T - Ausl 2 Lucca	26,50%	not assessed	3.975,00	15.001,00	2010
T - Ausl 3 Pistoia	33,50%	not assessed	4.815,00	14.387,00	2010
T - Ausl 4 Prato	38,90%	not assessed	4.939,00	12.711,00	2010
T - Ausl 5 Pisa	71,30%	not assessed	7.622,00	10.692,00	2010
T - Ausl 6 Livorno	26,20%	not assessed	6.349,00	24.257,00	2010
T - Ausl 7 Siena	48,80%	not assessed	6.799,00	13.939,00	2010
T - Ausl 8 Arezzo	29,10%	not assessed	5.596,00	19.259,00	2010
T - Ausl 9 Grosseto	23,60%	not assessed	3.483,00	14.789,00	2010
T - Ausl 10 Firenze	40,70%	not assessed	12.599,00	30.943,00	2010
T - Ausl 11 Empoli	12,10%	not assessed	1.538,00	12.757,00	2010
T - Ausl 12 Viareggio	50,90%	not assessed	4.570,00	8.982,00	2010
T - Aou Pisana	38,90%	not assessed	2.486,00	6.391,00	2010
T - Aou Senese	15,80%	not assessed	1.073,00	6.783,00	2010
T - Aou Careggi	66,30%	not assessed	110,00	166,00	2010
T - Aou Meyer	0,00%	not assessed	0,00	0,00	2010

### Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

#### B20.7 Percentage of first dermatological visits booked within 15 days

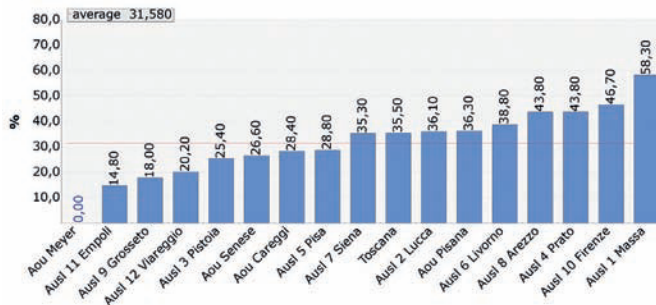
<b>Definition:</b>	Percentage of first dermatological visits booked within 15 days
<b>Numerator:</b>	Number of first dermatological visits booked within 15 days
<b>Denominator:</b>	Number of first dermatological visits booked
<b>Formula:</b>	$\frac{\text{Number of first dermatological visits booked within 15 days}}{\text{Number of first dermatological visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



## Indicator B20.8: Percentage of first urological visits booked within 15 days 3.103

This new indicator for 2010 measures the percentage of urological visits booked within 15 days of the booking date, compared to the total bookings of urological visits.

### B20.8 – Percentage of first urological visits booked within 15 days



### B20.8 Percentage of first urological visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	35,50%	not assessed	21,18	59,69	2010
T - Ausl 1 Massa	58,30%	not assessed	2,67	4,57	2010
T - Ausl 2 Lucca	36,10%	not assessed	1.380,00	3,82	2010
T - Ausl 3 Pistoia	25,40%	not assessed	1,72	6,77	2010
T - Ausl 4 Prato	43,80%	not assessed	1,56	3,55	2010
T - Ausl 5 Pisa	28,80%	not assessed	615,00	2,14	2010
T - Ausl 6 Livorno	38,80%	not assessed	2.344,00	6,13	2010
T - Ausl 7 Siena	35,30%	not assessed	1.010,00	2,86	2010
T - Ausl 8 Arezzo	43,80%	not assessed	2,85	6.500,00	2010
T - Ausl 9 Grosseto	18,00%	not assessed	793,00	4,42	2010
T - Ausl 10 Firenze	46,70%	not assessed	3,31	7,08	2010
T - Ausl 11 Empoli	14,80%	not assessed	463,00	3,13	2010
T - Ausl 12 Viareggio	20,20%	not assessed	583,00	2,89	2010
T - Aou Pisana	36,30%	not assessed	1,20	3,30	2010
T - Aou Senese	26,60%	not assessed	282,00	1,06	2010
T - Aou Careggi	28,40%	not assessed	417,00	1.470,00	2010
T - Aou Meyer	0,00%	not assessed	0,00	0,00	2010

## Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

### B20.8 Percentage of first urological visits booked within 15 days

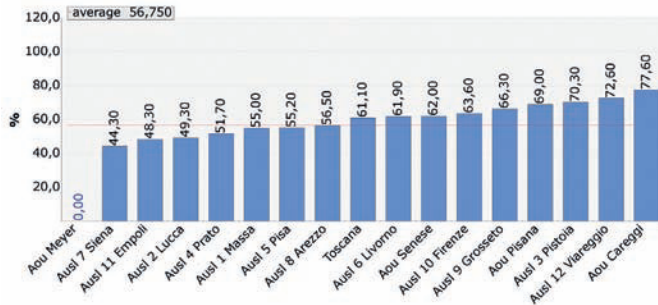
<b>Definition:</b>	Percentage of first urological visits booked within 15 days
<b>Numerator:</b>	Number of first urological visits booked within 15 days
<b>Denominator:</b>	Number of first urological visits booked
<b>Formula:</b>	$\frac{\text{Number of first urological visits booked within 15 days}}{\text{Number of first urological visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



### 3.104 Indicator B20.9: Percentage of first general surgery visits booked within 15 days

This new indicator for 2010 measures the percentage of general surgery appointments booked within 15 days of the booking date, compared to the total bookings of general surgery appointments.

#### B20.9 – Percentage of first general surgery visits booked within 15 days



#### B20.9 Percentage of first general surgery visits booked within 15 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	61,10%	not assessed	48.759,00	79.755,00	2010
T - Ausl 1 Massa	55,00%	not assessed	2.486,00	4.518,00	2010
T - Ausl 2 Lucca	49,30%	not assessed	2.519,00	5.106,00	2010
T - Ausl 3 Pistoia	70,30%	not assessed	3.895,00	5.544,00	2010
T - Ausl 4 Prato	51,70%	not assessed	1.760,00	3.407,00	2010
T - Ausl 5 Pisa	55,20%	not assessed	2.791,00	5.058,00	2010
T - Ausl 6 Livorno	61,90%	not assessed	5.356,00	8.657,00	2010
T - Ausl 7 Siena	44,30%	not assessed	1.624,00	3.664,00	2010
T - Ausl 8 Arezzo	56,50%	not assessed	3.246,00	5.746,00	2010
T - Ausl 9 Grosseto	66,30%	not assessed	3.160,00	4.776,00	2010
T - Ausl 10 Firenze	63,60%	not assessed	6.506,00	10.234,00	2010
T - Ausl 11 Empoli	48,30%	not assessed	2.272,00	4.700,00	2010
T - Ausl 12 Viareggio	72,60%	not assessed	1.065,00	1.466,00	2010
T - Aou Pisana	69,00%	not assessed	5.100,00	7.391,00	2010
T - Aou Senese	62,00%	not assessed	1.563,00	2.521,00	2010
T - Aou Careggi	77,60%	not assessed	5.416,00	6.977,00	2010
T - Aou Meyer	0,00%	not assessed	0,00	0,00	2010

### Indicator B20: Percentage of first outpatient specialist visits booked within 15 days

#### B20.9 Percentage of first general surgery visits booked within 15 days

<b>Definition:</b>	Percentage of first general surgery visits booked within 15 days
<b>Numerator:</b>	Number of first general surgery visits booked within 15 days
<b>Denominator:</b>	Number of first general surgery visits booked
<b>Formula:</b>	$\frac{\text{Number of first general surgery visits booked within 15 days}}{\text{Number of first general surgery visits booked}} \times 100$
<b>Source:</b>	Regional Information System – TAT flow ( <i>Sistema informativo regionale – flusso TAT</i> )



## Indicator B21: Percentage of diagnostic tests booked within 30 days 3.105

The indicator B21 “Percentage of diagnostic visits booked within 30 days” is a new indicator introduced in 2010 for the management of waiting lists. It shows the percentage of diagnostic visits booked within 30 days of the booking date, compared to the total bookings for diagnostic visits.

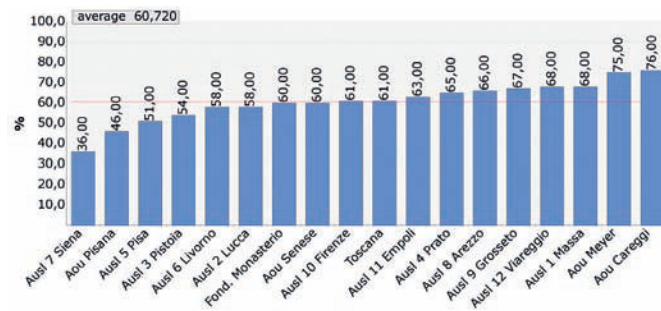
This indicator, meant for observation, monitors the following diagnostic imaging: CAT scans without a contrast agent, CAT scan with a contrast agent, MRI without a contrast agent, MRI with a contrast agent, and internal medicine ultrasound, obstetric and gynaecologic ultrasound, Echo-Colour Doppler.

The data source is the TAT stream.

### B21 Percentage of diagnostic tests booked within 30 days:

- B21.1 – Percentage of CT without contrast booked within 30 days: 62,90%
- B21.2 – Percentage of CT with contrast booked within 30 days: 57,88%
- B21.3 – Percentage of MRI without contrast booked within 30 days: 54,00%
- B21.4 – Percentage of MRI with contrast booked within 30 days: 52,00%
- B21.5 – Percentage of ultrasound scans booked within 30 days: 66,84%
- B21.6 – Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days: 78,03%
- B21.7 – Percentage of Echo Colour Doppler booked within 30 days: 49,70%

### B21 – Percentage of diagnostic tests booked within 30 days



## Indicator B21: Percentage of diagnostic tests booked within 30 days

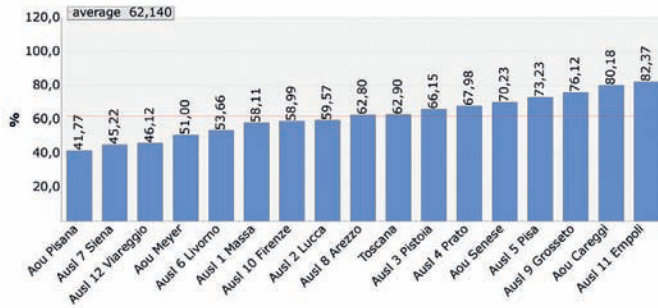
<b>Definition:</b>	Percentage of diagnostic tests booked within 30 days
<b>Numerator:</b>	Number of diagnostic tests booked within 30 days
<b>Denominator:</b>	Number of diagnostic tests booked
<b>Formula:</b>	$\frac{\text{Number of diagnostic tests booked within 30 days}}{\text{Number of diagnostic tests booked}} \times 100$
<b>Notes:</b>	In the calculation of the indicator we consider the following tests: CT with a contrast agent, CT without a contrast agent, MRI with a contrast agent, MRI without a contrast agent, Ultrasonography, Obstetric and Gynaecological Ultrasound, Echo Colour Doppler.
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



### 3.106 Indicator B21.1: Percentage of CT without contrast booked within 30 days

This new indicator for 2010 measures the percentage of appointments for CT scans without contrast agent booked within 30 days of the booking date, compared to the total bookings for CT scans without contrast agents.

#### B21.1 – Percentage of CT without contrast booked within 30 days



#### B21.1 Percentage of CT without contrast booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	62,90%	notassessed	58.516,00	93.037,00	2010
T - Ausl 1 Massa	58,11%	notassessed	3.025,00	5.206,00	2010
T - Ausl 2 Lucca	59,57%	notassessed	2.462,00	4.133,00	2010
T - Ausl 3 Pistoia	66,15%	notassessed	3.824,00	5.781,00	2010
T - Ausl 4 Prato	67,98%	notassessed	3.747,00	5.512,00	2010
T - Ausl 5 Pisa	73,23%	notassessed	3.759,00	5.133,00	2010
T - Ausl 6 Livorno	53,66%	notassessed	5.986,00	11.156,00	2010
T - Ausl 7 Siena	45,22%	notassessed	1.316,00	2.910,00	2010
T - Ausl 8 Arezzo	62,80%	notassessed	5.383,00	8.571,00	2010
T - Ausl 9 Grosseto	76,12%	notassessed	7.397,00	9.717,00	2010
T - Ausl 10 Firenze	58,99%	notassessed	8.068,00	13.677,00	2010
T - Ausl 11 Empoli	82,37%	notassessed	4.775,00	5.797,00	2010
T - Ausl 12 Viareggio	46,12%	notassessed	1.093,00	2.370,00	2010
T - Aou Pisana	41,77%	notassessed	2.346,00	5.617,00	2010
T - Aou Senese	70,23%	notassessed	1.654,00	2.355,00	2010
T - Aou Careggi	80,18%	notassessed	2.209,00	2.755,00	2010
T - Aou Meyer	51,00%	notassessed	793,00	1.555,00	2010

### Indicator B21: Percentage of diagnostic tests booked within 30 days

#### B21.1 Percentage of CT without contrast booked within 30 days

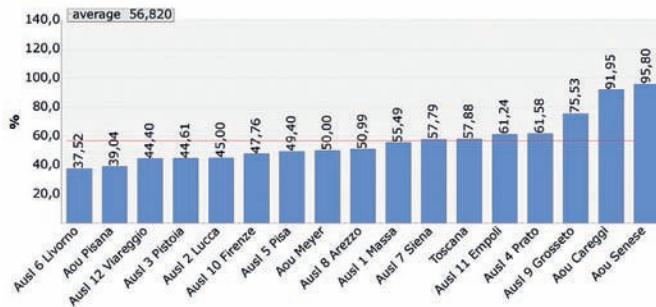
<b>Definition:</b>	Percentage of CT without contrast booked within 30 days
<b>Numerator:</b>	Number of CT without contrast booked within 30 days
<b>Denominator:</b>	Number of CT without contrast booked
<b>Formula:</b>	$\frac{\text{Number of CT without contrast booked within 30 days}}{\text{Number of CT without contrast booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



## Indicator B21.2: Percentage of CT with contrast booked within 30 days 3.107

This new indicator for 2010 measures the percentage of appointments for CT scans with contrast agent booked within 30 days of the booking date, compared to the total bookings for CT scans with contrast agent.

### B21.2 – Percentage of CT with contrast booked within 30 days



#### B21.2 Percentage of CT with contrast booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	57,88%	not assessed	57.632,00	99.564,00	2010
T - Ausl 1 Massa	55,49%	not assessed	2.295,00	4.136,00	2010
T - Ausl 2 Lucca	45,00%	not assessed	1.562,00	3.471,00	2010
T - Ausl 3 Pistoia	44,61%	not assessed	1.570,00	3.519,00	2010
T - Ausl 4 Prato	61,58%	not assessed	4.134,00	6.713,00	2010
T - Ausl 5 Pisa	49,40%	not assessed	2.841,00	5.751,00	2010
T - Ausl 6 Livorno	37,52%	not assessed	3.018,00	8.044,00	2010
T - Ausl 7 Siena	57,79%	not assessed	3.149,00	5.449,00	2010
T - Ausl 8 Arezzo	50,99%	not assessed	3.608,00	7.076,00	2010
T - Ausl 9 Grosseto	75,53%	not assessed	5.807,00	7.688,00	2010
T - Ausl 10 Firenze	47,76%	not assessed	4.733,00	9.910,00	2010
T - Ausl 11 Empoli	61,24%	not assessed	3.387,00	5.531,00	2010
T - Ausl 12 Viareggio	44,40%	not assessed	567,00	1.277,00	2010
T - Aou Pisana	39,04%	not assessed	4.910,00	12.578,00	2010
T - Aou Senese	95,80%	not assessed	2.599,00	2.713,00	2010
T - Aou Careggi	91,95%	not assessed	11.043,00	12.010,00	2010
T - Aou Meyer	50,00%	not assessed	396,00	792,00	2010

## Indicator B21: Percentage of diagnostic tests booked within 30 days

### B21.2 Percentage of CT with contrast booked within 30 days

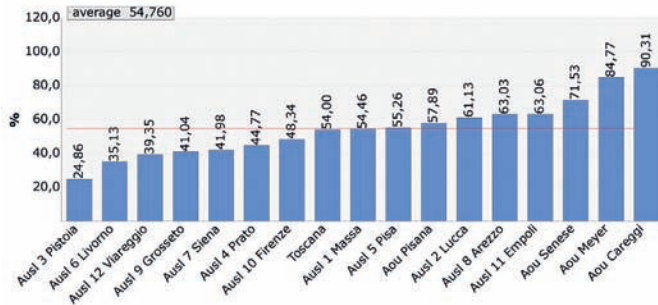
<b>Definition:</b>	Percentage of CT with contrast booked within 30 days
<b>Numerator:</b>	Number of CT with contrast booked within 30 days
<b>Denominator:</b>	Total of CT with contrast booked
<b>Formula:</b>	$\frac{\text{Number of CT with contrast booked within 30 days}}{\text{Number of CT with contrast booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



### 3.108 Indicator B21.3: Percentage of MRI without contrast booked within 30 days

This new indicator for 2010 measures the percentage of appointments for MRI without contrast agent booked within 30 days of the booking date, compared to the total bookings for MRI without contrast.

#### B21.3 – Percentage of MRI without contrast booked within 30 days



#### B21.3 Percentage of MRI without contrast booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	54,00%	not assessed	114.389,00	211.425,00	2010
T - Ausl 1 Massa	54,46%	not assessed	6.773,00	12.436,00	2010
T - Ausl 2 Lucca	61,13%	not assessed	9.070,00	14.837,00	2010
T - Ausl 3 Pistoia	24,86%	not assessed	1.187,00	4.775,00	2010
T - Ausl 4 Prato	44,77%	not assessed	6.002,00	13.407,00	2010
T - Ausl 5 Pisa	55,26%	not assessed	5.574,00	10.086,00	2010
T - Ausl 6 Livorno	35,13%	not assessed	5.053,00	14.384,00	2010
T - Ausl 7 Siena	41,98%	not assessed	3.787,00	9.022,00	2010
T - Ausl 8 Arezzo	63,03%	not assessed	24.728,00	39.233,00	2010
T - Ausl 9 Grosseto	41,04%	not assessed	6.135,00	14.949,00	2010
T - Ausl 10 Firenze	48,34%	not assessed	14.332,00	29.651,00	2010
T - Ausl 11 Empoli	63,06%	not assessed	8.648,00	13.715,00	2010
T - Ausl 12 Viareggio	39,35%	not assessed	1.959,00	4.978,00	2010
T - Aou Pisana	57,89%	not assessed	3.137,00	5.419,00	2010
T - Aou Senese	71,53%	not assessed	4.947,00	6.916,00	2010
T - Aou Careggi	90,31%	not assessed	5.003,00	5.540,00	2010
T - Aou Meyer	84,77%	not assessed	2.666,00	3.145,00	2010

### Indicator B21: Percentage of diagnostic tests booked within 30 days

#### B21.3 Percentage of MRI without contrast booked within 30 days

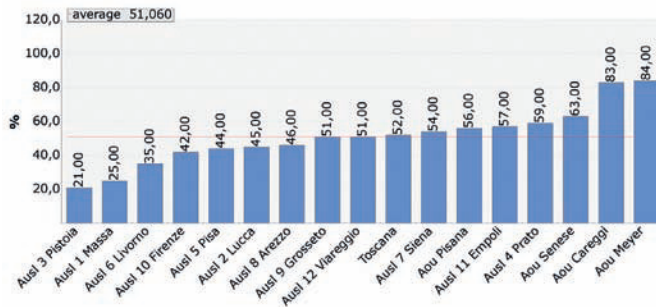
<b>Definition:</b>	Percentage of MRI without contrast booked within 30 days
<b>Numerator:</b>	Number of MRI without contrast booked within 30 days
<b>Denominator:</b>	Number of MRI without contrast booked
<b>Formula:</b>	$\frac{\text{Number of MRI without contrast booked within 30 days}}{\text{Number of MRI without contrast booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



## Indicator B21.4: Percentage of MRI with contrast booked within 30 days 3.109

This new indicator for 2010 measures the percentage of appointments for MRI with contrast agent booked within 30 days of the booking date, compared to the total bookings for MRI with contrast.

### B21.4 – Percentage of MRI with contrast booked within 30 days



### B21.4 Percentage of MRI with contrast booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	52,00%	not assessed	22.771,00	43.597,00	2010
T - Ausl 1 Massa	25,00%	not assessed	363,00	1.463,00	2010
T - Ausl 2 Lucca	45,00%	not assessed	1.445,00	3.210,00	2010
T - Ausl 3 Pistoia	21,00%	not assessed	159,00	751,00	2010
T - Ausl 4 Prato	59,00%	not assessed	2.440,00	4.153,00	2010
T - Ausl 5 Pisa	44,00%	not assessed	932,00	2.123,00	2010
T - Ausl 6 Livorno	35,00%	not assessed	767,00	2.213,00	2010
T - Ausl 7 Siena	54,00%	not assessed	957,00	1.773,00	2010
T - Ausl 8 Arezzo	46,00%	not assessed	2.449,00	5.325,00	2010
T - Ausl 9 Grosseto	51,00%	not assessed	1.384,00	2.689,00	2010
T - Ausl 10 Firenze	42,00%	not assessed	1.288,00	3.098,00	2010
T - Ausl 11 Empoli	57,00%	not assessed	1.966,00	3.425,00	2010
T - Ausl 12 Viareggio	51,00%	not assessed	177,00	350,00	2010
T - Aou Pisana	56,00%	not assessed	1.201,00	2.135,00	2010
T - Aou Senese	63,00%	not assessed	1.858,00	2.954,00	2010
T - Aou Careggi	83,00%	not assessed	2.404,00	2.887,00	2010
T - Aou Meyer	84,00%	not assessed	787,00	932,00	2010

## Indicator B21: Percentage of diagnostic tests booked within 30 days

### B21.4 Percentage of MRI with contrast booked within 30 days

<b>Definition:</b>	Percentage of MRI with contrast booked within 30 days
<b>Numerator:</b>	Number of MRI with contrast booked within 30 days
<b>Denominator:</b>	Number of MRI with contrast booked
<b>Formula:</b>	$\frac{\text{Number of MRI with contrast booked within 30 days}}{\text{Number of MRI with contrast booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )

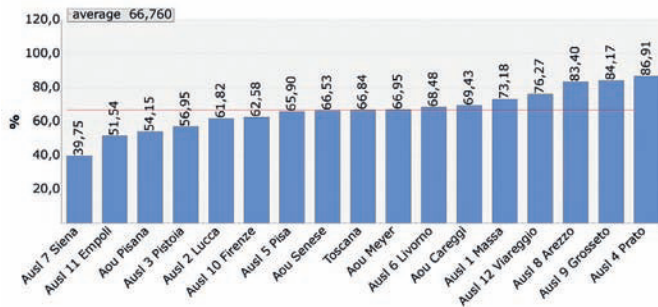




### 3.110 Indicator B21.5: Percentage of ultrasound scans booked within 30 days

This new indicator for 2010 measures the percentage of appointments for ultrasound booked within 15 days of the booking date, compared to the total bookings of ultrasound appointments.

#### B21.5 – Percentage of ultrasound scans booked within 30 days



#### B21.5 Percentage of ultrasound scans booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	66,84%	not assessed	413.904,00	619.214,00	2010
T - Ausl 1 Massa	73,18%	not assessed	23.268,00	31.796,00	2010
T - Ausl 2 Lucca	61,82%	not assessed	24.704,00	39.963,00	2010
T - Ausl 3 Pistoia	56,95%	not assessed	11.834,00	20.779,00	2010
T - Ausl 4 Prato	86,91%	not assessed	35.248,00	40.556,00	2010
T - Ausl 5 Pisa	65,90%	not assessed	26.124,00	39.643,00	2010
T - Ausl 6 Livorno	68,48%	not assessed	41.850,00	61.104,00	2010
T - Ausl 7 Siena	39,75%	not assessed	10.658,00	26.813,00	2010
T - Ausl 8 Arezzo	83,40%	not assessed	38.466,00	46.125,00	2010
T - Ausl 9 Grosseto	84,17%	not assessed	30.157,00	35.829,00	2010
T - Ausl 10 Firenze	62,58%	not assessed	58.152,00	92.927,00	2010
T - Ausl 11 Empoli	51,54%	not assessed	21.920,00	42.527,00	2010
T - Ausl 12 Viareggio	76,27%	not assessed	17.919,00	23.495,00	2010
T - Aou Pisana	54,15%	not assessed	24.312,00	44.866,00	2010
T - Aou Senese	66,53%	not assessed	18.908,00	28.420,00	2010
T - Aou Careggi	69,43%	not assessed	21.145,00	30.454,00	2010
T - Aou Meyer	66,95%	not assessed	7.239,00	10.812,00	2010

### Indicator B21: Percentage of diagnostic tests booked within 30 days

#### B21.5 Percentage of ultrasound scans booked within 30 days

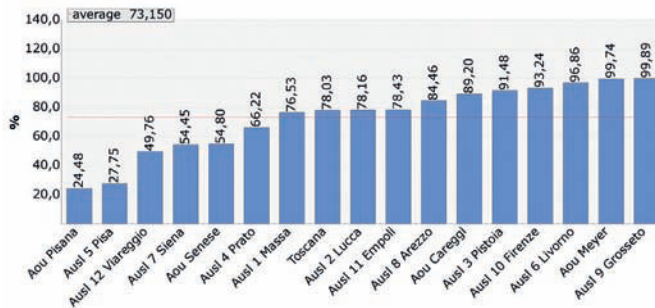
<b>Definition:</b>	Percentage of ultrasound scans booked within 30 days
<b>Numerator:</b>	Number of ultrasound scans booked within 30 days
<b>Denominator:</b>	Number of ultrasound scans booked
<b>Formula:</b>	$\frac{\text{Number of ultrasound scans booked within 30 days}}{\text{Number of ultrasound scans booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



## Indicator B21.6: Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days 3.111

This new indicator for 2010 measures the percentage of obstetric/gynaecological ultrasound appointments booked within 15 days of the booking date, compared to the total bookings of obstetric/gynaecological ultrasound appointments.

### B21.6 – Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days



### B21.6 Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	78,03%	not assessed	125.875,00	161.315,00	2010
T - Ausl 1 Massa	76,53%	not assessed	6.204,00	8.107,00	2010
T - Ausl 2 Lucca	78,16%	not assessed	5.264,00	6.735,00	2010
T - Ausl 3 Pistoia	91,48%	not assessed	6.779,00	7.410,00	2010
T - Ausl 4 Prato	66,22%	not assessed	9.727,00	14.689,00	2010
T - Ausl 5 Pisa	27,75%	not assessed	2.172,00	7.828,00	2010
T - Ausl 6 Livorno	96,86%	not assessed	13.877,00	14.327,00	2010
T - Ausl 7 Siena	54,45%	not assessed	4.097,00	7.525,00	2010
T - Ausl 8 Arezzo	84,46%	not assessed	5.542,00	6.562,00	2010
T - Ausl 9 Grosseto	99,89%	not assessed	11.746,00	11.759,00	2010
T - Ausl 10 Firenze	93,24%	not assessed	27.566,00	29.563,00	2010
T - Ausl 11 Empoli	78,43%	not assessed	9.164,00	11.685,00	2010
T - Ausl 12 Viareggio	49,76%	not assessed	1.355,00	2.723,00	2010
T - Aou Pisana	24,48%	not assessed	2.101,00	8.581,00	2010
T - Aou Senese	54,80%	not assessed	2.261,00	4.126,00	2010
T - Aou Careggi	89,20%	not assessed	13.706,00	15.365,00	2010
T - Aou Meyer	99,74%	not assessed	4.267,00	4.278,00	2010

## Indicator B21: Percentage of diagnostic tests booked within 30 days

### B21.6 Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days

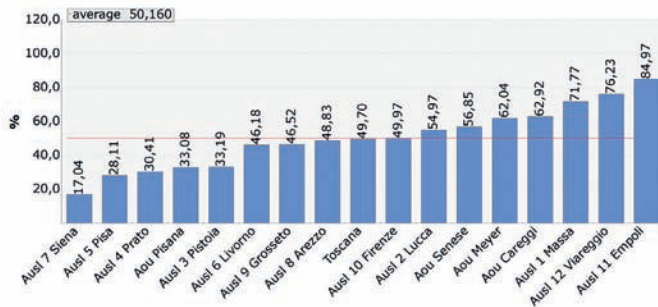
<b>Definition:</b>	Percentage of obstetrical and gynaecological ultrasound scans booked within 30 days
<b>Numerator:</b>	Number of obstetrical and gynaecological ultrasound scans booked within 30 days
<b>Denominator:</b>	Number of obstetrical and gynaecological ultrasound scans booked
<b>Formula:</b>	$\frac{\text{Number of obstetrical and gynaecological ultrasound scans booked within 30 days}}{\text{Number of obstetrical and gynaecological ultrasound scans booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



### 3.112 Indicator B21.7: Percentage of Echo Colour Doppler booked within 30 days

This indicator for 2010 measures the percentage of Echo Colour Doppler appointments booked within 30 days of the booking date, compared to the total bookings of Echo Colour Doppler.

#### B21.7 – Percentage of Echo Colour Doppler booked within 30 days



#### B21.7 Percentage of Echo Colour Doppler booked within 30 days

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	49,70%	not assessed	136.829,00	275.295,00	2010
T - Ausl 1 Massa	71,77%	not assessed	12.202,00	17.002,00	2010
T - Ausl 2 Lucca	54,97%	not assessed	7.212,00	13.120,00	2010
T - Ausl 3 Pistoia	33,19%	not assessed	3.448,00	10.389,00	2010
T - Ausl 4 Prato	30,41%	not assessed	4.908,00	16.139,00	2010
T - Ausl 5 Pisa	28,11%	not assessed	3.819,00	13.584,00	2010
T - Ausl 6 Livorno	46,18%	not assessed	12.042,00	26.074,00	2010
T - Ausl 7 Siena	17,04%	not assessed	1.883,00	11.050,00	2010
T - Ausl 8 Arezzo	48,83%	not assessed	10.666,00	21.841,00	2010
T - Ausl 9 Grosseto	46,52%	not assessed	9.648,00	20.740,00	2010
T - Ausl 10 Firenze	49,97%	not assessed	22.668,00	45.366,00	2010
T - Ausl 11 Empoli	84,97%	not assessed	11.297,00	13.295,00	2010
T - Ausl 12 Viareggio	76,23%	not assessed	6.876,00	9.020,00	2010
T - Aou Pisana	33,08%	not assessed	5.076,00	15.343,00	2010
T - Aou Senese	56,85%	not assessed	11.012,00	19.370,00	2010
T - Aou Careggi	62,92%	not assessed	12.846,00	20.417,00	2010
T - Aou Meyer	62,04%	not assessed	304,00	490,00	2010

### Indicator B21: Percentage of diagnostic tests booked within 30 days

#### B21.7 Percentage of Echo Colour Doppler booked within 30 days

<b>Definition:</b>	Percentage of Echo Colour Doppler booked within 30 days
<b>Numerator:</b>	Number of Echo Colour Doppler booked within 30 days
<b>Denominator:</b>	Number of Echo Colour Doppler booked
<b>Formula:</b>	$\frac{\text{Number of Echo Colour Doppler booked within 30 days}}{\text{Number of Echo Colour Doppler booked}} \times 100$
<b>Source:</b>	Regional Information System ( <i>Sistema informativo regionale</i> )



## Indicator B22: Adapted Physical Activity (APA) 3.113

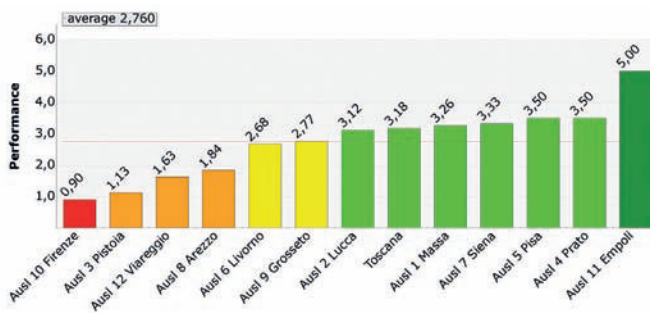
The indicator B22 measures the reach of Adapted Physical Activity (APA) programmes promoted by the Tuscany Region Resolution No. 459, 3 June 2009 as a strategy for chronic disease management. The indicator includes two sub-indicators, which measure the reach of low- and high disability programmes.

Indicator	Performance	Year
B22 – Adapted Physical Activity (APA)	● 3,18	2010

### B22 Adapted Physical Activity (APA)

- B22.1 – No. of APA low disability programmes per 1,000 residents aged  $\geq 65$  years:  $1,24 \times 1000$  ■
- B22.2 – No. of APA high disability programmes per 15,000 residents aged  $\geq 65$  years:  $1,35 \times 15000$  ■

### B22 – Adapted Physical Activity (APA)



### Indicator B22: Adapted Physical Activity (APA)

#### Notes:

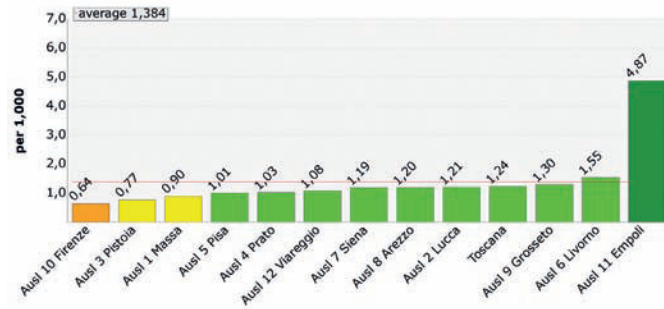
The indicator B22 has a value equal to the average score of indicators: B22.1, B22.2.



### 3.114 Indicator B22.1: No. of APA low disability programmes per 1,000 residents aged ≥ 65 years

The indicator B22.1 measures the reach of physical activity programmes for people with “low disability” with respect to pain connected to low mobility and/or with risk of fractures due to bone fragility and osteoporosis (Regional Resolution No. 459/2009), in the region. It is calculated by counting the number of available courses on the date of detection per 1000 residents aged 65 years or above, based on the available resident population data for each Local Health Authority as of 31/12/2010.

#### B22.1 – No. of APA low disability programmes per 1,000 residents aged ≥ 65 years



#### B22.1 No. of APA low disability programmes per 1,000 residents aged ≥ 65 years

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	1,24 x 1000	3,16	1.063,00	856.965,00	2010
T - Ausl 1 Massa	0,90 x 1000	2,67	43,00	47.903,00	2010
T - Ausl 2 Lucca	1,21 x 1000	3,01	68,00	56.339,00	2010
T - Ausl 3 Pistoia	0,77 x 1000	2,25	51,00	65.996,00	2010
T - Ausl 4 Prato	1,03 x 1000	3,10	40,00	39.000,00	2010
T - Ausl 5 Pisa	1,01 x 1000	3,04	76,00	75.314,00	2010
T - Ausl 6 Livorno	1,55 x 1000	3,93	133,00	85.550,00	2010
T - Ausl 7 Siena	1,19 x 1000	3,65	79,00	66.315,00	2010
T - Ausl 8 Arezzo	1,20 x 1000	3,68	94,00	78.219,00	2010
T - Ausl 9 Grosseto	1,30 x 1000	3,99	69,00	53.270,00	2010
T - Ausl 10 Firenze	0,64 x 1000	1,80	128,00	200.816,00	2010
T - Ausl 11 Empoli	4,87 x 1000	5,00	240,00	49.276,00	2010
T - Ausl 12 Viareggio	1,08 x 1000	3,27	42,00	38.967,00	2010

### Indicator B22: Adapted Physical Activity (APA)

#### B22.1 No. of APA low disability programmes per 1,000 residents aged ≥ 65 years

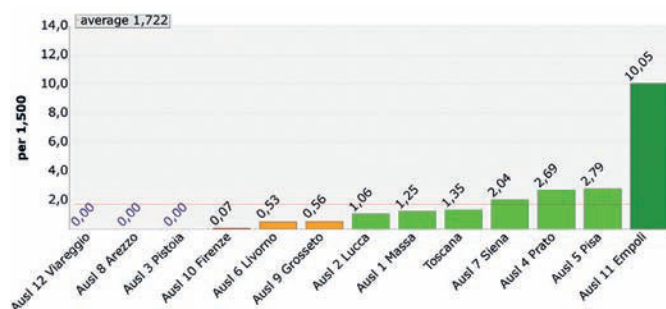
<b>Definition:</b>	Degree of spread of the low disability APA programmes based on the amount of activated programmes at the date of the survey.
<b>Numerator:</b>	No. of low disability APA programmes activated on the date of the survey.
<b>Denominator:</b>	Resident population of the Authority on 31.12.2010 ≥ 65 years
<b>Formula:</b>	$\frac{\text{No. of low disability APA programmes activated on the date of the survey}}{\text{Resident population of the Authority on 31.12.2010} \geq 65 \text{ years}} \times 1,000$
<b>Notes:</b>	Regional goal: At least 1 programme activated per 1000 residents aged ≥ 65 years by December 2010.
<b>Source:</b>	Authorities by means of the established information flow for the Health Department (report of 30.06.2010 sent by 15.9.2010 and of 31.12.2010 sent by 28.02.2011); for No. of activated programmes and No. of new programmes activated in the year of reference.
<b>Reference:</b>	If the target amount of activated programmes will not be achieved the data relating to the new programmes activated within the year will be considered (reference: at least 1 programme activated per 5.000 residents ≤ 65 years within the year).



## Indicator B22.2: No. of APA high disability programmes per 15,000 residents aged ≥ 65 years 3.115

The indicator B22.2 measures the reach of physical activity programmes for people with “high disability” with respect to chronic stabilized syndromes with limited mobility and stabilized disability (Regional Resolution No. 459/2009), in the region. It is calculated by counting the number of available courses on the date of detection per 15000 residents aged 65 years or above, based on the available resident population data for each Local Health Authority as of 31/12/2010.

### B22.2 – No. of APA high disability programmes per 15,000 residents aged ≥ 65 years



#### B22.2 No. of APA high disability programmes per 15,000 residents aged ≥ 65 years

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	1,35 x 15000	3,19	77,00	856.965,00	2010
T - Ausl 1 Massa	1,25 x 15000	3,85	4,00	47.903,00	2010
T - Ausl 2 Lucca	1,06 x 15000	3,23	4,00	56.339,00	2010
T - Ausl 3 Pistoia	0,00 x 15000	0,00	0,00	65.996,00	2010
T - Ausl 4 Prato	2,69 x 15000	3,90	7,00	39.000,00	2010
T - Ausl 5 Pisa	2,79 x 15000	3,95	14,00	75.314,00	2010
T - Ausl 6 Livorno	0,53 x 15000	1,43	3,00	85.550,00	2010
T - Ausl 7 Siena	2,04 x 15000	3,01	9,00	66.315,00	2010
T - Ausl 8 Arezzo	0,00 x 15000	0,00	0,00	78.219,00	2010
T - Ausl 9 Grosseto	0,56 x 15000	1,55	2,00	53.270,00	2010
T - Ausl 10 Firenze	0,07 x 15000	0,00	1,00	200.816,00	2010
T - Ausl 11 Empoli	10,05 x 15000	5,00	33,00	49.276,00	2010
T - Ausl 12 Viareggio	0,00 x 15000	0,00	0,00	38.967,00	2010

## Indicator B22: Adapted Physical Activity (APA)

### B22.2 No. of APA high disability programmes per 15,000 residents aged ≥ 65 years

<b>Definition:</b>	Degree of spread of the high disability APA programmes based on the amount of activated programmes on the date of the survey.
<b>Numerator:</b>	No. of high disability APA programmes activated on the date of the survey.
<b>Denominator:</b>	Resident population of the Authority on 31.12.2010 ≥ 65 years
<b>Formula:</b>	$\frac{\text{No. of high disability APA programmes activated on the date of the survey}}{\text{Resident population of the Authority on 31.12.2010} \geq 65 \text{ years}} \times 15,000$
<b>Notes:</b>	Inclusion criteria specified in the document of the Authority's management (or specified by a circular of the Health Department that formalises what the Committee of Siena, Lucca, Prato, and Empoli achieved).
<b>Source:</b>	Authorities by means of the established information flow for the Health Department (report of 30.06.2010 sent by 15.9.2010 and of 31.12.2010 sent by 28.02.2011); for No. of activated programmes and No. of new programmes activated in the year of reference.
<b>Reference:</b>	At least one programme activated in 2010 per 15,000 residents ≥ 65 years.





## PART IV CLINICAL EVALUATION

*by Anna Bonini*

Providing high quality health services, adequate in terms of volumes and types of services, and in accordance with an appropriate use of resources is a key objective for Health Authorities. This objective is in fact the core component of the Local Health Authorities as it collects both, the determinants of economic sustainability and the capacity to meet their primary mission – namely to improve the health of citizens. In the health field, in fact, we want to measure and evaluate Health Authorities in terms of demand management, efficiency, clinical quality and appropriateness of clinical and organizational activities, at the hospital and within the territory.

The indicator “Ability to manage demand – C1” aims to assess the ability of Authorities to manage public access to the regional health system and to determine levels of use of hospital and local facilities. It is necessary to manage the demand for health care, particularly with regard to hospital admissions and the hospitalization rate, so that the supply is adequate to the healthcare needs and is delivered in the most appropriate form.

If efficiency generally indicates the Authority’s ability to use the minimum resources in order to achieve the best results, in terms of health it means to measure the efficiency of resources used for patient care. This theme is made explicit in two indicators: “Performance Index for average hospital stay – C2a” and “Average hospital stay – C3”, designed to assess, respectively, the overall average for acute inpatient admissions and the length of hospital stay before planned surgery.

The pursuit of appropriateness in all levels of care is a key point in the delivery of services, according to which health facilities are required to promote, among the population and health professionals, the culture of appropriateness and adequacy of services provided. This, in order to give timely access to good quality services for those who need them, to avoid damage to health, related to an uncontrolled use of healthcare, and to achieve economic sustainability of the health system. This aspect is evaluated by the indicators “Surgical Appropriateness – C4” and “Medical Appropriateness – C14” and, with regard to the pharmaceutical industry, by “Appropriateness of drug prescription – C9” and “Appropriateness of hospital drug prescription – C20”.

With regard to the efficiency of health facilities, starting from 2010, we consider two distinct trees: “Process Quality – C5a”, which analyses the adoption of clinical protocols and instrumental techniques, and “Outcome Quality – C5b”, concerning clinical results achieved in terms of improvement of the patient’s health. In addition to those indicators there is the “Clinical Risk and Patient Safety – C6” indicator, on the management policy of clinical risk and patient safety.

The activities and services provided by local health care are evaluated by various indicators related to regional facilities: “Area-Hospital Integration – C8a”, which includes a series of sub-indicators about territorial facilities, consulting rooms activities, and basic paediatrics, “Effectiveness of chronic care management – C11a”, which is specific to the management of chronic patients by general practitioners, first of all, and by other professionals of primary care, “Mental Health – C15” and “Ambulatory and Diagnostic Service Rate – C13”.

In addition to the investigation of the maternal and child path (indicator C7) the emergency/urgency path (indicator C16) was added in 2010, thanks to the implementation of the RFC 106 flow of data relating to Emergency Department.

Other sources of data are the regional flows of hospital discharge files (SDO), of outpatient services (SPA), of Certificate of birth attendance (CAP) for the maternal and child path, the MaCro database of the Regional Health Agency, for the process indicators of chronic diseases and Clinical Risk Management Centre, for data on clinical risk and patient safety.

As for the pharmaceutical part, data come from the regional flows of Pharmaceutical Services (SPF), of drugs provided within the facilities (FES), of directly supplied drugs (FED), and from Sfera data. These indicators are processed by the Pharmaceutical Division of the Directorate General for Health Rights and Solidarity Policy of the Tuscany Regional Government.

The data refer to 2010.

The considerable variability between different indicators among the various Tuscan Health Authorities reveals management and professional differences, useful to highlight best practices.





## 4.1 Indicator C1: Ability to manage demand

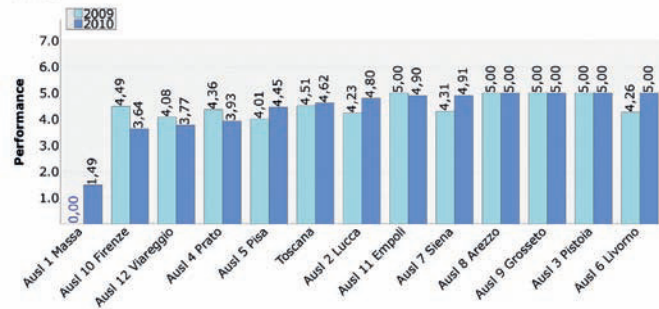
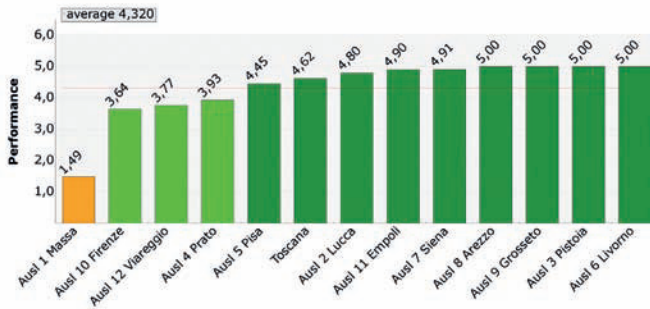
The demand for health care made by citizens to public service must be monitored by the health system, with particular regard to hospital admissions and then to hospitalization rates, so that the response is adequate to the needs and health care is delivered in the most appropriate way.

Indicator	Performance	Year
C1 – Ability to manage demand	● 4,62	2010

### C1 Ability to manage demand

- C1.1 – Standardized hospitalization rate per 1,000 residents: 143,50 rate per 1,000 ■
  - C1.1.1.1 – Standardized hospitalization rate of acute medical DRG 0-64 years per 1,000 residents: 40,34 rate per 1,000
  - C1.1.1 – Standardized hospitalization rate for acute inpatient admissions per 1,000 residents: 102,31 rate per 1,000
    - C1.1.1.2 – Standardized hospitalization rate for emergency acute inpatient admissions per 1,000 residents: 50,08 rate per 1,000
    - C1.1.1.3 – Standardized hospitalization rate for planned acute inpatient admissions per 1,000 residents: 49,74 rate per 1,000
      - C1.1.1.3.1 – Standardized hospitalization rate for planned acute inpatient admissions with medical DRG per 1,000 residents: 16,00
  - C1.1.2 – Standardized hospitalization rate for acute outpatient admissions per 1,000 residents: 37,67 rate per 1,000
    - C1.1.2.1 – Standardized hospitalization rate for acute medical outpatient admissions per 1,000 residents: 16,50 rate per 1,000
    - C1.1.2.2 – Standardized hospitalization rate for acute surgical outpatient admissions per 1,000 residents: 17,35 rate per 1,000

### C1 – Ability to manage demand



### Indicator C1: Ability to manage demand

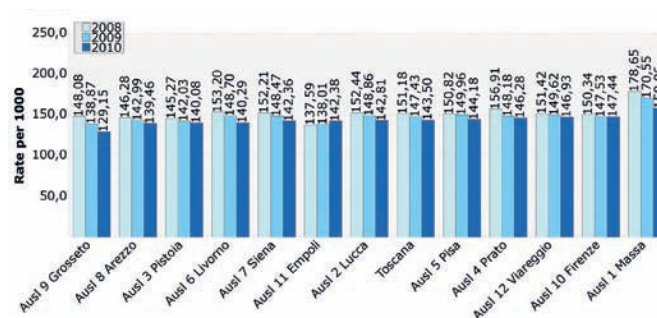
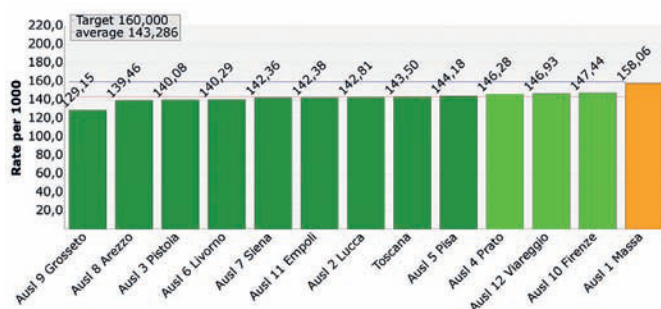
**Notes** This indicator has a value equal to the score of the following indicator: C1.1 standardized hospitalization rate per 1,000 residents



## Indicator C1.1: Standardized hospitalization rate per 1,000 residents 4.2

The role of the hospital has changed from that of a place of reference for any health problem to that of a high-tech organization that can provide care in response to acute problems. A more frequent use of the hospital than what is required constitutes an inappropriate use of resources. The objective set at the regional level is to achieve a hospitalization rate below 160 per 1000.

### C1.1 – Standardized hospitalization rate per 1,000 residents



### C1.1 Standardized hospitalization rate per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,62	147,43	143,50	-2,66	593.333,00	581.103,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	1,49	170,55	158,06	-7,33	37.959,00	35.228,00	203.698,00	203.642,00
T - Ausl 2 Lucca	4,80	148,86	142,81	-4,06	36.079,00	34.805,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	5,00	142,03	140,08	-1,37	44.520,00	44.281,00	290.596,00	292.108,00
T - Ausl 4 Prato	3,93	148,18	146,28	-1,28	37.858,00	37.822,00	246.034,00	248.174,00
T - Ausl 5 Pisa	4,45	149,96	144,18	-3,86	53.790,00	52.301,00	334.718,00	337.566,00
T - Ausl 6 Livorno	5,00	148,70	140,29	-5,65	57.354,00	54.277,00	350.909,00	351.863,00
T - Ausl 7 Siena	4,91	148,47	142,36	-4,12	44.158,00	42.563,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	5,00	142,99	139,46	-2,47	53.281,00	52.150,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	5,00	138,87	129,15	-7,00	34.741,00	32.395,00	225.861,00	227.063,00
T - Ausl 10 Firenze	3,64	147,53	147,44	-0,06	132.171,00	132.643,00	813.077,00	818.882,00
T - Ausl 11 Empoli	4,90	138,01	142,38	3,17	34.572,00	36.089,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	3,77	149,62	146,93	-1,80	26.850,00	26.549,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1 Standardized hospitalization rate per 1,000 residents

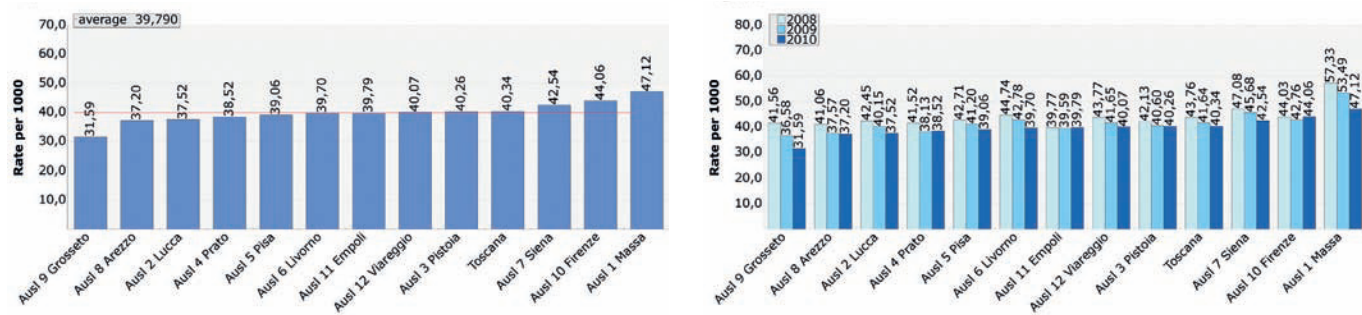
<b>Definition:</b>	Age and sex standardized hospitalization rate per Health Authority of residence
<b>Numerator:</b>	No. of hospital admissions of residents
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of hospital admissions of residents}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany <i>Admissions excluded:</i> – provided by unaccredited private hospitals – Normal New-born (DRG 391)
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).
<b>Meaning:</b>	Indicator of demand management; it indicates the needs for hospitalization of the resident population of the Local Health Authority (Ausl).



### 4.3 Indicator C1.1.1.1: Standardized hospitalization rate of acute medical DRG 0-64 years per 1,000 residents

The hospital cannot substitute the more effective and less costly care solutions that primary care can provide. Only residents under 64 are considered in this statistic, given that an older age group is vulnerable to more frequent occurrences of chronic diseases and has a growing need for care and hospitalization.

#### C1.1.1.1 – Standardized hospitalization rate of acute medical DRG 0-64 years per 1,000 residents



#### C1.1.1.1 Standardized hospitalization rate of acute medical DRG 0-64 years per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	41,64	40,34	-3,13	121.214,00	117.932,00	2.845.138,00	2.863.120,00
T - Ausl 1 Massa	not assessed	53,49	47,12	-11,91	8.414,00	7.412,00	154.521,00	154.312,00
T - Ausl 2 Lucca	not assessed	40,15	37,52	-6,56	7.058,00	6.636,00	170.140,00	171.126,00
T - Ausl 3 Pistoia	not assessed	40,60	40,26	-0,84	9.313,00	9.229,00	225.172,00	226.112,00
T - Ausl 4 Prato	not assessed	38,13	38,52	1,02	7.638,00	7.819,00	196.259,00	197.967,00
T - Ausl 5 Pisa	not assessed	41,20	39,06	-5,20	10.977,00	10.518,00	258.834,00	261.173,00
T - Ausl 6 Livorno	not assessed	42,78	39,70	-7,21	11.741,00	10.889,00	266.106,00	266.253,00
T - Ausl 7 Siena	not assessed	45,68	42,54	-6,88	9.475,00	8.882,00	203.334,00	205.084,00
T - Ausl 8 Arezzo	not assessed	37,57	37,20	-1,00	10.216,00	10.183,00	268.228,00	269.880,00
T - Ausl 9 Grosseto	not assessed	36,58	31,59	-13,63	6.449,00	5.566,00	169.886,00	171.206,00
T - Ausl 10 Firenze	not assessed	42,76	44,06	3,05	26.944,00	27.825,00	617.452,00	622.639,00
T - Ausl 11 Empoli	not assessed	39,59	39,79	0,52	7.503,00	7.646,00	185.546,00	187.512,00
T - Ausl 12 Viareggio	not assessed	41,65	40,07	-3,80	5.486,00	5.327,00	129.660,00	129.856,00

### Indicator C1: Ability to manage demand

#### C1.1.1.1 Standardized hospitalization rate of acute medical DRG 0-64 years per 1,000 residents

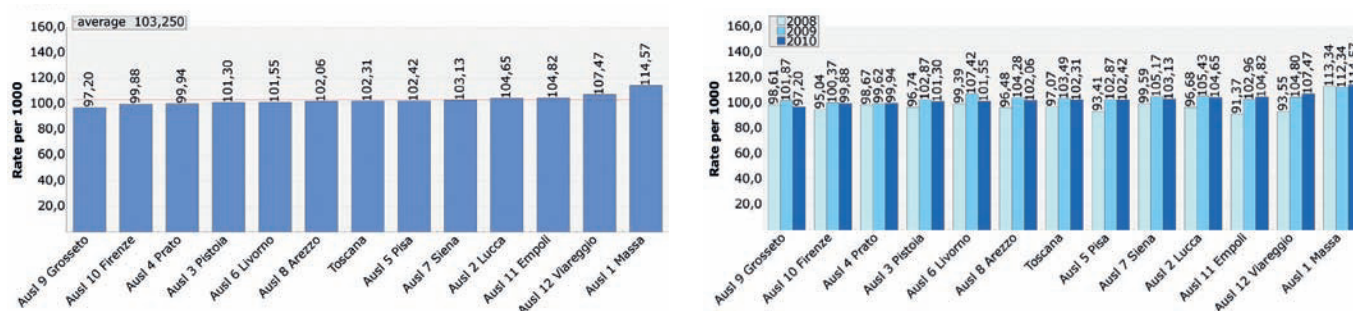
<b>Definition:</b>	Age and sex standardized hospitalization rate per Authority of residence
<b>Numerator:</b>	No. of 0-64 years residents' admissions for Medical DRG
<b>Denominator:</b>	No. of residents 0-64 years
<b>Formula:</b>	$\frac{\text{No. of 0-64 years residents' admissions for Medical DRG}}{\text{No. of residents 0-64 years}} \times 1,000$
<b>Notes:</b>	We consider inpatient and outpatient admissions provided anywhere, extra regional included, for residents of the Region. <i>Admissions excluded:</i> <ul style="list-style-type: none"> <li>– provided by unaccredited private hospitals</li> <li>– Normal New-born (DRG 391)</li> <li>– For birth (MDC 14 and 15)</li> <li>– Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75)</li> <li>– Discharges from radiotherapy and chemotherapy (DRG 409,410,492)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



## Indicator C1.1.1: Standardized hospitalization rate for acute inpatient admissions per 1,000 residents 4.4

At hospitals, timeliness of response and availability of appropriate equipment are fundamental. A high number of admissions per capita indicates both a problem in the ability to manage demand, and a difficulty in reallocating resources to provide adequate territorial services. Since 1 January 2009, admissions at One Day Surgery, involving only one night stay, are registered in Hospital Discharge Files (SDO) as inpatient performance. This explains the upswing from 2008 to 2009.

### C1.1.1 – Standardized hospitalization rate for acute inpatient admissions per 1,000 residents



### C1.1.1 Standardized hospitalization rate for acute inpatient admissions per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	103,49	102,31	-1,14	423.770,00	422.830,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	112,34	114,57	1,99	25.546,00	26.056,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	105,43	104,65	-0,74	26.041,00	26.066,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	102,87	101,30	-1,52	32.879,00	32.789,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	99,62	99,94	0,32	25.797,00	26.204,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	102,87	102,42	-0,44	37.464,00	37.870,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	107,42	101,55	-5,46	42.150,00	40.090,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	105,17	103,13	-1,94	31.991,00	31.621,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	104,28	102,06	-2,13	39.505,00	38.965,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	101,87	97,20	-4,58	25.928,00	24.819,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	100,37	99,88	-0,49	91.475,00	91.805,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	102,96	104,82	1,81	26.034,00	26.932,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	104,80	107,47	2,55	18.960,00	19.613,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.1 Standardized hospitalization rate for acute inpatient admissions per 1,000 residents

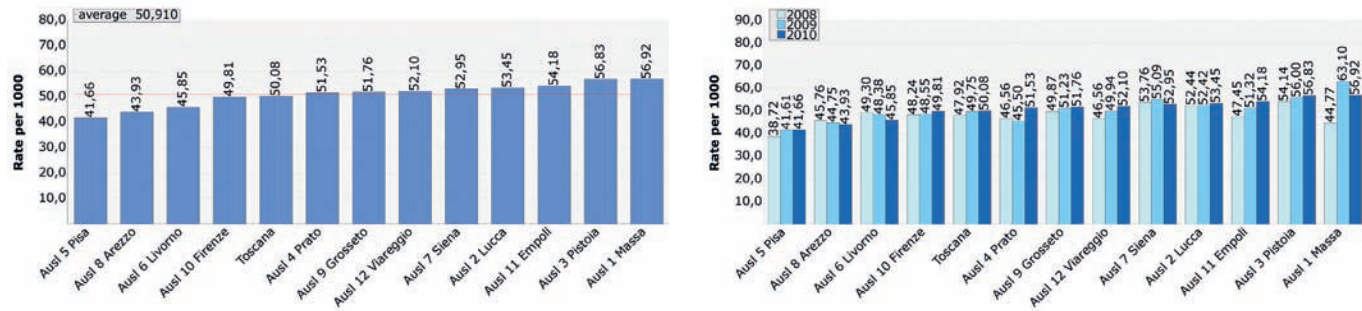
<b>Definition:</b>	Age and sex standardized hospitalization rate for inpatient admissions per Health Authority of residence; acute conditions
<b>Numerator:</b>	No. of inpatient admissions of residents; acute conditions
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of inpatient admissions of residents; acute conditi}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. <i>Admissions excluded:</i> – provided by unaccredited private hospitals – Normal New-born (DRG 391) – Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



## 4.5 Indicator C1.1.1.2: Standardized hospitalization rate for emergency acute inpatient admissions per 1,000 residents

The indicator shows the “emergency” element for inpatient admissions of Tuscan residents. As mentioned earlier, since 1 January 2009, admissions at One Day Surgery, involving only one night stay, are registered in Hospital Discharge Files (SDO) as inpatient performance.

### C1.1.1.2 – Standardized hospitalization rate for emergency acute inpatient admissions per 1,000 residents



### C1.1.1.2 Standardized hospitalization rate for emergency acute inpatient admissions per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T-Toscana	not assessed	49,75	50,08	0,66	212.776,00	216.205,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	63,10	56,92	-9,79	14.519,00	13.207,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	52,42	53,45	1,97	13.556,00	13.884,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	56,00	56,83	1,49	18.695,00	19.219,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	45,50	51,53	13,25	12.261,00	13.802,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	41,61	41,66	0,10	15.990,00	16.307,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	48,38	45,85	-5,23	20.088,00	19.158,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	55,09	52,95	-3,88	17.462,00	17.018,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	44,75	43,93	-1,83	18.110,00	18.008,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	51,23	51,76	1,04	13.449,00	13.740,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	48,55	49,81	2,58	46.253,00	48.033,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	51,32	54,18	5,57	13.385,00	14.310,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	49,94	52,10	4,33	9.008,00	9.519,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.1.2 Standardized hospitalization rate for emergency acute inpatient admissions per 1,000 residents

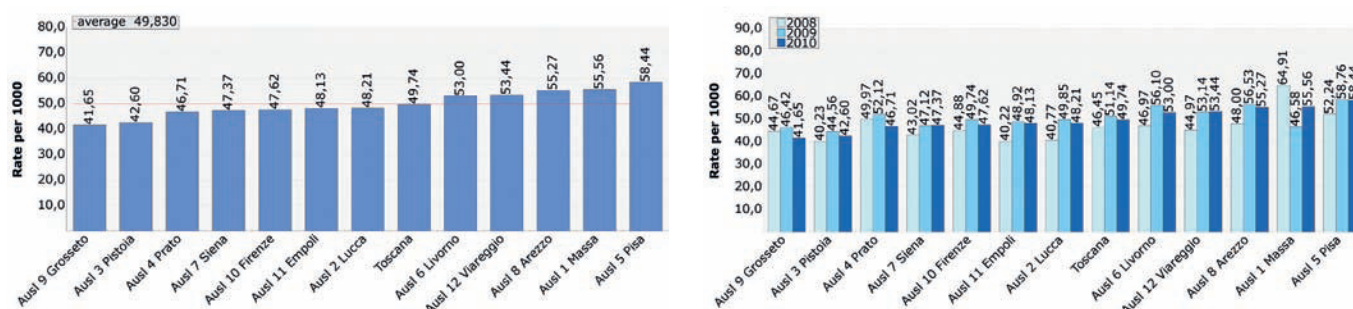
<b>Definition:</b>	Age and sex standardized hospitalization rate for emergency inpatient admissions per Health Authority of residence; emergency/urgent admissions
<b>Numerator:</b>	No. of residents’ emergency inpatient admissions
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of residents' emergency inpatient admissions}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. Admissions excluded: – provided by unaccredited private hospitals – Normal New-born (DRG 391) – Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



## Indicator C1.1.1.3: Standardized hospitalization rate for planned acute inpatient admissions per 1,000 residents 4.6

The indicator shows the “planned” element for inpatient admissions of Tuscan residents. As mentioned earlier, since 1 January 2009, admissions at One Day Surgery, involving only one night stay, are registered in Hospital Discharge Files (SDO) as inpatient performance.

### C1.1.1.3 – Standardized hospitalization rate for planned acute inpatient admissions per 1,000 residents



### C1.1.1.3 Standardized hospitalization rate for planned acute inpatient admissions per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	51,14	49,74	-2,74	201.638,00	197.684,00	3.707.818,00	3.730.130,00
T - AUSL 1 Massa	not assessed	46,58	55,56	19,27	10.527,00	12.488,00	203.698,00	203.642,00
T - AUSL 2 Lucca	not assessed	49,85	48,21	-3,28	11.791,00	11.528,00	221.999,00	223.359,00
T - AUSL 3 Pistoia	not assessed	44,56	42,60	-4,40	13.528,00	13.036,00	290.596,00	292.108,00
T - AUSL 4 Prato	not assessed	52,12	46,71	-10,37	12.995,00	11.935,00	246.034,00	248.174,00
T - AUSL 5 Pisa	not assessed	58,76	58,44	-0,54	20.647,00	20.781,00	334.718,00	337.566,00
T - AUSL 6 Livorno	not assessed	56,10	53,00	-5,52	21.110,00	20.054,00	350.909,00	351.863,00
T - AUSL 7 Siena	not assessed	47,12	47,37	0,53	13.777,00	13.885,00	269.473,00	271.365,00
T - AUSL 8 Arezzo	not assessed	56,53	55,27	-2,23	20.394,00	20.003,00	346.324,00	348.127,00
T - AUSL 9 Grosseto	not assessed	46,42	41,65	-10,27	11.618,00	10.323,00	225.861,00	227.063,00
T - AUSL 10 Firenze	not assessed	49,74	47,62	-4,27	43.581,00	41.855,00	813.077,00	818.882,00
T - AUSL 11 Empoli	not assessed	48,92	48,13	-1,61	11.984,00	11.993,00	236.928,00	239.158,00
T - AUSL 12 Viareggio	not assessed	53,14	53,44	0,56	9.686,00	9.803,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.1.3 Standardized hospitalization rate for planned acute inpatient admissions per 1,000 residents

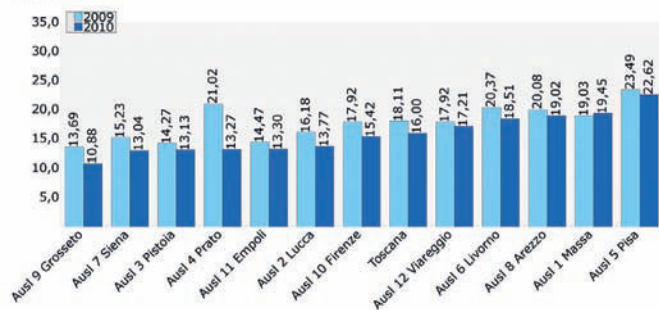
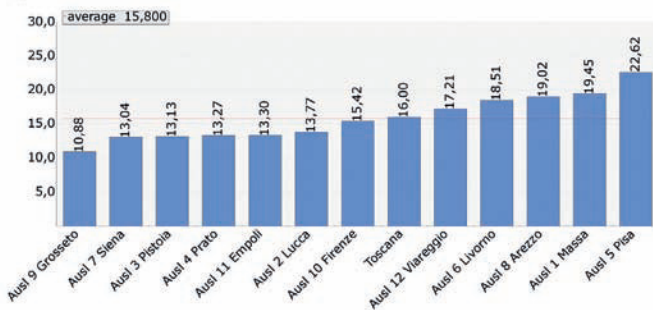
<b>Definition:</b>	Age and sex standardized hospitalization rate for planned inpatient admissions per Health Authority of residence
<b>Numerator:</b>	No. of residents' planned inpatient admissions
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of residents' planned inpatient admissions}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. <i>Admissions excluded:</i> – provided by unaccredited private hospitals – Normal New-born (DRG 391) – Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



## 4.7 Indicator C1.1.1.3.1: Standardized hospitalization rate for planned acute inpatient admissions with medical DRG per 1,000 residents

The indicator shows the scheduled inpatient admissions of Tuscan residents, particularly with respect to the medical practice.

### C1.1.1.3.1 – Standardized hospitalization rate for planned acute inpatient admissions with medical DRG per 1,000 residents



### C1.1.1.3.1 Standardized hospitalization rate for planned acute inpatient admissions with medical DRG per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	18,11	16,00	-11,67	70.916,00	63.233,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	19,03	19,45	2,25	4.366,00	4.473,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	16,18	13,77	-14,93	3.860,00	3.316,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	14,27	13,13	-8,03	4.218,00	3.878,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	21,02	13,27	-36,85	5.145,00	3.393,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	23,49	22,62	-3,72	8.205,00	8.020,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	20,37	18,51	-9,13	7.523,00	6.853,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	15,23	13,04	-14,33	4.483,00	3.871,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	20,08	19,02	-5,27	7.169,00	6.787,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	13,69	10,88	-20,53	3.552,00	2.759,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	17,92	15,42	-13,93	15.498,00	13.301,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	14,47	13,30	-8,08	3.568,00	3.351,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	17,92	17,21	-3,97	3.329,00	3.231,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.1.3.1 Standardized hospitalization rate for planned acute inpatient admissions with Medical DRG per 1,000 residents

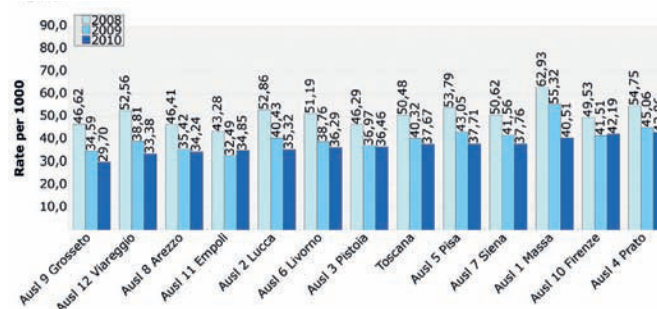
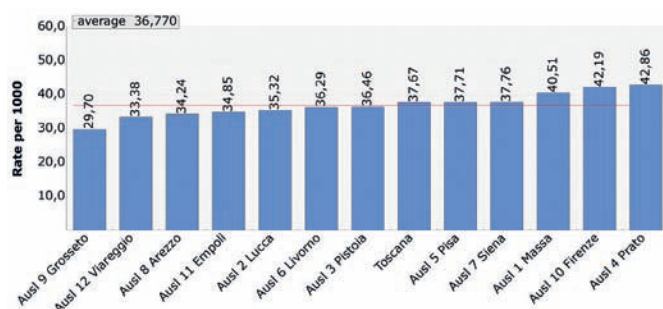
<b>Definition:</b>	Age and sex standardized hospitalization rate for inpatient admissions per Health Authority of residence; planned and acute admissions
<b>Numerator:</b>	No. of inpatient admissions of residents; planned and acute
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of inpatient admissions Medical DRG for residents; planned and acute}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. <i>Admissions excluded:</i> <ul style="list-style-type: none"> <li>- provided by unaccredited private hospitals</li> <li>- Normal New-born (DRG 391)</li> <li>- Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



## Indicator C1.1.2: Standardized hospitalization rate for acute outpatient admissions per 1,000 residents 4.8

The reorganization of the hospital network, in recent years, has generated a decrease in hospitalizations, both medical and surgical, both of which have been largely converted into daytime modes of hospitalization (outpatient practice and outpatient surgery), balanced by an increase in outpatient services. Please note that since 1 January 2009 admissions at One Day Surgery, involving only one night stay, are registered in Hospital Discharge Files (SDO) as inpatient performance.

### C1.1.2 – Standardized hospitalization rate for acute outpatient admissions per 1,000 residents



### C1.1.2 Standardized hospitalization rate for acute outpatient admissions per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	40,32	37,67	-6,56	153.458,00	142.402,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	55,32	40,51	-26,77	11.717,00	8.459,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	40,43	35,32	-12,64	9.291,00	8.023,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	36,97	36,46	-1,37	10.926,00	10.732,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	45,06	42,86	-4,89	11.143,00	10.696,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	43,05	37,71	-12,40	14.801,00	12.888,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	38,76	36,29	-6,38	14.158,00	13.163,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	41,56	37,76	-9,15	11.617,00	10.469,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	35,42	34,24	-3,33	12.457,00	11.892,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	34,59	29,70	-14,14	8.158,00	6.956,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	41,51	42,19	1,63	34.631,00	34.974,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	32,49	34,85	7,26	7.849,00	8.421,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	38,81	33,38	-14,01	6.710,00	5.729,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.2 Standardized hospitalization rate for acute outpatient admissions per 1,000 residents

<b>Definition:</b>	Age and sex standardized outpatient hospitalization (Day-Hospital) rate per Authority of residence
<b>Numerator:</b>	No. of outpatient admissions of residents
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of outpatient admissions of residents}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. <i>Admissions excluded:</i> – provided by unaccredited private hospitals – Normal New-born (DRG 391) – Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).

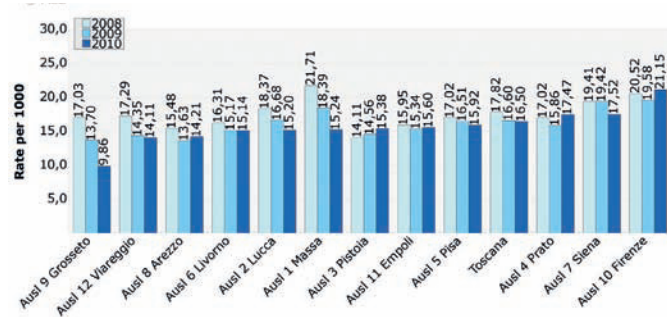
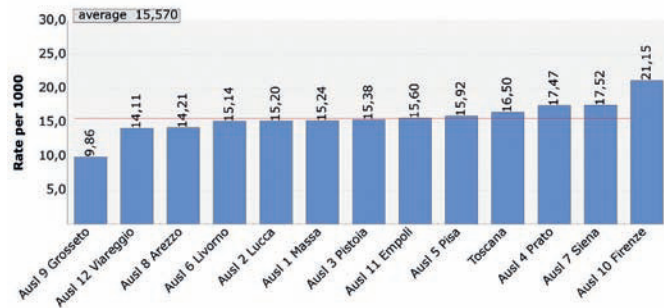




## 4.9 Indicator C1.1.2.1: Standardized hospitalization rate for acute medical outpatient admissions per 1,000 residents

Hospitalization at the Day Hospital ward considers only acute medical admissions to evaluate the changes in this area of hospitalization.

### C1.1.2.1 – Standardized hospitalization rate for acute medical outpatient admissions per 1,000 residents



### C1.1.2.1 Standardized hospitalization rate for acute medical outpatient admissions per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	16,60	16,50	-0,58	61.664,00	60.752,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	18,39	15,24	-17,14	3.765,00	3.076,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	16,68	15,20	-8,87	3.765,00	3.388,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	14,56	15,38	5,60	4.195,00	4.378,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	15,86	17,47	10,17	3.886,00	4.314,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	16,51	15,92	-3,59	5.557,00	5.346,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	15,17	15,14	-0,19	5.379,00	5.384,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	19,42	17,52	-9,78	5.285,00	4.718,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	13,63	14,21	4,20	4.617,00	4.799,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	13,70	9,86	-28,01	3.150,00	2.176,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	19,58	21,15	8,03	15.976,00	17.058,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	15,34	15,60	1,65	3.677,00	3.750,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	14,35	14,11	-1,66	2.412,00	2.365,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.2.1 Standardized hospitalization rate for acute medical outpatient admissions per 1,000 residents

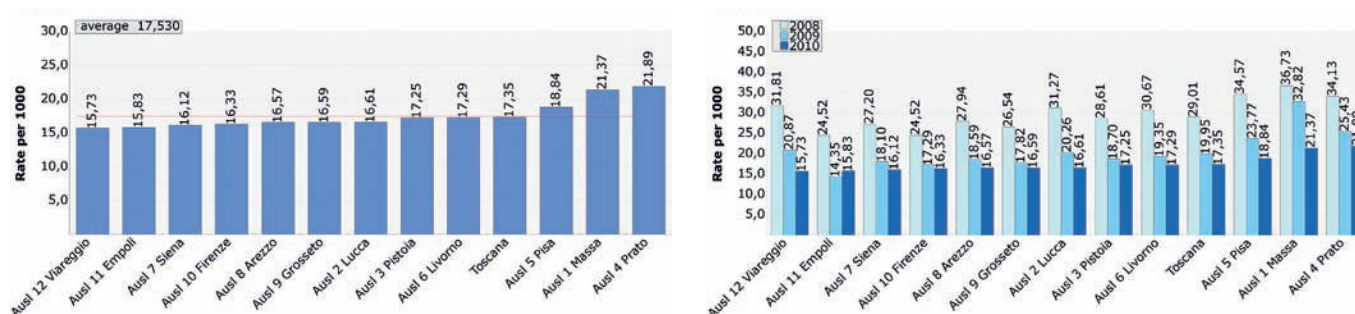
<b>Definition:</b>	Age and sex standardized medical outpatient hospitalization rate per Authority of residence
<b>Numerator:</b>	No. of medical outpatient admissions of residents
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of medical outpatient admissions of residents}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. <i>Admissions excluded:</i> <ul style="list-style-type: none"> <li>- provided by unaccredited private hospitals</li> <li>- Normal New-born (DRG 391)</li> <li>- Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)</li> <li>- Discharges from radiotherapy and chemotherapy (DRG 409, 410, 492)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



## Indicator C1.1.2.2: Standardized hospitalization rate for acute surgical outpatient admissions per 1,000 residents 4.10

Hospitalization at the Day Hospital ward considers only acute surgical admissions in order to evaluate the changes in this area of hospitalization. Please note that since 1 January 2009 admissions at One Day Surgery, involving only one night stay, are registered in Hospital Discharge Files (SDO) as inpatient performance.

### C1.1.2.2 – Standardized hospitalization rate for acute surgical outpatient admissions per 1,000 residents



### C1.1.2.2 Standardized hospitalization rate for acute surgical outpatient admissions per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	19,95	17,35	-13,03	76.199,00	65.667,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	32,82	21,37	-34,88	7.004,00	4.478,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	20,26	16,61	-18,03	4.666,00	3.758,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	18,70	17,25	-7,73	5.564,00	5.129,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	25,43	21,89	-13,94	6.299,00	5.475,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	23,77	18,84	-20,76	8.226,00	6.433,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	19,35	17,29	-10,66	7.038,00	6.182,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	18,10	16,12	-10,93	5.087,00	4.468,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	18,59	16,57	-10,89	6.659,00	5.798,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	17,82	16,59	-6,87	4.201,00	3.920,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	17,29	16,33	-5,54	14.362,00	13.536,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	14,35	15,83	10,27	3.478,00	3.805,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	20,87	15,73	-24,64	3.615,00	2.685,00	168.201,00	168.823,00

## Indicator C1: Ability to manage demand

### C1.1.2.2 Standardized hospitalization rate for acute surgical outpatient admissions per 1,000 residents

<b>Definition:</b>	Age and sex standardized surgical outpatient hospitalization rate for per Authority of residence
<b>Numerator:</b>	No. of residents' surgical outpatient admissions
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of residents' surgical outpatient admissions}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra regional included, of residents of Tuscany. <i>Admissions excluded:</i> – provided by unaccredited private hospitals – Normal New-born (DRG 391) – Discharges from spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75)
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).



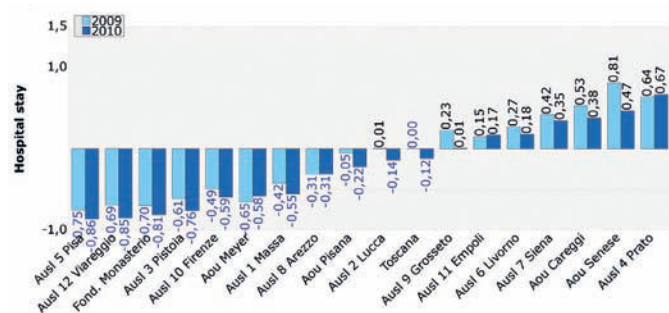
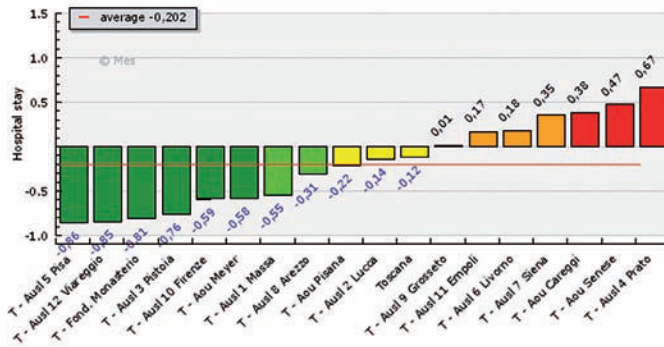
### 4.11 Indicator C2a: Performance index for average hospital stay

The Average-Stay Performance Index (IPDM) compares the average length of each hospitalization with the regional average of 2009 for the same type of admission. It measures the shorter (high efficiency) or longer (inefficiency) length of stay compared to the regional average for the same cases. The IPDM allows a uniform assessment of the facilities under comparison, because the authorities are classified taking into account the cases, thus with reference to the type of patients treated. In management terms, the IPDM allows understanding the degree of efficiency of the services provided by a given facility. A facility that has a low level of the indicator, in fact, represents a structure able to appropriately manage the patient with respect to the clinical condition and without wasting resources.

Indicator	Value	Average	Performance	Year
C2a – Performance index for average hospital stay	– 0,12 days hospital	– 0,20 days hospital	● 2,59	2010

#### C2a Performance index for average hospital stay

C2a – Performance index for average hospital stay



C2a Performance index for average hospital stay

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,59	0,00	-0,12	(*)	0,00	-56.146,62	450.972,00	452.872,00
T - Ausl 1 Massa	3,96	-0,42	-0,55	-30,09	-10.522,51	-14.372,01	24.958,00	26.204,00
T - Ausl 2 Lucca	2,64	0,01	-0,14	-2.433,56	127,70	-3.045,56	21.449,00	21.920,00
T - Ausl 3 Pistoia	4,64	-0,61	-0,76	-24,37	-17.024,91	-21.204,09	27.976,00	28.016,00
T - Ausl 4 Prato	0,05	0,64	0,67	3,68	15.838,18	16.333,99	24.673,00	24.542,00
T - Ausl 5 Pisa	4,96	-0,75	-0,86	-15,01	-10.966,20	-12.811,01	14.681,00	14.913,00
T - Ausl 6 Livorno	1,62	0,27	0,18	-33,96	9.376,06	5.881,74	35.067,00	33.308,00
T - Ausl 7 Siena	1,05	0,42	0,35	-14,88	6.126,68	5.254,11	14.691,00	14.801,00
T - Ausl 8 Arezzo	3,18	-0,31	-0,31	1,42	-10.622,66	-10.346,59	34.290,00	33.880,00
T - Ausl 9 Grosseto	2,17	0,23	0,01	-96,67	5.087,19	164,97	21.949,00	21.365,00
T - Ausl 10 Firenze	4,08	-0,49	-0,59	-20,44	-21.346,18	-25.684,39	43.867,00	43.823,00
T - Ausl 11 Empoli	1,65	0,15	0,17	15,67	2.909,14	3.564,31	20.036,00	21.223,00
T - Ausl 12 Viareggio	4,94	-0,69	-0,85	-23,28	-12.056,74	-15.149,44	17.479,00	17.815,00
T - Aou Pisana	2,90	-0,05	-0,22	-365,87	-2.442,55	-11.267,10	52.134,00	51.621,00
T - Aou Senese	0,68	0,81	0,47	-42,03	23.874,10	13.895,37	29.431,00	29.548,00
T - Aou Careggi	0,97	0,53	0,38	-28,65	29.722,04	21.365,36	56.137,00	56.554,00
T - Aou Meyer	4,06	-0,65	-0,58	10,40	-5.127,88	-5.250,12	7.930,00	9.061,00
T - Fond. Monasterio	4,81	-0,70	-0,81	-16,29	-2.951,46	-3.476,17	4.224,00	4.278,00



## Indicator C2a: Performance index for average hospital stay

### C2a Performance index for average hospital stay

<b>Definition:</b>	Performance index for average hospital stay
<b>Numerator:</b>	$\Sigma$ days of actual stay - $\Sigma$ expected days of stay
<b>Denominator:</b>	No. of discharges
<b>Formula:</b>	$\frac{\Sigma \text{ days of actual stay} - \Sigma \text{ expected days of stay}}{\text{No. of discharges}}$
<b>Notes:</b>	<p>We consider only inpatient admissions provided by public facilities.            Patients discharged from the spine division, rehabilitation, long-term patients, and neurorehabilitation (codes: 28, 56, 60, 75) and from the rehabilitation centre Auxilium vitae of Volterra are excluded.            We used DRG Grouper XXIV  <i>Days of actual stay</i> are those actually spent at the hospital for all patients discharged from the providing facility.  <i>Expected days of stay</i> are calculated by multiplying the average regional stay of each DRG by the number of discharged patients within the same DRG.            The reference for expected days of stay is the average regional stay of 2009.</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average 2009
<b>Meaning:</b>	<p>The indicator reveals the average deviation, expressed in days, of the hospitalization of each discharged patient with reference to the regional average for the same DRG.            It aims to measure the Authority's average efficiency in hospitalization activities in comparable cases (DRG).</p>

## Indicator C3: Preoperative average hospital stay 4.12

This indicator is widely used internationally to assess the operational efficiency. It measures the average length of hospital stay before surgery.

A patient with a scheduled surgery should be admitted no more than one day before the intervention. Medical examinations necessary for the intervention should be performed as an outpatient procedure, before admission. The analysis is limited to surgical wards, so as to exclude patients referred to the medical ward who during the hospital stay underwent surgical procedures related to treatment or diagnosis of their disease. In these cases, the surgical procedure is not the main reason for admission and therefore it can also be performed in the days following hospitalization.

The figure is calculated considering only hospitalizations with a length of stay of more than one day (sub-indicator C3.1).

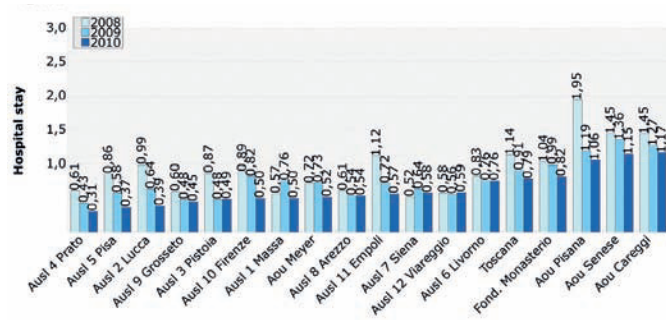
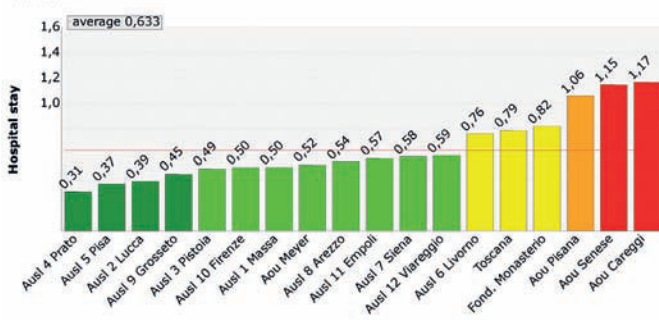
Indicator	Value	Average	Performance	Year
C3 –Average hospital stay	0,79 days hospital	0,63 days hospital	● 2,42	2010

### C3 – Preoperative average hospital stay

- C3.1 – Preoperative average hospital stay for more than 1 day: 1,19 days



### C3 – Preoperative average hospital stay



### C3 Preoperative average hospital stay

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,42	0,91	0,79	-13,49	104.959,00	92.862,00	115.456,00	118.080,00
T - Ausl 1 Massa	3,84	0,76	0,50	-34,04	3.066,00	2.990,00	4.035,00	5.966,00
T - Ausl 2 Lucca	4,40	0,64	0,39	-38,67	3.032,00	1.938,00	4.757,00	4.958,00
T - Ausl 3 Pistoia	3,91	0,48	0,49	1,71	2.294,00	2.130,00	4.789,00	4.372,00
T - Ausl 4 Prato	4,81	0,43	0,31	-27,51	2.163,00	1.449,00	5.085,00	4.699,00
T - Ausl 5 Pisa	4,49	0,58	0,37	-36,30	1.855,00	1.392,00	3.175,00	3.740,00
T - Ausl 6 Livorno	2,54	0,76	0,76	0,89	5.766,00	5.340,00	7.631,00	7.005,00
T - Ausl 7 Siena	3,43	0,64	0,58	-8,77	1.675,00	1.944,00	2.620,00	3.333,00
T - Ausl 8 Arezzo	3,64	0,54	0,54	0,08	4.823,00	4.808,00	8.906,00	8.871,00
T - Ausl 9 Grosseto	4,11	0,48	0,45	-7,69	2.275,00	1.991,00	4.695,00	4.451,00
T - Ausl 10 Firenze	3,85	0,82	0,50	-38,96	5.612,00	3.195,00	6.857,00	6.395,00
T - Ausl 11 Empoli	3,52	0,72	0,57	-21,75	3.276,00	2.885,00	4.522,00	5.089,00
T - Ausl 12 Viareggio	3,39	0,56	0,59	5,64	2.811,00	3.040,00	5.010,00	5.129,00
T - Aou Pisana	1,04	1,19	1,06	-10,58	25.834,00	22.955,00	21.766,00	21.629,00
T - Aou Senese	0,61	1,36	1,15	-15,89	12.043,00	10.477,00	8.829,00	9.132,00
T - Aou Careggi	0,52	1,27	1,17	-8,48	26.461,00	24.764,00	20.766,00	21.236,00
T - Aou Meyer	3,76	0,73	0,52	-29,22	997,00	743,00	1.362,00	1.434,00
T - Fond. Monasterio	2,24	0,99	0,82	-16,66	484,00	442,00	491,00	538,00

## Indicator C3: Preoperative average hospital stay

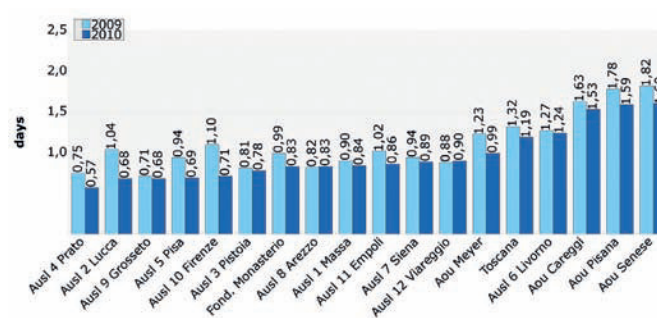
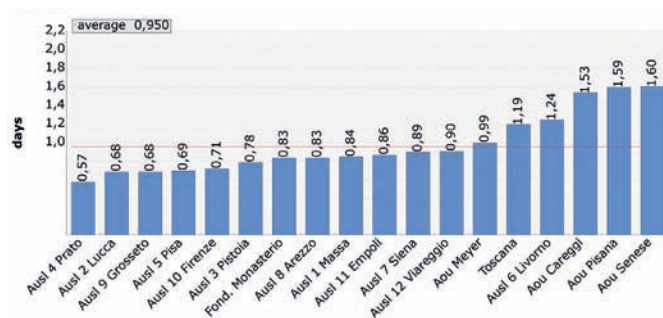
### C3 Preoperative average hospital stay

<b>Definition:</b>	Average days of hospitalization prior to surgery
<b>Numerator:</b>	Number of days of hospital stay prior to surgery
<b>Denominator:</b>	Number of discharged patients, surgically operated
<b>Formula:</b>	$\frac{\text{Number of days of hospital stay prior to surgery}}{\text{Number of discharged patients, surgically operated}}$
<b>Notes:</b>	<p>Only public facilities are <i>included</i>.</p> <ul style="list-style-type: none"> <li>The analysis is limited to non-emergency, planned inpatient admissions and planned with pre-hospitalization. We consider the first operation in chronological order.</li> <li>For Meyer Teaching Hospital we consider only admissions of residents in the Area Vasta of reference.</li> <li>For the G. Monasterio Foundation we consider adult admissions and paediatric admissions only for residents in the Area Vasta of reference.</li> <li>Codes ICD-9 CM: Codes for surgical procedures: from 00 to 86 and 87.53, 88.52, 88.53, 88.54, 88.55, 88.56, 88.57, 92.27, 92.30, 92.31, 92.32, 92.33, 92.39, 96.70, 96.71, 96.72, 98.51</li> <li>Admission Ward: <ul style="list-style-type: none"> <li>Surgical (06 paediatric cardiac surgery, 07 cardiac surgery, 09 general surgery, 10 maxillofacial surgery, 11 paediatric surgery, 12 plastic surgery, 13 thoracic surgery, 14 vascular surgery, 30 neurosurgery, 34 ophthalmology, 35 dentistry and stomatology, 36 orthopedics and traumatology, 38 otolaryngology, 43 urology, 76 paediatric neurosurgery, 78 paediatric urology).</li> <li>Paediatrics, Obstetrics and Gynaecology: selecting only discharged with surgical DRG.</li> </ul> </li> <li><i>Excluded:</i> <ul style="list-style-type: none"> <li>Transplants (DRG 103, 302, 480, 481, 495, 512, 513. Pancreas: main intervention on 528*)</li> <li>Discharged with a compilation error in the date field of the intervention file</li> <li>Patients with a number of hospital days pre-surgery greater than one year</li> <li>Discharges with the date of surgery prior to the date of admission.</li> </ul> </li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: < 1 day



## Indicator C3.1: Preoperative average hospital stay for more than 1 day 4.13

### C3.1 – Preoperative average hospital stay for more than 1 day



### C3.1 Preoperative average hospital stay for more than 1 day

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	1,32	1,19	-10,24	102.215,00	90.966,00	77.274,00	76.612,00
T - Ausl 1 Massa	not assessed	0,90	0,84	-6,91	3.041,00	2.905,00	3.362,00	3.450,00
T - Ausl 2 Lucca	not assessed	1,04	0,68	-34,26	2.875,00	1.860,00	2.771,00	2.727,00
T - Ausl 3 Pistoia	not assessed	0,81	0,78	-4,20	2.172,00	1.887,00	2.684,00	2.434,00
T - Ausl 4 Prato	not assessed	0,75	0,57	-23,65	2.084,00	1.368,00	2.782,00	2.392,00
T - Ausl 5 Pisa	not assessed	0,94	0,69	-26,37	1.670,00	1.351,00	1.782,00	1.958,00
T - Ausl 6 Livorno	not assessed	1,27	1,24	-2,04	5.489,00	5.263,00	4.331,00	4.239,00
T - Ausl 7 Siena	not assessed	0,94	0,89	-5,56	1.535,00	1.798,00	1.631,00	2.023,00
T - Ausl 8 Arezzo	not assessed	0,82	0,83	1,64	4.745,00	4.689,00	5.793,00	5.632,00
T - Ausl 9 Grosseto	not assessed	0,71	0,68	-3,02	2.241,00	1.957,00	3.175,00	2.859,00
T - Ausl 10 Firenze	not assessed	1,10	0,71	-35,67	5.227,00	3.103,00	4.745,00	4.379,00
T - Ausl 11 Empoli	not assessed	1,02	0,86	-16,01	2.818,00	2.705,00	2.765,00	3.160,00
T - Ausl 12 Viareggio	not assessed	0,88	0,90	3,03	2.624,00	2.846,00	2.995,00	3.153,00
T - Aou Pisana	not assessed	1,78	1,59	-10,73	25.658,00	22.776,00	14.436,00	14.355,00
T - Aou Senese	not assessed	1,82	1,60	-12,26	11.965,00	10.404,00	6.566,00	6.507,00
T - Aou Careggi	not assessed	1,63	1,53	-5,87	26.176,00	24.511,00	16.060,00	15.976,00
T - Aou Meyer	not assessed	1,23	0,99	-20,12	978,00	722,00	792,00	732,00
T - Fond. Monasterio	not assessed	0,99	0,83	-16,53	484,00	442,00	489,00	535,00

## Indicator C3: Preoperative average hospital stay

### C3.1 Preoperative average hospital stay for more than 1 day

<b>Definition:</b>	Average days of hospitalization prior to surgery for hospitalization of more than 1 day
<b>Numerator:</b>	Number of days of hospital stay prior to surgery
<b>Denominator:</b>	Number of discharged patients, surgically operated
<b>Formula:</b>	$\frac{\text{No. of days of hospital stay prior to surgery}}{\text{No. of discharged patients, surgically operated}}$
<b>Notes:</b>	<p>Only public facilities <i>are included</i>.</p> <ul style="list-style-type: none"> <li>The analysis is limited to non-emergency, planned inpatient admissions and planned with pre-hospitalization. We consider the first operation in chronological order.</li> <li>For Meyer Teaching Hospital we consider only admissions of residents in the Area Vasta of reference.</li> <li>For the G. Monasterio Foundation we consider adult admissions and paediatric admissions only for residents in the Area Vasta of reference.</li> <li><i>Codes ICD-9 CM:</i> Codes for surgical procedures: from 00 to 86 and 87.53, 88.52, 88.53, 88.54, 88.55, 88.56, 88.57, 92.27, 92.30, 92.31, 92.32, 92.33, 92.39, 96.70, 96.71, 96.72, 98.51</li> <li>Admission Ward: <ul style="list-style-type: none"> <li>Surgical (06 paediatric cardiac surgery, 07 cardiac surgery, 09 general surgery, 10 maxillofacial surgery, 11 paediatric surgery, 12 plastic surgery, 13 thoracic surgery, 14 vascular surgery, 30 neurosurgery, 34 ophthalmology, 35 dentistry and stomatology, 36 orthopedics and traumatology, 38 otolaryngology, 43 urology, 76 paediatric neurosurgery, 78 paediatric urology).</li> <li>Paediatrics, Obstetrics and Gynaecology: selecting only discharged with surgical DRG.</li> </ul> </li> <li><i>Excluded:</i> <ul style="list-style-type: none"> <li>Transplants (DRG 103, 302, 480, 481, 495, 512, 513. Pancreas: main intervention on 528*)</li> <li>Discharged with a compilation error in the date field of the intervention file</li> <li>Patients with a number of hospital days pre-surgery greater than one year</li> <li>Discharges with the date of surgery prior to the date of admission.</li> </ul> </li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: < 1 day



## 4.14 Indicator C14: Medical Appropriateness

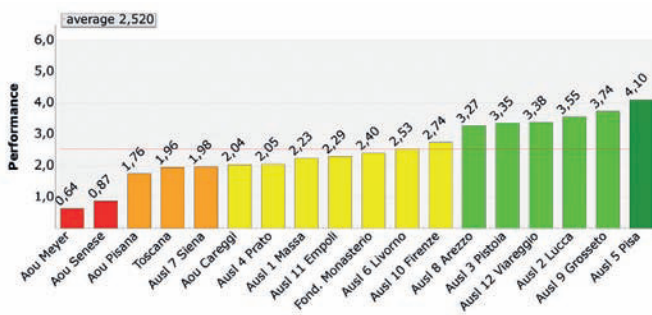
Medical appropriateness is achieved when services and treatment are performed at the right time, according to clinical standards recognized and shared, in order to increase the probability of obtaining the desired results. Through the set of indicators that constitute this classification tree (hospitalization rates for medical Essential Levels of Care, medical admissions for diagnostics, medical admissions either too short or too long) we aim to evaluate the appropriateness of medical services provided by Tuscan health facilities.

Indicator	Performance	Year
C14 – Medical Appropriateness	● 1,96	2010

### C14 Medical Appropriateness

- C4.8 – Medical LEA DRG: hospitalization rate per 10,000 residents (Health Care Agreement 2010): 245,88 × 10,000 ■
- C14.2 – Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010): 44,33% ■
  - C14.2.1 – Percentage of medical outpatient admissions for diagnostic purposes – Adults: 34,18%
  - C14.2.2 – Percentage of medical outpatient admissions for diagnostic purposes – Paediatric: 77,89%
- C14.3 – Percentage of short medical inpatient admissions (Health Care Agreement 2010): 20,20% ■
  - C14.3.1 – Percentage of short medical inpatient admissions – Adult: 19,00%
  - C14.3.2 – Percentage of short medical inpatient admissions – Paediatric: 29,34%
  - C14.3.3 – Percentage of short medical planned inpatient admissions: 29,82%
- C14.4 – Percentage of medical admissions over the threshold for patients ≥ 65 years (Health Care Agreement 2010): 3,14% ■
  - C14.4.1 – Percentage of medical admissions over the global threshold: 3,29%

### C14 – Medical appropriateness



### Indicator C14: Medical Appropriateness

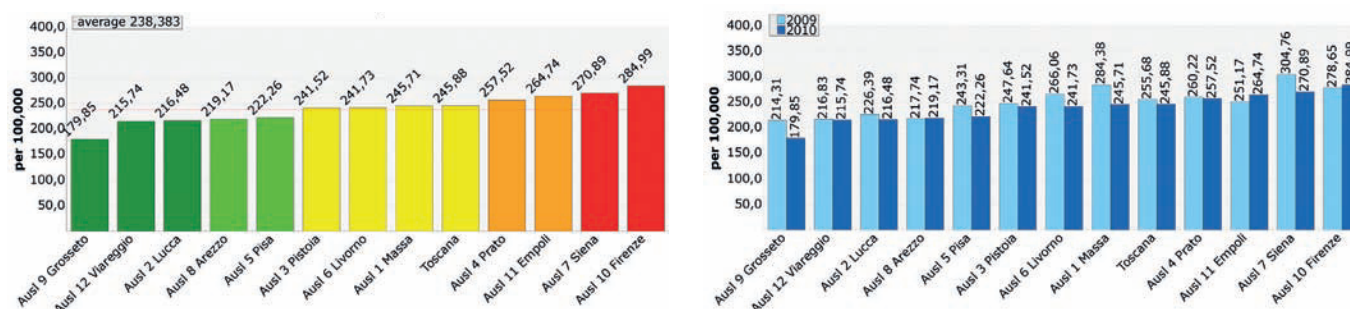
Notes
For the year 2010 this indicator has a value equal to the average score of the following indicators: C4.8 – Medical LEA DRG: Standard hospitalization rate per 10,000 residents, C14.2 – Percentage of medical outpatient admissions for diagnostic purposes, C14.3 – Percentage of short medical inpatient admissions, C14.4 – Percentage of medical admissions over the threshold for patients aged 65 years and above.



## Indicator C4.8: Medical LEA DRG: hospitalization rate per 10,000 residents 4.15 (Health Care Agreement 2010)

In the Health Care Agreement 2010-2012, the National Commission for the Essential Levels of Care (LEA) has set new medical conditions for those cases that should not result in a hospitalization, but should, more appropriately, be followed by local healthcare, that is, the family doctor and specialist visits. This indicator measures the number of potentially inappropriate medical admissions for each Authority per 10,000 residents. The following is a list of the DRGs listed in the Health Care Agreement 2010-2012: 13, 19, 47, 65, 70, 73, 74, 88, 131, 133, 134, 139, 142, 183, 184, 187, 189, 206, 208, 241, 243, 245, 248, 249, 251, 252, 254, 256, 276, 281, 282, 283, 284, 294, 295, 299, 301, 317, 323, 324, 326, 327, 329, 332, 333, 349, 351, 352, 369, 384, 395, 396, 399, 404, 409, 410, 411, 412, 426, 427, 429, 465, 466, 467, 490, 563, 564.

### C4.8 – Medical LEA DRG: hospitalization rate per 10,000 residents (Health Care Agreement 2010)



### C4.8 Medical LEA DRG: hospitalization rate per 10,000 residents (Health Care Agreement 2010)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,26	255,68	245,88	-3,83	100.608,00	96.768,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	2,27	284,38	245,71	-13,60	6.095,00	5.249,00	203.698,00	203.642,00
T - Ausl 2 Lucca	4,09	226,39	216,48	-4,38	5.346,00	5.118,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	2,53	247,64	241,52	-2,47	7.577,00	7.352,00	290.596,00	292.108,00
T - Ausl 4 Prato	1,53	260,22	257,52	-1,04	6.623,00	6.605,00	246.034,00	248.174,00
T - Ausl 5 Pisa	3,73	243,31	222,26	-8,65	8.569,00	7.907,00	334.718,00	337.566,00
T - Ausl 6 Livorno	2,52	266,06	241,73	-9,14	10.132,00	9.182,00	350.909,00	351.863,00
T - Ausl 7 Siena	0,57	304,76	270,89	-11,12	8.888,00	7.899,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	3,93	217,74	219,17	0,66	7.885,00	7.941,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	5,00	214,31	179,85	-16,08	5.247,00	4.365,00	225.861,00	227.063,00
T - Ausl 10 Firenze	0,00	278,65	284,99	2,28	24.256,00	24.726,00	813.077,00	818.882,00
T - Ausl 11 Empoli	1,08	251,17	264,74	5,40	6.235,00	6.651,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	4,14	216,83	215,74	-0,50	3.755,00	3.773,00	168.201,00	168.823,00

## Indicator C14: Medical Appropriateness

### C4.8 Medical LEA DRG : Standardized hospitalization rate per 10,000 residents (Health Care Agreement 2010)

<b>Definition:</b>	Age and sex standardized hospitalization rate per Medical LEA DRG
<b>Numerator:</b>	No. of admissions of residents per Medical DRGs
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of admissions per Medical DRG; residents only}}{\text{No. of residents}} \times 10,000$
<b>Notes:</b>	The DRGs considered are those of the Health Care Agreement 2010. We consider the admissions of residents in Tuscany provided anywhere Admissions excluded: – provided by unaccredited private hospitals – Discharged from rehabilitation wards, long-term care and neurorehabilitation (codes 56, 60, 75).
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average 2010
<b>Standardization:</b>	Age and sex (the standard population is the resident population of Italy for 2001, Source ISTAT).

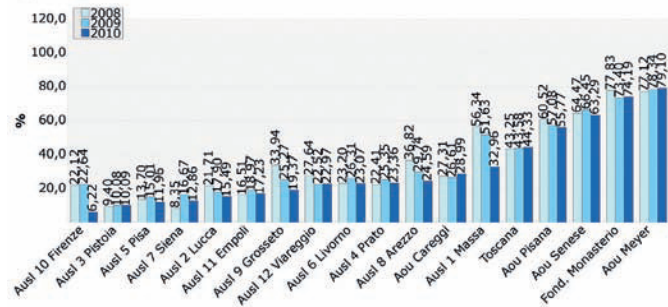
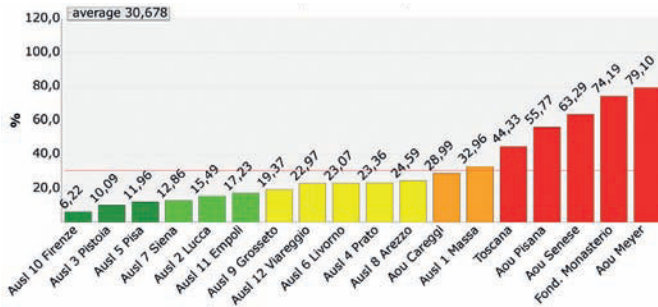




## 4.16 Indicator C14.2: Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010)

Hospital beds should be available for those who really need them, while diagnostic tests may be done on an outpatient basis, avoiding the use of hospitalization. This indicator therefore measures the percentage of medical outpatient services provided only for diagnostic purposes including “periodic check-ups” (see Health Care Agreement 2010-2012). The data are also divided into adult and paediatric patients.

### C14.2 – Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010)



### C14.2 Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	0,00	43,58	44,33	1,71	37.081,00	38.361,00	85.087,00	86.543,00
T - Ausl 1 Massa	1,01	51,63	32,96	-36,16	1.855,00	876,00	3.593,00	2.658,00
T - Ausl 2 Lucca	3,50	17,90	15,49	-13,46	531,00	374,00	2.966,00	2.414,00
T - Ausl 3 Pistoia	4,27	10,08	10,09	0,04	268,00	280,00	2.658,00	2.776,00
T - Ausl 4 Prato	2,38	25,35	23,36	-7,86	754,00	702,00	2.974,00	3.005,00
T - Ausl 5 Pisa	4,01	15,01	11,96	-20,31	165,00	106,00	1.099,00	886,00
T - Ausl 6 Livorno	2,42	26,31	23,07	-12,30	996,00	802,00	3.786,00	3.476,00
T - Ausl 7 Siena	3,88	16,67	12,86	-22,82	270,00	199,00	1.620,00	1.547,00
T - Ausl 8 Arezzo	2,20	29,74	24,59	-17,31	928,00	773,00	3.120,00	3.143,00
T - Ausl 9 Grosseto	2,95	25,27	19,37	-23,38	600,00	299,00	2.374,00	1.544,00
T - Ausl 10 Firenze	4,83	22,64	6,22	-72,52	1.072,00	278,00	4.735,00	4.468,00
T - Ausl 11 Empoli	3,25	18,97	17,23	-9,17	366,00	329,00	1.929,00	1.909,00
T - Ausl 12 Viareggio	2,43	22,52	22,97	2,01	726,00	688,00	3.224,00	2.995,00
T - Aou Pisana	0,00	57,08	55,77	-2,28	9.505,00	9.090,00	16.653,00	16.298,00
T - Aou Senese	0,00	66,45	63,29	-4,75	5.234,00	4.453,00	7.877,00	7.036,00
T - Aou Careggi	1,57	26,61	28,99	8,95	3.550,00	3.742,00	13.340,00	12.906,00
T - Aou Meyer	0,00	78,34	79,10	0,96	9.778,00	14.775,00	12.481,00	18.680,00
T - Fond. Monasterio	0,00	73,40	74,19	1,07	483,00	595,00	658,00	802,00

## Indicator C14: Medical Appropriateness

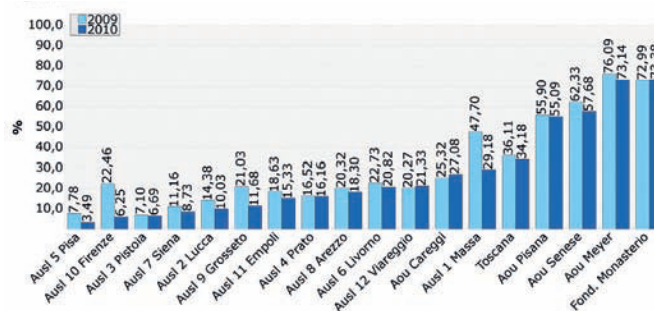
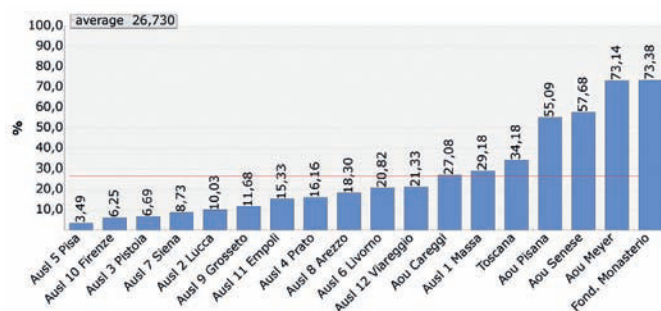
### C14.2 Percentage of medical outpatient admissions for diagnostic purposes (Health Care Agreement 2010)

<b>Definition:</b>	Percentage of medical outpatient admissions for diagnostic purposes
<b>Numerator:</b>	No. of medical outpatient admissions for diagnostic purposes
<b>Denominator:</b>	No. of medical outpatient admissions
<b>Formula:</b>	$\frac{\text{No. of medical outpatient admissions for diagnostic purposes}}{\text{No. of medical outpatient admissions}} \times 100$
<b>Notes:</b>	We consider only public facilities. We consider medical DRGs in outpatient admission. In the field "Aim of outpatient admission" we consider the modes "diagnostic" (code 3) and "periodic control" (code 4).
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average 2010



## Indicator C14.2.1: Percentage of medical outpatient admissions for diagnostic purposes – adults 4.17

### C14.2.1 – Percentage of medical outpatient admissions for diagnostic purposes – adults



### C14.2.1 Percentage of medical outpatient admissions for diagnostic purposes – adults

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	36,11	34,18	-5,33	25.102,00	22.717,00	69.521,00	66.458,00
T - Ausl 1 Massa	not assessed	47,70	29,18	-38,82	1.534,00	712,00	3.216,00	2.440,00
T - Ausl 2 Lucca	not assessed	14,38	10,03	-30,23	405,00	225,00	2.817,00	2.243,00
T - Ausl 3 Pistoia	not assessed	7,10	6,69	-5,78	173,00	164,00	2.437,00	2.452,00
T - Ausl 4 Prato	not assessed	16,52	16,16	-2,16	426,00	416,00	2.579,00	2.574,00
T - Ausl 5 Pisa	not assessed	7,78	3,49	-55,17	77,00	28,00	990,00	803,00
T - Ausl 6 Livorno	not assessed	22,73	20,82	-8,37	800,00	672,00	3.520,00	3.227,00
T - Ausl 7 Siena	not assessed	11,16	8,73	-21,76	158,00	121,00	1.416,00	1.386,00
T - Ausl 8 Arezzo	not assessed	20,32	18,30	-9,97	542,00	498,00	2.667,00	2.722,00
T - Ausl 9 Grosseto	not assessed	21,03	11,68	-44,45	437,00	157,00	2.078,00	1.344,00
T - Ausl 10 Firenze	not assessed	22,46	6,25	-72,19	1.007,00	269,00	4.484,00	4.307,00
T - Ausl 11 Empoli	not assessed	18,63	15,33	-17,70	339,00	279,00	1.820,00	1.820,00
T - Ausl 12 Viareggio	not assessed	20,27	21,33	5,23	619,00	613,00	3.054,00	2.874,00
T - Aou Pisana	not assessed	55,90	55,09	-1,44	8.792,00	8.489,00	15.729,00	15.409,00
T - Aou Senese	not assessed	62,33	57,68	-7,45	4.203,00	3.438,00	6.743,00	5.960,00
T - Aou Careggi	not assessed	25,32	27,08	6,94	3.263,00	3.365,00	12.887,00	12.427,00
T - Aou Meyer	not assessed	76,09	73,14	-3,89	1.865,00	2.706,00	2.451,00	3.700,00
T - Fond. Monasterio	not assessed	72,99	73,38	0,54	462,00	565,00	633,00	770,00

## Indicator C14: Medical Appropriateness

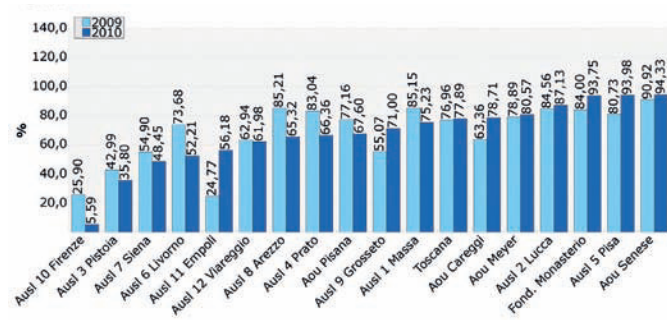
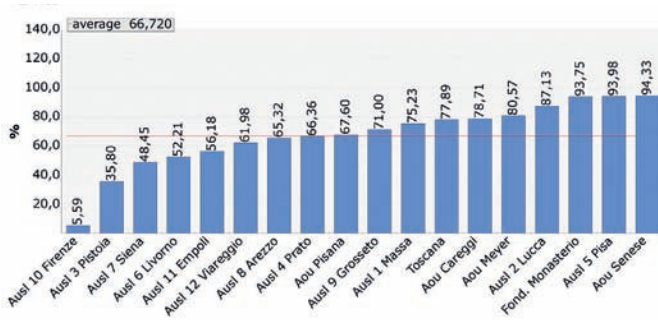
### C14.2.1 Percentage of medical outpatient admissions for diagnostic purposes – adults (Health Care Agreement 2010)

<b>Definition:</b>	Percentage of medical outpatient admissions for diagnostic purposes; adults
<b>Numerator:</b>	No. of medical outpatient admissions for diagnostic purposes; adults
<b>Denominator:</b>	No. of medical outpatient admissions; adults
<b>Formula:</b>	$\frac{\text{No. of medical outpatient admissions for diagnostic purposes; adults}}{\text{No. of medical outpatient admissions; adults}} \times 100$
<b>Notes:</b>	We consider only public facilities. We consider only adults (Age ≥ 14). We consider Medical DRGs in outpatient admissions. In the field "Aim of outpatient admission" we consider the modes "diagnostic" (code 3) and "periodic control" (code 4).
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## 4.18 Indicator C14.2.2: Percentage of medical outpatient admissions for diagnostic purposes – paediatrics

### C14.2.2 – Percentage of medical outpatient admissions for diagnostic purposes – paediatrics



### C14.2.2 Percentage of medical outpatient admissions for diagnostic purposes – paediatrics

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	76,96	77,89	1,21	11.979,00	15.644,00	15.566,00	20.085,00
T - Ausl 1 Massa	not assessed	85,15	75,23	-11,65	321,00	164,00	377,00	218,00
T - Ausl 2 Lucca	not assessed	84,56	87,13	3,04	126,00	149,00	149,00	171,00
T - Ausl 3 Pistoia	not assessed	42,99	35,80	-16,71	95,00	116,00	221,00	324,00
T - Ausl 4 Prato	not assessed	83,04	66,36	-20,09	328,00	286,00	395,00	431,00
T - Ausl 5 Pisa	not assessed	80,73	93,98	16,40	88,00	78,00	109,00	83,00
T - Ausl 6 Livorno	not assessed	73,68	52,21	-29,15	196,00	130,00	266,00	249,00
T - Ausl 7 Siena	not assessed	54,90	48,45	-11,76	112,00	78,00	204,00	161,00
T - Ausl 8 Arezzo	not assessed	85,21	65,32	-23,34	386,00	275,00	453,00	421,00
T - Ausl 9 Grosseto	not assessed	55,07	71,00	28,93	163,00	142,00	296,00	200,00
T - Ausl 10 Firenze	not assessed	25,90	5,59	-78,41	65,00	9,00	251,00	161,00
T - Ausl 11 Empoli	not assessed	24,77	56,18	126,80	27,00	50,00	109,00	89,00
T - Ausl 12 Viareggio	not assessed	62,94	61,98	-1,52	107,00	75,00	170,00	121,00
T - Aou Pisana	not assessed	77,16	67,60	-12,39	713,00	601,00	924,00	889,00
T - Aou Senese	not assessed	90,92	94,33	3,75	1.031,00	1.015,00	1.134,00	1.076,00
T - Aou Careggi	not assessed	63,36	78,71	24,23	287,00	377,00	453,00	479,00
T - Aou Meyer	not assessed	78,89	80,57	2,12	7.913,00	12.069,00	10.030,00	14.980,00
T - Fond. Monasterio	not assessed	84,00	93,75	11,61	21,00	30,00	25,00	32,00

## Indicator C14: Medical Appropriateness

### C14.2.2 Percentage of medical outpatient admissions for diagnostic purposes – paediatrics (Health Care Agreement 2010)

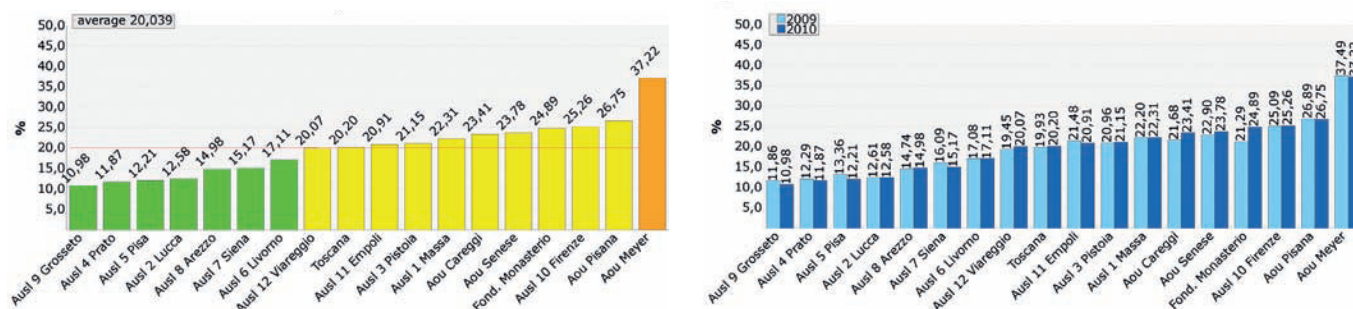
<b>Definition:</b>	Percentage of medical outpatient admissions for diagnostic purposes; paediatrics
<b>Numerator:</b>	No. of medical outpatient admissions for diagnostic purposes; paediatrics
<b>Denominator:</b>	No. of medical outpatient admissions; paediatrics
<b>Formula:</b>	$\frac{\text{No. of medical outpatient admissions for diagnostic purposes; paediatrics}}{\text{No. of medical outpatient admissions; paediatrics}} \times 100$
<b>Notes:</b>	We consider only public facilities. We consider only paediatric admissions (Age < 14). We consider Medical DRGs in outpatient admissions. In the field "Aim of outpatient admission" we consider the modes "diagnostic" (code 3) and "periodic control" (code 4).
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## Indicator C14.3: Percentage of short medical inpatient admissions (Health Care Agreement 2010) 4.19

A brief hospitalization (0-2 days) is often preventable. This phenomenon frequently occurs in contexts in which the hospital is the only available service for citizens. The number of such admissions should be reduced by means of the enhancement of local services, which are certainly more effective and less costly (see Health Care Agreement 2010-2012). The data are also broken down into adult and paediatric patients, and planned admissions.

### C14.3 – Percentage of short medical inpatient admissions (Health Care Agreement 2010)



### C14.3 Percentage of short medical inpatient admissions (Health Care Agreement 2010)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,98	19,93	20,20	1,34	41.506,00	41.621,00	208.226,00	206.051,00
T - Aou 1 Massa	2,77	22,20	22,31	0,53	2.955,00	2.813,00	13.313,00	12.607,00
T - Aou 2 Lucca	3,74	12,61	12,58	-0,22	1.340,00	1.318,00	10.624,00	10.473,00
T - Aou 3 Pistoia	2,88	20,96	21,15	0,91	2.934,00	3.036,00	13.996,00	14.352,00
T - Aou 4 Prato	3,81	12,29	11,87	-3,44	1.447,00	1.357,00	11.770,00	11.431,00
T - Aou 5 Pisa	3,78	13,36	12,21	-8,64	1.136,00	993,00	8.501,00	8.134,00
T - Aou 6 Livorno	3,29	17,08	17,11	0,19	2.941,00	2.743,00	17.218,00	16.028,00
T - Aou 7 Siena	3,48	16,09	15,17	-5,69	1.047,00	934,00	6.508,00	6.156,00
T - Aou 8 Arezzo	3,50	14,74	14,98	1,67	2.393,00	2.390,00	16.238,00	15.951,00
T - Aou 9 Grosseto	3,90	11,86	10,98	-7,49	1.231,00	1.106,00	10.376,00	10.077,00
T - Aou 10 Firenze	2,47	25,09	25,26	0,69	5.287,00	5.412,00	21.072,00	21.423,00
T - Aou 11 Empoli	2,91	21,48	20,91	-2,64	1.989,00	2.038,00	9.260,00	9.745,00
T - Aou 12 Viareggio	2,99	19,45	20,07	3,15	1.487,00	1.580,00	7.644,00	7.874,00
T - Aou Pisana	2,32	26,89	26,75	-0,51	5.574,00	5.512,00	20.730,00	20.604,00
T - Aou Senese	2,62	22,90	23,78	3,83	3.229,00	3.205,00	14.098,00	13.477,00
T - Aou Careggi	2,66	21,68	23,41	7,95	4.652,00	5.074,00	21.457,00	21.679,00
T - Aou Meyer	1,28	37,49	37,22	-0,70	1.643,00	1.831,00	4.383,00	4.919,00
T - Fond. Monasterio	2,51	21,29	24,89	16,90	221,00	279,00	1.038,00	1.121,00

## Indicator C14: Medical Appropriateness

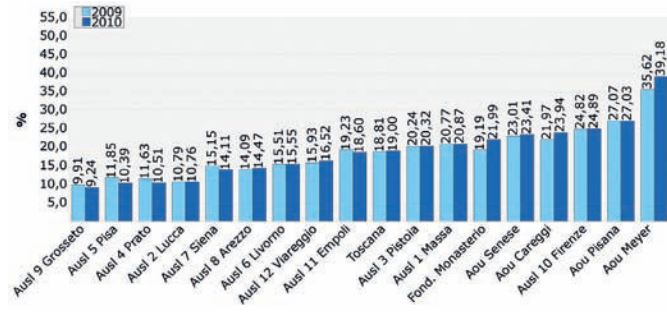
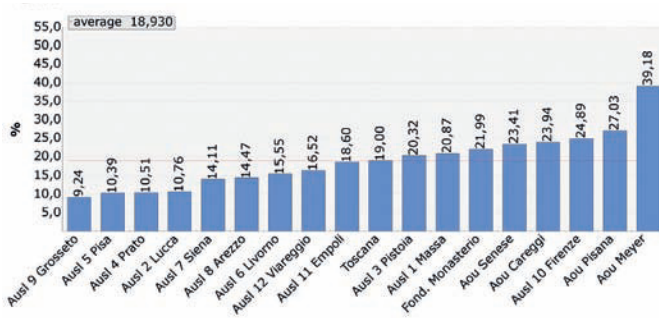
### C14.3 Percentage of short medical inpatient admissions (Health Care Agreement 2010)

<b>Definition:</b>	Percentage of short medical inpatient admissions
<b>Numerator:</b>	No. of short medical inpatient admissions
<b>Denominator:</b>	No. of medical inpatient admissions
<b>Formula:</b>	$\frac{\text{No. of short medical inpatient admissions}}{\text{No. of medical inpatient admissions}} \times 100$
<b>Notes:</b>	<p>We select inpatient admissions with Medical DRG.            Short admissions are characterised by length of stay of 0-1-2 days.            We consider only public facilities.  <i>Excluded:</i>            – DRG 391, 373, 124, 125            – Discharge modes: 1 (dead), 5 (discharged AMA), and 6 (referred to other care institute, public or private, for acute).</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average 2010



## 4.20 Indicator C14.3.1: Percentage of short medical inpatient admissions – adults

### C14.3.1 – Percentage of short medical inpatient admissions – adults



### C14.3.1 Percentage of short medical inpatient admissions – adults

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	18,81	19,00	1,03	34.893,00	34.601,00	185.548,00	182.126,00
T - Ausl 1 Massa	not assessed	20,77	20,87	0,48	2.469,00	2.339,00	11.886,00	11.206,00
T - Ausl 2 Lucca	not assessed	10,79	10,76	-0,29	1.046,00	1.031,00	9.695,00	9.584,00
T - Ausl 3 Pistoia	not assessed	20,24	20,32	0,39	2.634,00	2.730,00	13.013,00	13.435,00
T - Ausl 4 Prato	not assessed	11,63	10,51	-9,68	1.210,00	1.052,00	10.402,00	10.013,00
T - Ausl 5 Pisa	not assessed	11,85	10,39	-12,34	916,00	760,00	7.731,00	7.317,00
T - Ausl 6 Livorno	not assessed	15,51	15,55	0,25	2.373,00	2.205,00	15.295,00	14.177,00
T - Ausl 7 Siena	not assessed	15,15	14,11	-6,85	870,00	761,00	5.743,00	5.393,00
T - Ausl 8 Arezzo	not assessed	14,09	14,47	2,71	2.072,00	2.089,00	14.705,00	14.435,00
T - Ausl 9 Grosseto	not assessed	9,91	9,24	-6,78	927,00	829,00	9.351,00	8.971,00
T - Ausl 10 Firenze	not assessed	24,82	24,89	0,30	4.933,00	5.031,00	19.877,00	20.212,00
T - Ausl 11 Empoli	not assessed	19,23	18,60	-3,27	1.591,00	1.611,00	8.273,00	8.660,00
T - Ausl 12 Viareggio	not assessed	15,93	16,52	3,73	1.052,00	1.139,00	6.605,00	6.894,00
T - Aou Pisana	not assessed	27,07	27,03	-0,14	5.218,00	5.178,00	19.273,00	19.153,00
T - Aou Senese	not assessed	23,01	23,41	1,76	2.647,00	2.514,00	11.505,00	10.738,00
T - Aou Careggi	not assessed	21,97	23,94	8,97	4.531,00	4.850,00	20.625,00	20.259,00
T - Aou Meyer	not assessed	35,62	39,18	9,98	223,00	257,00	626,00	656,00
T - Fond. Monasterio	not assessed	19,19	21,99	14,59	181,00	225,00	943,00	1.023,00

## Indicator C14: Medical Appropriateness

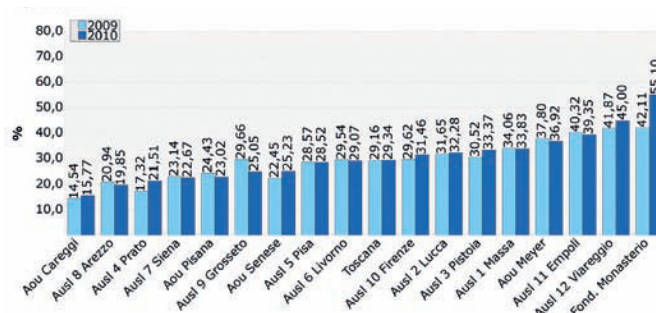
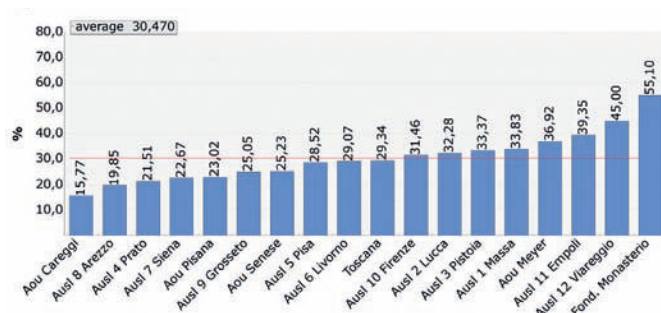
### C14.3.1 Percentage of short medical inpatient admissions – adults (Health Care Agreement 2010)

<b>Definition:</b>	Percentage of short medical inpatient admissions; adults
<b>Numerator:</b>	No. of short medical inpatient admissions; adults
<b>Denominator:</b>	No. of medical inpatient admissions; adults
<b>Formula:</b>	$\frac{\text{No. of short medical inpatient admissions; adults}}{\text{No. of medical inpatient admissions; adults}} \times 100$
<b>Notes:</b>	<p>We select inpatient admissions with Medical DRGs for adults (Age ≥ 14 years). Short admissions are characterised by length of stay of 0-2 days. We consider only public facilities.</p> <p><i>Excluded:</i></p> <ul style="list-style-type: none"> <li>– DRG 391, 373, 124, 125</li> <li>– Discharge modes: 1 (dead), 5 (discharged AMA), and 6 (referred to other care institute, public or private, for acute).</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## Indicator C14.3.2: Percentage of short medical inpatient admissions – paediatrics 4.21

### C14.3.2 – Percentage of short medical inpatient admissions – paediatrics



### C14.3.2 Percentage of short medical inpatient admissions – paediatrics

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	29,16	29,34	0,62	6.613,00	7.020,00	22.678,00	23.925,00
T - Auel 1 Massa	not assessed	34,06	33,83	-0,66	486,00	474,00	1.427,00	1.401,00
T - Auel 2 Lucca	not assessed	31,65	32,28	2,01	294,00	287,00	929,00	889,00
T - Auel 3 Pistoia	not assessed	30,52	33,37	9,34	300,00	306,00	983,00	917,00
T - Auel 4 Prato	not assessed	17,32	21,51	24,15	237,00	305,00	1.368,00	1.418,00
T - Auel 5 Pisa	not assessed	28,57	28,52	-0,18	220,00	233,00	770,00	817,00
T - Auel 6 Livorno	not assessed	29,54	29,07	-1,60	568,00	538,00	1.923,00	1.851,00
T - Auel 7 Siena	not assessed	23,14	22,67	-2,00	177,00	173,00	765,00	763,00
T - Auel 8 Arezzo	not assessed	20,94	19,85	-5,18	321,00	301,00	1.533,00	1.516,00
T - Auel 9 Grosseto	not assessed	29,66	25,05	-15,55	304,00	277,00	1.025,00	1.106,00
T - Auel 10 Firenze	not assessed	29,62	31,46	6,21	354,00	381,00	1.195,00	1.211,00
T - Auel 11 Empoli	not assessed	40,32	39,35	-2,40	398,00	427,00	987,00	1.085,00
T - Auel 12 Viareggio	not assessed	41,87	45,00	7,48	435,00	441,00	1.039,00	980,00
T - Aou Pisana	not assessed	24,43	23,02	-5,79	356,00	334,00	1.457,00	1.451,00
T - Aou Senese	not assessed	22,45	25,23	12,40	582,00	691,00	2.593,00	2.739,00
T - Aou Careggi	not assessed	14,54	15,77	8,47	121,00	224,00	832,00	1.420,00
T - Aou Meyer	not assessed	37,80	36,92	-2,31	1.420,00	1.574,00	3.757,00	4.263,00
T - Fond. Monasterio	not assessed	42,11	55,10	30,87	40,00	54,00	95,00	98,00

## Indicator C14: Medical Appropriateness

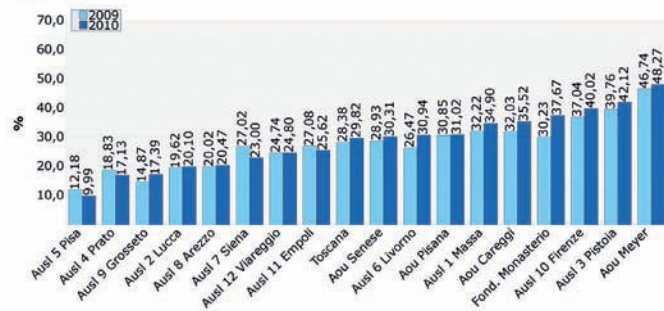
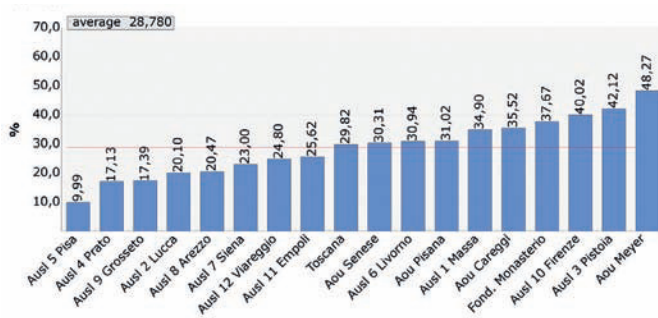
### C14.3.2 Percentage of short medical inpatient admissions – paediatrics (Health Care Agreement 2010)

<b>Definition:</b>	Percentage of short medical inpatient admissions; paediatrics
<b>Numerator:</b>	No. of inpatient short medical admissions; paediatrics
<b>Denominator:</b>	No. of inpatient short medical admissions; paediatrics
<b>Formula:</b>	$\frac{\text{No. of inpatient short medical admissions; paediatrics}}{\text{No. of inpatient short medical admissions; paediatrics}} \times 100$
<b>Notes:</b>	We select paediatric inpatient admissions (Age < 14 years) with medical DRGs. Short admissions are characterised by length of stay of 0-2 days. We consider only public facilities. <i>Excluded:</i> – DRG 391, 373, 124, 125 – Discharge modes: 1 (dead), 5 (discharged AMA), and 6 (referred to other care institute, public or private, for acute).
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## 4.22 Indicator C14.3.3: Percentage of short medical planned inpatient admissions

### C14.3.3 – Percentage of short medical planned inpatient admissions



### C14.3.3 Percentage of short medical planned inpatient admissions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	28,38	29,82	5,06	18.236,00	17.891,00	64.255,00	60.004,00
T - Ausl 1 Massa	not assessed	32,22	34,90	8,35	1.038,00	1.207,00	3.222,00	3.458,00
T - Ausl 2 Lucca	not assessed	19,62	20,10	2,40	375,00	338,00	1.911,00	1.682,00
T - Ausl 3 Pistoia	not assessed	39,76	42,12	5,95	493,00	508,00	1.240,00	1.206,00
T - Ausl 4 Prato	not assessed	18,83	17,13	-9,06	543,00	383,00	2.883,00	2.236,00
T - Ausl 5 Pisa	not assessed	12,18	9,99	-17,98	396,00	299,00	3.250,00	2.992,00
T - Ausl 6 Livorno	not assessed	26,47	30,94	16,92	894,00	1.006,00	3.378,00	3.251,00
T - Ausl 7 Siena	not assessed	27,02	23,00	-14,88	214,00	204,00	792,00	887,00
T - Ausl 8 Arezzo	not assessed	20,02	20,47	2,27	911,00	893,00	4.551,00	4.362,00
T - Ausl 9 Grosseto	not assessed	14,87	17,39	16,95	282,00	223,00	1.896,00	1.282,00
T - Ausl 10 Firenze	not assessed	37,04	40,02	8,05	1.273,00	882,00	3.437,00	2.204,00
T - Ausl 11 Empoli	not assessed	27,08	25,62	-5,41	380,00	372,00	1.403,00	1.452,00
T - Ausl 12 Viareggio	not assessed	24,74	24,80	0,24	481,00	440,00	1.944,00	1.774,00
T - Aou Pisana	not assessed	30,85	31,02	0,56	4.497,00	4.414,00	14.576,00	14.228,00
T - Aou Senese	not assessed	28,93	30,31	4,77	2.070,00	1.975,00	7.156,00	6.517,00
T - Aou Careggi	not assessed	32,03	35,52	10,92	3.124,00	3.421,00	9.754,00	9.630,00
T - Aou Meyer	not assessed	46,74	48,27	3,29	1.132,00	1.161,00	2.422,00	2.405,00
T - Fond. Monasterio	not assessed	30,23	37,67	24,63	133,00	165,00	440,00	438,00

## Indicator C14: Medical Appropriateness

### C14.3.3 Percentage of short medical planned inpatient admissions

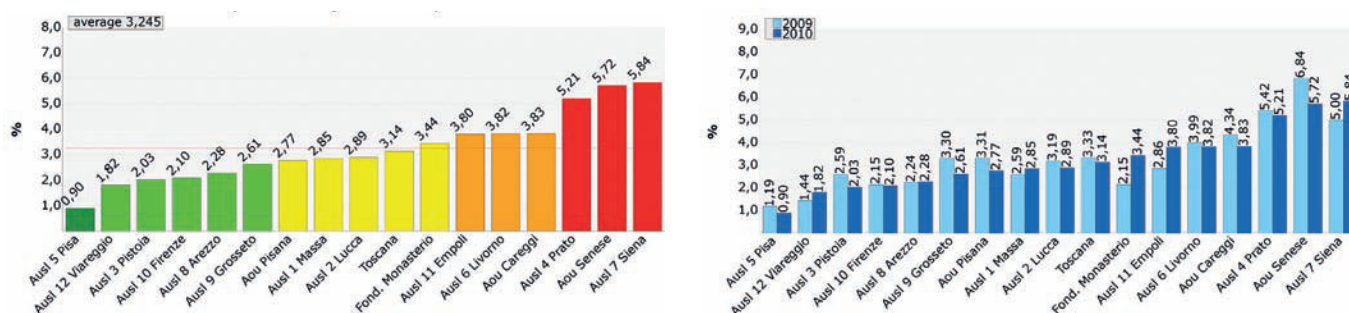
<b>Definition:</b>	Percentage of short medical planned inpatient admissions
<b>Numerator:</b>	No. of short medical planned inpatient admissions
<b>Denominator:</b>	No. of medical planned inpatient admissions
<b>Formula:</b>	$\frac{\text{No. of short medical planned inpatient admissions}}{\text{No. of medical planned inpatient admissions}} \times 100$
<b>Notes:</b>	<p>We select planned inpatient admissions with medical DRG.  Short admissions are characterised by length of stay of 0-2 days.  We consider only public facilities.  Excluded:</p> <ul style="list-style-type: none"> <li>DRG 391, 373, 124, 125</li> <li>Discharge modes: 1 (dead), 5 (discharged AMA), and 6 (referred to other care institute, public or private, for acute).</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## Indicator C14.4: Percentage of medical admissions over the threshold for patients ≥ 65 years (Health Care Agreement 2010)

This indicator identifies the hospitalization of patients who remain in hospital longer than clinical grounds merit. An excessively lengthy hospitalization may be connected to inefficiencies either on the part of the hospital or on the part of the local authorities, or both. The health authority may have inadequate protected residential facilities, or inadequate home care procedures or there might be a lack of integration between the hospital and the territory (see Health Care Agreement 2010-2012). The threshold value of a DRG indicates the maximum length of stay expected for a given admission. If the treatment continues beyond this threshold, a remuneration “per day” for the number of days exceeding the threshold is added to the reimbursement for that DRG. Hospitalization over the threshold is likely to be accentuated in the population aged above 64 years. The results are thus presented with reference to the population as a whole, and to the population older than 65.

### C14.4 – Percentage of medical admissions over the threshold for patients ≥ 65 years (Health Care Agreement 2010)



### C14.4 Percentage of medical admissions over the threshold for patients ≥ 65 years (Health Care Agreement 2010)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,59	3,33	3,14	-5,61	4.380,00	4.102,00	131.503,00	130.474,00
T - Ausl 1 Massa	2,89	2,59	2,85	10,21	239,00	254,00	9.237,00	8.907,00
T - Ausl 2 Lucca	2,84	3,19	2,89	-9,36	245,00	222,00	7.678,00	7.676,00
T - Ausl 3 Pistoia	3,72	2,59	2,03	-21,30	267,00	220,00	10.326,00	10.811,00
T - Ausl 4 Prato	0,48	5,42	5,21	-3,92	421,00	396,00	7.766,00	7.603,00
T - Ausl 5 Pisa	4,88	1,19	0,90	-24,31	55,00	41,00	4.637,00	4.567,00
T - Ausl 6 Livorno	1,90	3,99	3,82	-4,15	489,00	442,00	12.270,00	11.571,00
T - Ausl 7 Siena	0,00	5,00	5,84	16,70	251,00	281,00	5.017,00	4.813,00
T - Ausl 8 Arezzo	3,47	2,24	2,28	1,82	254,00	256,00	11.340,00	11.225,00
T - Ausl 9 Grosseto	3,13	3,30	2,61	-20,78	254,00	196,00	7.701,00	7.501,00
T - Ausl 10 Firenze	3,65	2,15	2,10	-2,38	318,00	319,00	14.761,00	15.168,00
T - Ausl 11 Empoli	1,91	2,86	3,80	33,12	179,00	250,00	6.264,00	6.572,00
T - Ausl 12 Viareggio	3,94	1,44	1,82	26,62	67,00	88,00	4.664,00	4.838,00
T - Aou Pisana	2,97	3,31	2,77	-16,09	319,00	268,00	9.651,00	9.663,00
T - Aou Senese	0,00	6,84	5,72	-16,42	460,00	376,00	6.724,00	6.576,00
T - Aou Careggi	1,89	4,34	3,83	-11,80	540,00	457,00	12.442,00	11.938,00
T - Fond. Monasterio	2,28	0,00	3,44	(*)	0,00	36,00	0,00	1.045,00

## Indicator C14: Medical Appropriateness

### C14.4 Percentage of medical admissions over the threshold for patients ≥ 65 years (Health Care Agreement 2010)

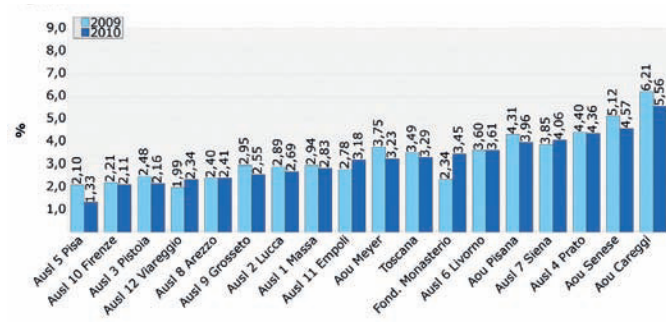
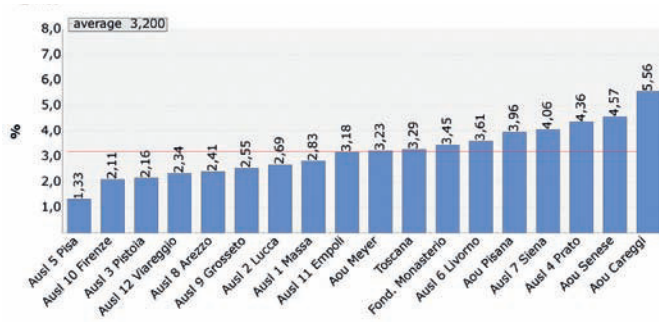
<b>Definition:</b>	Percentage of medical admissions over the threshold for patients aged 65 years and above
<b>Numerator:</b>	No. of medical admissions over the threshold
<b>Denominator:</b>	No. of medical admissions
<b>Formula:</b>	$\frac{\text{No. of medical admissions over the threshold}}{\text{No. of medical admissions}} \times 100$
<b>Notes:</b>	As reference for DRG thresholds we consider thresholds set by the Ministry. As for DRGs 557, 558, 559, 577, without a threshold set by the Ministry, we consider threshold values set by the Testo Unico sulla Compensazione interregionale della mobilità sanitaria (Norms for Inter Regional compensation of Health mobility) of 27 January 2010. We consider patients aged 65 years and above We consider exclusively inpatient admissions. We consider only public facilities. <i>Excluded:</i> – discharges from the rehabilitation ward, long-term patients, and neurorehabilitation (codes 56, 60, 75).
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional average 2010





## 4.24 Indicator C14.4.1: Percentage of medical admissions over the global threshold

### C14.4.1 – Percentage of medical admissions over the global threshold



### C14.4.1 Percentage of medical admissions over the global threshold

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	3,49	3,29	-5,71	9.861,00	9.195,00	282.415,00	279.298,00
T - Ausl 1 Massa	not assessed	2,94	2,83	-3,86	544,00	509,00	18.474,00	17.980,00
T - Ausl 2 Lucca	not assessed	2,89	2,69	-6,98	402,00	376,00	13.899,00	13.976,00
T - Ausl 3 Pistoia	not assessed	2,48	2,16	-12,82	491,00	432,00	19.793,00	19.976,00
T - Ausl 4 Prato	not assessed	4,40	4,36	-0,83	768,00	755,00	17.450,00	17.298,00
T - Ausl 5 Pisa	not assessed	2,10	1,33	-36,71	210,00	127,00	10.021,00	9.575,00
T - Ausl 6 Livorno	not assessed	3,60	3,61	0,18	856,00	808,00	23.781,00	22.408,00
T - Ausl 7 Siena	not assessed	3,85	4,06	5,25	395,00	404,00	10.247,00	9.958,00
T - Ausl 8 Arezzo	not assessed	2,40	2,41	0,31	516,00	507,00	21.513,00	21.073,00
T - Ausl 9 Grosseto	not assessed	2,95	2,55	-13,56	415,00	347,00	14.087,00	13.626,00
T - Ausl 10 Firenze	not assessed	2,21	2,11	-4,20	692,00	667,00	31.349,00	31.542,00
T - Ausl 11 Empoli	not assessed	2,78	3,18	14,49	361,00	428,00	12.995,00	13.457,00
T - Ausl 12 Viareggio	not assessed	1,99	2,34	17,34	208,00	248,00	10.448,00	10.616,00
T - Aou Pisana	not assessed	4,31	3,96	-8,03	1.084,00	993,00	25.156,00	25.057,00
T - Aou Senese	not assessed	5,12	4,57	-10,65	898,00	773,00	17.549,00	16.907,00
T - Aou Careggi	not assessed	6,21	5,56	-10,58	1.771,00	1.561,00	28.499,00	28.093,00
T - Aou Meyer	not assessed	3,75	3,23	-13,87	169,00	163,00	4.505,00	5.045,00
T - Fond. Monasterio	not assessed	2,34	3,45	47,21	42,00	62,00	1.793,00	1.798,00

## Indicator C14: Medical Appropriateness

### C14.4.1 Percentage of medical admissions over the global threshold

<b>Definition:</b>	Percentage of medical admissions over the global threshold
<b>Numerator:</b>	No. of of medical admissions over the threshold
<b>Denominator:</b>	No. of medical admissions
<b>Formula:</b>	$\frac{\text{No. of medical admissions over the threshold}}{\text{No. of medical admissions}} \times 100$
<b>Notes:</b>	As reference for DRG thresholds we consider thresholds set by the Ministry. As for DRGs 557, 558, 559, 577, without a threshold set by the Ministry, we consider threshold values set by the Testo Unico sulla Compensazione interregionale della mobilità sanitaria (Norms for Inter Regional compensation of Health mobility) of 27 January 2010. We consider exclusively inpatient admissions. We consider only public facilities. <i>Excluded:</i> – discharges from the rehabilitation ward, long-term patients, and neurorehabilitation (codes 56, 60, 75).
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## Indicator C4: Surgical Appropriateness 4.25

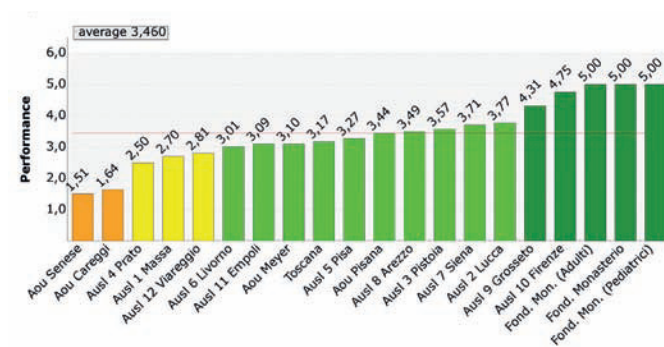
Surgical appropriateness occurs when the provided services meet the needs of the patient, are performed appropriately and at the right time, by means of the best and most shared techniques and when there is a positive relationship between benefits, risks and costs. In this light, the surgical appropriateness classification tree aims at highlighting the use of available resources in the surgery departments of our facilities, both for inpatient and day surgery. The indicators in the tree have different weights explained in the indicator's file.

Indicator	Performance	Year
C4 – Surgical Appropriateness	● 3,17	2010

### C4 Surgical Appropriateness

- C4.1 – Percentage of medical DRGs discharged from surgical wards (Health Care Agreement 2010): ■
  - C4.1.1 – Percentage of medical DRGs discharged from surgical wards: inpatient admissions: 16,02% ■
    - C14.1.1.1 – Percentage of medical DRG discharged from surgical wards: planned inpatient admissions: 8,02%
    - C14.1.1.2 – Percentage of medical DRG discharged from surgical wards: urgent inpatient admissions: 34,80%
  - C4.1.2 – Percentage of medical DRG discharged from surgical wards: outpatient admissions: 15,88% ■
- C4.4 – Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day(Health Care Agreement 2010): 55,48% ■
- C4.12 – Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010): 54,87% ■

### C4 – Surgical Appropriateness



### Indicator C4: Surgical Appropriateness

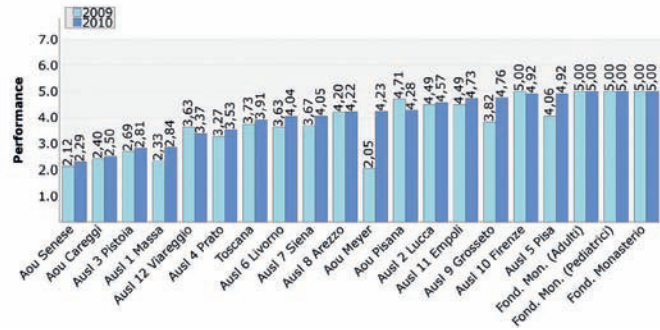
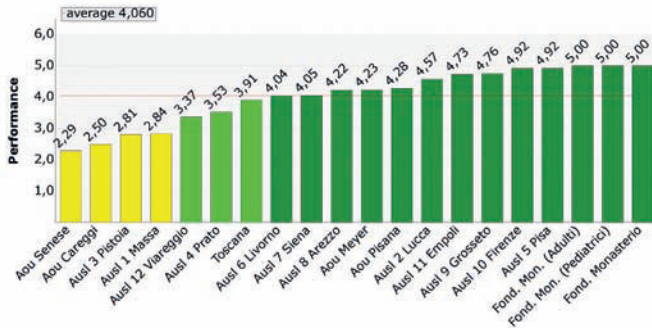
<b>Notes</b>	<p>This indicator has a value equal to the weighted average score of the following indicators: C4.1 – Percentage of medical DRG discharged from surgical wards (Health Care Agreement 2010), C4.4 – Percentage of laparoscopic cholecystectomies in Day Surgery, C4.12 – Surgical LEA DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010).</p> <p>Weights are the following:</p> <ul style="list-style-type: none"> <li>– C4.1: 40%</li> <li>– C4.4: 20%</li> <li>– C4.12: 40%</li> </ul> <p>The indicator C4.1 has a value equal to the average score of the following indicators: C4.1.1 – Percentage of medical DRGs discharged from surgical wards: planned inpatient admissions, C4.1.2 – Percentage of medical DRGs discharged from surgical wards: urgent outpatient admissions.</p>
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### 4.26 Indicator C4.1: Percentage of medical DRGs discharged from surgical wards (Health Care Agreement 2010)

The indicator highlights aspects of organizational inappropriateness resulting from patient discharge from a surgical ward without any intervention. Since the cost of a bed in the surgical ward is much higher than that of a medical ward, it is desirable to pursue process improvements to limit improper resources use. The indicator includes two sub-indicators, C4.1.1 and C4.1.2, respectively related to inpatient and outpatient admissions. This choice is linked to evidence that, within each Authority, the data have very different trends in the two systems of hospitalization, without any obvious correlation. As for inpatient admissions further details with reference to planned and emergency admissions are provided.

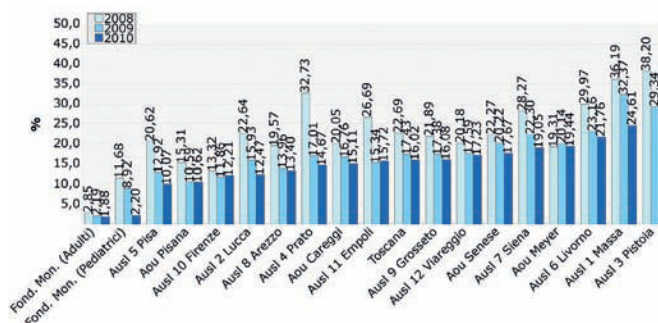
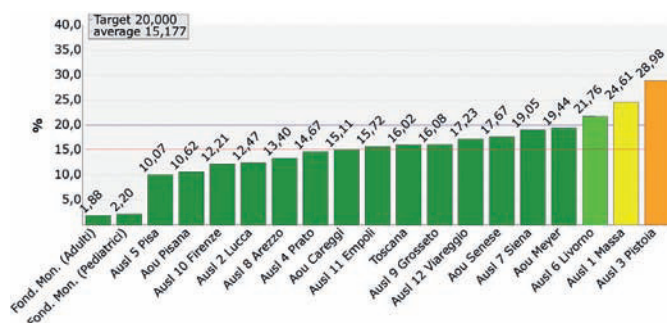
#### C4.1 – Percentage of medical DRGs discharged from surgical wards (Health Care Agreement)





## Indicator C4.1.1: Percentage of medical DRGs discharged from surgical wards: inpatient admissions 4.27

### C4.1.1 – Percentage of medical DRGs discharged from surgical wards: inpatient admissions



### C4.1.1 Percentage of medical DRGs discharged from surgical wards: inpatient admissions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	5,00	17,43	16,02	-8,13	26.680,00	24.847,00	153.041,00	155.140,00
T - Ausl 1 Massa	2,85	32,37	24,61	-23,96	2.189,00	2.011,00	6.763,00	8.171,00
T - Ausl 2 Lucca	5,00	15,93	12,47	-21,73	1.051,00	835,00	6.599,00	6.698,00
T - Ausl 3 Pistoia	1,76	29,34	28,98	-1,23	2.380,00	2.243,00	8.112,00	7.740,00
T - Ausl 4 Prato	5,00	17,01	14,67	-13,76	1.043,00	865,00	6.133,00	5.898,00
T - Ausl 5 Pisa	5,00	12,92	10,07	-22,04	556,00	494,00	4.304,00	4.905,00
T - Ausl 6 Livorno	3,56	23,16	21,76	-6,08	2.631,00	2.291,00	11.358,00	10.530,00
T - Ausl 7 Siena	4,24	22,30	19,05	-14,58	990,00	896,00	4.439,00	4.703,00
T - Ausl 8 Arezzo	5,00	13,96	13,40	-3,96	1.529,00	1.448,00	10.956,00	10.803,00
T - Ausl 9 Grosseto	4,98	17,38	16,08	-7,44	1.198,00	1.055,00	6.894,00	6.559,00
T - Ausl 10 Firenze	5,00	11,86	12,21	2,98	1.183,00	1.168,00	9.978,00	9.566,00
T - Ausl 11 Empoli	5,00	15,34	15,72	2,52	883,00	1.014,00	5.758,00	6.450,00
T - Ausl 12 Viareggio	4,69	17,59	17,23	-2,05	1.195,00	1.202,00	6.794,00	6.977,00
T - Aou Pisana	5,00	10,59	10,62	0,29	2.443,00	2.437,00	23.070,00	22.946,00
T - Aou Senese	4,58	20,22	17,67	-12,59	2.290,00	2.088,00	11.327,00	11.815,00
T - Aou Careggi	5,00	16,76	15,11	-9,86	4.328,00	3.941,00	25.818,00	26.080,00
T - Aou Meyer	4,14	20,14	19,44	-3,47	755,00	840,00	3.748,00	4.320,00
T - Fond. Mon. (Pediatrici)	5,00	0,00	2,20	(*)	0,00	4,00	0,00	182,00
T - Fond. Mon. (Adulti)	5,00	0,00	1,88	(*)	0,00	15,00	0,00	797,00

## Indicator C4: Surgical Appropriateness

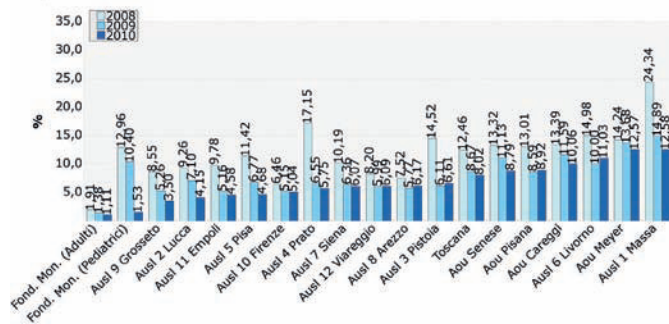
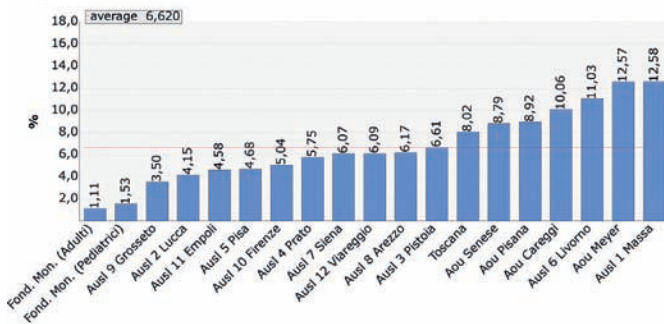
### C4.1.1 Percentage of medical DRGs discharged from surgical wards: inpatient admissions

<b>Definition:</b>	Percentage of patients discharged from surgical wards with Medical DRGs; inpatient admissions
<b>Numerator:</b>	No. of discharges from surgical wards with Medical DRGs; inpatient admissions
<b>Denominator:</b>	No. of discharges from surgical wards; inpatient admissions
<b>Formula:</b>	$\frac{\text{No. of discharges from surgical wards with Medical DRGs; inpatient admissions}}{\text{No. of discharges from surgical wards; inpatient admissions}} \times 100$
<b>Notes:</b>	<p>Selected surgical specialties:            06 paediatric cardiac surgery, 07 cardiac surgery, 09 general surgery, 10 maxillofacial surgery, 11 paediatric surgery, 12 plastic surgery, 13 thoracic surgery, 14 vascular surgery, 30 neurosurgery, 34 ophthalmology, 35 dentistry and stomatology, 36 orthopedics, 38 otolaryngology, 43 urology, 76 paediatric neurosurgery, 78 paediatric urology</p> <p>We consider admissions provided in public facilities.</p> <p>Excluded:</p> <ul style="list-style-type: none"> <li>– discharges with main interventions in lithotripsy (procedure code ICD9-CM: 98.5, 98.51, 98.52, 98.59)</li> <li>– discharges with principal and secondary diagnoses for non performed interventions (V641, V642, V643)</li> <li>– discharges with DRG 470 (DRG non-attributable), 124, 125</li> <li>– principal procedures 21.31 (with diagnosis 471.0, for all diagnoses), 43.11, 45.43, 51.10, 51.11, 51.85, 51.88, 59.95</li> <li>– discharges with DRG type neither medical nor surgical</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional goal: 20%



## 4.28 Indicator C4.1.1.1: Percentage of medical DRGs discharged from surgical wards: planned inpatient admissions

### C4.1.1.1 – Percentage of medical DRGs discharged from surgical wards: planned inpatient admissions



### C4.1.1.1 Percentage of medical DRGs discharged from surgical wards: planned inpatient admissions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	8,67	8,02	-7,46	9.212,00	8.761,00	106.275,00	109.222,00
T - Ausl 1 Massa	not assessed	14,89	12,58	-15,50	543,00	697,00	3.647,00	5.540,00
T - Ausl 2 Lucca	not assessed	7,10	4,15	-41,60	298,00	181,00	4.195,00	4.363,00
T - Ausl 3 Pistoia	not assessed	6,11	6,61	8,21	247,00	244,00	4.043,00	3.691,00
T - Ausl 4 Prato	not assessed	6,55	5,75	-12,15	265,00	229,00	4.048,00	3.982,00
T - Ausl 5 Pisa	not assessed	6,77	4,68	-30,81	195,00	159,00	2.880,00	3.394,00
T - Ausl 6 Livorno	not assessed	10,00	11,03	10,25	697,00	722,00	6.967,00	6.546,00
T - Ausl 7 Siena	not assessed	6,36	6,07	-4,64	149,00	182,00	2.342,00	3.000,00
T - Ausl 8 Arezzo	not assessed	5,77	6,17	6,97	439,00	463,00	7.612,00	7.505,00
T - Ausl 9 Grosseto	not assessed	5,26	3,50	-33,53	222,00	135,00	4.220,00	3.861,00
T - Ausl 10 Firenze	not assessed	5,15	5,04	-2,07	302,00	272,00	5.866,00	5.395,00
T - Ausl 11 Empoli	not assessed	5,16	4,58	-11,32	191,00	200,00	3.701,00	4.370,00
T - Ausl 12 Viareggio	not assessed	5,99	6,09	1,72	277,00	290,00	4.626,00	4.761,00
T - Aou Pisana	not assessed	8,59	8,92	3,83	1.778,00	1.836,00	20.692,00	20.579,00
T - Aou Senese	not assessed	11,13	8,79	-21,02	942,00	763,00	8.466,00	8.682,00
T - Aou Careggi	not assessed	11,59	10,06	-13,20	2.262,00	1.991,00	19.513,00	19.788,00
T - Aou Meyer	not assessed	13,68	12,57	-8,12	380,00	389,00	2.778,00	3.095,00
T - Fond. Mon. (Pediatrici)	not assessed	0,00	1,53	(*)	0,00	2,00	0,00	131,00
T - Fond. Mon. (Adulti)	not assessed	0,00	1,11	(*)	0,00	6,00	0,00	539,00

## Indicator C4: Surgical Appropriateness

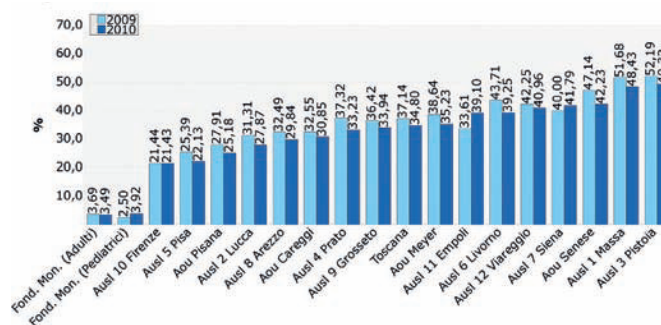
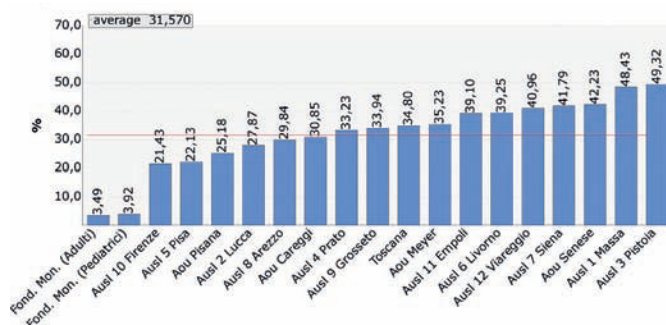
### C4.1.1.1 Percentage of medical DRGs discharged from surgical wards: planned inpatient admissions

<b>Definition:</b>	Percentage of discharges from surgical wards with Medical DRGs for planned inpatient admissions
<b>Numerator:</b>	No. of discharges from surgical wards with Medical DRGs for planned inpatient admissions
<b>Denominator:</b>	No. of discharges from surgical wards for planned inpatient admissions
<b>Formula:</b>	$\frac{\text{No. of discharges from surgical wards with Medical DRGs for planned inpatient admissions}}{\text{No. of discharges from surgical wards for planned inpatient admissions}} \times 100$
<b>Notes:</b>	<p>Selected surgical specialties:            06 paediatric cardiac surgery, 07 cardiac surgery, 09 general surgery, 10 maxillofacial surgery, 11 paediatric surgery, 12 plastic surgery, 13 thoracic surgery, 14 vascular surgery, 30 neurosurgery, 34 ophthalmology, 35 dentistry and stomatology, 36 orthopedics, 38 otolaryngology, 43 urology, 76 paediatric neurosurgery, 78 paediatric urology</p> <p>We consider admissions provided in public facilities.</p> <p><b>Excluded:</b></p> <ul style="list-style-type: none"> <li>discharges with main interventions in lithotripsy (procedure code ICD9-CM: 98.5, 98.51, 98.52, 98.59)</li> <li>discharges with principal and secondary diagnoses for non performed interventions (V641, V642, V643)</li> <li>discharges with DRG 470 (DRG non-attributable), 124, 125</li> <li>principal procedures 21.31 (with diagnosis 471.0, for all diagnoses), 43.11, 45.43, 51.10, 51.11, 51.85, 51.88, 59.95</li> <li>discharges with DRG type neither medical nor surgical</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: 20%



## Indicator C4.1.1.2: Percentage of medical DRGs discharged from surgical wards: urgent inpatient admissions 4.29

### C4.1.1.2 – Percentage of medical DRGs discharged from surgical wards: urgent inpatient admissions



### C4.1.1.2 Percentage of medical DRGs discharged from surgical wards: urgent inpatient admissions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	37,14	34,80	-6,32	17.245,00	15.866,00	46.428,00	45.597,00
T - Ausl 1 Massa	not assessed	51,68	48,43	-6,30	1.566,00	1.233,00	3.030,00	2.546,00
T - Ausl 2 Lucca	not assessed	31,31	27,87	-11,00	748,00	649,00	2.389,00	2.329,00
T - Ausl 3 Pistoia	not assessed	52,19	49,32	-5,49	2.113,00	1.993,00	4.049,00	4.041,00
T - Ausl 4 Prato	not assessed	37,32	33,23	-10,96	777,00	636,00	2.082,00	1.914,00
T - Ausl 5 Pisa	not assessed	25,39	22,13	-12,84	361,00	333,00	1.422,00	1.505,00
T - Ausl 6 Livorno	not assessed	43,71	39,25	-10,21	1.903,00	1.560,00	4.354,00	3.975,00
T - Ausl 7 Siena	not assessed	40,00	41,79	4,49	836,00	708,00	2.090,00	1.694,00
T - Ausl 8 Arezzo	not assessed	32,49	29,84	-8,16	1.084,00	983,00	3.336,00	3.294,00
T - Ausl 9 Grosseto	not assessed	36,42	33,94	-6,80	972,00	911,00	2.669,00	2.684,00
T - Ausl 10 Firenze	not assessed	21,44	21,43	-0,05	880,00	892,00	4.104,00	4.162,00
T - Ausl 11 Empoli	not assessed	33,61	39,10	16,35	691,00	811,00	2.056,00	2.074,00
T - Ausl 12 Viareggio	not assessed	42,25	40,96	-3,04	913,00	902,00	2.161,00	2.202,00
T - Aou Pisana	not assessed	27,91	25,18	-9,76	653,00	584,00	2.340,00	2.319,00
T - Aou Senese	not assessed	47,14	42,23	-10,42	1.337,00	1.313,00	2.836,00	3.109,00
T - Aou Careggi	not assessed	32,55	30,85	-5,22	2.041,00	1.933,00	6.270,00	6.265,00
T - Aou Meyer	not assessed	38,64	35,23	-8,82	359,00	414,00	929,00	1.175,00
T - Fond. Mon. (Pediatrici)	not assessed	0,00	3,92	(*)	0,00	2,00	0,00	51,00
T - Fond. Mon. (Adulti)	not assessed	0,00	3,49	(*)	0,00	9,00	0,00	258,00

## Indicator C4: Surgical Appropriateness

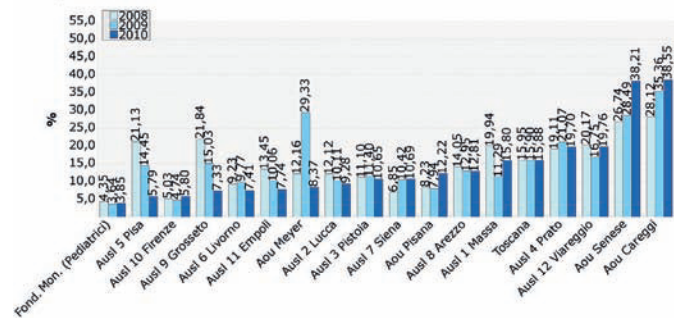
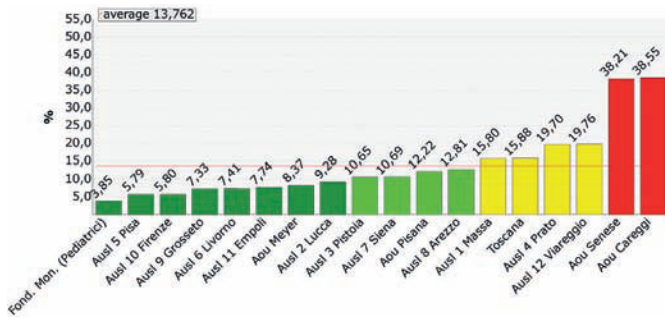
### C4.1.1.2 Percentage of medical DRGs discharged from surgical wards: urgent inpatient admissions

<b>Definition:</b>	Percentage of discharged from surgical wards with Medical DRGs per urgent inpatient admissions
<b>Numerator:</b>	No. of discharged from surgical wards with Medical DRGs per urgent inpatient admissions
<b>Denominator:</b>	No. of discharged from surgical wards per urgent inpatient admissions
<b>Formula:</b>	$\frac{\text{No. of discharged from surgical wards with Medical DRGs per urgent inpatient admissions}}{\text{No. of discharged from surgical wards per urgent inpatient admissions}} \times 100$
<b>Notes:</b>	<p>Selected surgical specialties:            06 paediatric cardiac surgery, 07 cardiac surgery, 09 general surgery, 10 maxillofacial surgery, 11 paediatric surgery, 12 plastic surgery, 13 thoracic surgery, 14 vascular surgery, 30 neurosurgery, 34 ophthalmology, 35 dentistry and stomatology, 36 orthopedics, 38 otolaryngology, 43 urology, 76 paediatric neurosurgery, 78 paediatric urology            We consider admissions provided in public facilities.  <b>Excluded:</b>            – discharged with main interventions in lithotripsy (code ICD9-CM di procedura: 98.5, 98.51, 98.52, 98.59) discharged with principal and secondary diagnoses for non performed interventions (V641, V642, V643)            – discharged with principal or secondary interventions in bioER y for brain injury (ICD9-CM 0113)            – discharged with principal Diagnosis of trauma or poisoning (ICD9-Cm between 950.xx, and 979.xx)            – discharged with DRG 470 (DRG non-attributable), 124, 125            – principal procedures 21.31 (with diagnosis 471.0, for all diagnoses), 43.11, 45.43, 51.10, 51.11, 51.85, 51.88, 59.95            – discharged with DRG type neither medical nor surgical</p>
<b>Source:</b>	Regional Information System – Flow SDO (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional goal: 20%



### 4.30 Indicator C4.1.2: Percentage of medical DRGs discharged from surgical wards: outpatient admissions

#### C4.1.2 – Percentage of medical DRGs discharged from surgical wards: outpatient admissions



#### C4.1.2 Percentage of medical DRGs discharged from surgical wards: outpatient admissions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,82	15,90	15,88	-0,10	8.138,00	6.515,00	51.183,00	41.016,00
T - Aul 1 Massa	2,84	11,29	15,80	39,98	541,00	424,00	4.792,00	2.683,00
T - Aul 2 Lucca	4,14	10,11	9,28	-8,24	215,00	170,00	2.126,00	1.832,00
T - Aul 3 Pistoia	3,87	11,40	10,65	-6,58	253,00	206,00	2.219,00	1.934,00
T - Aul 4 Prato	2,06	21,07	19,70	-6,49	280,00	330,00	1.329,00	1.675,00
T - Aul 5 Pisa	4,84	14,45	5,79	-59,93	241,00	66,00	1.668,00	1.140,00
T - Aul 6 Livorno	4,52	9,77	7,41	-24,22	211,00	171,00	2.159,00	2.309,00
T - Aul 7 Siena	3,86	10,42	10,69	2,63	180,00	161,00	1.728,00	1.506,00
T - Aul 8 Arezzo	3,44	12,95	12,81	-1,11	583,00	451,00	4.501,00	3.521,00
T - Aul 9 Grosseto	4,53	15,03	7,33	-51,22	336,00	181,00	2.235,00	2.468,00
T - Aul 10 Firenze	4,84	4,74	5,80	22,24	146,00	202,00	3.079,00	3.485,00
T - Aul 11 Empoli	4,45	10,06	7,74	-23,07	139,00	118,00	1.382,00	1.525,00
T - Aul 12 Viareggio	2,05	16,75	19,76	17,93	325,00	275,00	1.940,00	1.392,00
T - Aou Pisana	3,56	7,94	12,22	53,92	777,00	791,00	9.787,00	6.473,00
T - Aou Senese	0,00	28,49	38,21	34,12	1.012,00	864,00	3.552,00	2.261,00
T - Aou Careggi	0,00	35,36	38,55	9,04	2.144,00	1.962,00	6.064,00	5.089,00
T - Aou Meyer	4,33	29,33	8,37	-71,47	753,00	142,00	2.567,00	1.697,00
T - Fond. Mon. (Pediatrici)	5,00	0,00	3,85	(*)	0,00	1,00	0,00	26,00

### Indicator C4: Surgical Appropriateness

#### C4.1.2 Percentage of medical DRGs discharged from surgical wards: outpatient admissions

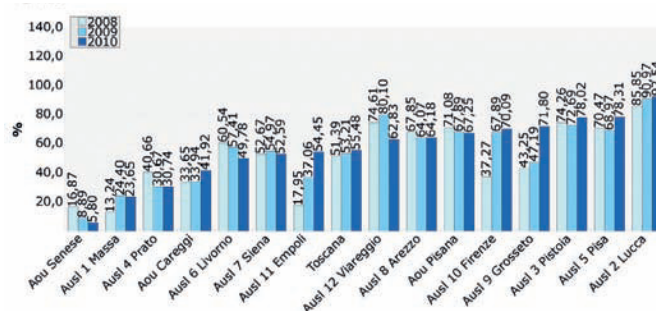
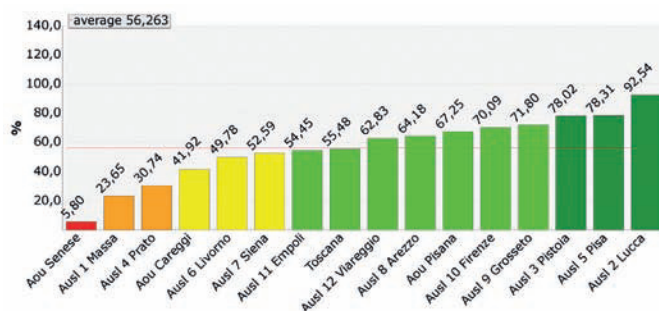
<b>Definition:</b>	Percentage of discharges from surgical wards with Medical DRGs for outpatient admissions
<b>Numerator:</b>	No. of discharges from surgical wards with Medical DRGs for outpatient admissions
<b>Denominator:</b>	No. of discharges from surgical wards for outpatient admissions
<b>Formula:</b>	$\frac{\text{No. of discharges from surgical wards with Medical DRGs for outpatient admissions}}{\text{No. of discharges from surgical wards for outpatient admissions}} \times 100$
<b>Notes:</b>	<p>Selected surgical specialties:            06 paediatric cardiac surgery, 07 cardiac surgery, 09 general surgery, 10 maxillofacial surgery, 11 paediatric surgery, 12 plastic surgery, 13 thoracic surgery, 14 vascular surgery, 30 neurosurgery, 34 ophthalmology, 35 dentistry and stomatology, 36 orthopedics, 38 otolaryngology, 43 urology, 76 paediatric neurosurgery, 78 paediatric urology, 98 Day Surgery.            We consider admissions provided in public facilities.</p> <p>Excluded:</p> <ul style="list-style-type: none"> <li>discharges with main interventions in lithotripsy (procedure code ICD9-CM: 98.5, 98.51, 98.52, 98.59)</li> <li>discharges with principal and secondary diagnoses for non performed interventions (V641, V642, V643)</li> <li>discharges with DRG 470 (DRG non-attributable), 124, 125</li> <li>admissions for One Day Surgery</li> <li>principal procedures 21.31 (with diagnosis 471.0, for all diagnoses), 43.11, 45.43, 51.10, 51.11, 51.85, 51.88, 59.95</li> <li>controls following retinoblastoma interventions:               <ul style="list-style-type: none"> <li>DRG 048 and principal diagnosis 19.05,</li> <li>DRG 411 and principal diagnosis V108.4 with procedure 95.03, 99.26 (for any interventions)</li> </ul> </li> <li>discharges with DRG type neither medical nor surgical</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: 10%



## Indicator C4.4: Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day 4.31

In many European countries and in the United States, a patient who undergoes laparoscopic cholecystectomy is discharged the same day or, at most, the next day. The regional objective is, however, set at 80% because in some cases it is necessary that the patient be under observation for a while longer. Furthermore, the analysis is restricted to planned interventions only, so as to exclude any complications related to emergency hospitalizations.

### C4.4 – Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day



### C4.4 Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,08	53,21	55,48	4,27	2.434,00	2.758,00	4.574,00	4.971,00
T - Ausl 1 Massa	1,31	24,40	23,65	-3,07	51,00	57,00	209,00	241,00
T - Ausl 2 Lucca	5,00	90,97	92,54	1,73	131,00	211,00	144,00	228,00
T - Ausl 3 Pistoia	4,33	72,69	78,02	7,33	197,00	181,00	271,00	232,00
T - Ausl 4 Prato	1,71	30,67	30,74	0,24	73,00	95,00	238,00	309,00
T - Ausl 5 Pisa	4,35	68,97	78,31	13,55	100,00	130,00	145,00	166,00
T - Ausl 6 Livorno	2,77	57,41	49,78	-13,30	248,00	222,00	432,00	446,00
T - Ausl 7 Siena	2,92	54,97	52,59	-4,34	105,00	122,00	191,00	232,00
T - Ausl 8 Arezzo	3,57	64,07	64,18	0,17	271,00	292,00	423,00	455,00
T - Ausl 9 Grosseto	3,99	47,19	71,80	52,16	151,00	247,00	320,00	344,00
T - Ausl 10 Firenze	3,89	67,89	70,09	3,24	315,00	314,00	464,00	448,00
T - Ausl 11 Empoli	3,03	37,06	54,45	46,93	53,00	159,00	143,00	292,00
T - Ausl 12 Viareggio	3,49	80,10	62,83	-21,56	165,00	120,00	206,00	191,00
T - Aou Pisana	3,74	67,89	67,25	-0,94	296,00	269,00	436,00	400,00
T - Aou Senese	0,32	8,89	5,80	-34,79	16,00	12,00	180,00	207,00
T - Aou Careggi	2,33	33,94	41,92	23,52	262,00	327,00	772,00	780,00

## Indicator C4: Surgical Appropriateness

### C4.4 Percentage of laparoscopic cholecystectomies in Day Surgery 0-1 day

<b>Definition:</b>	Percentage of laparoscopic cholecystectomies in Day-Surgery, and inpatient admission 0-1 day
<b>Numerator:</b>	No. of laparoscopic cholecystectomies completed in Day-Surgery, and inpatient admission 0-1 day
<b>Denominator:</b>	No. of laparoscopic cholecystectomies
<b>Formula:</b>	$\frac{\text{No. of laparoscopic cholecystectomies in DS, and inpatient admission 0-1 day}}{\text{No. of laparoscopic cholecystectomies}} \times 100$
<b>Notes:</b>	the analysis is limited to non emergency planned admissions and planned with pre-hospitalization. We consider only public facilities In One Day Surgery we consider the following admissions: – outpatient admissions – inpatient admission 0-1 day (Admitted/Discharged within the same day included) codes DRG Grouper XXIV: DRG 493-494
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional goal: $\geq 80\%$

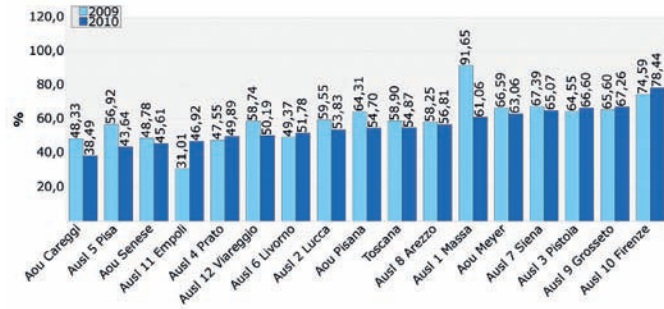
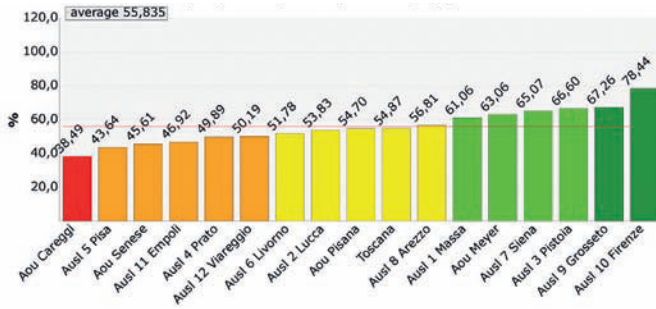




### 4.32 Indicator C4.12: Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010)

The Health Care Agreement 2010-2012 increases the number of DRGs and sets new standards for day surgery in relation to essential levels of care. This indicator replaces the C4.2, used until 2009. The following are the DRGs listed in the Agreement (in brackets is the standard): 8 (75%), 36 (90%), 38 (70%), 40 (70%), 41 (95%), 42 (95%), 51 (50%), 55 (70%), 59 (95%), 60 (80%), 61 (80%), 62 (5%), 158 (90%), 160 (48%), 162 (90%), 163 (70%), 168 (76%), 169 (86%), 227 (80%), 228 (85%), 229 (95%), 232 (90%), 262 (95%), 266 (95%), 267 (95%), 268 (80%), 270 (90%), 311 (64%), 315 (83%), 339 (95%), 340 (91%), 342 (95%), 343 (95%), 345 (60%), 359 (80%), 360 (90%), 362 (95%), 364 (95%), 377 (10%), 381 (95%), 503 (85%), 538 (85%).

**C4.12 – Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010)**



**C4.12 Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010)**

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,48	58,90	54,87	-6,84	22.265,62	20.796,36	378,00	379,00
T - Ausl 1 Massa	3,26	91,65	61,06	-33,37	1.924,59	1.465,54	21,00	24,00
T - Ausl 2 Lucca	2,35	59,55	53,83	-9,61	1.488,72	1.238,05	25,00	23,00
T - Ausl 3 Pistoia	3,95	64,55	66,60	3,18	1.355,50	1.332,02	21,00	20,00
T - Ausl 4 Prato	1,86	47,55	49,89	4,92	1.188,74	1.247,29	25,00	25,00
T - Ausl 5 Pisa	1,08	56,92	43,64	-23,33	1.195,22	829,21	21,00	19,00
T - Ausl 6 Livorno	2,10	49,37	51,78	4,87	1.283,72	1.346,16	26,00	26,00
T - Ausl 7 Siena	3,76	67,39	65,07	-3,45	1.078,19	1.041,09	16,00	16,00
T - Ausl 8 Arezzo	2,73	58,25	56,81	-2,46	1.689,13	1.477,18	29,00	26,00
T - Ausl 9 Grosseto	4,03	65,60	67,26	2,54	1.574,50	1.547,09	24,00	23,00
T - Ausl 10 Firenze	5,00	74,59	78,44	5,16	1.864,67	1.882,58	25,00	24,00
T - Ausl 11 Empoli	1,49	31,01	46,92	51,31	589,13	938,44	19,00	20,00
T - Ausl 12 Viareggio	1,90	58,74	50,19	-14,56	1.233,47	1.104,17	21,00	22,00
T - Aou Pisana	2,46	64,31	54,70	-14,94	2.058,03	1.805,22	32,00	33,00
T - Aou Senese	1,33	48,78	45,61	-6,49	1.414,54	1.413,98	29,00	31,00
T - Aou Careggi	0,44	48,33	38,49	-20,37	1.594,98	1.308,57	33,00	34,00
T - Aou Meyer	3,51	66,59	63,06	-5,30	732,51	819,76	11,00	13,00



## Indicator C4: Surgical Appropriateness

### C4.12 Surgical Essential Levels of Care (LEA) DRG: percentage of achieved standards per percentage of outpatient surgery (Health Care Agreement 2010)

<b>Definition:</b>	Average percentage of standard achievement of Surgical LEA DRG
<b>Numerator:</b>	Sum of standard achievement percentage of Surgical LEA DRG
<b>Denominator:</b>	No. of Surgical LEA DRG provided
<b>Formula:</b>	$\frac{\text{Sum of standard achievement percentage of Surgical LEA DRG}}{\text{No. of Surgical LEA DRG provided}}$
<b>Notes:</b>	<p>DRGs considered are those of the Health Care Agreement 2010, with the exclusion of those to be managed exclusively in outpatient admissions:</p> <ul style="list-style-type: none"> <li>006 – Carpal Tunnel Decompression</li> <li>039 – interventions on the lens with or without vitrectomy</li> <li>119 – Tying and stripping of veins</li> </ul> <p>For each Authority we consider DRGs with at least 30 cases per year</p> <p>We consider planned admissions provided in public facilities for residents of Tuscany.</p> <p>Admissions excluded:</p> <ul style="list-style-type: none"> <li>– Normal New-born (DRG 391)</li> <li>– discharged from rehabilitation wards, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75).</li> </ul> <p>For each DRG the percentage of outpatient discharges is calculated, then the percentage is divided by the standard (if the value is greater than the standard we consider a percentage of 100%), thus obtaining the percentage of standard achievement. Finally the average of standard achievement percentage for each DRG is calculated.</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: 100%



### 4.33 Indicator C5a: Process Quality

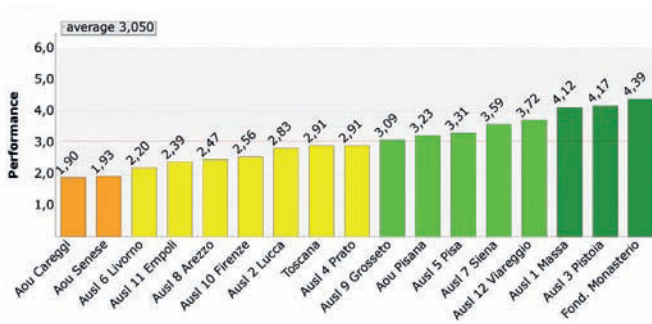
Every healthcare system aims to provide high-quality care. Indicators of Process Quality refer not only to the timeliness of performance, but also to the professional component with regard to the use of instrumental techniques and diagnostic procedures, based on scientific evidence and on best practice sharing with professionals.

Indicator	Performance	Year
C5a – Process Quality	● 2,91	2010

#### C5a Process Quality

- C5.2 – Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010): 55,08% ■
- C5.3 – Percentage of transurethral prostatectomies: 61,73% ■
- C5.7 – Percentage of mitral valve repair (Teaching Hospitals): 64,20% ■
- C5.8 – Percentage of non-invasive mechanical ventilation: 33,84% ■
- C5.10 – Percentage of planned laparoscopic colon resections: 32,03%
- C5.11 – Percentage of urgent laparoscopic appendectomies for women between 15 and 49 years: 82,11% ■
- C5.12 – Percentage of femur fractures operated per fractures diagnosed: 90,08%

#### C5a – Process Quality



### Indicator C5a: Process Quality

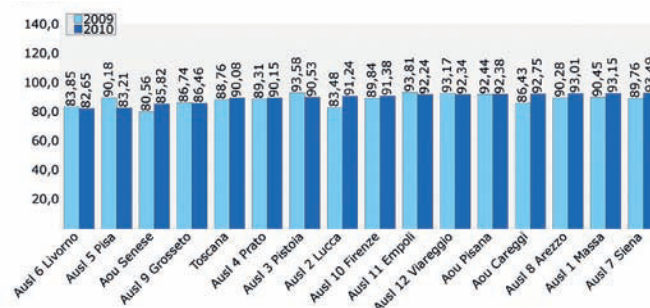
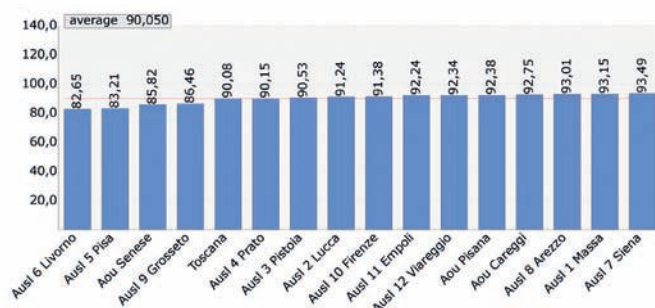
<b>Notes:</b>	This indicator has a value equal to the weighted average score of the indicators listed below:					
	WEIGHT INDICATOR	C5.2	C5.3	C5.7	C5.8	C5.11
		% of femur fractures	% transurethral prostatectomy	% of mitral valve repair	% non-invasive mechanical ventilation	% of urgent laparoscopic appendectomies
	AUSL	55%	15%		15%	15%
	AOU	50%	13%	13%	12%	12%
	Fond Monasterio			50%	50%	



## Indicator C5.12: Percentage of femur fractures operated per fractures diagnosed 4.34

Timing of operation is important for patients with femur fracture, but it is primary and more important that they are first of all subject to surgical intervention. This new indicator precisely monitors the number of patients with femur fracture that actually undergo surgery, leaving the evaluation of timing of intervention to the next marker, C5.2.

### C5.12 – Percentage of femur fractures operated per fractures diagnosed



### C5.12 Percentage of femur fractures operated per fractures diagnosed

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	88,76	90,08	1,49	6.437,00	6.786,00	7.252,00	7.533,00
T - Asl 1 Massa	not assessed	90,45	93,15	2,99	322,00	381,00	356,00	409,00
T - Asl 2 Lucca	not assessed	83,48	91,24	9,30	374,00	396,00	448,00	434,00
T - Asl 3 Pistoia	not assessed	93,58	90,53	-3,26	510,00	516,00	545,00	570,00
T - Asl 4 Prato	not assessed	89,31	90,15	0,94	401,00	412,00	449,00	457,00
T - Asl 5 Pisa	not assessed	90,18	83,21	-7,73	257,00	223,00	285,00	268,00
T - Asl 6 Livorno	not assessed	83,85	82,65	-1,44	644,00	643,00	768,00	778,00
T - Asl 7 Siena	not assessed	89,76	93,49	4,15	263,00	244,00	293,00	261,00
T - Asl 8 Arezzo	not assessed	90,28	93,01	3,02	604,00	639,00	669,00	687,00
T - Asl 9 Grosseto	not assessed	86,74	86,46	-0,32	399,00	447,00	460,00	517,00
T - Asl 10 Firenze	not assessed	89,84	91,38	1,71	858,00	933,00	955,00	1.021,00
T - Asl 11 Empoli	not assessed	93,81	92,24	-1,68	379,00	404,00	404,00	438,00
T - Asl 12 Viareggio	not assessed	93,17	92,34	-0,90	232,00	241,00	249,00	261,00
T - Aou Pisana	not assessed	92,44	92,38	-0,07	367,00	400,00	397,00	433,00
T - Aou Senese	not assessed	80,56	85,82	6,53	203,00	242,00	252,00	282,00
T - Aou Careggi	not assessed	86,43	92,75	7,31	624,00	665,00	722,00	717,00

## Indicator C5a: Process Quality

### C5.12 Percentage of femur fractures operated per fractures diagnosed

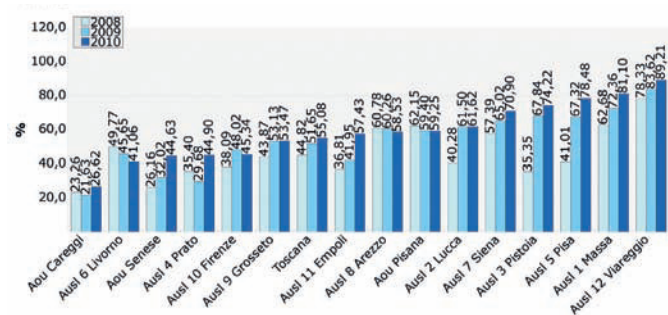
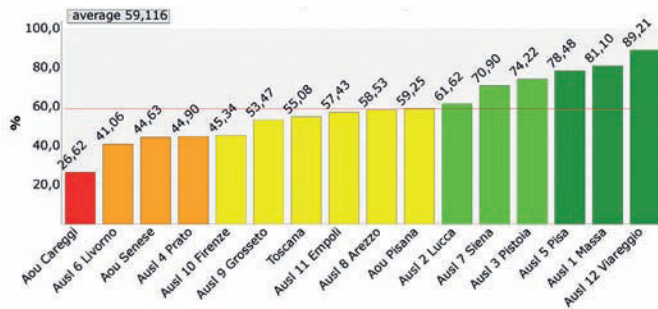
<b>Definition:</b>	Percentage of femur fractures operated per fractures diagnosed
<b>Numerator:</b>	Number of interventions for femur fracture
<b>Denominator:</b>	Number of diagnoses of femur fracture
<b>Formula:</b>	$\frac{\text{Number of interventions for femur fracture}}{\text{Number of diagnoses of femur fracture}} \times 100$
<b>Notes:</b>	We consider inpatient admission discharges with a principal diagnosis of femoral neck fracture (code 820.XX). NUM: principal or secondary intervention codes for femur fracture: 79.15 Closed reduction of femur fracture with internal fixation 79.35 Open reduction of femur fracture with internal fixation 81.51 Total hip replacement 81.52 Partial hip replacement 78.55 Internal fixation without reduction of fracture of the femur
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



### 4.35 Indicator C5.2: Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010)

In case of femur fracture it is important to be promptly operated in order to ensure a rapid and complete recovery. The Tuscany Regional Government ordained in the RDP 2005-2007 that such service shall be guaranteed within two days from admission. The regional objective is set at 80%. In some cases the patient needs to be stabilised before the operation.

#### C5.2 – Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010)



#### C5.2 Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,67	51,65	55,08	6,65	3.325,00	3.738,00	6.437,00	6.786,00
T - Ausl 1 Massa	4,41	72,36	81,10	12,08	233,00	309,00	322,00	381,00
T - Ausl 2 Lucca	3,11	61,50	61,62	0,19	230,00	244,00	374,00	396,00
T - Ausl 3 Pistoia	3,95	67,84	74,22	9,41	346,00	383,00	510,00	516,00
T - Ausl 4 Prato	1,99	29,68	44,90	51,29	119,00	185,00	401,00	412,00
T - Ausl 5 Pisa	4,23	67,32	78,48	16,57	173,00	175,00	257,00	223,00
T - Ausl 6 Livorno	1,74	45,65	41,06	-10,06	294,00	264,00	644,00	643,00
T - Ausl 7 Siena	3,73	65,02	70,90	9,05	171,00	173,00	263,00	244,00
T - Ausl 8 Arezzo	2,90	60,26	58,53	-2,87	364,00	374,00	604,00	639,00
T - Ausl 9 Grosseto	2,56	53,13	53,47	0,64	212,00	239,00	399,00	447,00
T - Ausl 10 Firenze	2,02	48,02	45,34	-5,59	412,00	423,00	858,00	933,00
T - Ausl 11 Empoli	2,83	41,95	57,43	36,89	159,00	232,00	379,00	404,00
T - Ausl 12 Viareggio	4,95	83,62	89,21	6,69	194,00	215,00	232,00	241,00
T - Aou Pisana	2,95	59,40	59,25	-0,25	218,00	237,00	367,00	400,00
T - Aou Senese	1,98	32,02	44,63	39,38	65,00	108,00	203,00	242,00
T - Aou Careggi	0,77	21,63	26,62	23,05	135,00	177,00	624,00	665,00

### Indicator C5a: Process Quality

#### C5.2 Percentage of femur fractures operated within 2 days from admission (Health Care Agreement 2010)

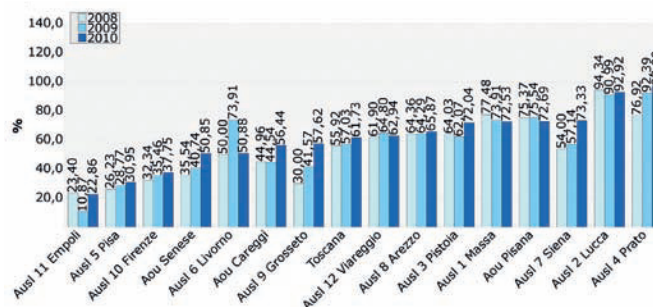
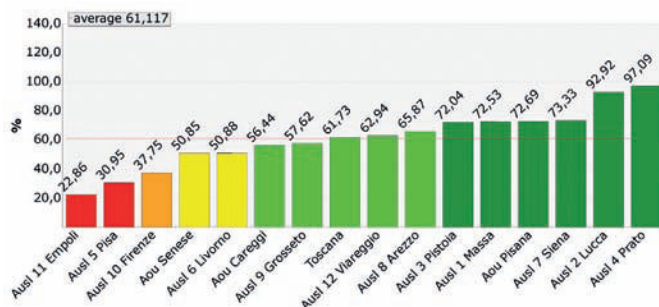
<b>Definition:</b>	Percentage of interventions for femur fracture with length of stay between admission and intervention ≤ 2 days
<b>Numerator:</b>	Number of interventions for femur fracture with length of stay between admission and intervention ≤ 2 days
<b>Denominator:</b>	Number of interventions per femur fracture
<b>Formula:</b>	$\frac{\text{No. of interventions for femur fracture with length of stay between admission and intervention} \leq 2 \text{ days}}{\text{No. of interventions per femur fracture}} \times 100$
<b>Notes:</b>	We consider inpatient admissions provided in public facilities codes ICD9-CM in principal diagnosis: Femoral neck fracture 820.xx AND intervention codes ICD9-CM for primary or secondary intervention: 79.15 Closed reduction of femur fracture with internal fixation 79.35 Open reduction of femur fracture with internal fixation 81.51 Total hip replacement 81.52 Partial hip replacement 78.55 Internal fixation without reduction of fracture of the femur
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional goal: ≥ 80%



## Indicator C5.3: Percentage of transurethral prostatectomies 4.36

The indicator assesses the type of prostatectomy technique used in the intervention as a measure of professional quality. The transurethral procedure is a minimally invasive technique that allows the patient to have a rapid postoperative recovery and a shorter hospital stay, which also translates into lower use of resources.

### C5.3 – Percentage of transurethral prostatectomies



### C5.3 Percentage of transurethral prostatectomies

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,53	57,03	61,73	8,25	1.453,00	1.510,00	2.548,00	2.446,00
T - Ausl 1 Massa	4,63	73,91	72,53	-1,87	68,00	66,00	92,00	91,00
T - Ausl 2 Lucca	5,00	90,99	92,92	2,13	212,00	197,00	233,00	212,00
T - Ausl 3 Pistoia	4,67	62,07	72,04	16,07	72,00	67,00	116,00	93,00
T - Ausl 4 Prato	5,00	92,39	97,09	5,08	85,00	100,00	92,00	103,00
T - Ausl 5 Pisa	0,00	28,77	30,95	7,59	21,00	26,00	73,00	84,00
T - Ausl 6 Livorno	2,44	73,91	50,88	-31,16	17,00	29,00	23,00	57,00
T - Ausl 7 Siena	4,57	57,14	73,33	28,34	32,00	33,00	56,00	45,00
T - Ausl 8 Arezzo	3,19	64,29	65,87	2,45	144,00	137,00	224,00	208,00
T - Ausl 9 Grosseto	3,88	41,57	57,62	38,60	74,00	87,00	178,00	151,00
T - Ausl 10 Firenze	1,53	35,46	37,75	6,45	100,00	114,00	282,00	302,00
T - Ausl 11 Empoli	0,00	10,87	22,86	110,28	5,00	8,00	46,00	35,00
T - Ausl 12 Viareggio	3,43	64,80	62,94	-2,87	116,00	107,00	179,00	170,00
T - Aou Pisana	4,62	75,54	72,69	-3,77	210,00	181,00	278,00	249,00
T - Aou Senese	2,44	40,74	50,85	24,81	44,00	60,00	108,00	118,00
T - Aou Careggi	3,97	44,54	56,44	26,72	253,00	298,00	568,00	528,00

## Indicator C5a: Process Quality

### C5.3 Percentage of transurethral prostatectomies

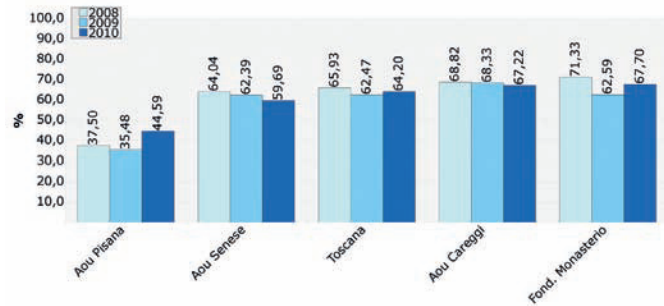
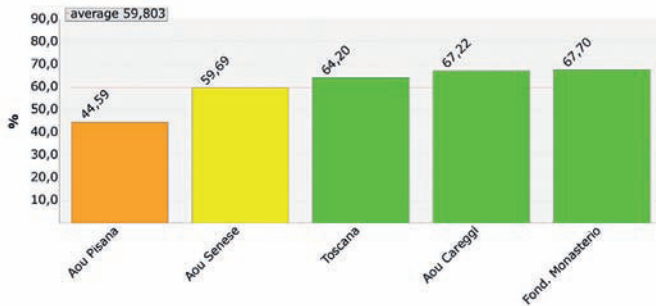
<b>Definition:</b>	Percentage of interventions of transurethral prostatectomy
<b>Numerator:</b>	Number of interventions of transurethral prostatectomy
<b>Denominator:</b>	Number of interventions of prostatectomy
<b>Formula:</b>	$\frac{\text{No. of interventions of transurethral prostatectomy}}{\text{No. of interventions of prostatectomy}} \times 100$
<b>Notes:</b>	We consider only public facilities. Excluding cases of prostate cancer in principal diagnosis (I85). codes: NUM: code ICD9-CM of principal intervention 60.21, 60.29 DEN: code ICD9-CM of principal intervention 60.21, 60.29, 60.3, 60.4, 60.5, 60.61, 60.62, 60.69
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional average, 2010



### 4.37 Indicator C5.7: Percentage of mitral valve repair (Teaching Hospitals)

The ability to repair the mitral valve ensures the integrity of the vascular apparatus, with positive effects on the quality of life for the patient. The indicator refers to Teaching Hospitals, because such work is carried out only in third level hospitals.

#### C5.7 – Percentage of mitral valve repair (Teaching Hospitals)



#### C5.7 Percentage of mitral valve repair (Teaching Hospitals)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,42	62,47	64,20	2,77	461,00	529,00	738,00	824,00
T - Aou Pisana	1,46	0,00	44,59	(*)	0,00	33,00	0,00	74,00
T - Aou Senese	2,97	0,00	59,69	(*)	0,00	77,00	0,00	129,00
T - Aou Careggi	3,72	0,00	67,22	(*)	0,00	201,00	0,00	299,00
T - Fond. Monasterio	3,77	0,00	67,70	(*)	0,00	218,00	0,00	322,00

### Indicator C5a: Process Quality

#### C5.7 Percentage of mitral valve repair (Teaching Hospitals)

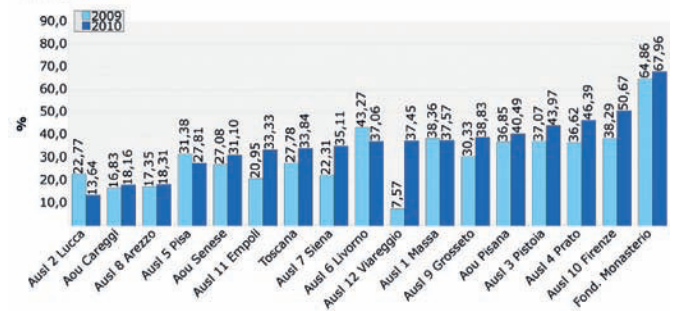
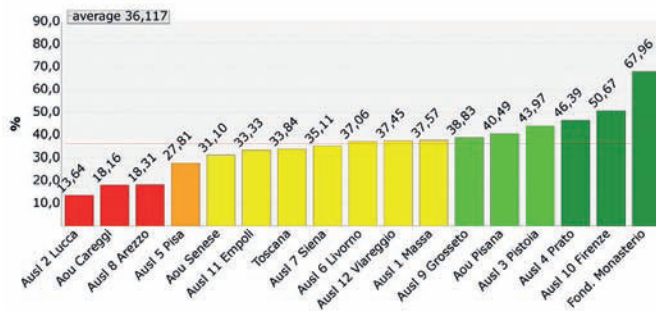
<b>Definition:</b>	Percentage of prevalence of mitral valve repair interventions
<b>Numerator:</b>	Number of discharges with mitral valve repair intervention
<b>Denominator:</b>	Number of discharges with mitral valve intervention
<b>Formula:</b>	$\frac{\text{Number of discharges with mitral valve repair intervention}}{\text{Number of discharges with mitral valve intervention}} \times 100$
<b>Notes:</b>	We consider inpatient admissions provided in public facilities. NUM: intervention codes 35.02, 35.12 DEN: intervention codes 35.02, 35.12, 35.23, 35.24 <i>code ICD9-CM of principal intervention or one of the secondary:</i> 35.02 Closed heart valvotomy, mitral valve 35.12 Open heart valvuloplasty of mitral valve without replacement 35.23 Mitral valve replacement with bioprosthesis 35.24 Other replacement of mitral valve with prosthesis
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Average of Teaching Hospitals, 2008



## Indicator C5.8: Percentage of non-invasive mechanical ventilation 4.38

In recent years, non-invasive mechanical ventilation is increasingly used to treat acute and chronic respiratory insufficiency. The use of long-term non-invasive mechanical ventilation may provide an improvement in respiratory functionality and quality of life, as well as a decrease in acute episodes that require hospital treatment. Starting from this year, the calculation of the indicator is limited to certain medical conditions (chronic obstructive pulmonary disease, pulmonary insufficiency following trauma or surgery and acute respiratory insufficiency) in the presence of which it is preferable to use the non-invasive ventilation. This also allows the analysis of the phenomenon among different Authorities as the case study is more homogeneous.

### C5.8 – Percentage of non-invasive mechanical ventilation



### C5.8 Percentage of non-invasive mechanical ventilation

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,41	27,78	33,84	21,80	1.493,00	1.968,00	5.374,00	5.816,00
T - Ausl 1 Massa	2,94	38,36	37,57	-2,05	173,00	198,00	451,00	527,00
T - Ausl 2 Lucca	0,00	22,77	13,64	-40,12	69,00	39,00	303,00	286,00
T - Ausl 3 Pistoia	3,85	37,07	43,97	18,62	162,00	208,00	437,00	473,00
T - Ausl 4 Prato	4,20	36,62	46,39	26,69	26,00	45,00	71,00	97,00
T - Ausl 5 Pisa	1,54	31,38	27,81	-11,36	91,00	84,00	290,00	302,00
T - Ausl 6 Livorno	2,87	43,27	37,06	-14,34	151,00	169,00	349,00	456,00
T - Ausl 7 Siena	2,59	22,31	35,11	57,41	29,00	46,00	130,00	131,00
T - Ausl 8 Arezzo	0,19	17,35	18,31	5,51	80,00	78,00	461,00	426,00
T - Ausl 9 Grosseto	3,12	30,33	38,83	28,01	101,00	139,00	333,00	358,00
T - Ausl 10 Firenze	4,81	38,29	50,67	32,33	139,00	226,00	363,00	446,00
T - Ausl 11 Empoli	2,33	20,95	33,33	59,14	31,00	51,00	148,00	153,00
T - Ausl 12 Viareggio	2,92	7,57	37,45	394,77	38,00	197,00	502,00	526,00
T - Aou Pisana	3,36	36,85	40,49	9,87	206,00	215,00	559,00	531,00
T - Aou Senese	2,01	27,08	31,10	14,82	39,00	51,00	144,00	164,00
T - Aou Careggi	0,17	16,83	18,16	7,88	134,00	152,00	796,00	837,00
T - Fond. Monasterio	5,00	0,00	67,96	(*)	0,00	70,00	0,00	103,00



**Indicator C5a: Process Quality****C5.8** Percentage of non-invasive mechanical ventilation

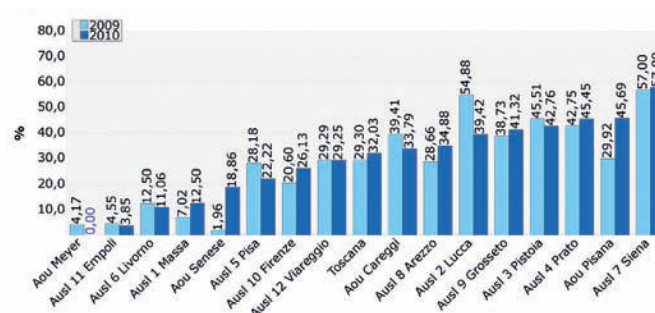
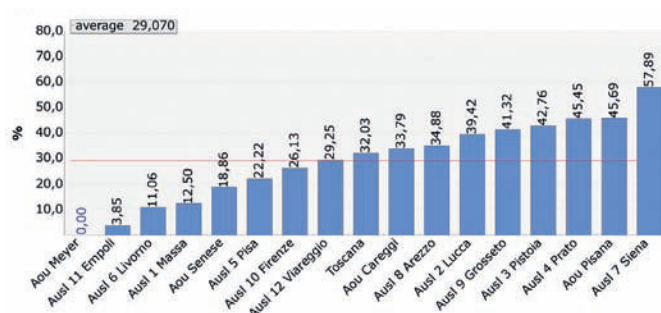
<b>Definition:</b>	Percentage of patients with non-invasive mechanical ventilation
<b>Numerator:</b>	Number of patients with non-invasive mechanical ventilation
<b>Denominator:</b>	Number of patients with mechanical ventilation
<b>Formula:</b>	$\frac{\text{No. of patients with non-invasive mechanical ventilation}}{\text{No. of patients with mechanical ventilation}} \times 100$
<b>Notes:</b>	<p>We consider inpatient admissions provided in public facilities.          We exclude discharges with principal or secondary diagnosis of hypersomnia with sleep apnea (780.53)          We select patients with the following diagnoses and interventions:  <i>principal or secondary diagnoses:</i></p> <ul style="list-style-type: none"> <li>– from 490.xx to 496.xx COPD and associated manifestations</li> <li>– 518.5x insufficient lung capacity following a trauma or surgery</li> <li>– 518.81, and 518.82 acute respiratory insufficiency</li> </ul> <p><i>with principal or secondary interventions:</i></p> <ul style="list-style-type: none"> <li>93.90 Continuous positive airway pressure (CPAP)</li> <li>93.91 Intermittent positive airways pressure</li> <li>96.7* Other continuous mechanical ventilation</li> <li>96.04 Insertion of endotracheal tube</li> <li>31.1 Temporary tracheostomy</li> </ul> <p>NIV: <i>principal or secondary interventions:</i> 93.90 Continuous positive airway pressure (CPAP),          93.91 Intermittent positive airways pressure</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average, 2010



## Indicator C5.10: Percentage of planned laparoscopic colon resections 4.39

The indicator highlights the use of innovative technology such as laparoscopy. The minimally invasive treatment delivers benefits to the patient such as less pain, better recovery of bowel function and, ultimately, a shorter post-operative hospital stay.

### C5.10 – Percentage of planned laparoscopic colon resections



### C5.10 Percentage of planned laparoscopic colon resections

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	29,30	32,03	9,32	828,00	942,00	2.826,00	2.941,00
T - Ausl 1 Massa	not assessed	7,02	12,50	78,12	8,00	18,00	114,00	144,00
T - Ausl 2 Lucca	not assessed	54,88	39,42	-28,16	45,00	41,00	82,00	104,00
T - Ausl 3 Pistoia	not assessed	45,51	42,76	-6,04	71,00	65,00	156,00	152,00
T - Ausl 4 Prato	not assessed	42,75	45,45	6,33	56,00	50,00	131,00	110,00
T - Ausl 5 Pisa	not assessed	28,18	22,22	-21,15	31,00	28,00	110,00	126,00
T - Ausl 6 Livorno	not assessed	12,50	11,06	-11,56	25,00	22,00	200,00	199,00
T - Ausl 7 Siena	not assessed	57,00	57,89	1,57	57,00	66,00	100,00	114,00
T - Ausl 8 Arezzo	not assessed	28,66	34,88	21,72	47,00	75,00	164,00	215,00
T - Ausl 9 Grosseto	not assessed	38,73	41,32	6,69	79,00	69,00	204,00	167,00
T - Ausl 10 Firenze	not assessed	20,60	26,13	26,83	41,00	52,00	199,00	199,00
T - Ausl 11 Empoli	not assessed	4,55	3,85	-15,38	5,00	4,00	110,00	104,00
T - Ausl 12 Viareggio	not assessed	29,29	29,25	-0,16	29,00	31,00	99,00	106,00
T - Aou Pisana	not assessed	29,92	45,69	52,70	117,00	191,00	391,00	418,00
T - Aou Senese	not assessed	1,96	18,86	861,71	4,00	33,00	204,00	175,00
T - Aou Careggi	not assessed	39,41	33,79	-14,25	212,00	197,00	538,00	583,00
T - Aou Meyer	not assessed	4,17	0,00	-100,00	1,00	0,00	24,00	25,00

## Indicator C5a: Process Quality

### C5.10 Percentage of planned laparoscopic colon resections

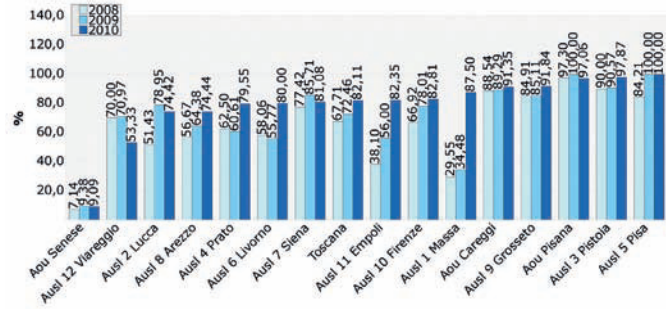
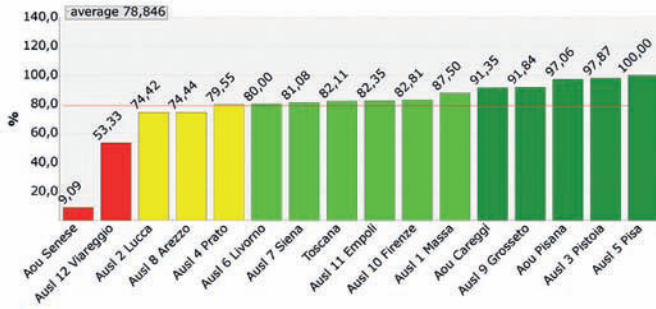
<b>Definition:</b>	Percentage of planned laparoscopic colon resections
<b>Numerator:</b>	Number of planned laparoscopic colon resections
<b>Denominator:</b>	Number of planned colon interventions
<b>Formula:</b>	$\frac{\text{No. of planned laparoscopic colon resections}}{\text{No. of planned colon interventions}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities, planned non-emergency and planned with pre-hospitalization. codes DRG: 146,147,149,569,570 codes ICD9-CM of principal or secondary colon intervention: 45.7*, 48.6* codes ICD9-CM of principal or secondary laparoscopy intervention: 54.21 The colon intervention is considered laparoscopic when both interventions have the same date. In the numerator are not calculated cases with principal or secondary diagnosis of conversion of close surgery in open surgery: V64.4*.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## 4.40 Indicator C5.11: Percentage of urgent laparoscopic appendectomies for women between 15 and 49 years

In female patients with suspected acute appendicitis, laparoscopy offers significant advantages in terms of diagnostic reliability compared with conventional diagnostics. Furthermore, intervention of laparoscopic appendectomy is as safe as open surgery.

### C5.11 – Percentage of urgent laparoscopic appendectomies for women between 15 and 49 years



### C5.11 Percentage of urgent laparoscopic appendectomies for women between 15 and 49 years

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,21	72,46	82,11	13,31	571,00	624,00	788,00	760,00
T - Aui 1 Massa	3,75	34,48	87,50	153,77	20,00	28,00	58,00	32,00
T - Aui 2 Lucca	2,44	78,95	74,42	-5,74	30,00	32,00	38,00	43,00
T - Aui 3 Pistoia	4,79	90,57	97,87	8,06	48,00	46,00	53,00	47,00
T - Aui 4 Prato	2,95	60,61	79,55	31,24	20,00	35,00	33,00	44,00
T - Aui 5 Pisa	5,00	100,00	100,00	0,00	27,00	43,00	27,00	43,00
T - Aui 6 Livorno	3,00	55,77	80,00	43,45	29,00	32,00	52,00	40,00
T - Aui 7 Siena	3,11	85,71	81,08	-5,40	30,00	30,00	35,00	37,00
T - Aui 8 Arezzo	2,44	64,38	74,44	15,63	47,00	67,00	73,00	90,00
T - Aui 9 Grosseto	4,18	85,11	91,84	7,90	40,00	45,00	47,00	49,00
T - Aui 10 Firenze	3,28	78,01	82,81	6,16	110,00	106,00	141,00	128,00
T - Aui 11 Empoli	3,24	56,00	82,35	47,06	14,00	14,00	25,00	17,00
T - Aui 12 Viareggio	0,33	70,97	53,33	-24,85	22,00	16,00	31,00	30,00
T - Aou Pisana	4,71	100,00	97,06	-2,94	31,00	33,00	31,00	34,00
T - Aou Senese	0,00	9,38	9,09	-3,08	3,00	2,00	32,00	22,00
T - Aou Careggi	4,13	89,29	91,35	2,30	100,00	95,00	112,00	104,00

## Indicator C5a: Process Quality

### C5.11 Percentage urgent laparoscopic appendectomies for women between 15 and 49 years

<b>Definition:</b>	Percentage urgent laparoscopic appendectomies for women between 15 and 49 years
<b>Numerator:</b>	Number of urgent laparoscopic appendectomies for women between 15 and 49 years
<b>Denominator:</b>	Number of urgent appendectomies for women between 15 and 49 years
<b>Formula:</b>	$\frac{\text{No. of urgent laparoscopic appendectomies}}{\text{No. of urgent appendectomies}} \times 100$
<b>Notes:</b>	We consider emergency admissions, provided in public facilities. We consider both principal and secondary interventions. Surgical procedures considered: – Numerator: 47.01 (Laparoscopic appendectomy) – Denominator: 47.01, 47.09 (Other appendectomy)
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average, 2010



## Indicator C5b: Outcome Quality 4.41

Studies conducted nationally and internationally developed a set of tools called “result indicators” which monitor essential aspects of quality: effectiveness, access and safety.

The effectiveness of healthcare refers to the results obtained in patients with different diseases and subject to various diagnostic and therapeutic processes in both the hospitals and the local authorities. For example, among the first cases analysed, are mortality rates of patients hospitalised with a diagnosis of acute myocardial infarction and pneumonia, and for procedures such as abdominal aortic aneurysm repair, and pancreatic resection. The effectiveness of local services, on the other hand, is measured by the frequency of hospitalizations for diseases preventable or treatable in a non-hospital environment, such as asthma and congestive cardiac insufficiency.

Access to services is measured by the hospitalization rates for certain procedures such as angioplasty or hysterectomy.

With regard to safety, for example, the frequency with which some adverse events, such as postoperative respiratory insufficiency or iatrogenic pneumothorax, occur in various hospitals and in different populations, is analysed.

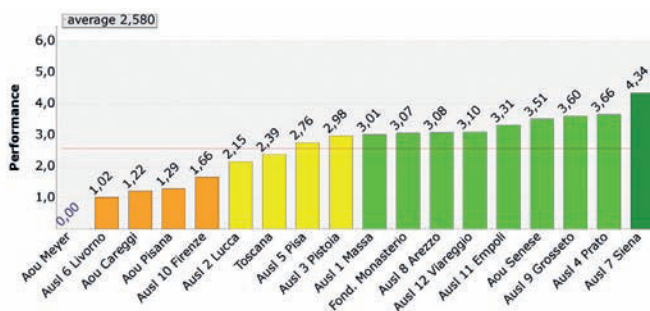
Local hospital accessibility is represented by the indicator C11a and safety is identified by the indicator C6 relating to clinical risks. The following data refer to effectiveness. In particular, the selected indicator refers to repeated hospitalizations, that is, hospitalizations following the first occurrence during a time interval less than or equal to 30 days and with the same Major Diagnostic Categories (MDC).

Indicator	Performance	Year
C5b – Outcome Quality	● 2,39	2010

### C5b Outcome Quality

- C5.1 – Percentage of readmissions within 30 days with the same MDC: 5,19% ■
  - C5.1.1 – Percentage of medical readmissions within 30 days with the same MDC: 4,95%
  - C5.1.2 – Percentage of surgical readmissions within 30 days with the same MDC: 1,27%

### C5b – Outcome Quality



## Indicator C5b: Outcome Quality

### Notes

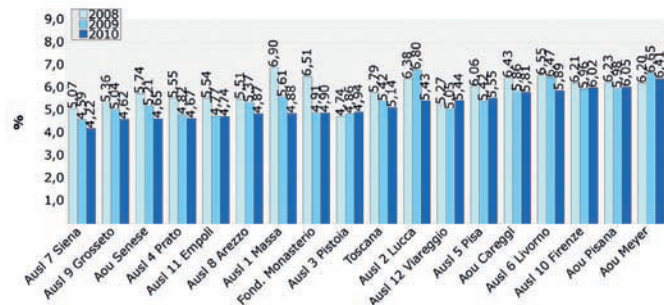
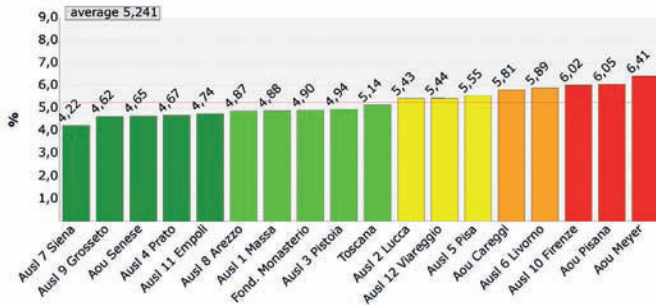
This indicator has a value equal to the score of the following indicator: C5.1 – Percentage of readmissions within 30 days with the same MDC



## 4.42 Indicator C5.1: Percentage of readmissions within 30 days with the same MDC

If a patient has been appropriately treated at a hospital, it is unlikely that he/she returns to the hospital within the first month of discharge. The indicator measures how often a patient is readmitted to a hospital in the Tuscan Health System within 30 days of first admission for a problem similar to the first cause of hospitalization. Repeated hospitalization is attributed to the first Authority that took care of the patient.

### C5.1 – Percentage of readmissions within 30 days with the same MDC



### C5.1 Percentage of readmissions within 30 days with the same MDC

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,14	5,42	5,14	-5,01	22.720,00	21.827,00	419.483,00	424.265,00
T - Ausl 1 Massa	3,79	5,61	4,88	-12,98	1.225,00	1.116,00	21.832,00	22.857,00
T - Ausl 2 Lucca	2,42	6,80	5,43	-20,17	1.301,00	1.069,00	19.124,00	19.685,00
T - Ausl 3 Pistoia	3,65	4,86	4,94	1,56	1.218,00	1.239,00	25.046,00	25.086,00
T - Ausl 4 Prato	4,32	4,82	4,67	-3,00	993,00	924,00	20.616,00	19.777,00
T - Ausl 5 Pisa	2,11	5,42	5,55	2,39	697,00	731,00	12.848,00	13.160,00
T - Ausl 6 Livorno	1,28	6,47	5,89	-9,00	2.010,00	1.740,00	31.060,00	29.546,00
T - Ausl 7 Siena	5,00	4,59	4,22	-8,04	599,00	556,00	13.044,00	13.166,00
T - Ausl 8 Arezzo	3,83	5,37	4,87	-9,30	1.656,00	1.477,00	30.844,00	30.332,00
T - Ausl 9 Grosseto	4,45	5,04	4,62	-8,32	963,00	880,00	19.109,00	19.047,00
T - Ausl 10 Firenze	0,96	5,96	6,02	0,92	2.258,00	2.287,00	37.883,00	38.019,00
T - Ausl 11 Empoli	4,15	4,77	4,74	-0,62	842,00	896,00	17.656,00	18.906,00
T - Ausl 12 Viareggio	2,41	5,05	5,44	7,73	775,00	855,00	15.359,00	15.728,00
T - Aou Pisana	0,88	0,00	6,05	(*)	0,00	2.658,00	0,00	43.951,00
T - Aou Senese	4,38	0,00	4,65	(*)	0,00	1.197,00	0,00	25.763,00
T - Aou Careggi	1,46	0,00	5,81	(*)	0,00	2.891,00	0,00	49.720,00
T - Aou Meyer	0,00	0,00	6,41	(*)	0,00	498,00	0,00	7.766,00
T - Fond. Monasterio	3,75	0,00	4,90	(*)	0,00	188,00	0,00	3.838,00

## Indicator C5b: Outcome Quality

### C5.1 Percentage of readmissions within 30 days with the same MDC

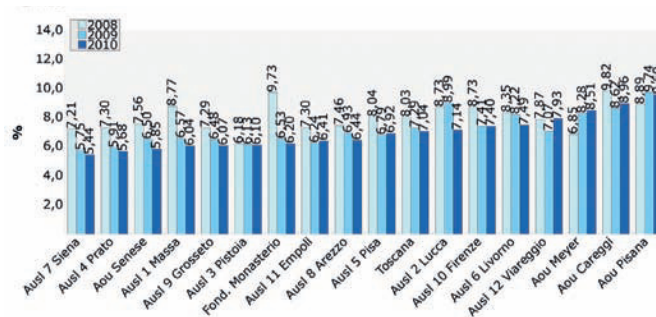
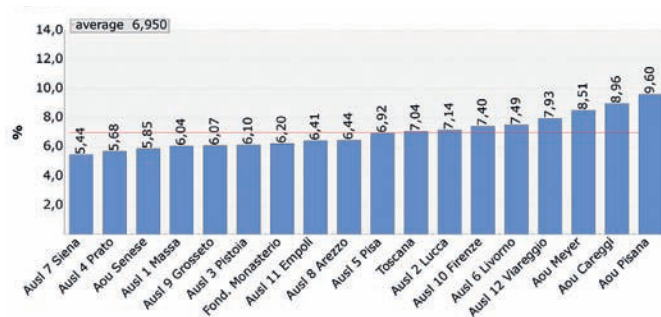
<b>Definition:</b>	Percentage of readmissions within 30 days with the same MDC in any regional public facility
<b>Numerator:</b>	No. of readmissions of discharged patients from 1 January to 30 November within 30 days with the same MDC in any regional facility (original event within the period 1 Jan-30 Nov, following events within the period 1 Jan-31 Dec)
<b>Denominator:</b>	No. of admissions from 1 January to 30 November
<b>Formula:</b>	$\frac{\text{No. of readmissions within 30 days with the same MDC}}{\text{No. of admissions}} \times 100$
<b>Notes:</b>	<p>We consider admissions provided within the Region for residents of the Region, with proper identification, inpatient admission, within the first 11 months of the year. We consider a re-admission an admission that compared to the previous one has: same Tax code, same MDC, time period between the previous discharge and the following admission <math>\leq</math> 30 days.</p> <p>Admission with discharges: AMA; referred to another care institute, public or private, for acute patients; inpatient transfer; transfer to a public or private rehabilitation centre do not generate readmissions.</p> <p>Readmissions are attributed to the Authority providing the previous admission. For example, if a third re-admission occurs also within 30 days from the first one, this will be attributed to the Authority that provided the second admission.</p> <p>At the numerator we consider admissions provided by any public or private facility.</p> <p>We excluded the following admissions:</p> <ul style="list-style-type: none"> <li>with anonymous Tax code</li> <li>with admission ward: Psychiatry (code 40)</li> <li>with discharge ward: spine division, rehabilitation, long-term patients and neurorehabilitation (codes 28,56,60,75)</li> <li>with admission ward: spine division, rehabilitation, long-term patients and neurorehabilitation (codes 28,56,60,75) - discharges from radiotherapy and chemotherapy (DRG 409,410,492).</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average, 2010



### C5.1.1: Percentage of medical readmissions within 30 days with the same MDC 4.43

The indicator measures how often a patient is readmitted to a hospital in the Tuscan Health System within 30 days of first admission for a problem similar to the first cause of hospitalization, considering only medical admissions.

#### C5.1.1 – Percentage of medical readmissions within 30 days with the same MDC



#### C5.1.1 Percentage of medical readmissions within 30 days with the same MDC

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	7,29	7,04	-3,35	18.032,00	17.170,00	247.443,00	243.782,00
T - Ausl 1 Massa	not assessed	6,57	6,04	-8,10	1.056,00	923,00	16.080,00	15.294,00
T - Ausl 2 Lucca	not assessed	8,99	7,14	-20,64	1.102,00	885,00	12.252,00	12.399,00
T - Ausl 3 Pistoia	not assessed	6,13	6,10	-0,43	1.077,00	1.086,00	17.583,00	17.806,00
T - Ausl 4 Prato	not assessed	5,91	5,68	-3,85	847,00	759,00	14.330,00	13.356,00
T - Ausl 5 Pisa	not assessed	6,79	6,92	1,93	585,00	571,00	8.621,00	8.255,00
T - Ausl 6 Livorno	not assessed	8,22	7,49	-8,87	1.714,00	1.472,00	20.849,00	19.648,00
T - Ausl 7 Siena	not assessed	5,75	5,44	-5,34	516,00	476,00	8.972,00	8.743,00
T - Ausl 8 Arezzo	not assessed	6,93	6,44	-7,05	1.327,00	1.203,00	19.151,00	18.678,00
T - Ausl 9 Grosseto	not assessed	6,48	6,07	-6,38	796,00	732,00	12.286,00	12.068,00
T - Ausl 10 Firenze	not assessed	7,41	7,40	-0,13	1.966,00	1.985,00	26.537,00	26.828,00
T - Ausl 11 Empoli	not assessed	6,24	6,41	2,79	710,00	759,00	11.378,00	11.833,00
T - Ausl 12 Viareggio	not assessed	7,07	7,93	12,11	631,00	728,00	8.922,00	9.182,00
T - Aou Pisana	not assessed	0,00	9,60	(*)	0,00	1.889,00	0,00	19.682,00
T - Aou Senese	not assessed	0,00	5,85	(*)	0,00	832,00	0,00	14.232,00
T - Aou Careggi	not assessed	0,00	8,96	(*)	0,00	2.114,00	0,00	23.583,00
T - Aou Meyer	not assessed	0,00	8,51	(*)	0,00	352,00	0,00	4.135,00
T - Fond. Monasterio	not assessed	0,00	6,20	(*)	0,00	101,00	0,00	1.628,00

## Indicator C5b: Outcome Quality

### C5.1.1 Percentage of medical readmissions within 30 days with the same MDC

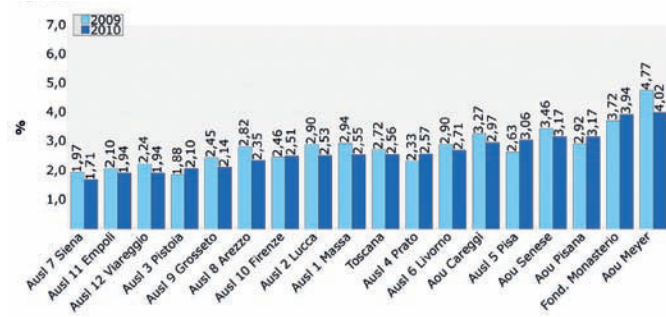
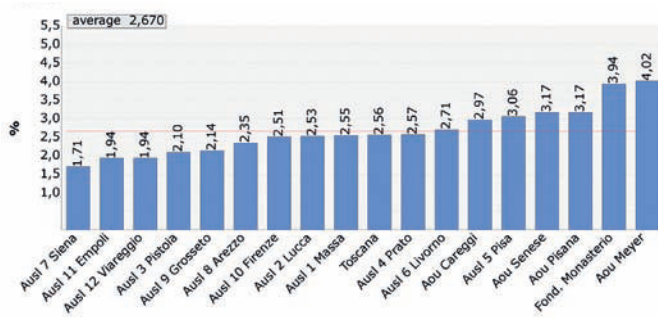
<b>Definition:</b>	Percentage of medical readmissions within 30 days with the same MDC in any regional public facility
<b>Numerator:</b>	No. of medical readmissions of discharged patients from 1 January to 30 November within 30 days with the same MDC in any regional facility (original event within the period 1 Jan-30 Nov, following events within the period 1 Jan-31 Dec)
<b>Denominator:</b>	No. of medical admissions from 1 January to 30 November
<b>Formula:</b>	$\frac{\text{No. of medical readmissions within 30 days with the same MDC}}{\text{No. of medical admissions}} \times 100$
<b>Notes:</b>	<p>We consider admissions provided within the Region for residents of the Region, with proper identification, inpatient admission, within the first 11 months of the year.</p> <p>We consider a readmission an admission that compared to the previous one has: same Tax code, same MDC, time period between the previous discharge and the following admission <math>\leq 30</math> days.</p> <p>Admission with discharges: AMA; referred to another care institute, public or private, for acute patients; inpatient transfer; transfer to a public or private rehabilitation centre do not generate re-admissions.</p> <p>Readmissions are attributed to the Authority providing the previous admission. For example, if a third re-admission occurs also within 30 days from the first one, this will be attributed to the Authority that provided the second admission.</p> <p>At the numerator we consider admissions provided by any public or private facility.</p> <p>We excluded the following admissions:</p> <ul style="list-style-type: none"> <li>- with anonymous Tax code</li> <li>- with admission ward: Psychiatry (code 40)</li> <li>- with discharge ward: spine division, rehabilitation, long-term patients and neurorehabilitation (codes 28,56,60,75)</li> <li>- with admission ward: spine division, rehabilitation, long-term patients and neurorehabilitation (codes 28,56,60,75)</li> <li>- discharges from radiotherapy and chemotherapy (DRG 409,410,492).</li> </ul> <p>Non-medical admissions are excluded at the denominator.</p>
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## 4.44 Indicator C5.1.2: Percentage of surgical readmissions within 30 days with the same MDC

The indicator measures how often a patient is readmitted to a hospital in the Tuscan Health System within 30 days of first admission for a problem similar to the first cause of hospitalization, considering only surgical admissions.

### C5.1.2 – Percentage of surgical readmissions within 30 days with the same MDC



### C5.1.2 Percentage of surgical readmissions within 30 days with the same MDC

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	2,72	2,56	-5,67	4.666,00	4.620,00	171.781,00	180.319,00
T - Ausl 1 Massa	not assessed	2,94	2,55	-13,28	169,00	193,00	5.743,00	7.563,00
T - Ausl 2 Lucca	not assessed	2,90	2,53	-12,78	199,00	184,00	6.872,00	7.285,00
T - Ausl 3 Pistoia	not assessed	1,88	2,10	11,69	140,00	153,00	7.440,00	7.280,00
T - Ausl 4 Prato	not assessed	2,33	2,57	10,44	145,00	165,00	6.222,00	6.411,00
T - Ausl 5 Pisa	not assessed	2,63	3,06	16,46	111,00	150,00	4.227,00	4.905,00
T - Ausl 6 Livorno	not assessed	2,90	2,71	-6,60	296,00	268,00	10.210,00	9.897,00
T - Ausl 7 Siena	not assessed	1,97	1,71	-13,22	79,00	75,00	4.002,00	4.378,00
T - Ausl 8 Arezzo	not assessed	2,82	2,35	-16,45	329,00	274,00	11.685,00	11.648,00
T - Ausl 9 Grosseto	not assessed	2,45	2,14	-12,90	167,00	148,00	6.806,00	6.925,00
T - Ausl 10 Firenze	not assessed	2,46	2,51	-1,91	279,00	280,00	11.328,00	11.156,00
T - Ausl 11 Empoli	not assessed	2,10	1,94	-7,62	131,00	137,00	6.242,00	7.066,00
T - Ausl 12 Viareggio	not assessed	2,24	1,94	-13,34	144,00	127,00	6.427,00	6.541,00
T - Aou Pisana	not assessed	0,00	3,17	(*)	0,00	769,00	0,00	24.269,00
T - Aou Senese	not assessed	0,00	3,17	(*)	0,00	365,00	0,00	11.531,00
T - Aou Careggi	not assessed	0,00	2,97	(*)	0,00	777,00	0,00	26.137,00
T - Aou Meyer	not assessed	0,00	4,02	(*)	0,00	146,00	0,00	3.631,00
T - Fond. Monasterio	not assessed	0,00	3,94	(*)	0,00	87,00	0,00	2.210,00

## Indicator C5b: Result Quality

### C5.1.2 Percentage of surgical readmissions within 30 days

<b>Definition:</b>	Percentage of surgical re-admissions within 30 days with the same MDC in any regional public facility
<b>Numerator:</b>	No. of re admissions of discharged patients from 1 January to 30 November within 30 days with the same MDC in any regional facility (original event within the period 1 Jan-30 Nov, following events within the period 1 Jan-31 Dec)
<b>Denominator:</b>	No. of surgical readmissions of discharged patients from 1 January to 30 November within 30 days with the same MDC in any regional facility (original event within the period 1 Jan-30 Nov, following events within the period 1 Jan-31 Dec)
<b>Formula:</b>	$\frac{\text{No. of surgical readmissions within 30 days with the same MDC}}{\text{No. of surgical admissions}} \times 100$
<b>Notes:</b>	<p>We consider admissions provided within the Region for residents of the Region, with proper identification, inpatient admission, within the first 11 months of the year.</p> <p>We consider a readmission an admission that compared to the previous one has: same Tax code, same MDC, time period between the previous discharge and the following admission <math>\leq 30</math> days.</p> <p>Admission with discharges: AMA; referred to another care institute, public or private, for acute patients; inpatient transfer; transfer to a public or private rehabilitation centre do not generate readmissions.</p> <p>Readmissions are attributed to the Authority providing the previous admission. For example, if a third readmission occurs also within 30 days from the first one, this will be attributed to the Authority that provided the second admission.</p> <p>At the numerator we consider admissions provided by any public or private facility.</p> <p>We excluded the following admissions:</p> <ul style="list-style-type: none"> <li>– with anonymous Tax code</li> <li>– with admission ward: Psychiatry (code 40)</li> <li>– with discharge ward: spine division, rehabilitation, long-term patients and neurorehabilitation (codes 28,56,60,75)</li> <li>– with admission ward: spine division, rehabilitation, long-term patients and neurorehabilitation (codes 28,56,60,75)</li> <li>– discharges from radiotherapy and chemotherapy (DRG 409,410,492).</li> </ul> <p>Non-surgical admissions are excluded at the denominator.</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## Indicator C6: Clinical Risk and Patient Safety 4.45

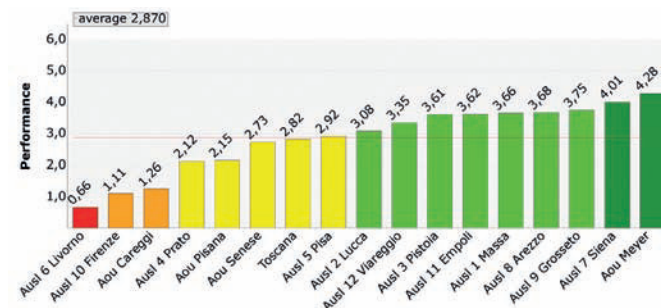
The increasing attention to the problem of adverse events in medicine and their socio-economic consequences has led, in Tuscany, to the adoption of initiatives to improve patient safety, which resulted in the establishment of the Regional Centre for the Management of Clinical Risk and Patient Safety (GRC) and the Permanent Observatory on Medico-legal Litigation (DGR n. 1387 of 27.12.2004). The Regional Centre for the Management of Clinical Risk and Patient Safety aims at preventing serious or more evident adverse events and revealing “close call” accidents and unsafe actions that normally occur in practice. While the Permanent Observatory on Medico-legal Litigation provides useful information on litigation to assess the damage reported by the patient. The mission of the Regional Centre GRC is to promote a culture of communication and risk management, involving all the professionals of the health system in patient safety initiatives.

Indicator	Performance	Year
C6 – Clinical Risk and Patient Safety	● 2,82	2010

### C6 Clinical Risk and Patient Safety

- C6.1 – Index of Claims: 7,31 PER 10,000 ■
  - C6.1.1 – Index of Claims – events in hospitals: 5,12 per 10,000
  - C6.1.2 – Index of Claims – events in local facilities: 0,05 per 10,000
  - C6.1.3 – Index of administrative efficiency: 69,80%
- C6.2 – Incident Reporting system development: ■
  - C6.2.1 – Index of audit diffusion: 2,49 N. Audit ■
  - C6.2.2 – Index of Mortality and Morbidity report diffusion: 4,13 N. M&M ■
- C6.4 – Patient Safety:
  - C6.4.1 – Postoperative sepsis in elective surgery: 2,95 per 1,000
  - C6.4.2 – Intrahospital mortality of patients discharged with low mortality DRGs: 0,59 per 1,000
  - C6.4.3 – Vein thrombosis or pulmonary embolism following surgery: 2,28 per 1,000
- C6.5 – Level of best practices diffusion: 1,68 Relation ■
- C6.6 – Patient fall control capability: 10,78 Relation ■

### C6 – Clinical Risk and Patient Safety



### Indicator C6: Clinical Risk

#### Notes

The indicator has a value equal to the average score of the following indicators: C6.1, C6.2, C6.5 and C6.6.  
The indicator C6.2 has a value equal to the average score of the following indicators: C6.2.1 and C6.2.2.

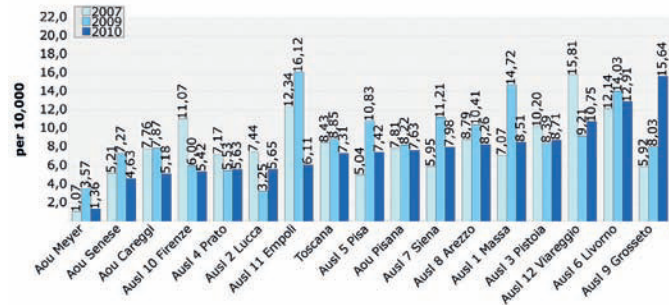
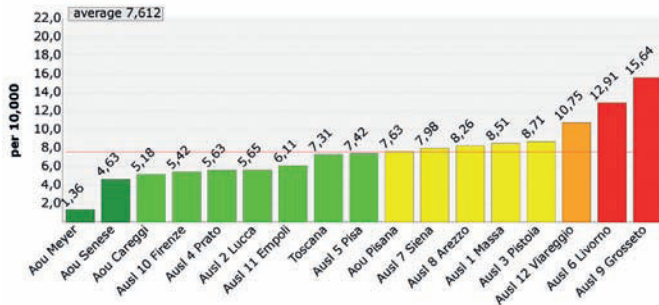




## 4.46 Indicator C6.1: Index of Claims

The indicator “Index of Claims”, which expresses the ratio of reported claims for injuries and deaths to the number of hospitalizations is a proxy of the accident rate in the health facilities of Tuscany. To better represent the accident rate, in 2010, two new indicators were included in the evaluation system: one aimed at identifying accidents at hospitals (C6.1.1 Index of claims – Events in hospitals), and the other aimed at identifying complaints for injuries or deaths occurring in the local facilities (C6.1.2 Index of claims – Events local facilities). In the first case, the denominator refers to hospitalizations, while in the latter case it refers to the resident population. Finally, the sub-indicator C6.1.3 “Compensation Management Capacity”, which is the ratio between the number of claims that have undergone an internal evaluation by the Authority and the total number of claims, has been added. This indicator expresses a proxy for the ability of the Authority to manage compensation.

### C6.1 – Index of Claims



### C6.1 Index of Claims

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,08	8,85	7,31	-17,40	534,00	474,00	603.378,00	648.083,00
T - Ausl 1 Massa	2,61	14,72	8,51	-42,19	51,00	28,00	34.636,00	32.914,00
T - Ausl 2 Lucca	3,75	3,25	5,65	73,85	9,00	18,00	27.651,00	31.853,00
T - Ausl 3 Pistoia	2,53	8,39	8,71	3,81	29,00	31,00	34.564,00	35.605,00
T - Ausl 4 Prato	3,76	5,53	5,63	1,81	17,00	20,00	30.767,00	35.516,00
T - Ausl 5 Pisa	3,04	10,83	7,42	-31,49	21,00	16,00	19.385,00	21.555,00
T - Ausl 6 Livorno	0,84	14,03	12,91	-7,98	60,00	54,00	42.759,00	41.817,00
T - Ausl 7 Siena	2,82	11,21	7,98	-28,81	21,00	17,00	18.725,00	21.290,00
T - Ausl 8 Arezzo	2,71	10,41	8,26	-20,65	46,00	41,00	44.182,00	49.633,00
T - Ausl 9 Grosseto	0,00	8,03	15,64	94,77	22,00	41,00	27.394,00	26.219,00
T - Ausl 10 Firenze	3,84	6,00	5,42	-9,67	33,00	42,00	54.984,00	77.479,00
T - Ausl 11 Empoli	3,57	16,12	6,11	-62,10	39,00	17,00	24.196,00	27.815,00
T - Ausl 12 Viareggio	1,71	9,21	10,75	16,72	22,00	31,00	23.893,00	28.835,00
T - Aou Pisana	2,96	8,22	7,63	-7,18	66,00	58,00	80.334,00	76.051,00
T - Aou Senese	4,16	7,27	4,63	-36,31	30,00	17,00	41.267,00	36.706,00
T - Aou Careggi	3,94	7,87	5,18	-34,18	60,00	39,00	76.210,00	75.296,00
T - Aou Meyer	5,00	3,57	1,36	-61,90	8,00	4,00	22.431,00	29.499,00

## Indicator C6: Clinical Risk and Patient Safety

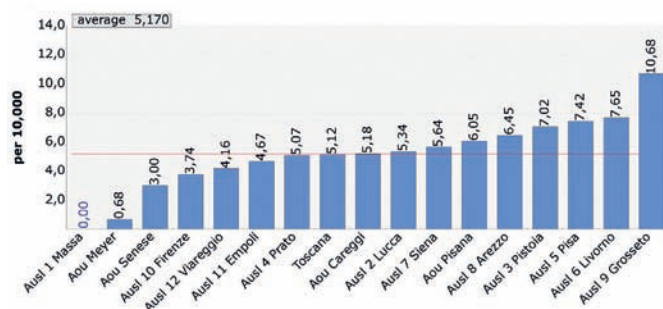
### C6.1 Index of Claims

<b>Definition:</b>	No. of complaints for injuries or deaths per 10,000 admissions provided in public hospitals
<b>Numerator:</b>	No. of complaints for injuries or deaths per year
<b>Denominator:</b>	No. of admissions within the same year
<b>Formula:</b>	$\frac{\text{No. of complaints for injuries or deaths per year}}{\text{No. of admissions within the same year}} \times 100$
<b>Notes:</b>	We consider only claims RCT/RCO (Third party civil liability/Employers civil liability) involving injuries or deaths with presumed responsibility of the Authority or the Authority's personnel. We consider only claims relative to events that occurred and were reported within the year under study
<b>Source:</b>	Regional Information System for the management of claims (SRGS) – Clinical Risk management Centre – Tuscany Region ( <i>Sistema informatizzato regionale per la gestione dei sinistri (SRGS) – Centro Gestione Rischio Clinico – Regione Toscana</i> )
<b>Reference:</b>	Regional average



## Indicator C6.1.1: Index of Claims – events in hospitals 4.47

### C6.1.1 – Index of Claims – events in hospitals



#### C6.1.1 Index of Claims – events in hospitals

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	5,12 x 10.000	not assessed	332,00	430.531,00	2010
T - Ausl 1 Massa	0,00 x 10.000	not assessed	0,00	32.914,00	2010
T - Ausl 2 Lucca	5,34 x 10.000	not assessed	17,00	31.853,00	2010
T - Ausl 3 Pistoia	7,02 x 10.000	not assessed	25,00	35.605,00	2010
T - Ausl 4 Prato	5,07 x 10.000	not assessed	18,00	35.516,00	2010
T - Ausl 5 Pisa	7,42 x 10.000	not assessed	16,00	21.555,00	2010
T - Ausl 6 Livorno	7,65 x 10.000	not assessed	32,00	41.817,00	2010
T - Ausl 7 Siena	5,64 x 10.000	not assessed	12,00	21.290,00	2010
T - Ausl 8 Arezzo	6,45 x 10.000	not assessed	32,00	49.633,00	2010
T - Ausl 9 Grosseto	10,68 x 10.000	not assessed	28,00	26.219,00	2010
T - Ausl 10 Firenze	3,74 x 10.000	not assessed	29,00	77.479,00	2010
T - Ausl 11 Empoli	4,67 x 10.000	not assessed	13,00	27.815,00	2010
T - Ausl 12 Viareggio	4,16 x 10.000	not assessed	12,00	28.835,00	2010
T - Aou Pisana	6,05 x 10.000	not assessed	46,00	76.051,00	2010
T - Aou Senese	3,00 x 10.000	not assessed	11,00	36.706,00	2010
T - Aou Careggi	5,18 x 10.000	not assessed	39,00	75.296,00	2010
T - Aou Meyer	0,68 x 10.000	not assessed	2,00	29.499,00	2010

## Indicator C6: Clinical Risk and Patient Safety

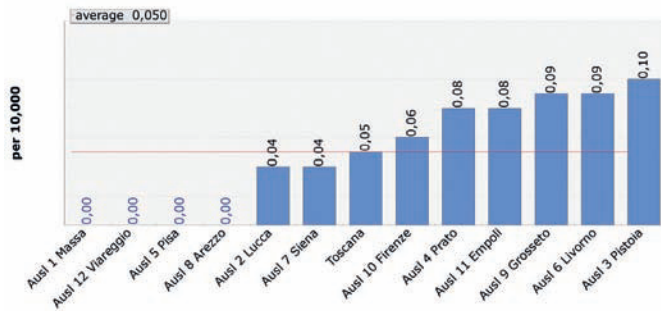
### C6.1.1 Index of Claims – events in hospitals

<b>Definition:</b>	No. of complaints for injuries or deaths that occurred in hospital per 10,000 admissions provided in public facilities
<b>Numerator:</b>	No. of complaints for injuries or deaths that occurred in hospital
<b>Denominator:</b>	No. of admissions within the same year
<b>Formula:</b>	$\frac{\text{No. of complaints for injuries or deaths that occurred in hospital}}{\text{No. of admissions within the same year}} \times 10,000$
<b>Notes:</b>	We consider only claims RCT/RCO (Third party civil liability/Employers civil liability) involving injuries or deaths with presumed responsibility of the Authority or the Authority's personnel. We consider only claims relative to events that occurred and were reported within the year under study.
<b>Source:</b>	Regional Information System for the management of claims (SRGS) – Clinical Risk management Centre – Tuscany Region ( <i>Sistema informatizzato regionale per la gestione dei sinistri (SRGS) – Centro Gestione Rischio Clinico – Regione Toscana</i> )
<b>Reference:</b>	Regional average



## 4.48 Indicator C6.1.2: Index of Claims – events in local facilities

### C6.1.2 – Index of Claims – events in local facilities



### C6.1.2 Index of Claims – events in local facilities

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	0,05 x 10,000	not assessed	19,00	3.730.130,00	2010
T - Ausl 1 Massa	0,00 x 10,000	not assessed	0,00	203.642,00	2010
T - Ausl 2 Lucca	0,04 x 10,000	not assessed	1,00	223.359,00	2010
T - Ausl 3 Pistoia	0,10 x 10,000	not assessed	3,00	292.108,00	2010
T - Ausl 4 Prato	0,08 x 10,000	not assessed	2,00	248.174,00	2010
T - Ausl 5 Pisa	0,00 x 10,000	not assessed	0,00	337.566,00	2010
T - Ausl 6 Livorno	0,09 x 10,000	not assessed	3,00	351.863,00	2010
T - Ausl 7 Siena	0,04 x 10,000	not assessed	1,00	271.365,00	2010
T - Ausl 8 Arezzo	0,00 x 10,000	not assessed	0,00	348.127,00	2010
T - Ausl 9 Grosseto	0,09 x 10,000	not assessed	2,00	227.063,00	2010
T - Ausl 10 Firenze	0,06 x 10,000	not assessed	5,00	818.882,00	2010
T - Ausl 11 Empoli	0,08 x 10,000	not assessed	2,00	239.158,00	2010
T - Ausl 12 Viareggio	0,00 x 10,000	not assessed	0,00	168.823,00	2010

## Indicator C6: Clinical Risk and Patient Safety

### C6.1.2 Index of Claims – events in local facilities

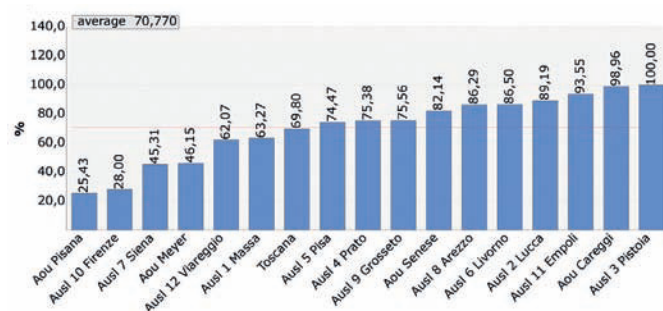
<b>Definition:</b>	No. of complaints for injuries or deaths that occurred in local facilities per 10,000 residents
<b>Numerator:</b>	No. complaints for injuries or deaths that occurred in local facilities per 10,000 residents
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{No. complaints for injuries or deaths that occurred in local facilities per 10,000 residents}}{\text{Resident population}} \times 10,000$
<b>Notes:</b>	We consider only claims RCT/RCO (Third party civil liability/Employers civil liability) involving injuries or deaths with presumed responsibility of the Authority or the Authority's personnel. We consider only claims relative to events that occurred and were reported within the year under study.
<b>Source:</b>	Regional Information System for the management of claims (SRGS) – Clinical Risk management Centre – Tuscany Region ( <i>Sistema informatizzato regionale per la gestione dei sinistri (SRGS) – Centro Gestione Rischio Clinico – Regione Toscana</i> )
<b>Reference:</b>	Regional average



## Indicator C6.1.3: Index of administrative efficiency 4.49

The data refer to evaluated accidents archived until 2 March 2011.

### C6.1.3 – Index of administrative efficiency



### C6.1.3 Index of administrative efficiency

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	69,80 %	not assessed	1.091,00	1.563,00	2010
T - Ausl 1 Massa	63,27 %	not assessed	62,00	98,00	2010
T - Ausl 2 Lucca	89,19 %	not assessed	66,00	74,00	2010
T - Ausl 3 Pistoia	100,00 %	not assessed	77,00	77,00	2010
T - Ausl 4 Prato	75,38 %	not assessed	49,00	65,00	2010
T - Ausl 5 Pisa	74,47 %	not assessed	35,00	47,00	2010
T - Ausl 6 Livorno	86,50 %	not assessed	141,00	163,00	2010
T - Ausl 7 Siena	45,31 %	not assessed	29,00	64,00	2010
T - Ausl 8 Arezzo	86,29 %	not assessed	107,00	124,00	2010
T - Ausl 9 Grosseto	75,56 %	not assessed	68,00	90,00	2010
T - Ausl 10 Firenze	28,00 %	not assessed	42,00	150,00	2010
T - Ausl 11 Empoli	93,55 %	not assessed	58,00	62,00	2010
T - Ausl 12 Viareggio	62,07 %	not assessed	54,00	87,00	2010
T - Aou Pisana	25,43 %	not assessed	44,00	173,00	2010
T - Aou Senese	82,14 %	not assessed	69,00	84,00	2010
T - Aou Careggi	98,96 %	not assessed	190,00	192,00	2010
T - Aou Meyer	46,15 %	not assessed	6,00	13,00	2010

## Indicator C6: Clinical Risk and Patient Safety

### C6.1.3 Index of administrative efficiency

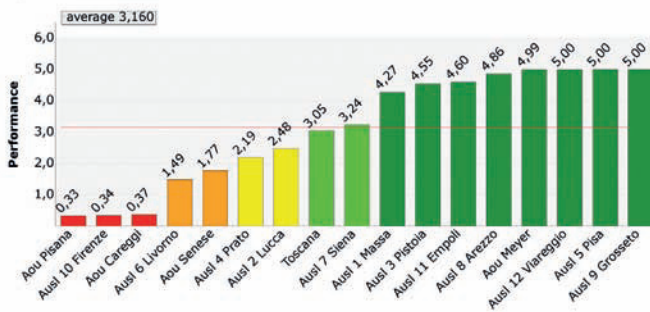
<b>Definition:</b>	Percentage of accidents with internal evaluation for claims
<b>Numerator:</b>	No. of accidents with internal evaluation
<b>Denominator:</b>	No. of claims
<b>Formula:</b>	$\frac{\text{No. of accidents with internal evaluation}}{\text{No. of claims}} \times 10,000$
<b>Notes:</b>	We consider only claims RCT/RCO (Third party civil liability/Employers civil liability) involving injuries or deaths with presumed responsibility of the Authority or the Authority's personnel.
<b>Source:</b>	Regional Information System for the management of claims (SRGS) – Clinical Risk management Centre – Tuscany Region ( <i>Sistema informatizzato regionale per la gestione dei sinistri (SRGS) – Centro Gestione Rischio Clinico – Regione Toscana</i> )
<b>Reference:</b>	Regional average



## 4.50 Indicator C6.2: Incident Reporting system development

The analysis and evaluation of adverse events or organizational dysfunctions reported by health workers is undertaken by the Clinical Audit and the Reports on Mortality and Morbidity. This is one of the primary tools for clinical risk management in Tuscany and it allows for a constant level of vigilance and supervision of incidents, as well as facilitates communication among healthcare workers. (DGR n. 1387 of 27.12.2004).

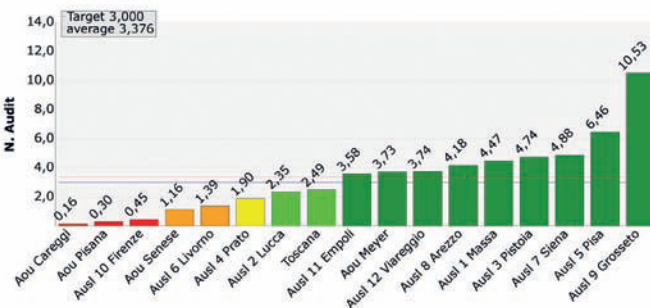
### C6.2 – Incident Reporting system development



## 4.51 Indicator C6.2.1: Index of audit diffusion

The Clinical Audit is a professional verification based on clinical records. It aims at evaluating, on a voluntary basis, significant events, in order to identify organizational challenges and improvement opportunities (DM 5 March 2003). The objective set at the regional level is to implement three clinical audits annually in each single organizational unity of the Local Health Authorities.

### C6.2.1 – Index of audit diffusion



### C6.2.1 Index of audit diffusion

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	2,49 N. Audit	3,33	1.917,00	771,00	2010
T - Aosl 1 Massa	4,47 N. Audit	5,00	161,00	36,00	2010
T - Aosl 2 Lucca	2,35 N. Audit	3,15	80,00	34,00	2010
T - Aosl 3 Pistoia	4,74 N. Audit	5,00	199,00	42,00	2010
T - Aosl 4 Prato	1,90 N. Audit	2,55	59,00	31,00	2010
T - Aosl 5 Pisa	6,46 N. Audit	5,00	168,00	26,00	2010
T - Aosl 6 Livorno	1,39 N. Audit	1,86	79,00	57,00	2010
T - Aosl 7 Siena	4,88 N. Audit	5,00	127,00	26,00	2010
T - Aosl 8 Arezzo	4,18 N. Audit	5,00	184,00	44,00	2010
T - Aosl 9 Grosseto	10,53 N. Audit	5,00	400,00	38,00	2010
T - Aosl 10 Firenze	0,45 N. Audit	0,61	24,00	53,00	2010
T - Aosl 11 Empoli	3,58 N. Audit	4,78	93,00	26,00	2010
T - Aosl 12 Viareggio	3,74 N. Audit	5,00	86,00	23,00	2010
T - Aou Pisana	0,30 N. Audit	0,41	33,00	109,00	2010
T - Aou Senese	1,16 N. Audit	1,56	93,00	80,00	2010
T - Aou Careggi	0,16 N. Audit	0,23	19,00	116,00	2010
T - Aou Meyer	3,73 N. Audit	4,99	112,00	30,00	2010



## Indicator C6: Clinical Risk and Patient Safety

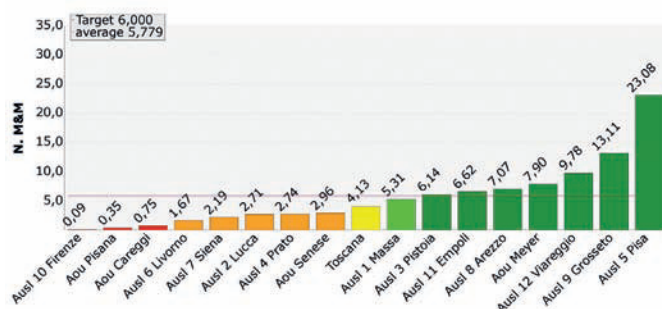
### C6.2.1 Index of audit diffusion

<b>Definition:</b>	Average number of clinical audits performed per simple, departmental, or complex structure
<b>Numerator:</b>	No. of clinical audit GRC performed within the Authority
<b>Denominator:</b>	No. of hospital facilities with organizational autonomy; providing care for patients
<b>Formula:</b>	$\frac{\text{No. of clinical audit GRC performed within the Authority}}{\text{No. of hospital facilities with organizational autonomy; providing care for patients}}$
<b>Notes:</b>	Private facilities are excluded
<b>Source:</b>	Clinical Risk Management Centre – Tuscany Region Annual Report Local Health Authorities ( <i>Centro Gestione Rischio Clinico – Regione Toscana Relazione annuale aziende sanitarie</i> )
<b>Reference:</b>	With reference to Decree No. 6604 of 22 November 2005 Regional goal: 3 per simple, departmental, or complex health structure
<b>Meaning:</b>	This is an indicator of the level of participation of simple, departmental, or complex structures in the analysis of risks through the performance of audits.

### Indicator C6.2.2: Index of Mortality and Morbidity report diffusion 4.52

The Reports on Mortality and Morbidity are meetings conducted at a simple or complex facility level, during which cases whose management was particularly difficult and that had an unexpected outcome of mortality or morbidity are discussed. The objective set at the regional level is to carry out six regional Reports of Mortality and Morbidity per year in each single organizational unity of the Local Health Authorities.

#### C6.2.2 – Index of Mortality and Morbidity report diffusion



#### C6.2.2 Index of Mortality and Morbidity report diffusion

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	4,13 N. M&M	2,77	3.188,00	771,00	2010
T - Ausl 1 Massa	5,31 N. M&M	3,55	191,00	36,00	2010
T - Ausl 2 Lucca	2,71 N. M&M	1,81	92,00	34,00	2010
T - Ausl 3 Pistoia	6,14 N. M&M	4,11	258,00	42,00	2010
T - Ausl 4 Prato	2,74 N. M&M	1,84	85,00	31,00	2010
T - Ausl 5 Pisa	23,08 N. M&M	5,00	600,00	26,00	2010
T - Ausl 6 Livorno	1,67 N. M&M	1,12	95,00	57,00	2010
T - Ausl 7 Siena	2,19 N. M&M	1,47	57,00	26,00	2010
T - Ausl 8 Arezzo	7,07 N. M&M	4,72	311,00	44,00	2010
T - Ausl 9 Grosseto	13,11 N. M&M	5,00	498,00	38,00	2010
T - Ausl 10 Firenze	0,09 N. M&M	0,07	5,00	53,00	2010
T - Ausl 11 Empoli	6,62 N. M&M	4,42	172,00	26,00	2010
T - Ausl 12 Viareggio	9,78 N. M&M	5,00	225,00	23,00	2010
T - Aou Pisana	0,35 N. M&M	0,24	38,00	109,00	2010
T - Aou Senese	2,96 N. M&M	1,98	237,00	80,00	2010
T - Aou Careggi	0,75 N. M&M	0,51	87,00	116,00	2010
T - Aou Meyer	7,90 N. M&M	5,00	237,00	30,00	2010



## Indicator C6: Clinical Risk and Patient Safety

### C6.2.2 Index of Mortality and Morbidity Report Diffusion

<b>Definition:</b>	Average number of Mortality & Morbidity Reviews performed per simple, departmental, or complex structure
<b>Numerator:</b>	No. of M&M reviews performed within the Authority
<b>Denominator:</b>	No. of hospital facilities with organizational autonomy; providing care for patients
<b>Formula:</b>	$\frac{\text{No. of M\&M reviews performed within the Authority}}{\text{No. of hospital facilities with organizational autonomy; providing care for patients}}$
<b>Notes:</b>	Private facilities are excluded
<b>Source:</b>	Clinical Risk Management Centre – Tuscany Region Annual Report Local Health Authorities ( <i>Centro Gestione Rischio Clinico – Regione Toscana</i> <i>Relazione annuale aziende sanitarie</i> )
<b>Reference:</b>	With reference to Decree No. 6604 of 22 November 2005 Regional goal: 6 per simple, departmental, or complex health structure
<b>Meaning:</b>	This is an indicator of the level of participation of simple, departmental, or complex structures in the analysis of risks through the performance of Mortality and Morbidity Reviews..

### 4.53 Indicator C6.4: Patient Safety

Indicators relating to patient safety come from the Patient Safety Indicators (PSIs) set of the Agency for Healthcare Research and Quality (AHRQ). The PSIs are designed to highlight the occurrence of complications during hospitalization through the identification of diagnosis codes and procedures in codes and procedures in clinical records relative to cases, relative to cases with a high probability of developing complications or events related to issues of quality care (Nutti, 2007). The three indicators of Patient Safety adopted by the Tuscan GRC system are: postoperative sepsis for elective surgery, intra-hospital mortality for discharged patients in low mortality DRGs, and postsurgical pulmonary embolism or venous thrombosis. These indicators are not evaluated as they detect low-volume phenomena. Their result is thus greatly influenced by the correct coding of diagnosis codes and procedure codes, and the accuracy with which the medical record is filled in. Moreover, the three indicators help highlight possible adverse events, representing primarily an instrument of risk prevention and promotion of patient safety.

## Indicator C6: Clinical Risk and Patient Safety

### C6.4 Patient safety

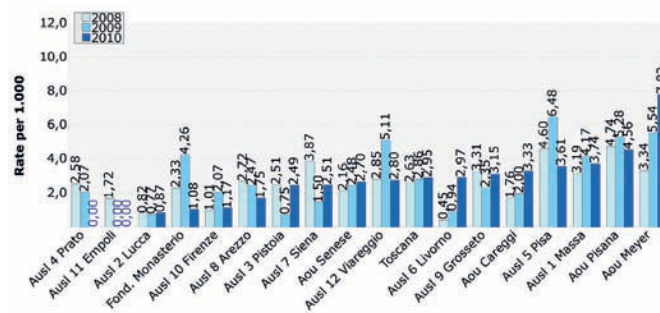
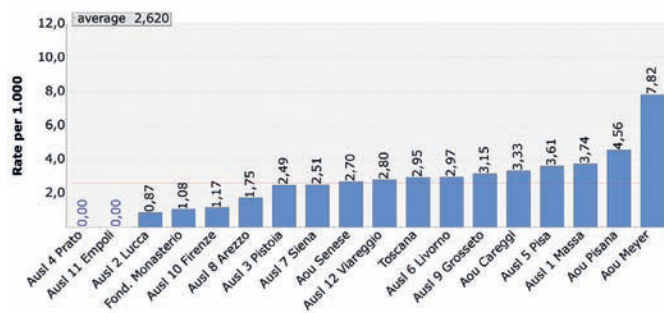
<b>Notes</b>	This indicator has the sub-indicators: C6.4.1 – Postoperative sepsis in elective surgery C6.4.2 – Intra-hospital mortality of patients discharged with low mortality DRGs C6.4.3 – Vein thrombosis or pulmonary embolism following surgery
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## Indicator C6.4.1: Postoperative sepsis in elective surgery 4.54

This indicator reveals the occurrence of a state of sepsis per 1000 patients undergoing elective surgery, with a length of hospital stay of four days or more. Very often cases of sepsis are under-coded, so those Authorities that have higher values are probably more virtuous, as they probably report the phenomenon more often than others. The regional goal is to encourage correct coding and reporting of such cases. The variability of the results of the indicator is very high, given the very small absolute values of the number of discharged with sepsis as a secondary diagnosis.

### C6.4.1 – Postoperative sepsis in elective surgery



### C6.4.1 Postoperative sepsis in elective surgery

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	2,86	2,95	3,30	105,00	105,00	36.719,00	35.547,00
T - Aou 1 Massa	not assessed	4,17	3,74	-10,29	6,00	6,00	1.439,00	1.604,00
T - Aou 2 Lucca	not assessed	0,77	0,87	13,33	1,00	1,00	1.301,00	1.148,00
T - Aou 3 Pistoia	not assessed	0,75	2,49	231,34	1,00	3,00	1.332,00	1.206,00
T - Aou 4 Prato	not assessed	2,07	0,00	-100,00	2,00	0,00	964,00	714,00
T - Aou 5 Pisa	not assessed	6,48	3,61	-44,19	5,00	3,00	772,00	830,00
T - Aou 6 Livorno	not assessed	0,94	2,97	215,29	2,00	6,00	2.124,00	2.021,00
T - Aou 7 Siena	not assessed	1,50	2,51	66,88	1,00	2,00	665,00	797,00
T - Aou 8 Arezzo	not assessed	2,47	1,75	-28,86	6,00	4,00	2.433,00	2.280,00
T - Aou 9 Grosseto	not assessed	2,35	3,15	33,96	3,00	4,00	1.277,00	1.271,00
T - Aou 10 Firenze	not assessed	2,07	1,17	-43,70	4,00	2,00	1.931,00	1.715,00
T - Aou 11 Empoli	not assessed	0,00	0,00	(*)	0,00	0,00	1.399,00	1.691,00
T - Aou 12 Viareggio	not assessed	5,11	2,80	-45,21	5,00	3,00	978,00	1.071,00
T - Aou Pisana	not assessed	5,28	4,56	-13,65	36,00	29,00	6.824,00	6.366,00
T - Aou Senese	not assessed	2,48	2,70	9,13	9,00	9,00	3.634,00	3.330,00
T - Aou Careggi	not assessed	2,00	3,33	66,12	16,00	26,00	7.984,00	7.810,00
T - Aou Meyer	not assessed	5,54	7,82	41,20	4,00	6,00	722,00	767,00
T - Fond. Monasterio	not assessed	4,26	1,08	-74,62	4,00	1,00	940,00	926,00

## Indicator C6: Clinical Risk and Patient Safety

### C6.4.1 Postoperative sepsis in elective surgery

<b>Definition:</b>	Percentage of sepsis per 1,000 patients operated in elective surgery, with a length of stay of 4 or more days
<b>Numerator:</b>	No. of discharged patients with sepsis in secondary diagnosis
<b>Denominator:</b>	No. of discharged patients operated in elective surgery
<b>Formula:</b>	$\frac{\text{No. of discharged patients with sepsis in secondary diagnosis}}{\text{No. of discharged patients operated in elective surgery}} \times 1,000$
<b>Notes:</b>	We consider planned admissions with pre-hospitalization per discharge with a length of stay $\geq 4$ days, underage included. We consider Surgical DRGs with at least one procedure code between 00 and 86. Codes ICD9-CM in secondary diagnosis: • Sepsis: 0380; 0381; 03810; 03811; 03819; 0382; 0383; 78552; 78559; 9980; 03840; 03841; 03842; 03843; 03844; 03849; 0388; 0389; 99591; 99592 Excluded: – discharges with principal diagnosis of sepsis or infection – discharges with principal or secondary diagnosis of an immunocompromised state or cancer – discharges with principal or secondary interventions of an immunocompromised state – DRGs of infection or cancer
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO) With reference to the indicator used by the Agency for Healthcare Research and Quality (AHRQ) – Patient Safety Indicators: ER I 13 Postoperative sepsis
<b>Reference:</b>	Regional average

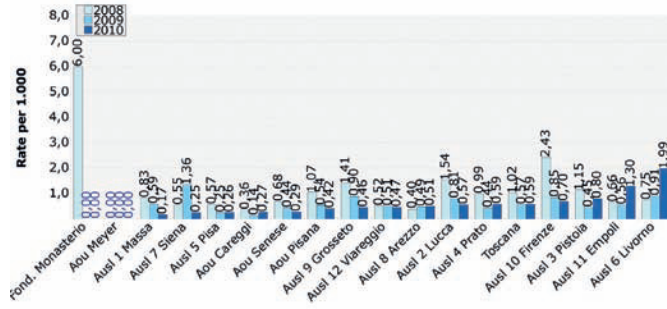
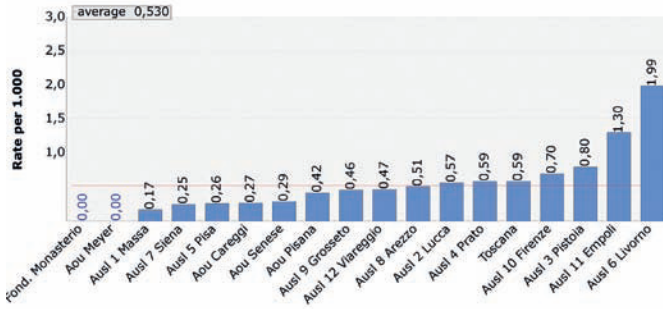




## 4.55 Indicator C6.4.2: Intra-hospital mortality of patients discharged with low mortality DRGs

The indicator for intra-hospital mortality for discharged patients with low mortality DRGs expresses the number of deaths in the hospital per 1,000 patients with a DRG characterized by a mortality rate of less than 0.5% considering such cases as unlikely death. As it is clear from the absolute numbers, it is a very limited series with a few units per Authority. Since, in DRGs characterized by a mortality rate of less than 0.5% deaths are very rare, when such an event occurs a close examination of the case is desirable.

### C6.4.2 – Intra-hospital mortality of patients discharged with low mortality DRGs



### C6.4.2 Intra-hospital mortality of patients discharged with low mortality DRGs

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	0,57	0,59	3,60	62,00	64,00	109.332,00	108.938,00
T - Auhl 1 Massa	not assessed	0,59	0,17	-70,65	3,00	1,00	5.074,00	5.763,00
T - Auhl 2 Lucca	not assessed	0,81	0,57	-29,40	4,00	3,00	4.929,00	5.236,00
T - Auhl 3 Pistoia	not assessed	0,45	0,80	76,07	3,00	5,00	6.612,00	6.259,00
T - Auhl 4 Prato	not assessed	0,44	0,59	33,16	3,00	4,00	6.822,00	6.831,00
T - Auhl 5 Pisa	not assessed	0,25	0,26	2,09	1,00	1,00	3.964,00	3.883,00
T - Auhl 6 Livorno	not assessed	0,91	1,99	117,88	7,00	14,00	7.651,00	7.023,00
T - Auhl 7 Siena	not assessed	1,36	0,25	-81,40	5,00	1,00	3.672,00	3.949,00
T - Auhl 8 Arezzo	not assessed	0,49	0,51	4,93	4,00	4,00	8.208,00	7.822,00
T - Auhl 9 Grosseto	not assessed	0,90	0,46	-49,06	4,00	2,00	4.460,00	4.378,00
T - Auhl 10 Firenze	not assessed	0,85	0,70	-18,55	10,00	8,00	11.714,00	11.506,00
T - Auhl 11 Empoli	not assessed	0,56	1,30	132,99	3,00	7,00	5.393,00	5.401,00
T - Auhl 12 Viareggio	not assessed	0,51	0,47	-7,69	2,00	2,00	3.959,00	4.289,00
T - Aou Pisana	not assessed	0,54	0,42	-21,72	8,00	6,00	14.838,00	14.217,00
T - Aou Senese	not assessed	0,44	0,29	-34,21	3,00	2,00	6.750,00	6.840,00
T - Aou Careggi	not assessed	0,14	0,27	95,88	2,00	4,00	14.368,00	14.670,00
T - Aou Meyer	not assessed	0,00	0,00	(*)	0,00	0,00	29,00	32,00
T - Fond. Monasterio	not assessed	0,00	0,00	(*)	0,00	0,00	883,00	832,00

## Indicator C6: Clinical Risk and Patient Safety

### C6.4.2 Intra-hospital mortality of patients discharged with low mortality DRGs

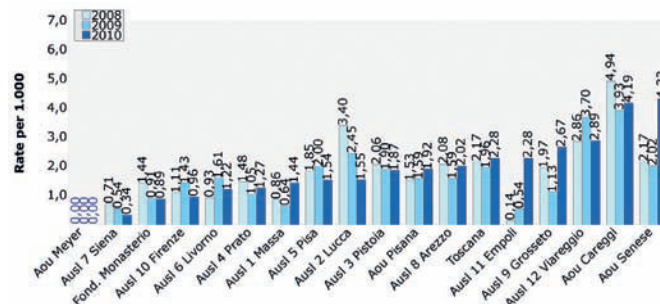
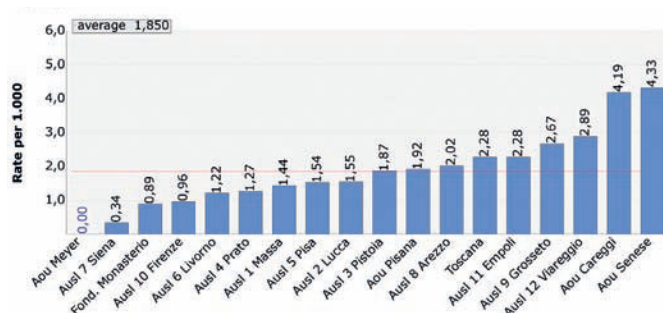
<b>Definition:</b>	Deaths in hospital per 1,000 patients with DRG with mortality rate below 0.05%
<b>Numerator:</b>	No. of deaths with low mortality DRG
<b>Denominator:</b>	No. of discharges with low mortality DRG
<b>Formula:</b>	$\frac{\text{No. of deaths with low mortality DRG}}{\text{No. of discharges with low mortality DRG}} \times 1,000$
<b>Notes:</b>	We consider inpatient admissions for discharged adults ( $\geq 18$ years). We consider low mortality DRGs those with a mortality rate below 0.05%. When a DRG is present "without/with complications", both the DRGs should have a mortality rate below 0.5% in order to be included. Excludes discharges with: – principal or secondary diagnoses of trauma, an immunocompromised state or cancer – principal or secondary interventions of an immunocompromised state.
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> ) With reference to the indicator used by the Agency for Healthcare Research and Quality (AHRQ) – Patient Safety Indicators: ER I 2 Death in low-mortality DRGs
<b>Reference:</b>	Regional average Population rate (USA, 2002): 0.73 per 1,000 patients at risk
<b>Meaning:</b>	The indicator aims at identifying deaths of patients with low risk hospitalization.



## Indicator C6.4.3: Vein thrombosis or pulmonary embolism following surgery 4.56

Pulmonary embolism is the partial or total occlusion of one or more branches of the pulmonary arteries caused by extra-pulmonary material such as a blood clot. Surgeries, especially orthopaedic, gynaecological, urological and general abdomen carry a risk of pulmonary embolism.

### C6.4.3 – Vein thrombosis or pulmonary embolism following surgery



### C6.4.3 Vein thrombosis or pulmonary embolism following surgery

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	1,96	2,28	16,34	388,00	442,00	198.098,00	193.972,00
T - Ausl 1 Massa	not assessed	0,64	1,44	125,93	7,00	15,00	10.958,00	10.393,00
T - Ausl 2 Lucca	not assessed	2,45	1,55	-36,76	22,00	14,00	8.985,00	9.041,00
T - Ausl 3 Pistoia	not assessed	1,90	1,87	-1,26	19,00	18,00	10.016,00	9.610,00
T - Ausl 4 Prato	not assessed	1,05	1,27	20,87	8,00	10,00	7.600,00	7.860,00
T - Ausl 5 Pisa	not assessed	2,00	1,54	-22,82	11,00	9,00	5.506,00	5.837,00
T - Ausl 6 Livorno	not assessed	1,61	1,22	-24,41	20,00	15,00	12.433,00	12.336,00
T - Ausl 7 Siena	not assessed	0,54	0,34	-36,08	3,00	2,00	5.600,00	5.841,00
T - Ausl 8 Arezzo	not assessed	1,59	2,02	27,03	25,00	30,00	15.701,00	14.832,00
T - Ausl 9 Grosseto	not assessed	1,13	2,67	135,33	10,00	24,00	8.814,00	8.989,00
T - Ausl 10 Firenze	not assessed	1,43	0,96	-32,75	22,00	15,00	15.373,00	15.587,00
T - Ausl 11 Empoli	not assessed	0,54	2,28	321,43	4,00	19,00	7.395,00	8.335,00
T - Ausl 12 Viareggio	not assessed	3,70	2,89	-21,96	32,00	24,00	8.652,00	8.315,00
T - Aou Pisana	not assessed	1,59	1,92	21,04	55,00	59,00	34.591,00	30.657,00
T - Aou Senese	not assessed	2,02	4,33	114,45	27,00	57,00	13.379,00	13.171,00
T - Aou Careggi	not assessed	3,93	4,19	6,58	121,00	129,00	30.787,00	30.796,00
T - Aou Meyer	not assessed	0,00	0,00	(*)	0,00	0,00	105,00	128,00
T - Fond. Monasterio	not assessed	0,91	0,89	-1,83	2,00	2,00	2.203,00	2.244,00

## Indicator C6: Clinical Risk and Patient Safety

### C6.4.3 Vein thrombosis or pulmonary embolism following surgery

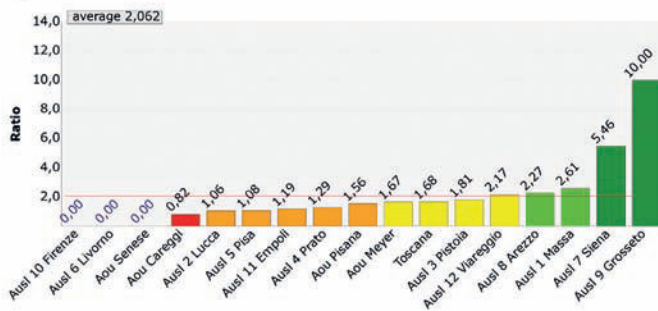
<b>Definition:</b>	Cases of deep vein thrombosis or pulmonary embolism per 1,000 discharges with surgical DRG
<b>Numerator:</b>	No. of discharges with deep vein thrombosis or pulmonary embolism in secondary diagnosis
<b>Denominator:</b>	No. of discharges with surgical DRG
<b>Formula:</b>	$\frac{\text{No. of discharges with deep vein thrombosis or pulmonary embolism in secondary diagnosis}}{\text{No. of discharges with surgical DRG}} \times 1,000$
<b>Notes:</b>	<p>We consider surgical DRGs with at least one procedure code between 01 and 86, for discharged adults (<math>\geq 18</math> years).</p> <p>codes ICD9-CM in secondary diagnosis:</p> <ul style="list-style-type: none"> <li>Pulmonary embolism: 415.11; 415.19</li> <li>Deep vein thrombosis: 451.11; 451.19; 451.2; 451.81; 451.9; 453.8; 453.9</li> </ul> <p>Excluded:</p> <ul style="list-style-type: none"> <li>discharges with principal diagnosis of pulmonary embolism or deep vein thrombosis</li> <li>discharges of MDC 14</li> <li>patients with the principal procedure of "interruption of the vena cava" (procedure code: 38.7) when it is the only procedure performed</li> <li>patients with the secondary procedure of "interruption of the vena cava" (procedure code: 38.7) when it is performed the same day or the day before the main intervention.</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO) With reference to the indicator used by the Agency for Healthcare Research and Quality (AHRQ) – Patient Safety Indicators: ER I 12 Post-operative pulmonary embolism or deep vein thrombosis
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator aims at identifying cases of deep vein thrombosis/pulmonary embolism in patients who underwent surgery. It is useful to evaluate the efficiency (appropriateness, timeliness, duration) of prevention of thromboembolic disease in surgical patients.



### 4.57 Indicator C6.5: Level of best practices diffusion

The indicator “certified Best Practices (BP)” has been included in the evaluation system for the first time in 2010 and represents the average number of best practices certified per complex operative unit. BPs, for which it is possible to request voluntary certification, are periodically updated by resolution of the Regional Council (DGR 267 of 16.04.2007). In the calculation of the indicator “transversal” BPs are taken into account, namely those that can be certified in each operative unit of the Authority.

#### C6.5 – Level of best practices diffusion



#### C6.5 Level of best practices diffusion

Health Authority	Value	Assessment	Numerator	Denominator	Year
T -Toscana	1,68	2,14	1.292,00	771,00	2010
T - Ausl 1 Massa	2,61	3,70	94,00	36,00	2010
T - Ausl 2 Lucca	1,06	1,11	36,00	34,00	2010
T - Ausl 3 Pistoia	1,81	2,36	76,00	42,00	2010
T - Ausl 4 Prato	1,29	1,49	40,00	31,00	2010
T - Ausl 5 Pisa	1,08	1,14	28,00	26,00	2010
T - Ausl 6 Livorno	0,00	0,00	0,00	57,00	2010
T - Ausl 7 Siena	5,46	5,00	142,00	26,00	2010
T - Ausl 8 Arezzo	2,27	3,13	100,00	44,00	2010
T - Ausl 9 Grosseto	10,00	5,00	380,00	38,00	2010
T - Ausl 10 Firenze	0,00	0,00	0,00	53,00	2010
T - Ausl 11 Empoli	1,19	1,33	31,00	26,00	2010
T - Ausl 12 Viareggio	2,17	2,97	50,00	23,00	2010
T - Aou Pisana	1,56	1,94	170,00	109,00	2010
T - Aou Senese	0,00	0,00	0,00	80,00	2010
T - Aou Careggi	0,82	0,71	95,00	116,00	2010
T - Aou Meyer	1,67	2,12	50,00	30,00	2010

### Indicator C6: Clinical Risk and Patient Safety

#### C6.5 Level of best practices diffusion

<b>Definition:</b>	Average number of certified transversal* good practices per simple, departmental, or complex structure
<b>Numerator:</b>	Number of certified best practices
<b>Denominator:</b>	No. of Hospitals with organizational autonomy; providing care to patients
<b>Formula:</b>	$\frac{\text{Number of certified best practices}}{\text{No. of Hospitals with organizational autonomy; providing care to patients}}$
<b>Notes:</b>	Best practices for which it is possible to apply for voluntary certification are periodically approved by the Regional Committee. Reference norm: DGR No. 267 of 16/04/2007
<b>Source:</b>	Clinical Risk Management Centre – Tuscany Region Annual Report Health Authorities (Centro Gestione Rischio Clinico – Regione Toscana Relazione annuale aziende sanitarie)

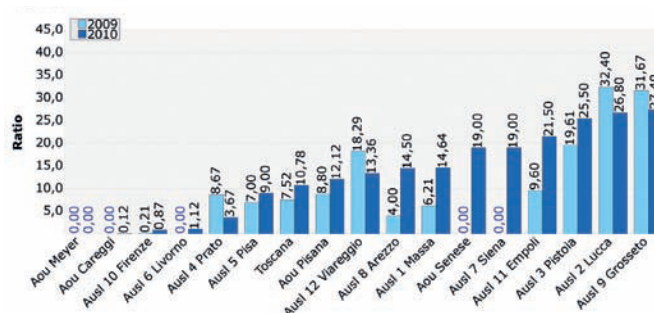
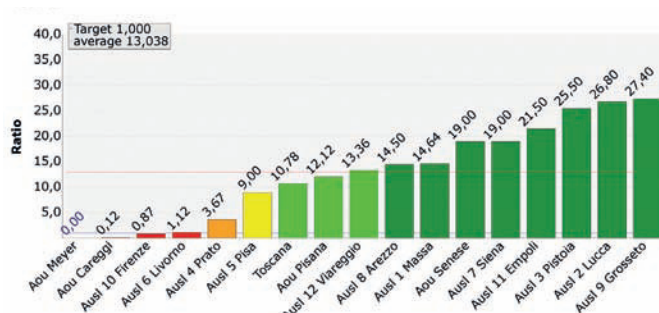
\*“Transversal” refers to good practices which are applicable in any hospital operating units (e.g. the practice of washing your hands)



## Indicator C6.6: Patient fall control capability 4.58

This indicator expresses the relationship between the patient falls reported through the Incident Reporting system and falls that result in a claim. The indicator, included in the evaluation system since 2009, has been evaluated for the first time in 2010. When the indicator value is greater than 1, it indicates a positive assessment. A value greater than 1 implies that the cases reported through the Authority's Incident Reporting System were more than the claim cases, indicating an adequate handling of the phenomenon. This threshold was established by the Regional Centre GRC.

### C6.6 – Patient fall control capability



### C6.6 Patient fall control capability

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,00	7,52	10,78	43,35	1.437,00	1.746,00	191,00	162,00
T - Ausl 1 Massa	4,08	6,21	14,64	135,75	149,00	161,00	24,00	11,00
T - Ausl 2 Lucca	5,00	32,40	26,80	-17,28	162,00	134,00	5,00	5,00
T - Ausl 3 Pistoia	5,00	19,61	25,50	30,04	353,00	255,00	18,00	10,00
T - Ausl 4 Prato	1,03	8,67	3,67	-57,67	26,00	33,00	3,00	9,00
T - Ausl 5 Pisa	2,51	7,00	9,00	28,57	70,00	54,00	10,00	6,00
T - Ausl 6 Livorno	0,32	0,00	1,12	(*)	0,00	27,00	13,00	24,00
T - Ausl 7 Siena	5,00	0,00	19,00	(*)	0,00	38,00	7,00	2,00
T - Ausl 8 Arezzo	4,04	4,00	14,50	262,50	40,00	116,00	10,00	8,00
T - Ausl 9 Grosseto	5,00	31,67	27,40	-13,48	190,00	274,00	6,00	10,00
T - Ausl 10 Firenze	0,25	0,21	0,87	314,29	3,00	13,00	14,00	15,00
T - Ausl 11 Empoli	5,00	9,60	21,50	123,96	96,00	86,00	10,00	4,00
T - Ausl 12 Viareggio	3,72	18,29	13,36	-26,95	128,00	147,00	7,00	11,00
T - Aou Pisana	3,38	8,80	12,12	37,73	220,00	291,00	25,00	24,00
T - Aou Senese	5,00	0,00	19,00	(*)	0,00	114,00	1,00	6,00
T - Aou Careggi	0,04	0,00	0,12	(*)	0,00	2,00	30,00	17,00
T - Aou Meyer	5,00	0,00	0,00	(*)	0,00	1,00	3,00	0,00

## Indicator C6: Clinical Risk and Patient Safety

### C6.6 Patient fall control capability

<b>Definition:</b>	Ratio of falls reported in the Incident Reporting System to falls resulting in a claim
<b>Numerator:</b>	Falls reported in the Incident Reporting System
<b>Denominator:</b>	Falls resulting in a claim
<b>Formula:</b>	$\frac{\text{Falls reported in the Incident Reporting System}}{\text{Falls resulting in a claim}}$
<b>Notes:</b>	The numerator includes falls reported in the Incident Reporting System with or without damage/injury. The denominator includes falls with or without personal injuries.
<b>Source:</b>	Annual Reports- Incident Reporting and Regional System for Accident Management (Relazioni annuali – Incident Reporting e Sistema regionale di gestione dei sinistri)
<b>Reference:</b>	Regional goal: > 1 Exceeding the threshold means that the Authority has proactively managed to prevent a greater number of falls than those that resulted in claims.



### 4.59 Indicator C7: Maternal and Child Care

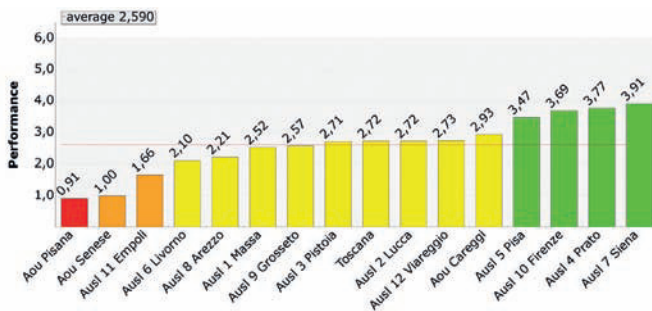
The quality of the birth path is measured by clinical and health indicators chosen on the basis of both the international bibliography [Health Canada, Sutter Women’s & Children’s Services, 2001] and the experiences of the Local Health Authorities of Tuscany. This year, a new indicator for the percentage of breastfeeding within 2 hours of birth, has been introduced, as an outcome of a patient satisfaction survey, “The birth path in Tuscany. The experience of women” – 2010 – MeS Laboratory. In addition, two indicators for ocular and audiologic screening are now being evaluated. So among the 11 indicators for the birth path, six are for evaluation and five as context for a more complete understanding of the process. Different weights have been assigned to the sub-indicators, according to their strategic and sanitary relevance at the regional level (see table below). The percentage of NTSV Caesarean deliveries is the indicator that mostly affects the evaluation of the maternal-child path, given that it is considered really important from a clinical point of view and it is largely shared at international level.

Indicator	Performance	Year
C7 – Maternal and Child Care	● 2,69	2010

#### C7 Maternal and Child Care

- C7.1 – Percentage of caesarean births (NTSV): 20,34% ■
  - C7.1.1 – Raw percentage of caesarean births: 26,21%
- C7.2 – Percentage of induced labour: 18,32% ■
- C7.3 – Percentage of episiotomy (NTSV): 33,51% ■
- C7.5 – Outflow rate for childbirth: 17,02% ■
- C7.6 – Percentage of operative vaginal deliveries (forceps or vacuum): 6,86%
- C7.7 – Paediatric hospitalization rate per 100 residents (0-14 years): 11,38%
- C7.8 – Percentage of eye screening on healthy infants: 85,75% ■
- C7.9 – Percentage of audiology screening on healthy infants: 84,79% ■
- C7.10 – Voluntary Pregnancy Interruption (VPI) rates per 1,000 residents: 7,34 × 1,000
- C7.12 – Percentage of breastfeeding within 2 hours: 75,37%

#### C7 – Maternal and Child Care



### Indicator C7: Maternal and Child Care

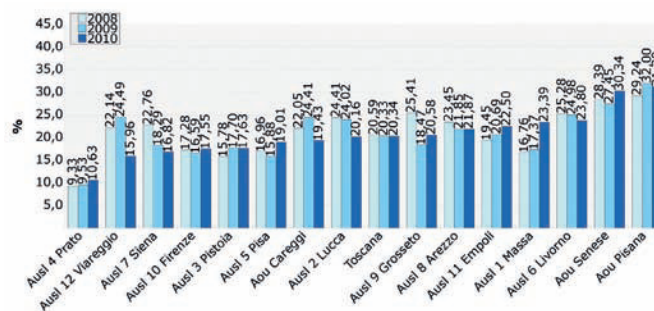
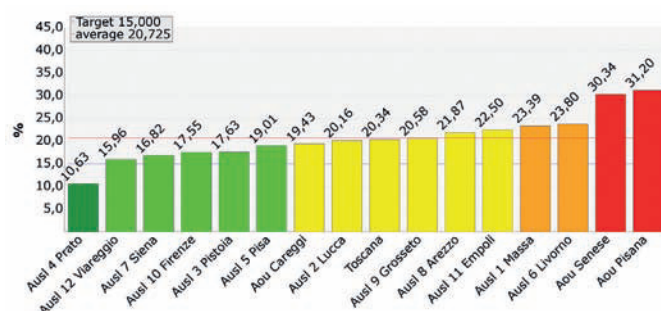
In 2010 the sub-indicators which determine the value of this indicator have been changed, therefore it is not possible to estimate the trend for the period 2009-2010. This indicator has a value equal to the weighted average score of the indicators listed below:

Health Authority	% NTSV caesarean births	% induced labour	% NTSV episiotomy	% outgoing births	% eye screening	% audiology screening
Local Health Authority	50%	10%	10%	26%	2%	2%
Teaching Hospital	68%	14%	14%		2%	2%

### Indicator C7.1: Percentage of caesarean births (NTSV) 4.60

Comparing caesarean births amongst the various Health Authorities is not always possible. The American College of Gynaecologists and Obstetricians proposes the use of a specific indicator that restricts the analysis to a case-mix of primiparous women, with delivery at term, and non-twin child in a vertex position (NTSV), making comparisons between different birth points with different cases, but that nevertheless manages to include a broad segment of the population consisting of about 32-39% of caesarean deliveries [Evaluation of Caesarean Delivery, 2000]. The percentage of caesarean NTSV is the most appropriate indicator for assessing the quality of services related to maternal and child hospital path. The Region of Tuscany aims to decrease the current rate of caesarean births, which is lower than the national average but higher than that indicated by the WHO. Therefore the reference value of 15% has been adopted for NTSV caesareans, which is naturally lower than the overall caesarean rate, as the overall rate includes also non NTSV caesareans.

#### C7.1 – Percentage of caesarean births (NTSV)



#### C7.1 Percentage of caesarean births (NTSV)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,67	20,33	20,34	0,05	2.619,00	2.775,00	12.883,00	13.645,00
T - Aou 1 Massa	1,90	17,37	23,39	34,66	148,00	196,00	852,00	838,00
T - Aou 2 Lucca	2,71	24,02	20,16	-16,07	160,00	154,00	666,00	764,00
T - Aou 3 Pistoia	3,34	17,70	17,63	-0,40	191,00	195,00	1.079,00	1.106,00
T - Aou 4 Prato	5,00	9,53	10,63	11,54	118,00	139,00	1.238,00	1.308,00
T - Aou 5 Pisa	3,00	15,88	19,01	19,71	94,00	100,00	592,00	526,00
T - Aou 6 Livorno	1,80	24,98	23,80	-4,72	283,00	277,00	1.133,00	1.164,00
T - Aou 7 Siena	3,54	18,29	16,82	-8,04	150,00	126,00	820,00	749,00
T - Aou 8 Arezzo	2,28	21,85	21,87	0,09	250,00	236,00	1.144,00	1.079,00
T - Aou 9 Grosseto	2,61	18,47	20,58	11,42	46,00	71,00	249,00	345,00
T - Aou 10 Firenze	3,36	16,59	17,55	5,79	283,00	281,00	1.706,00	1.601,00
T - Aou 11 Empoli	2,13	20,69	22,50	8,75	168,00	182,00	812,00	809,00
T - Aou 12 Viareggio	3,76	24,49	15,96	-34,83	144,00	91,00	588,00	570,00
T - Aou Pisana	0,00	32,00	31,20	-2,50	320,00	312,00	1.000,00	1.000,00
T - Aou Senese	0,17	27,45	30,34	10,53	171,00	189,00	623,00	623,00
T - Aou Careggi	2,89	24,41	19,43	-20,40	93,00	226,00	381,00	1.163,00

### Indicator C7: Maternal and Child Care

#### C7.1 Percentage of caesarean births (NTSV)

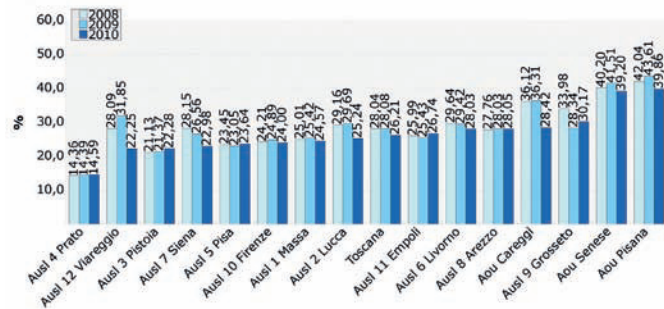
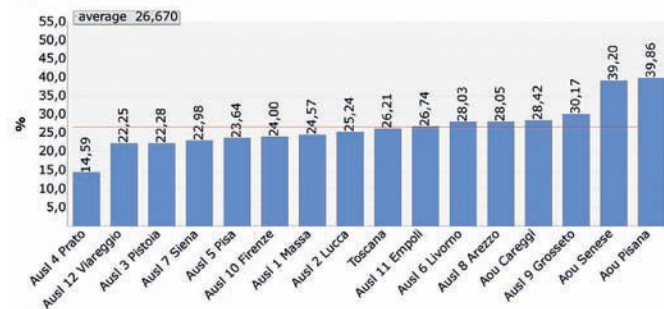
<b>Definition:</b>	Percentage of NTSV caesarean births
<b>Numerator:</b>	Number of NTSV caesarean births
<b>Denominator:</b>	Number of NTSV births
<b>Formula:</b>	$\frac{\text{No. of NTSV caesarean births}}{\text{No. of NTSV births}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities NTSV (Nullipar, Terminal, Single, Vertex): primiparous women; birth at term between 38 and 43 weeks of gestation; non-twin birth; child in vertex position We exclude births with medically assisted procreation We consider women between 14 and 49 years
<b>Source:</b>	Regional Information System – Flow CAP (Sistema Informativo Regionale - Flusso CAP)
<b>Reference:</b>	Regional goal: ≤ 15%
<b>Meaning:</b>	It is an indicator for the appropriateness of birth modes, with reference to the professional dealing with caesarean births, adjusted by factors that could increase the use of caesareans.



## 4.61 Indicator C7.1.1: Raw percentage of caesarean births

The overall percentage of caesarean births is commonly the indicator most used to measure the quality of services related to the maternal and child path. It is a readily available figure with a high degree of accuracy – and generally low values of this indicator are associated with better performance of the hospital. The Ministry of Health has set the reference value of caesarean births at 20% of the total births (PSN 2003-2005). This value, given the older age of mothers at delivery in our country, is broadly in line with the WHO reference values which considers the ideal percentage of caesarean births as not exceeding 15% [World Health Organization, 1985].

### C7.1.1 – Raw percentage of caesarean births



### C7.1.1 Raw percentage of caesarean births

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	28,08	26,21	-6,66	9.120,00	8.368,00	32.483,00	31.929,00
T - Ausl 1 Massa	not assessed	25,42	24,57	-3,34	434,00	453,00	1.707,00	1.844,00
T - Ausl 2 Lucca	not assessed	29,69	25,24	-14,99	437,00	395,00	1.472,00	1.565,00
T - Ausl 3 Pistoia	not assessed	21,37	22,28	4,26	488,00	513,00	2.284,00	2.302,00
T - Ausl 4 Prato	not assessed	14,39	14,59	1,39	443,00	443,00	3.078,00	3.037,00
T - Ausl 5 Pisa	not assessed	23,05	23,64	2,56	310,00	283,00	1.345,00	1.197,00
T - Ausl 6 Livorno	not assessed	29,42	28,03	-4,72	725,00	669,00	2.464,00	2.387,00
T - Ausl 7 Siena	not assessed	26,56	22,98	-13,48	443,00	370,00	1.668,00	1.610,00
T - Ausl 8 Arezzo	not assessed	28,03	28,05	0,07	717,00	697,00	2.558,00	2.485,00
T - Ausl 9 Grosseto	not assessed	28,34	30,17	6,46	411,00	438,00	1.450,00	1.452,00
T - Ausl 10 Firenze	not assessed	24,89	24,00	-3,58	1.147,00	1.074,00	4.608,00	4.475,00
T - Ausl 11 Empoli	not assessed	25,43	26,74	5,15	477,00	487,00	1.876,00	1.821,00
T - Ausl 12 Viareggio	not assessed	31,85	22,25	-30,14	415,00	261,00	1.303,00	1.173,00
T - Aou Pisana	not assessed	43,61	39,86	-8,60	1.047,00	918,00	2.401,00	2.303,00
T - Aou Senese	not assessed	41,51	39,20	-5,56	606,00	550,00	1.460,00	1.403,00
T - Aou Careggi	not assessed	36,31	28,42	-21,73	1.020,00	817,00	2.809,00	2.875,00

## Indicator C7: Maternal and Child Care

### C7.1.1 Raw percentage of caesarean births

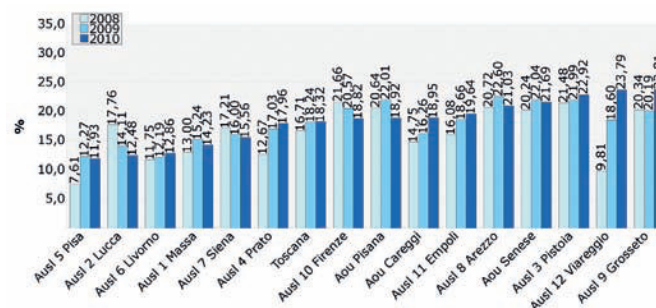
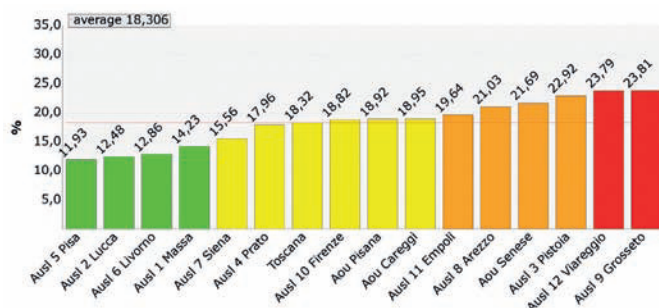
<b>Definition:</b>	Raw percentage of caesarean births
<b>Numerator:</b>	Number of caesarean births
<b>Denominator:</b>	Number of births
<b>Formula:</b>	$\frac{\text{No. of caesarean births}}{\text{No. of births}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities We consider women between 14 and 49 years
<b>Source:</b>	Regional Information System – Flow CAP ( <i>Sistema Informativo Regionale - Flusso CAP</i> )
<b>Meaning:</b>	It is an indicator for the appropriateness of birth modes, with reference to the professional dealing with caesarean births.



## Indicator C7.2: Percentage of induced labour 4.62

The following indicator measures the degree of use of pharmacological induction techniques during childbirth. There is no international reference value. The goal for the Tuscany Region is to reduce the use of induction, limiting this practice to only cases where it is necessary.

### C7.2 – Percentage of induced labour



### C7.2 Percentage of induced labour

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,25	18,24	18,32	0,44	4.249,00	4.311,00	23.300,00	23.535,00
T - Ausl 1 Massa	3,29	15,24	14,23	-6,63	194,00	198,00	1.273,00	1.391,00
T - Ausl 2 Lucca	3,74	14,11	12,48	-11,55	146,00	146,00	1.035,00	1.170,00
T - Ausl 3 Pistoia	1,08	21,99	22,92	4,23	395,00	410,00	1.796,00	1.789,00
T - Ausl 4 Prato	2,34	17,03	17,96	5,46	447,00	464,00	2.625,00	2.584,00
T - Ausl 5 Pisa	3,88	12,27	11,93	-2,77	127,00	109,00	1.035,00	914,00
T - Ausl 6 Livorno	3,64	12,19	12,86	5,50	212,00	221,00	1.739,00	1.718,00
T - Ausl 7 Siena	2,95	16,00	15,56	-2,75	196,00	193,00	1.225,00	1.240,00
T - Ausl 8 Arezzo	1,56	22,60	21,03	-6,95	416,00	376,00	1.841,00	1.788,00
T - Ausl 9 Grosseto	0,86	20,19	23,81	17,93	208,00	240,00	1.030,00	1.008,00
T - Ausl 10 Firenze	2,13	20,57	18,82	-8,51	712,00	640,00	3.461,00	3.401,00
T - Ausl 11 Empoli	1,92	18,66	19,64	5,25	261,00	262,00	1.399,00	1.334,00
T - Ausl 12 Viareggio	0,86	18,60	23,79	27,90	165,00	217,00	887,00	912,00
T - Aou Pisana	2,10	22,01	18,92	-14,04	298,00	262,00	1.354,00	1.385,00
T - Aou Senese	1,40	22,04	21,69	-1,59	188,00	185,00	853,00	853,00
T - Aou Careggi	2,09	16,26	18,95	16,54	284,00	388,00	1.747,00	2.048,00

## Indicator C7: Maternal and Child Care

### C7.2 Percentage of induced labour

<b>Definition:</b>	Percentage of births with pharmacologically induced labour
<b>Numerator:</b>	Number of vaginal births with pharmacologically induced labour
<b>Denominator:</b>	Number of vaginal births
<b>Formula:</b>	$\frac{\text{Number of vaginal births with pharmacologically induced labour}}{\text{No. of vaginal births}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities Num: initial labour mode: induction Den: initial labour mode: natural + induction We exclude from the calculation births where the labour mode is "unsuccessful", where the mode had to be changed into caesarean.
<b>Source:</b>	Regional Information System – Flow CAP (Sistema Informativo Regionale - Flusso CAP)
<b>Reference:</b>	Regional average, 2008

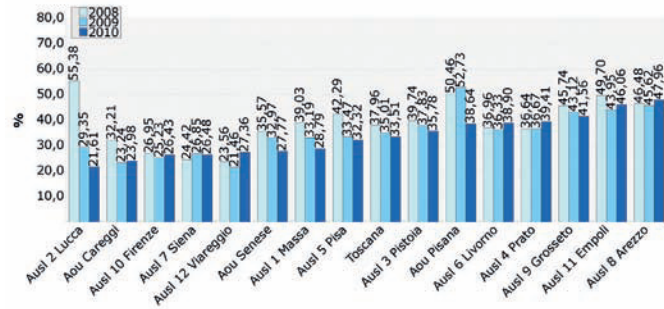
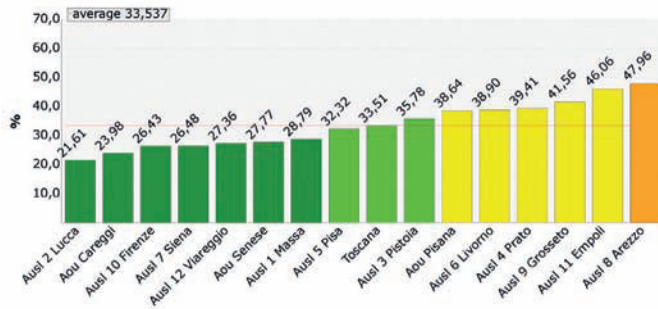




## 4.63 Indicator C7.3: Percentage of episiotomy (NTSV)

Episiotomy, one of the interventions most frequently used during vaginal delivery, has become a routine practice even without evidence of its effectiveness in the short and medium-long term. Randomized controlled trials have shown that limiting the use of episiotomy (both median and medio-lateral) reduces the incidence of injuries and complications of the perineal area [Viswanathan et al., 2005].

### C7.3 – Percentage of episiotomy (NTSV)



### C7.3 Percentage of episiotomy (NTSV)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,59	35,01	33,51	-4,28	3.622,00	3.694,00	10.346,00	11.025,00
T - Ausl 1 Massa	4,17	33,19	28,79	-13,26	235,00	188,00	708,00	653,00
T - Ausl 2 Lucca	5,00	29,35	21,61	-26,37	150,00	134,00	511,00	620,00
T - Ausl 3 Pistoia	3,31	37,83	35,78	-5,42	342,00	332,00	904,00	928,00
T - Ausl 4 Prato	2,86	36,67	39,41	7,47	418,00	465,00	1.140,00	1.180,00
T - Ausl 5 Pisa	3,74	33,47	32,32	-3,44	167,00	138,00	499,00	427,00
T - Ausl 6 Livorno	2,92	36,33	38,90	7,07	315,00	345,00	867,00	887,00
T - Ausl 7 Siena	4,46	26,85	26,48	-1,38	181,00	166,00	674,00	627,00
T - Ausl 8 Arezzo	1,80	45,62	47,96	5,13	417,00	412,00	914,00	859,00
T - Ausl 9 Grosseto	2,59	43,12	41,56	-3,62	69,00	101,00	160,00	243,00
T - Ausl 10 Firenze	4,46	25,23	26,43	4,76	359,00	356,00	1.423,00	1.347,00
T - Ausl 11 Empoli	2,03	43,95	46,06	4,80	287,00	292,00	653,00	634,00
T - Ausl 12 Viareggio	4,35	21,46	27,36	27,49	97,00	136,00	452,00	497,00
T - Aou Pisana	2,95	52,73	38,64	-26,72	367,00	272,00	696,00	704,00
T - Aou Senese	4,30	32,97	27,77	-15,77	152,00	123,00	461,00	443,00
T - Aou Careggi	4,77	23,24	23,98	3,18	66,00	234,00	284,00	976,00

## Indicator C7: Maternal and Child Care

### C7.3 Percentage of episiotomy (NTSV)

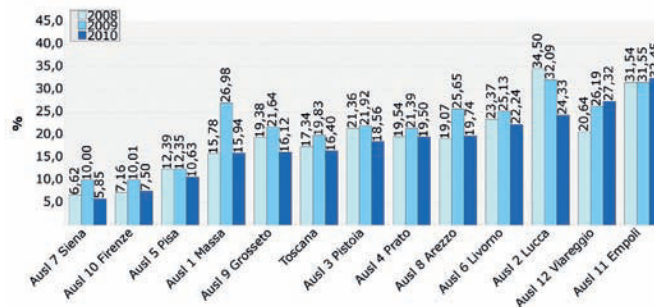
<b>Definition:</b>	Percentage of episiotomy for NTSV vaginal births
<b>Numerator:</b>	Number of episiotomy performed for NTSV vaginal births
<b>Denominator:</b>	Number of NTSV vaginal births
<b>Formula:</b>	$\frac{\text{Number of episiotomy performed for NTSV vaginal births}}{\text{Number of NTSV vaginal births}} \times 100$
<b>Notes:</b>	<p>We consider admissions provided in public facilities            NTSV (Nullipar, Terminal, Single, Vertex):</p> <ul style="list-style-type: none"> <li>• primiparous women</li> <li>• birth at term between 38 and 43 weeks of gestation</li> <li>• non-twin birth</li> <li>• child in vertex position</li> </ul> <p>We exclude from the calculation births where there is no information registered about episiotomy; therefore some data is unavailable or incomplete.            We consider women between 14, and 49 years            Vaginal birth: field CAP mod_part = 1, 4, 5, 6 (natural, forceps, vacuum, and turning)</p>
<b>Source:</b>	Regional Information System – Flow CAP ( <i>Sistema Informativo Regionale - Flusso CAP</i> )
<b>Reference:</b>	Regional average, 2008



## Indicator C7.5: Outflow rate for childbirth 4.64

The Regional objective is to meet the needs of pregnant women at a birth point closest to their residence. If a woman chooses to deliver at a birth point other than the one closest to her residence, implicitly she expresses a negative view of the facilities in her area. As the information about births outside the region for the year 2010 is not yet available, this indicator is intended as an estimate, which was obtained by adding to the 2010 data the values related to extra regional births of 2009.

### C7.5 – Outflow rate for childbirth



### C7.5 Outflow rate for childbirth

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,72	19,83	16,40	-17,32	6.387,00	5.056,00	32.208,00	30.836,00
T - Asl 1 Massa	2,81	26,98	15,94	-40,91	440,00	238,00	1.631,00	1.493,00
T - Asl 2 Lucca	1,13	32,09	24,33	-24,18	620,00	455,00	1.932,00	1.870,00
T - Asl 3 Pistoia	2,29	21,92	18,56	-15,35	550,00	450,00	2.509,00	2.425,00
T - Asl 4 Prato	2,10	21,39	19,50	-8,87	513,00	449,00	2.398,00	2.303,00
T - Asl 5 Pisa	3,87	12,35	10,63	-13,90	377,00	318,00	3.053,00	2.991,00
T - Asl 6 Livorno	1,55	25,13	22,24	-11,50	711,00	599,00	2.829,00	2.693,00
T - Asl 7 Siena	4,83	10,00	5,85	-41,48	243,00	136,00	2.430,00	2.324,00
T - Asl 8 Arezzo	2,05	25,65	19,74	-23,03	796,00	557,00	3.103,00	2.821,00
T - Asl 9 Grosseto	2,78	21,64	16,12	-25,54	387,00	264,00	1.788,00	1.638,00
T - Asl 10 Firenze	4,50	10,01	7,50	-25,04	699,00	505,00	6.986,00	6.733,00
T - Asl 11 Empoli	0,00	31,55	32,45	2,85	715,00	737,00	2.266,00	2.271,00
T - Asl 12 Viareggio	0,54	26,19	27,32	4,30	336,00	348,00	1.283,00	1.274,00

## Indicator C7: Maternal and Child Care

### C7.5 Outflow rate for childbirth

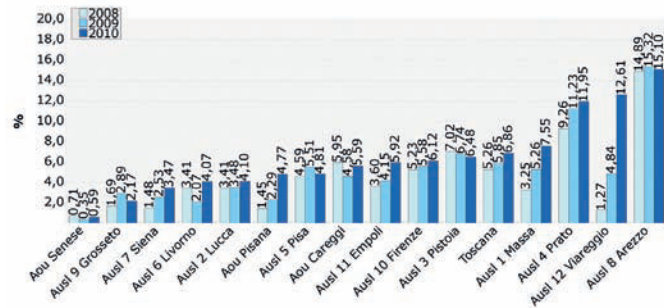
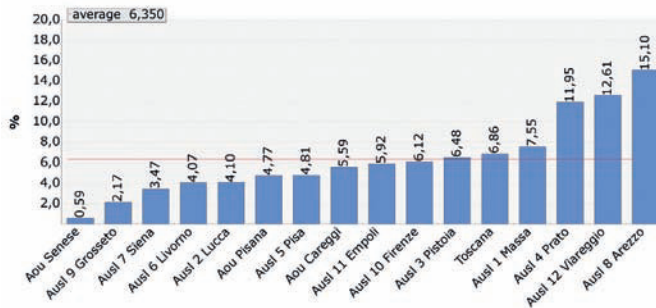
<b>Definition:</b>	Percentage of outgoing births
<b>Numerator:</b>	No. of births amongst resident women executed outside the Asl and AOU of reference and outside the Region
<b>Denominator:</b>	No. of births amongst resident women of the Asl; executed anywhere
<b>Formula:</b>	$\frac{\text{No. of births amongst residents executed outside the Asl and AOU of reference and outside the Region}}{\text{No. of births amongst resident women of the Asl; executed anywhere}} \times 100$
<b>Notes:</b>	We consider admissions provided in public and accredited private facilities We consider collectively Asl and AOU of the same area; outflow refers to births for residents executed outside the Asl and AOU of reference and outside the Region codes DRG: 370-371-372-373-374-375
<b>Source:</b>	Regional Information System – Flow SDO (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional goal: ≤ 10%



## 4.65 Indicator C7.6: Percentage of operative vaginal deliveries (forceps or vacuum)

The percentage use of forceps and vacuum provides information about obstetric techniques. This indicator, read together with the percentage of caesarean births, allows analysis of any correlation between a lower percentage of caesarean births, and an increased use of operative delivery.

### C7.6 – Percentage of operative vaginal deliveries (forceps or vacuum)



### C7.6 Percentage of operative vaginal deliveries (forceps or vacuum)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	5,85	6,86	17,26	1.366,00	1.616,00	23.363,00	23.561,00
T - Ausl 1 Massa	not assessed	5,26	7,55	43,54	67,00	105,00	1.273,00	1.391,00
T - Ausl 2 Lucca	not assessed	3,48	4,10	17,82	36,00	48,00	1.035,00	1.170,00
T - Ausl 3 Pistoia	not assessed	6,74	6,48	-3,86	121,00	116,00	1.796,00	1.789,00
T - Ausl 4 Prato	not assessed	11,23	11,95	6,41	296,00	310,00	2.635,00	2.594,00
T - Ausl 5 Pisa	not assessed	5,51	4,81	-12,70	57,00	44,00	1.035,00	914,00
T - Ausl 6 Livorno	not assessed	2,07	4,07	96,62	36,00	70,00	1.739,00	1.718,00
T - Ausl 7 Siena	not assessed	2,53	3,47	37,15	31,00	43,00	1.225,00	1.240,00
T - Ausl 8 Arezzo	not assessed	15,32	15,10	-1,44	282,00	270,00	1.841,00	1.788,00
T - Ausl 9 Grosseto	not assessed	2,89	2,17	-24,91	30,00	22,00	1.039,00	1.014,00
T - Ausl 10 Firenze	not assessed	5,58	6,12	9,68	193,00	208,00	3.461,00	3.401,00
T - Ausl 11 Empoli	not assessed	4,15	5,92	42,65	58,00	79,00	1.399,00	1.334,00
T - Ausl 12 Viareggio	not assessed	4,84	12,61	160,54	43,00	115,00	888,00	912,00
T - Aou Pisana	not assessed	2,29	4,77	108,30	31,00	66,00	1.354,00	1.385,00
T - Aou Senese	not assessed	0,35	0,59	68,57	3,00	5,00	854,00	853,00
T - Aou Careggi	not assessed	4,58	5,59	22,05	82,00	115,00	1.789,00	2.058,00

## Indicator C7: Maternal and Child Care

### C7.6 Percentage of operative vaginal deliveries (forceps or vacuum)

<b>Definition:</b>	Percentage of births with vacuum or forceps
<b>Numerator:</b>	Number of births with vacuum or forceps
<b>Denominator:</b>	Number of vaginal births
<b>Formula:</b>	$\frac{\text{Number of births with vacuum or forceps}}{\text{No. of vaginal births}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities We consider exclusively: Vaginal births (natural, forceps, vacuum, and turning).
<b>Source:</b>	Regional Information System – Flow SDO ( <i>Sistema Informativo Regionale - Flusso SDO</i> )

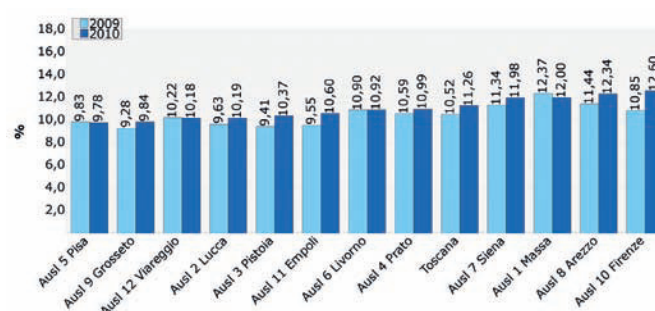
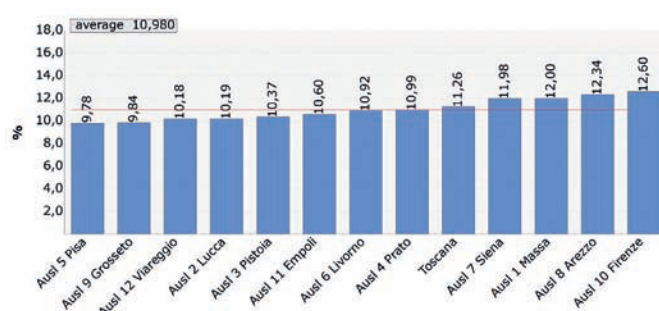


## Indicator C7.7: Paediatric hospitalization rate per 100 residents (0-14 years) 4.66

The hospitalization rate (TO) is a good indicator for the use of hospital facilities and for the demand within the region. Its value is of particular interest in paediatrics. Although it is decreasing in recent years, the TO for children is higher than that observed in other nations of the Western world. Epidemiological conditions different from those of other European countries are inconceivable in Italy. Therefore it is likely that the rate is related to a substantial variation in the protocols of access to hospital, to a different organization of the service network and to a high level of inappropriateness in hospital admissions for children, as evidenced by some studies (Fortino et al., 2005; ASSR, 2002). Revisiting the relationship with the hospital, improving continuity of care and helping the paediatrician in defining the most suitable routes for the management of various diseases can all play a role in promoting local healthcare (Zanetti et al., 2005).

As for the indicator C7.5, in this case values are an estimate calculated on the basis of the extra-region admissions in 2009.

### C7.7 – Paediatric hospitalization rate per 100 residents (0-14 years)



### C7.7 Paediatric hospitalization rate per 100 residents (0-14 years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	10,52	11,26	7,04	48.789,00	53.017,00	463.960,00	471.028,00
T - Ausl 1 Massa	not assessed	12,37	12,00	-3,00	2.898,00	2.820,00	23.434,00	23.509,00
T - Ausl 2 Lucca	not assessed	9,63	10,19	5,81	2.720,00	2.922,00	28.250,00	28.681,00
T - Ausl 3 Pistoia	not assessed	9,41	10,37	10,20	3.462,00	3.872,00	36.787,00	37.335,00
T - Ausl 4 Prato	not assessed	10,59	10,99	3,71	3.624,00	3.845,00	34.207,00	34.996,00
T - Ausl 5 Pisa	not assessed	9,83	9,78	-0,51	4.113,00	4.193,00	41.858,00	42.892,00
T - Ausl 6 Livorno	not assessed	10,90	10,92	0,13	4.506,00	4.570,00	41.322,00	41.853,00
T - Ausl 7 Siena	not assessed	11,34	11,98	5,65	3.744,00	4.021,00	33.022,00	33.569,00
T - Ausl 8 Arezzo	not assessed	11,44	12,34	7,93	5.022,00	5.473,00	43.911,00	44.339,00
T - Ausl 9 Grosseto	not assessed	9,28	9,84	6,05	2.378,00	2.560,00	25.617,00	26.005,00
T - Ausl 10 Firenze	not assessed	10,85	12,60	16,20	11.151,00	13.178,00	102.810,00	104.561,00
T - Ausl 11 Empoli	not assessed	9,55	10,60	11,03	3.099,00	3.493,00	32.459,00	32.951,00
T - Ausl 12 Viareggio	not assessed	10,22	10,18	-0,36	2.072,00	2.070,00	20.283,00	20.337,00

## Indicator C7: Maternal and Child Care

### C7.7 Paediatric hospitalization rate per 100 residents (0-14 years)

<b>Definition:</b>	Paediatric hospitalization rate per 100 residents (0-14 years)
<b>Numerator:</b>	Number of admissions of residents (0-14 years)
<b>Denominator:</b>	Resident population (0-14 years)
<b>Formula:</b>	$\frac{\text{Number of admissions of residents (0-14 years)}}{\text{Resident population (0-14 years)}} \times 100$
<b>Notes:</b>	We consider admissions provided for residents, extra region included, both inpatient and outpatient admissions. <i>Admissions excluded:</i> – provided by unaccredited private hospitals – Normal New-born (DRG 391).
<b>Source:</b>	Regional Information System – Flow SDO ( <i>Sistema Informativo Regionale - Flusso SDO</i> )

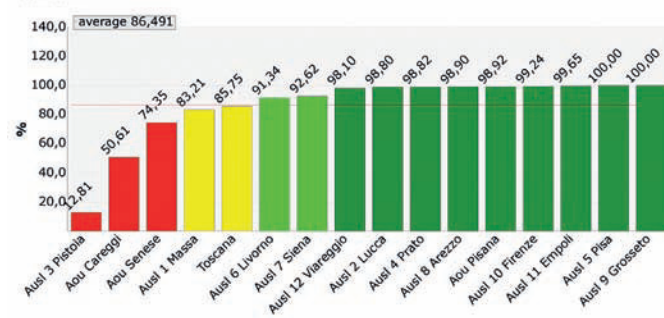


## 4.67 Indicator C7.8: Percentage of eye screening on healthy infants

The Tuscany Government with Resolution DGR 365, 21/05/2007 has made neonatal audiology screening compulsory. Tuscany is the first region that mandated neonatal screening for the prevention of congenital cataracts and other serious eye diseases since 2004. These are two now easily performed tests that allow the detection, early in life, of vision or hearing problems, allowing for prompter intervention that can be instrumental in improving the quality of life in the long term.

The red reflex test is essential for early recognition of situations that could potentially impair vision or life, such as cataract, glaucoma, retinoblastoma, retinal abnormalities, systemic diseases with ocular manifestations and high refractive errors. The World Health Organization warns that 75% of blindness in adults could be prevented with early childhood prevention. Similarly the American Academy of Paediatrics recommends the execution of the red reflex test as a component in the evaluation of the eye during the neonatal period and during all subsequent visits to check the child's health status.

### C7.8 – Percentage of eye screening on healthy infants



### C7.8 Percentage of eye screening on healthy infants

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	85,75 %	2,55	21.440,00	25.002,00	2010
T - Ausl 1 Massa	83,21 %	2,04	1.264,00	1.519,00	2010
T - Ausl 2 Lucca	98,80 %	5,00	1.237,00	1.252,00	2010
T - Ausl 3 Pistoia	12,81 %	0,00	265,00	2.069,00	2010
T - Ausl 4 Prato	98,82 %	5,00	2.348,00	2.376,00	2010
T - Ausl 5 Pisa	100,00 %	5,00	969,00	969,00	2010
T - Ausl 6 Livorno	91,34 %	3,67	1.773,00	1.941,00	2010
T - Ausl 7 Siena	92,62 %	3,92	1.130,00	1.220,00	2010
T - Ausl 8 Arezzo	98,90 %	5,00	1.805,00	1.825,00	2010
T - Ausl 9 Grosseto	100,00 %	5,00	913,00	913,00	2010
T - Ausl 10 Firenze	99,24 %	5,00	3.932,00	3.962,00	2010
T - Ausl 11 Empoli	99,65 %	5,00	1.431,00	1.436,00	2010
T - Ausl 12 Viareggio	98,10 %	5,00	929,00	947,00	2010
T - Aou Pisana	98,92 %	5,00	1.824,00	1.844,00	2010
T - Aou Senese	74,35 %	0,27	748,00	1.006,00	2010
T - Aou Careggi	50,61 %	0,00	872,00	1.723,00	2010

## Indicator C7: Maternal and Child Care

### C7.8 Percentage of eye screening on healthy infants

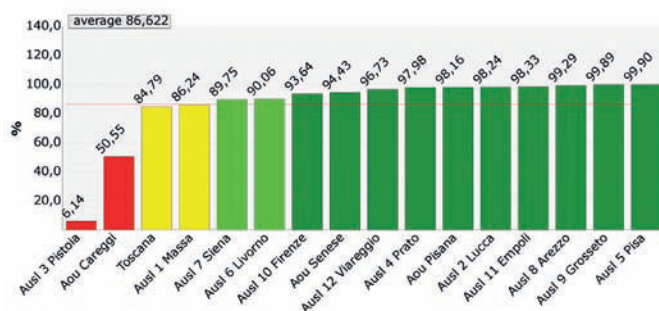
<b>Definition:</b>	Percentage of eye screening on healthy infants
<b>Numerator:</b>	Number of eye screenings at birth
<b>Denominator:</b>	Total number of normal new-borns
<b>Formula:</b>	$\frac{\text{No. of eye screenings at birth}}{\text{Total number of normal new-borns}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities We consider: – Only normal new-borns (DRG 391) – healthy infants (Neonat = 1) – birth event: V30-V39 with any diagnosis The procedure code is 16.21 for all interventions
<b>Source:</b>	Regional Information System – Flow SDO ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: 100%



## Indicator C7.9: Percentage of audiology screening on healthy infants 4.68

Infant hypoacusis is a common clinical condition, the prevalence of which amongst infants varies between 0.5 to 3 cases per 1000 children. In infants hospitalised in the neonatal intensive care and in those infants with other risk factors, the prevalence is 10-20 times higher. With neonatal screening it is possible to identify hearing present at birth. A delay in diagnosis can result in decreased efficacy of rehabilitative therapy and irreparable damage to the child. Therefore, the identification of children with suspected hypoacusis through screening at birth or in the immediate aftermath can be instrumental in improving the quality of life in the long term.

### C7.9 – Percentage of audiology screening on healthy infants



### C7.9 Percentage of audiology screening on healthy infants

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	84,79 %	2,36	21.199,00	25.002,00	2010
T - Ausl 1 Massa	86,24 %	2,65	1.310,00	1.519,00	2010
T - Ausl 2 Lucca	98,24 %	5,00	1.230,00	1.252,00	2010
T - Ausl 3 Pistoia	6,14 %	0,00	127,00	2.069,00	2010
T - Ausl 4 Prato	97,98 %	5,00	2.328,00	2.376,00	2010
T - Ausl 5 Pisa	99,90 %	5,00	968,00	969,00	2010
T - Ausl 6 Livorno	90,06 %	3,41	1.748,00	1.941,00	2010
T - Ausl 7 Siena	89,75 %	3,35	1.095,00	1.220,00	2010
T - Ausl 8 Arezzo	99,29 %	5,00	1.812,00	1.825,00	2010
T - Ausl 9 Grosseto	99,89 %	5,00	912,00	913,00	2010
T - Ausl 10 Firenze	93,64 %	4,13	3.710,00	3.962,00	2010
T - Ausl 11 Empoli	98,33 %	5,00	1.412,00	1.436,00	2010
T - Ausl 12 Viareggio	96,73 %	4,75	916,00	947,00	2010
T - Aou Pisana	98,16 %	5,00	1.810,00	1.844,00	2010
T - Aou Senese	94,43 %	4,29	950,00	1.006,00	2010
T - Aou Careggi	50,55 %	0,00	871,00	1.723,00	2010

## Indicator C7: Maternal and Child Care

### C7.9 Percentage of audiology screening on healthy infants

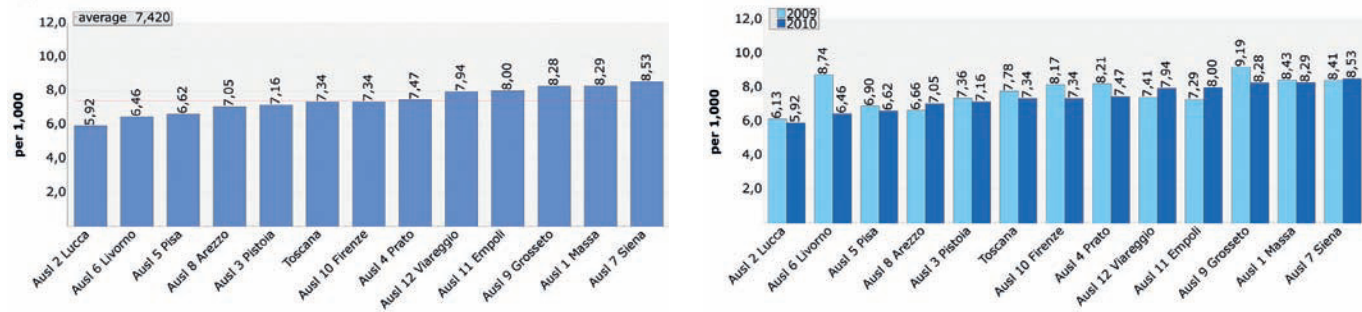
<b>Definition:</b>	Percentage of audiology screenings on healthy infants
<b>Numerator:</b>	Number of audiology screenings at birth
<b>Denominator:</b>	Total number of normal new-borns
<b>Formula:</b>	$\frac{\text{Number of audiology screenings at birth}}{\text{Total number of normal new-borns}} \times 100$
<b>Notes:</b>	We consider admissions provided in public facilities We consider: – Only normal new-borns (DRG 391) – healthy infants (Neonat = 1) – birth event: V30-V39 with any diagnosis The procedure code is 95.43 for all interventions
<b>Source:</b>	Regional Information System – Flow SDO ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>reference:</b>	Regional goal: 100%



## 4.69 Indicator C7.10: Voluntary Pregnancy Interruption (VPI) rates per 1,000 residents

The rate of voluntary abortion is the most frequently used indicator; internationally, to evaluate the impact of the phenomenon on the resident population. For the most part the use of Voluntary Pregnancy Interruption (VPI) depends on services provided in different geographical areas, particularly from family planning clinics that are the main instruments, as provided by law, to promote responsible and planned procreation.

### C7.10 – Voluntary Pregnancy Interruption (VPI) rates per 1,000 residents



### C7.10 Voluntary Pregnancy Interruption (VPI) rates per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	7,78	7,34	-5,65	6.723,00	6.364,00	864.285,00	867.086,00
T - Ausl 1 Massa	not assessed	8,43	8,29	-1,61	393,00	384,00	46.640,00	46.318,00
T - Ausl 2 Lucca	not assessed	6,13	5,92	-3,46	315,00	304,00	51.388,00	51.371,00
T - Ausl 3 Pistoia	not assessed	7,36	7,16	-2,67	513,00	499,00	69.702,00	69.663,00
T - Ausl 4 Prato	not assessed	8,21	7,47	-9,05	489,00	447,00	59.546,00	59.850,00
T - Ausl 5 Pisa	not assessed	6,90	6,62	-4,10	539,00	520,00	78.139,00	78.605,00
T - Ausl 6 Livorno	not assessed	8,74	6,46	-26,06	702,00	518,00	80.329,00	80.163,00
T - Ausl 7 Siena	not assessed	8,41	8,53	1,32	522,00	531,00	62.040,00	62.285,00
T - Ausl 8 Arezzo	not assessed	6,66	7,05	5,79	549,00	581,00	82.386,00	82.419,00
T - Ausl 9 Grosseto	not assessed	9,19	8,28	-9,84	466,00	424,00	50.719,00	51.186,00
T - Ausl 10 Firenze	not assessed	8,17	7,34	-10,13	1.523,00	1.380,00	186.400,00	187.929,00
T - Ausl 11 Empoli	not assessed	7,29	8,00	9,74	414,00	458,00	56.781,00	57.240,00
T - Ausl 12 Viareggio	not assessed	7,41	7,94	7,13	298,00	318,00	40.215,00	40.057,00

## Indicator C7: Maternal and Child Care

### C7.10 Voluntary Pregnancy Interruption (VPI) rates per 1,000 residents

<b>Definition:</b>	VPI rate per 1,000 residents (women 12-49 years)
<b>Numerator:</b>	Number of VPIs (women 12-49 years)
<b>Denominator:</b>	Number of residents (women 12-49 years)
<b>Formula:</b>	$\frac{\text{Number of VPIs}}{\text{Number of residents}} \times 1,000$
<b>Notes:</b>	<p>We consider:</p> <ul style="list-style-type: none"> <li>– admissions provided in public and accredited private facilities</li> <li>– women residents aged between 12 and 49 years</li> <li>– principal diagnosis 635.** (legal abortion) and principal intervention code 69.01 and 69.51</li> <li>– or principal diagnosis: 635.xx and secondary diagnosis</li> <li>– V617 (other unwanted pregnancy) or</li> <li>– V5883 (treatment for monitoring of therapeutical drugs)</li> </ul> <p>with code 99.24 (injection of other hormones – first and possible second administration per os) for any procedure.</p>
<b>Source:</b>	Regional Information System – Flow SDO ( <i>Sistema Informativo Regionale - Flusso SDO</i> )

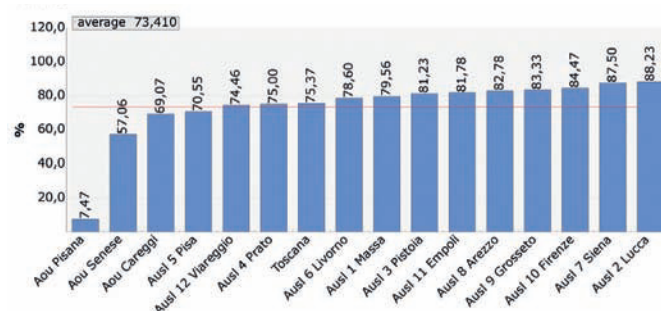


## Indicator C7.12: Percentage of breastfeeding within 2 hours 4.70

Breastfeeding is the best method to ensure healthy growth and development of infants and it has a unique impact on the biological and emotional health of both mother and child. The antiseptic properties of breast milk prevent neonatal diseases. There is also an important link between breastfeeding and the interval between one pregnancy and the next. For these reasons, health professionals should strive to promote and encourage breastfeeding and provide pregnant women and new mothers support and objective advice in this regard (Joint Statement WHO/UNICEF, 1989).

The indicator comes from a customer satisfaction survey “The birth path in Tuscany. The experience of women” – 2010. The symbol in the indicator file shows that the survey had many respondents, but it is not representative of the target population because it is not a sample.

### C7.12 – Percentage of breastfeeding within 2 hours



### C7.12 Percentage of breastfeeding within 2 hours

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	75,37 %	not assessed	3.078,00	4.084,00	2010
T - Ausl 1 Massa	79,56 %	not assessed	183,00	230,00	2010
T - Ausl 2 Lucca	88,23 %	not assessed	180,00	204,00	2010
T - Ausl 3 Pistoia	81,23 %	not assessed	251,00	309,00	2010
T - Ausl 4 Prato	75,00 %	not assessed	231,00	308,00	2010
T - Ausl 5 Pisa	70,55 %	not assessed	103,00	146,00	2010
T - Ausl 6 Livorno	78,60 %	not assessed	169,00	215,00	2010
T - Ausl 7 Siena	87,50 %	not assessed	196,00	224,00	2010
T - Ausl 8 Arezzo	82,78 %	not assessed	245,00	296,00	2010
T - Ausl 9 Grosseto	83,33 %	not assessed	110,00	132,00	2010
T - Ausl 10 Firenze	84,47 %	not assessed	658,00	779,00	2010
T - Ausl 11 Empoli	81,78 %	not assessed	193,00	236,00	2010
T - Ausl 12 Viareggio	74,46 %	not assessed	137,00	184,00	2010
T - Aou Pisan	7,47 %	not assessed	15,00	201,00	2010
T - Aou Senese	57,06 %	not assessed	101,00	177,00	2010
T - Aou Careggi	69,07 %	not assessed	306,00	443,00	2010

## Indicator C7: Maternal and Child Care

### C7.12 Percentage of breastfeeding within 2 hours

<b>Definition:</b>	Percentage of breastfeeding within 2 hours
<b>Numerator:</b>	No. of women who breastfed within 2 hours
<b>Denominator:</b>	No. of women interviewed
<b>Formula:</b>	$\frac{\text{No. of women who breastfed within 2 hours}}{\text{No. of women interviewed}} \times 100$
<b>Question:</b>	How long after giving birth did you start breastfeeding?
<b>Source:</b>	Survey on satisfaction of customers of the Mother and Child path: “Birth path in Tuscany. The experience of women” – 2010 – MeS Laboratory. (Indagine di soddisfazione delle utenti del percorso materno infantile: “Il percorso nascita in Toscana. L’esperienza delle donne” – Anno 2010 – Laboratorio MeS).
<b>Reference population:</b>	Reference population comprises women who gave birth at birth points in Tuscany in 2010. All women who agreed after discharge to answer a survey on internet (Computer Assisted Web Interviewing – CAWI) or asked to be interviewed by phone (Computer Assisted Telephone Interviewing – CATI) participated in the survey. Women for whom the Authorities report that the child was stillborn or died during hospitalization were not invited to participate in the survey.





## 4.71 Indicator C8a: Area-Hospital Integration

In the tree of the indicator “Area-Hospital Integration” a new sub-indicator has been introduced in 2010. The indicator focuses on the continuity of care, which measures the rate of discharge with the activation of Integrated Home Care for every 100,000 residents. Starting from this year, the indicator for paediatric gastroenteritis is also being evaluated. This indicator contributes, together with indicators for the percentage of admissions with more than 30 days of stay and the hospitalization rate for pneumonia, to the calculation of the value for the indicator C8a.

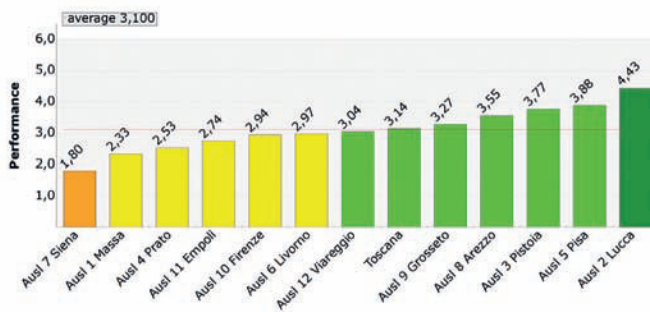
Finally, for some indicators [C8a.3-conception rate for minors and C8a.11 – Index of retention to Drug Addiction Services (Ser.T)] at the moment there are no available data. In anticipation of more reliable data such indicators are still considered in the tree, as their activation in the future seems likely.

Indicator	Performance	Year
C8a – Area-Hospital Integration	● 3,14	2010

### C8a Area-Hospital Integration

- C8a.1 – Percentage of admissions with > 30 days stay per area of residence: 0,93% ■
- C8a.3 – Underage conception rate per 1,000 resident women (12-17 years): 3,17
- C8a.11 – Index of Retention to Drug Addiction Services:
- C8a.12 – Discharge rate with activation of integrated home care per 100,000 residents:  $23,19 \times 100,000$
- C11a.4.1 – Pneumonia hospitalization rate per 100,000 residents (20-74 years):  $94,00 \times 100,000$  ■
- C8a.19 – Basic Paediatrics:
  - C8a.19.1 – Hospitalization rate for paediatric asthma per 100,000 residents (2-17 years):  $45,42 \times 100,000$
  - C8a.19.2 – Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq 17$  years):  $199,05 \times 100,000$

### C8a – Area-Hospital Integration



## Indicator C8a: Area-Hospital Integration

**Notes** This is the indicator of the tree C8a, therefore it does not have its own value. It is only an evaluation, the score of which is the average score of the following indicators: C8a.1, C11a.4.1 and C8a.19.2.

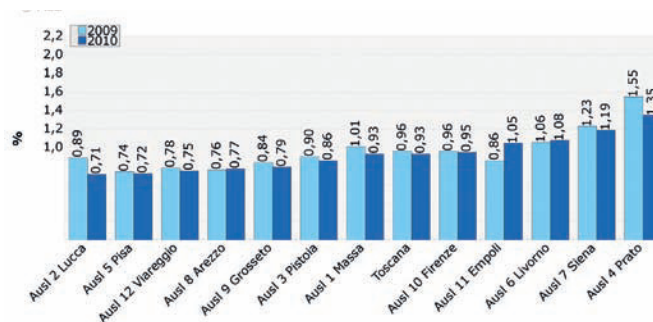
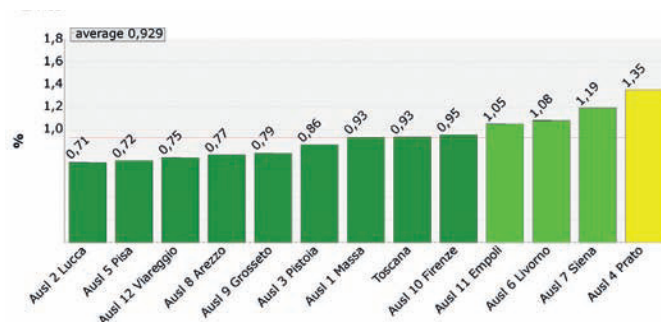


## Indicator C8a.1: Percentage of admissions with > 30 days stay per area of residence 4.72

This indicator indirectly measures the capacity of the territory and the degree of continuity of care between hospital and territory. A high number of hospital admissions with a length of stay of more than 30 days – with the more complex cases extracted – indicates a poor management of the so-called “social hospitalizations”. Such hospitalizations require that patients who are not self-sufficient be housed in protected residential facilities for a predetermined period of time and on the basis of individual care plans.

The indicator is calculated for the Authority of residence, but the evaluation is carried out also with regard to Teaching Hospitals. The latter, together with Local Health Authorities, within which especially Local Services, general practitioners, social services and the third sector, contributes to achieve the regional objective to maintain this admission rate below 1%.

### C8a.1 – Percentage of admissions with > 30 days stay per area of residence



### C8a.1 Percentage of admissions with > 30 days stay per area of residence

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,34	0,96	0,93	-2,82	3.411,00	3.355,00	355.579,00	359.608,00
T - Ausl 1 Massa	4,35	1,01	0,93	-8,00	205,00	197,00	20.393,00	21.200,00
T - Ausl 2 Lucca	5,00	0,89	0,71	-20,71	196,00	157,00	22.002,00	22.249,00
T - Ausl 3 Pistoia	4,69	0,90	0,86	-4,12	256,00	248,00	28.479,00	28.740,00
T - Ausl 4 Prato	2,24	1,55	1,35	-12,76	334,00	300,00	21.598,00	22.187,00
T - Ausl 5 Pisa	5,00	0,74	0,72	-2,57	235,00	235,00	31.952,00	32.594,00
T - Ausl 6 Livorno	3,60	1,06	1,08	1,80	376,00	371,00	35.414,00	34.382,00
T - Ausl 7 Siena	3,05	1,23	1,19	-3,23	324,00	314,00	26.294,00	26.380,00
T - Ausl 8 Arezzo	5,00	0,76	0,77	1,80	241,00	247,00	31.654,00	31.924,00
T - Ausl 9 Grosseto	5,00	0,84	0,79	-6,41	173,00	160,00	20.674,00	20.353,00
T - Ausl 10 Firenze	4,24	0,96	0,95	-0,80	749,00	748,00	78.034,00	78.542,00
T - Ausl 11 Empoli	3,76	0,86	1,05	21,79	194,00	248,00	22.612,00	23.678,00
T - Ausl 12 Viareggio	5,00	0,78	0,75	-4,10	128,00	130,00	16.473,00	17.379,00

## Indicator C8a: Area-Hospital Integration

### C8a.1 Percentage of admissions with > 30 days stay per area of residence

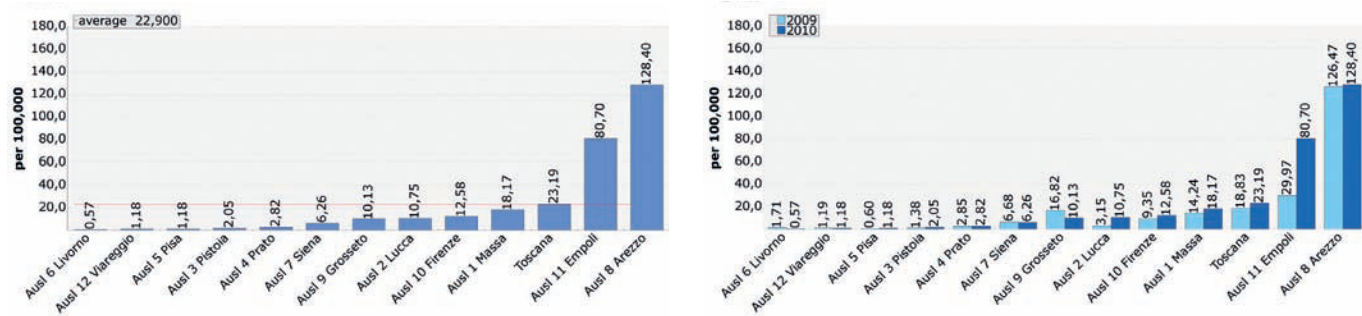
<b>Definition:</b>	Percentage of admissions with > 30 days stay per area of residence
<b>Numerator:</b>	No. of discharges with a length of stay of more than 30 days by Ausl of residence
<b>Denominator:</b>	No. of discharges by Ausl of residence
<b>Formula:</b>	$\frac{\text{No. of discharges with length of stay > 30 days by Ausl of residence}}{\text{No. of discharges by Ausl of residence}} \times 100$
<b>Notes:</b>	<p>We consider admissions provided in Tuscany for residents in Tuscany.            We consider only inpatient admissions.            Excluded:</p> <ul style="list-style-type: none"> <li>- admissions provided by unaccredited private hospitals</li> <li>- patients admitted, transferred, or discharged from: 24 Infectious Disease, 28 Spinal Unit, 68 Pulmonology, 40 Psychiatry, 47 burns, 49 intensive care, 56 recovery and functional rehabilitation, 60 long-term care, 73 neonatal intensive care, 75 neurorehabilitation Children under 1 year</li> <li>- discharged from Psychiatry (DRG 425, 426, 427, 428, 429, 430, 431, 432, 433, 521,522, 523)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional goal: ≤ 1%
<b>Meaning:</b>	It is an indirect indicator of the ability of local authorities to avoid the so-called social admissions.



### 4.73 Indicator C8a.12: Discharge rate with activation of integrated home care per 100,000 residents

Home care includes all activities of health care, nursing, rehabilitative and social care and guardianship aimed at taking care of both the patient and his/her family, at home. Home care aims to stabilise the clinical picture, to limit functional decline and improve the quality of daily life in continuity with hospital care. The following indicator assesses the level of implementation of continuity of care for patients discharged from health facilities who need continuing care. It measures the rate of hospital discharges which were followed by home care. The high regional variability of this indicator can be largely explained by an incomplete record of “discharge modality” in the Hospital Discharge Files (SDO).

**C8a.12** – Discharge rate with activation of integrated home care per 100,000 residents



**C8a.12** Discharge rate with activation of integrated home care per 100,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	18,83	23,19	23,19	698,00	865,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	14,24	18,17	27,63	29,00	37,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	3,15	10,75	240,93	7,00	24,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	1,38	2,05	48,93	4,00	6,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	2,85	2,82	-0,88	7,00	7,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	0,60	1,18	97,48	2,00	4,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	1,71	0,57	-66,66	6,00	2,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	6,68	6,26	-6,28	18,00	17,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	126,47	128,40	1,53	438,00	447,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	16,82	10,13	-39,79	38,00	23,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	9,35	12,58	34,59	76,00	103,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	29,97	80,70	169,30	71,00	193,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	1,19	1,18	-0,76	2,00	2,00	168.201,00	168.823,00

### Indicator C8a: Area-Hospital Integration

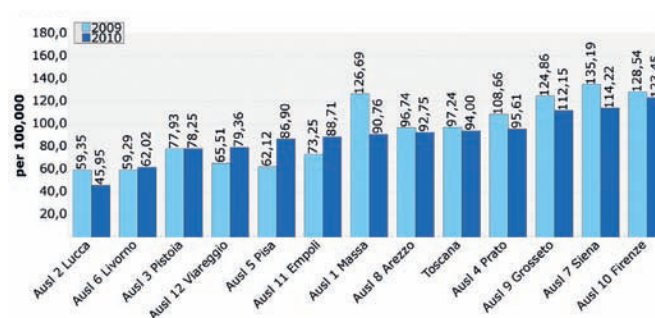
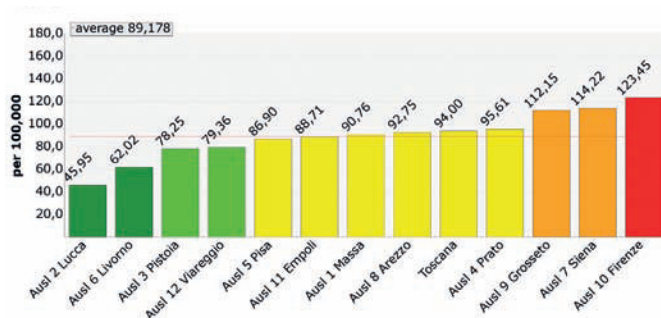
**C8a.12** Discharge rate with activation of integrated home care per 100,000 residents

<b>Definition:</b>	Discharge rate with activation of integrated home care per 100,000 residents
<b>Numerator:</b>	No. of discharges with activation of integrated home care
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of discharges with activation of integrated home care}}{\text{No. of residents}} \times 100,000$
<b>Notes:</b>	<p>We consider admissions provided in Tuscany for residents of Tuscany.            The numerator includes discharges with discharge mode (modim) 7, or: discharges at a patient's residence with activation of integrated home care            Excluded:</p> <ul style="list-style-type: none"> <li>– admissions provided by unaccredited private hospitals</li> <li>– discharges from the spinal unit, rehabilitation, long-term patient and neurorehabilitation (codes 28, 56, 60, 75)</li> <li>– admissions for birth (MDC 14 and 15)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## Indicator C11a.4.1: Pneumonia hospitalization rate per 100,000 residents (20-74 years) 4.74

### C11a.4.1 – Pneumonia hospitalization rate per 100,000 residents (20-74 years)



### C11a.4.1 Pneumonia hospitalization rate per 100,000 residents (20-74 years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,45	97,24	94,00	-3,33	2.580,00	2.503,00	2.653.362,00	2.662.846,00
T - Ausl 1 Massa	2,65	126,69	90,76	-28,36	186,00	133,00	146.818,00	146.547,00
T - Ausl 2 Lucca	5,00	59,35	45,95	-22,58	94,00	73,00	158.386,00	158.852,00
T - Ausl 3 Pistoia	3,43	77,93	78,25	0,41	163,00	164,00	209.164,00	209.577,00
T - Ausl 4 Prato	2,35	108,66	95,61	-12,01	192,00	170,00	176.699,00	177.812,00
T - Ausl 5 Pisa	2,89	62,12	86,90	39,90	150,00	211,00	241.485,00	242.816,00
T - Ausl 6 Livorno	4,44	59,29	62,02	4,61	150,00	157,00	253.013,00	253.136,00
T - Ausl 7 Siena	1,19	135,19	114,22	-15,51	257,00	218,00	190.107,00	190.857,00
T - Ausl 8 Arezzo	2,53	96,74	92,75	-4,12	239,00	230,00	247.059,00	247.974,00
T - Ausl 9 Grosseto	1,32	124,86	112,15	-10,18	203,00	183,00	162.585,00	163.177,00
T - Ausl 10 Firenze	0,62	128,54	123,45	-3,96	743,00	717,00	578.020,00	580.789,00
T - Ausl 11 Empoli	2,78	73,25	88,71	21,10	123,00	150,00	167.914,00	169.081,00
T - Ausl 12 Viareggio	3,36	65,51	79,36	21,14	80,00	97,00	122.112,00	122.228,00

## Indicator C8a: Area-Hospital Integration

### C11a.4.1 Pneumonia hospitalization rate per 100,000 residents (20-74 years)

<b>Definition:</b>	Hospitalization rate for pneumonia per 100,000 residents 20-74 years
<b>Numerator:</b>	No. of admissions for pneumonia 20-74 years amongst residents of the Ausl
<b>Denominator:</b>	Population aged 20-74; residents within the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for pneumonia 20-74 years}}{\text{Population 20-74 years}} \times 100,000$
<b>Notes:</b>	<p>We consider inpatient admissions provided anywhere, extra region included, of residents in Tuscany DRG: 79-80-89-90 Excluded:</p> <ul style="list-style-type: none"> <li>– Discharges from the spinal unit, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75)</li> <li>– admissions for unaccredited private facilities</li> <li>– admissions with principal diagnosis of: Primary, pulmonary and respiratory tuberculosis (codes 010.xx, 011.xx, 012.xx)</li> <li>– admissions with principal or secondary diagnoses of: Legionnaires disease (482.84), Pathological respiratory conditions due to inhalation of chemical fumes and vapors (506.0, 506.1, 506.2, 506.3), Foreign bodies and liquid aspiration pneumonia (507.0, 507.1, 507.8)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average 2008

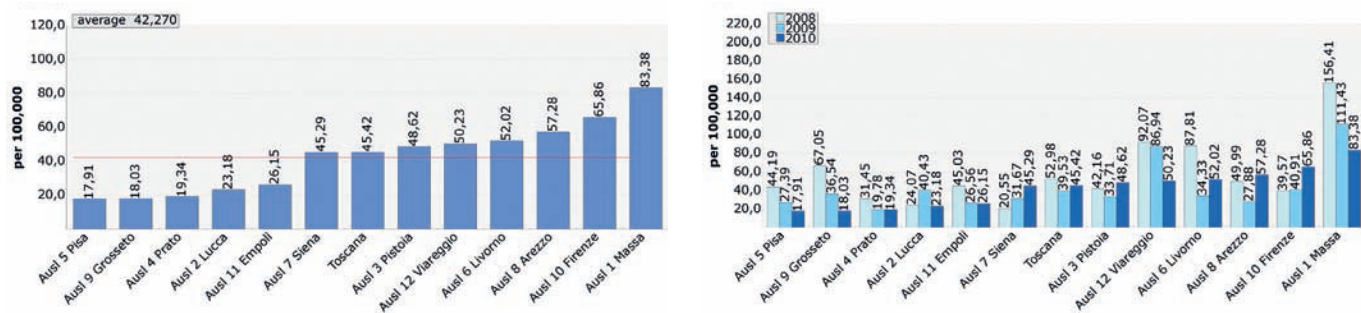


### 4.75 Indicator C8a.19: Basic Paediatrics

The hospitalization rate is a good indicator of the use of hospital facilities and for the demand within the region. Its value is of particular interest in paediatrics, for the peculiar characteristics of this age of development and the subsequent need of specific care and organizational pathways. Revisiting the relationship with the hospital, improving continuity of care and helping the paediatrician in defining the most suitable routes for the management of various diseases can all play a role in promoting local healthcare (Zanetti et al. 2005). The following indicators measure the hospitalization rate for two diseases that have a significant impact in paediatric patients, but that should be taken care of by Local Authorities, limiting the use of hospitalization only to the most severe cases. Starting from this year the indicator for hospitalization rate for paediatric gastroenteritis is being evaluated.

### 4.76 Indicator C8a.19.1: Hospitalization rate for paediatric asthma per 100,000 residents (2-17 years)

C8a.19.1 – Hospitalization rate for paediatric asthma per 100,000 residents (2-17 years)



C8a.19.1 Hospitalization rate for paediatric asthma per 100,000 residents (2-17 years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	39,53	45,42	14,92	193,00	225,00	488.296,00	495.372,00
T - Ausl 1 Massa	not assessed	111,43	83,38	-25,18	28,00	21,00	25.127,00	25.186,00
T - Ausl 2 Lucca	not assessed	40,43	23,18	-42,67	12,00	7,00	29.680,00	30.198,00
T - Ausl 3 Pistoia	not assessed	33,71	48,62	44,25	13,00	19,00	38.567,00	39.077,00
T - Ausl 4 Prato	not assessed	19,78	19,34	-2,22	7,00	7,00	35.397,00	36.201,00
T - Ausl 5 Pisa	not assessed	27,39	17,91	-34,60	12,00	8,00	43.810,00	44.656,00
T - Ausl 6 Livorno	not assessed	34,33	52,02	51,52	15,00	23,00	43.694,00	44.218,00
T - Ausl 7 Siena	not assessed	31,67	45,29	42,99	11,00	16,00	34.731,00	35.329,00
T - Ausl 8 Arezzo	not assessed	27,88	57,28	105,45	13,00	27,00	46.628,00	47.138,00
T - Ausl 9 Grosseto	not assessed	36,54	18,03	-50,65	10,00	5,00	27.366,00	27.726,00
T - Ausl 10 Firenze	not assessed	40,91	65,86	60,99	44,00	72,00	107.558,00	109.325,00
T - Ausl 11 Empoli	not assessed	26,56	26,15	-1,56	9,00	9,00	33.883,00	34.420,00
T - Ausl 12 Viareggio	not assessed	86,94	50,23	-42,22	19,00	11,00	21.855,00	21.898,00

### Indicator C8a: Area-Hospital Integration

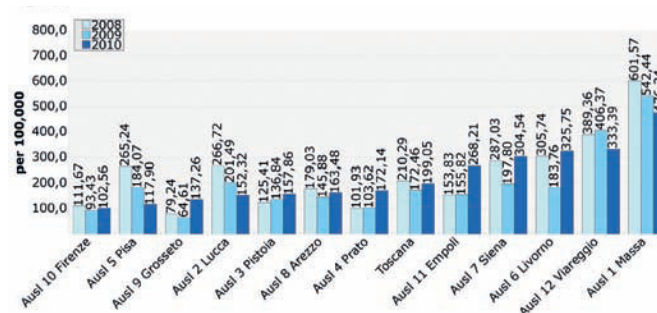
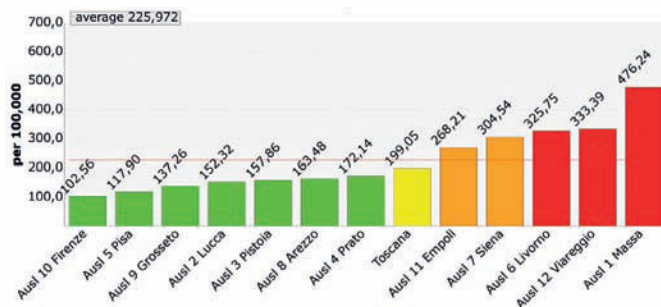
C8a.19.1 Hospitalization rate for paediatric asthma per 100,000 residents (2-17 years)

<b>Definition:</b>	Paediatric hospitalization rate for asthma
<b>Numerator:</b>	No. of admissions for asthma 2-17 years amongst residents of the Ausl
<b>Denominator:</b>	Resident population 2-17 years within the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for asthma 2-17 years amongst residents of the Ausl}}{\text{Resident population 2-17 years within the Ausl}} \times 100,000$
<b>Notes:</b>	We consider admissions provided anywhere, extra region included, of residents in Tuscany. codes ICD9-CM in principal diagnosis for asthma: 493.* Excluded: - patients transferred from other care institutes - patients under age 2 - patients with secondary diagnosis of cystic fibrosis and anomalies of the respiratory system: 277.0*, 747.21, 748.3, 748.4, 748.5, 748.6*, 748.8, 748.9, 750.3, 759.3, 770.7 - admissions for unaccredited private facilities
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## Indicator C8a.19.2: Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq 17$ years) 4.77

### C8a.19.2 – Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq 17$ years)



### C8a.19.2 Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq 17$ years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,63	172,46	199,05	15,41	956,00	1.117,00	554.323,00	561.175,00
T - Ausl 1 Massa	0,00	542,44	476,24	-12,20	154,00	135,00	28.390,00	28.347,00
T - Ausl 2 Lucca	3,28	201,49	152,32	-24,40	68,00	52,00	33.749,00	34.138,00
T - Ausl 3 Pistoia	3,20	136,84	157,86	15,36	60,00	70,00	43.847,00	44.342,00
T - Ausl 4 Prato	3,00	103,62	172,14	66,13	42,00	71,00	40.534,00	41.245,00
T - Ausl 5 Pisa	3,75	184,07	117,90	-35,95	92,00	60,00	49.980,00	50.891,00
T - Ausl 6 Livorno	0,88	183,76	325,75	77,27	91,00	163,00	49.521,00	50.038,00
T - Ausl 7 Siena	1,17	197,80	304,54	53,96	78,00	122,00	39.434,00	40.061,00
T - Ausl 8 Arezzo	3,12	145,88	163,48	12,06	77,00	87,00	52.782,00	53.217,00
T - Ausl 9 Grosseto	3,49	64,61	137,26	112,45	20,00	43,00	30.957,00	31.328,00
T - Ausl 10 Firenze	3,97	93,43	102,56	9,78	114,00	127,00	122.015,00	123.824,00
T - Ausl 11 Empoli	1,67	155,82	268,21	72,13	60,00	105,00	38.506,00	39.148,00
T - Ausl 12 Viareggio	0,77	406,37	333,39	-17,96	100,00	82,00	24.608,00	24.596,00

## Indicator C8a: Area-Hospital Integration

### C8a.19.2 Paediatric hospitalization rate for gastroenteritis per 100,000 residents aged ( $\leq 17$ years)

<b>Definition:</b>	Paediatric hospitalization rate for gastroenteritis
<b>Numerator:</b>	No. of admissions for gastroenteritis of underage residents within the Ausl
<b>Denominator:</b>	Underage resident population within the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for gastroenteritis of underage residents within the Ausl}}{\text{Underage resident population within the Ausl}} \times 100,000$
<b>Notes:</b>	<p>We consider admissions provided anywhere, extra regional included, of underage residents in Tuscany  <i>codes ICD9-CM in principal diagnosis for gastroenteritis: 008.6*, 008.8, 009.*, 558.9</i>  or  <i>codes ICD9-CM in secondary diagnosis for gastroenteritis and principal diagnosis for Dehydration: 276.5*</i></p> <p>Excluded discharges:</p> <ul style="list-style-type: none"> <li>- transferred from other care institutes</li> <li>- Under 3 months (or new-born whose age in months is not reported)</li> <li>- patients with diagnosis of gastrointestinal abnormalities (categories: 538, 555, 556, 579, and codes 558.1, 558.2, 558.3)</li> <li>- patients with diagnosis of bacterial gastroenteritis (categories: 004, 005, 007, and codes 003.0, 006.0, 006.1, 006.2, 008.0*, 008.1, 008.2, 008.3, 008.4*, 008.5, 112.85)</li> <li>- admissions for unaccredited private facilities</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average, 2010



## 4.78 Indicator C9: Appropriateness of Drug Prescription

At present data on pharmaceutical costs are readily obtainable from the regional flows. Information about the appropriateness of treatment choices made by physicians, and data regarding the proper use of medications by patients are still lacking. In this respect, the indicator C9 is a first step to monitor the correct use of drugs, as too often the measures taken at institutional levels are oriented only to expenditure restraints.

The indicator was initially constructed according to the guidelines contained in the regional resolutions 463/2006 and 148/2007, and it monitors some specific categories of drugs such as statins or antihypertensive, especially those with high consumption rates and a significant impact on costs. In the years following, the selection of drug categories evaluated and the determination of the specific objectives have been updated according to regional guidelines. Although the indicator is not exhaustive because it does not allow to connect the use of the drug with the diagnosis and the characteristics of the user, the variations amongst the Authorities allow identification of certain phenomena of inappropriateness.

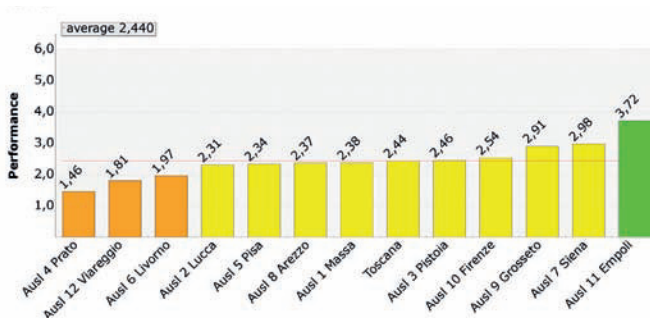
The new indicators introduced in the system are not being assessed this year. The data come from the Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region.

Indicator	Performance	Year
C9 – Appropriateness of Drug Prescription	● 2,44	2010

### C9 Appropriateness of Drug Prescription

- C9.6 – Cardiovascular:
  - C9.6.1 – Statins (Lipid Lowering):
    - C9.2 – Percentage of statin-treated patients abandoning drug therapy: 15,29% ■
    - C9.6.1.2 – Percentage of statin-treated patients: 40,16% ■
    - C9.6.1.3 – Statin consumption in combination with other drugs: 83,62 u.p. ■
  - C9.6.2 – Antihypertensives:
    - C9.3 – Incidence of sartans (Antihypertensive): 41,87% ■
- C9.7 – Gastrointestinal:
  - C9.1 – Consumption of Proton Pump Inhibitors (Antacid): 24,29 u.p. pro-capite ■
- C9.8 – Antimicrobials:
  - C9.8.1.1 – Consumption of antibiotics: 22,89 DDD × 1,000 ab/die ■
  - C9.8.1.2 – Incidence of injectable antibiotics: 27,56% ■
- C9.9 – Nervous System:
  - C9.4 – Consumption of selective serotonin reuptake inhibitors (antidepressants): 48,27 DDD × 1,000 ab/die ■
  - C9.9.1.1 – Percentage of antidepressant-treated patients abandoning drug therapy: 27,92% ■
  - C9.11 – Percentage of antidepressant-treated patients: 27,57
  - C9.5 – Consumption of other antidepressants (Antidepressants): 11,63 DDD × 1,000 ab/die ■

### C9 – Appropriateness of Drug Prescription



## Indicator C9: Appropriateness of Drug Prescription

### C9 Appropriateness of Drug Prescription

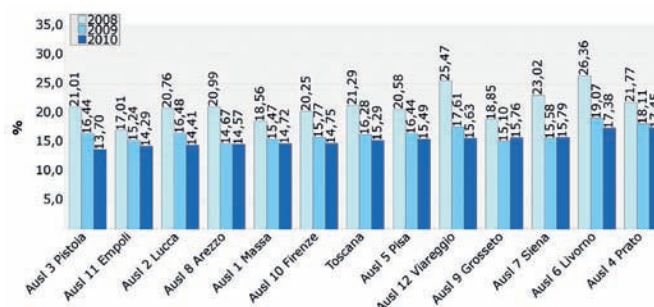
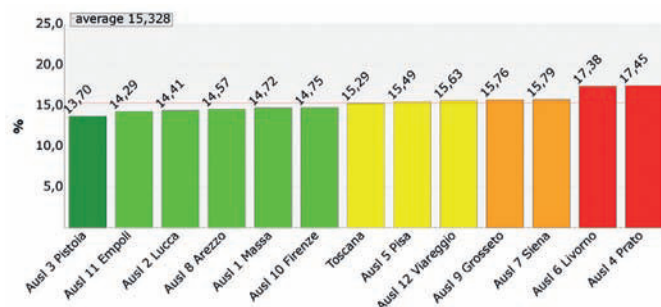
**Notes** The indicator C9 has a value equal to the average score of indicators: C9.1, C9.2, C9.3, C9.4, and C9.5 C9.6.1.2, C9.6.1.3, C9.8.8.1, C9.8.8.2, C9.9.9.1



## Indicator C9.2: Percentage of statin-treated patients abandoning drug therapy 4.79

Statin therapy is effective if prolonged and if there is compliance by the patient. The indicator measures how many users have purchased less than 3 packs of statins in a year, revealing a potentially inappropriate use of these drugs. Statins are among the drugs that have the greatest effect on pharmaceutical expenditure. In resolution 148/2007 there is reference to a therapy interruption percentage below 8%, taking into account the individuality of the patient and the possibility of substitution with a more appropriate therapy based on therapeutic efficacy in the individual.

### C9.2 – Percentage of statin-treated patients abandoning drug therapy



### C9.2 Percentage of statin-treated patients abandoning drug therapy

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,56	16,28	15,29	-6,08	45.752,00	45.574,00	280.973,00	298.048,00
T - AUSL 1 Massa	3,32	15,47	14,72	-4,85	2.863,00	2.782,00	18.511,00	18.899,00
T - AUSL 2 Lucca	3,73	16,48	14,41	-12,56	2.634,00	2.412,00	15.984,00	16.739,00
T - AUSL 3 Pistoia	4,68	16,44	13,70	-16,67	3.544,00	3.094,00	21.553,00	22.586,00
T - AUSL 4 Prato	0,00	18,11	17,45	-3,64	2.752,00	2.785,00	15.198,00	15.958,00
T - AUSL 5 Pisa	2,30	16,44	15,49	-5,78	4.346,00	4.211,00	26.439,00	27.192,00
T - AUSL 6 Livorno	0,00	19,07	17,38	-8,86	5.987,00	5.674,00	31.393,00	32.639,00
T - AUSL 7 Siena	1,89	15,58	15,79	1,35	3.140,00	3.410,00	20.153,00	21.594,00
T - AUSL 8 Arezzo	3,53	14,67	14,57	-0,68	4.068,00	4.255,00	27.735,00	29.212,00
T - AUSL 9 Grosseto	1,94	15,10	15,76	4,37	2.888,00	3.259,00	19.131,00	20.684,00
T - AUSL 10 Firenze	3,28	15,77	14,75	-6,47	9.413,00	9.603,00	59.671,00	65.097,00
T - AUSL 11 Empoli	3,90	15,24	14,29	-6,23	2.073,00	2.147,00	13.598,00	15.027,00
T - AUSL 12 Viareggio	2,10	17,61	15,63	-11,24	2.044,00	1.942,00	11.607,00	12.421,00

## Indicator C9: Appropriateness of Drug Prescription

### C9.2 Percentage of statin-treated patients abandoning drug therapy

<b>Definition:</b>	Percentage of customers who consume less than 3 boxes a year of statins, provided by pharmacies under the National Health System
<b>Numerator:</b>	No. of customers who take 1 or 2 boxes of Statins a year × 100
<b>Denominator:</b>	No. of customers who take Statins
<b>Formula:</b>	$\frac{\text{No. of customers who take 1 or 2 boxes of Statins a year} \times 100}{\text{No. of customers who take Statins}}$
<b>Notes:</b>	Statins are ATC class C10AA. Data is per Authority of residence.
<b>Source:</b>	Data Flow SPF – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region ( <i>Dati Flusso SPF – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana</i> )
<b>Reference:</b>	Regional goal: ≤ 8%

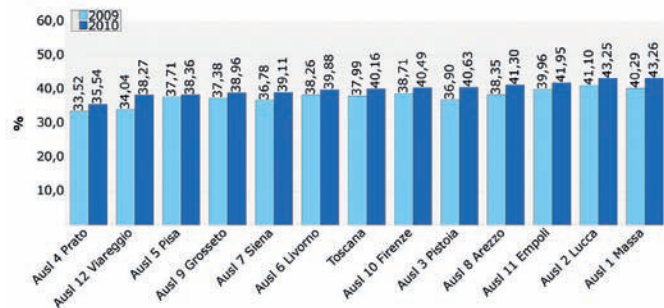
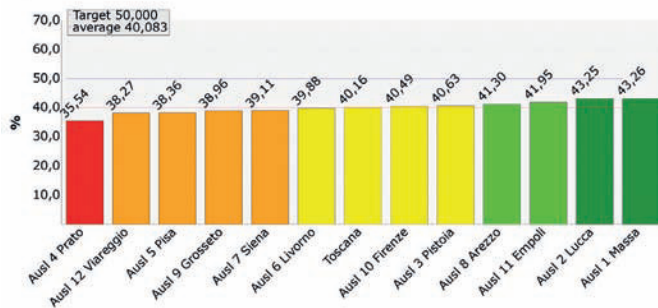




## 4.80 Indicator C9.6.1.2: Percentage of statin-treated patients

The figure measures the percentage of patients undergoing statin therapy, i.e. those who purchased at least 290 units of statin dosage in one year.

### C9.6.1.2 – Percentage of statin-treated patients



### C9.6.1.2 Percentage of statin-treated patients

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,56	37,99	40,16	5,71	103.588,00	119.698,00	272.697,00	298.048,00
T - Ausl 1 Massa	4,57	40,29	43,26	7,37	7.173,00	8.176,00	17.802,00	18.899,00
T - Ausl 2 Lucca	4,56	41,10	43,25	5,23	6.425,00	7.240,00	15.633,00	16.739,00
T - Ausl 3 Pistoia	2,86	36,90	40,63	10,11	7.795,00	9.177,00	21.124,00	22.586,00
T - Ausl 4 Prato	0,00	33,52	35,54	6,03	4.904,00	5.672,00	14.632,00	15.958,00
T - Ausl 5 Pisa	1,39	37,71	38,36	1,72	9.728,00	10.430,00	25.797,00	27.192,00
T - Ausl 6 Livorno	2,38	38,26	39,88	4,23	11.667,00	13.018,00	30.495,00	32.639,00
T - Ausl 7 Siena	1,88	36,78	39,11	6,33	7.228,00	8.445,00	19.653,00	21.594,00
T - Ausl 8 Arezzo	3,30	38,35	41,30	7,69	10.188,00	12.064,00	26.569,00	29.212,00
T - Ausl 9 Grosseto	1,78	37,38	38,96	4,23	6.885,00	8.059,00	18.419,00	20.684,00
T - Ausl 10 Firenze	2,77	38,71	40,49	4,60	22.360,00	26.359,00	57.770,00	65.097,00
T - Ausl 11 Empoli	3,72	39,96	41,95	4,98	5.346,00	6.304,00	13.379,00	15.027,00
T - Ausl 12 Viareggio	1,34	34,04	38,27	12,43	3.889,00	4.754,00	11.424,00	12.421,00

## Indicator C9: Appropriateness of Drug Prescription

### C9.6.1.2 Percentage of statin-treated patients

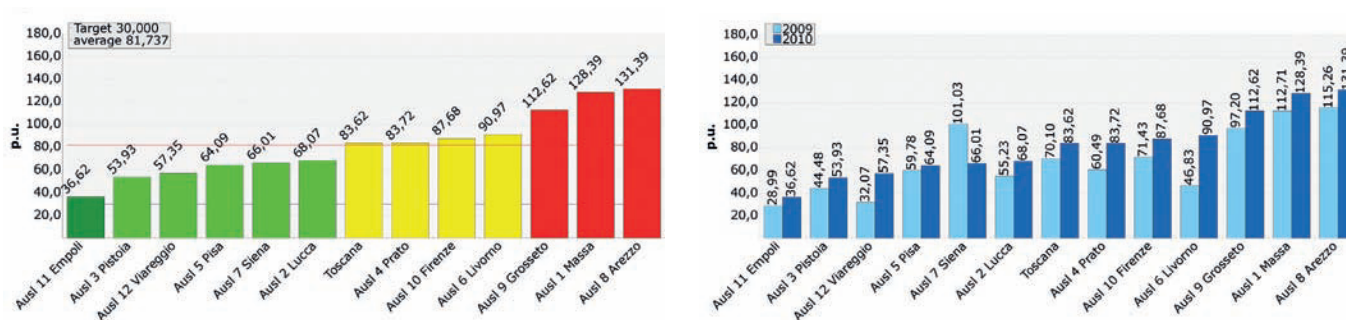
<b>Definition:</b>	Percentage of patients who annually take at least 290 u.p. of Statins, provided by pharmacies under the National Health System
<b>Numerator:</b>	No. of patients who take at least 290 u.p. of Statins a year
<b>Denominator:</b>	No. patients who take Statins
<b>Formula:</b>	$\frac{\text{No. of patients who take at least 290 u.p. of Statins a year} \times 100}{\text{No. patients who take Statins}}$
<b>Notes:</b>	Statins are ATC class C10AA. Data is per Authority of residence.
<b>Source:</b>	Data Flow SPF – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region ( <i>Dati Flusso SPF – Settore Politiche del Farmaco, Appropriately e Innovazione, Regione Toscana</i> )
<b>Reference:</b>	Regional goal: $\geq 50\%$



### Indicator C9.6.1.3: Statin consumption in combination with other drugs 4.81

The indicator has been introduced because in recent years there has been a significant increase in the consumption of statins in combination with other drugs, although their efficacy is not supported by evidence from academic medical literature. The cost of drug combinations is also much higher than the cost of statins not in combination with other drugs. The regional objective fixes consumption dosage under 30 units per 100 inhabitants (weighted population).

#### C9.6.1.3 – Statin consumption in combination with other drugs



#### C9.6.1.3 Statin consumption in combination with other drugs

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,41	70,10	83,62	19,29	2.599.200,00	3.119.040,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	0,05	112,71	128,39	13,91	234.720,00	267.810,00	208.243,00	208.590,43
T - Ausl 2 Lucca	3,23	55,23	68,07	23,25	122.520,00	151.950,00	221.833,00	223.233,14
T - Ausl 3 Pistoia	3,98	44,48	53,93	21,25	126.720,00	154.890,00	284.890,00	287.186,25
T - Ausl 4 Prato	2,41	60,49	83,72	38,40	138.000,00	192.720,00	228.153,00	230.207,15
T - Ausl 5 Pisa	3,44	59,78	64,09	7,21	197.850,00	213.810,00	330.965,00	333.610,65
T - Ausl 6 Livorno	2,02	46,83	90,97	94,26	168.540,00	329.040,00	359.932,00	361.701,50
T - Ausl 7 Siena	3,34	101,03	66,01	-34,66	279.210,00	183.480,00	276.356,00	277.973,21
T - Ausl 8 Arezzo	0,00	115,26	131,39	13,99	392.040,00	449.520,00	340.122,00	342.125,54
T - Ausl 9 Grosseto	0,88	97,20	112,62	15,86	229.020,00	265.890,00	235.623,00	236.097,05
T - Ausl 10 Firenze	2,20	71,43	87,68	22,75	591.180,00	729.450,00	827.628,00	831.972,25
T - Ausl 11 Empoli	4,89	28,99	36,62	26,32	65.760,00	83.820,00	226.838,00	228.879,91
T - Ausl 12 Viareggio	3,80	32,07	57,35	78,83	53.640,00	96.660,00	167.235,00	168.552,92

## Indicator C9: Appropriateness of Drug Prescription

### C9.6.1.3 Statin consumption in combination with other drugs (lipid lowering)

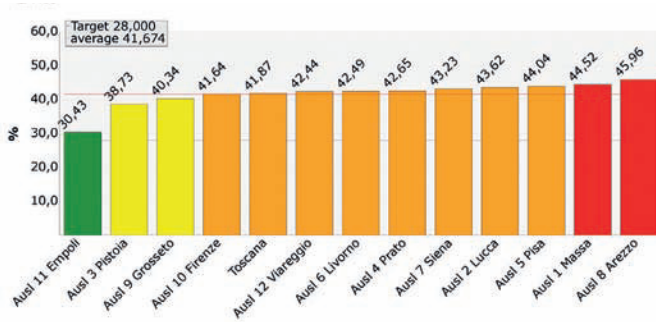
<b>Definition:</b>	Consumption per 100 residents of Statins in combination with other drugs, distributed by pharmacies under the National Health System, and by direct supply
<b>Numerator:</b>	No. of unit doses of Statins distributed in combination with other drugs
<b>Denominator:</b>	population on 1 Jan 2010 weighted according to the criteria of ER R 2008-2010
<b>Formula:</b>	$\frac{\text{No. of unit doses of Statins distributed in combination with other drugs} \times 100}{\text{population on 1 Jan 2010 weighted according to the criteria of ER R 2008-2010}}$
<b>Notes:</b>	Statin in combination with other drugs are ATC class C10B. Data is per providing Authority with reference to medication distributed under the National Health System, and per Authority of residence with reference to direct supply
<b>Source:</b>	Data SFERA FED Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA, flusso FED – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\leq 30$ u.p. per 100 residents (weighted population)



## 4.82 Indicator C9.3: Incidence of sartans (Antihypertensive)

Sartans, such as ACE inhibitor, combat hypertension. The indicator helps understand the usage of sartans, which should be limited to cases where it is really necessary, due not only to the fact that they are more expensive than ACE inhibitors, but their greater clinical efficiency is unproven and their risk profile is less known. The regional objective, expressed as a percentage of prescribed dosage of sartans, is fixed under 28%.

### C9.3 – Incidence of sartans (Antihypertensive)



### C9.3 Incidence of sartans (Antihypertensive)

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	41,87 %	1,62	87.230.780,00	208.342.120,00	2010
T - Ausl 1 Massa	44,52 %	0,86	5.552.729,00	12.471.801,00	2010
T - Ausl 2 Lucca	43,62 %	1,12	5.653.634,00	12.961.714,00	2010
T - Ausl 3 Pistoia	38,73 %	2,52	6.549.487,00	16.911.953,00	2010
T - Ausl 4 Prato	42,65 %	1,40	4.891.775,00	11.470.709,00	2010
T - Ausl 5 Pisa	44,04 %	1,00	7.638.617,00	17.345.641,00	2010
T - Ausl 6 Livorno	42,49 %	1,44	8.557.318,00	20.139.680,00	2010
T - Ausl 7 Siena	43,23 %	1,23	6.366.500,00	14.725.682,00	2010
T - Ausl 8 Arezzo	45,96 %	0,45	9.232.237,00	20.088.361,00	2010
T - Ausl 9 Grosseto	40,34 %	2,06	5.301.681,00	13.143.355,00	2010
T - Ausl 10 Firenze	41,64 %	1,68	19.924.226,00	47.844.384,00	2010
T - Ausl 11 Empoli	30,43 %	4,89	3.677.898,00	12.086.298,00	2010
T - Ausl 12 Viareggio	42,44 %	1,45	3.884.678,00	9.152.542,00	2010

## Indicator C9: Appropriateness of Drug Prescription

### C9.3 Incidence of sartans (Antihypertensive)

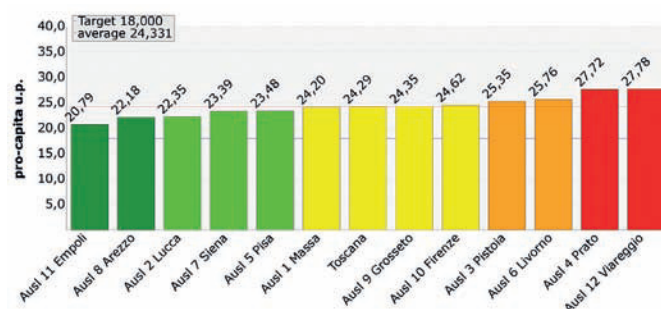
<b>Definition:</b>	Consumption of sartans, distributed by pharmacies under the National Health System, compared to the “substances acting on the renin-angiotensin”
<b>Numerator:</b>	No. of unit doses of sartans distributed, $\times 100$
<b>Denominator:</b>	No. of unit doses of drugs belonging to the group “substances acting on the renin-angiotensin” distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of sartans distributed} \times 100}{\text{No. of unit doses of drugs belonging to the group "substances acting on the renin-angiotensin" distributed}}$
<b>Notes:</b>	The angiotensin II antagonists associated and not associated (ARBs), belong to class ATC C09C and C09D. The “substances acting on the renin-angiotensin system” are in the therapeutic group C09. Data is per providing Authority.
<b>Source:</b>	Data SFERA FED Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA, flusso FED – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\leq 28\%$



## Indicator C9.1: Consumption of Proton Pump Inhibitors (Antacid) 4.83

In Italy the consumption of proton pump inhibitors (PPIs) has been increasing for many years. Given the great variability in the use of these drugs even at the national level, hardly justified by epidemiological differences, we can assume the presence of areas of inappropriateness and over-prescription. The indicator measures the consumption of these drugs, considering the high impact of this category of pharmaceuticals on expenditure. The indicator this year includes also the proportion of drugs supplied through direct distribution and under the National Health System. At the regional level, the consumption of PPIs, provided by local pharmacies directly and under the National Health System, should not exceed 18 units per capita (weighted population).

### C9.1 – Consumption of Proton Pump Inhibitors (Antacid)



### C9.1 Consumption of Proton Pump Inhibitors (Antacid)

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	24,29 u. p. pro-capite	2,54	90.609.511,00	3.730.130,00	2010
T - Ausl 1 Massa	24,20 u. p. pro-capite	2,61	5.047.396,00	208.590,43	2010
T - Ausl 2 Lucca	22,35 u. p. pro-capite	3,93	4.988.820,00	223.233,14	2010
T - Ausl 3 Pistoia	25,35 u. p. pro-capite	1,78	7.280.640,00	287.186,25	2010
T - Ausl 4 Prato	27,72 u. p. pro-capite	0,08	6.381.557,00	230.207,15	2010
T - Ausl 5 Pisa	23,48 u. p. pro-capite	3,12	7.832.554,00	333.610,65	2010
T - Ausl 6 Livorno	25,76 u. p. pro-capite	1,49	9.317.671,00	361.701,50	2010
T - Ausl 7 Siena	23,39 u. p. pro-capite	3,18	6.502.121,00	277.973,21	2010
T - Ausl 8 Arezzo	22,18 u. p. pro-capite	4,05	7.589.028,00	342.125,54	2010
T - Ausl 9 Grosseto	24,35 u. p. pro-capite	2,50	5.749.039,00	236.097,05	2010
T - Ausl 10 Firenze	24,62 u. p. pro-capite	2,31	20.479.765,00	831.972,25	2010
T - Ausl 11 Empoli	20,79 u. p. pro-capite	5,00	4.759.183,00	228.879,91	2010
T - Ausl 12 Viareggio	27,78 u. p. pro-capite	0,04	4.681.737,00	168.552,92	2010

## Indicator C9: Appropriateness of Drug Prescription

### C9.1 Consumption of Proton Pump Inhibitors (Antacid)

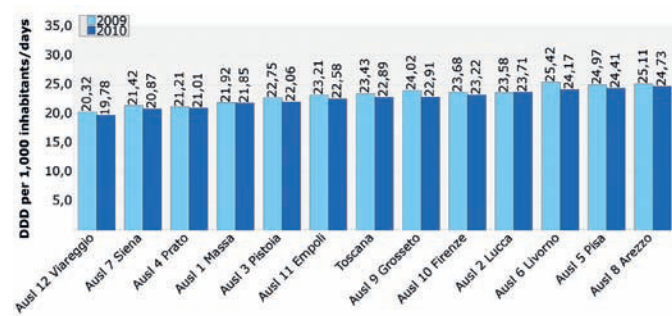
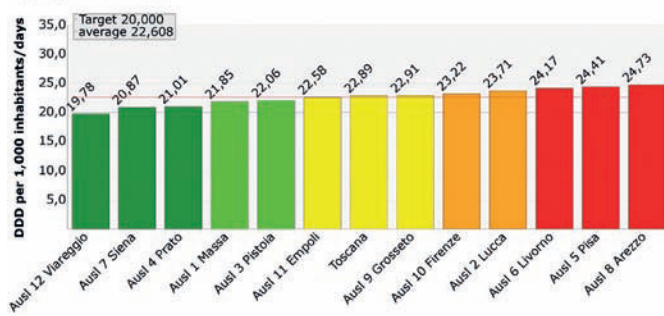
<b>Definition:</b>	Consumption per capita of Proton Pump Inhibitors, distributed by pharmacies under the National Health System, and by direct supply
<b>Numerator:</b>	No. of unit doses of Proton Pump Inhibitors distributed
<b>Denominator:</b>	population on 1 Jan 2010 weighted according to the criteria of ER R 2008-2010
<b>Formula:</b>	$\frac{\text{No. of unit doses of Proton Pump Inhibitors distributed}}{\text{population on 1 Jan 2010 weighted according to the criteria of ER R 2008-2010}}$
<b>Notes:</b>	Proton Pump Inhibitors are ATC class A02BC. Data is per providing Authority with reference to medication under the National Health System, and per Authority of residence with reference to direct supply
<b>Source:</b>	Data SFERA FED Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA, flusso FED – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 18 u.p. per capita (weighted population)



## 4.84 Indicator C9.8.1.1: Consumption of antibiotics

Although the consumption of antibiotics appears to be in decline nationally, according to data relating to the first nine months of 2010 reported in the Osmed Report, Italy is one of the European countries with the highest level of antibiotics consumption. Excessive use of these drugs is the main cause of the spread of the phenomenon of antibiotic resistance. Nationally, consumption of anti-microbial drugs under the National Health System (SSN) is around 24 DDD per 1000 inhabitants daily and has a high variation at the regional level, with data ranging between 13.1 DDD per 1000 inhabitants in the Autonomous Province of Bolzano and 35 DDD per 1000 inhabitants in Campania (OSMED Data Report January-September 2010).

### C9.8.1.1 – Consumption of antibiotics



### C9.8.1.1 Consumption of antibiotics

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,23	23,43	22,89	-2,30	-	-	-	-
T - Ausl 1 Massa	3,28	21,92	21,85	-0,32	-	-	-	-
T - Ausl 2 Lucca	1,40	23,58	23,71	0,55	-	-	-	-
T - Ausl 3 Pistoia	3,06	22,75	22,06	-3,03	-	-	-	-
T - Ausl 4 Prato	4,12	21,21	21,01	-0,94	-	-	-	-
T - Ausl 5 Pisa	0,69	24,97	24,41	-2,24	-	-	-	-
T - Ausl 6 Livorno	0,93	25,42	24,17	-4,92	-	-	-	-
T - Ausl 7 Siena	4,27	21,42	20,87	-2,57	-	-	-	-
T - Ausl 8 Arezzo	0,37	25,11	24,73	-1,51	-	-	-	-
T - Ausl 9 Grosseto	2,20	24,02	22,91	-4,62	-	-	-	-
T - Ausl 10 Firenze	1,89	23,68	23,22	-1,94	-	-	-	-
T - Ausl 11 Empoli	2,54	23,21	22,58	-2,71	-	-	-	-
T - Ausl 12 Viareggio	5,00	20,32	19,78	-2,66	-	-	-	-

## Indicator C9: Appropriateness of Drug Prescription

### C9.8.1.1 Consumption of antibiotics

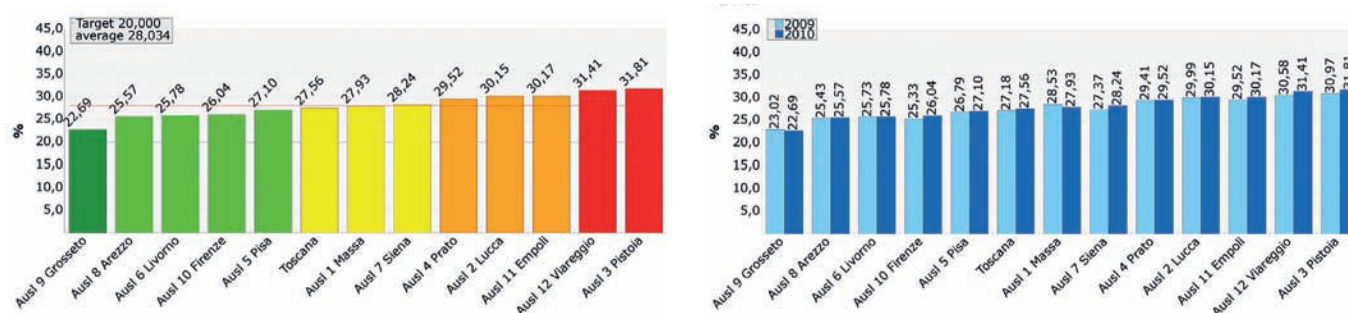
<b>Definition:</b>	Consumption of antibiotics, distributed by local pharmacies under the National Health System
<b>Numerator:</b>	Defined Daily Dose (DDD) of antibiotics distributed within the year per active ingredient × 1000
<b>Denominator:</b>	No. of residents × 365
<b>Formula:</b>	$\frac{\text{DDD of antibiotics distributed within the year per active ingredient} \times 1000}{\text{No. of residents} \times 365}$
<b>Notes:</b>	Antibiotics are ATC class J01. Consumption of drugs is calculated by means of Defined Daily Dose (DDD) which is the maintenance dose per day of therapy, in adults, with reference to the principal therapeutic indication of the substance. DDD allows comparison of drugs with the same principle in different doses. This indicator allows to compare numerically different populations in different periods of time. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional average, 2010



## Indicator C9.8.1.2: Incidence of injectable antibiotics 4.85

Italy records the highest level of injectable antibiotics consumption in Europe. According to the data in the Report on the use of antibiotics 2009 (AIFA), France and Belgium, with antibiotics consumption levels similar to that of Italy, have levels of injectable antibiotics consumption 3 to 6 times below that of the Italian ones. These drugs should be used in patients with particularly severe clinical cases or when it is impossible for the patient to take oral antibiotics. These situations are rare at the local level.

### C9.8.1.2 – Incidence of injectable antibiotics



### C9.8.1.2 Incidence of injectable antibiotics

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,77	27,18	27,56	1,40	1.644.864,00	1.643.328,00	6.052.065,00	5.961.730,00
T - Ausl 1 Massa	2,57	28,53	27,93	-2,10	89.961,00	87.191,00	315.314,00	312.186,00
T - Ausl 2 Lucca	1,35	29,99	30,15	0,53	118.747,00	120.403,00	395.923,00	399.370,00
T - Ausl 3 Pistoia	0,44	30,97	31,81	2,71	151.528,00	153.321,00	489.245,00	482.053,00
T - Ausl 4 Prato	1,69	29,41	29,52	0,37	104.888,00	104.628,00	356.679,00	354.418,00
T - Ausl 5 Pisa	3,02	26,79	27,10	1,16	156.650,00	155.484,00	584.835,00	573.740,00
T - Ausl 6 Livorno	3,75	25,73	25,78	0,19	156.232,00	149.330,00	607.239,00	579.230,00
T - Ausl 7 Siena	2,40	27,37	28,24	3,18	113.451,00	115.201,00	414.568,00	407.978,00
T - Ausl 8 Arezzo	3,86	25,43	25,57	0,55	154.184,00	152.712,00	606.262,00	597.290,00
T - Ausl 9 Grosseto	5,00	23,02	22,69	-1,43	84.225,00	79.940,00	365.917,00	352.263,00
T - Ausl 10 Firenze	3,60	25,33	26,04	2,80	322.569,00	328.784,00	1.273.270,00	1.262.688,00
T - Ausl 11 Empoli	1,34	29,52	30,17	2,20	115.077,00	117.628,00	389.870,00	389.914,00
T - Ausl 12 Viareggio	0,66	30,58	31,41	2,71	77.352,00	78.706,00	252.943,00	250.600,00

## Indicator C9: Appropriateness of Drug Prescription

### C9.8.1.2 Incidence of injectable antibiotics

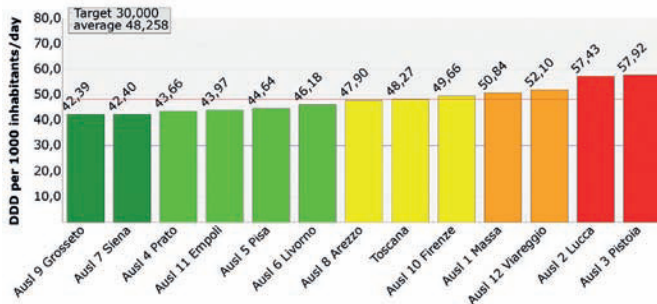
<b>Definition:</b>	Consumption of injectable antibiotics compared to the overall antibiotics distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of boxes of injectable antibiotics distributed × 100
<b>Denominator:</b>	Overall No. of boxes of antibiotics distributed
<b>Formula:</b>	$\frac{\text{No. of boxes of injectable antibiotics distributed} \times 100}{\text{Overall No. of boxes of antibiotics distributed}}$
<b>Notes:</b>	Antibiotics are ATC class J01. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 20%



## 4.86 Indicator C9.4: Consumption of selective serotonin reuptake inhibitors (antidepressants)

The indicator has been introduced to monitor the prescription of SSRIs, as Tuscany records the highest consumption rate of antidepressants at the national level. The overuse of these drugs may be inappropriate. The regional objective with regard to the use of these medications, delivered through the local pharmacies under the National Health System and this year also through direct distribution and on account of the Local Health Authorities, fixed the limit of 30 DDD (Defined Daily Dose) per 1000 residents.

### C9.4 – Consumption of selective serotonin reuptake inhibitors (antidepressants)



### C9.4 Consumption of selective serotonin reuptake inhibitors (antidepressants)

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	48,27 DDD per 1000 ab/die	2,51	–	–	2010
T - Ausl 1 Massa	50,84 DDD per 1000 ab/die	1,68	–	–	2010
T - Ausl 2 Lucca	57,43 DDD per 1000 ab/die	0,00	–	–	2010
T - Ausl 3 Pistoia	57,92 DDD per 1000 ab/die	0,00	–	–	2010
T - Ausl 4 Prato	43,66 DDD per 1000 ab/die	3,99	–	–	2010
T - Ausl 5 Pisa	44,64 DDD per 1000 ab/die	3,68	–	–	2010
T - Ausl 6 Livorno	46,18 DDD per 1000 ab/die	3,18	–	–	2010
T - Ausl 7 Siena	42,40 DDD per 1000 ab/die	4,40	–	–	2010
T - Ausl 8 Arezzo	47,90 DDD per 1000 ab/die	2,63	–	–	2010
T - Ausl 9 Grosseto	42,39 DDD per 1000 ab/die	4,40	–	–	2010
T - Ausl 10 Firenze	49,66 DDD per 1000 ab/die	2,06	–	–	2010
T - Ausl 11 Empoli	43,97 DDD per 1000 ab/die	3,89	–	–	2010
T - Ausl 12 Viareggio	52,10 DDD per 1000 ab/die	1,27	–	–	2010

## Indicator C9: Appropriateness of Drug Prescription

### C9.4 Consumption of selective serotonin reuptake inhibitors (antidepressants)

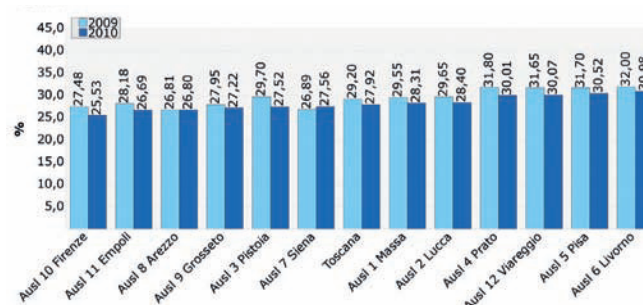
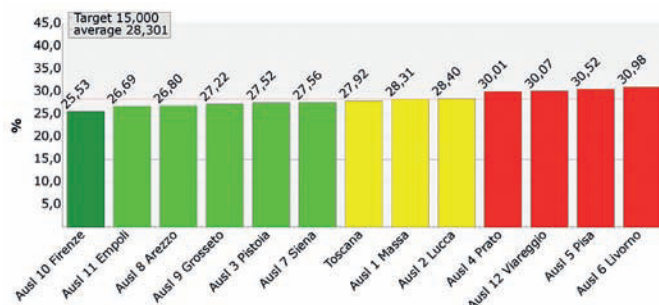
<b>Definition:</b>	Consumption of selective serotonin reuptake inhibitors (SSRIs), distributed by pharmacies under the National Health System, and by direct supply
<b>Numerator:</b>	DDD of SSRIs distributed within the year; per active ingredient × 1000
<b>Denominator:</b>	No. of residents × 365
<b>Formula:</b>	$\frac{\text{DDD of SSRIs distributed within the year; per active ingredient} \times 1000}{\text{No. of residents} \times 365}$
<b>Notes:</b>	Selective serotonin reuptake inhibitors (SSRIs) are ATC class N06AB. Consumption of drugs is calculated by means of Defined Daily Dose (DDD) which is the maintenance dose per day of therapy, in adults, with reference to the principal therapeutic indication of the substance. DDD allows comparison of drugs with the same principle in different doses. This indicator allows to compare numerically different populations in different periods of time. Data is per providing Authority with reference to pharmaceuticals under the National Health System, and per Authority of residence with reference to direct supply.
<b>Source:</b>	Data SFERA FED Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA, flusso FED – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 30 DDD per 1000 ab/die



## Indicator C9.9.1.1: Percentage of antidepressant-treated patients abandoning drug therapy 4.87

Antidepressant therapy is effective if long-lasting and if there is patient cooperation. The indicator measures the number of users who purchased less than 3 packs of antidepressants in a year, revealing a potentially inappropriate use of these drugs.

### C9.9.1.1 – Percentage of antidepressant-treated patients abandoning drug therapy



### C9.9.1.1 Percentage of antidepressant-treated patients abandoning drug therapy

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,86	29,20	27,92	-4,38	109.342,00	105.337,00	374.482,00	377.301,00
T - AUSL 1 Massa	2,50	29,55	28,31	-4,20	6.828,00	6.543,00	23.103,00	23.114,00
T - AUSL 2 Lucca	2,42	29,65	28,40	-4,22	8.172,00	7.821,00	27.562,00	27.541,00
T - AUSL 3 Pistoia	3,22	29,70	27,52	-7,34	10.515,00	9.686,00	35.410,00	35.193,00
T - AUSL 4 Prato	0,94	31,80	30,01	-5,63	6.726,00	6.347,00	21.150,00	21.147,00
T - AUSL 5 Pisa	0,47	31,70	30,52	-3,72	10.214,00	9.884,00	32.223,00	32.382,00
T - AUSL 6 Livorno	0,05	32,00	30,98	-3,19	11.383,00	11.000,00	35.572,00	35.508,00
T - AUSL 7 Siena	3,19	26,89	27,56	2,49	6.237,00	6.701,00	23.191,00	24.315,00
T - AUSL 8 Arezzo	3,89	26,81	26,80	-0,04	8.732,00	9.093,00	32.567,00	33.934,00
T - AUSL 9 Grosseto	3,50	27,95	27,22	-2,61	5.223,00	5.215,00	18.690,00	19.158,00
T - AUSL 10 Firenze	5,00	27,48	25,53	-7,10	23.161,00	21.488,00	84.284,00	84.159,00
T - AUSL 11 Empoli	3,99	28,18	26,69	-5,29	6.003,00	5.723,00	21.303,00	21.441,00
T - AUSL 12 Viareggio	0,89	31,65	30,07	-4,99	6.148,00	5.836,00	19.427,00	19.409,00

## Indicator C9: Appropriateness of Drug Prescription

### C9.9.1.1 Percentage of antidepressant-treated patients abandoning drug therapy

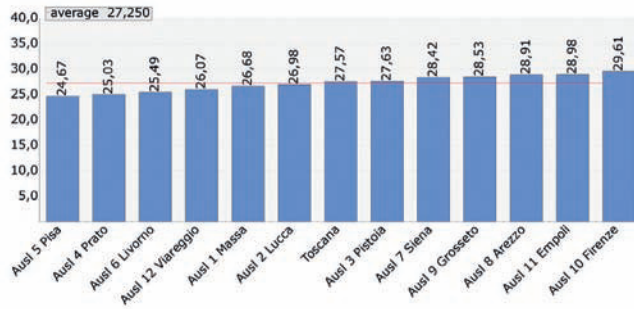
<b>Definition:</b>	Percentage of customers who annually take less than 3 boxes of antidepressants, distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of customers who take 1 or 2 boxes of antidepressants a year × 100
<b>Denominator:</b>	No. of customers who take antidepressants
<b>Formula:</b>	$\frac{\text{No. of customers who take 1 or 2 boxes of antidepressants a year} \times 100}{\text{No. of customers who take antidepressants}}$
<b>Notes:</b>	Antidepressants are ATC class N06AA (Inibitori non selettivi della serotonina), N06AB (SSRIs), and N06AX (other antidepressants) Data is per Authority of residence..
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 15%





## 4.88 Indicator C9.11: Percentage of antidepressant-treated patients

### C9.11 – Percentage of antidepressant-treated patients



### C9.11 Percentage of antidepressant-treated patients

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	27,57	not assessed	104.035,00	377.301,00	2015
T - Ausl 1 Massa	26,68	not assessed	6.167,00	23.114,00	2010
T - Ausl 2 Lucca	26,98	not assessed	7.430,00	27.541,00	2010
T - Ausl 3 Pistoia	27,63	not assessed	9.725,00	35.193,00	2010
T - Ausl 4 Prato	25,03	not assessed	5.294,00	21.147,00	2010
T - Ausl 5 Pisa	24,67	not assessed	7.989,00	32.382,00	2010
T - Ausl 6 Livorno	25,49	not assessed	9.051,00	35.508,00	2010
T - Ausl 7 Siena	28,42	not assessed	6.910,00	24.315,00	2010
T - Ausl 8 Arezzo	28,91	not assessed	9.811,00	33.934,00	2010
T - Ausl 9 Grosseto	28,53	not assessed	5.466,00	19.158,00	2010
T - Ausl 10 Firenze	29,61	not assessed	24.920,00	84.159,00	2010
T - Ausl 11 Empoli	28,98	not assessed	6.213,00	21.441,00	2010
T - Ausl 12 Viareggio	26,07	not assessed	5.059,00	19.409,00	2010

## Indicator C9: Appropriateness of Drug Prescription

### C9.11 Percentage of antidepressant-treated patients

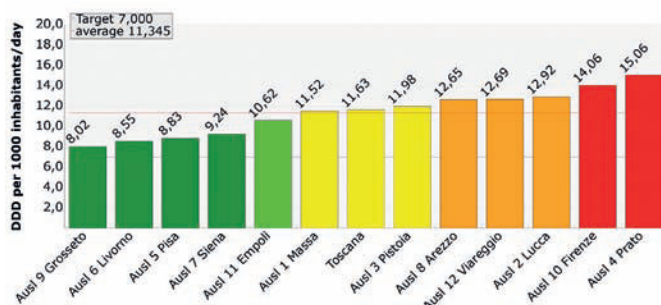
<b>Definition:</b>	Percentage of patients who annually take at least 290 u.p. of antidepressants distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of patients who take at least 290 u.p. of antidepressants a year
<b>Denominator:</b>	No. of patients who take antidepressants
<b>Formula:</b>	$\frac{\text{No. of patients who take at least 290 u.p. of antidepressants a year} \times 100}{\text{No. of patients who take antidepressants}}$
<b>Notes:</b>	Antidepressants are ATC class N06A. Data is per Authority of residence.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA – Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana)



## Indicator C9.5: Consumption of other antidepressants (Antidepressants) 4.89

For this class of antidepressants, delivered through the local pharmacies under the National Health System and this year also through direct distribution and on account of Local Health Authorities, the objective is fixed at under 7 DDD (Defined Daily Dose) per 1000 inhabitants.

### C9.5 – Consumption of other antidepressants (Antidepressants)



### C9.5 Consumption of other antidepressants (Antidepressants)

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	11,63 DDD per 1000 ab/die	2,31	–	–	2010
T - Ausl 1 Massa	11,52 DDD per 1000 ab/die	2,39	–	–	2010
T - Ausl 2 Lucca	12,92 DDD per 1000 ab/die	1,39	–	–	2010
T - Ausl 3 Pistoia	11,98 DDD per 1000 ab/die	2,06	–	–	2010
T - Ausl 4 Prato	15,06 DDD per 1000 ab/die	0,00	–	–	2010
T - Ausl 5 Pisa	8,83 DDD per 1000 ab/die	4,29	–	–	2010
T - Ausl 6 Livorno	8,55 DDD per 1000 ab/die	4,49	–	–	2010
T - Ausl 7 Siena	9,24 DDD per 1000 ab/die	4,01	–	–	2010
T - Ausl 8 Arezzo	12,65 DDD per 1000 ab/die	1,58	–	–	2010
T - Ausl 9 Grosseto	8,02 DDD per 1000 ab/die	4,87	–	–	2010
T - Ausl 10 Firenze	14,06 DDD per 1000 ab/die	0,58	–	–	2010
T - Ausl 11 Empoli	10,62 DDD per 1000 ab/die	3,02	–	–	2010
T - Ausl 12 Viareggio	12,69 DDD per 1000 ab/die	1,56	–	–	2010

## Indicator C9: Appropriateness of Drug Prescription

### C9.5 Consumption of other antidepressants (Antidepressants)

<b>Definition:</b>	Consumption of other antidepressants, distributed by pharmacies under the National Health System, and by direct supply
<b>Numerator:</b>	DDD of other antidepressants distributed within the year per active ingredient × 1000
<b>Denominator:</b>	No. of residents × 365
<b>Formula:</b>	$\frac{\text{DDD of other antidepressants distributed within the year per active ingredient} \times 1000}{\text{No. of residents} \times 365}$
<b>Notes:</b>	<p>Other antidepressants are ATC class N06AX.</p> <p>Consumption of drugs is calculated by means of Defined Daily Dose (DDD) which is the maintenance dose per day of therapy, in adults, with reference to the principal therapeutic indication of the substance. DDD allows comparison of drugs with the same principle in different doses. This indicator allows to compare numerically different populations in different periods of time.</p> <p>Data is per providing Authority with reference to pharmaceuticals under the National Health System, and per Authority of residence with reference to direct supply</p>
<b>Source:</b>	Data SFERA FED Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Dati SFERA, flusso FED – Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 7 DDD per 1000 ab/die



### 4.90 Indicator C20: Appropriateness of Drug Prescription in the Hospital

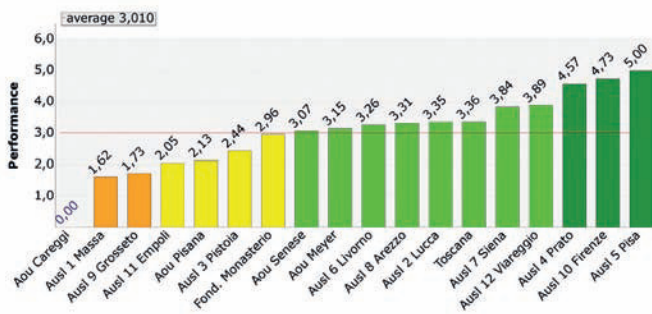
The indicator monitors the consumption of antibiotics and the incidence of injectable formulations within the hospital.

Indicator	Performance	Year
C20 – Appropriateness of Drug Prescription in the Hospital	● 3,36	2010

#### C20 Appropriateness of Drug Prescription in the Hospital

- C9.12 – Consumption of antibiotics within the ward: 1,28 u.p. ■
- C9.13 – Incidence of injectable antibiotics within the ward: 47,25% ■

#### C20 – Appropriateness of Drug Prescription in the Hospital



### Indicator C20: Appropriateness of Drug Prescription in the Hospital

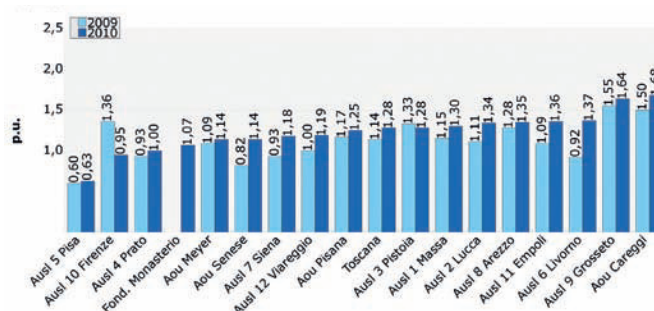
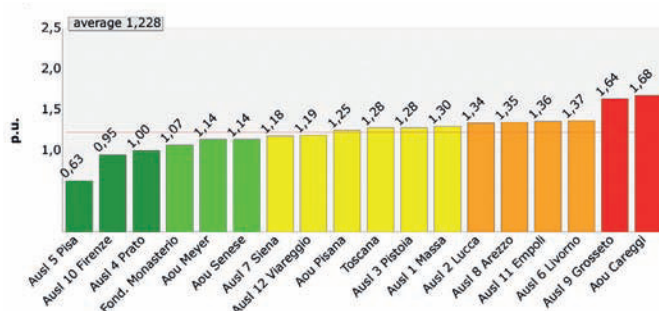
#### C20 Appropriateness of Drug Prescription in the Hospital

Notes
Indicator C20 has a value equal to the average score of indicators: C9.12, C9.13



## Indicator C9.12: Consumption of antibiotics within the ward 4.91

### C9.12 – Consumption of antibiotics within the ward



### C9.12 Consumption of antibiotics within the ward

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,16	1,14	1,28	12,28	4.078.300,00	4.456.816,00	3.580.915,00	3.491.936,00
T - Ausl 1 Massa	2,00	1,15	1,30	13,04	210.019,00	228.432,00	182.768,00	175.815,00
T - Ausl 2 Lucca	1,70	1,11	1,34	20,72	202.995,00	230.730,00	182.575,00	171.836,00
T - Ausl 3 Pistoia	2,15	1,33	1,28	-3,76	236.819,00	227.716,00	178.677,00	178.063,00
T - Ausl 4 Prato	4,14	0,93	1,00	7,53	187.350,00	199.430,00	200.684,00	200.128,00
T - Ausl 5 Pisa	5,00	0,60	0,63	5,00	80.393,00	83.976,00	134.939,00	132.604,00
T - Ausl 6 Livorno	1,52	0,92	1,37	48,91	238.531,00	334.211,00	257.903,00	244.256,00
T - Ausl 7 Siena	2,84	0,93	1,18	26,88	102.606,00	129.650,00	110.835,00	109.894,00
T - Ausl 8 Arezzo	1,62	1,28	1,35	5,47	317.498,00	338.346,00	247.360,00	249.920,00
T - Ausl 9 Grosseto	0,00	1,55	1,64	5,81	273.620,00	267.129,00	176.732,00	163.097,00
T - Ausl 10 Firenze	4,47	1,36	0,95	-30,15	407.097,00	276.349,00	300.116,00	291.124,00
T - Ausl 11 Empoli	1,55	1,09	1,36	24,77	154.787,00	206.698,00	142.188,00	151.561,00
T - Ausl 12 Viareggio	2,77	1,00	1,19	19,00	133.146,00	155.756,00	132.756,00	130.856,00
T - Aou Pisana	2,34	1,17	1,25	6,84	505.811,00	552.803,00	430.987,00	441.705,00
T - Aou Senese	3,15	0,82	1,14	39,02	211.016,00	282.349,00	257.903,00	248.484,00
T - Aou Careggi	0,00	1,50	1,68	12,00	729.576,00	809.686,00	487.746,00	483.104,00
T - Aou Meyer	3,15	1,09	1,14	4,59	87.036,00	98.138,00	79.512,00	86.388,00
T - Fond. Monasterio	3,62	0,00	1,07	(*)	0,00	35.417,00	0,00	33.101,00

## Indicator C20: Appropriateness of Drug Prescription in the Hospital

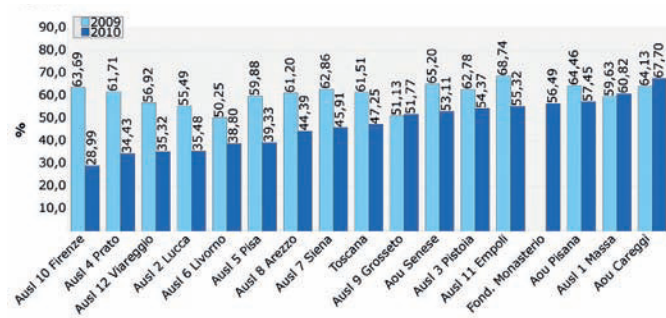
### C9.12 Consumption of antibiotics within the ward

<b>Definition:</b>	Consumption of antibiotics provided within the wards
<b>Numerator:</b>	No. of unit doses of antibiotics provided within the wards
<b>Denominator:</b>	Number of days of hospitalization
<b>Formula:</b>	$\frac{\text{No. of unit doses of antibiotics provided within the wards}}{\text{Number of days of hospitalization}}$
<b>Notes:</b>	Antibiotics are ATC class J01 We consider consumption in both inpatient- and outpatient admissions Direct supply is excluded. Data is per providing Authority.
<b>Source:</b>	Data FES Flow, SDO Flow Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region ( <i>Dati flusso FES, flusso SDO Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana</i> )
<b>Reference:</b>	Regional average, 2010



## 4.92 Indicator C9.13: Incidence of injectable antibiotics within the ward

### C9.13 – Incidence of injectable antibiotics within the ward



### C9.13 Incidence of injectable antibiotics within the ward

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,56	61,51	47,25	-23,18	2.698.137,00	3.359.744,00	4.386.650,00	7.110.385,60
T - Ausl 1 Massa	1,25	59,63	60,82	1,99	128.967,00	178.045,00	216.271,00	292.757,00
T - Ausl 2 Lucca	5,00	55,49	35,48	-36,07	123.227,00	185.875,00	222.074,00	523.934,00
T - Ausl 3 Pistoia	2,74	62,78	54,37	-13,39	164.499,00	175.688,00	262.025,00	323.115,00
T - Ausl 4 Prato	5,00	61,71	34,43	-44,21	125.262,00	164.244,00	202.981,00	477.083,00
T - Ausl 5 Pisa	5,00	59,88	39,33	-34,32	85.186,00	121.642,00	142.270,00	309.275,00
T - Ausl 6 Livorno	5,00	50,25	38,80	-22,79	122.470,00	230.867,00	243.729,00	595.052,00
T - Ausl 7 Siena	4,83	62,86	45,91	-26,97	74.174,00	98.301,00	117.998,00	214.131,00
T - Ausl 8 Arezzo	5,00	61,20	44,39	-27,47	217.167,00	239.698,00	354.840,00	539.973,00
T - Ausl 9 Grosseto	3,46	51,13	51,77	1,25	161.520,00	148.559,00	315.896,00	286.952,00
T - Ausl 10 Firenze	5,00	63,69	28,99	-54,49	264.946,00	230.449,00	415.961,00	794.979,60
T - Ausl 11 Empoli	2,55	68,74	55,32	-19,52	110.904,00	156.951,00	161.346,00	283.698,00
T - Ausl 12 Viareggio	5,00	56,92	35,32	-37,94	89.578,00	121.322,00	157.387,00	343.464,00
T - Aou Pisana	1,92	64,46	57,45	-10,88	332.461,00	406.314,00	515.751,00	707.291,00
T - Aou Senese	2,99	65,20	53,11	-18,55	151.299,00	239.333,00	232.038,00	450.670,00
T - Aou Careggi	0,00	64,13	67,70	5,56	471.929,00	557.338,00	735.935,00	823.306,00
T - Fond. Monasterio	2,31	82,70	56,49	-31,69	74.548,00	8.520,00	90.148,00	15.081,00

## Indicator C20: Appropriateness of Drug Prescription in the Hospital

### C9.13 Incidence of injectable antibiotics within the ward

<b>Definition:</b>	Consumption of injectable antibiotics provided within the wards compared to the overall antibiotics provided
<b>Numerator:</b>	No. of unit doses injectable antibiotics provided × 100
<b>Denominator:</b>	No. of overall unit doses of antibiotics provided
<b>Formula:</b>	$\frac{\text{No. of unit doses injectable antibiotics provided} \times 100}{\text{No. of overall unit doses of antibiotics provided}}$
<b>Notes:</b>	Antibiotics are ATC class J01. We consider consumption in both inpatient- and outpatient admissions Direct supply is excluded Data is per providing Authority.
<b>Source:</b>	Data FES Flow, SDO Flow Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region ( <i>Dati flusso FES, flusso SDO</i> <i>Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana</i> )
<b>Reference:</b>	Regional goal: ≤ 45% for the AUSL ≤ 50% for the AOU (AOU Meyer excluded)



## Indicator C11a: Effectiveness of Chronic Care management 4.93

The main risk factors, such as hypertension, obesity, high cholesterol and blood glucose levels are modifiable through social interventions aimed at promoting the competence of citizens to preserve and improve their own health. The prevention and treatment of chronic diseases are therefore essential tools to ensure a longer life and aging in good health for the population. The following indicator indirectly measures the degree of preventive intervention and ongoing care provided at the local level. The measurement of indirect effectiveness of primary care, through the hospitalization rates for chronic high-prevalence diseases, is integrated with surveys on the ability to take charge and compensation of the disease in the territory.

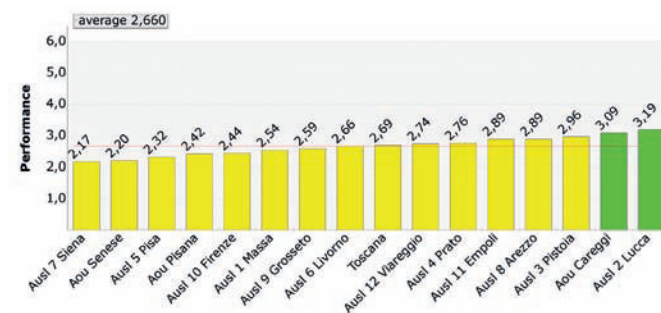
From this year two new context indicators, related to revascularization in diabetic patients, have been added.

Indicator	Performance	Year
C11a – Effectiveness of Chronic Care management	● 2,69	2010

### C11a Effectiveness of Chronic Care management

- C11a.1 – Cardiac Insufficiency:
  - C11a.1.1 – Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years):  $189,81 \times 100,000$  ■
  - C11a.1.2 – Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium:  $56,00 \times 100$  ■
  - C11a.1.3 – Percentage of residents with heart failure treated with ACE inhibitor – sartans:  $58,40 \times 100$  ■
  - C11a.1.4 – Percentage of residents with heart failure treated with beta blocker:  $39,60 \times 100$  ■
- C11a.2 – Diabetes:
  - C11a.2.1 – Overall hospitalization rate for diabetes per 100,000 residents (20-74 years):  $20,99 \times 100,000$  ■
  - C11a.2.2 – Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin:  $66,80 \times 100$  ■
  - C11a.2.3 – Percentage of residents with diabetes with at least one Retina examination:  $31,30 \times 100$  ■
  - C11a.2.4 – Major amputation rate for diabetes per million residents: 41,82 rate per million ■
    - C11a.2.4.1 – Revascularisation rate in patients with diabetes per 100,000 residents:  $879,89 \times 100,000$
    - C11a.2.4.2 – Percentage of revascularisation in patients with diabetes: 66,16%
- C11a.3 – COPD:
  - C11a.3.1 – Hospitalization rate for COPD per 100,000 residents (50-74 years):  $51,25 \times 100,000$  ■
- C11a.5 – Ictus:
  - C11a.5.1 – Percentage of residents with ictus receiving antithrombotic therapy. - DDD > 50% days of observation:  $61,70 \times 100$  ■
- C11a.6 – Hypertension:
  - C11a.6.1 – Percentage of residents with hypertension with at least one measurement of Lipid Profile:  $51,70 \times 100$  ■

### C11a – Effectiveness of Chronic Care management



### Indicator C11a: Effectiveness of Chronic Care management

#### Notes

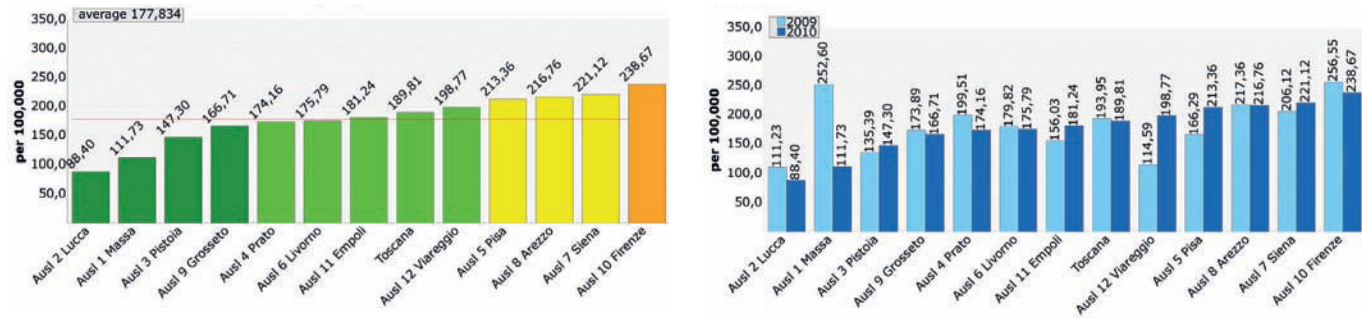
This is the indicator of the tree C11a, therefore it does not have its own value. It is only an evaluation, the score of which is the average score of the following indicators: C11a.1.1, C11a.1.2, C11a.1.3, C11a.1.4, C11a.2.1, C11a.2.2, C11a.2.3, C11a.2.4, C11a.3.1, C11a.5.1 and C11a.6.1.



## 4.94 Indicator C11a.1.1: Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years)

The prevalence of cardiac insufficiency has gradually increased in relation to the increase in the elderly population and the increase in survival rates for cardiovascular diseases. The number of potentially preventable hospitalizations may be the result of inadequate local management of patients with cardiac insufficiency and protection against the onset of complications. Hospitalization, and especially repeated hospitalization for patients between 50 and 74, is often a sign that this issue is not well managed and that the service is inadequate. It should however be considered that, as the disease is chronic and degenerative, a number of hospital admissions may be appropriate for the more serious and complex cases, and therefore a more accurate estimate of the level of appropriateness of local services could be obtained by integrating the information supplied by the indicator with information about the complexity of the cases treated.

### C11a.1.1 – Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years)



### C11a.1.1 Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,32	193,95	189,81	-2,13	2.228,00	2.200,00	1.148.736,00	1.159.028,00
T - Ausl 1 Massa	5,00	252,60	111,73	-55,77	164,00	73,00	64.926,00	65.334,00
T - Ausl 2 Lucca	5,00	111,23	88,40	-20,52	76,00	61,00	68.329,00	69.004,00
T - Ausl 3 Pistoia	4,79	135,39	147,30	8,79	120,00	132,00	88.632,00	89.615,00
T - Ausl 4 Prato	3,87	199,51	174,16	-12,71	144,00	127,00	72.178,00	72.923,00
T - Ausl 5 Pisa	2,51	166,29	213,36	28,30	173,00	224,00	104.038,00	104.988,00
T - Ausl 6 Livorno	3,81	179,82	175,79	-2,24	203,00	200,00	112.892,00	113.769,00
T - Ausl 7 Siena	2,24	206,12	221,12	7,28	169,00	183,00	81.993,00	82.761,00
T - Ausl 8 Arezzo	2,39	217,36	216,76	-0,28	227,00	229,00	104.436,00	105.646,00
T - Ausl 9 Grosseto	4,12	173,89	166,71	-4,13	129,00	124,00	74.186,00	74.380,00
T - Ausl 10 Firenze	1,64	256,55	238,67	-6,97	655,00	614,00	255.315,00	257.255,00
T - Ausl 11 Empoli	3,62	156,03	181,24	16,16	107,00	126,00	68.576,00	69.522,00
T - Ausl 12 Viareggio	3,01	114,59	198,77	73,46	61,00	107,00	53.235,00	53.831,00
T - Aou Pisana	2,51	166,29	213,36	28,30	173,00	224,00	104.038,00	104.988,00
T - Aou Senese	2,24	206,12	221,12	7,28	169,00	183,00	81.993,00	82.761,00
T - Aou Careggi	1,64	256,55	238,67	-6,97	655,00	614,00	255.315,00	257.255,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.1.1 Hospitalization rate for cardiac insufficiency per 100,000 residents (50-74 years)

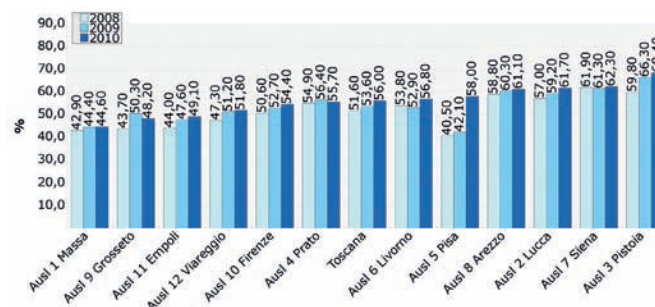
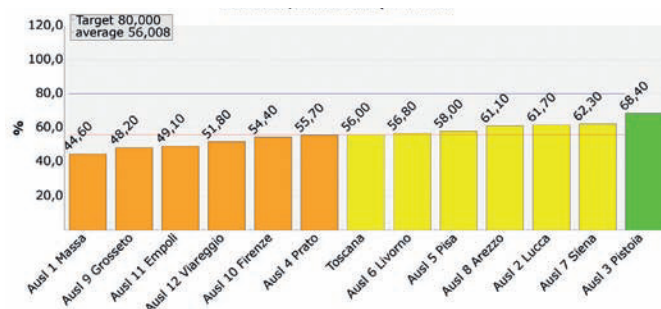
<b>Definition:</b>	Hospitalization rate for cardiac insufficiency per 100,000 residents; 50-74 years
<b>Numerator:</b>	No. of admissions for cardiac insufficiency 50-74 years for residents of the Ausl
<b>Denominator:</b>	Resident population 50-74 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for cardiac insufficiency 50-74 years}}{\text{Resident population 50-74 years of the Ausl}} \times 100,000$
<b>Notes:</b>	We consider inpatient admissions of Tuscan residents anywhere, including extra-regional. codes ICD9-CM in principal diagnosis: 428.* , 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93 Excluded discharged with codes 00.5*, 35.** , 36.** , 37.** in any field of procedure Excluded: – Discharges from the spinal unit, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75) – admissions for unaccredited private facilities
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional average 2008



## Indicator C11a.1.2: Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium 4.95

According to the Region of Tuscany at least 80% of patients with cardiac insufficiency should take at least one measurement of creatinine, sodium and potassium as a preventive measure for chronic disease control. The data for this indicator are an outpatient follow-up for patients with cardiac insufficiency, and are provided by the database of chronic diseases MaCro of the Regional Health Agency (ARS) of Tuscany and by the SPA flow of Tuscany.

### C11a.1.2 – Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium



### C11a.1.2 Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T-Toscana	2,01	53,60	56,00	4,48	32.733,00	35.510,00	61.030,00	63.471,00
T - Ausl 1 Massa	1,06	44,40	44,60	0,45	1.708,00	1.861,00	3.836,00	4.174,00
T - Ausl 2 Lucca	2,48	59,20	61,70	4,22	2.446,00	2.739,00	4.148,00	4.462,00
T - Ausl 3 Pistoia	3,04	66,30	68,40	3,17	1.992,00	2.158,00	2.996,00	3.140,00
T - Ausl 4 Prato	1,99	56,40	55,70	-1,24	2.771,00	2.707,00	4.886,00	4.825,00
T - Ausl 5 Pisa	2,18	42,10	58,00	37,77	1.979,00	2.944,00	4.738,00	5.099,00
T - Ausl 6 Livorno	2,08	52,90	56,80	7,37	3.282,00	3.601,00	6.176,00	6.300,00
T - Ausl 7 Siena	2,54	61,30	62,30	1,63	2.787,00	2.881,00	4.567,00	4.620,00
T - Ausl 8 Arezzo	2,44	60,30	61,10	1,33	3.399,00	3.528,00	5.621,00	5.731,00
T - Ausl 9 Grosseto	1,36	50,30	48,20	-4,17	2.288,00	2.324,00	4.563,00	4.855,00
T - Ausl 10 Firenze	1,88	52,70	54,40	3,23	7.608,00	8.148,00	14.452,00	15.033,00
T - Ausl 11 Empoli	1,44	47,60	49,10	3,15	1.400,00	1.464,00	2.932,00	3.000,00
T - Ausl 12 Viareggio	1,66	51,20	51,80	1,17	1.073,00	1.155,00	2.115,00	2.232,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.1.2 Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium

<b>Definition:</b>	Percentage of residents with heart failure with at least one measurement of creatinine, sodium and potassium
<b>Numerator:</b>	Patients with heart failure with at least one measurement of creatinine, sodium and potassium
<b>Denominator:</b>	Total of residents with cardiac insufficiency
<b>Formula:</b>	$\frac{\text{Patients with heart failure with at least one measurement of creatinine, sodium and potassium}}{\text{Total of residents with cardiac insufficiency}} \times 100$
<b>Notes:</b>	<p>Identification criteria for patients with cardiac insufficiency:</p> <p>We consider residents in Tuscany above 16 years.</p> <ul style="list-style-type: none"> <li>– SDO: Discharge, since 1999, from admission with diagnosis of cardiac insufficiency (ICD9-CM= 428*, 39891, 40201, 40211, 40291, 40401, 40403, 40411, 40413, 40491, 40493) in any diagnosis field.</li> <li>– ET: Exemption for heart failure (exemption code = 1428).</li> <li>– SPA: creatinine, sodium, and potassium tests performed on residents with heart failure</li> </ul>
<b>Source:</b>	MaCro ARS Tuscany; SPA Flow Tuscany Region. (MaCro ARS Toscana; Flusso SPA Regione Toscana).
<b>Reference:</b>	Regional goal: 80%
<b>Standardization:</b>	Age and sex (standard population: residents in Tuscany mainly MaCro for cardiac insufficiency in 2006).
<b>Meaning:</b>	Indicator of ambulatory follow-up for patients with cardiac insufficiency.

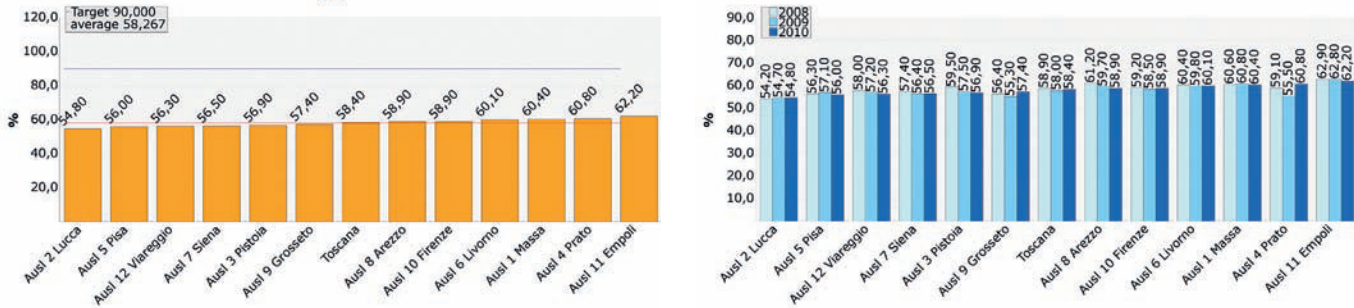




## 4.96 Indicator C11a.1.3: Percentage of residents with heart failure treated with ACE inhibitor – sartans

The following indicator measures adherence to treatment guidelines for the management of cardiac insufficiency, assessing the drug prescriptions for patients with cardiac insufficiency on an outpatient basis, which according to the Tuscany Region is expected to reach its target of 90%. The use of ACE inhibitor or ARB by patients with cardiac insufficiency is detected through the SPF and FED regional flows. Data source: MaCro of the Regional Health Agency (ARS) of Tuscany, SPF flow, and Fed Flow Region of Tuscany.

### C11a.1.3 – Percentage of residents with heart failure treated with ACE inhibitor – sartans



### C11a.1.3 Percentage of residents with heart failure treated with ACE inhibitor – sartans

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,38	58,00	58,40	0,69	34.576,00	35.946,00	61.030,00	63.471,00
T - Ausl 1 Massa	1,54	60,80	60,40	-0,66	2.291,00	2.448,00	3.836,00	4.174,00
T - Ausl 2 Lucca	1,08	54,70	54,80	0,18	2.248,00	2.412,00	4.148,00	4.462,00
T - Ausl 3 Pistoia	1,25	57,50	56,90	-1,04	1.679,00	1.733,00	2.996,00	3.140,00
T - Ausl 4 Prato	1,58	55,50	60,80	9,55	2.674,00	2.880,00	4.886,00	4.825,00
T - Ausl 5 Pisa	1,18	57,10	56,00	-1,93	2.644,00	2.776,00	4.738,00	5.099,00
T - Ausl 6 Livorno	1,52	59,80	60,10	0,50	3.597,00	3.661,00	6.176,00	6.300,00
T - Ausl 7 Siena	1,22	56,40	56,50	0,18	2.478,00	2.485,00	4.567,00	4.620,00
T - Ausl 8 Arezzo	1,42	59,70	58,90	-1,34	3.279,00	3.272,00	5.621,00	5.731,00
T - Ausl 9 Grosseto	1,29	55,30	57,40	3,80	2.475,00	2.705,00	4.563,00	4.855,00
T - Ausl 10 Firenze	1,42	58,50	58,90	0,68	8.224,00	8.536,00	14.452,00	15.033,00
T - Ausl 11 Empoli	1,69	62,80	62,20	-0,96	1.797,00	1.808,00	2.932,00	3.000,00
T - Ausl 12 Viareggio	1,20	57,20	56,30	-1,57	1.190,00	1.230,00	2.115,00	2.232,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.1.3 Percentage with heart failure treated with ACE inhibitor – sartans

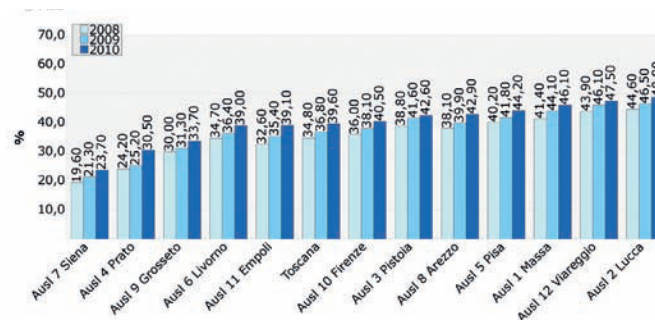
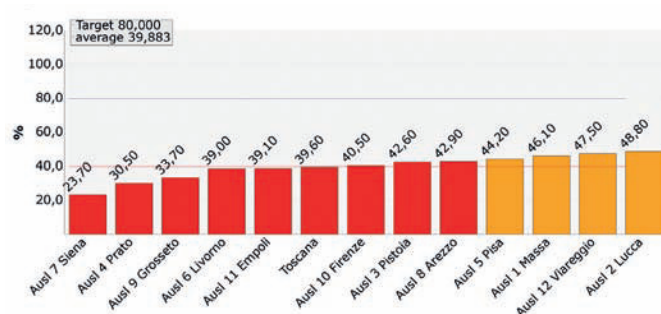
<b>Definition:</b>	Percentage with heart failure treated with ACE inhibitor – sartans
<b>Numerator:</b>	Patients with heart failure treated with ACE inhibitor – sartans
<b>Denominator:</b>	Total number of residents with cardiac insufficiency
<b>Formula:</b>	$\frac{\text{Patients with heart failure treated with ACE inhibitor – sartans}}{\text{Total number of residents with cardiac insufficiency}} \times 100$
<b>Notes:</b>	<p>Identification criteria for patients with cardiac insufficiency:</p> <ul style="list-style-type: none"> <li>We consider residents in Tuscany aged above 16 years.</li> <li>– SDO: Discharge since 1999 from admission with diagnosis of cardiac insufficiency (ICD9-CM= 428*, 39891, 40201, 40211, 40291, 40401, 40403, 40411, 40413, 40491, 40493) in any diagnosis field.</li> <li>– ET: Exemption for heart failure (exemption code = 1428).</li> <li>– SPF, and FED: treated with ACE inhibitors or sartans.</li> </ul>
<b>Source:</b>	MaCro ARS Tuscany; Flow SPF Tuscany Region; FED Flow Tuscany Region (MaCro ARS Toscana; Flusso SPA Regione Toscana)
<b>Reference:</b>	Regional goal: 90%
<b>Standardization:</b>	Age and sex (population standard: residents in Tuscany mainly MaCro for cardiac insufficiency in 2006).
<b>Meaning:</b>	Indicator of the ambulatory drug treatment of patients with cardiac insufficiency.



## Indicator C11a.1.4: Percentage of residents with heart failure treated with beta blocker 4.97

The percentage of residents with cardiac insufficiency treated with beta-blocker therapy is, as above, an indicator of drug treatment in ambulatory patients with cardiac insufficiency. The Region aims to treat 80% of cardiac insufficiency patients with beta-blocker therapy. The data come from MaCro of the Regional Health Agency (ARS) of Tuscany, SPF flow, and Fed Flow Region of Tuscany.

### C11a.1.4 – Percentage of residents with heart failure treated with beta blocker



### C11a.1.4 Percentage of residents with heart failure treated with beta blocker

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T-Toscana	0,64	36,80	39,60	7,61	21.371,00	23.678,00	61.030,00	63.471,00
T - Asl 1 Massa	1,19	44,10	46,10	4,54	1.625,00	1.838,00	3.836,00	4.174,00
T - Asl 2 Lucca	1,41	46,50	48,80	4,95	1.910,00	2.138,00	4.148,00	4.462,00
T - Asl 3 Pistoia	0,89	41,60	42,60	2,40	1.181,00	1.270,00	2.996,00	3.140,00
T - Asl 4 Prato	0,00	25,20	30,50	21,03	1.188,00	1.410,00	4.886,00	4.825,00
T - Asl 5 Pisa	1,03	41,80	44,20	5,74	1.902,00	2.158,00	4.738,00	5.099,00
T - Asl 6 Livorno	0,59	36,40	39,00	7,14	2.116,00	2.287,00	6.176,00	6.300,00
T - Asl 7 Siena	0,00	21,30	23,70	11,27	853,00	933,00	4.567,00	4.620,00
T - Asl 8 Arezzo	0,92	39,90	42,90	7,52	2.118,00	2.304,00	5.621,00	5.731,00
T - Asl 9 Grosseto	0,15	31,30	33,70	7,67	1.376,00	1.551,00	4.563,00	4.855,00
T - Asl 10 Firenze	0,72	38,10	40,50	6,30	5.204,00	5.693,00	14.452,00	15.033,00
T - Asl 11 Empoli	0,60	35,40	39,10	10,45	964,00	1.079,00	2.932,00	3.000,00
T - Asl 12 Viareggio	1,30	46,10	47,50	3,04	934,00	1.017,00	2.115,00	2.232,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.1.4 Percentage with cardiac insufficiency treated with beta-blocker (among those indicated by the guidelines)

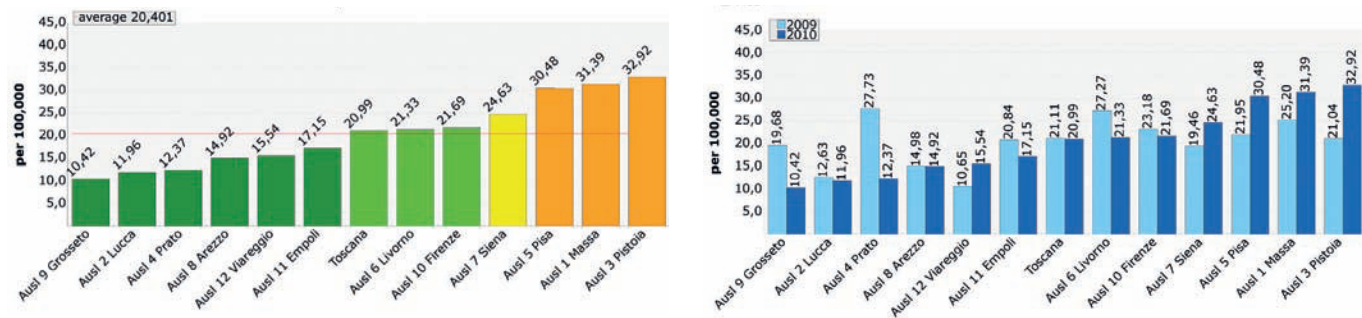
<b>Definition:</b>	Percentage with cardiac insufficiency treated with beta-blocker
<b>Numerator:</b>	Patients with heart failure treated with beta-blocker
<b>Denominator:</b>	Total number of residents with cardiac insufficiency
<b>Formula:</b>	$\frac{\text{Patients with heart failure treated with beta-blocker}}{\text{Total number of residents with cardiac insufficiency}} \times 100$
<b>Notes:</b>	<p>Identification criteria for patients with cardiac insufficiency:</p> <p>We consider residents in Tuscany above 16 years.</p> <ul style="list-style-type: none"> <li>– SDO: Discharge since 1999 from admission with diagnosis of cardiac insufficiency (ICD9-CM= 428*, 39891, 40201, 40211, 40291, 40401, 40403, 40411, 40413, 40491, 40493) in any diagnosis field.</li> <li>– ET: Exemption for heart failure (exemption code = 1428).</li> <li>– SPF, and FED: treated with beta-blocker (metoprolol, bisoprolol, carvedilol, nebivolol)</li> </ul>
<b>Source:</b>	MaCro ARS Tuscany; SPF Flow Tuscany Region; FED Flow Tuscany Region (MaCro ARS Toscana; Flusso SPA Regione Toscana)
<b>Reference:</b>	Regional goal: 80%
<b>Standardization:</b>	Age and sex (population standard: residents in Tuscany mainly MaCro for cardiac insufficiency in 2006).
<b>Meaning:</b>	Indicator of the ambulatory drug treatment of patients with cardiac insufficiency.



## 4.98 Indicator C11a.2.1: Overall hospitalization rate for diabetes per 100,000 residents (20-74 years)

The care pathway of the diabetic patient may be confined within the network of local services – reducing the use of the hospital only to cases where there is appropriate local care, which integrates prevention, diagnosis and treatment. The hospitalization rate for diabetes can be considered a proxy variable for the organizational appropriateness of local care services. The sharing of clinical guidelines, care profiles by General Practitioners and Specialists, and partnership amongst professionals help to implement a system of integrated management of the disease, which can result in the development of Day Service practices outside the hospital network (Osservasalute Report 2004).

### C11a.2.1 – Overall hospitalization rate for diabetes per 100,000 residents (20-74 years)



### C11a.2.1 Overall hospitalization rate for diabetes per 100,000 residents (20-74 years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,58	21,11	20,99	-0,53	560,00	559,00	2.653.362,00	2.662.846,00
T - Ausl 1 Massa	1,62	25,20	31,39	24,55	37,00	46,00	146.818,00	146.547,00
T - Ausl 2 Lucca	5,00	12,63	11,96	-5,28	20,00	19,00	158.386,00	158.852,00
T - Ausl 3 Pistoia	1,33	21,04	32,92	56,51	44,00	69,00	209.164,00	209.577,00
T - Ausl 4 Prato	5,00	27,73	12,37	-55,38	49,00	22,00	176.699,00	177.812,00
T - Ausl 5 Pisa	1,79	21,95	30,48	38,86	53,00	74,00	241.485,00	242.816,00
T - Ausl 6 Livorno	3,51	27,27	21,33	-21,78	69,00	54,00	253.013,00	253.136,00
T - Ausl 7 Siena	2,89	19,46	24,63	26,53	37,00	47,00	190.107,00	190.857,00
T - Ausl 8 Arezzo	4,72	14,98	14,92	-0,37	37,00	37,00	247.059,00	247.974,00
T - Ausl 9 Grosseto	5,00	19,68	10,42	-47,07	32,00	17,00	162.585,00	163.177,00
T - Ausl 10 Firenze	3,45	23,18	21,69	-6,42	134,00	126,00	578.020,00	580.789,00
T - Ausl 11 Empoli	4,30	20,84	17,15	-17,71	35,00	29,00	167.914,00	169.081,00
T - Ausl 12 Viareggio	4,60	10,65	15,54	46,02	13,00	19,00	122.112,00	122.228,00
T - Aou Pisana	1,79	21,95	30,48	38,86	53,00	74,00	241.485,00	242.816,00
T - Aou Senese	2,89	19,46	24,63	26,53	37,00	47,00	190.107,00	190.857,00
T - Aou Careggi	3,45	23,18	21,69	-6,42	134,00	126,00	578.020,00	580.789,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.2.1 Overall hospitalization rate for diabetes per 100,000 residents (20-74 years)

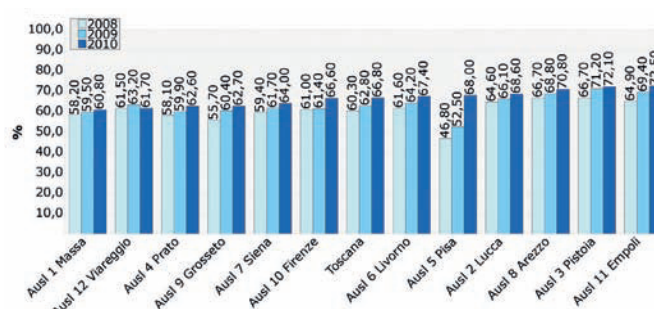
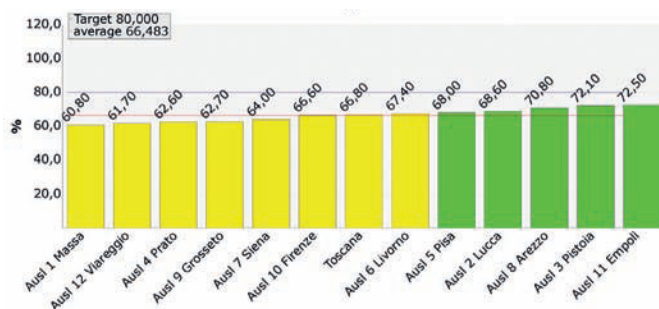
<b>Definition:</b>	Hospitalization rate for diabetes per 100,000 residents; 20-74 years
<b>Numerator:</b>	No. of admissions for diabetes; 20-74 years; residents of the Ausl
<b>Denominator:</b>	Resident population; 20-74
<b>Formula:</b>	$\frac{\text{No. of admissions for diabetes; 20-74 years}}{\text{Resident population 20-74 years}} \times 100,000$
<b>Notes:</b>	<p>We consider inpatient admissions of Tuscan residents anywhere, including extra-regional.</p> <p>codes ICD9-CM in principal diagnosis: 250.xx diabetes mellitus</p> <p>Excluded:</p> <ul style="list-style-type: none"> <li>- DRGs 113, and 114</li> <li>- Procedure codes 36, and 39.5</li> <li>- Discharges from the spinal unit, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75)</li> <li>- discharges with MDC 14 (Pregnancy, childbirth, and puerperium), and 15 (Neonatal diseases)</li> <li>- admissions for unaccredited private facilities</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional average, 2008



## Indicator C11a.2.2: Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin 4.99

The glycosylated haemoglobin test is an expression of long term average levels of glycaemia and is therefore a very useful test to monitor glycaemic control of diabetic patients. The Tuscany Regional Government's goal is that at least 80% of diabetic patients take a measurement of glycosylated haemoglobin within the year. The data flows are processed using the MaCro ARS Tuscany and the SPA flow of Tuscany.

### C11a.2.2 – Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin



### C11a.2.2 Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,91	62,80	66,80	6,37	113.751,00	125.493,00	182.024,00	188.838,00
T - AUSL 1 Massa	2,41	59,50	60,80	2,18	6.651,00	6.979,00	11.200,00	11.535,00
T - AUSL 2 Lucca	3,06	66,10	68,60	3,78	7.345,00	8.020,00	11.184,00	11.782,00
T - AUSL 3 Pistoia	3,35	71,20	72,10	1,26	9.621,00	10.193,00	13.582,00	14.206,00
T - AUSL 4 Prato	2,56	59,90	62,60	4,51	6.186,00	6.623,00	10.392,00	10.654,00
T - AUSL 5 Pisa	3,01	52,50	68,00	29,52	9.100,00	12.141,00	17.410,00	17.889,00
T - AUSL 6 Livorno	2,96	64,20	67,40	4,98	12.674,00	13.810,00	19.738,00	20.574,00
T - AUSL 7 Siena	2,68	61,70	64,00	3,73	7.729,00	8.325,00	12.693,00	13.180,00
T - AUSL 8 Arezzo	3,24	68,80	70,80	2,91	10.748,00	11.630,00	15.703,00	16.494,00
T - AUSL 9 Grosseto	2,57	60,40	62,70	3,81	7.752,00	8.204,00	12.898,00	13.156,00
T - AUSL 10 Firenze	2,89	61,40	66,60	8,47	23.663,00	26.638,00	38.789,00	40.274,00
T - AUSL 11 Empoli	3,38	69,40	72,50	4,47	7.339,00	7.940,00	10.614,00	10.998,00
T - AUSL 12 Viareggio	2,48	63,20	61,70	-2,37	4.943,00	4.990,00	7.821,00	8.096,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.2.2 Percentage of residents with diabetes with at least one measurement of glycosylated haemoglobin

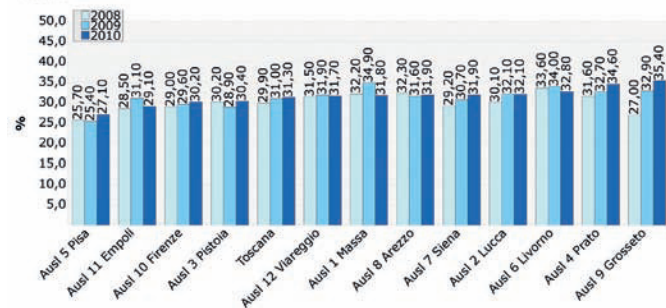
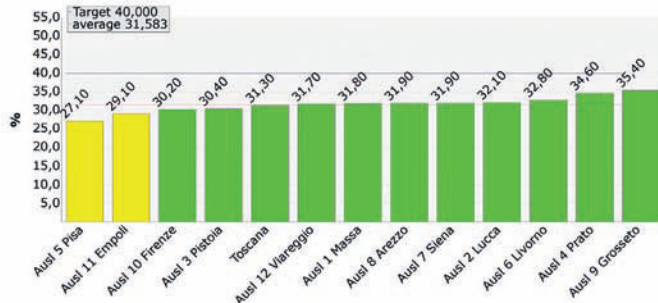
<b>Definition:</b>	Residents with diabetes with at least one measurement of glycosylated haemoglobin
<b>Numerator:</b>	Patients with diabetes with at least one measurement of glycosylated haemoglobin within the year
<b>Denominator:</b>	Total residents with diabetes
<b>Formula:</b>	$\frac{\text{Patients with diabetes with at least one measurement of glycosylated haemoglobin within the year}}{\text{Total residents with diabetes}} \times 100$
<b>Notes:</b>	<p>Identification criteria for patients with diabetes:</p> <p>We consider residents in Tuscany above 16 years.</p> <ul style="list-style-type: none"> <li>– SDO: Discharge since 1999 with diagnosis of diabetes (ICD9CM = 250*) in any diagnosis field.</li> <li>– SPF/FED: at least two prescriptions in one year, with different dates, since 2003 for anti-diabetic drugs (ATC = A10*).</li> <li>– ET: Exemption for diabetes (exemption code = 1250).</li> <li>– SPA: tests of glycosylated haemoglobin (HbA<sub>1c</sub>) performed for diabetic residents.</li> </ul>
<b>Source:</b>	MaCro ARS Tuscany; SPA Flow Tuscany Region (MaCro ARS Toscana; Flusso SPA Regione Toscana)
<b>Reference:</b>	Regional goal: 80%
<b>Standardization:</b>	Age and sex (population standard: residents in Tuscany mainly MaCro for diabetes mellitus in 2006).
<b>Meaning:</b>	Indicator of ambulatory follow-up for patients with diabetes.



### 4.100 Indicator C11a.2.3: Percentage of residents with diabetes with at least one Retina examination

As an indicator of outpatient follow-up for patients with diabetes, the Tuscany Region has determined that at least 40% of diabetic patients must take a test for diabetic retinopathy. Data source: Macro ARS Tuscany and SPA flow of Tuscany.

#### C11a.2.3 – Percentage of residents with diabetes with at least one Retina examination



#### C11a.2.3 Percentage of residents with diabetes with at least one Retina examination

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,14	31,00	31,30	0,97	55.681,00	58.317,00	182.024,00	188.838,00
T - Ausl 1 Massa	3,19	34,90	31,80	-8,88	3.874,00	3.623,00	11.200,00	11.535,00
T - Ausl 2 Lucca	3,22	32,10	32,10	0,00	3.519,00	3.717,00	11.184,00	11.782,00
T - Ausl 3 Pistoia	3,05	28,90	30,40	5,19	3.888,00	4.276,00	13.582,00	14.206,00
T - Ausl 4 Prato	3,47	32,70	34,60	5,81	3.357,00	3.643,00	10.392,00	10.654,00
T - Ausl 5 Pisa	2,72	25,40	27,10	6,69	4.379,00	4.797,00	17.410,00	17.889,00
T - Ausl 6 Livorno	3,29	34,00	32,80	-3,53	6.681,00	6.690,00	19.738,00	20.574,00
T - Ausl 7 Siena	3,20	30,70	31,90	3,91	3.814,00	4.111,00	12.693,00	13.180,00
T - Ausl 8 Arezzo	3,20	31,60	31,90	0,95	4.922,00	5.209,00	15.703,00	16.494,00
T - Ausl 9 Grosseto	3,55	32,90	35,40	7,60	4.202,00	4.593,00	12.898,00	13.156,00
T - Ausl 10 Firenze	3,03	29,60	30,20	2,03	11.285,00	11.945,00	38.789,00	40.274,00
T - Ausl 11 Empoli	2,92	31,10	29,10	-6,43	3.272,00	3.156,00	10.614,00	10.998,00
T - Ausl 12 Viareggio	3,18	31,90	31,70	-0,63	2.488,00	2.557,00	7.821,00	8.096,00

### Indicator C11a: Effectiveness of Chronic Care management

#### C11a.2.3 Percentage of residents with diabetes with at least one Retina examination

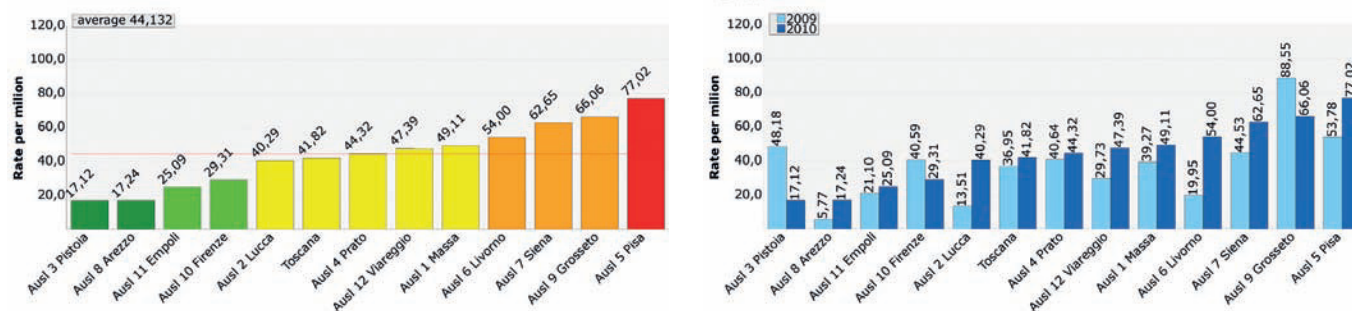
<b>Definition:</b>	Residents with diabetes with at least one examination of the Retina
<b>Numerator:</b>	Diabetic patients with at least one examination of the Retina within the year
<b>Denominator:</b>	Total diabetic residents
<b>Formula:</b>	$\frac{\text{Diabetic patients with at least one examination of the Retina within the year}}{\text{Total diabetic residents}} \times 100$
<b>Notes:</b>	<p>Identification criteria for patients with diabetes:</p> <ul style="list-style-type: none"> <li>We consider residents in Tuscany above 16 years.</li> <li>- SDO: Discharge since 1999 with diagnosis of diabetes (ICD9CM = 250*) in any diagnosis field.</li> <li>- SPF/FED: at least two prescriptions in one year, with different dates, since 2003 for anti-diabetic drugs (ATC = A10*).</li> <li>- ET: Exemption for Diabetes (exemption code = 1250).</li> <li>- SPA: Examination of the fundus oculi performed for diabetics residents</li> </ul>
<b>Source:</b>	MaCro ARS Tuscany; SPA Flow Tuscany Region (MaCro ARS Toscana; Flusso SPA Regione Toscana)
<b>Reference:</b>	Regional goal: 40%
<b>Standardization:</b>	Age and sex (population standard: residents in Tuscany mainly MaCro for diabetes mellitus in 2006).
<b>Meaning:</b>	Indicator of ambulatory follow-up for patients with diabetes.



## Indicator C11a.2.4: Major amputation rate for diabetes per million residents 4.101

Among the chronic complications of diabetes, an increasingly important role is assumed by the “diabetic foot”. The reduction in the rate of amputations in diabetic patients is possible when the care is well managed and allows prompt care including revascularization through bypass and peripheral angioplasty. On the whole, the key to effective treatment of these patients is a multidisciplinary approach: revascularization and proper foot care can improve patient prognosis and reduce the need for further action.

### C11a.2.4 – Major amputation rate for diabetes per million residents



### C11a.2.4 Major amputation rate for diabetes per million residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,68	36,95	41,82	13,19	137,00	156,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	2,21	39,27	49,11	25,03	8,00	10,00	203.698,00	203.642,00
T - Ausl 2 Lucca	2,78	13,51	40,29	198,17	3,00	9,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	4,30	48,18	17,12	-64,47	14,00	5,00	290.596,00	292.108,00
T - Ausl 4 Prato	2,52	40,64	44,32	9,05	10,00	11,00	246.034,00	248.174,00
T - Ausl 5 Pisa	0,38	53,78	77,02	43,23	18,00	26,00	334.718,00	337.566,00
T - Ausl 6 Livorno	1,89	19,95	54,00	170,69	7,00	19,00	350.909,00	351.863,00
T - Ausl 7 Siena	1,32	44,53	62,65	40,68	12,00	17,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	4,29	5,77	17,24	198,45	2,00	6,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	1,10	88,55	66,06	-25,40	20,00	15,00	225.861,00	227.063,00
T - Ausl 10 Firenze	3,50	40,59	29,31	-27,79	33,00	24,00	813.077,00	818.882,00
T - Ausl 11 Empoli	3,78	21,10	25,09	18,88	5,00	6,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	2,32	29,73	47,39	59,41	5,00	8,00	168.201,00	168.823,00
T - Aou Pisana	0,38	53,78	77,02	43,23	18,00	26,00	334.718,00	337.566,00
T - Aou Senese	1,32	44,53	62,65	40,68	12,00	17,00	269.473,00	271.365,00
T - Aou Careggi	3,50	40,59	29,31	-27,79	33,00	24,00	813.077,00	818.882,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.2.4 Major amputation rate for diabetes per million residents

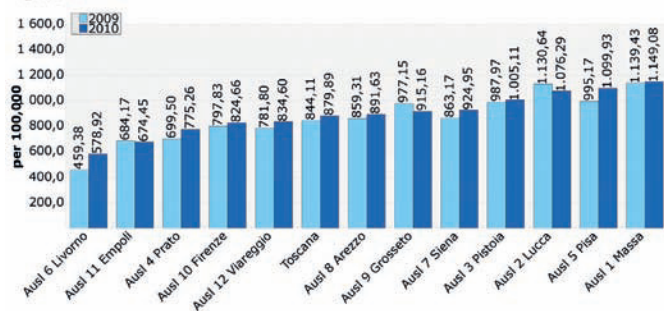
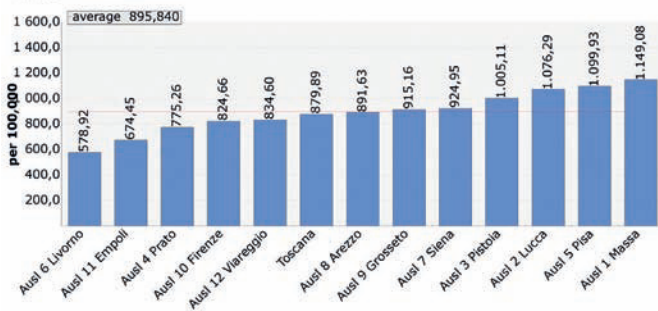
<b>Definition:</b>	Major amputation rate for diabetes per million residents
<b>Numerator:</b>	No. of major amputations for diabetes per million residents
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{No. of major amputations for diabetes}}{\text{Resident population}} \times 1,000,000$
<b>Notes:</b>	We consider admissions of Tuscan residents anywhere, including extra-regional. codes DRG: 113 – Amputation due to circulatory disorders except upper limb amputation, foot and toes codes ICD9-CM in principal or secondary diagnosis: 250.xx diabetes mellitus
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional average 2008



## 4.102 Indicator C11a.2.4.1: Revascularisation rate in patients with diabetes per 100,000 residents

Diabetic foot is the main cause of non-traumatic amputation of limbs and it is a frequent cause of hospitalization for patients with diabetes (Kitzmilller et al. 2008). However, the decrease in the amputation rate in diabetic patients with ischemic diabetic foot is possible with the extensive use of revascularization through bypass and peripheral angioplasty. On the whole, the key to effective treatment of these patients is a multidisciplinary approach: revascularization and proper foot care can improve patient prognosis and reduce the need for further action (Faglia et al. 2009). The two following indicators are context indicators, and allow a deeper understanding of the greater amputation rate for diabetes by measuring the revascularization rate in the resident population and the percentage of revascularizations in patients with diabetes for each Authority.

### C11a.2.4.1 – Revascularisation rate in patients with diabetes per 100,000 residents



### C11a.2.4.1 Revascularisation rate in patients with diabetes per 100,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	844,11	879,89	4,24	31.298,00	32.821,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	1.139,43	1.149,08	0,85	2.321,00	2.340,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	1.130,64	1.076,29	-4,81	2.510,00	2.404,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	987,97	1.005,11	1,73	2.871,00	2.936,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	699,50	775,26	10,83	1.721,00	1.924,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	995,17	1.099,93	10,53	3.331,00	3.713,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	459,38	578,92	26,02	1.612,00	2.037,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	863,17	924,95	7,16	2.326,00	2.510,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	859,31	891,63	3,76	2.976,00	3.104,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	977,15	915,16	-6,34	2.207,00	2.078,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	797,83	824,66	3,36	6.487,00	6.753,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	684,17	674,45	-1,42	1.621,00	1.613,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	781,80	834,60	6,75	1.315,00	1.409,00	168.201,00	168.823,00
T - Aou Pisana	not assessed	995,17	1.099,93	10,53	3.331,00	3.713,00	334.718,00	337.566,00
T - Aou Senese	not assessed	863,17	924,95	7,16	2.326,00	2.510,00	269.473,00	271.365,00
T - Aou Careggi	not assessed	797,83	824,66	3,36	6.487,00	6.753,00	813.077,00	818.882,00

## Indicator C11a: Effectiveness of Chronic Care management

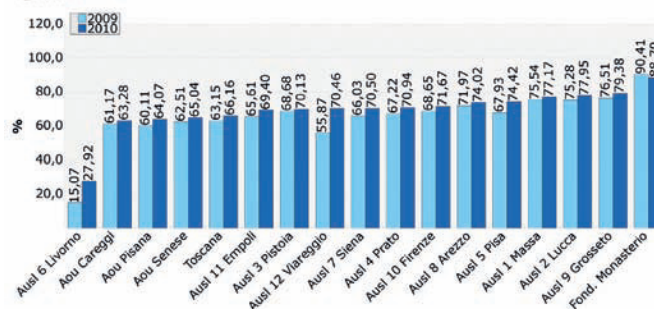
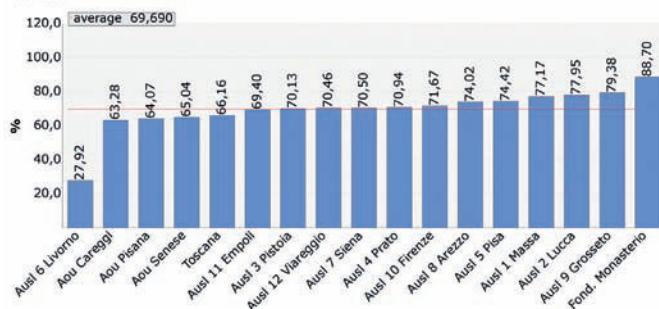
### C11a.2.4.1 Revascularisation rate in patients with diabetes per 100,000 residents

<b>Definition:</b>	Revascularisation rate in patients with diabetes per 100,000 residents
<b>Numerator:</b>	No. of re-vascularisations in patients with diabetes
<b>Denominator:</b>	Resident population of the Ausl
<b>Formula:</b>	$\frac{\text{No. of revascularisations in patients with diabetes}}{\text{Resident population of the Ausl}} \times 100,000$
<b>Notes:</b>	We consider only residents in Tuscany. codes ICD9-CM in principal diagnosis 250.xx associated with procedure codes 36, and 39.5 or principal procedure codes 36, and 39.5 associated to secondary diagnosis 250.xx Excluded: – extra regional admissions – Discharges from the spinal unit, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75) – discharged with MDC 14 (Pregnancy, childbirth, and puerperium), and 15 (Neonatal diseases) – admissions for unaccredited private facilities
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## Indicator C11a.2.4.2: Percentage of revascularisation in patients with diabetes 4.103

### C11a.2.4.2 – Percentage of revascularisation in patients with diabetes



### C11a.2.4.2 Percentage of revascularisation in patients with diabetes

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	63,15	66,16	4,77	22.256,00	23.892,00	35.243,00	36.111,00
T - Ausl 1 Massa	not assessed	75,54	77,17	2,15	1.711,00	1.791,00	2.265,00	2.321,00
T - Ausl 2 Lucca	not assessed	75,28	77,95	3,54	1.654,00	1.626,00	2.197,00	2.086,00
T - Ausl 3 Pistoia	not assessed	68,68	70,13	2,11	2.077,00	2.106,00	3.024,00	3.003,00
T - Ausl 4 Prato	not assessed	67,22	70,94	5,53	974,00	1.113,00	1.449,00	1.569,00
T - Ausl 5 Pisa	not assessed	67,93	74,42	9,55	805,00	998,00	1.185,00	1.341,00
T - Ausl 6 Livorno	not assessed	15,07	27,92	85,18	374,00	754,00	2.481,00	2.701,00
T - Ausl 7 Siena	not assessed	66,03	70,50	6,77	624,00	705,00	945,00	1.000,00
T - Ausl 8 Arezzo	not assessed	71,97	74,02	2,85	2.067,00	2.231,00	2.872,00	3.014,00
T - Ausl 9 Grosseto	not assessed	76,51	79,38	3,76	1.482,00	1.390,00	1.937,00	1.751,00
T - Ausl 10 Firenze	not assessed	68,65	71,67	4,40	2.369,00	2.426,00	3.451,00	3.385,00
T - Ausl 11 Empoli	not assessed	65,61	69,40	5,78	721,00	771,00	1.099,00	1.111,00
T - Ausl 12 Viareggio	not assessed	55,87	70,46	26,10	642,00	756,00	1.149,00	1.073,00
T - Aou Pisana	not assessed	60,11	64,07	6,59	2.611,00	2.878,00	4.344,00	4.492,00
T - Aou Senese	not assessed	62,51	65,04	4,05	1.217,00	1.373,00	1.947,00	2.111,00
T - Aou Careggi	not assessed	61,17	63,28	3,45	2.163,00	2.206,00	3.536,00	3.486,00
T - Fond. Monasterio	not assessed	0,00	88,70	(*)	0,00	667,00	0,00	752,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.2.4.2 Percentage of revascularisation in patients with diabetes

<b>Definition:</b>	Percentage of revascularisation in patients with diabetes
<b>Numerator:</b>	No. of revascularisations in patients with diabetes
<b>Denominator:</b>	No. of patients with diabetes
<b>Formula:</b>	$\frac{\text{No. of revascularisations in patients with diabetes}}{\text{No. of patients with diabetes}} \times 100$
<b>Notes:</b>	<p>We consider only residents in Tuscany.</p> <p><i>Numerator:</i> codes ICD9-CM in principal diagnosis 250.xx associated with procedure codes 36, and 39.5 or principal procedure codes 36, and 39.5 associated to secondary diagnosis 250.xx</p> <p><i>Denominator:</i> diabetes mellitus in principal and secondary diagnosis 250.xx</p> <p><i>Excluded:</i></p> <ul style="list-style-type: none"> <li>– extra regional admissions</li> <li>– Discharges from the spinal unit, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75)</li> <li>– discharges with MDC 14 (Pregnancy, childbirth, and puerperium), and 15 (Neonatal diseases)</li> <li>– admissions for unaccredited private facilities</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )

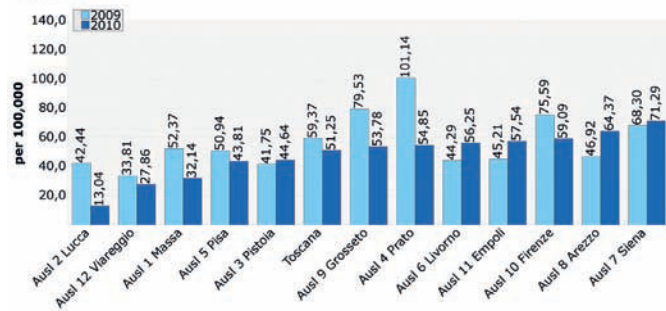
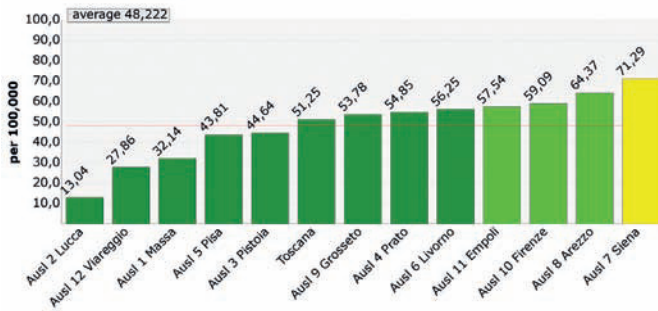




### 4.104 Indicator C11a.3.1: Hospitalization rate for COPD per 100,000 residents (50-74 years)

For chronic obstructive pulmonary disease, as for many chronic-degenerative diseases, the unavailability of remedial drugs makes the preventive approach and the identification of risk factors fundamental. Equally important is the educational aspect, which must be considered an integral part of therapeutic intervention. It is possible, in fact, to reduce complications and exacerbations through prevention and optimal diagnosis and treatment procedures (Tockner et al. 2005).

#### C11a.3.1 – Hospitalization rate for COPD per 100,000 residents (50-74 years)



#### C11a.3.1 Hospitalization rate for COPD per 100,000 residents (50-74 years)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,69	59,37	51,25	-13,68	682,00	594,00	1.148.736,00	1.159.028,00
T - Ausl 1 Massa	5,00	52,37	32,14	-38,62	34,00	21,00	64.926,00	65.334,00
T - Ausl 2 Lucca	5,00	42,44	13,04	-69,27	29,00	9,00	68.329,00	69.004,00
T - Ausl 3 Pistoia	5,00	41,75	44,64	6,92	37,00	40,00	88.632,00	89.615,00
T - Ausl 4 Prato	4,26	101,14	54,85	-45,77	73,00	40,00	72.178,00	72.923,00
T - Ausl 5 Pisa	5,00	50,94	43,81	-13,99	53,00	46,00	104.038,00	104.988,00
T - Ausl 6 Livorno	4,10	44,29	56,25	27,01	50,00	64,00	112.892,00	113.769,00
T - Ausl 7 Siena	2,34	68,30	71,29	4,38	56,00	59,00	81.993,00	82.761,00
T - Ausl 8 Arezzo	3,16	46,92	64,37	37,19	49,00	68,00	104.436,00	105.646,00
T - Ausl 9 Grosseto	4,39	79,53	53,78	-32,38	59,00	40,00	74.186,00	74.380,00
T - Ausl 10 Firenze	3,78	75,59	59,09	-21,84	193,00	152,00	255.315,00	257.255,00
T - Ausl 11 Empoli	3,96	45,21	57,54	27,28	31,00	40,00	68.576,00	69.522,00
T - Ausl 12 Viareggio	5,00	33,81	27,86	-17,59	18,00	15,00	53.235,00	53.831,00
T - Aou Pisana	5,00	50,94	43,81	-13,99	53,00	46,00	104.038,00	104.988,00
T - Aou Senese	2,34	68,30	71,29	4,38	56,00	59,00	81.993,00	82.761,00
T - Aou Careggi	3,78	75,59	59,09	-21,84	193,00	152,00	255.315,00	257.255,00

### Indicator C11a: Effectiveness of Chronic Care management

#### C11a.3.1 Hospitalization rate for COPD per 100,000 residents (50-74 years)

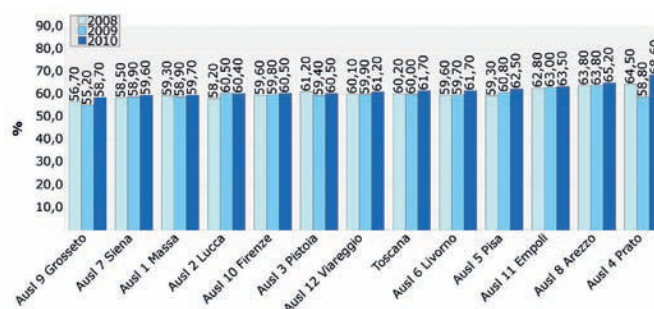
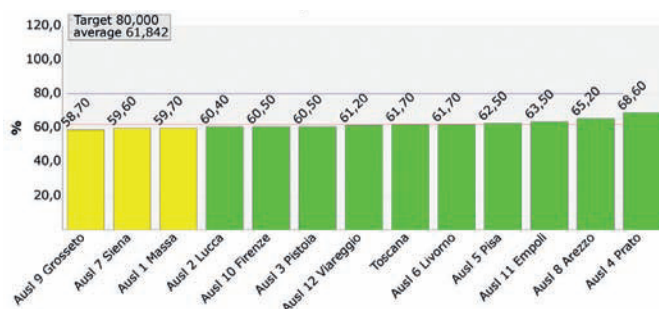
<b>Definition:</b>	Hospitalization rate for COPD per 100,000 residents 50-74 years
<b>Numerator:</b>	No. of admissions per COPD 50-74 years for residents of the Ausl
<b>Denominator:</b>	Resident population 50-74 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions per COPD 50-74 years}}{\text{population 50-74 years}} \times 100,000$
<b>Notes:</b>	<p>We consider admissions provided anywhere, extra region included, of residents in Tuscany  <i>codes ICD9-CM in principal diagnosis:</i>                      490: Bronchitis, not specified whether acute or chronic                      491*: Chronic Bronchitis                      492*: Emphysema                      496*: chronic obstructive airway diseases, not elsewhere classified                      Excluded:                      – Discharged from spinal unit, rehabilitation, long-term patients, and neurorehabilitation (codes 28, 56, 60, 75), and from rehabilitation institute Auxilium vitae in Volterra.                      – admissions for unaccredited private facilities</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average 2008



## Indicator C11a.5.1: Percentage of residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation 4.105

The percentage of residents with ictus who are treated with antithrombotic therapy is an indicator of drug treatment, on an outpatient basis, of patients with non-bleeding ictus or TIA. To prevent relapse, the Tuscany Regional Government aims to treat 80% of such patients with antithrombotic therapy. Data source: Macro ARS Tuscany and FED flow of Tuscany.

### C11a.5.1 – Percentage of residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation



### C11a.5.1 Percentage of residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,10	60,00	61,70	2,83	22.133,00	23.931,00	37.011,00	39.027,00
T - Ausl 1 Massa	2,99	58,90	59,70	1,36	1.247,00	1.353,00	2.143,00	2.309,00
T - Ausl 2 Lucca	3,03	60,50	60,40	-0,17	1.594,00	1.634,00	2.655,00	2.727,00
T - Ausl 3 Pistoia	3,04	59,40	60,50	1,85	1.443,00	1.577,00	2.432,00	2.616,00
T - Ausl 4 Prato	3,44	58,80	68,60	16,67	1.421,00	1.712,00	2.431,00	2.534,00
T - Ausl 5 Pisa	3,13	60,80	62,50	2,80	2.170,00	2.314,00	3.586,00	3.732,00
T - Ausl 6 Livorno	3,10	59,70	61,70	3,35	1.832,00	2.021,00	3.082,00	3.292,00
T - Ausl 7 Siena	2,99	58,90	59,60	1,19	1.698,00	1.804,00	2.875,00	3.036,00
T - Ausl 8 Arezzo	3,27	63,80	65,20	2,19	2.392,00	2.499,00	3.762,00	3.842,00
T - Ausl 9 Grosseto	2,94	55,20	58,70	6,34	1.264,00	1.452,00	2.300,00	2.489,00
T - Ausl 10 Firenze	3,04	59,80	60,50	1,17	4.837,00	5.111,00	8.124,00	8.517,00
T - Ausl 11 Empoli	3,19	63,00	63,50	0,79	1.358,00	1.498,00	2.155,00	2.366,00
T - Ausl 12 Viareggio	3,07	59,90	61,20	2,17	877,00	956,00	1.466,00	1.567,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.5.1 Percentage of residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation

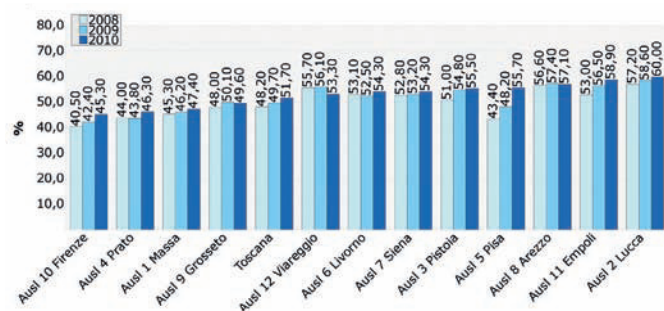
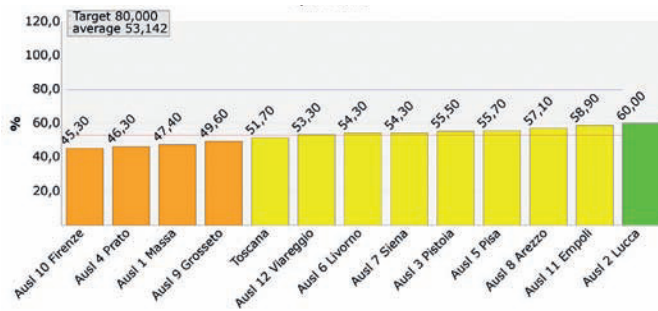
<b>Definition:</b>	Residents with ictus receiving antithrombotic therapy
<b>Numerator:</b>	Residents with ictus receiving antithrombotic therapy – DDD > 50% days of observation
<b>Denominator:</b>	Total residents with Ictus; in therapy
<b>Formula:</b>	$\frac{\text{Residents with ictus receiving antithrombotic therapy} - \text{DDD} > 50\% \text{ days of observation}}{\text{Total residents with Ictus; in therapy}} \times 100$
<b>Notes:</b>	<p>Identification criteria for patients with Ictus:            We consider residents in Tuscany above 16 years.</p> <ul style="list-style-type: none"> <li>– SDO: Discharge since 1999 from inpatient admission with codes 430*; 431*; 432*; 434*; 436* in principal discharge diagnosis and. Patients discharged from rehabilitation wards and long-term patients are excluded.</li> <li>– SPF and FED: Consumption of antithrombotics in DDD for at least 50% of the observation period for residents with Ictus.</li> </ul>
<b>Source:</b>	MaCro ARS Tuscany; Flow SPF Tuscany Region; FED Flow Tuscany Region ( <i>MaCro ARS Toscana; Flusso SPF Regione Toscana; Flusso FED Regione Toscana</i> )
<b>Reference:</b>	Regional goal: 80%
<b>Standardization:</b>	Age and sex (population standard: residents in Tuscany mainly MaCro for previous ictus in 2006).
<b>Meaning:</b>	Indicator of the ambulatory drug treatment for patients with non-bleeding stroke or TIA (relapse prevention)



## 4.106 Indicator C11a.6.1: Percentage of residents with hypertension with at least one measurement of Lipid Profile

80 % of patients suffering from hypertension should undergo an annual lipid profile assessment, as per the regional objective. Data source: Macro ARS Tuscany and SPA flow of Tuscany.

### C11a.6.1 – Percentage of residents with hypertension with at least one measurement of Lipid Profile



### C11a.6.1 Percentage of residents with hypertension with at least one measurement of Lipid Profile

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,18	49,70	51,70	4,02	72.010,00	75.702,00	145.768,00	147.902,00
T - Ausl 1 Massa	1,75	46,20	47,40	2,60	5.141,00	5.445,00	11.105,00	11.521,00
T - Ausl 2 Lucca	3,01	58,60	60,00	2,39	5.398,00	5.656,00	9.200,00	9.447,00
T - Ausl 3 Pistoia	2,56	54,80	55,50	1,28	4.043,00	4.014,00	7.381,00	7.238,00
T - Ausl 4 Prato	1,64	43,80	46,30	5,71	4.248,00	4.368,00	9.837,00	9.509,00
T - Ausl 5 Pisa	2,58	48,20	55,70	15,56	5.841,00	6.855,00	12.106,00	12.309,00
T - Ausl 6 Livorno	2,44	52,50	54,30	3,43	5.945,00	6.393,00	11.391,00	11.907,00
T - Ausl 7 Siena	2,44	53,20	54,30	2,07	6.227,00	6.262,00	11.823,00	11.751,00
T - Ausl 8 Arezzo	2,72	57,40	57,10	-0,52	7.830,00	8.265,00	13.754,00	14.687,00
T - Ausl 9 Grosseto	1,97	50,10	49,60	-1,00	4.080,00	4.069,00	8.206,00	8.322,00
T - Ausl 10 Firenze	1,54	42,40	45,30	6,84	15.484,00	16.616,00	37.026,00	37.239,00
T - Ausl 11 Empoli	2,90	56,50	58,90	4,25	3.664,00	3.852,00	6.635,00	6.656,00
T - Ausl 12 Viareggio	2,34	56,10	53,30	-4,99	4.109,00	3.907,00	7.304,00	7.316,00

## Indicator C11a: Effectiveness of Chronic Care management

### C11a.6.1 Percentage of residents with hypertension with at least one measurement of Lipid Profile

<b>Definition:</b>	Residents with hypertension with at least one measurement of Lipid Profile
<b>Numerator:</b>	Hypertense patients with at least one measurement of Lipid Profile within the year
<b>Denominator:</b>	Total residents with hypertension
<b>Formula:</b>	$\frac{\text{Hypertense patients with at least one measurement of Lipid Profile}}{\text{Total residents with hypertension}} \times 100$
<b>Notes:</b>	<p>Identification criteria for hypertensive patients:                      We consider residents in Tuscany above 16 years.                      – ET: Exemption for hypertension (exemption code= 1000 1401 1402 1403 1404 1405)                      – SPA: performance of Lipid Profile tests for hypertense residents.</p>
<b>Source:</b>	MaCro ARS Tuscany; SPA Flow Tuscany Region (MaCro ARS Toscana; Flusso SPA Regione Toscana)
<b>Reference:</b>	Regional goal: 80%
<b>Standardization:</b>	Age and sex (population standard: residents in Tuscany mainly MaCro for hypertension in 2006).
<b>Meaning:</b>	Indicator of ambulatory follow-up for patients with hypertension.



## Indicator C13: Ambulatory and Diagnostic service rate 4.107

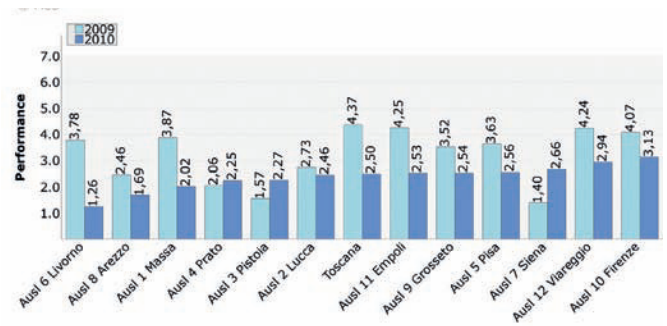
This indicator summarizes outpatient and diagnostic imaging rates. The performance is the average of indicators C13.2.1 and C13.2.2 corresponding respectively to the CT standardized rate per 1000 residents and the MRI standardized rate per 1000 residents.

Indicator	Performance	Year
C13 – Ambulatory and Diagnostic service rate	● 2,50	2010

### C13 Ambulatory and Diagnostic service rate

- C13.1 – Ambulatory service rate per 1,000 residents: 2982.02 rate per 1,000 residents
- C13.2 – Diagnostic imaging service rate:
  - C13.2.1 – Standardized CT performance rate per 1,000 residents: 59.61 rate per 1,000 residents ■
  - C13.2.2 – Standardized MRI performance rate per 1,000 residents: 71.35 rate per 1,000 residents ■
    - C13.2.2.1 – Musculoskeletal MRI performance rate for 1,000 residents (≥ 65 years): 23.71 rate per 1,000 residents
  - C13.2.3 – Standardized Echo Colour Doppler performance rate per 1,000 residents: 63.85 rate per 1,000 residents
  - C13.2.4 – Ultrasound performance raw rate per 1,000 residents: 249.25 rate per 1,000 residents
  - C13.2.5 – Traditional X-ray performance raw rate per 1,000 residents: 454.44 rate per 1,000 residents

### C13 – Ambulatory and Diagnostic service rate



### Indicator C13: Ambulatory and Diagnostic service rate

#### Notes

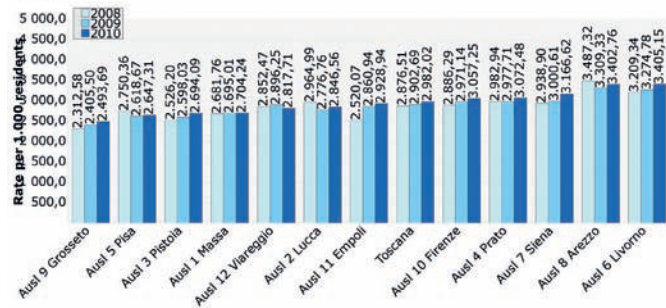
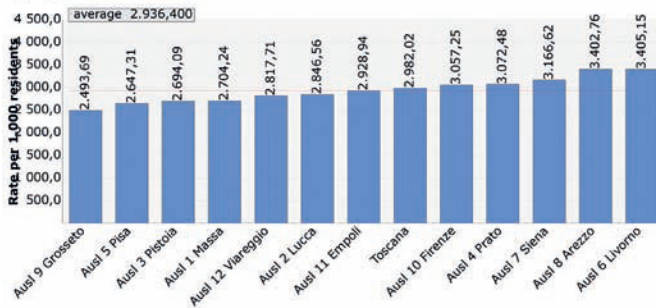
Indicator C13 has a value equal to the average score of the following indicators: C13.2.1, C13.2.2



## 4.108 Indicator C13.1: Ambulatory service rate per 1,000 residents

The outpatient performance rate measures the number of outpatient services provided to residents in the region. It is an indicator for demand management and it highlights the overall demand from Tuscan citizens' for specialist outpatient visits and diagnostic imaging.

### C13.1 – Ambulatory service rate per 1,000 residents



### C13.1 Ambulatory service rate per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	2.902,69	2.982,02	2,73	11.591.868,00	11.962.946,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	2.695,01	2.704,24	0,34	607.171,00	613.384,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	2.776,76	2.846,56	2,51	674.834,00	677.805,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	2.598,03	2.694,09	3,70	802.262,00	847.889,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	2.977,71	3.072,48	3,18	753.413,00	780.590,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	2.618,67	2.647,31	1,09	943.444,00	952.475,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	3.274,78	3.405,15	3,98	1.261.262,00	1.314.604,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	3.000,61	3.166,62	5,53	890.443,00	948.080,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	3.309,33	3.402,76	2,82	1.208.071,00	1.250.121,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	2.405,50	2.493,69	3,67	601.564,00	626.747,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	2.971,14	3.057,25	2,90	2.622.502,00	2.712.629,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	2.860,94	2.928,94	2,38	702.637,00	725.085,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	2.896,25	2.817,71	-2,71	524.223,00	513.537,00	168.201,00	168.823,00

## Indicator C13: Ambulatory and Diagnostic service rate

### C13.1 Ambulatory service rate per 1,000 residents

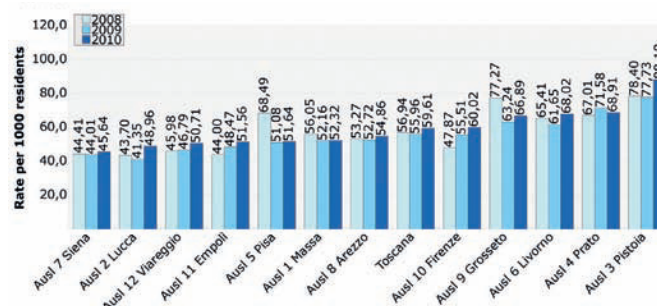
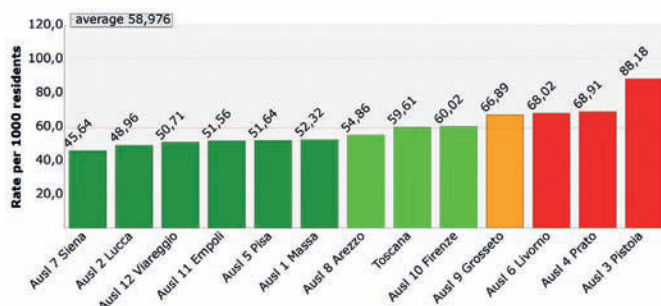
<b>Definition:</b>	Age and sex standardized rate of specialist services per Authority of residence
<b>Numerator:</b>	No. of ambulatory specialist services
<b>Denominator:</b>	No. of residents
<b>Formula:</b>	$\frac{\text{No. of ambulatory specialist services}}{\text{No. of residents}} \times 1,000$
<b>Notes:</b>	We consider ambulatory specialist services (service type 1) provided within the year for residents (extra regional passive excluded). <i>Services excluded:</i> – laboratory (K sector) – First Aid (access mode codes 04 and 10)
<b>Source:</b>	Regional Information System – SPA Flow ( <i>Sistema Informativo Regionale - Flusso SPA</i> )
<b>Reference:</b>	Regional average
<b>Standardization:</b>	Age and sex (the standard population is the population resident in Italy in 2001, Source ISTAT).
<b>Meaning:</b>	Indicator of demand management; it indicates the needs for outpatient services of the resident population of the Local Health Authority (Ausl).



## Indicator C13.2.1: Standardized CT performance rate per 1,000 residents 4.109

The CT performance rate per 1000 residents measures the frequency of CT scans. Although there is not a set standard, the need to avoid supply gaps, as well as the need to avoid excessive exposure to potentially harmful ionising radiation has been emphasised.

### C13.2.1 – Standardized CT performance rate per 1,000 residents



### C13.2.1 Standardized CT performance rate per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,14	55,96	59,61	6,52	228.896,00	244.340,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	4,04	52,16	52,32	0,31	11.753,00	11.730,00	203.698,00	203.642,00
T - Ausl 2 Lucca	4,92	41,35	48,96	18,40	10.515,00	11.957,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	0,00	77,73	88,18	13,44	24.175,00	28.003,00	290.596,00	292.108,00
T - Ausl 4 Prato	0,72	71,58	68,91	-3,73	18.634,00	17.750,00	246.034,00	248.174,00
T - Ausl 5 Pisa	4,22	51,08	51,64	1,10	19.009,00	18.854,00	334.718,00	337.566,00
T - Ausl 6 Livorno	0,96	61,65	68,02	10,33	24.429,00	26.968,00	350.909,00	351.863,00
T - Ausl 7 Siena	5,00	44,01	45,64	3,70	13.153,00	13.700,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	3,38	52,72	54,86	4,06	19.554,00	20.682,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	1,25	63,24	66,89	5,77	16.028,00	17.282,00	225.861,00	227.063,00
T - Ausl 10 Firenze	3,04	55,51	60,02	8,12	51.035,00	55.096,00	813.077,00	818.882,00
T - Ausl 11 Empoli	4,24	48,47	51,56	6,38	12.099,00	12.962,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	4,46	46,79	50,71	8,38	8.512,00	9.356,00	168.201,00	168.823,00

## Indicator C13: Ambulatory and Diagnostic service rate

### C13.2.1 Standardized CT performance rate per 1,000 residents

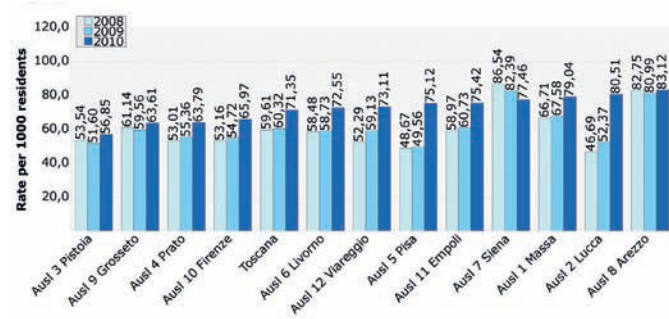
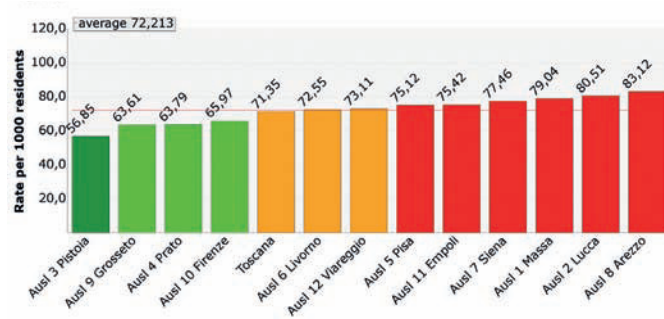
<b>Definition:</b>	Age and sex standardized rate of CT services
<b>Numerator:</b>	Number of CT accesses per Authority of residence
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{Number of CT accesses} \times 1000}{\text{Resident population}}$
<b>Notes:</b>	We consider CT services for both CT with a contrast agent and CT without a contrast agent. We consider services provided by public and accredited private facilities. Services excluded for inpatient admissions and emergency room services.
<b>Source:</b>	SPA Flow ( <i>Flusso SPA</i> )
<b>Standardization:</b>	Age and sex (the standard population is the population resident in Italy in 2001, Source ISTAT).



#### 4.110 Indicator C13.2.2: Standardized MRI performance rate per 1,000 residents

The MRI performance rate per 1000 residents measures the frequency of this type of examination. Although there is not a set standard, the need to reduce the variability in the use of MRI was repeatedly emphasized, as it is a possible symptom of inappropriate prescribing.

##### C13.2.2 – Standardized MRI performance rate per 1,000 residents



##### C13.2.2 Standardized MRI performance rate per 1,000 residents

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	71,35	1,86	275.739,00	3.730.130,00	2010
T - Ausl 1 Massa	79,04	0,00	16.896,00	203.642,00	2010
T - Ausl 2 Lucca	80,51	0,00	18.530,00	223.359,00	2010
T - Ausl 3 Pistoia	56,85	4,54	17.155,00	292.108,00	2010
T - Ausl 4 Prato	63,79	3,78	16.034,00	248.174,00	2010
T - Ausl 5 Pisa	75,12	0,91	26.091,00	337.566,00	2010
T - Ausl 6 Livorno	72,55	1,56	26.824,00	351.863,00	2010
T - Ausl 7 Siena	77,46	0,31	21.788,00	271.365,00	2010
T - Ausl 8 Arezzo	83,12	0,00	29.901,00	348.127,00	2010
T - Ausl 9 Grosseto	63,61	3,82	15.403,00	227.063,00	2010
T - Ausl 10 Firenze	65,97	3,22	56.023,00	818.882,00	2010
T - Ausl 11 Empoli	75,42	0,83	18.168,00	239.158,00	2010
T - Ausl 12 Viareggio	73,11	1,41	12.926,00	168.823,00	2010

#### Indicator C13: Ambulatory and Diagnostic service rate

##### C13.2.2 Standardized MRI performance rate per 1,000 residents

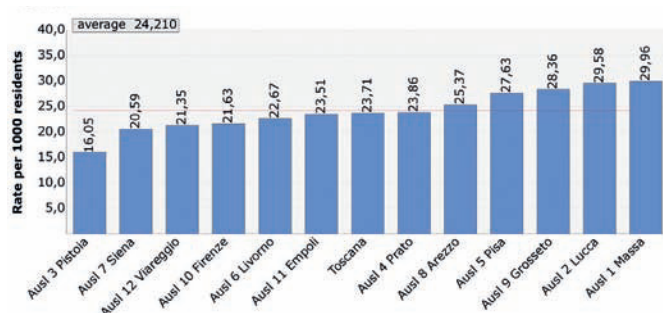
<b>Definition:</b>	Age and sex standardized rate of MRI services
<b>Numerator:</b>	Number of MRI accesses per Authority of residence
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{Number of MRI accesses} \times 1000}{\text{Resident population}}$
<b>Notes:</b>	We consider MRI services for both MRI with a contrast agent and MRI without a contrast agent. We consider services provided by public and accredited private facilities. Services excluded for inpatient admissions and emergency room services.
<b>Source:</b>	SPA Flow ( <i>Flusso SPA</i> )
<b>Standardization:</b>	Age and sex (the standard population is the population resident in Italy in 2001, Source ISTAT).



## Indicator C13.2.2.1: Musculoskeletal MRI performance rate 4.111 for 1,000 residents ( $\geq 65$ years)

The Skeletal Muscle MRI performance rate performed on patients aged above 65 years is a feature of C13.2.2. Indeed, it seems important to specifically measure this performance because these diagnostic tests are considered to be at high risk of inappropriateness.

### C13.2.2.1 – Musculoskeletal MRI performance rate per 1,000 residents ( $\geq 65$ years)



### C13.2.2.1 Musculoskeletal MRI performance rate for 1,000 residents ( $\geq 65$ years)

Health Authority	Value	Assessment	Numerator	Denominator	Year
T - Toscana	23,71	not assessed	20.557,00	867.010,00	2010
T - Ausl 1 Massa	29,96	not assessed	1.478,00	49.330,00	2010
T - Ausl 2 Lucca	29,58	not assessed	1.545,00	52.233,00	2010
T - Ausl 3 Pistoia	16,05	not assessed	1.059,00	65.996,00	2010
T - Ausl 4 Prato	23,86	not assessed	1.198,00	50.207,00	2010
T - Ausl 5 Pisa	27,63	not assessed	2.111,00	76.393,00	2010
T - Ausl 6 Livorno	22,67	not assessed	1.941,00	85.610,00	2010
T - Ausl 7 Siena	20,59	not assessed	1.365,00	66.281,00	2010
T - Ausl 8 Arezzo	25,37	not assessed	1.985,00	78.247,00	2010
T - Ausl 9 Grosseto	28,36	not assessed	1.584,00	55.857,00	2010
T - Ausl 10 Firenze	21,63	not assessed	4.245,00	196.243,00	2010
T - Ausl 11 Empoli	23,51	not assessed	1.214,00	51.646,00	2010
T - Ausl 12 Viareggio	21,35	not assessed	832,00	38.967,00	2010

## Indicator C13: Ambulatory and Diagnostic service rate

### C13.2.2.1 Musculoskeletal MRI performance rate for 1,000 residents ( $\geq 65$ years)

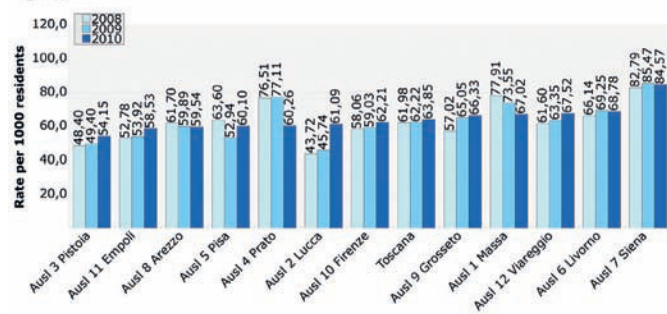
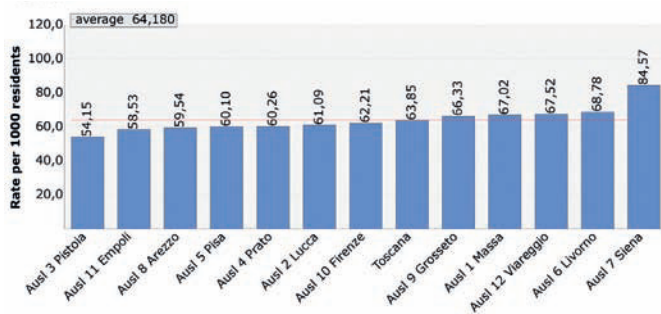
<b>Definition:</b>	Rate of MRI services for 1,000 residents $\geq 65$ years
<b>Numerator:</b>	Number of musculoskeletal MRI accesses for patients $\geq 65$ years
<b>Denominator:</b>	Resident population $\geq 65$ years
<b>Formula:</b>	$\frac{\text{Number of musculoskeletal MRI accesses } (\geq 65 \text{ years})}{\text{Resident population } \geq 65 \text{ years}} \times 1,000$
<b>Notes:</b>	We consider MRI services for both MRI with a contrast agent and MRI without a contrast agent, considering only codes 88.94.1, 88.94.2. We consider services provided by public and accredited private facilities. Services excluded for inpatient admissions and emergency room services.
<b>Source:</b>	SPA Flow ( <i>Flusso SPA</i> )
<b>Standardization:</b>	Age and sex (the standard population is the population resident in Italy in 2001, Source ISTAT).





## 4.112 Indicator C13.2.3: Standardized Echo Colour Doppler performance rate per 1,000 residents

### C13.2.3— Standardized Echo Colour Doppler performance rate per 1,000 residents



### C13.2.3 Standardized Echo Colour Doppler performance rate per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	62,22	63,85	2,62	259.957,00	268.725,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	73,55	67,02	-8,88	17.443,00	16.041,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	45,74	61,09	33,56	11.389,00	15.457,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	49,40	54,15	9,62	15.657,00	17.375,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	77,11	60,26	-21,85	19.281,00	15.184,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	52,94	60,10	13,52	19.846,00	22.786,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	69,25	68,78	-0,68	28.525,00	28.270,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	85,47	84,57	-1,05	26.913,00	26.760,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	59,89	59,54	-0,58	23.138,00	23.112,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	65,05	66,33	1,97	17.165,00	17.435,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	59,03	62,21	5,39	54.893,00	58.492,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	53,92	58,53	8,55	13.583,00	14.840,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	63,35	67,52	6,58	12.124,00	12.973,00	168.201,00	168.823,00

## Indicator C13: Ambulatory and Diagnostic service rate

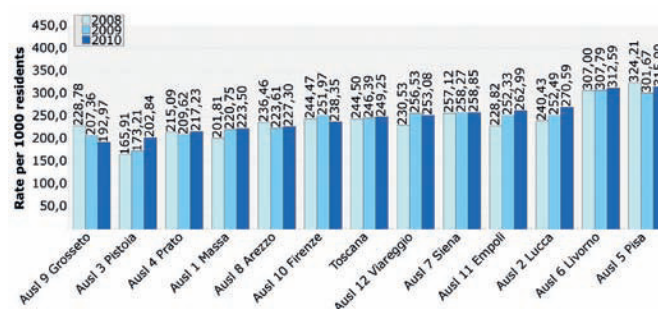
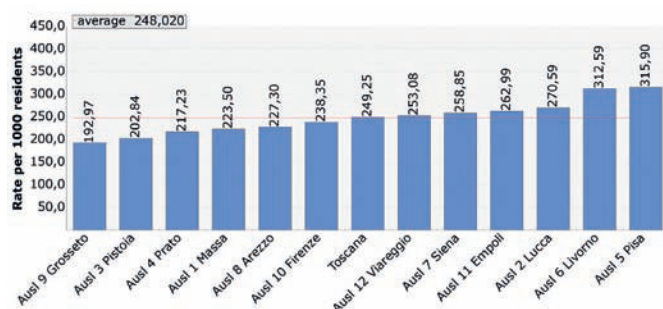
### C13.2.3 Standardized Echo Colour Doppler performance rate per 1,000 residents

<b>Definition:</b>	Age and sex standardized rate of Echo Colour Doppler
<b>Numerator:</b>	Number of Echo Colour Doppler accesses per Authority of residence
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{Number of Echo Colour Doppler accesses} \times 1,000}{\text{Resident population}}$
<b>Notes:</b>	We consider Ultrasound services, group Echo Colour Doppler. We consider services provided by public and accredited private facilities. Services excluded for inpatient admissions and emergency room services.
<b>Source:</b>	SPA Flow ( <i>Flusso SPA</i> )
<b>Standardization:</b>	Age and sex (the standard population is the population resident in Italy in 2001, Source ISTAT).



## Indicator C13.2.4: Ultrasound performance raw rate per 1,000 residents 4.113

### C13.2.4 – Ultrasound performance raw rate per 1,000 residents



### C13.2.4 Ultrasound performance raw rate per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	246,39	249,25	1,16	913.583,00	929.738,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	220,75	223,50	1,25	44.966,00	45.515,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	252,49	270,59	7,17	56.053,00	60.438,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	173,21	202,84	17,11	50.333,00	59.250,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	209,62	217,23	3,63	51.573,00	53.911,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	301,67	315,90	4,72	100.976,00	106.637,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	307,79	312,59	1,56	108.006,00	109.990,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	258,27	258,85	0,22	69.597,00	70.243,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	223,61	227,30	1,65	77.440,00	79.131,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	207,36	192,97	-6,94	46.834,00	43.817,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	251,97	238,35	-5,41	204.871,00	195.184,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	252,33	262,99	4,22	59.785,00	62.896,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	256,53	253,08	-1,34	43.149,00	42.726,00	168.201,00	168.823,00

## Indicator C13: Ambulatory and Diagnostic service rate

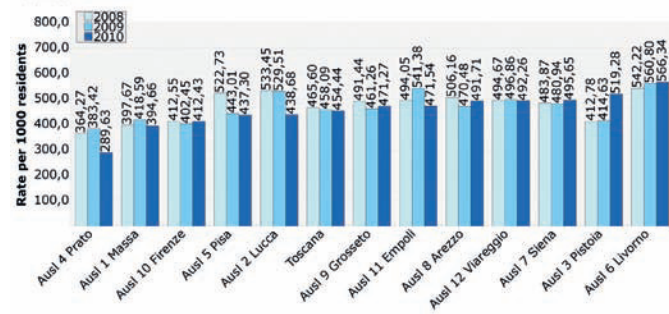
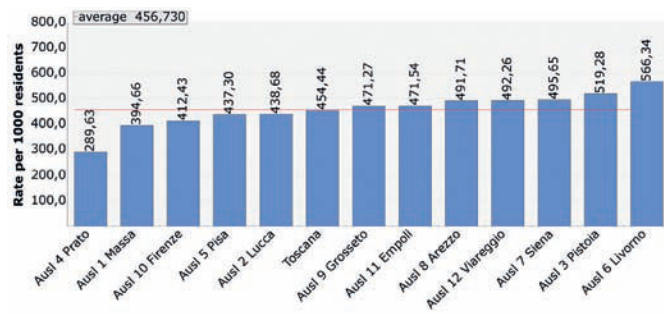
### C13.2.4 Ultrasound performance raw rate per 1,000 residents

<b>Definition:</b>	Ultrasound performance raw rate per 1,000 residents
<b>Numerator:</b>	Number of accesses for Ultrasound; per Authority of residence
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{Number of accesses for Ultrasound} \times 1,000}{\text{Resident population}}$
<b>Notes:</b>	We consider the following services: 88.71.1; 88.71.4; 88.72.1; 88.72.2; 88.72.5; 88.73.1; 88.73.2; 88.73.3; 88.74.1; 88.75.1; 88.76.1; 88.77.1; 88.78.1; 88.79.1; 88.79.2; 88.79.3; 88.79.5; 88.79.6; 88.79.7; 88.79.8; 95.13 We consider services provided by public and accredited private facilities. Services excluded for inpatients.
<b>Source:</b>	SPA Flow ( <i>Flusso SPA</i> )



## 4.114 Indicator C13.2.5: Traditional X-ray performance raw rate per 1,000 residents

### C13.2.5 – Traditional X-ray performance raw rate per 1,000 residents



### C13.2.5 Traditional X-ray performance raw rate per 1,000 residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	458,09	454,44	-0,80	1.698.496,00	1.695.103,00	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	not assessed	418,59	394,66	-5,72	85.265,00	80.369,00	203.698,00	203.642,00
T - Ausl 2 Lucca	not assessed	529,51	438,68	-17,15	117.550,00	97.984,00	221.999,00	223.359,00
T - Ausl 3 Pistoia	not assessed	414,63	519,28	25,24	120.489,00	151.685,00	290.596,00	292.108,00
T - Ausl 4 Prato	not assessed	383,42	289,63	-24,46	94.334,00	71.878,00	246.034,00	248.174,00
T - Ausl 5 Pisa	not assessed	443,01	437,30	-1,29	148.283,00	147.617,00	334.718,00	337.566,00
T - Ausl 6 Livorno	not assessed	560,80	566,34	0,99	196.791,00	199.273,00	350.909,00	351.863,00
T - Ausl 7 Siena	not assessed	480,94	495,65	3,06	129.601,00	134.503,00	269.473,00	271.365,00
T - Ausl 8 Arezzo	not assessed	470,48	491,71	4,51	162.938,00	171.178,00	346.324,00	348.127,00
T - Ausl 9 Grosseto	not assessed	461,26	471,27	2,17	104.180,00	107.007,00	225.861,00	227.063,00
T - Ausl 10 Firenze	not assessed	402,45	412,43	2,48	327.224,00	337.732,00	813.077,00	818.882,00
T - Ausl 11 Empoli	not assessed	541,38	471,54	-12,90	128.269,00	112.772,00	236.928,00	239.158,00
T - Ausl 12 Viareggio	not assessed	496,86	492,26	-0,93	83.572,00	83.105,00	168.201,00	168.823,00

## Indicator C13: Ambulatory and Diagnostic service rate

### C13.2.5 Traditional X-ray performance raw rate per 1,000 residents

<b>Definition:</b>	Traditional X-ray performance raw rate per 1,000 residents
<b>Numerator:</b>	Number of traditional X-ray executions per Authority of residence
<b>Denominator:</b>	Resident population
<b>Formula:</b>	$\frac{\text{Number of traditional X-ray performance} \times 1,000}{\text{Resident population}}$
<b>Notes:</b>	We consider traditional X-rays excluding services 87.37.1; 87.37.2; 87.37.3. We consider services provided by public and accredited private facilities. Services excluded for inpatients.
<b>Source:</b>	SPA Flow ( <i>Flusso SPA</i> )



## Indicator C15: Mental Health 4.115

Mental health, as defined by the World Health Organization (WHO), is the basis for proper emotional, psychological, intellectual, and social development of individuals and at the same time it has favourable effects on the environment in which people live and work, generating economic growth and social development. Moreover, education, employment, income and housing play a crucial role in maintaining mental health.

Disorders related to mental illness and addiction are of considerable and increasing importance for health budgets of all countries due to their high frequency and socio-economic costs resulting from disability of affected individuals (Osservasalute 2009).

It is estimated that current social conditions, related to population aging, loneliness and even the consumption of substances, will make this disease increasingly common. To this end, the WHO has set as a primary objective the early diagnosis and adequate treatment of mental diseases. Several initiatives and objectives have been embraced at the national and regional level in order to ensure an adequate treatment of the disease at the local level so as to minimise the need for compulsory treatment and to promote social integration (Osservasalute Report 2009).

The indicator C15 is composed of various sub-indicators, of which only the first (C8a.13) and third (C81.13.2) are for evaluation as a proxy for the management of mental healthcare patients. Starting from this year six new indicators have been included showing the detail for diagnostic grouping in the hospitalization rate for psychiatric disorders.

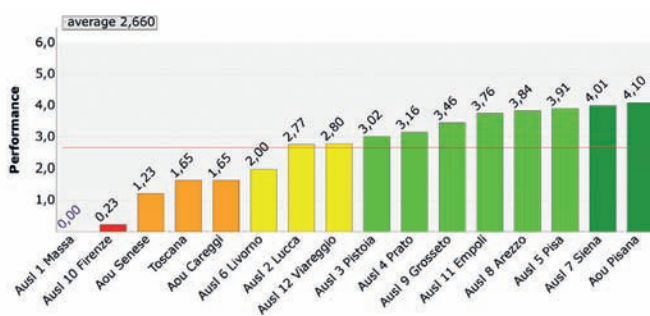
The data relating to new and existing patients both underage and adults, are not yet available.

Indicator	Performance	Year
C15 – Mental Health	● 1,65	2010

### C15 Mental Health

- C8a.13 – Percentage of re-admissions for adult psychiatric patients within 30 days: 14,02% ■
  - C8a.13.1 – Adjusted percentage of adult psychiatric patient re-admissions within 1 year: 25,35%
  - C8a.13.2 – Percentage of adult psychiatric patient re-admissions within 7 days: 6,17% ■
- C8a.5 – Hospitalization rate for psychiatric disorders per 100,000 adult residents: 277,06 rate per 100,000
  - C8a.5.1 – Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents: 57,31 per 100,000
  - C8a.5.2 – Hospitalization rate for mood disorders per 100,000 adult residents: 71,85 per 100,000
  - C8a.5.3 – Hospitalization rate for mild to moderate depression per 100,000 adult residents: 23,86 per 100,000
  - C8a.5.4 – Hospitalization rate for anxiety and adjustment disorders per 100,000 adult residents: 12,91 per 100,000
  - C8a.5.5 – Hospitalization rate for personality disorders per 100,000 adult residents: 19,66 per 100,000
  - C8a.5.6 – Hospitalization rate for other mental health diagnoses per 100,000 adult residents: 29,47 per 100,000
- C8a.6 – Percentage of CHT hospitalizations for psychiatric disorders: 2,85%
- C8a.7 – Hospitalization rate for psychiatric disorders per 100,000 underage residents: 123,13 per 100,000

### C15 – Mental Health



### Indicator C15: Mental Health

#### Notes

This is the indicator of the tree C15, therefore it does not have its own value. It is only an evaluation, the score of which is the average score of the following indicators: C8a.13 and C8a.13.2.

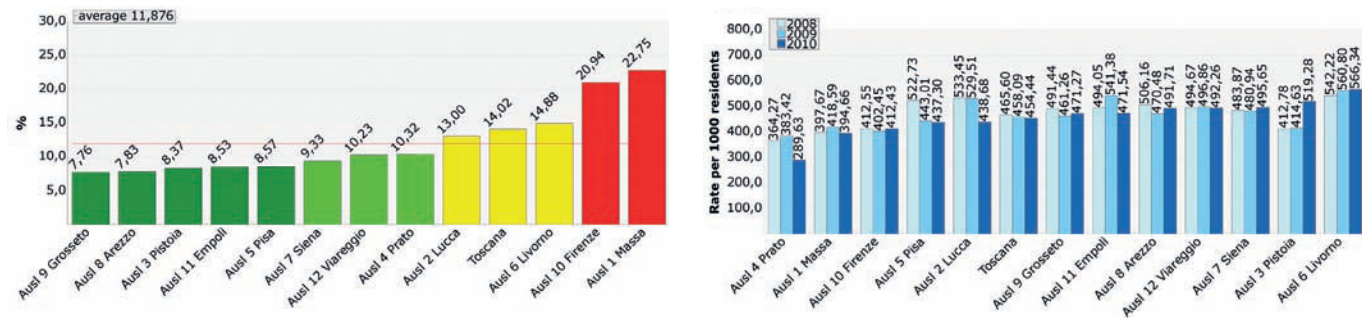


### 4.116 Indicator C8a.13: Percentage of re-admissions for adult psychiatric patients within 30 days

Re-admissions of patients with mental disorders during the month following discharge is a sign of poor integration between hospital and territorial services, and highlights issues of patient care on the part of Local Mental Health Authorities (Health at Glance 2009, OECD Indicators, December 2009). Following hospitalization, therefore, there is a need to formulate integrated care processes which allow the Local Authorities to take charge of the subject and evaluate individual rehabilitation and therapeutic opportunities.

According to the essential levels of care (LEA) of 23/04/08 (Capo IV, Art. 25, 26, 32) it is desirable to abandon the model based on providing services and to think, instead, of an approach based on the sequence of processes or levels within each therapeutic rehabilitation project (The established LEA for mental health are reported in Appendix 1). Services must be focused on the individual, who must be involved in all phases (diagnostic, therapeutic, rehabilitative) and to whom continuity of care and integration must be granted. The objective of such procedures, together with clinical results, takes into account aspects such as the quality of life and satisfaction of patients and their families.

**C8a.13** – Percentage of re-admissions for adult psychiatric patients within 30 days



**C8a.13** Percentage of re-admissions for adult psychiatric patients within 30 days

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,46	13,96	14,02	0,45	1.144,00	1.088,00	8.194,00	7.759,00
T - Ausl 1 Massa	0,00	18,60	22,75	22,33	106,00	119,00	570,00	523,00
T - Ausl 2 Lucca	2,76	9,93	13,00	30,89	43,00	49,00	433,00	377,00
T - Ausl 3 Pistoia	4,10	7,01	8,37	19,36	42,00	41,00	599,00	490,00
T - Ausl 4 Prato	3,54	10,25	10,32	0,67	54,00	55,00	527,00	533,00
T - Ausl 5 Pisa	4,04	13,52	8,57	-36,63	104,00	61,00	769,00	712,00
T - Ausl 6 Livorno	2,21	15,72	14,88	-5,34	138,00	118,00	878,00	793,00
T - Ausl 7 Siena	3,82	9,22	9,33	1,20	53,00	53,00	575,00	568,00
T - Ausl 8 Arezzo	4,26	5,35	7,83	46,38	26,00	39,00	486,00	498,00
T - Ausl 9 Grosseto	4,28	6,22	7,76	24,70	23,00	28,00	370,00	361,00
T - Ausl 10 Firenze	0,46	21,47	20,94	-2,46	483,00	458,00	2.250,00	2.187,00
T - Ausl 11 Empoli	4,05	9,23	8,53	-7,55	35,00	32,00	379,00	375,00
T - Ausl 12 Viareggio	3,56	10,34	10,23	-1,03	37,00	35,00	358,00	342,00

### Indicator C15: Mental Health

**C8a.13** Percentage of re-admissions for adult psychiatric patients within 30 days

<b>Definition:</b>	Percentage of re-admissions for adult psychiatric patients within 30 days from discharge in any facility public or under the National Health Service in the Region.
<b>Numerator:</b>	No. of re-admissions of adults discharged from 1 January to 30 November within 30 days with one of the selected psychiatric DRGs in any regional facility (original event within the period 1 Jan-30 Nov, following events within the period 1 Jan-31 Dec).
<b>Denominator:</b>	No. of admissions for psychiatric disorders from 1 January to 30 November
<b>Formula:</b>	$\frac{\text{No. of re-admissions within 30 days of discharge with one of the selected psychiatric DRGs}}{\text{No. of admissions for psychiatric disorders}} \times 100$
<b>Notes:</b>	We consider admissions provided in Tuscany for adult residents of Tuscany, with a valid fiscal code, for inpatient admissions, in the first 11 months of the year codes DRG: 425, 426, 427, 428, 429, 430, 431, 432, 523 admissions with discharge mode: voluntary; transferred to another institute of care, private or public for acute; inpatient transfer; transfer to a rehabilitation institute (discharge mode 5,6,8,9), do not generate re-admissions Admissions excluded: - with anonymous fiscal code - in unaccredited private facilities We consider a re-admission an admission that compared to the previous one has: the same fiscal code, same MDC, time period between the previous discharge and the following admission ≤ 30 days. Re-admissions are attributed to the Authority of residence.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)
<b>Reference:</b>	Regional average 2008

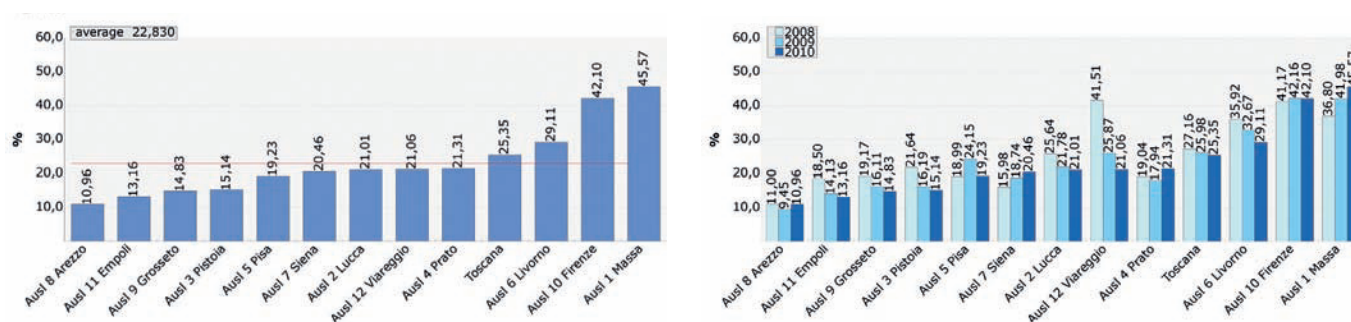


## Indicator C8a.13.1: Adjusted percentage of adult psychiatric patient re-admissions within 1 year 4.117

The percentage of re-admissions indicates on average how often a patient returns to hospital for problems similar to those of the previous admission. What is important, however, is whether patients in different Health Authorities will be re-admitted once or several times during the year. In other words, it is important to understand the distribution of re-admissions: if it is the case of a few people hospitalised several times, or if patients, in general, tend to need a second admission. On the web it is possible to download the attachment with the graphs for each Authority of residence.

To compare Authorities with a different propensity for psychiatric hospitalization, the denominator of the indicator has been corrected according to the difference with the regional hospitalization rate.

### C8a.13.1 – Adjusted percentage of adult psychiatric patient re-admissions within 1 year



### C8a.13.1 Adjusted percentage of adult psychiatric patient re-admission within 1 year

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	25,98	25,35	-2,43	2.317,00	2.127,00	8.918,13	8.389,02
T - Ausl 1 Massa	not assessed	41,98	45,57	8,56	210,00	213,00	500,28	467,42
T - Ausl 2 Lucca	not assessed	21,78	21,01	-3,53	117,00	106,00	537,21	504,56
T - Ausl 3 Pistoia	not assessed	16,19	15,14	-6,48	114,00	100,00	704,15	660,6
T - Ausl 4 Prato	not assessed	,94	21,31	18,81	105,00	117,00	585,40	548,96
T - Ausl 5 Pisa	not assessed	24,15	19,23	-20,37	196,00	147,00	811,60	764,42
T - Ausl 6 Livorno	not assessed	32,67	29,11	-10,90	281,00	234,00	860,07	803,8
T - Ausl 7 Siena	not assessed	18,74	20,46	9,20	123,00	126,00	656,46	615,7
T - Ausl 8 Arezzo	not assessed	9,45	10,96	15,95	78,00	86,00	825,22	784,89
T - Ausl 9 Grosseto	not assessed	16,11	14,83	-7,95	76,00	69,00	471,74	465,41
T - Ausl 10 Firenze	not assessed	42,16	42,10	-0,13	831,00	778,00	1.971,28	1.847,93
T - Ausl 11 Empoli	not assessed	14,13	13,16	-6,85	80,00	70,00	566,24	532,00
T - Ausl 12 Viareggio	not assessed	25,87	21,06	-18,59	106,00	81,00	409,77	384,58

## Indicator C15: Mental Health

### C8a.13.1 Adjusted percentage of adult psychiatric patient re-admissions within 1 year

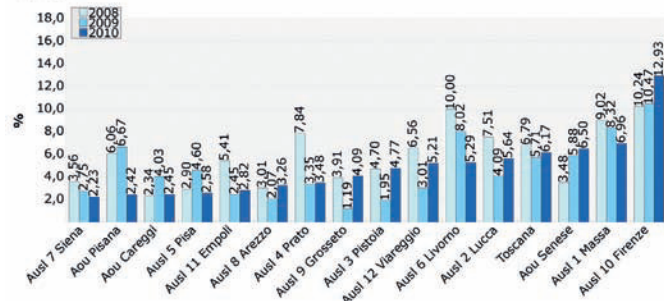
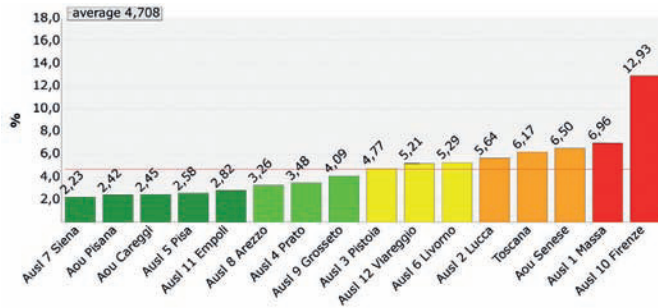
<b>Definition:</b>	Percentage of adult psychiatric patients re-admissions within 1 year adjusted by the difference with the regional hospitalization rate for psychiatric diseases.
<b>Numerator:</b>	No. of re-admissions of adult patients with one of the selected psychiatric DRGs in any regional facility during the year.
<b>Denominator:</b>	No. of admissions of adult patients with one of the selected psychiatric DRGs; adjusted by the difference with the regional hospitalization rate for psychiatric diseases.
<b>Formula:</b>	$\frac{\text{No. of re-admissions of adult patients with one of the selected psychiatric DRGs in any regional facility during the year}}{\text{No. of admissions of adult patients with one of the selected psychiatric DRGs adjusted by the difference with the regional hospitalization rate for psychiatric diseases.}} \times 100$
<b>Notes:</b>	<p>We consider inpatient admissions in Tuscany for residents of Tuscany.  <i>codes DRG:</i> 425, 426, 427, 428, 429, 430, 431, 432, 523            admissions with discharge mode: voluntary; transferred to another institute of care, private or public for acute; inpatient transfer; transfer to a rehabilitation institute (discharge mode 5,6,8,9), do not generate readmissions            Admissions excluded:            – in unaccredited private facilities            – with anonymous fiscal code            Re-admissions are attributed to the Authority of residence.            The denominator is calculated as follows: the percentage of difference between the hospitalization rate for psychiatric disorders of each authority and the regional hospitalization rate for psychiatric disorders (see indicator C8a.5), then we multiply the number of adult psychiatric admissions by that difference, and then sum the result to the number of admissions. In this way we obtain the correct denominator.</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## 4.118 Indicator C8a.13.2: Percentage of adult psychiatric patient re-admissions within 7 days

The re-admission of a patient within 7 days after the previous admission reveals problems related to premature discharge and is therefore the responsibility of the facility.

### C8a.13.2 – Percentage of adult psychiatric patient re-admissions within 7 days



### C8a.13.2 Percentage of adult psychiatric patient re-admissions within 7 days

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,52	5,71	6,17	8,10	447,00	458,00	7.834,00	7.425,00
T - Ausl 1 Massa	0,90	8,32	6,96	-16,36	48,00	35,00	577,00	503,00
T - Ausl 2 Lucca	1,93	4,09	5,64	37,78	16,00	19,00	391,00	337,00
T - Ausl 3 Pistoia	2,60	1,95	4,77	144,69	11,00	22,00	564,00	461,00
T - Ausl 4 Prato	3,61	3,35	3,48	3,83	15,00	17,00	448,00	489,00
T - Ausl 5 Pisa	4,31	4,60	2,58	-43,96	31,00	15,00	674,00	582,00
T - Ausl 6 Livorno	2,20	8,02	5,29	-34,06	61,00	37,00	761,00	700,00
T - Ausl 7 Siena	4,58	2,75	2,23	-18,79	11,00	9,00	400,00	403,00
T - Ausl 8 Arezzo	3,78	2,07	3,26	57,83	10,00	15,00	484,00	460,00
T - Ausl 9 Grosseto	3,13	1,19	4,09	243,40	4,00	13,00	336,00	318,00
T - Ausl 10 Firenze	0,00	10,47	12,93	23,54	177,00	221,00	1.691,00	1.709,00
T - Ausl 11 Empoli	4,12	2,45	2,82	14,87	9,00	10,00	367,00	355,00
T - Ausl 12 Viareggio	2,26	3,01	5,21	73,03	9,00	15,00	299,00	288,00
T - Aou Pisana	4,43	6,67	2,42	-63,71	16,00	6,00	240,00	248,00
T - Aou Senese	1,25	5,88	6,50	10,57	15,00	16,00	255,00	246,00
T - Aou Careggi	4,40	4,03	2,45	-39,18	14,00	8,00	347,00	326,00

## Indicator C15: Mental Health

### C8a.13.2 Percentage of adult psychiatric patient re-admissions within 7 days

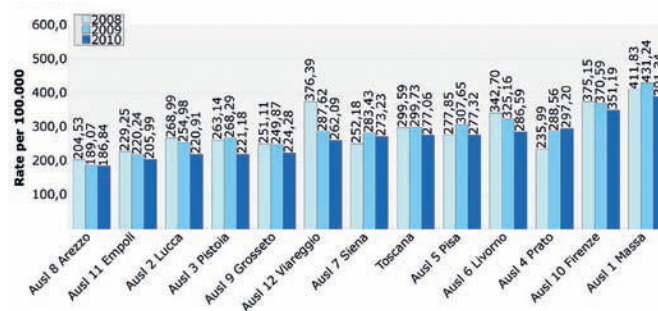
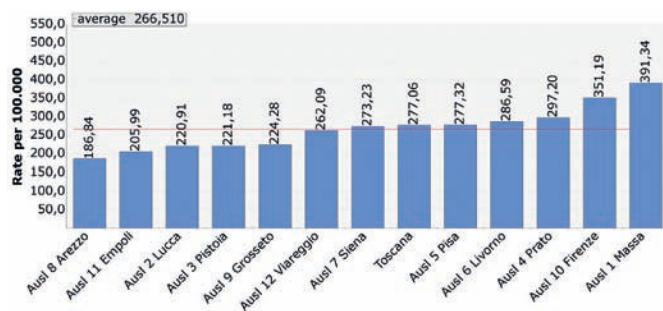
<b>Definition:</b>	Percentage of adult psychiatric patient re-admissions within 7 days of discharge in any facility public or under the National Health Service in the Region.
<b>Numerator:</b>	No. of adult re- admissions within 7 days with one of the selected psychiatric DRGs in any regional facility.
<b>Denominator:</b>	No. of adult admissions with psychiatric disorders.
<b>Formula:</b>	$\frac{\text{No. of adult re- admissions within 7 days with one of the selected psychiatric DRGs}}{\text{No. of adult admissions with psychiatric disorders}} \times 100$
<b>Notes:</b>	<p>We consider inpatient admissions in the region for residents of the Region, with a valid fiscal cod.            codes DRG: 425, 426, 427, 428, 429, 430, 431, 432, 523            admissions with discharge mode: voluntary; transferred to another institute of care, private or public for acute; inpatient transfer; transfers to a rehabilitation institute (discharge mode 5,6,8,9), do not generate re-admissions            Admissions excluded:            – with an anonymous fiscal code            – in unaccredited private facilities            We consider a re-admission an admission that compared to the previous one has: the same fiscal code, same MDC, time period between the previous discharge and the following admission of 7 days.            Re-admissions are attributed to the Authority providing the previous admission. For example, if a third readmission occurs within 30 days from the first one, it will be attributed to the Authority that provided the second admission</p>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )
<b>Reference:</b>	Regional average, 2010



## Indicator C8a.5: Hospitalization rate for psychiatric disorders per 100,000 adult residents 4.119

The hospitalization rate for psychiatric diseases is an indicator aimed at evaluating the efficiency of local services for psychiatric patient care with respect to emergencies and prevention of acute episodes. The hospitalization of people with mental diseases should be restricted to severe cases, ensuring at the same time, an extensive network of integrated local services for the psychic patient, which would allow community mental health centres to provide better patient management encouraging preventive and curative interventions.

### C8a.5 – Hospitalization rate for psychiatric disorders per 100,000 adult residents



### C8a.5 Hospitalization rate for psychiatric disorders per 100,000 adult residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	299,73	277,06	-7,56	9.452,00	8.780,00	3.153.495,00	3.168.955,00
T - Ausl 1 Massa	not assessed	431,24	391,34	-9,25	756,00	686,00	175.308,00	175.295,00
T - Ausl 2 Lucca	not assessed	254,98	220,91	-13,36	480,00	418,00	188.250,00	189.221,00
T - Ausl 3 Pistoia	not assessed	268,29	221,18	-17,56	662,00	548,00	246.749,00	247.766,00
T - Ausl 4 Prato	not assessed	288,56	297,20	2,99	593,00	615,00	205.500,00	206.929,00
T - Ausl 5 Pisa	not assessed	307,65	277,32	-9,86	876,00	795,00	284.738,00	286.675,00
T - Ausl 6 Livorno	not assessed	325,16	286,59	-11,86	980,00	865,00	301.388,00	301.825,00
T - Ausl 7 Siena	not assessed	283,43	273,23	-3,60	652,00	632,00	230.039,00	231.304,00
T - Ausl 8 Arezzo	not assessed	189,07	186,84	-1,18	555,00	551,00	293.542,00	294.910,00
T - Ausl 9 Grosseto	not assessed	249,87	224,28	-10,24	487,00	439,00	194.904,00	195.735,00
T - Ausl 10 Firenze	not assessed	70,59	351,19	-5,23	2.561,00	2.441,00	691.062,00	695.058,00
T - Ausl 11 Empoli	not assessed	220,24	205,99	-6,47	437,00	412,00	198.422,00	200.010,00
T - Ausl 12 Viareggio	not assessed	287,62	262,09	-8,88	413,00	378,00	143.593,00	144.227,00

## Indicator C15: Mental Health

### C8a.5 Hospitalization rate for psychiatric disorders per 100,000 adult residents

<b>Definition:</b>	Hospitalization rate for psychiatric disorders per 100,000 residents > 17 years
<b>Numerator:</b>	No. of admissions for psychiatric disorders > 17 years for residents of the Ausl
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for psychiatric disorders > 17 years}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged from psychiatric DRGs codes DRG: 425, 426, 427, 428, 429, 430, 431, 432, 523 Admissions by unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)

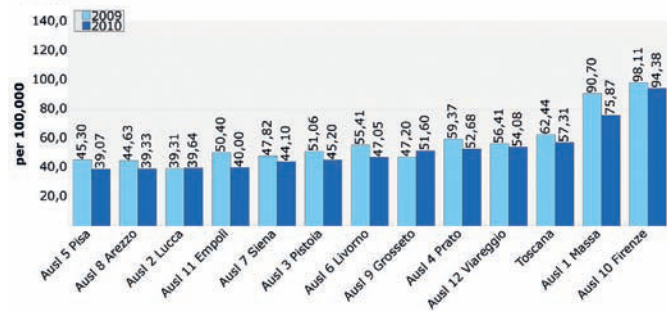
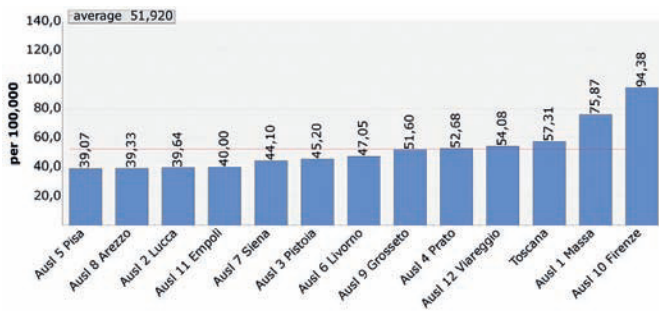




## 4.120 Indicator C8a.5.1: Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents

The following are the indicators of the hospitalization rate of adult residents divided by diagnosis groups. The first two (hospitalization rate for schizophrenia and psychotic disorders and the hospitalization rate for mood disorders) are the so-called severe mental disorders, for which hospitalization is more appropriate.

### C8a.5.1 – Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents



### C8a.5.1 Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	62,44	57,31	-8,22	1.969,00	1.816,00	3.153.495,00	3.168.955,00
T - Ausl 1 Massa	not assessed	90,70	75,87	-16,35	159,00	133,00	175.308,00	175.295,00
T - Ausl 2 Lucca	not assessed	39,31	39,64	0,83	74,00	75,00	188.250,00	189.221,00
T - Ausl 3 Pistoia	not assessed	51,06	45,20	-11,48	126,00	112,00	246.749,00	247.766,00
T - Ausl 4 Prato	not assessed	59,37	52,68	-11,27	122,00	109,00	205.500,00	206.929,00
T - Ausl 5 Pisa	not assessed	45,30	39,07	-13,76	129,00	112,00	284.738,00	286.675,00
T - Ausl 6 Livorno	not assessed	55,41	47,05	-15,09	167,00	142,00	301.388,00	301.825,00
T - Ausl 7 Siena	not assessed	7,82	44,10	-7,78	110,00	102,00	230.039,00	231.304,00
T - Ausl 8 Arezzo	not assessed	44,63	39,33	-11,86	131,00	116,00	293.542,00	294.910,00
T - Ausl 9 Grosseto	not assessed	7,20	51,60	9,32	92,00	101,00	194.904,00	195.735,00
T - Ausl 10 Firenze	not assessed	98,11	94,38	-3,80	678,00	656,00	691.062,00	695.058,00
T - Ausl 11 Empoli	not assessed	50,40	40,00	-20,64	100,00	80,00	198.422,00	200.010,00
T - Ausl 12 Viareggio	not assessed	56,41	54,08	-4,13	81,00	78,00	143.593,00	144.227,00

## Indicator C15: Mental Health

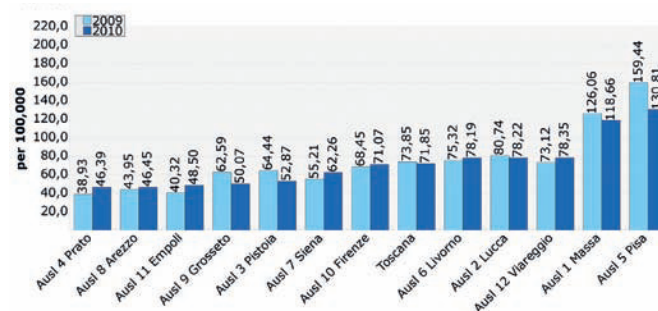
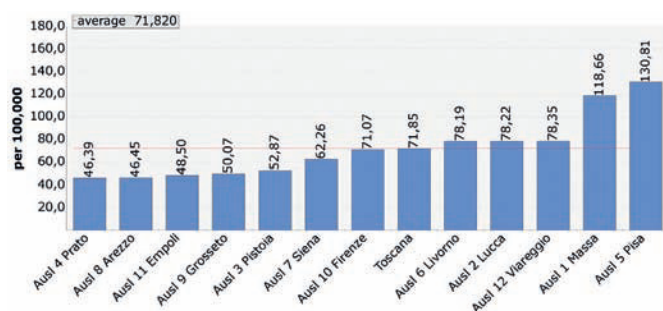
### C8a.5.1 Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents

<b>Definition:</b>	Hospitalization rate for schizophrenia and psychotic disorders per 100,000 adult residents.
<b>Numerator:</b>	No. of admissions for schizophrenia and psychotic disorders > 17 years for residents of the Ausl.
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for schizophrenia and psychotic disorders}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents discharged from Psychiatric Service of Diagnosis and Treatment (discharge specialty "40") with a diagnosis of schizophrenia and psychotic disorders codes ICDIX-CM: 295.xx, 297.xx, 298.xx, 299.1x, 299.9x Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## Indicator C8a.5.2: Hospitalization rate for mood disorders per 100,000 adult residents 4.121

### C8a.5.2 – Hospitalization rate for mood disorders per 100,000 adult residents



### C8a.5.2 Hospitalization rate for mood disorders per 100,000 adult residents

Health Authority	Score 2010	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	73,85	71,85	-2,71	2.329,00	2.277,00	3.153.495,00	3.168.955,00	3.730.130,00
T - Ausl 1 Massa	not assessed	126,06	118,66	-5,88	221,00	208,00	175.308,00	175.295,00	203.642,00
T - Ausl 2 Lucca	not assessed	80,74	78,22	-3,13	152,00	148,00	188.250,00	189.221,00	223.359,00
T - Ausl 3 Pistoia	not assessed	64,44	52,87	-17,95	159,00	131,00	246.749,00	247.766,00	292.108,00
T - Ausl 4 Prato	not assessed	38,93	46,39	19,17	80,00	96,00	205.500,00	206.929,00	248.174,00
T - Ausl 5 Pisa	not assessed	159,44	130,81	-17,96	454,00	375,00	284.738,00	286.675,00	337.566,00
T - Ausl 6 Livorno	not assessed	75,32	78,19	3,81	227,00	236,00	301.388,00	301.825,00	351.863,00
T - Ausl 7 Siena	not assessed	55,21	62,26	12,77	127,00	144,00	230.039,00	231.304,00	271.365,00
T - Ausl 8 Arezzo	not assessed	43,95	46,45	5,71	129,00	137,00	293.542,00	294.910,00	348.127,00
T - Ausl 9 Grosseto	not assessed	62,59	50,07	-20,01	122,00	98,00	194.904,00	195.735,00	227.063,00
T - Ausl 10 Firenze	not assessed	68,45	71,07	3,84	473,00	494,00	691.062,00	695.058,00	818.882,00
T - Ausl 11 Empoli	not assessed	40,32	48,50	20,29	80,00	97,00	198.422,00	200.010,00	239.158,00
T - Ausl 12 Viareggio	not assessed	73,12	78,35	7,15	105,00	113,00	143.593,00	144.227,00	168.823,00

## Indicator C15: Mental Health

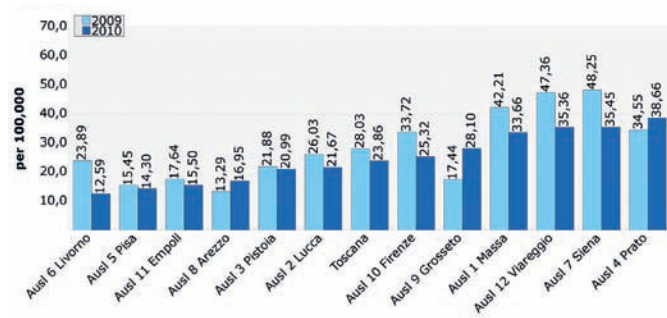
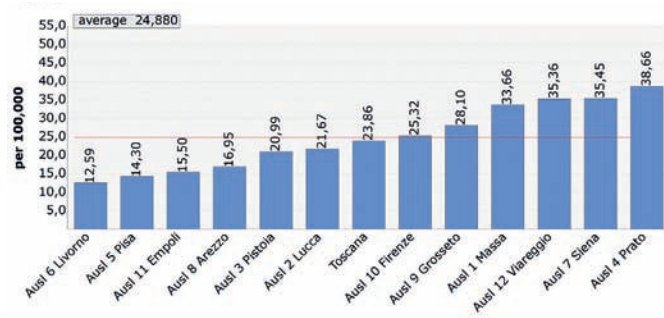
### C8a.5.2 Hospitalization rate for mood disorders per 100,000 adult residents

<b>Definition:</b>	Hospitalization rate for mood disorders per 100,000 adult residents.
<b>Numerator:</b>	No. of admissions for mood disorders > 17 years for residents of the Ausl
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for mood disorders}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged from Psychiatric Service of Diagnosis and Treatment (discharge specialty "40") with a diagnosis of mood disorders <i>codes ICDIX-CM: 296.0x, 296.1x, 296.4x, 296.5x, 296.6x, 296.23, 296.24, 296.33, 296.34</i> Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema Informativo Regionale - Flusso SDO</i> )



## 4.122 Indicator C8a.5.3: Hospitalization rate for mild to moderate depression per 100,000 adult residents

### C8a.5.3 – Hospitalization rate for mild to moderate depression per 100,000 adult residents



### C8a.5.3 Hospitalization rate for mild to moderate depression per 100,000 adult residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	28,03	23,86	-14,90	884,00	756,00	3.153.495,00	3.168.955,00
T - Ausl 1 Massa	not assessed	42,21	33,66	-20,26	74,00	59,00	175.308,00	175.295,00
T - Ausl 2 Lucca	not assessed	26,03	21,67	-16,76	49,00	41,00	188.250,00	189.221,00
T - Ausl 3 Pistoia	not assessed	21,88	20,99	-4,10	54,00	52,00	246.749,00	247.766,00
T - Ausl 4 Prato	not assessed	34,55	38,66	11,90	71,00	80,00	205.500,00	206.929,00
T - Ausl 5 Pisa	not assessed	15,45	14,30	-7,45	44,00	41,00	284.738,00	286.675,00
T - Ausl 6 Livorno	not assessed	23,89	12,59	-47,30	72,00	38,00	301.388,00	301.825,00
T - Ausl 7 Siena	not assessed	48,25	35,45	-26,53	111,00	82,00	230.039,00	231.304,00
T - Ausl 8 Arezzo	not assessed	13,29	16,95	27,61	39,00	50,00	293.542,00	294.910,00
T - Ausl 9 Grosseto	not assessed	17,44	28,10	61,08	34,00	55,00	194.904,00	195.735,00
T - Ausl 10 Firenze	not assessed	33,72	25,32	-24,90	233,00	176,00	691.062,00	695.058,00
T - Ausl 11 Empoli	not assessed	17,64	15,50	-12,13	35,00	31,00	198.422,00	200.010,00
T - Ausl 12 Viareggio	not assessed	47,36	35,36	-25,33	68,00	51,00	143.593,00	144.227,00

## Indicator C15: Mental Health

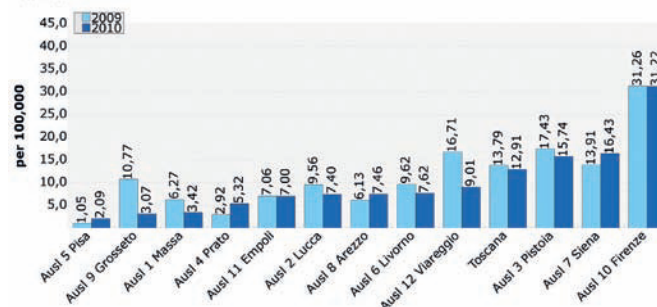
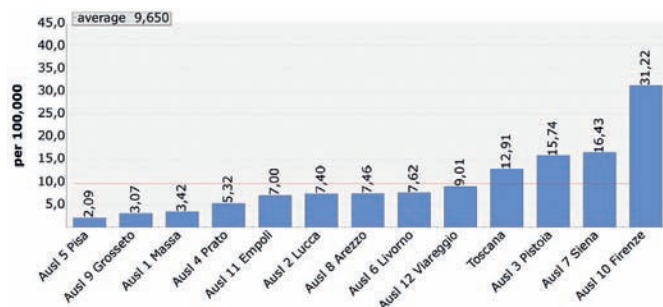
### C8a.5.3 Hospitalization rate for mild to moderate depression per 100,000 adult residents

<b>Definition:</b>	Hospitalization rate for mild to moderate depression per 100,000 adult residents
<b>Numerator:</b>	No. of admissions for mild to moderate depression > 17 years for residents of the Ausl
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for mild to moderate depression}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged from Psychiatric Service of Diagnosis and Treatment (discharge specialty "40") with a diagnosis of mild to moderate depression codes ICDIX-CM: 311.xx, 296.7x, 296.8x, 296.9x, 296.20, 296.21, 296.22, 296.25, 296.26, 296.30, 296.31, 296.32, 296.35, 296.36 Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## Indicator C8a.5.4: Hospitalization rate for anxiety and adjustment disorders **4.123** per 100,000 adult residents

### C8a.5.4 – Hospitalization rate for anxiety and adjustment disorders per 100,000 adult residents



### C8a.5.4 Hospitalization rate for anxiety and adjustment disorders per 100,000 adult residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	13,79	12,91	-6,44	435,00	409,00	3.153.495,00	3.168.955,00
T - Ausl 1 Massa	not assessed	6,27	3,42	-45,45	11,00	6,00	175.308,00	175.295,00
T - Ausl 2 Lucca	not assessed	9,56	7,40	-22,62	18,00	14,00	188.250,00	189.221,00
T - Ausl 3 Pistoia	not assessed	17,43	15,74	-9,67	43,00	39,00	246.749,00	247.766,00
T - Ausl 4 Prato	not assessed	2,92	5,32	82,07	6,00	11,00	205.500,00	206.929,00
T - Ausl 5 Pisa	not assessed	1,05	2,09	98,65	3,00	6,00	284.738,00	286.675,00
T - Ausl 6 Livorno	not assessed	9,62	7,62	-20,80	29,00	23,00	301.388,00	301.825,00
T - Ausl 7 Siena	not assessed	13,91	16,43	18,10	32,00	38,00	230.039,00	231.304,00
T - Ausl 8 Arezzo	not assessed	6,13	7,46	21,66	18,00	22,00	293.542,00	294.910,00
T - Ausl 9 Grosseto	not assessed	10,77	3,07	-71,55	21,00	6,00	194.904,00	195.735,00
T - Ausl 10 Firenze	not assessed	31,26	31,22	-0,11	216,00	217,00	691.062,00	695.058,00
T - Ausl 11 Empoli	not assessed	7,06	7,00	-0,79	14,00	14,00	198.422,00	200.010,00
T - Ausl 12 Viareggio	not assessed	16,71	9,01	-46,07	24,00	13,00	143.593,00	144.227,00

## Indicator C15: Mental Health

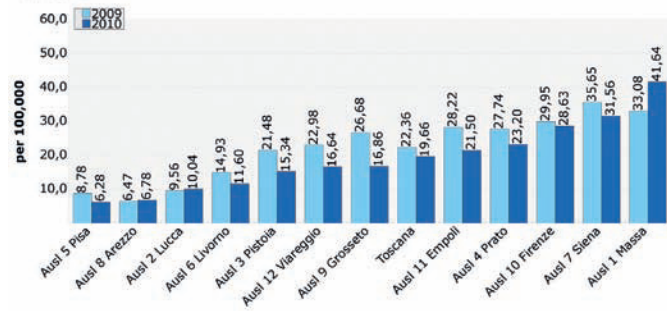
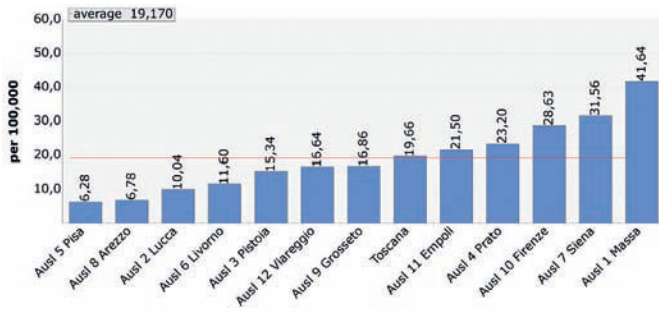
### C8a.5.4 Hospitalization rate for anxiety and adjustment disorders per 100,000 adult residents

<b>Definition:</b>	Hospitalization rate for anxiety and adjustment disorders per 100,000 adult residents
<b>Numerator:</b>	No. of admissions for anxiety and adjustment disorders > 17 years for residents of the Ausl
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for anxiety and adjustment disorders}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged from Psychiatric Service of Diagnosis and Treatment (discharge specialty "40") with a diagnosis of anxiety and adjustment disorders. codes ICDIX-CM: 300.xx Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## 4.124 Indicator C8a.5.5: Hospitalization rate for personality disorders per 100,000 adult residents

### C8a.5.5 – Hospitalization rate for personality disorders per 100,000 adult residents



### C8a.5.5 Hospitalization rate for personality disorders per 100,000 adult residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	22,36	19,66	-12,06	705,00	623,00	3.153.495,00	3.168.955,00
T - Ausl 1 Massa	not assessed	33,08	41,64	25,87	58,00	73,00	175.308,00	175.295,00
T - Ausl 2 Lucca	not assessed	9,56	10,04	5,01	18,00	19,00	188.250,00	189.221,00
T - Ausl 3 Pistoia	not assessed	21,48	15,34	-28,60	53,00	38,00	246.749,00	247.766,00
T - Ausl 4 Prato	not assessed	27,74	23,20	-16,37	57,00	48,00	205.500,00	206.929,00
T - Ausl 5 Pisa	not assessed	8,78	6,28	-28,49	25,00	18,00	284.738,00	286.675,00
T - Ausl 6 Livorno	not assessed	14,93	11,60	-22,33	45,00	35,00	301.388,00	301.825,00
T - Ausl 7 Siena	not assessed	35,65	31,56	-11,46	82,00	73,00	230.039,00	231.304,00
T - Ausl 8 Arezzo	not assessed	6,47	6,78	4,77	19,00	20,00	293.542,00	294.910,00
T - Ausl 9 Grosseto	not assessed	26,68	16,86	-36,81	52,00	33,00	194.904,00	195.735,00
T - Ausl 10 Firenze	not assessed	29,95	28,63	-4,42	207,00	199,00	691.062,00	695.058,00
T - Ausl 11 Empoli	not assessed	28,22	21,50	-23,82	56,00	43,00	198.422,00	200.010,00
T - Ausl 12 Viareggio	not assessed	22,98	16,64	-27,59	33,00	24,00	143.593,00	144.227,00

## Indicator C15: Mental Health

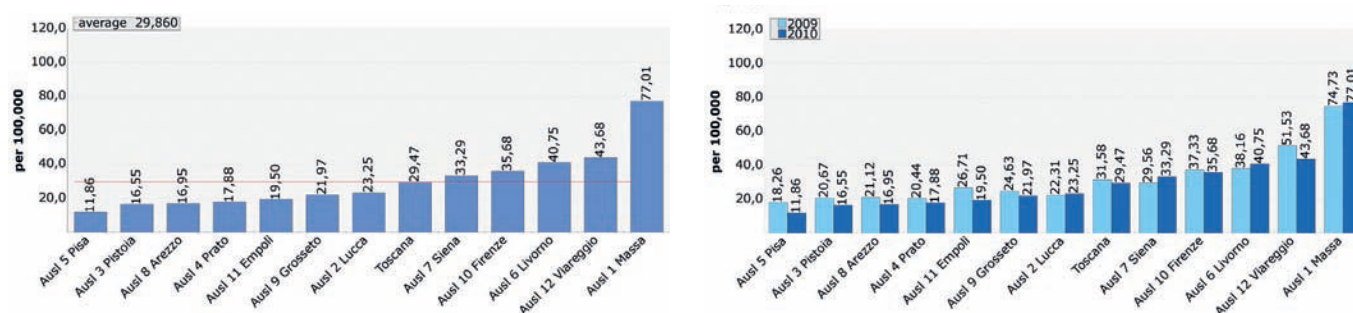
### C8a.5.5 Hospitalization rate for personality disorders per 100,000 adult residents

<b>Definition:</b>	Hospitalization rate for personality disorders per 100,000 adult residents
<b>Numerator:</b>	No. of admissions for personality disorders > 17 years for residents of the Ausl
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for personality disorders}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged from Psychiatric Service of Diagnosis and Treatment (discharge specialty "40") with a diagnosis of personality disorders. codes ICDIX-CM: 301.xx Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## Indicator C8a.5.6: Hospitalization rate for other mental health diagnoses per 100,000 adult residents 4.125

### C8a.5.6 – Hospitalization rate for other mental health diagnoses per 100,000 adult residents



### C8a.5.6 Hospitalization rate for other mental health diagnoses per 100,000 adult residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	31,58	29,47	-6,68	996,00	934,00	3.153.495,00	3.168.955,00
T - Ausl 1 Massa	not assessed	74,73	77,01	3,06	131,00	135,00	175.308,00	175.295,00
T - Ausl 2 Lucca	not assessed	22,31	23,25	4,22	42,00	44,00	188.250,00	189.221,00
T - Ausl 3 Pistoia	not assessed	20,67	16,55	-19,94	51,00	41,00	246.749,00	247.766,00
T - Ausl 4 Prato	not assessed	20,44	17,88	-12,51	42,00	37,00	205.500,00	206.929,00
T - Ausl 5 Pisa	not assessed	18,26	11,86	-35,06	52,00	34,00	284.738,00	286.675,00
T - Ausl 6 Livorno	not assessed	38,16	40,75	6,80	115,00	123,00	301.388,00	301.825,00
T - Ausl 7 Siena	not assessed	29,56	33,29	12,62	68,00	77,00	230.039,00	231.304,00
T - Ausl 8 Arezzo	not assessed	21,12	16,95	-19,73	62,00	50,00	293.542,00	294.910,00
T - Ausl 9 Grosseto	not assessed	24,63	21,97	-10,80	48,00	43,00	194.904,00	195.735,00
T - Ausl 10 Firenze	not assessed	37,33	35,68	-4,43	258,00	248,00	691.062,00	695.058,00
T - Ausl 11 Empoli	not assessed	26,71	19,50	-27,00	53,00	39,00	198.422,00	200.010,00
T - Ausl 12 Viareggio	not assessed	51,53	43,68	-15,24	74,00	63,00	143.593,00	144.227,00

## Indicator C15: Mental Health

### C8a.5.6 Hospitalization rate for other mental health diagnoses per 100,000 adult residents

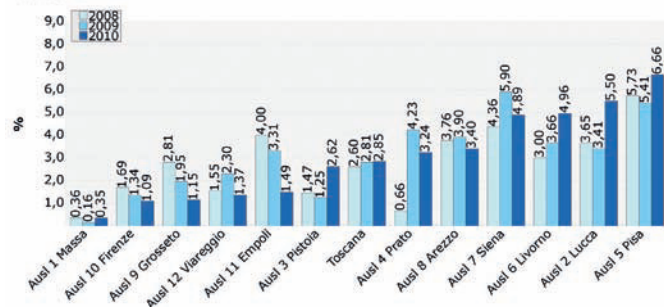
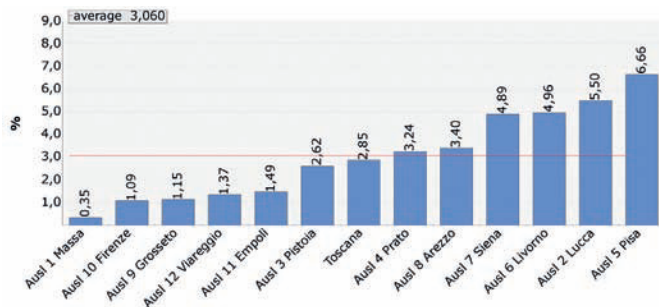
<b>Definition:</b>	Hospitalization rate for other diagnoses per 100,000 adult residents
<b>Numerator:</b>	No. of admissions for other diagnoses > 17 years for residents of the Ausl
<b>Denominator:</b>	Resident population > 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for other diagnoses}}{\text{Population > 17 years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged from Psychiatric Service of Diagnosis and Treatment (discharge specialty "40") with a diagnosis of other mental health diagnoses. <i>codes ICDIX-CM: 290.xx-294.xx, 302.xx-310.xx, 312.xx, 316-319</i> Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## 4.126 Indicator C8a.6: Percentage of CHT hospitalizations for psychiatric disorders

The admission arrangements for compulsory health treatment (CHT) were established by the Framework Law No. 180, 1978. This Directive allows hospitalization, against a patient's wishes, in exceptional cases when there are serious mental disorders, decompensated, with no awareness of the disease, requiring urgent hospitalization. As the CHT is considered an extraordinary mode of intervention, given that the health system is capable of "ordinary" care for patients (even the serious ones), this indicator can be considered as an indirect measure of the effectiveness of treatment programs and rehabilitation programs developed by the Departments of Mental Health (Osservasalute Report, 2005).

### C8a.6 – Percentage of CHT hospitalizations for psychiatric disorders



**C8a.6** Percentage of CHT hospitalizations for psychiatric disorders

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	2,81	2,85	1,50	253,00	241,00	8.999,00	8.450,00
T - Ausl 1 Massa	not assessed	0,16	0,35	118,15	1,00	2,00	620,00	573,00
T - Ausl 2 Lucca	not assessed	3,41	5,50	61,29	16,00	22,00	469,00	400,00
T - Ausl 3 Pistoia	not assessed	1,25	2,62	109,74	8,00	14,00	641,00	534,00
T - Ausl 4 Prato	not assessed	4,23	3,24	-23,48	24,00	19,00	567,00	587,00
T - Ausl 5 Pisa	not assessed	5,41	6,66	23,07	46,00	52,00	850,00	781,00
T - Ausl 6 Livorno	not assessed	3,66	4,96	35,48	35,00	42,00	955,00	847,00
T - Ausl 7 Siena	not assessed	5,90	4,89	-17,19	37,00	30,00	627,00	614,00
T - Ausl 8 Arezzo	not assessed	3,90	3,40	-12,75	21,00	18,00	538,00	529,00
T - Ausl 9 Grosseto	not assessed	1,95	1,15	-40,92	9,00	5,00	461,00	434,00
T - Ausl 10 Firenze	not assessed	1,34	1,09	-18,58	33,00	26,00	2.457,00	2.383,00
T - Ausl 11 Empoli	not assessed	3,31	1,49	-54,91	14,00	6,00	423,00	402,00
T - Ausl 12 Viareggio	not assessed	2,30	1,37	-40,60	9,00	5,00	391,00	366,00

## Indicator C15: Mental Health

### C8a.6 Percentage of Compulsory Health Treatment (CHT) hospitalizations for psychiatric disorders

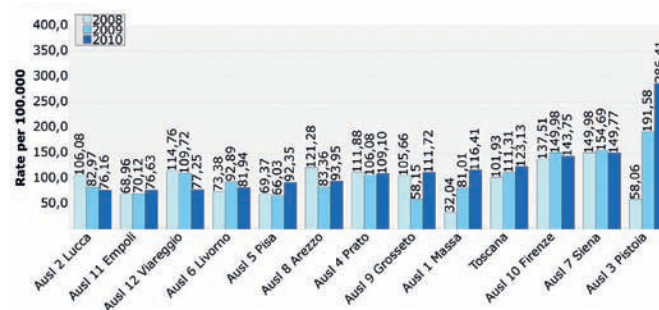
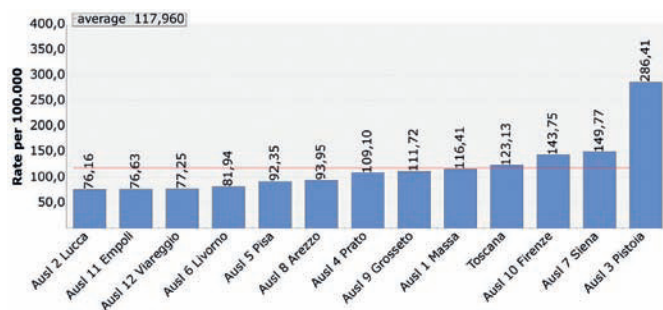
<b>Definition:</b>	Percentage of CHT discharges from Psychiatry > 17 years
<b>Numerator:</b>	No. of CHT for residents of the Ausl > 17 years
<b>Denominator:</b>	No. of discharges from Psychiatry > 17 years residents of the Ausl.
<b>Formula:</b>	$\frac{\text{No. of CHT for residents > 17 years}}{\text{No. of residents discharged from Psychiatry > 17 years}} \times 100$
<b>Notes:</b>	We consider admissions in Tuscany for residents of Tuscany. We consider inpatient admissions, of adult residents, discharged with psychiatric DRGs. codes DRG: 425, 426, 427, 428, 429, 430, 431, 432, 523 Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)



## Indicator C8a.7: Hospitalization rate for psychiatric disorders per 100,000 underage residents 4.127

Like the previous indicator the underage psychiatric hospitalization rate indirectly measures the effectiveness of local services for underage psychiatric patient care.

### C8a.7 – Hospitalization rate for psychiatric disorders per 100,000 underage residents



### C8a.7 Hospitalization rate for psychiatric disorders per 100,000 underage residents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	111,31	123,13	10,63	617,00	691,00	554.323,00	561.175,00
T - Ausl 1 Massa	not assessed	81,01	116,41	43,70	23,00	33,00	28.390,00	28.347,00
T - Ausl 2 Lucca	not assessed	82,97	76,16	-8,20	28,00	26,00	33.749,00	34.138,00
T - Ausl 3 Pistoia	not assessed	191,58	286,41	49,50	84,00	127,00	43.847,00	44.342,00
T - Ausl 4 Prato	not assessed	106,08	109,10	2,85	43,00	45,00	40.534,00	41.245,00
T - Ausl 5 Pisa	not assessed	66,03	92,35	39,87	33,00	47,00	49.980,00	50.891,00
T - Ausl 6 Livorno	not assessed	92,89	81,94	-11,79	46,00	41,00	49.521,00	50.038,00
T - Ausl 7 Siena	not assessed	154,69	149,77	-3,18	61,00	60,00	39.434,00	40.061,00
T - Ausl 8 Arezzo	not assessed	83,36	93,95	12,71	44,00	50,00	52.782,00	53.217,00
T - Ausl 9 Grosseto	not assessed	58,15	111,72	92,14	18,00	35,00	30.957,00	31.328,00
T - Ausl 10 Firenze	not assessed	149,98	143,75	-4,15	183,00	178,00	122.015,00	123.824,00
T - Ausl 11 Empoli	not assessed	70,12	76,63	9,29	27,00	30,00	38.506,00	39.148,00
T - Ausl 12 Viareggio	not assessed	109,72	77,25	-29,60	27,00	19,00	24.608,00	24.596,00

## Indicator C15: Mental Health

### C8a.7 Hospitalization rate for psychiatric disorders per 100,000 underage residents

<b>Definition:</b>	Hospitalization rate for psychiatric disorders per 100,000 residents ≤ 17 years
<b>Numerator:</b>	No. of admissions for psychiatric disorders ≤ 17 years; residents of the Ausl
<b>Denominator:</b>	Resident population ≤ 17 years of the Ausl
<b>Formula:</b>	$\frac{\text{No. of admissions for psychiatric disorders} \leq 17 \text{ years}}{\text{Population} \leq 17 \text{ years}} \times 100,000$
<b>Notes:</b>	We consider admissions anywhere, extra regional included, for residents of Tuscany. We consider inpatient admissions, of underage residents, discharged with psychiatric DRGs. codes DRG: 425, 426, 427, 428, 429, 430, 431, 432, 523 Admissions at unaccredited private hospitals are excluded.
<b>Source:</b>	Regional Information System – SDO Flow (Sistema Informativo Regionale - Flusso SDO)





### 4.128 Indicator C16: Emergency Department

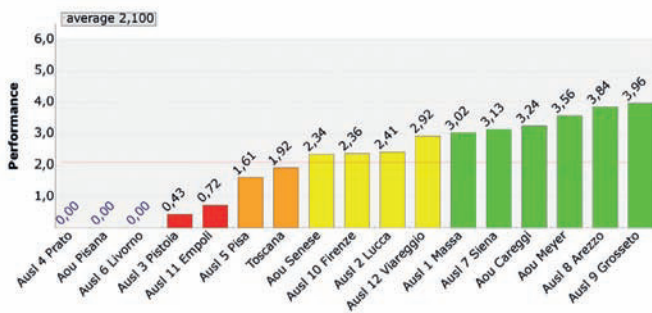
With the introduction of the regional events system RFC 106, this year it was possible to introduce this new indicator which measures the waiting time and stay for some of the colour codes. The indicator also incorporates the D9, that is, the percentage of people leaving the Emergency Department without treatment. These new indicators will not be evaluated this year.

Indicator	Performance	Year
C16 – Emergency Department	● 1,92	2010

#### C16 Emergency Department

- C16.1 – Percentage of yellow code patients visited within 30 minutes: 69,62%
- C16.2 – Percentage of green code patients visited within 1 hour: 76,20%
- C16.3 – Percentage of green code patients not referred to hospital with length of stay ≤ 4h: 82,11%
- C16.4 – Percentage of patients referred to hospital with length of stay ≤ 8h: 91,19%
- D9 – Percentage of people leaving the ED without being treated: 3,86% ■

#### C16 – Emergency Department



### Indicator C16: Emergency Department

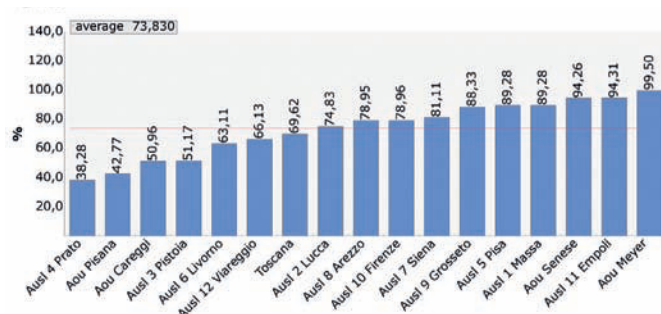
Notes
Indicator C16 has a value equal to the score of Indicator D9



## Indicator C16.1: Percentage of yellow code patients visited within 30 minutes 4.129

The indicator monitors the percentage of yellow code patients visited by a doctor within 30 minutes of being assessed by the triage.

### C16.1 – Percentage of yellow code patients visited within 30 minutes



### C16.1 Percentage of yellow code patients visited within 30 minutes

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	69,62 %	not assessed	162.875,00	233.958,00	2010
T - Ausl 1 Massa	89,28 %	not assessed	7.510,00	8.412,00	2010
T - Ausl 2 Lucca	74,83 %	not assessed	10.038,00	13.415,00	2010
T - Ausl 3 Pistoia	51,17 %	not assessed	9.115,00	17.814,00	2010
T - Ausl 4 Prato	38,28 %	not assessed	6.338,00	16.555,00	2010
T - Ausl 5 Pisa	89,28 %	not assessed	8.414,00	9.424,00	2010
T - Ausl 6 Livorno	63,11 %	not assessed	15.649,00	24.796,00	2010
T - Ausl 7 Siena	81,11 %	not assessed	6.240,00	7.693,00	2010
T - Ausl 8 Arezzo	78,95 %	not assessed	19.141,00	24.245,00	2010
T - Ausl 9 Grosseto	88,33 %	not assessed	14.144,00	16.013,00	2010
T - Ausl 10 Firenze	78,96 %	not assessed	18.808,00	23.820,00	2010
T - Ausl 11 Empoli	94,31 %	not assessed	7.996,00	8.478,00	2010
T - Ausl 12 Viareggio	66,13 %	not assessed	9.489,00	14.350,00	2010
T - Aou Pisana	42,77 %	not assessed	5.613,00	13.124,00	2010
T - Aou Senese	94,26 %	not assessed	9.534,00	9.554,00	2010
T - Aou Careggi	50,96 %	not assessed	11.851,00	23.255,00	2010
T - Aou Meyer	99,50 %	not assessed	2.995,00	3.010,00	2010

## Indicator C16: Emergency Department

### C16.1 Percentage of yellow code patients visited within 30 minutes

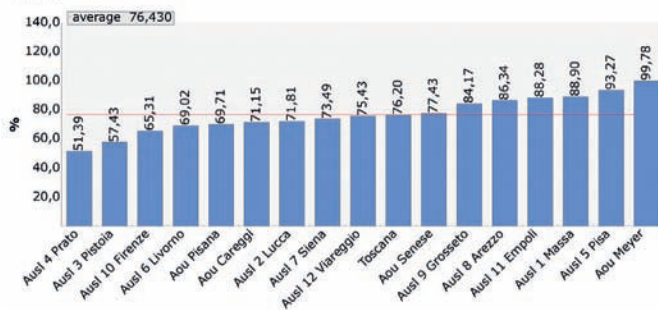
<b>Definition:</b>	Percentage of yellow code patients visited within 30 minutes
<b>Numerator:</b>	No. of accesses in the ED; yellow code; visited within 30 minutes
<b>Denominator:</b>	No. of total accesses in the ED; yellow code; visited within 30 minutes or more
<b>Formula:</b>	$\frac{\text{No. of accesses in the ED; yellow code; visited within 30 minutes}}{\text{No. of total accesses in the ED; yellow code; visited within 30 minutes or more}} \times 100$
<b>Source:</b>	RFC 106



### 4.130 Indicator C16.2: Percentage of green code patients visited within 1 hour

According to regional guidelines contained in the DGR 140/2008, the indicator monitors the percentage of green code patients visited within 1 hour of being assessed by the triage.

#### C16.2 – Percentage of green code patients visited within 1 hour



#### C16.2 Percentage of green code patients visited within 1 hour

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	76,20 %	not assessed	551.103,00	723.197,00	2010
T - Ausl 1 Massa	88,90 %	not assessed	26.397,00	29.693,00	2010
T - Ausl 2 Lucca	71,81 %	not assessed	20.330,00	28.311,00	2010
T - Ausl 3 Pistoia	57,43 %	not assessed	32.619,00	56.797,00	2010
T - Ausl 4 Prato	51,39 %	not assessed	16.583,00	32.272,00	2010
T - Ausl 5 Pisa	93,27 %	not assessed	32.904,00	35.279,00	2010
T - Ausl 6 Livorno	69,02 %	not assessed	52.368,00	75.869,00	2010
T - Ausl 7 Siena	73,49 %	not assessed	21.256,00	28.925,00	2010
T - Ausl 8 Arezzo	86,34 %	not assessed	75.981,00	88.002,00	2010
T - Ausl 9 Grosseto	84,17 %	not assessed	50.129,00	59.560,00	2010
T - Ausl 10 Firenze	65,31 %	not assessed	46.755,00	71.586,00	2010
T - Ausl 11 Empoli	88,28 %	not assessed	32.448,00	36.756,00	2010
T - Ausl 12 Viareggio	75,43 %	not assessed	28.911,00	38.328,00	2010
T - Aou Pisana	69,71 %	not assessed	30.781,00	44.155,00	2010
T - Aou Senese	77,43 %	not assessed	27.351,00	27.394,00	2010
T - Aou Careggi	71,15 %	not assessed	34.358,00	48.290,00	2010
T - Aou Meyer	99,78 %	not assessed	21.932,00	21.980,00	2010

### Indicator C16: Emergency Department

#### C16.2 Percentage of green code patients visited within 1 hour

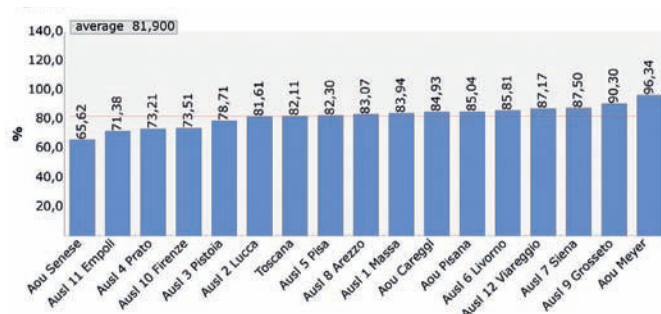
<b>Definition:</b>	Percentage of green code patients visited within 1 hour
<b>Numerator:</b>	No. of accesses in the ED; green code; visited within 1 hour
<b>Denominator:</b>	No. of accesses in the ED; green code; visited within 1 hour or more
<b>Formula:</b>	$\frac{\text{No. of accesses in the ED; green code; visited within 1 hour}}{\text{No. of accesses in the ED; green code; visited within 1 hour or more}} \times 100$
<b>Source:</b>	RFC 106



## Indicator C16.3: Percentage of green code patients not referred to hospital with length of stay ≤ 4h 4.131

According to regional guidelines contained in the DGR 140/2008, the indicator monitors the percentage of green code patients not referred to hospital or kept under observation, with a length of stay of less than 4 hours.

### C16.3 – Percentage of green code patients not referred to hospital with length of stay ≤ 4h



### C16.3 Percentage of green code patients not referred to hospital with length of stay ≤ 4h

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	82,11 %	not assessed	464.943,00	566.238,00	2010
T - Ausl 1 Massa	83,94 %	not assessed	11.965,00	14.255,00	2010
T - Ausl 2 Lucca	81,61 %	not assessed	19.853,00	24.328,00	2010
T - Ausl 3 Pistoia	78,71 %	not assessed	44.164,00	56.109,00	2010
T - Ausl 4 Prato	73,21 %	not assessed	18.791,00	25.669,00	2010
T - Ausl 5 Pisa	82,30 %	not assessed	27.464,00	33.369,00	2010
T - Ausl 6 Livorno	85,81 %	not assessed	33.636,00	39.200,00	2010
T - Ausl 7 Siena	87,50 %	not assessed	19.542,00	22.333,00	2010
T - Ausl 8 Arezzo	83,07 %	not assessed	60.791,00	73.184,00	2010
T - Ausl 9 Grosseto	90,30 %	not assessed	45.295,00	50.158,00	2010
T - Ausl 10 Firenze	73,51 %	not assessed	37.806,00	51.429,00	2010
T - Ausl 11 Empoli	71,38 %	not assessed	22.406,00	31.391,00	2010
T - Ausl 12 Viareggio	87,17 %	not assessed	28.892,00	33.143,00	2010
T - Aou Pisana	85,04 %	not assessed	34.544,00	40.619,00	2010
T - Aou Senese	65,62 %	not assessed	15.998,00	20.464,00	2010
T - Aou Careggi	84,93 %	not assessed	36.773,00	43.297,00	2010
T - Aou Meyer	96,34 %	not assessed	7.023,00	7.290,00	2010

## Indicator C16: Emergency Department

### C16.3 Percentage of green code patients not referred to the hospital with length of stay ≤ 4h

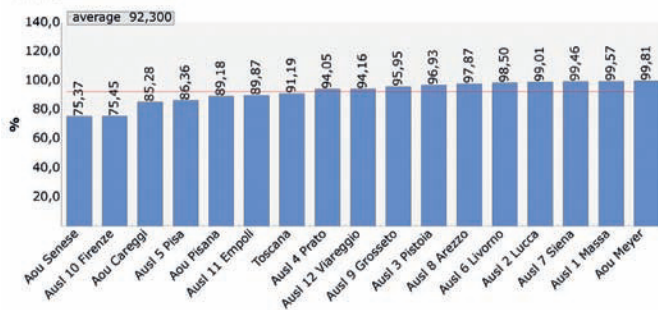
<b>Definition:</b>	Percentage of green code patients not referred to the hospital with length of stay ≤ 4h
<b>Numerator:</b>	No. of green code patients not referred to hospital with a length of stay within 4 hours
<b>Denominator:</b>	No. of green code patients not referred to hospital with a length of stay within 4 hours or more
<b>Formula:</b>	$\frac{\text{No. of green code patients not referred to hospital with a length of stay within 4 hours}}{\text{No. of green code patients not referred to hospital with a length of stay within 4 hours or more}} \times 100$
<b>Notes:</b>	Patients in short term observation are excluded.
<b>Source:</b>	RFC 106



### 4.132 Indicator C16.4: Percentage of patients referred to hospital with length of stay ≤ 8h

The indicator, although inserted in the Emergency Department section, evaluates the hospital system as a whole. It monitors the percentage of patients referred to hospital with a length of stay of less than 8 hours.

#### C16.4 – Percentage of patients referred to hospital with length of stay ≤ 8h



#### C16.4 Percentage of patients referred to hospital with length of stay ≤ 8h

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	91,19 %	not assessed	8.013,00	8.093,00	2010
T - Ausl 1 Massa	99,57 %	not assessed	12.742,00	13.145,00	2010
T - Ausl 2 Lucca	99,01 %	not assessed	7.261,00	7.720,00	2010
T - Ausl 3 Pistoia	96,93 %	not assessed	5.475,00	6.340,00	2010
T - Ausl 4 Prato	94,05 %	not assessed	7.732,00	7.850,00	2010
T - Ausl 5 Pisa	86,36 %	not assessed	6.133,00	6.166,00	2010
T - Ausl 6 Livorno	98,50 %	not assessed	7.898,00	8.070,00	2010
T - Ausl 7 Siena	99,46 %	not assessed	7.794,00	8.123,00	2010
T - Ausl 8 Arezzo	97,87 %	not assessed	14.468,00	19.175,00	2010
T - Ausl 9 Grosseto	95,95 %	not assessed	9.108,00	10.135,00	2010
T - Ausl 10 Firenze	75,45 %	not assessed	6.525,00	6.930,00	2010
T - Ausl 11 Empoli	89,87 %	not assessed	6.080,00	6.818,00	2010
T - Ausl 12 Viareggio	94,16 %	not assessed	5.606,00	5.976,00	2010
T - Aou Pisana	89,18 %	not assessed	11.549,00	13.543,00	2010
T - Aou Senese	75,37 %	not assessed	525,00	526,00	2010
T - Aou Careggi	85,28 %	not assessed	36.773,00	43.297,00	2010
T - Aou Meyer	99,81 %	not assessed	7.023,00	7.290,00	2010

### Indicator C16: Emergency Department

#### C16.4 Percentage of patients referred to hospital with a length of stay ≤ 8h

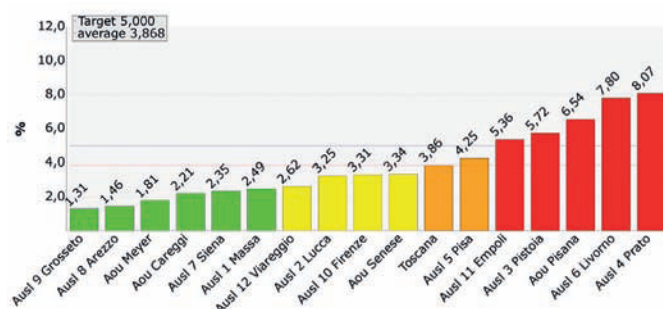
<b>Definition:</b>	Percentage of patients referred to hospital with a length of stay ≤ 8h
<b>Numerator:</b>	No. of patients referred to hospital with a length of stay ≤ 8h
<b>Denominator:</b>	No. of patients referred to hospital with a length of stay within 8 hours or more
<b>Formula:</b>	$\frac{\text{No. of patients referred to hospital with a length of stay} \leq 8h}{\text{No. of patients referred to hospital with a length of stay within 8 hours or more}} \times 100$
<b>Notes:</b>	Patients in short term observation are excluded.
<b>Source:</b>	RFC 106



## Indicator D9: Percentage of people leaving the ED without being treated 4.133

The DGR 140/2008 provides guidance for the activation of “surveillance” by Emergency Department operators and the implementation of formalizing procedures for the discontinuation of care so that the spontaneous exit of patients does not exceed 5% of the total accesses. The indicator, calculated for the first time, thanks to the data from the RFC 106 system, monitors the number of patients who abandon the First Aid department after the triage, without notifying the staff. Starting from this year the data include, in addition to patients leaving before being visited by the doctor, even those who leave the premises of the emergency department after the medical examination.

### D9 – Percentage of people leaving the ED without being treated



### D9 Percentage of people leaving Emergency Department without being treated

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	3,86 %	1,92	56.554,00	1.463.480,00	2010
T - Ausl 1 Massa	2,49 %	3,02	1.993,00	80.126,00	2010
T - Ausl 2 Lucca	3,25 %	2,41	2.519,00	77.612,00	2010
T - Ausl 3 Pistoia	5,72 %	0,43	6.056,00	105.824,00	2010
T - Ausl 4 Prato	8,07 %	0,00	5.895,00	73.030,00	2010
T - Ausl 5 Pisa	4,25 %	1,61	2.591,00	60.914,00	2010
T - Ausl 6 Livorno	7,80 %	0,00	11.123,00	142.693,00	2010
T - Ausl 7 Siena	2,35 %	3,13	1.470,00	62.588,00	2010
T - Ausl 8 Arezzo	1,46 %	3,84	2.161,00	148.253,00	2010
T - Ausl 9 Grosseto	1,31 %	3,96	1.471,00	112.272,00	2010
T - Ausl 10 Firenze	3,31 %	2,36	4.917,00	148.632,00	2010
T - Ausl 11 Empoli	5,36 %	0,72	3.690,00	68.852,00	2010
T - Ausl 12 Viareggio	2,62 %	2,92	1.936,00	73.939,00	2010
T - Aou Pisana	6,54 %	0,00	5.369,00	82.065,00	2010
T - Aou Senese	3,34 %	2,34	1.571,00	47.106,00	2010
T - Aou Careggi	2,21 %	3,24	2.996,00	135.521,00	2010
T - Aou Meyer	1,81 %	3,56	796,00	44.053,00	2010

## Indicator C16: Emergency Department

### D.9 Percentage of people leaving the ED without being treated

<b>Definition:</b>	Percentage of defections from the ED
<b>Numerator:</b>	No. of overall defections from the ED within the reference year
<b>Denominator:</b>	No. of overall accesses to the ED within the reference year
<b>Formula:</b>	$\frac{\text{No. of overall defections from the ED within the reference year}}{\text{No. of overall accesses to the ED within the reference year}} \times 100$
<b>Notes:</b>	We consider “defections” patients leaving the ED spontaneously after triage, both before and after being examined.
<b>Source:</b>	RFC 106





# PART V PATIENT SATISFACTION

*by Anna Maria Murante*

In organizations that operate in competitive market environments, the customer, who has power of choice, occupies a powerful position, so as to induce the organizations themselves to set up all their actions in terms of response to their customer's needs. The financial results in the short term, such as profit, are themselves accurate indicators of the company's ability to be efficient, that is, able to respond to demand.

Within the context of institutions that provide public services, which in many cases operate in a monopoly situation, the choices of the customer/user are extremely limited. In the case of health services, the customer is in a situation of information asymmetry, that is, in possession of far less information, knowledge and skills than the provider and as a result, often, he cannot assess the quality of received services. Can a patient who is not a doctor judge the quality of the diagnosis and treatment? In the short term he will express an opinion based on his perceptions, tending to give an overall assessment in line with his expectations.

The customer's assessment, in order to be helpful for Authorities providing public services, must then be articulated in detail, to capture all central and secondary aspects which characterize the service and, above all, beyond the level of satisfaction, it has to consider the customer experience. This, in particular, is valuable information for the Authorities. Based on these findings healthcare organizations may gain important insights to re-orient their activities so that citizens will be increasingly central and will better participate in the process of their care.

With the aim to collect the perceptions and experiences of customers and citizens and believing that for a citizens' healthcare it is essential to introduce instruments that can put the customer's perspective at the centre of health care management processes, the Laboratorio Management e Sanità di Scuola Superiore Sant' Anna – Region of Tuscany has conducted a number of surveys among the citizens-customers of Tuscany since 2004. These were conducted in all Health Authorities, territorial facilities and Teaching Hospitals, following a common methodology in the recruitment, the sampling, and the detection stages, in order to ensure comparability of results between the various Authorities. Comparability among Authorities helps to better identify the service performance. The result 80% of citizens are satisfied, is gratifying, but it becomes a starting point to activate the processes of internal improvement if it represents the lowest result among all registered Authorities in the regional system.

## Surveys in support of the Evaluation System carried out since 2004

	EMERGENCY DEPARTMENT	PRIMARY CARE	INPATIENT ADMISSIONS	DISTRICT SERVICES	MOTHER AND CHILD	HOME CARE
Tuscany	2005	2005/2004	2006	2008	2005/2004	2008
	2006	2007	2008	2010	2007	
	2007	2009	2011		2010	
	2008					
	2009					

With the exception of the survey on the cancer path (qualitative), conducted in 2004 and 2005 using the technique of focus groups, quantitative surveys up to 2009 were conducted in the form of telephone interviews according to the CATI methodology (Computer Assisted Telephone Interview). The methodology allows through a special software to automatically manage the telephone numbers inserted in the sample lists, supporting and guiding the operator in the compilation of the questionnaire while the questions are displayed on the screen. The responses, recorded by the individual operators through personal computers networked to a server in real time, are collected in a relational database. Since 2010 two other detection techniques were adopted: postal and CAWI (Computer Assisted Web Interview). In those cases patients can also ask for a telephone interview by contacting the regional toll-free number. All surveys designed to support the Performance Evaluation System of Health Care of Tuscan Health Authorities were conducted by the detection centre of the Management and Health Laboratory.





For this year, in the “Patient Satisfaction Evaluation” section there are indicators constructed on the basis of the results of satisfaction surveys conducted in 2010, in relation to the District Services (D15), the Maternal and Child path (D17). Moreover, the indicator D18, which monitors discharges AMA (Against Medical Advice) by means of administrative flows, is included. D18 which monitors discharges AMA. The indicator D9, Percentage of people leaving the Emergency Department without treatment, became a sub-indicator of C16 dedicated to Emergency Department, in 2010.

Each indicator has a tree structure, the head of which summarises the performance of each Authority regarding the service under evaluation with a score ranging from 0 to 5. The rating is calculated directly, based on the answers given by customers to the question about the overall assessment of the service (e.g. How do you rate the overall service received?). The branches of the tree monitor instead some specific aspects of the service, also evaluated using a scale from 0 to 5. These assessments do not contribute to determining the score of the top, rather they provide additional information to the Authority’s management. The value is obtained by initially assigning each response mode a grade (between 0 and 100), the average value calculated for each Authority, in fifths, is the score of the indicator. As for rating-type questions, with which users were asked to express an evaluation of the service such as Excellent, Good, So-so, Poor, and Bad, to the individual modes are assigned the following values:

MODE	VALUES
Excellent	100
Good	75
So-so	50
Poor	25
Bad	0

If, for example, to the question “How do you rate the overall service received?” respondents replied as follows:

MODE	FREQUENCY %
Excellent	21.5
Good	58.5
So-so	12.2
Poor	5.5
Bad	2.3

the average will be 72.85, which gives a score in fifths equal to 3.64 (good performance). In the case of reporting scales there can be such answers as: Yes, always; Sometimes; and Never. The values assigned to each mode are:

MODE	VALUES
Yes, always	100
Sometimes	50
Never	0

So, if to the question “Did you feel involved in the decisions concerning your care and treatments?” patients responded:

MODE	FREQUENCY %
Yes, always	79.2
Sometimes	17.3
Never	3.5

4.39 will be the assigned score, because the average score obtained is 87.85. In 2010 two surveys were carried out involving Tuscan citizens and users of the Maternal and Child Path. As shown in the picture, these are re-issues of surveys conducted in previous years. In order to ensure a continuous monitoring, indicators of the external evaluation should provide a temporal reading of the ‘satisfaction’ phenomenon, to check, for example, if corrective actions have produced their effects.

**Survey on citizen experience and satisfaction with district services (Third edition).**

The survey was designed to detect the experience and level of Tuscan citizen satisfaction with respect to some health services. District services, communication, continuity of care, the Information Point on Access to Health Services (PUA - Punto unico di Accesso), the Information Point for Citizens (URP - Ufficio Relazioni con il Pubblico) and private services were evaluated. The reference population to define the sample size consists of the Tuscan adult population (ISTAT 2009). The list from which we extracted the sample is represented by the subscribers to landline service in Tuscany. The sample size provides a level of significance of 95% and precision of 7%. Within those parameters we obtained a sample total of 7020 citizens. The selection of the sample within the population of each area-district was conducted through random sampling. The survey was conducted using a structured questionnaire consisting of reporting-type and rating-type questions, where the first aimed to detect the citizens’ experience and the second, their evaluation. The rating-type questions included answers on a 5-point scale.



While processing data, different weights were applied according to the social and demographic characteristics (sex and age) of the reference population. The survey took place between 30 June and 7 September 2010.

**Maternal and child path (Third Edition).**

The survey “The Maternal and Child Path in Tuscany: the experience of women” was designed to detect the experience and satisfaction level of maternal and child path customers. The Tuscany Region has invested heavily on the birth path, providing multiple training and communication initiatives to increase the quality of services for women and new-borns. Unlike previous years, when only a sample of women was contacted, in 2010 all new mothers were asked to complete a questionnaire on the web or to request a telephone interview. The reference population is composed, then, by all women who gave birth in maternity facilities in Tuscany. These women were invited to participate in the survey by means of a first informative letter, received while in the hospital together with the paediatric health booklet, and once at home, a second and more detailed letter, with a description of how to access the questionnaire. Women were given the choice to complete the questionnaire on the web (CAWI method), or contact the Regional toll free number and request to be interviewed by telephone (CATI method) by the Detection Centre of the Laboratorio Management e Sanità of the Scuola Superiore Sant’Anna of Pisa. The questionnaire, consisting of reporting-type and rating-type questions which track the experiences of mothers and their level of satisfaction, reconstructs the three phases of the overall path (prenatal, delivery, postpartum), and also allows to detect socio-demographic and obstetric information on the history of each woman. Among women who gave birth during the period from January to October 2010 4084 questionnaires were collected. The survey, in addition to the target of experience detection, is an instrument by which women can express their opinions and judgments about the operation of all services to which they had access during the pregnancy, at the hospital, at birth, and in early puerperium.



## 5.1 Indicator D15a: Citizen Experience with District Services

The indicator D15a measures citizen perception of the quality of district services. The data summarize on a scale from 0 to 5, where 0 corresponds to a very poor performance and 5 to an excellent result, the level of satisfaction expressed by users who responded to the question: “How do you rate the overall services received in the District?”

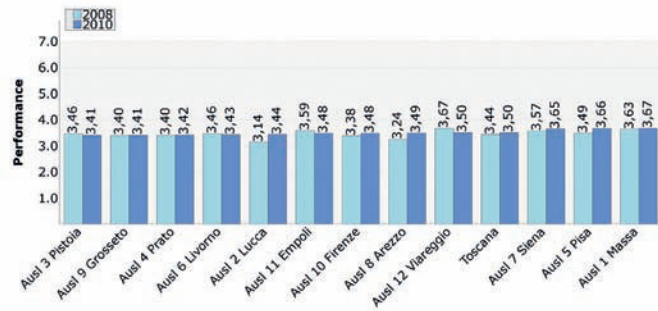
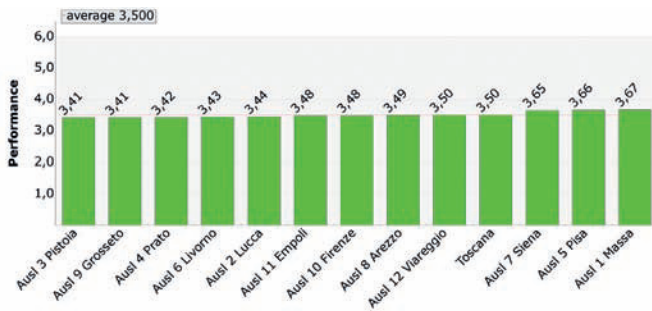
The three sub-indicators: organization, kindness of the staff and professionalism of the staff, provide additional insight to the overall assessment of the service.

Indicator	Performance	Year
D15a – Citizen Experience with District Services	● 3,50	2010

### D15a Citizen Experience with District Services

- D15a.1 – Organization:
  - D15a.1.1 – The overall organization: ■
  - D15a.1.2 – Opening hours: ■
- D15a.2 – Personnel’s kindness: ■
- D15a.3 – Personnel’s professionalism: ■

### D15a – Citizen Experience with District Services



### D15a District services

How do you rate the whole district services you received?

Local Health Authority	Excellent	Good	Fair	Poor	Very bad	Observations	Total	Value
Tuscany	12,81	59,13	23,86	3,83	0,37	3.460	100	3,50
AUSL1MC	20,92	54,74	21,84	1,78	0,72	218	100	3,67
AUSL2LU	13,62	52,58	29,36	4,45	0,00	153	100	3,44
AUSL3PT	12,68	50,87	32,90	3,55	0,00	181	100	3,41
AUSL4PO	11,85	58,28	22,24	6,85	0,78	218	100	3,42
AUSL5PI	17,54	61,03	18,76	2,30	0,37	308	100	3,66
AUSL6LI	11,54	55,86	28,14	4,01	0,44	446	100	3,43
AUSL7SI	13,32	67,27	17,16	2,26	0,00	352	100	3,65
AUSL8AR	9,25	64,16	22,93	3,45	0,21	495	100	3,49
AUSL9GR	12,53	52,14	30,93	4,39	0,00	325	100	3,41
AUSL10FI	11,30	59,96	24,72	3,86	0,16	419	100	3,48
AUSL11EM	14,53	57,05	21,63	6,13	0,65	210	100	3,48
AUSL12VI	13,85	62,36	15,84	5,73	2,23	135	100	3,50

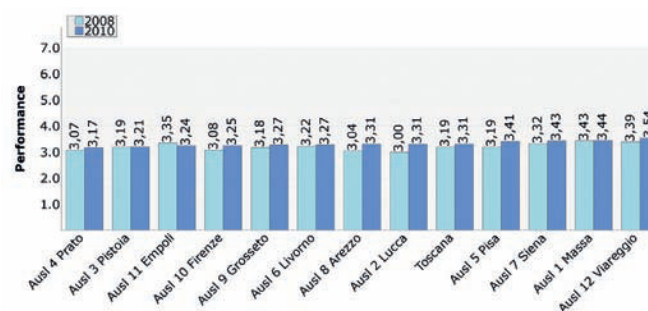
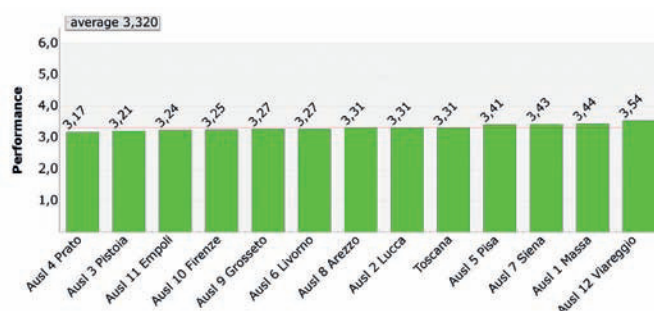


## Indicator D15a: Citizen Experience with district services

<b>Definition:</b>	Citizen Experience with district services.
<b>Questions:</b>	<p>The indicator has been developed on the basis of the answers from citizens to the following question:</p> <p>1. How do you rate the overall district services you received?</p> <p>In order to gain more information about citizen experience, in the indicator we also reported the evaluations relating to specific aspects of the service, which were calculated on the basis of the answers to the following questions:</p> <p>1. On a scale from 1 to 5, how do you rate the overall organization of the district services you used?</p> <p>2. On a scale from 1 to 5, how convenient do you rate the opening hours of your district on the basis of your needs?</p> <p>3. On a scale from 1 to 5, how do you rate the personnel's kindness?</p> <p>4. On a scale from 1 to 5, how do you rate the personnel's professionalism?</p>
<b>Notes:</b>	<p>The reference population, in order to define sample size, is that of adult Tuscan residents, while the list from which the sample was extracted is that of landline subscribers in Tuscany.</p> <p>The sample has been randomly selected and stratified according to area-district, so that the result of the survey may be representative of the population of such territories. On each layer were established levels of statistical significance at 95% and a precision of estimates of 7%.</p> <p>According to the levels established by the method and by sampling criteria 7020 interviews were conducted.</p> <p>Only citizens who availed of the district services in the 12 months preceding the interview responded.</p> <p>While processing data, different weights were applied according to the social and demographic characteristics (sex and age) of the reference population.</p>
<b>Source:</b>	Survey CATI: "Indagine sull'esperienza e la soddisfazione della popolazione sui servizi distrettuali" – 2010 (Survey on the experience and satisfaction of the population with district services).

### Indicator D15a.1.1: The overall organization 5.2

#### D15a.1.1 – The overall organization



#### D15a.1.1 Organization

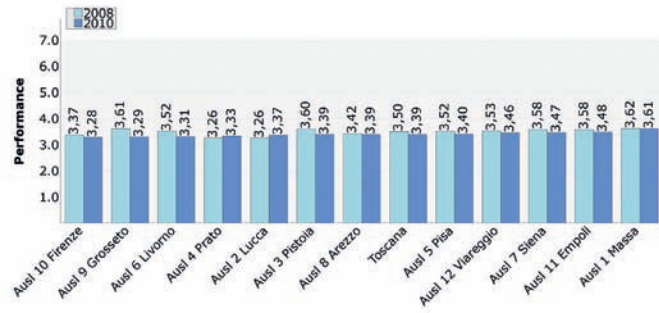
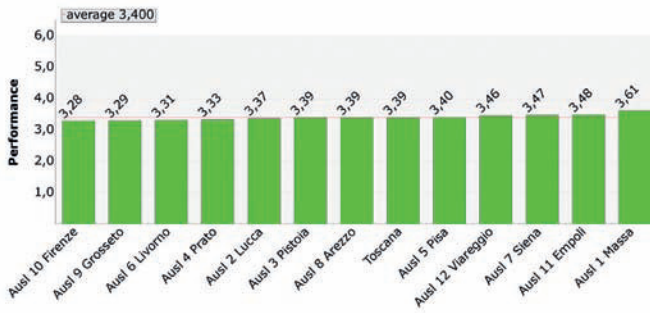
On a scale from 1 to 5, how do you rate the overall organization of the district services you used?

Local Health Authority	Excellent	Good	Fair	Poor	Very bad	Observations	Total	Value
Tuscany	11,06	53,27	26,78	7,55	1,34	3.445	100	3,39
AUSL1MC	14,63	54,10	24,06	6,20	1,00	211	100	3,61
AUSL2LU	11,33	48,27	34,52	5,88	0,00	151	100	3,37
AUSL3PT	11,05	47,48	31,29	7,80	2,38	179	100	3,39
AUSL4PO	12,41	46,77	24,62	14,64	1,56	218	100	3,33
AUSL5PI	16,25	48,20	29,02	5,52	1,01	308	100	3,40
AUSL6LI	10,30	52,88	26,40	8,87	1,54	442	100	3,31
AUSL7SI	8,77	64,01	20,69	5,94	0,60	353	100	3,47
AUSL8AR	8,76	56,87	25,55	7,88	0,95	494	100	3,39
AUSL9GR	9,59	50,94	32,09	5,85	1,52	327	100	3,29
AUSL10FI	8,93	50,82	32,65	6,76	0,84	415	100	3,28
AUSL11EM	15,71	46,74	21,44	13,14	2,97	207	100	3,48
AUSL12VI	14,28	61,27	19,85	2,49	2,10	140	100	3,46



### 5.3 Indicator D15a.1.2: Opening hours

#### D15a.1.2 – Opening hours



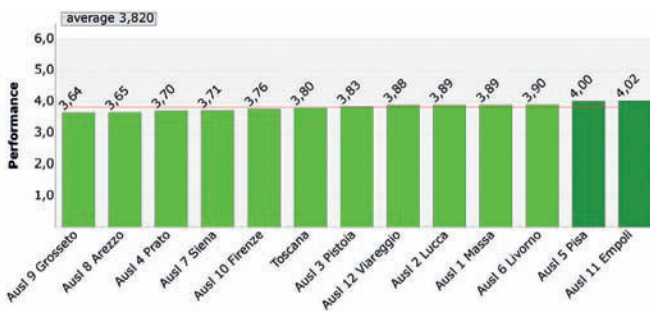
#### D15a.1.2 Opening hours

On a scale from 1 to 5, how convenient do you rate the opening hours of your district on the basis of your needs?

Local Health Authority	Very much convenient	Very convenient	So-so	Not too much convenient	Not at all convenient	Observations	Total	Value
Tuscany	12,64	53,50	27,41	5,01	1,43	3.436	100	3,31
AUSL1MC	16,06	58,12	24,28	1,55	0,00	215	100	3,44
AUSL2LU	14,60	49,09	29,63	4,93	1,74	154	100	3,31
AUSL3PT	16,31	46,51	30,43	5,29	1,46	180	100	3,21
AUSL4PO	11,78	52,07	28,03	7,05	1,07	212	100	3,17
AUSL5PI	12,28	54,84	26,93	4,57	1,38	309	100	3,41
AUSL6LI	10,80	53,90	25,94	7,70	1,66	441	100	3,27
AUSL7SI	11,05	59,77	25,68	2,75	0,76	354	100	3,43
AUSL8AR	11,27	54,77	29,16	3,71	1,09	494	100	3,31
AUSL9GR	11,62	52,66	25,41	8,11	2,21	325	100	3,27
AUSL10FI	10,69	51,00	31,01	4,46	2,84	412	100	3,25
AUSL11EM	15,12	54,53	24,07	6,29	0,00	206	100	3,24
AUSL12VI	22,31	39,73	32,00	4,38	1,58	134	100	3,54

### 5.4 Indicator D15a.2: Personnel's Kindness

#### D15a.2 – Personnel's kindness



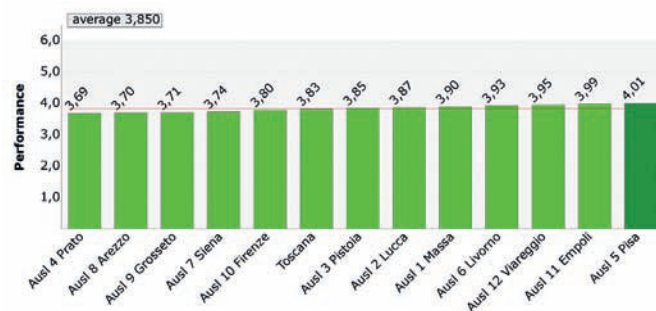
#### D15a.2 Personnel's kindness

On a scale from 1 to 5, how do you rate the personnel's kindness?

Local Health Authority	Excellent	Good	Fair	Poor	Very bad	Observations	Total	Value
Tuscany	29,90	48,57	18,01	2,90	0,61	3.505	100	3,80
AUSL1MC	32,22	48,95	16,80	2,04	0,00	220	100	3,89
AUSL2LU	32,78	48,34	15,99	2,89	0,00	154	100	3,89
AUSL3PT	33,10	43,11	20,80	2,99	0,00	181	100	3,83
AUSL4PO	24,12	54,05	16,52	4,37	0,94	220	100	3,70
AUSL5PI	41,19	41,04	15,41	0,92	1,43	315	100	4,00
AUSL6LI	32,78	50,31	13,69	2,44	0,78	448	100	3,90
AUSL7SI	25,63	48,31	23,75	1,74	0,57	360	100	3,71
AUSL8AR	23,77	49,81	21,24	4,97	0,20	502	100	3,65
AUSL9GR	23,98	47,46	24,85	3,55	0,16	334	100	3,64
AUSL10FI	27,97	50,09	17,56	3,43	0,95	419	100	3,76
AUSL11EM	36,77	50,65	10,58	1,56	0,44	210	100	4,02
AUSL12VI	32,92	51,73	10,44	3,03	1,89	142	100	3,88



## D15a.3 – Personnel's Professionalism



## D15a.3 Personnel's professionalism

On a scale from 1 to 5, how do you rate the personnel's professionalism?

Local Health Authority	Excellent	Good	Fair	Poor	Very bad	Observations	Total	Value
Tuscany	28,48	52,30	16,62	2,10	0,50	3.473	100	3,83
AUSL1MC	30,98	52,30	15,47	0,50	0,75	219	100	3,90
AUSL2LU	30,43	50,52	16,87	2,17	0,00	152	100	3,87
AUSL3PT	31,11	46,38	22,23	0,27	0,00	183	100	3,85
AUSL4PO	22,09	57,38	14,81	5,27	0,45	220	100	3,69
AUSL5PI	39,05	44,76	14,05	2,15	0,00	309	100	4,01
AUSL6LI	32,43	52,07	13,17	1,79	0,54	448	100	3,93
AUSL7SI	24,76	51,81	21,58	1,69	0,16	353	100	3,74
AUSL8AR	22,06	55,33	19,52	2,69	0,40	497	100	3,70
AUSL9GR	25,81	49,83	20,89	2,11	1,36	329	100	3,71
AUSL10FI	26,15	54,00	17,72	2,13	0,00	414	100	3,80
AUSL11EM	33,33	54,49	10,36	1,37	0,44	209	100	3,99
AUSL12VI	33,63	54,42	7,87	2,17	1,91	140	100	3,95



## 5.6 Indicator D17: Women's experience with maternal and child path

In recent years the Tuscany Region has devoted much attention to the birth path, providing numerous training and communication initiatives to improve the quality of service, and finding solutions that meet the needs of women and new-borns.

Indicator D17 reflects women's answers to the following question: "How satisfied are you with the healthcare assistance you received from your pregnancy up to the birth and the period just after the birth?". The sub-indicators, which do not contribute to the calculation of the main indicator D17, monitor specific aspects related to individual phases of pregnancy and post-pregnancy.

In 2010 the survey was not limited to a sample, but included all women who after delivery chose to respond to an internet questionnaire, or who agreed to be interviewed by telephone. On account of this difference in methodology, it is not possible to compare the trends against previous years.

The data of pre-and post-partum phases refer to the Authority of the mother's residence, while the data on the birth phases (delivery and immediate post-delivery) refer to the facility providing the service.

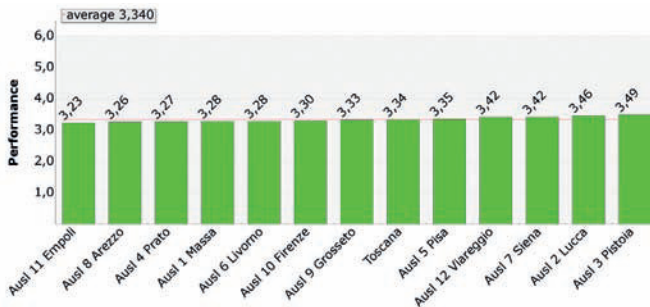
The indicator file shows that the survey has a large number of respondents. Nevertheless it is not representative of the target population because it is not a sample.

Indicator	Performance	Year
D17 – Women's experience with maternal and child path	● 3,34	2010

### D17 Women's experience with maternal and child path

- D17.1 – Pre-birth:
  - D17.1.1 – Pre-birth classes: ■
  - D17.1.2 – Birth Pathway's presentation: ■
- D17.2 – Childbirth:
  - D17.2.1 – Trust in doctors: ■
  - D17.2.2 – Trust in nurses: ■
  - D17.2.3 – Trust in obstetricians: ■
  - D17.2.4 – Concordant information on breast-feeding: ■
  - D17.2.5 – Hospital's cleanliness: ■

### D17 – Women's experience with maternal and child path



### D17 Women's experience with maternal and child path

How satisfied are you with the healthcare assistance you received from your pregnancy up to the birth and the period just after the birth?

Local Health Authority	Not at all satisfied	Not too much satisfied	Quite satisfied	Very Satisfied	Very much satisfied	Total	Observations	Value
Tuscany	1,25	5,53	34,83	41,91	16,48	100	4.071	3,34
AUSL1MC	0,98	7,32	39,51	32,68	19,51	100	205	3,28
AUSL2LU	0,00	5,60	30,17	45,69	18,53	100	232	3,46
AUSL3PT	1,31	1,97	33,11	43,61	20,00	100	305	3,49
AUSL4PO	1,88	7,19	33,13	43,13	14,69	100	320	3,27
AUSL5PI	0,95	4,10	37,22	41,64	16,09	100	317	3,35
AUSL6LI	0,41	6,64	37,34	41,49	14,11	100	241	3,28
AUSL7SI	1,10	5,52	31,77	41,71	19,98	100	362	3,42
AUSL8AR	1,27	8,28	34,39	40,76	15,29	100	314	3,26
AUSL9GR	0,75	7,52	34,59	39,18	18,05	100	133	3,33
AUSL10FI	1,53	5,01	35,91	42,87	14,69	100	1.178	3,30
AUSL11EM	1,18	5,10	40,00	41,57	12,16	100	255	3,23
AUSL12VI	1,69	5,65	31,07	40,11	21,47	100	177	3,43



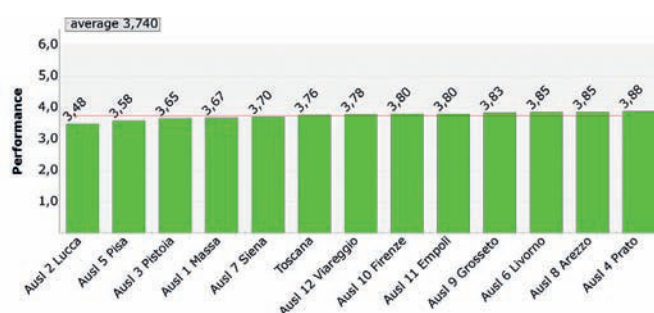
## Indicator D17: Women's experience with maternal and child path

### D17 Women's experience with maternal and child path

<b>Definition:</b>	Women's experience with maternal and Child path
<b>Questions:</b>	<p>The indicator has been developed on the basis of women's answers to the following question:</p> <p>I. How satisfied are you with the healthcare assistance you received from your pregnancy up to the birth and the period just after the birth?</p> <p>In order to gain more information about women's experience, in the indicator we also reported the evaluations related to specific aspects of the maternal and child path, which were calculated on the basis of the answers to the following questions:</p> <p>I. How do you rate the whole prenatal classes you attend?</p> <p>II. When you received the pregnancy booklet, did anyone explain you the different steps of the pregnancy pathway up to the birth and the services offered by your local health authority?</p> <p>III. During your hospitalization, did you trust the doctors who assisted you?</p> <p>IV. During your hospitalization, did you trust the nurses who assisted you?</p> <p>V. During the birth, did you trust the obstetrician who assisted you?</p> <p>VI. During your hospitalization, did the healthcare personnel give you concordant information regarding your baby's breast-feeding?</p> <p>VII. How do you assess the cleanliness of the rooms in the hospital (the labour room, the birthing room, your room in the maternity unit, the nursery, the bath-rooms, etc.)?</p>
<b>Source:</b>	Survey CAWI – CATI: "Il percorso nascita in Toscana" (The Birth Path in Tuscany) – 2010, MeS Laboratory
<b>Reference population:</b>	Reference population comprises of women who gave birth at Birth points in Tuscany in 2010. All women who agreed after discharge to answer a survey on the internet or requested (calling the toll free regional number) to be interviewed on phone. Women who delivered a stillborn child, or a child who died during hospitalization were not invited to participate in the survey.

## Indicator D17.1.1: Pre-birth classes 5.7

### D17.1.1 – Pre-birth classes



#### D17.1.1 Pre-birth classes

How do you rate the whole prenatal classes you attended?

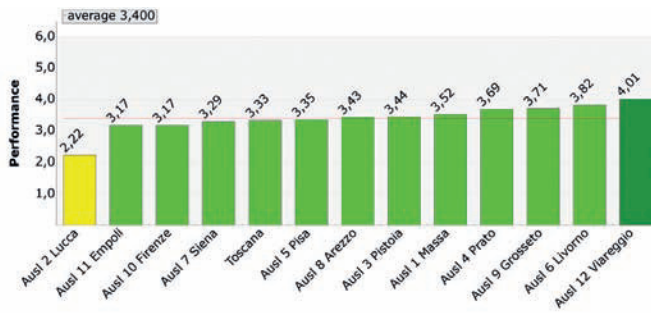
Local Health Authority	Excellent	Good	Fair	Poor	Very bad	Total	Observations	Value
Tuscany	27,64	51,88	14,62	4,97	0,88	100	2.496	3,76
AUSL1MC	30,51	44,07	16,10	6,78	2,54	100	118	3,67
AUSL2LU	13,70	58,22	20,55	7,53	0,00	100	146	3,48
AUSL3PT	27,65	46,47	15,88	10,00	0,00	100	170	3,65
AUSL4PO	30,69	52,38	13,23	3,70	0,00	100	189	3,88
AUSL5PI	18,78	57,36	16,75	6,09	1,02	100	197	3,58
AUSL6LI	28,00	55,33	13,33	3,33	0,00	100	150	3,85
AUSL7SI	28,78	47,32	17,07	4,39	2,44	100	205	3,70
AUSL8AR	25,00	59,18	14,29	1,53	0,00	100	196	3,85
AUSL9GR	29,27	54,88	9,76	4,88	1,22	100	82	3,83
AUSL10FI	32,15	47,64	13,78	5,12	1,31	100	762	3,80
AUSL11EM	21,55	62,43	14,36	1,66	0,00	100	181	3,80
AUSL12VI	29,89	51,72	10,34	6,90	1,15	100	87	3,78





## 5.8 Indicator D17.1.2: Birth Pathway's presentation

### D17.1.2 – Birth Pathway's presentation



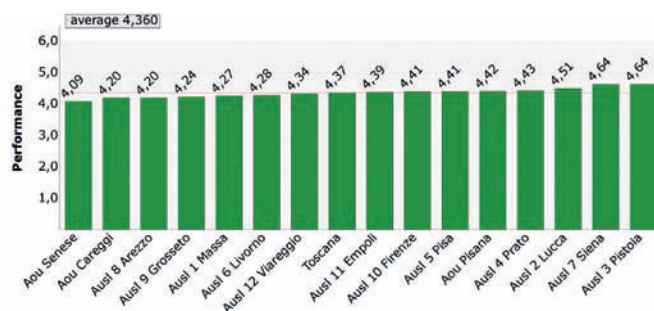
#### D17.1.2 Birth pathway's presentation

When you received the pregnancy booklet, did anyone explain you the different steps of the pregnancy pathway up to the birth and the services offered by your local health authority?

Local Health Authority	Yes, exhaustively	Yes, but synthetically	No	Total	Observations	Value
Tuscany	50,22	32,79	16,99	100	3.913	3,33
AUSL1MC	52,66	35,64	11,70	100	188	3,52
AUSL2LU	31,17	26,41	42,42	100	231	2,22
AUSL3PT	52,05	33,56	14,38	100	292	3,44
AUSL4PO	59,62	28,53	11,86	100	312	3,69
AUSL5PI	50,81	32,36	16,83	100	309	3,35
AUSL6LI	61,70	29,36	8,94	100	235	3,82
AUSL7SI	48,57	34,57	16,86	100	350	3,29
AUSL8AR	50,84	35,69	13,47	100	297	3,43
AUSL9GR	59,23	30,00	10,77	100	130	3,71
AUSL10FI	45,89	34,88	19,23	100	1.140	3,17
AUSL11EM	46,77	33,06	20,16	100	248	3,17
AUSL12VI	65,27	29,94	4,79	100	167	4,01



## D17.2.1 – Trust in doctors



## D17.2.1 Trust in doctors

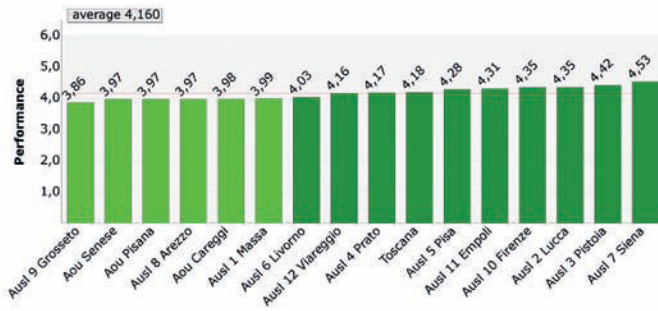
During your hospitalization, did you trust the doctors who assisted you?

Local Health Authority	Yes, totally	Yes, but up to a point	No, I didn't	Total	Observations	Value
Tuscany	77,88	19,11	3,01	100	4.051	4,37
AUSL1MC	73,25	24,12	2,63	100	228	4,27
AUSL2LU	80,79	18,72	0,49	100	203	4,51
AUSL3PT	86,64	12,38	0,98	100	307	4,64
AUSL4PO	80,39	16,34	3,27	100	306	4,43
AUSL5PI	79,86	16,67	3,47	100	144	4,41
AUSL6LI	73,71	23,94	2,35	100	213	4,28
AUSL7SI	87,50	10,71	1,79	100	224	4,64
AUSL8AR	72,26	23,63	4,11	100	292	4,20
AUSL9GR	75,00	19,70	5,30	100	132	4,24
AUSL10F	79,14	18,12	2,74	100	767	4,41
AUSL11EM	78,30	19,15	2,55	100	235	4,39
AUSL12VI	78,14	17,49	4,37	100	183	4,34
AOUP	79,60	17,41	2,99	100	201	4,42
AOUS	69,32	25,00	5,68	100	176	4,09
AOUC	72,27	23,64	4,09	100	440	4,20



## 5.10 Indicator D17.2.2: Trust in nurses

### D17.2.2 – Trust in nurses



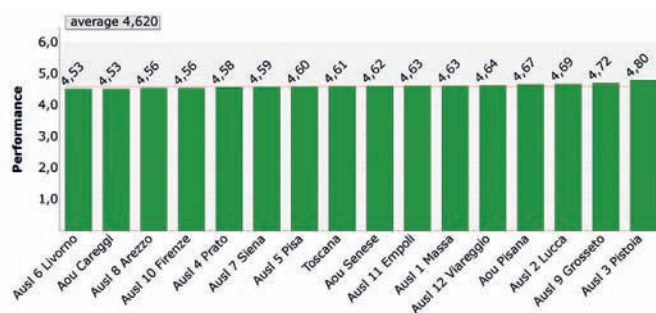
#### D17.2.2 Trust in nurses

During your hospitalization, did you trust the nurses who assisted you?

Local Health Authority	Yes, totally	Yes, but up to a point	No, I didn't	Total	Observations	Value
Tuscany	71,03	25,24	3,73	100	4.045	4,18
AUSL1MC	64,76	29,96	5,29	100	227	3,99
AUSL2LU	76,47	21,08	2,45	100	204	4,35
AUSL3PT	78,83	19,22	1,95	100	307	4,42
AUSL4PO	70,92	25,16	3,92	100	306	4,18
AUSL5PI	72,41	26,21	1,38	100	145	4,28
AUSL6LI	67,45	26,42	6,13	100	212	4,03
AUSL7SI	83,33	14,41	2,25	100	222	4,53
AUSL8AR	62,80	33,11	4,10	100	293	3,97
AUSL9GR	61,36	31,82	6,82	100	132	3,86
AUSL10FI	76,62	20,65	2,73	100	770	4,35
AUSL11EM	75,64	20,94	3,42	100	234	4,31
AUSL12VI	71,20	23,91	4,89	100	184	4,16
AOUN	63,27	32,14	4,59	100	196	3,97
AOUS	63,43	32,00	4,57	100	175	3,97
AOUC	63,93	31,51	4,57	100	438	3,98



## D17.2.3 – Trust in obstetricians



## D17.2.3 Trust in obstetricians

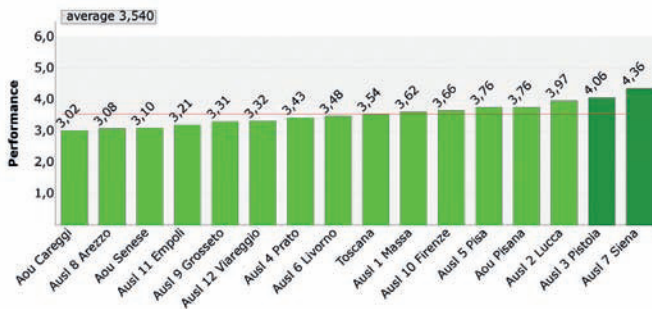
During the birth, did you trust the obstetrician who assisted you?

Local Health Authority	Yes, totally	Yes, but up to a point	No, I didn't	Total	Observations	Value
Tuscany	87,00	10,32	2,68	100	3.886	4,61
AUSL1MC	87,91	9,30	2,79	100	215	4,63
AUSL2LU	89,00	9,50	1,50	100	200	4,69
AUSL3PT	93,20	5,78	1,02	100	294	4,80
AUSL4PO	85,38	12,29	2,33	100	301	4,58
AUSL5PI	87,41	9,09	3,50	100	143	4,60
AUSL6LI	84,13	12,98	2,88	100	208	4,53
AUSL7SI	86,70	10,09	3,21	100	218	4,59
AUSL8AR	84,86	12,68	2,46	100	284	4,56
AUSL9GR	90,40	8,00	1,60	100	125	4,72
AUSL10FI	86,12	10,11	3,77	100	742	4,56
AUSL11EM	87,56	10,22	2,22	100	225	4,63
AUSL12VI	87,36	10,99	1,65	100	182	4,64
AOUP	88,89	8,89	2,22	100	180	4,67
AOUS	87,90	8,92	3,18	100	157	4,62
AOUC	84,22	12,62	3,16	100	412	4,53



## 5.12 Indicator D17.2.4: Concordant information on breast-feeding

### D17.2.4 – Concordant information on breast-feeding



#### D17.2.4 Concordant information on breast-feeding

During your hospitalization, did the healthcare personnel give you concordant information regarding your baby's breast-feeding?

Local Health Authority	Yes, totally	Yes, but up to a point	No, they didn't	I received no information	Total	Observations	Value
Tuscany	55,99	29,44	8,88	5,70	100	4.056	3,54
AUSL1MC	57,39	30,00	7,83	4,78	100	230	3,62
AUSL2LU	67,33	24,26	5,94	2,48	100	202	3,97
AUSL3PT	70,13	22,08	4,87	2,92	100	308	4,06
AUSL4PO	54,90	27,45	8,50	9,15	100	306	3,43
AUSL5PI	59,31	31,72	6,90	2,07	100	145	3,76
AUSL6LI	53,49	32,09	10,23	4,19	100	215	3,48
AUSL7SI	78,92	16,59	4,48	0,00	100	223	4,36
AUSL8AR	45,05	33,11	14,33	7,51	100	293	3,08
AUSL9GR	54,26	24,03	16,28	5,43	100	129	3,31
AUSL10FI	58,27	29,84	5,81	6,07	100	774	3,66
AUSL11EM	43,97	40,52	7,76	7,76	100	232	3,21
AUSL12VI	50,82	31,15	9,29	8,74	100	183	3,32
AOUP	60,70	28,86	7,96	2,49	100	201	3,76
AOUS	45,98	32,18	14,37	7,47	100	174	3,10
AOUC	43,54	33,56	14,29	8,62	100	441	3,02



## D17.2.5 – Hospital's cleanliness



## D17.2.5 Hospital's cleanliness

How do you assess the cleanliness of the rooms in the hospital (the labour room, the birthing room, your room in the maternity unit, the nursery, the bathrooms, etc.)?

Local Health Authority	Absolutely clean	Very clean	Quite clean	Not very clean	Very dirty	Total	Observations	Value
Tuscany	24,65	43,36	26,03	4,62	1,35	100	4.073	3,57
AUSL1MC	37,83	46,96	13,48	1,30	0,43	100	230	4,01
AUSL2LU	34,80	51,96	12,25	0,98	0,00	100	204	4,01
AUSL3PT	31,49	48,70	18,51	0,97	0,32	100	308	3,88
AUSL4PO	10,78	33,01	42,16	10,13	3,92	100	306	2,96
AUSL5PI	17,24	47,59	28,97	4,14	2,07	100	145	3,42
AUSL6LI	27,91	38,60	26,98	5,12	1,40	100	215	3,58
AUSL7SI	42,41	47,77	9,82	0,00	0,00	100	224	4,16
AUSL8AR	28,14	55,93	14,24	1,69	0,00	100	295	3,88
AUSL9GR	26,52	45,45	22,73	5,30	0,00	100	132	3,66
AUSL10FI	20,95	47,04	29,56	2,31	0,13	100	778	3,58
AUSL11EM	34,04	54,04	10,64	1,28	0,00	100	235	4,01
AUSL12VI	34,78	45,11	18,48	1,09	0,54	100	184	3,91
AOUP	6,97	27,36	47,26	13,93	4,48	100	201	2,73
AOUS	19,77	40,68	31,64	6,78	1,13	100	177	3,39
AOUC	14,12	25,97	41,91	12,98	5,01	100	439	2,89



### 5.14 Indicator D18: Percentage of hospitalized patients leaving AMA (Against Medical Advice)

Article 14 of Presidential Decree (DPR) 128 of 27 March 1969 establishes the procedure for medical discharge of the patient. The decree also provides an opportunity for the patient or his legal representative to request dismissal “despite the reasoned contrary opinion of the health professional in charge” and “after obtaining a written statement”. In some cases the exercise of this right is restricted by law (ex Articolo 5 c.c., Sezione 54 c.p.), and in case of compulsory medical treatment. The patient can then choose to “abandon” the structure. The motivations behind such a decision vary.

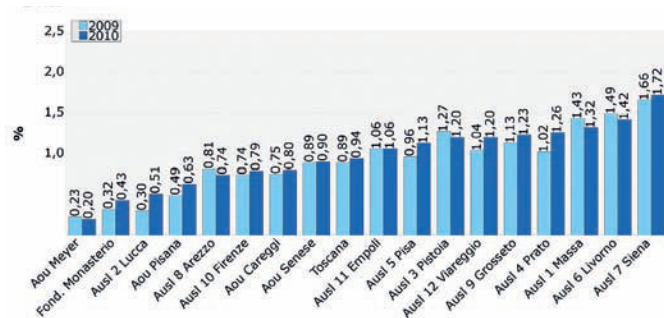
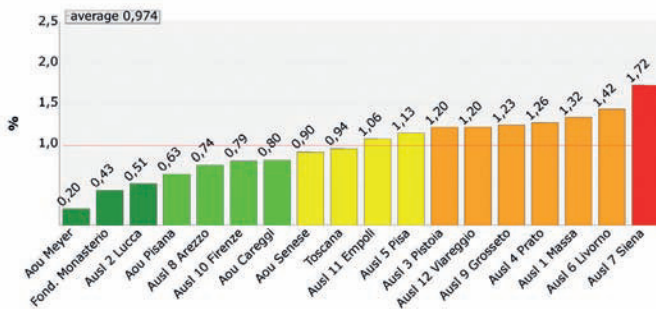
A motivator could be a negative perception of service quality. A patient satisfaction study (Murante A.M. et al.) revealed that voluntary discharge may contribute to the patient's negative assessment of the provided care and affect the variability of such assessments between the different hospitals in the region.

To get better insight into this phenomenon, indicator D18 was introduced in 2009. It measures voluntary discharge per Authority. The indicator is included in the section of the report dedicated to citizens' evaluation as the phenomenon can be considered a proxy for patient satisfaction.

Indicator	Value	Average	Performance	Year
D18 – Percentage of hospitalized patients leaving AMA	0,94%	0,97%	● 2,71	2010

#### D18 Percentage of hospitalized patients leaving AMA

#### D18 – Percentage of hospitalized patients leaving AMA



#### D18 Percentage of hospitalized patients leaving AMA

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,71	0,89	0,94	4,64	5.440,00	5.633,00	608.359,00	602.017,00
T - Aou 1 Massa	1,42	1,43	1,32	-7,37	495,00	430,00	34.636,00	32.482,00
T - Aou 2 Lucca	4,12	0,30	0,51	73,12	82,00	140,00	27.651,00	27.269,00
T - Aou 3 Pistoia	1,83	1,27	1,20	-5,36	439,00	413,00	34.564,00	34.360,00
T - Aou 4 Prato	1,64	1,02	1,26	23,54	313,00	389,00	30.767,00	30.951,00
T - Aou 5 Pisa	2,07	0,96	1,13	17,76	186,00	214,00	19.379,00	18.934,00
T - Aou 6 Livorno	1,09	1,49	1,42	-4,57	638,00	580,00	42.759,00	40.732,00
T - Aou 7 Siena	0,11	1,66	1,72	3,38	311,00	318,00	18.725,00	18.521,00
T - Aou 8 Arezzo	3,36	0,81	0,74	-8,11	357,00	319,00	44.182,00	42.965,00
T - Aou 9 Grosseto	1,74	1,13	1,23	8,88	309,00	322,00	27.394,00	26.219,00
T - Aou 10 Firenze	3,20	0,74	0,79	6,59	408,00	436,00	54.984,00	55.123,00
T - Aou 11 Empoli	2,31	1,06	1,06	0,02	256,00	271,00	24.196,00	25.608,00
T - Aou 12 Viareggio	1,82	1,04	1,20	15,50	249,00	279,00	23.893,00	23.178,00
T - Aou Pisana	3,73	0,49	0,63	29,61	392,00	481,00	80.334,00	76.051,00
T - Aou Senese	2,84	0,89	0,90	0,54	368,00	356,00	41.267,00	39.706,00
T - Aou Careggi	3,16	0,75	0,80	7,26	569,00	603,00	76.210,00	75.296,00
T - Aou Meyer	5,00	0,23	0,20	-12,26	52,00	60,00	22.431,00	29.499,00
T - Fond. Monasterio	4,40	0,32	0,43	33,85	16,00	22,00	4.987,00	5.123,00



## Indicator D18: Percentage of hospitalized patients leaving AMA

### D18 Percentage of hospitalized patients leaving AMA

<b>Definition:</b>	Percentage of hospitalized patients leaving AMA
<b>Numerator:</b>	Number of hospitalized patients leaving AMA
<b>Denomunator</b>	Number of admissions
<b>Formula:</b>	$\frac{\text{Number of hospitalized patients leaving AMA}}{\text{Number of admissions}} \times 100$
<b>Notes:</b>	<p>We consider admissions in public facilities</p> <p>We consider "voluntary" a discharge coded as 5 in administrative flow.</p> <p>Pharmacological interruption of pregnancy (RU 486) is excluded:</p> <p>codes ICD9-CM:</p> <ul style="list-style-type: none"> <li>– principal diagnosis: 635.xx Legal abortion</li> <li>– secondary diagnosis: V617 other unwanted pregnancy</li> </ul> <p>e/o V5883 treatment for monitoring of therapeutic drugs</p> <ul style="list-style-type: none"> <li>– for all procedures: 99.24 injection of other hormones (first and possible second administration per os)</li> </ul>
<b>Source:</b>	Regional Information System – SDO Flow ( <i>Sistema informativo regionale – Flusso SDO</i> )
<b>Reference:</b>	Inter Regional Average 2010







## PART VI

# WORKING CLIMATE SURVEY

*by Manuela Furlan, Francesca Sanna, Domenico Cerasuolo*

Internal evaluation evaluates employee satisfaction within the regional health system.

The assessment is accomplished through the use of two tools:

1. The analysis of a set of objective indicators, considered a proxy of the working climate: the percentage of absence and the rate of accidents at work;
2. the administration of an internal working climate survey to all employees of the Hospitals in Tuscany.

The indoor working climate survey is a tool that helps to observe the most important variables that feed the sense of belonging of an individual to the organization in which he/she operates, and helps to interpret the observations in a strategic sense.

The internal climate survey, therefore, aims to identify strengths and weaknesses in the organizational context of reference in order to allow effective improvement processes. As in 2008, the surveys conducted in 2010 have been addressed to all employees of the Hospitals of Tuscany, which over a period of one month, during the period from 15 November to 31 December, were able to directly access the server of Scuola Superiore Sant'Anna to complete the questionnaire, using an Internet connection and a personal password.

The survey involved the use of two instruments: a questionnaire "1" addressed to all executives responsible for a simple or complex structure and all employees with responsibility for budgets, and a questionnaire "2" prepared for all other employees (managers not responsible for budget and the entire sector).

Regarding the internal climate survey, the indicators for 2010 are:

1. Participation Rate in the Working Climate Survey "E1"
2. Training Activities "E9"
3. Evaluation of management according to employees "E10"
4. Evaluation of Communication and Information according to employees "E11"
5. Evaluation of management according to executives "E12"
6. Evaluation of Communication and Information according to executives "E13"

This publication reports, for each indicator, the data for the year 2010.

### **The methodology**

Questionnaires (1 and 2) have similar dimensions of inquiry, except that of the "internal evaluation of services", which is specific for executives (questionnaire 1). The questions were formulated differently depending on whether they were aimed at executives with responsibility for "management/budget" or at other employees. Basically, to get a picture as clear as possible of the complex and articulated determinants of the working climate, it was decided to investigate aspects related to:

1. my work (i.e. the main aspects that characterize the working conditions, the dynamics of communication and information, training activities);
2. management (management skills, management through budget)
3. my Authority (overall assessment with respect to management and evaluation of organizational priorities of the Authority)
4. general information (sex, age, seniority in current Authority as optional fields, role, facility and area)

The dimensions in question were investigated using multiple-choice items or items related to 5-point Likert scale.

### **Data collection**

Data were collected using the CAWI method (Computer Assisted Web Interview): the employee, supported by a Web form, filled out the questionnaire online using the Internet.

The percentage of respondents was, at the regional level, 42%: among a total of 50,310 employees 21,113 participated in the survey. A significant number that, on the one hand underlines the high interest of employees about the issues under investigation, and on the other hand, provides us with positive information about the level of computerization of health services and the growing comfort among employees for new technologies. Regarding the procedures for compiling and sending the questionnaires, as in past editions, each employee was given an alphanumeric code (login and password) that allowed random access to the web platform of data collection over a secure connection. Random and distinct passwords and the adoption of



a secure connection for the transmission have ensured the anonymity of responses and the security of data transmitted. The code, turned off once the completed questionnaire was submitted, prevented any further access to the information entered. Throughout the duration of the investigation it was possible to fill out the form 24 hours a day from computers inside and outside the Authority, and to have telephone support by researchers of the MeS Laboratory.

Employee absence rate is an important warning signal for an organization. The indicator itself is not able to identify the causes underlying the phenomenon, but indirectly allows the collection of information on the working climate and productivity of workers: it takes into account different aspects and situations that determine the absence from work. The items cover the absences recorded for permits (from those relating to the union to those relating to the right to study), illness, and injury, thus providing a glimpse of the presence/absence of employees. This indicator has therefore an impact on efficiency and productivity of the Authority and of the system as a whole.

The Employee Accident Rate (E3) monitors the frequency of injuries to employees, detects deficiencies in aspects of organizational or structural elements, and shows concern about the shortage of procedures and protocols for safety in the workplace. This indicator reveals organizational weaknesses that need to be fixed in order to make the workplace safer and therefore more liveable.

The monitoring of this indicator by the top management makes it possible to identify risk factors that contribute to the occurrence of injuries, by strengthening primary prevention and increasing the level of attention of individual operators in performing their daily work. This is to develop a greater awareness of the risks and safety procedures.



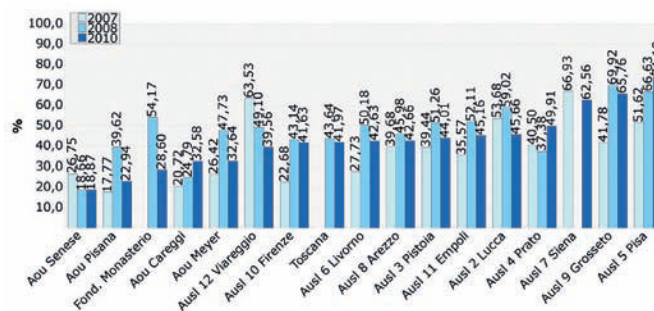
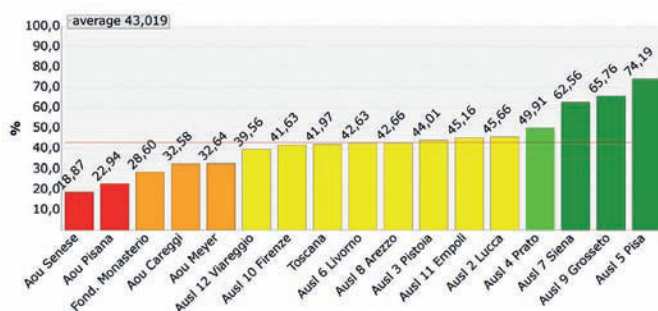
## Indicator E1: Participation rate in the Working Climate Survey 6.1

The indicator E1 represents the participation of all employees of the Health Authorities in the working climate survey. The number of completed questionnaires 1 and 2 is 21,113 out of 50,310 questionnaires expected. The Ausl 1 (Local Health Authority) of Massa-Carrara did not participate in 2010.

Indicator	Value	Average	Performance	Year
E1 – Participation rate in the Working Climate Survey	41,97%	43,02%	● 2,40	2010

### E1 Participation rate in the Working Climate Survey

#### E1 – Participation rate in the Working Climate Survey



#### E1 Participation rate in the Working Climate Survey

Health Authority	Score 2010	Value 2008	Value 2010	Delta %	Numerator 2008	Numerator 2010	Denominator 2008	Denominator 2010
T - Toscana	2,40	27,88	41,97	50,54	693,00	21.113,00	2.486,00	50.310,00
T - Ausl 2 Lucca	2,74	59,02	45,66	-22,64	1.548,00	1.246,00	2.623,00	2.792,00
T - Ausl 3 Pistoia	2,59	51,26	44,01	-14,14	1.469,00	1.377,00	2.866,00	3.129,00
T - Ausl 4 Prato	3,12	37,38	49,91	33,52	905,00	1.321,00	2.421,00	2.647,00
T - Ausl 5 Pisa	5,00	66,63	74,19	11,35	1.356,00	1.618,00	2.035,00	2.181,00
T - Ausl 6 Livorno	2,46	50,18	42,63	-15,05	1.855,00	1.804,00	3.697,00	4.232,00
T - Ausl 7 Siena	4,27	0,00	62,56	(*)	0,00	1.517,00	0,00	2.425,00
T - Ausl 8 Arezzo	2,47	45,98	42,66	-7,22	1.672,00	1.643,00	3.636,00	3.851,00
T - Ausl 9 Grosseto	4,55	69,92	65,76	-5,95	1.908,00	1.932,00	2.729,00	2.938,00
T - Ausl 10 Firenze	2,37	43,14	41,63	-3,50	2.707,00	2.714,00	6.275,00	6.520,00
T - Ausl 11 Empoli	2,69	52,11	45,16	-13,34	1.274,00	1.100,00	2.445,00	2.436,00
T - Ausl 12 Viareggio	2,19	49,10	39,56	-19,43	932,00	784,00	1.898,00	1.982,00
T - Aou Pisana	0,68	39,62	22,94	-42,10	1.774,00	1.127,00	4.477,00	4.913,00
T - Aou Senese	0,32	18,66	18,87	1,13	530,00	570,00	2.841,00	3.020,00
T - Aou Careggi	1,56	24,79	32,58	31,42	1.345,00	1.907,00	5.425,00	5.853,00
T - Aou Meyer	1,56	47,73	32,64	-31,62	316,00	300,00	662,00	919,00
T - Fond. Monasterio	1,20	54,17	28,60	-47,20	91,00	153,00	168,00	535,00

### Indicator E1: Participation rate in the Working Climate Survey

#### E1 Participation rate in the Working Climate Survey

<b>Definition:</b>	Participation rate in the Working Climate Survey
<b>Numerator:</b>	No. of observations recorded (questionnaire A + questionnaire B)
<b>Denominator:</b>	No. of observations expected (questionnaire A + questionnaire B)
<b>Formula:</b>	$\frac{\text{No. of observations recorded (questionnaire A + questionnaire B)}}{\text{No. of observations expected (questionnaire A + questionnaire B)}} \times 100$
<b>Source:</b>	Working climate survey – MeS Laboratory
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator expresses the percentage of participation of employees in the working climate survey. It includes questionnaire A, aimed at all executives, and the questionnaire B, aimed at employees and managers.



## 6.2 Indicator E2: Employee absence rate

The indicator monitors the employee absenteeism and is considered a proxy for the working climate within the Authority.

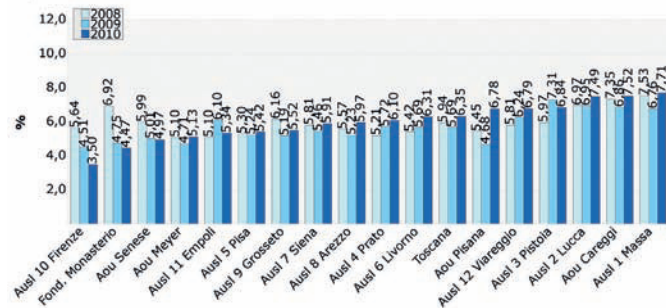
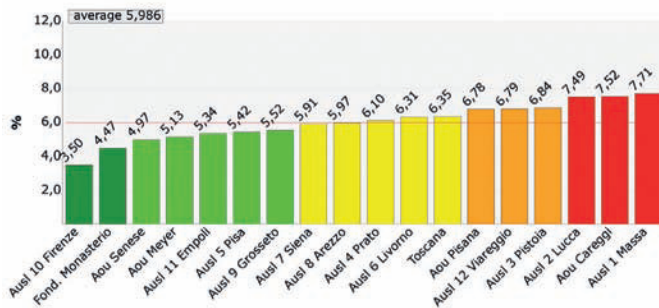
The indicator value compares the hours of absence (due to illness, accident and paid leave) against the contracted hours worked (net of leave taken/used, union detachment for reduced commitment, unions and political permits, the right to education, strikes, optional abstention for children's illness, and unpaid temporary leave).

The data were provided directly by the Tuscan Health Authorities. The reporting period and the data presented refer to 2010.

Indicator	Value	Average	Performance	Year
E2 – Employee absence rate	6,35%	5,99%	● 2,08	2010

### E2 Employee absence rate

#### E2 – Employee absence rate



#### E2 Employee absence rate

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,08	5,69	6,35	11,60	4.678.557,00	5.339.953,00	82.267.907,00	82.067.184,00
T - Ausl 1 Massa	0,46	6,76	7,71	14,05	309.320,00	364.705,00	4.577.717,00	4.729.384,00
T - Ausl 2 Lucca	0,72	6,95	7,49	7,77	295.829,00	320.369,00	4.258.594,00	4.275.292,00
T - Ausl 3 Pistoia	1,49	7,31	6,84	-6,43	359.119,00	342.319,00	4.910.181,00	5.001.084,00
T - Ausl 4 Prato	2,38	5,72	6,10	6,64	234.446,00	257.205,00	4.101.945,00	4.218.506,00
T - Ausl 5 Pisa	3,18	5,24	5,42	3,44	181.587,00	93.620,00	3.465.612,00	1.726.832,00
T - Ausl 6 Livorno	2,13	5,69	6,31	10,90	440.081,00	466.027,00	7.730.219,00	7.387.054,00
T - Ausl 7 Siena	2,60	5,46	5,91	8,24	208.833,00	225.129,00	3.828.118,00	3.808.115,00
T - Ausl 8 Arezzo	2,53	5,23	5,97	14,15	326.287,00	385.788,00	6.235.387,00	6.462.341,00
T - Ausl 9 Grosseto	3,07	5,19	5,52	6,36	246.486,00	285.431,00	4.751.631,00	5.175.417,00
T - Ausl 10 Firenze	5,00	4,51	3,50	-22,39	466.510,00	367.850,00	10.346.862,00	10.520.467,00
T - Ausl 11 Empoli	3,27	6,10	5,34	-12,46	243.078,00	215.578,00	3.987.042,00	4.033.932,00
T - Ausl 12 Viareggio	1,56	6,24	6,79	8,81	194.250,00	215.762,00	3.112.803,00	3.177.304,00
T - Aou Pisana	1,57	4,68	6,78	44,87	334.795,00	506.519,00	7.151.731,00	7.468.999,00
T - Aou Senese	3,71	5,01	4,97	-0,80	207.914,00	230.310,00	4.153.755,00	4.629.536,00
T - Aou Careggi	0,69	6,86	7,52	9,62	547.306,00	597.149,00	7.976.732,00	7.940.795,00
T - Aou Meyer	3,53	4,71	5,13	8,92	67.771,00	80.680,00	1.439.426,00	1.573.192,00
T - Fond. Monasterio	4,31	4,75	4,47	-5,89	14.944,00	17.742,00	314.518,00	397.110,00



## Indicator E2: Employee absence rate

### E2 Employee absence rate

<b>Definition:</b>	Employee absence rate
<b>Numerator:</b>	No. of hours of absence
<b>Denominator:</b>	No. of contract work hours (net)
<b>Formula:</b>	$\frac{\text{No. of hours of absence}}{\text{No. of contract work hours (net)}} \times 100$
<b>Notes:</b>	<p>The number of hours of absence is the result of the sum of:</p> <ul style="list-style-type: none"> <li>– No. of hours of Absence due to illness (100%, 90%, 50%, and 0%)</li> <li>– No. of hours of Absence due to Accident</li> <li>– No. of hours of Paid Leave</li> </ul> <p>The number of contract work hours is net of:</p> <ul style="list-style-type: none"> <li>– No. of hours of Holidays taken/used</li> <li>– No. of hours Union detachment for reduced commitment</li> <li>– No. of hours Union Permits</li> <li>– No. of hours Right to study (150 hours)</li> <li>– No. of hours Strike</li> <li>– No. of hours Optional abstention for children's illness</li> <li>– No. of hours Unpaid temporary leave</li> </ul>
<b>Source:</b>	Personnel Department – ( <i>Dato Aziendale – Ufficio del Personale</i> )
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator shows the percentage of absence of employees and may be considered as a proxy of the internal climate.



### 6.3 Indicator E3: Employee accident rate

The rate of work-related accidents shows the ratio between the numbers of accidents for the period examined and the number of hours worked by contract (per 100,000 hours worked).

The resulting data therefore relate to the frequency of accidents per 100,000 hours worked by contract.

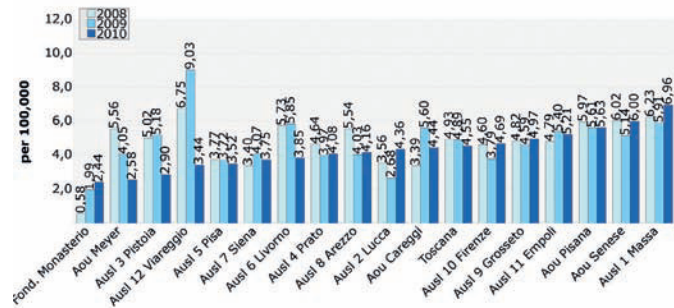
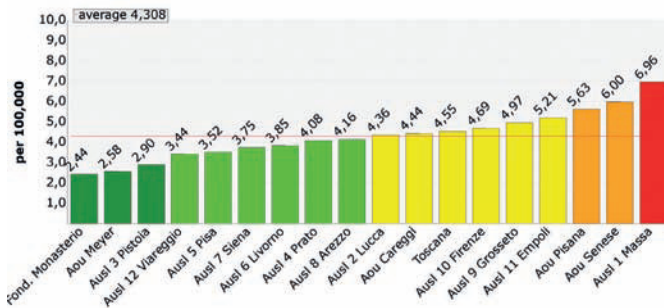
The indicator considers accidents with 0 days of absence, accidents with 1 to 3 days of absence, and finally accidents with more than 3 days of absence, for which the injured worker is entitled to an injury allowance paid by INAIL (National Institute for Insurance against Work Injuries).

The data source is from the Authorities' records of accidents and refers to accidents that occurred at the Authority's facilities as well as commuting accidents.

Indicator	Value	Average	Performance	Year
E3 – Employee accident rate	4,55%	4,31%	● 2,83	2010

#### E3 Employee accident rate

##### E3 – Employee accident rate



#### E3 Employee accident rate

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,83	4,89	4,55	-6,95	4.604,00	4.291,00	94.232.260,00	94.204.580,60
T - Ausl 1 Massa	0,88	5,91	6,96	17,84	308,00	382,00	5.211.135,00	5.441.939,00
T - Ausl 2 Lucca	2,98	2,68	4,36	62,69	132,00	215,00	4.921.058,00	4.930.165,60
T - Ausl 3 Pistoia	4,16	5,18	2,90	-43,93	291,00	166,00	5.614.611,00	5.714.979,00
T - Ausl 4 Prato	3,21	3,97	4,08	2,84	186,00	198,00	4.683.984,00	4.824.965,93
T - Ausl 5 Pisa	3,66	3,72	3,52	-5,36	148,00	68,00	3.975.375,00	1.931.520,00
T - Ausl 6 Livorno	3,40	5,85	3,85	-34,25	512,00	329,00	8.754.985,00	8.553.026,00
T - Ausl 7 Siena	3,48	4,07	3,75	-7,81	180,00	167,00	4.422.230,00	4.397.478,00
T - Ausl 8 Arezzo	3,15	4,03	4,16	3,22	282,00	306,00	6.993.916,00	7.356.154,00
T - Ausl 9 Grosseto	2,49	4,59	4,97	8,38	250,00	292,00	5.446.878,00	5.829.526,00
T - Ausl 10 Firenze	2,72	3,79	4,69	23,72	450,00	573,00	11.879.643,00	11.921.727,00
T - Ausl 11 Empoli	2,29	5,40	5,21	-3,44	250,00	242,00	4.630.642,00	4.641.283,88
T - Ausl 12 Viareggio	3,73	9,03	3,44	-61,91	322,00	125,00	3.564.789,00	3.634.310,00
T - Aou Pisana	1,95	5,61	5,63	0,44	459,00	473,00	8.182.779,00	8.394.805,07
T - Aou Senese	1,66	5,14	6,00	16,64	245,00	312,00	4.762.048,00	5.204.244,00
T - Aou Careggi	2,92	5,60	4,44	-20,75	516,00	408,00	9.209.132,00	9.192.770,00
T - Aou Meyer	4,43	4,05	2,58	-36,40	66,00	46,00	1.628.120,00	1.785.781,00
T - Fond. Monasterio	4,53	1,99	2,44	22,86	7,00	11,00	350.936,00	449.906,12



## Indicator E3: Employee accident rate

### E3 Employee accident rate

<b>Definition:</b>	Employee accident rate
<b>Numerator:</b>	Number of accidents
<b>Denominator:</b>	Number of contract work hours
<b>Formula:</b>	$\frac{\text{No. of accidents}}{\text{No. of contract work hours}} \times 100,000$
<b>Source:</b>	Dato Aziendale – SSP / Personnel Department
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator shows the percentage of employee accidents, and may be considered as a proxy of the internal working climate.





## 6.4 Indicator E9: Training activities

The indicator is derived by averaging the scores from the questions below to which employees had to respond by expressing their level of satisfaction:

- This Authority offers training opportunities
- My training requests are received in relation to the needs of the structure in which I work
- In my Authority, training is considered an effective tool to develop staff skills
- The training activities carried out by my Authority, which I attended, helped to improve the way I work
- I am adequately informed about training opportunities provided by my Authority.

The section “training” consisted of a series of two-pronged questions that were not incorporated in the calculation of the indicator. Specifically:

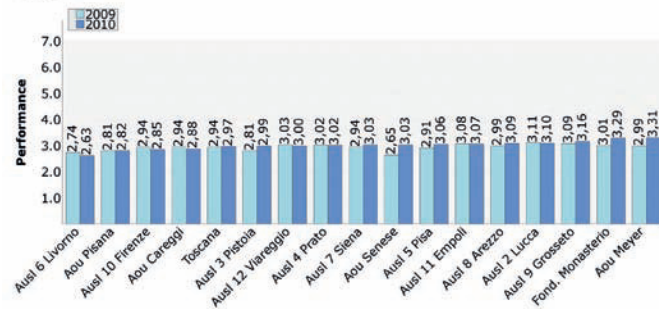
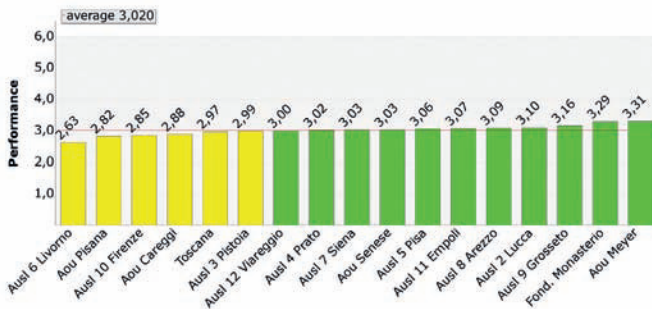
- In the last two years I have participated in training courses organized by the Authority.
- In the last two years I have personally had to find training activities necessary for my job.
- I am satisfied with the methods by which training activities have taken place in my Authority
- My Authority offers quality training.

In the trend graph the data of the Local Health Authority Ausl 7 of Siena are relative to the 2007 survey.

Indicator	Performance	Year
E9 – Training activities	2,97	2010

### E9 Training activities

#### E9 – Training activities



## Indicator E9: Training activities

### E9 Training activities

<b>Definition:</b>	Evaluation of training activities for employees
<b>Notes:</b>	The score results from the average, in fifths, of the scores given to the following variables: <ul style="list-style-type: none"> <li>– This Authority offers training opportunities</li> <li>– My training requests are received in relation to the needs of my structure/Teaching Hospital</li> <li>– In my Authority, training is considered an effective tool to develop staff skills</li> <li>– The training activities carried out by my Authority, which I attended were useful to improve the way I work</li> <li>– I think I am adequately informed of training opportunities provided by my Authority</li> </ul>
<b>Source:</b>	Internal working climate survey – MeS Laboratory ( <i>Indagine di Clima Interno – Laboratorio MeS</i> )
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator shows the level of satisfaction of employees with the training activities in which they participate.



## Indicator E10: Evaluation of management according to employees 6.5

Employees who filled out questionnaire 2 were asked to evaluate their management.

Questions were designed to investigate the management behaviour relevant to the specific competencies of the role, excluding technical and professional skills. In particular the following management skills were observed:

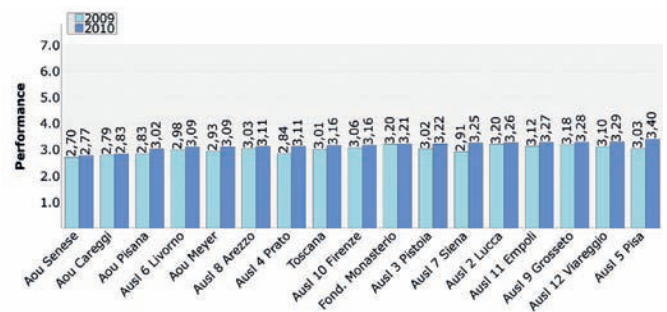
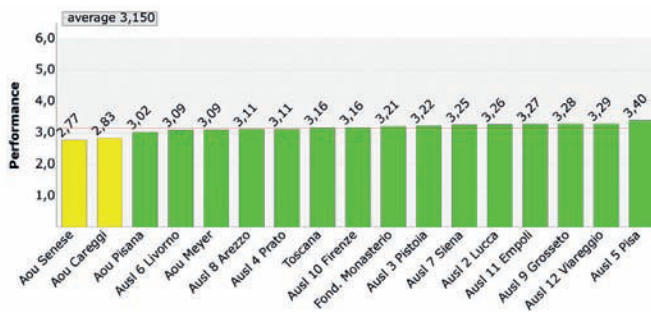
- People Development (Eg: “I feel responsible for the quality of the results/services related to my work”)
- Clarity (Eg: “Normally I receive clear instructions and guidelines on activities that I have to carry out”)
- Teamwork and Cooperation (Eg: “Within my workgroup situations of conflict are managed appropriately”)
- Leadership (Eg: “The performance of my team is regularly checked”)
- Listening Skills (Eg: “In my structure/unit I feel that my suggestions for improvement are taken into account”)
- Communication Skills (Eg: “When decisions must be made concerning our structure/unit we are all informed”).

Indicator	Performance	Year
E10 – Evaluation of management according to employees	● 3,16	2010

### E10 Evaluation of management according to employees

- E12 – Evaluation of management according to executives: 3,17

### E10 – Evaluation of management according to employees



## Indicator E10: Evaluation of management according to employees

### E10 Evaluation of management according to employees

<b>Definition:</b>	Evaluation of management according to employees
<b>Notes:</b>	<p>The score results from the average in fifths of the scores assigned to the following variables:</p> <ul style="list-style-type: none"> <li>– generally I receive feedback on the quality of my work and on my achievements</li> <li>– in my structure/operational unit internal meetings are organized regularly</li> <li>– my manager is easily contactable in case I need to talk to him/her</li> <li>– in my structure/operational unit I feel that my suggestions for improvement are taken into account</li> <li>– in my work I am helped to develop my skills</li> <li>– in my structure/operational unit collaborators are enabled to do their jobs</li> <li>– in my structure/operational unit I am supported and encouraged to react after a failure</li> <li>– my manager is able to delegate</li> <li>– When decisions must be made concerning our structure/operational all employees are informed</li> <li>– in my job the team's achievements are recognised</li> <li>– my manager is able to deal with situations of conflict</li> <li>– I feel responsible about the quality of results/services related to my job</li> <li>– my performance is regularly verified</li> <li>– normally I receive clear instructions and guidelines on activities that I have to carry out</li> <li>– Work is well planned within my team, allowing achievement of objectives</li> <li>– my work is fairly evaluated</li> <li>– I am well informed about the objectives of my structure/operational unit</li> <li>– I am well informed about the internal organisation of my structure/operational unit</li> </ul>
<b>Source:</b>	Internal working climate survey – MeS Laboratory ( <i>Indagine di Clima Interno – Laboratorio MeS</i> )
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator shows the degree of satisfaction perceived by employees about the management

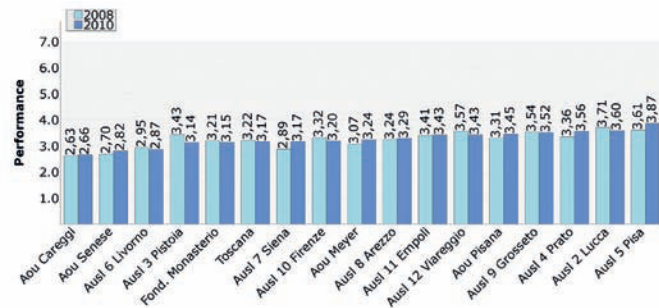
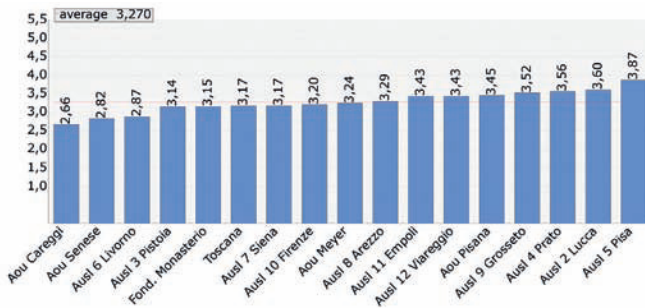


## 6.6 Indicator E12: Evaluation of management according to executives

The indicator E12 “Evaluation of management according to executives” in 2010 has been included as an indicator of observation within the indicator E10, and it does not contribute to the evaluation of the indicator.

In the trend graph the data of the Local Health Authority Ausl 7 of Siena relate to the 2007 survey.

### E12 – Evaluation of management according to executives



### Indicator E12: Evaluation of management according to executives

<b>Definition:</b>	Evaluation of management according to executives
<b>Notes:</b>	<p>The score results from the average in fifths of the scores given to the following items:</p> <ul style="list-style-type: none"> <li>– Periodically, I receive feedback on the quality of my work and on the achievements.</li> <li>– I feel responsible about the quality of results/services related to my job.</li> <li>– I think that my suggestions for improvement are taken into account by the Managers.</li> <li>– I am encouraged to react after a failure.</li> <li>– The Managers ask us for advice whenever decisions must be made concerning our structure/operational unit (simple or complex).</li> <li>– The Managers regularly organise meetings with executives.</li> <li>– In my job, we consider the team as an effective means of achieve results.</li> <li>– In my Authority we have a plan that clearly states the targets and expected results for the Authority.</li> <li>– In my Authority we developed a proper monitoring and evaluation system for quality, effectiveness, and efficiency.</li> </ul>
<b>Source:</b>	Internal working climate survey – MeS Laboratory ( <i>Indagine di Clima Interno – Laboratorio MeS</i> )
<b>Reference:</b>	Regional average, 2010



## Indicator E11: Evaluation of Communication and information according to employees 6.7

The indicator is derived by averaging the scores from the questions below. By answering the questions, employees reveal their knowledge concerning the following:

- the quality of services provided by the Authority
- user satisfaction
- organization of the Authority
- Authority's results
- decisions and important strategies adopted by the Authority's management.

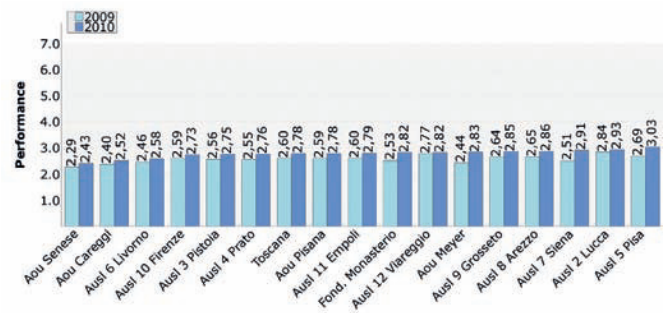
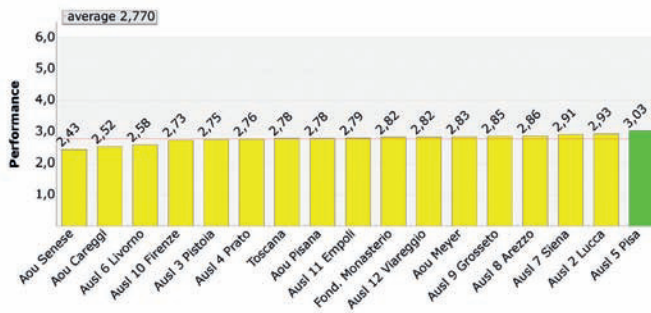
In the trend graph the data of the Local Health Authority Ausl 7 of Siena relate to the 2007 survey.

Indicator	Performance	Year
E11 – Evaluation of Communication and information according to employees	● 2,78	2010

### E11 Evaluation of Communication and information according to employees

- E13 – Evaluation of Communication and information according to executives: 3,41

### E11 – Evaluation of Communication and information according to employees



## Indicator E11: Evaluation of Communication and information according to employees

### E11 Evaluation of Communication and information according to employees

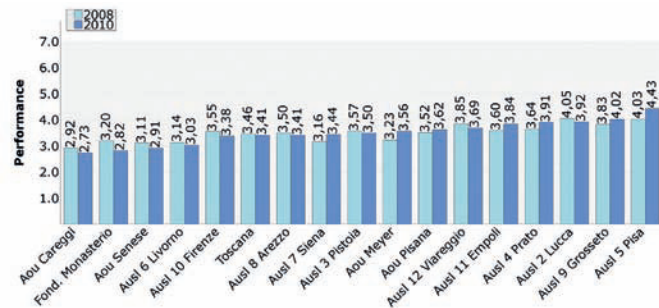
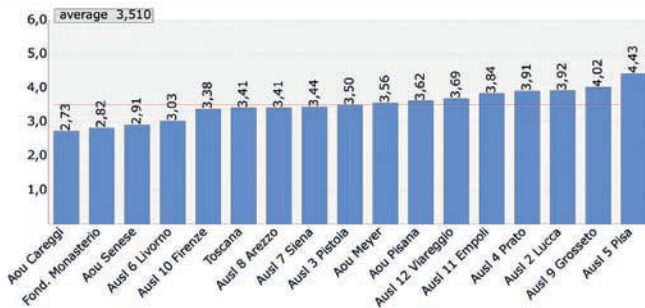
<b>Definition:</b>	Evaluation of Communication and information for employees
<b>Notes:</b>	The score results from the average in fifths of the scores assigned to the following variables: <ul style="list-style-type: none"> <li>– the quality of services provided</li> <li>– satisfaction of customers</li> <li>– the organisation of my Authority</li> <li>– the results of the Authority</li> <li>– decisions and important strategies adopted by the management</li> </ul>
<b>Source:</b>	Internal working climate survey – MeS Laboratory ( <i>Indagine di Clima Interno – Laboratorio MeS</i> )
<b>Reference:</b>	Regional average
<b>Meaning:</b>	The indicator shows employee satisfaction regarding internal communications



## 6.8 Indicator E13: Evaluation of Communication and information according to executives

The indicator E13 “Communication and information for managers”, has been included in 2010 as an indicator of observation within the indicator E11 but it does not contribute to the evaluation of the indicator. In the trend graph the data of the Local Health Authority Ausl 7 of Siena relate to the 2007 survey.

### E13 – Evaluation of Communication and information according to executives



## Indicator E13: Evaluation of Communication and information according to executives

### E13 Evaluation of Communication and information according to executives

<b>Definition:</b>	Evaluation of Communication and information according to executives
<b>Notes:</b>	The score results from the average in fifths of the scores given to the following items: – The overall annual targets of my Authority. – The overall annual results of my Authority (economic, health, customer satisfaction, etc.).
<b>Source:</b>	Internal working climate survey – MeS Laboratory ( <i>Indagine di Clima Interno – Laboratorio MeS</i> )
<b>Reference:</b>	Regional average, 2010



## PART VII THE EVALUATION OF OPERATING EFFICIENCY AND FINANCIAL PERFORMANCE

*by Milena Vainieri and Silvia Zett*

The economic, financial and operating efficiency dimension is designed to assess how resources are used, both generally through the budget analysis, and specifically, for example, assessing the use of resources for drugs consumption.

The indicators of the evaluation system that detect the use of Authority's resources through the analysis of the prospects of the Balance Sheet are: F1 – Financial Performance, F3 – Assets and Liability Management, and F11 – Extra Regional Compensation Index, not all for evaluation. Another indicator coming from the Income Statement (CE flow) that calculates the overall use of resources is the health expenditure per capita – F17, introduced in 2008 and valid only for Local Health Authorities. Indicators for the budget (F1, F3, F11, and F17) refer to 2009.

At an individual level there are indicators on the assessment of resources in specific sectors: F10 – pharmaceutical expenditure, which detects drug expenditure per capita, and F12a – Efficiency of Local Drug Prescription, which monitors some of the specific categories of drugs with higher consumption rates and a significant impact on expenses. It is worth reporting the presence of a new indicator, F20 – Efficiency of Hospital Drug Prescription, which monitors the incidence on the expenditure of biological drugs and expired patent molecules used in hospital wards. Indicators F15 – Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services and F16 – Efficiency and Effectiveness in food safety and Nutrition Services analyze issues of activity and efficiency (in terms of timeliness in the transmission of data flows and staff productivity) with reference to public health. In 2008, two other indicators were introduced in this section: F18 – Productivity index of magnetic resonance and F19 – Expenditure per DRG fee. The first indicator analyses the productivity of diagnostic tests in terms of tests per machine with reference to the MRI. It is currently suspended as it is being revised by a working group composed of Tuscan professionals and representatives of the national union of radiologists SNR. The second indicator, F19, cost per fee refers to 2009 and analyses the productivity in inpatient and outpatient care in terms of costs per volume and variety of both inpatient (represented by the value of DRGs) and outpatient activities (represented by the costs of outpatient services).

This year there are also indicators to assess the control management mechanisms. These indicators come from the organizational climate survey, in particular they come from the assessment by executive managers about the evaluation of support services offered to the Authority (F7), and evaluation of the budget (F8). Another indicator coming from the working climate survey of employees assesses the knowledge of the existence of the budget process (F9).



## 7.1 Indicator F1: Financial Performance

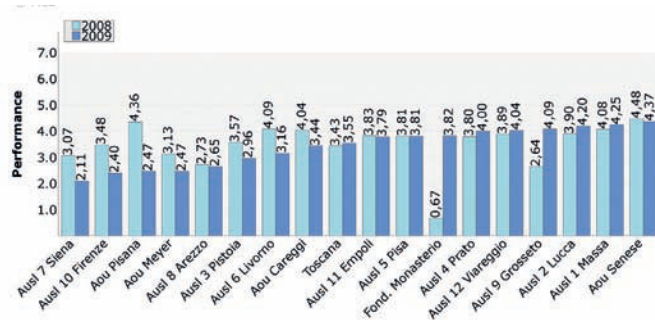
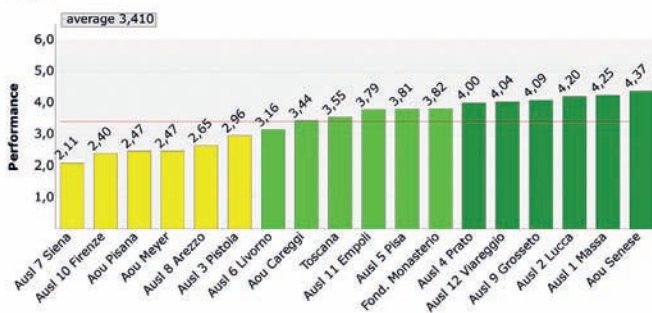
The indicator F1 analyses the financial performance and reflects the Authority's ability to pursue the sustainability status. The indicator consists of two indexes. The first expresses the overall financial situation of the Authority and the second analyses the financial situation of the core business activities commonly known as Return On Sales. In the past years, the indicator of Financial Performance was calculated on the basis of the income restatement that had been built together with the health Authorities in the pilot phase of the Evaluation System of Tuscan Health Authorities (see Cinquini et al. 2008, Cinquini et al., 2005). Data refer to year 2009.

Indicator	Performance	Year
F1 – Financial Performance	● 3,55	2009

### F1 Financial Performance

- F1.1 – Overall Financial Performance: – 0,68% ■
- F1.2 – Return On Sales: 1,01% ■
- F1.3 – Return On Investment (ROI) (Teaching Hospital): 1,00% ■

### F1 – Financial Performance



### Indicator F1: Financial Performance

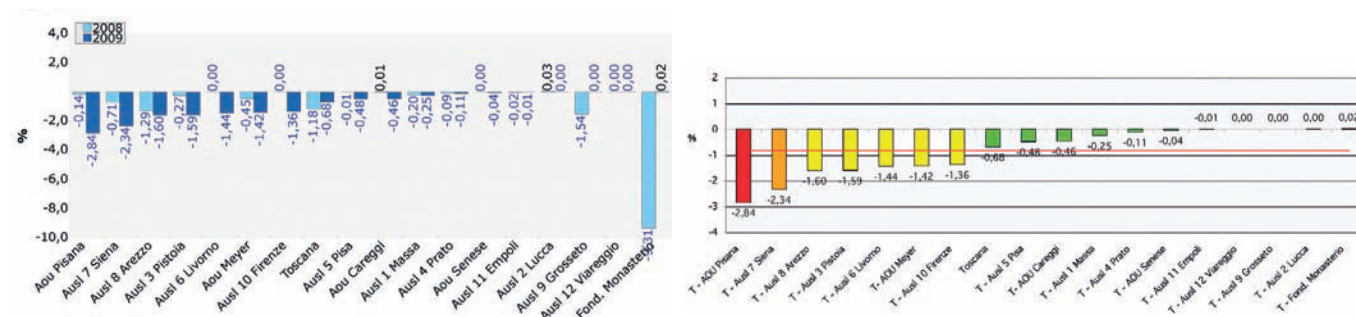
Notes
Indicator F1 has a value equal to the average of the score of indicators: F1.1, F1.2, F1.3



## Indicator F1.1: Overall Financial Performance 7.2

The overall financial performance is calculated as the Authority's income on the total revenues as reported by the income statement (CE flow). The indicator assesses the managers' ability to perform their activity comparing income and expenditure, considering all kinds of operations including tax and interests. The objective is to achieve zero.

### F1.1 – Overall Financial Performance



### F1.1 Overall Financial Performance

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	3,24	-1,18	-0,68	42,37	-95.494.000,00	-57.284.000,00	8.061.559.000,00	8.386.785.000,00
T - Ausl 1 Massa	3,73	-0,20	-0,25	-25,00	-770.000,00	-986.000,00	384.851.000,00	401.722.000,00
T - Ausl 2 Lucca	4,14	0,03	0,00	-100,00	117.000,00	13.000,00	404.067.000,00	416.704.000,00
T - Ausl 3 Pistoia	2,22	-0,27	-1,59	-488,89	-1.291.000,00	-7.923.000,00	480.252.000,00	497.198.000,00
T - Ausl 4 Prato	3,88	-0,09	-0,11	-22,22	-341.000,00	-451.000,00	399.652.000,00	415.864.000,00
T - Ausl 5 Pisa	3,47	-0,01	-0,48	-4.700,00	-32.000,00	-2.612.000,00	528.185.000,00	546.795.000,00
T - Ausl 6 Livorno	2,40	0,00	-1,44	(*)	-1.000,00	-8.976.000,00	611.129.000,00	624.135.000,00
T - Ausl 7 Siena	1,40	-0,71	-2,34	-229,58	-3.154.000,00	-10.843.000,00	446.396.000,00	463.931.000,00
T - Ausl 8 Arezzo	2,22	-1,29	-1,60	-24,03	-7.682.000,00	-9.871.000,00	594.912.000,00	616.714.000,00
T - Ausl 9 Grosseto	4,00	-1,54	0,00	100,00	-6.358.000,00	0,00	412.194.000,00	425.481.000,00
T - Ausl 10 Firenze	2,48	0,00	-1,36	(*)	0,00	-19.785.000,00	1.420.522.000,00	1.450.312.000,00
T - Ausl 11 Empoli	3,99	-0,02	-0,01	50,00	-78.000,00	-43.000,00	378.147.000,00	394.907.000,00
T - Ausl 12 Viareggio	4,00	0,00	0,00	(*)	-5.000,00	-8.000,00	301.182.000,00	310.217.000,00
T - Aou Pisana	0,16	-0,14	-2,84	-1.928,57	-719.000,00	-14.682.000,00	496.331.000,00	516.813.000,00
T - Aou Senese	3,95	0,00	-0,04	(*)	0,00	-125.000,00	259.853.000,00	285.237.000,00
T - Aou Careggi	3,49	0,01	-0,46	-4.700,00	83.000,00	-2.825.000,00	598.386.000,00	613.776.000,00
T - Aou Meyer	2,42	-0,45	-1,42	-215,56	-381.000,00	-1.385.000,00	85.236.000,00	97.575.000,00
T - Fond. Monasterio	5,00	-9,31	0,02	100,21	-5.294.000,00	14.000,00	56.865.000,00	64.507.000,00

## Indicator F1: Financial Performance

### F1.1 Overall Financial Performance

<b>Definition:</b>	Financial Performance considering all kinds of operations.
<b>Numerator:</b>	Income.
<b>Denominator:</b>	Total revenues.
<b>Formula:</b>	$\frac{\text{Income}}{\text{Total revenues}} \times 100$
<b>Notes:</b>	Income (code Z9999 of CE Flow). Total revenues (code A9999 of CE Flow).
<b>Source:</b>	Income statement (CE Flow).
<b>Reference:</b>	Balanced budget: 0.

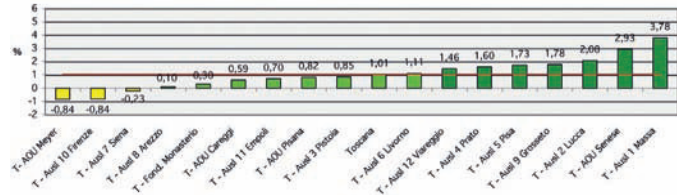
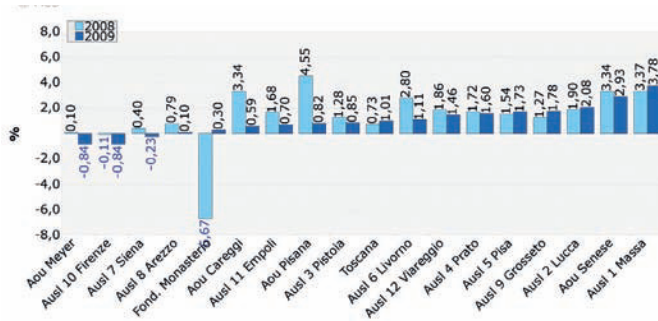




### 7.3 Indicator F1.2: Return on Sales

The indicator F1.2 shows the Authority's ability to achieve sustainability. It focuses on the core business activities thus excluding extraordinary charges, revenues, gains and expenses from other than primary business. It is the ratio between the net income, calculated as the difference between revenue and costs before interest and tax expenses, and the total revenues. This index is widely used internationally.

#### F1.2 – Return on Sales



#### F1.2 Return on Sales

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	3,85	0,73	1,01	38,36	58.786.000,00	84.974.000,00	8.061.559.000,00	8.386.785.000,00
T - Ausl 1 Massa	4,76	3,37	3,78	12,17	12.986.000,00	15.181.000,00	384.851.000,00	401.722.000,00
T - Ausl 2 Lucca	4,26	1,90	2,08	9,47	7.669.000,00	8.651.000,00	404.067.000,00	416.704.000,00
T - Ausl 3 Pistoia	3,70	1,28	0,85	-33,59	6.144.000,00	4.232.000,00	480.252.000,00	497.198.000,00
T - Ausl 4 Prato	4,12	1,72	1,60	-6,98	6.879.000,00	6.663.000,00	399.652.000,00	415.864.000,00
T - Ausl 5 Pisa	4,15	1,54	1,73	12,34	8.117.000,00	9.444.000,00	528.185.000,00	546.795.000,00
T - Ausl 6 Livorno	3,91	2,80	1,11	-60,36	17.129.000,00	6.905.000,00	611.129.000,00	624.135.000,00
T - Ausl 7 Siena	2,81	0,40	-0,23	-157,50	1.779.000,00	-1.047.000,00	446.396.000,00	463.931.000,00
T - Ausl 8 Arezzo	3,08	0,79	0,10	-87,34	4.708.000,00	613.000,00	594.912.000,00	616.714.000,00
T - Ausl 9 Grosseto	4,17	1,27	1,78	40,16	5.215.000,00	7.555.000,00	412.194.000,00	425.481.000,00
T - Ausl 10 Firenze	2,31	-0,11	-0,84	-663,64	-1.628.000,00	-12.113.000,00	1.420.522.000,00	1.450.312.000,00
T - Ausl 11 Empoli	3,58	1,68	0,70	-58,33	6.352.000,00	2.780.000,00	378.147.000,00	394.907.000,00
T - Ausl 12 Viareggio	4,07	1,86	1,46	-21,51	5.616.000,00	4.527.000,00	301.182.000,00	310.217.000,00
T - Aou Pisana	3,68	4,55	0,82	-81,98	22.601.000,00	4.249.000,00	496.331.000,00	516.813.000,00
T - Aou Senese	4,51	3,34	2,93	-12,28	8.672.000,00	8.350.000,00	259.853.000,00	285.237.000,00
T - Aou Careggi	3,49	3,34	0,59	-82,34	19.988.000,00	3.649.000,00	598.386.000,00	613.776.000,00
T - Aou Meyer	2,31	0,10	-0,84	-940,00	88.000,00	-821.000,00	85.236.000,00	97.575.000,00
T - Fond. Monasterio	3,25	-6,67	0,30	104,50	-3.794.000,00	191.000,00	56.865.000,00	64.507.000,00

### Indicator F1: Financial Performance

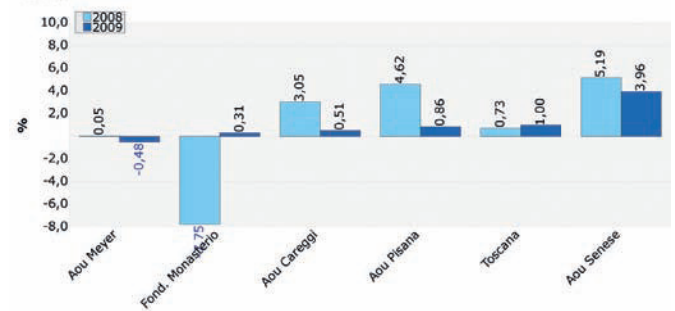
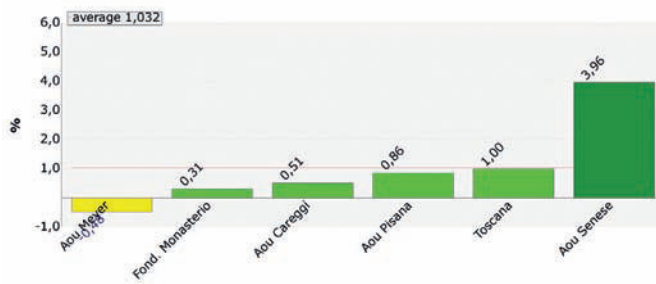
#### F1.2 Return on Sales

<b>Definition:</b>	Indicates the results achieved by core business activities.
<b>Numerator:</b>	Net income
<b>Denominator:</b>	Total revenues
<b>Formula:</b>	$\frac{\text{Net income}}{\text{Total revenues}} \times 100$
<b>Notes:</b>	The net income is calculated as follows: Total revenues (code A9999 of CE Flow) – Costs before interest and Taxes expenses (code B9999 of CE Flow)
<b>Source:</b>	Income statements (CE Flow)
<b>Reference:</b>	Positive value: > 0



## Indicator F1.3: Return on Investment (Teaching Hospitals) 7.4

### F1.3 – Return on Investment (Teaching Hospitals)



### F1.3 Return on Investment (Teaching Hospitals)

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	3,48	0,73	1,00	36,99	58.786.000,00	84.974.000,00	8.006.543.000,00	8.491.041.000,00
T - Aou Pisana	3,56	4,62	0,86	-81,39	22.601.000,00	4.249.000,00	488.807.000,00	495.788.000,00
T - Aou Senese	4,66	5,19	3,96	-23,70	8.672.000,00	8.350.000,00	166.972.000,00	211.035.119,00
T - Aou Careggi	3,33	3,05	0,51	-83,28	19.988.000,00	3.649.000,00	655.568.000,00	716.925.000,00
T - Aou Meyer	2,69	0,05	-0,48	-1.060,00	88.000,00	-821.000,00	170.946.000,00	172.599.000,00
T - Fond. Monasterio	3,21	-7,75	0,31	104,00	-3.794.000,00	191.000,00	48.973.000,00	60.775.000,00

## Indicator F1: Financial Performance

### F1.3 Return on Investment (Teaching Hospitals)

<b>Definition:</b>	Indicates the results related to the total assets.
<b>Numerator:</b>	Net income
<b>Denominator:</b>	Total assets
<b>Formula:</b>	$\frac{\text{Net income}}{\text{Total assets}} \times 100$
<b>Notes:</b>	The net income is calculated as follows: Total revenues (code A9999 of CE Flow) – Costs before interest and Tax expenses (code B9999 of CE Flow)
<b>Source:</b>	Income statements (CE Flow) – Assets and Liability statement (Flow SP)
<b>Reference:</b>	Positive value: > 0



## 7.5 Indicator F3: Assets and Liability Performance

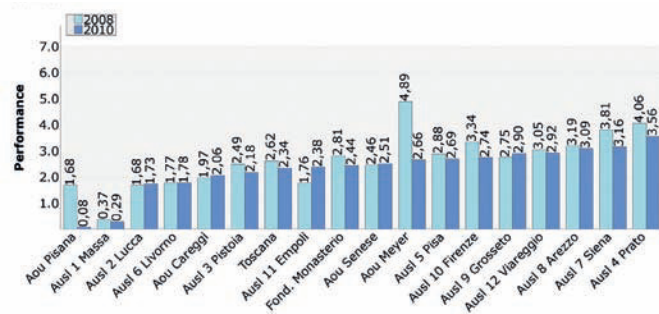
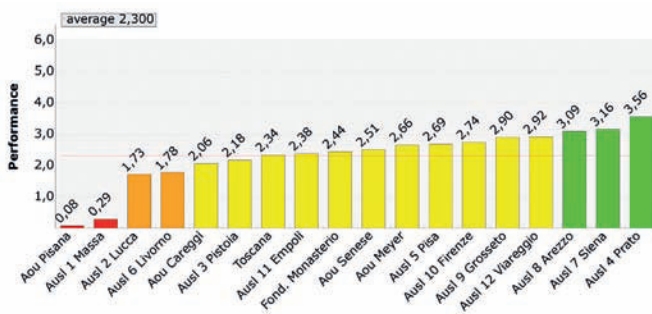
This indicator monitors the investment and finance policies traditionally used in budget analysis: the current ratio, return on debt, the trade payables days delay of payment terms, and the net working capital ratio. To these were added, according to the analysis of the supplementary notes, indicators relating to investment policies, in particular the rate of technical obsolescence, the use of leasing and renewal of investment in fixed assets and sanitary equipment. The data refer to 2009.

Indicator	Performance	Year
F3 – Assets and Liability Performance	● 2,34	2009

### F3 Assets and Liability Performance

- F3.1 – Current ratio: 0,69 ■
- F3.2 – Investment policies:
  - F3.2.1 – Incidence of lease payments: 5,96%
  - F3.2.2 – Percentage of technical obsolescence: 59,03%
  - F3.2.3 – Percentage of new investments: 11,47%
- F3.3 – Net working capital ratio: – 0,17
- F3.4 – Financing costs:
  - F3.4.1 – Return On Debt (ROD): – 3,01%
  - F3.4.2 – Trade Payables Days: 206,90 days

### F3 – Assets and Liability Performance



### Indicator F3: Assets and Liability Performance

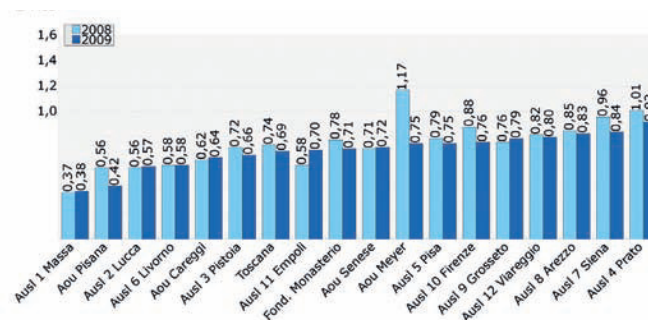
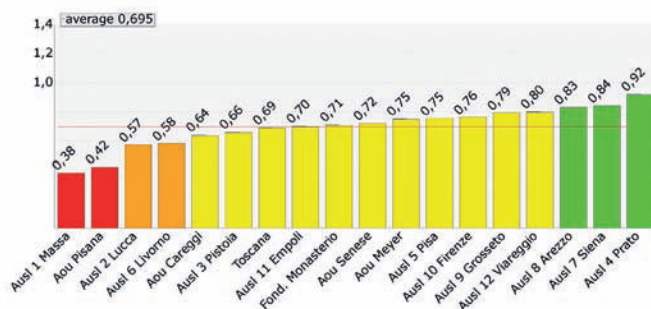
**Notes** Indicator F3 has a value equal to the score of indicators: F3.1



## Indicator F3.1: Current ratio 7.6

This indicator assesses the solvency of the Authority, in other words, its ability to meet its short-term commitments through the cash on hand, short-term accounts receivable, and inventory. An optimal value of the index is between 1 and 2. Another indicator often used is the acid ratio, which considers in the numerator current liquid assets such as accounts receivable and cash.

### F3.1 – Current ratio



### F3.1 Current ratio

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	2,34	0,74	0,69	-7,14	2.647.982,00	2.897.656,77	3.582.067,00	4.216.612,84
T - Ausl 1 Massa	0,29	0,37	0,38	2,95	76.011,00	102.957,00	207.546,00	270.282,00
T - Ausl 2 Lucca	1,73	0,56	0,57	2,23	85.424,00	120.283,00	151.714,00	210.104,00
T - Ausl 3 Pistoia	2,18	0,72	0,66	-8,82	121.637,00	127.002,00	169.908,00	193.454,00
T - Ausl 4 Prato	3,56	1,01	0,92	-9,25	137.968,00	149.420,00	136.377,00	163.018,00
T - Ausl 5 Pisa	2,69	0,79	0,75	-4,58	268.504,00	268.512,00	340.556,00	356.190,00
T - Ausl 6 Livorno	1,78	0,58	0,58	0,30	161.657,00	196.347,00	279.022,00	337.505,00
T - Ausl 7 Siena	3,16	0,96	0,84	-12,33	221.500,00	217.772,00	229.632,00	258.759,00
T - Ausl 8 Arezzo	3,09	0,85	0,83	-2,45	142.931,00	173.893,00	168.683,00	209.725,00
T - Ausl 9 Grosseto	2,90	0,76	0,79	4,36	149.877,00	174.406,00	195.944,00	219.884,00
T - Ausl 10 Firenze	2,74	0,88	0,76	-13,23	620.156,00	620.947,00	708.649,00	813.197,00
T - Ausl 11 Empoli	2,38	0,58	0,70	19,98	104.208,00	107.876,00	180.166,00	155.025,00
T - Ausl 12 Viareggio	2,92	0,82	0,80	-2,92	89.742,00	100.955,00	109.236,00	126.817,00
T - Aou Pisana	0,08	0,56	0,42	-24,84	122.776,00	117.839,00	218.047,00	279.958,00
T - Aou Senese	2,51	0,71	0,72	1,31	86.214,00	116.428,77	121.294,00	161.863,84
T - Aou Careggi	2,06	0,62	0,64	2,45	172.895,00	225.653,00	279.625,00	355.270,00
T - Aou Meyer	2,66	1,17	0,75	-36,11	47.957,00	50.625,00	41.041,00	67.721,00
T - Fond. Monasterio	2,44	0,78	0,71	-9,40	24.561,00	26.741,00	31.647,00	37.840,00

## Indicator F3: Assets and Liability Performance

### F3.1 Current ratio

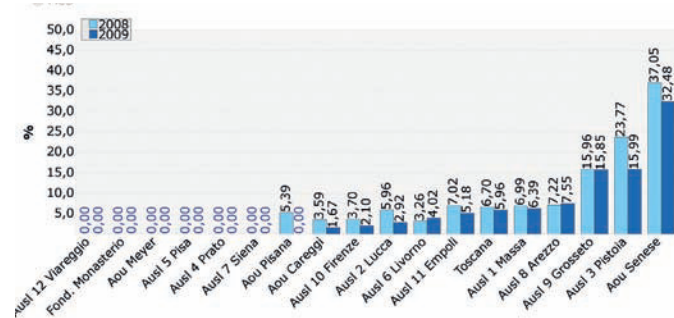
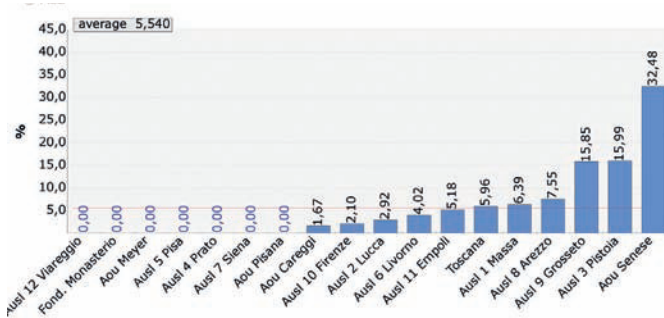
<b>Definition:</b>	Indicates the ratio between current assets and liability
<b>Numerator:</b>	Current assets
<b>Denominator:</b>	Current liabilities
<b>Formula:</b>	$\frac{\text{Current assets}}{\text{Current liabilities}}$
<b>Notes:</b>	Current assets are calculated taking into account the receivables of Flow SP (code AB9999+ AC9999) Current liabilities are calculated taking into account the payables of Flow SP (code PD0100, PD0200, PD300, PD400, PD500, PD600, PD700, PD800, PD900, PD1000, PE0100, PE0200) Only receivables and payables within 12 months have been included in accordance with the Authority balance sheet
<b>Source:</b>	Assets and Liability Statement (Flow SP)
<b>Reference:</b>	Value greater than the unit: > 1



## 7.7 Indicator F3.2.1: Incidence of lease payments

This indicator shows the use of fixed assets or intangible property. It is constructed as the ratio of the sum of lease payments and depreciation, with reference to the fixed assets. It shows the choice of the Authority to resort to fixed assets tangible property or to those of intangible property.

### F3.2.1 – Incidence of lease payments



### F3.2.1 Incidence of lease payments

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	6,70	5,96	-10,99	10.623,00	-9.469,00	158.456,00	-158.781,00
T - Ausl 1 Massa	not assessed	6,99	6,39	-8,64	-578,00	-533,00	-8.266,00	-8.346,00
T - Ausl 2 Lucca	not assessed	5,96	2,92	-50,98	-618,00	-329,00	-10.363,00	-11.262,00
T - Ausl 3 Pistoia	not assessed	23,77	15,99	-32,74	-1.246,00	-1.473,00	-5.241,00	-9.213,00
T - Ausl 4 Prato	not assessed	0,00	0,00	(*)	0,00	0,00	-7.643,00	-8.232,00
T - Ausl 5 Pisa	not assessed	0,00	0,00	(*)	0,00	0,00	-7.947,00	-9.182,00
T - Ausl 6 Livorno	not assessed	3,26	4,02	23,21	-478,00	-626,00	-14.657,00	-15.585,00
T - Ausl 7 Siena	not assessed	0,00	0,00	(*)	0,00	0,00	-7.349,00	-8.258,00
T - Ausl 8 Arezzo	not assessed	7,22	7,55	4,61	-858,00	-936,00	-11.882,00	-12.393,00
T - Ausl 9 Grosseto	not assessed	15,96	15,85	-0,67	-1.365,00	-1.360,00	-8.555,00	-8.579,00
T - Ausl 10 Firenze	not assessed	3,70	2,10	-43,19	-645,00	-415,00	-17.415,00	-19.745,00
T - Ausl 11 Empoli	not assessed	7,02	5,18	-26,26	-709,00	-573,00	-10.096,00	-11.069,00
T - Ausl 12 Viareggio	not assessed	0,00	0,00	(*)	0,00	0,00	-5.221,00	-5.369,00
T - Aou Pisana	not assessed	5,39	0,00	-100,00	-883,00	0,00	-16.382,00	-19.072,00
T - Aou Senese	not assessed	37,05	32,48	-12,34	-2.382,00	-2.507,00	-6.429,00	-7.719,00
T - Aou Careggi	not assessed	3,59	1,67	-53,58	-601,00	-282,00	-16.734,00	-16.923,00
T - Aou Meyer	not assessed	0,00	0,00	(*)	0,00	0,00	-3.162,00	-4.396,00
T - Fond. Monasterio	not assessed	0,00	0,00	(*)	0,00	0,00	-630,00	-1.633,00

## Indicator F3: Assets and Liability Performance

### F3.2.1 Incidence of lease payments

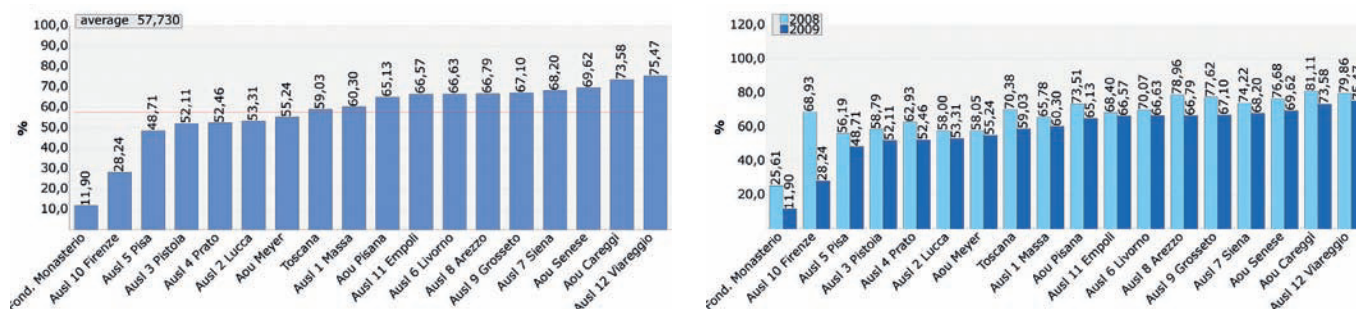
<b>Definition:</b>	Incidence of lease payments
<b>Numerator:</b>	Lease payments
<b>Denominator:</b>	Lease payments + Depreciation of tangible fixed assets
<b>Formula:</b>	$\frac{\text{Lease payments}}{\text{Lease payments + Depreciation of tangible fixed assets}} \times 100$
<b>Notes:</b>	Lease payments (code B04025) Depreciation of tangible fixed assets (code B11129)
<b>Source:</b>	Income statement (CE Flow)
<b>Meaning:</b>	Indicates the use by the Authority to employ leased machinery and equipments



## Indicator F3.2.2: Percentage of technical obsolescence 7.8

The rate of obsolescence measures how much of the value of certain fixed assets, in particular plant and equipment (medical and non-medical), and medical and scientific equipment, has already depreciated. An indicator's value close to 100% means that every plant and equipment and medical and scientific equipment in the Authority has fully depreciated. This indicator could help in identifying new equipment needs.

### F3.2.2 – Percentage of technical obsolescence



### F3.2.2 Percentage of technical obsolescence

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	70,38	59,03	-16,12	734.601.924,15	693.531.467,61	1.043.680.328,34	1.174.803.333,23
T - Ausl 1 Massa	not assessed	65,78	60,30	-8,33	33.198.581,00	33.449.859,00	50.465.008,00	55.474.656,00
T - Ausl 2 Lucca	not assessed	58,00	53,31	-8,09	45.334.822,00	45.444.616,00	78.163.247,00	85.247.588,00
T - Ausl 3 Pistoia	not assessed	58,79	52,11	-11,37	26.450.031,47	26.638.972,03	44.987.551,07	51.125.424,07
T - Ausl 4 Prato	not assessed	62,93	52,46	-16,63	15.360.573,05	16.048.688,22	24.407.623,17	30.589.604,17
T - Ausl 5 Pisa	not assessed	56,19	48,71	-13,30	31.251.146,84	32.082.771,84	55.611.780,05	65.859.225,05
T - Ausl 6 Livorno	not assessed	70,07	66,63	-4,91	57.298.433,80	58.078.810,80	81.771.503,20	87.165.431,20
T - Ausl 7 Siena	not assessed	74,22	68,20	-8,11	33.964.223,36	34.087.121,07	45.757.368,33	49.979.791,33
T - Ausl 8 Arezzo	not assessed	78,96	66,79	-15,41	49.719.663,77	47.542.924,77	62.961.342,25	71.179.625,25
T - Ausl 9 Grosseto	not assessed	77,62	67,10	-13,55	39.686.246,00	39.933.301,00	51.123.554,00	59.510.940,00
T - Ausl 10 Firenze	not assessed	68,93	28,24	-59,04	83.850.649,44	39.933.301,00	121.631.403,21	141.428.915,21
T - Ausl 11 Empoli	not assessed	68,40	66,57	-2,67	38.011.340,09	38.875.258,09	55.569.235,41	58.393.185,41
T - Ausl 12 Viareggio	not assessed	79,86	75,47	-5,50	26.219.993,84	25.306.397,84	32.830.589,01	33.532.737,01
T - Aou Pisana	not assessed	73,51	65,13	-11,40	100.612.434,30	102.731.195,75	136.856.236,96	157.738.343,96
T - Aou Senese	not assessed	76,68	69,62	-9,21	40.897.562,80	41.834.125,70	53.330.642,62	60.092.545,62
T - Aou Careggi	not assessed	81,11	73,58	-9,28	97.532.706,00	94.491.801,00	120.233.057,00	128.412.057,00
T - Aou Meyer	not assessed	58,05	55,24	-4,85	14.895.639,91	15.808.535,50	25.659.828,95	28.619.790,95
T - Fond. Monasterio	not assessed	25,61	11,90	-53,54	214.795,00	1.243.788,00	838.535,00	10.453.473,00

## Indicator F3: Assets and Liability Performance

### F3.2.2 Percentage of technical obsolescence

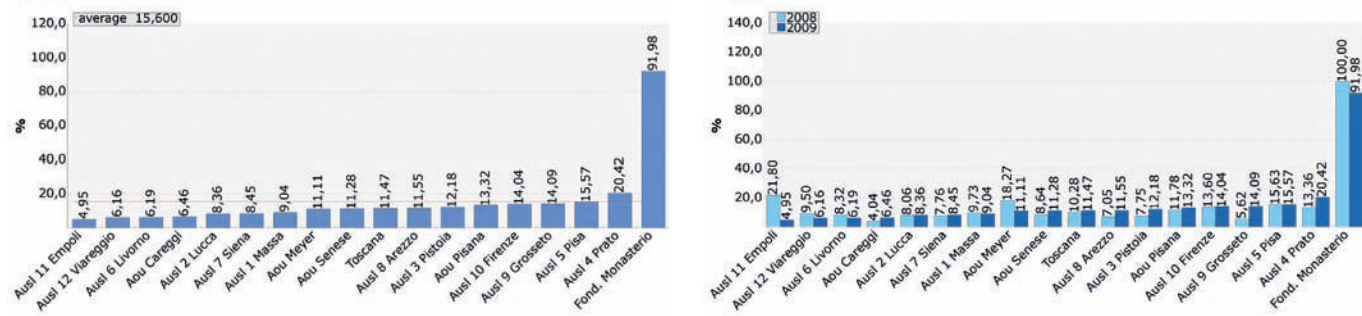
<b>Definition:</b>	Indicates the obsolescence of tangible fixed assets
<b>Numerator:</b>	Total depreciation of fixed assets
<b>Denominator:</b>	Value of tangible fixed assets
<b>Formula:</b>	$\frac{\text{Total depreciation of fixed assets}}{\text{Value of tangible fixed assets}} \times 100$
<b>Notes:</b>	Fixed assets: equipments and machinery (medical and non medical) medical and scientific equipments (with code respectively AA0220, and AA0226). Total accumulated depreciation of tangible fixed assets (code AA0222, and AA0228)
<b>Source:</b>	Flow SP, and Note
<b>Meaning:</b>	Expresses the state of obsolescence of fixed assets. A value of 100% indicates that the state of tangible assets is obsolete.



## 7.9 Indicator F3.2.3: Percentage of new investments

This renewed investment indicator is the ratio between new investment and the historical cost of fixed assets. It shows how many resources are devoted each year to replace them. New investments are acquisitions and donations in the performance of tangible assets, with reference to plant and equipment (medical and non-medical) and medical and scientific equipment. This analysis is limited to tangible assets because they are related to investments in health technology. Such choice was necessary in order to maintain the high quality of health services provided, although we know that it is not sufficient by itself. It is worth remembering that the creation of new investments will increase not only the costs directly related to the investment (depreciation), but also indirect costs, related to other activities connected to it (e.g. investment maintenance costs, the general or specific costs associated with its use).

### F3.2.3 – Percentage of new investments



### F3.2. Percentage of new investments

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	10,28	11,47	11,60	107.248.501,73	134.775.747,00	1.043.680.328,34	1.174.803.333,23
T - Ausl 1 Massa	not assessed	9,73	9,04	-7,12	4.907.997,00	5.013.195,00	50.465.008,00	55.474.656,00
T - Ausl 2 Lucca	not assessed	8,06	8,36	3,71	6.303.096,00	7.126.055,00	78.163.247,00	85.247.588,00
T - Ausl 3 Pistoia	not assessed	7,75	12,18	57,18	3.484.602,85	6.227.833,00	44.987.551,07	51.125.424,07
T - Ausl 4 Prato	not assessed	13,36	20,42	52,85	3.260.658,89	6.246.821,00	24.407.623,17	30.589.604,17
T - Ausl 5 Pisa	not assessed	15,63	15,57	-0,40	8.693.236,00	10.252.414,00	55.611.780,05	65.859.225,05
T - Ausl 6 Livorno	not assessed	8,32	6,19	-25,62	6.803.039,00	5.393.928,00	81.771.503,20	87.165.431,20
T - Ausl 7 Siena	not assessed	7,76	8,45	8,87	3.550.207,26	4.222.423,00	45.757.368,33	49.979.791,33
T - Ausl 8 Arezzo	not assessed	7,05	11,55	63,77	4.436.619,00	8.218.283,00	62.961.342,25	71.179.625,25
T - Ausl 9 Grosseto	not assessed	5,62	14,09	150,78	2.874.630,00	8.387.386,00	51.123.554,00	59.510.940,00
T - Ausl 10 Firenze	not assessed	13,60	14,04	3,27	16.547.130,27	19.863.336,00	121.631.403,21	141.428.915,21
T - Ausl 11 Empoli	not assessed	21,80	4,95	-77,31	12.115.348,00	2.888.026,00	55.569.235,41	58.393.185,41
T - Ausl 12 Viareggio	not assessed	9,50	6,16	-35,17	3.119.251,00	2.065.137,00	32.830.589,01	33.532.737,01
T - Aou Pisana	not assessed	11,78	13,32	13,08	16.123.233,78	21.011.446,00	136.856.236,96	157.738.343,96
T - Aou Senese	not assessed	8,64	11,28	30,53	4.605.103,64	6.777.119,00	53.330.642,62	60.092.545,62
T - Aou Careggi	not assessed	4,04	6,46	59,78	4.853.877,00	8.289.000,00	120.233.057,00	128.412.057,00
T - Aou Meyer	not assessed	18,27	11,11	-39,21	4.688.113,93	3.178.407,00	25.659.828,95	28.619.790,95
T - Fond. Monasterio	not assessed	100,00	91,98	-8,02	838.535,00	9.614.938,00	838.535,00	10.453.473,00

## Indicator F3: Assets and Liability Performance

### F3.2.3 Percentage of new investments

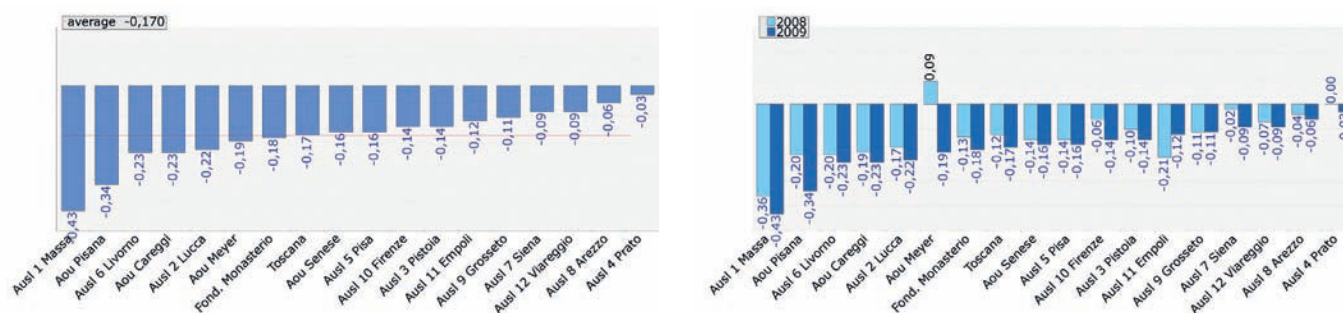
<b>Definition:</b>	Indicates the ability to renew investment in tangible fixed assets over time
<b>Numerator:</b>	New investments in tangible fixed assets
<b>Denominator:</b>	Value of tangible fixed assets (at historical cost)
<b>Formula:</b>	$\frac{\text{New investments in tangible fixed assets}}{\text{Value of tangible fixed assets}} \times 100$
<b>Notes:</b>	Fixed assets: equipments and machinery (medical and non medical) medical and scientific equipments (with code respectively AA0220, and AA0226). New investments refer to operational acquisitions, and donations coming from the Note.
<b>Source:</b>	Assets and Liability statement (Flow SP)
<b>Meaning:</b>	Expresses the ability of the Authority to renew its health fixed assets.



### Indicator F3.3: Net working capital ratio 7.10

The net working capital ratio is calculated as the ratio of net working capital (NWC) and the total revenue, where the NWC measures the residual margin of current assets, net of short-term obligations of the Authority. In this sense, it indicates the ability of management to produce liquidity (immediate or deferred) available in the short-term, and it was chosen because it is used internationally in the evaluation of healthcare organizations.

#### F3.3 – Net working capital ratio



#### F3.3 Net working capital ratio

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	-0,12	-0,17	-39,25	-934.085,00	-1.318.956,07	7.644.929,00	7.893.121,00
T - Aysl 1 Massa	not assessed	-0,36	-0,43	-20,72	-131.535,00	-167.325,00	367.125,00	385.024,00
T - Aysl 2 Lucca	not assessed	-0,17	-0,22	-29,85	-66.290,00	-89.821,00	394.527,00	406.897,00
T - Aysl 3 Pistoia	not assessed	-0,10	-0,14	-35,42	-48.271,00	-66.452,00	474.587,00	490.707,00
T - Aysl 4 Prato	not assessed	0,00	-0,03	(*)	1.591,00	-13.598,00	391.268,00	408.085,00
T - Aysl 5 Pisa	not assessed	-0,14	-0,16	-16,02	-72.052,00	-87.678,00	520.747,00	539.813,00
T - Aysl 6 Livorno	not assessed	-0,20	-0,23	-14,88	-117.365,00	-141.158,00	600.899,00	614.362,00
T - Aysl 7 Siena	not assessed	-0,02	-0,09	-353,00	-8.132,00	-40.987,00	436.489,00	452.393,00
T - Aysl 8 Arezzo	not assessed	-0,04	-0,06	-48,94	-25.752,00	-35.832,00	579.784,00	601.466,00
T - Aysl 9 Grosseto	not assessed	-0,11	-0,11	0,79	-46.067,00	-45.478,00	403.844,00	416.732,00
T - Aysl 10 Firenze	not assessed	-0,06	-0,14	-126,93	-88.493,00	-192.250,00	1.390.112,00	1.411.940,00
T - Aysl 11 Empoli	not assessed	-0,21	-0,12	41,38	-75.958,00	-47.149,00	368.248,00	383.016,00
T - Aysl 12 Viareggio	not assessed	-0,07	-0,09	-22,82	-19.494,00	-25.862,00	291.811,00	300.815,00
T - Aou Pisana	not assessed	-0,20	-0,34	-67,60	-95.271,00	-162.119,00	467.043,00	483.640,00
T - Aou Senese	not assessed	-0,14	-0,16	-17,57	-35.080,00	-45.435,07	249.969,00	276.026,00
T - Aou Careggi	not assessed	-0,19	-0,23	-19,86	-106.730,00	-129.617,00	563.732,00	569.165,00
T - Aou Meyer	not assessed	0,09	-0,19	-310,16	6.916,00	-17.096,00	78.642,00	90.385,00
T - Fond. Monasterio	not assessed	-0,13	-0,18	-36,27	-7.086,00	-11.099,00	55.159,00	62.655,00

## Indicator F3: Assets and Liability Performance

### F3.3 Net working capital ratio

<b>Definition:</b>	Net Working Capital ratio
<b>Numerator:</b>	Net Working Capital (NWC)
<b>Denominator:</b>	Total revenues
<b>Formula:</b>	$\frac{\text{Net Working Capital (NWC)}}{\text{Total revenues}}$
<b>Notes:</b>	NWC is the difference between current assets (calculated by taking into account the short-term entries of the SP flow with code AB9999+ AC999) and the current liabilities (calculated by taking into account the short-term entries of the SP flow with codes PD0100, PD0200, PD300, PD400, PD500, PD600, PD700, PD800, PD900, PD1000, PE0100, PE0200) Total revenues (code A99999) The distinction of assets and liabilities (within 12 months) was taken from the Authority's balance sheet
<b>Source:</b>	Flow SP, CE Flow, and Authority's budget
<b>Meaning:</b>	Indicates the potential liquidity of the Authority.

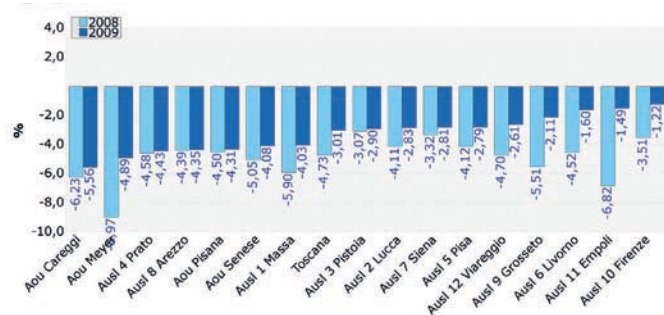
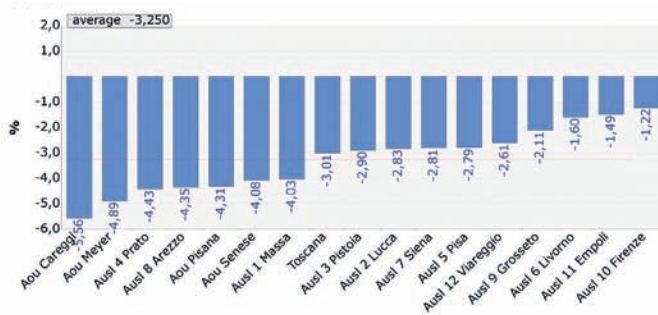




## 7.11 Indicator F3.4.1: Return on Debt (ROD)

This indicator shows an Authority's average long- and short term debt burden for two consecutive years. The cost of financing depends on the composition of short-term and long-term loans, and the leverage the Health Authority exerts with their banks. Another variable affecting the cost of financing is the type of funding used (for example, opening credit in a/c has a higher cost than the advance on future contributions of the Region). The composition of debt is an expression of the ability of the Authority to manage the financial structure and is calculated as the ratio of short-term debt multiplied by 100, and the average amount of debt, both in the short and long term. This ratio expresses to what extent the short-term financial liabilities are predominant over the long-term or vice versa.

### F3.4.1 – Return on Debt (ROD)



### F3.4.1 Return on Debt (ROD)

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	-4,73	-3,01	36,46	-27.495,00	-18.650,00	573.200,50	620.504,79
T - Ausl 1 Massa	not assessed	-5,90	-4,03	31,75	-5.262,00	-4.245,00	97.703,50	105.422,50
T - Ausl 2 Lucca	not assessed	-4,11	-2,83	31,24	-906,00	-1.330,00	26.065,00	47.061,50
T - Ausl 3 Pistoia	not assessed	-3,07	-2,90	5,54	-718,00	-608,00	18.052,50	20.965,00
T - Ausl 4 Prato	not assessed	-4,58	-4,43	3,33	-917,00	-810,00	19.448,00	18.294,50
T - Ausl 5 Pisa	not assessed	-4,12	-2,79	32,30	-1.524,00	-1.371,00	43.576,00	49.150,50
T - Ausl 6 Livorno	not assessed	-4,52	-1,60	64,54	-2.604,00	-863,00	52.469,50	53.845,00
T - Ausl 7 Siena	not assessed	-3,32	-2,81	15,22	-836,00	-643,00	23.529,00	22.845,00
T - Ausl 8 Arezzo	not assessed	-4,39	-4,35	0,92	-919,00	-820,00	20.249,50	18.851,50
T - Ausl 9 Grosseto	not assessed	-5,51	-2,11	61,67	-1.457,00	-679,00	26.893,00	32.149,50
T - Ausl 10 Firenze	not assessed	-3,51	-1,22	65,35	-2.999,00	-1.284,00	87.193,00	105.581,50
T - Ausl 11 Empoli	not assessed	-6,82	-1,49	78,12	-1.982,00	-201,00	27.952,00	13.470,00
T - Ausl 12 Viareggio	not assessed	-4,70	-2,61	44,48	-739,00	-407,00	16.305,00	15.596,00
T - Aou Pisana	not assessed	-4,50	-4,31	4,30	-3.614,00	-2.871,00	73.103,00	66.665,50
T - Aou Senese	not assessed	-5,05	-4,08	19,16	-551,00	-608,00	12.472,00	14.892,29
T - Aou Careggi	not assessed	-6,23	-5,56	10,75	-2.118,00	-1.355,00	20.440,50	24.369,00
T - Aou Meyer	not assessed	-8,97	-4,89	45,46	-347,00	-555,00	7.749,00	11.345,50

## Indicator F3: Assets and Liability Performance

### F3.4.1 Return on Debt (ROD)

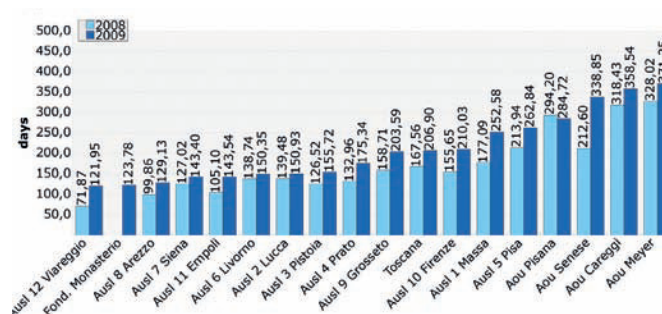
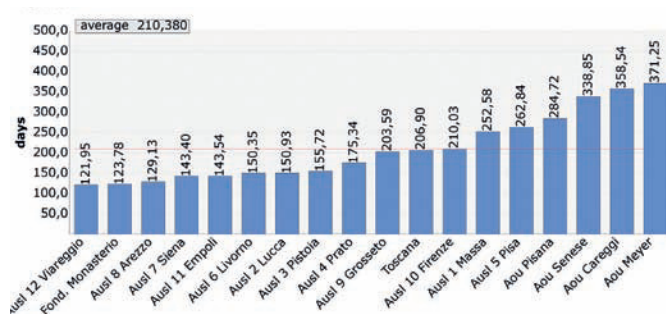
<b>Definition:</b>	Return On Debt (ROD)
<b>Numerator:</b>	Borrowing costs
<b>Denominator:</b>	Average borrowings
<b>Formula:</b>	$\frac{\text{Borrowing costs}}{\text{Average borrowings}} \times 100$
<b>Notes:</b>	Borrowing costs defined by the CE Flow (code C03000) Average borrowings result from the average of medium and long term borrowings of two consecutive years. The codes of Flow SP are: PD0100, PD0700.
<b>Source:</b>	Income statement (CE Flow), Assets and Liability statement (Flow SP)
<b>Meaning:</b>	Indicates the cost of financing choices



## Indicator F3.4.2: Trade Payables Days 7.12

The indicator of trade payables days is the ratio between debts trade and purchase for goods and services (consisting of purchases of goods, expenses for outpatient specialist care, costs for services in private facilities, pharmaceutical expenditure, maintenance and repairs, leases and lease payments), multiplied by 360 days. The index reports in terms of number of days the relationship between the stock of debt recorded at the end of the year, compared to the total cost of generating debt of supply during the year. This result gives the average duration with which the debts are paid to suppliers, by highlighting the bargaining power of the Health Authority and its degree of correctness in the relationship with suppliers. This, to date, often results in abuse, because, despite legislation, it shows payments after more than three months from invoice, exposing suppliers to high financial risk due to excessive extension of credit to which they are forced.

### F3.4.2 – Trade Payables Days



### F3.4.2 Trade Payables Days

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	167,56	206,90	23,48	1.371.871,00	1.658.293,44	2.947.360,00	2.885.428,00
T - Ausl 1 Massa	not assessed	177,09	252,58	42,63	64.463,00	101.017,00	131.040,00	143.977,00
T - Ausl 2 Lucca	not assessed	139,48	150,93	8,21	58.952,00	66.875,00	152.155,00	159.514,00
T - Ausl 3 Pistoia	not assessed	126,52	155,72	23,08	72.139,00	82.217,00	205.254,00	190.077,00
T - Ausl 4 Prato	not assessed	132,96	175,34	31,87	62.005,00	75.830,00	167.872,00	155.690,00
T - Ausl 5 Pisa	not assessed	213,94	262,84	22,86	103.725,00	118.765,00	174.533,00	162.668,00
T - Ausl 6 Livorno	not assessed	138,74	150,35	8,36	82.821,00	92.327,00	214.900,00	221.076,00
T - Ausl 7 Siena	not assessed	127,02	143,40	12,89	48.948,00	55.026,00	138.726,00	138.143,00
T - Ausl 8 Arezzo	not assessed	99,86	129,13	29,31	67.611,00	91.418,00	243.723,00	254.865,00
T - Ausl 9 Grosseto	not assessed	158,71	203,59	28,28	68.977,00	95.269,00	156.458,00	168.458,00
T - Ausl 10 Firenze	not assessed	155,65	210,03	34,94	244.937,00	303.588,00	566.493,00	520.351,00
T - Ausl 11 Empoli	not assessed	105,10	143,54	36,57	37.404,00	50.143,00	128.116,00	125.760,00
T - Ausl 12 Viareggio	not assessed	71,87	121,95	69,68	24.340,00	37.184,00	121.904,00	109.769,00
T - Aou Pisana	not assessed	294,20	284,72	-3,22	142.928,00	153.126,00	174.893,00	193.613,00
T - Aou Senese	not assessed	212,60	338,85	59,38	54.710,00	94.743,44	92.641,00	100.657,00
T - Aou Careggi	not assessed	318,43	358,54	12,60	202.611,00	213.546,00	229.058,00	214.416,00
T - Aou Meyer	not assessed	328,02	371,25	13,18	22.477,00	27.219,00	24.668,00	26.394,00
T - Fond. Monasterio	not assessed	0,00	123,78	(*)	0,00	7.602,00	0,00	22.110,00



## Indicator F3: Assets and Liability Performance

### F3.4.2 Trade Payables Days

<b>Definition:</b>	Trade payables days
<b>Numerator:</b>	Trade payables x 360
<b>Denominator:</b>	Purchases of goods and services
<b>Formula:</b>	$\frac{\text{Trade payables x 360}}{\text{Purchases of goods and services}}$
<b>Notes:</b>	<p>Trade payables (code PD0600)</p> <p>Purchases of goods and services are calculated taking into account the following entries:</p> <ul style="list-style-type: none"> <li>• Purchase of medical goods (code B01010, B01015, B01020, B01025, B01030, B01035, B01040, B01045, B01050, B01055, B01060, B01065)</li> <li>• Purchase of non-medical goods (code B01070)</li> <li>• Purchase of health services for pharmaceuticals – under the National Health System (code B02055)</li> <li>• Purchase of health services for specialist outpatient care – from private including SUMAI doctors (code B02090, B02095)</li> <li>• Purchase of health services for rehabilitation care – from private (code B02145)</li> <li>• Purchase of health services for additional care and prothesis – from private (code B02170)</li> <li>• Purchase of health services for hospital care – from private (code B02195)</li> <li>• Purchase of Psychiatric performances in residential and semi residential care – from private (code B02245)</li> <li>• Purchase of drug distribution services and File F – from private (code B02270)</li> <li>• Purchase of thermal services under the National Health System – from private (code B02300)</li> <li>• Purchase of Social and Health services of medical relevance – from private (code B02355)</li> <li>• Other health and social services of medical relevance – from private (code B02490)</li> <li>• Non medical services (code B02505 excluding code B02580, B02585)</li> </ul>
<b>Source:</b>	Income statement (CE Flow), Assets and Liability statement (Flow SP)
<b>Meaning:</b>	Indicates the average duration, in days of trade payables.



## Indicator F7: Internal Services 7.13

The indicator F7 on non medical support services is the result of the assessment provided by the executives in the investigation of organizational climate with respect to services offered by management control, maintenance services and information systems. The indicator is calculated as the average of responses to the following statements:

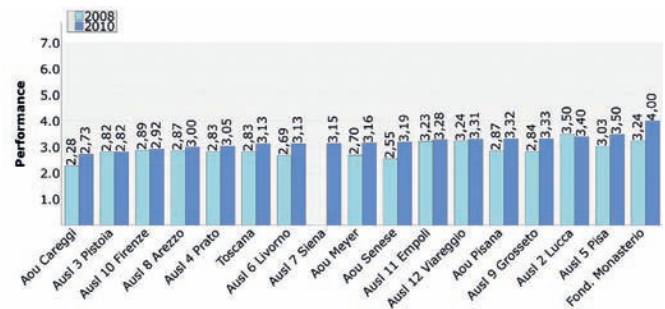
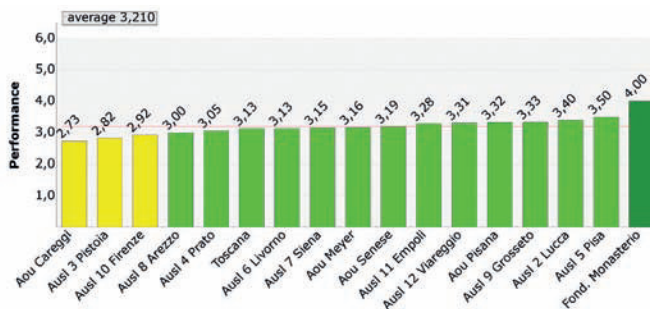
- In my decisions I am supported by data and information provided by management.
- Controllers give support during budget negotiations.
- The information system supports the specific needs of my structure (simple or complex)
- The maintenance services are reliable
- Maintenance of facilities and equipment is promptly undertaken.

For 2010, data relating to the Local Health Authority of Massa Carrara are not available, as it did not participate in the working climate survey.

Indicator	Performance	Year
F7 – Internal Services	● 3,13	2010

### F7 Internal Services

#### F7 – Internal Services



## Indicator F7: Internal Services

### F7 Internal Services

<b>Definition:</b>	Evaluation of Internal Services for executive managers
<b>Notes:</b>	<p>The score results from the average in fifths of the scores assigned to the following variables:</p> <ul style="list-style-type: none"> <li>- In my decisions I am supported by data and information provided by management control</li> <li>- Controllers give support during budget negotiations</li> <li>- The information system supports the specific needs of my structure (simple or complex)</li> <li>- The maintenance services are reliable</li> <li>- Maintenance of facilities and equipment is promptly undertaken</li> </ul>
<b>Source:</b>	Internal climate survey – MeS Laboratory



## 7.14 Indicator F8: Budget's knowledge by executives

The indicator F8 – budget assessment is derived from the working climate survey addressed to the executives of the structure.

The evaluations expressed by the managers of the structure refer to the budgeting process. The budget is part of the planning and control process. It is one of the operating mechanisms of the Authority's system (Airoldi, Brunetta, Coda 1994), and it is the tool that allows orienting the organizations toward the business goals. In fact, international research has shown that the use/knowledge of the budget affects performance achievements in healthcare organisations (Abernethy and Stoelwinder, 1991). It is important that the assessment of the budget is given by the heads of the structure, the first users of the instrument, since it expresses the level of participation of professionals in the budget process. This is a key element to prevent the Authority's overall objectives from contrasting with the individual goals and professional expectations (Abernethy and Stoelwinder 1995, Comeford and Abernethy 1999).

The assessment is the average of the responses of agreement relating to the following questions:

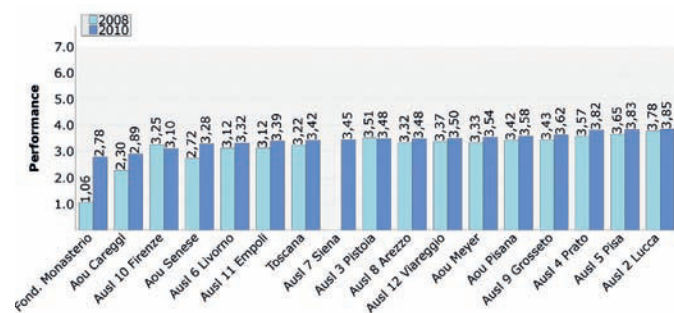
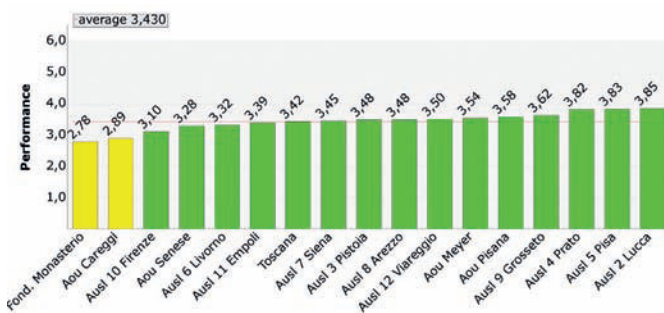
- The budget is a tool to spread business strategy
- The budget system is connected to the evaluation of management
- During the year there are opportunities for verification of the achievement of the budget goals
- The budget helps me in the management of my structure/unit (simple or complex)
- During the process of budgeting the degree of difficulty in achieving the objectives is properly assessed.

For 2010 data relating to AUSL 1 of Massa Carrara are not available as it did not participate in the working climate survey.

Indicator	Performance	Year
F8 – Budget's knowledge by executives	● 3,42	2010

### F8 Budget's knowledge by executives

#### F8 – Budget's knowledge by executives



### Indicator F8: Budget's knowledge by executives

#### F8 Budget's knowledge by executives

<b>Definition:</b>	Evaluation of the budget process for executive managers
<b>Notes:</b>	<p>The score results from the average in fifths of the scores assigned to the following variables:</p> <ul style="list-style-type: none"> <li>– The budget is a tool to spread business strategy</li> <li>– The Budget system is connected to the evaluation of management</li> <li>– During the year there are opportunities for checking whether the budget goals have been achieved</li> <li>– The budget helps me in the management of my structure/unit (simple or complex)</li> <li>– During the process of preparation of the budget the degree of difficulty in achieving the objectives is properly assessed</li> </ul>
<b>Source:</b>	Internal climate survey – MeS Laboratory



## Indicator F9: Budget's knowledge by employees 7.15

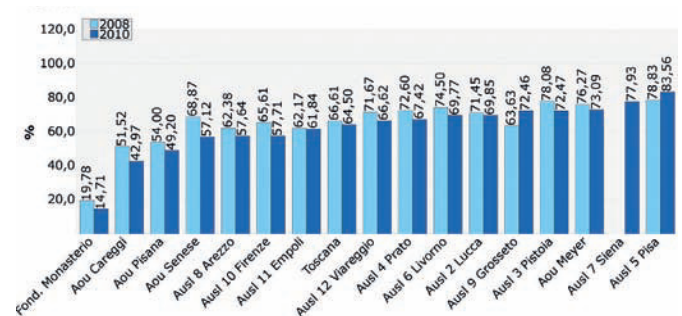
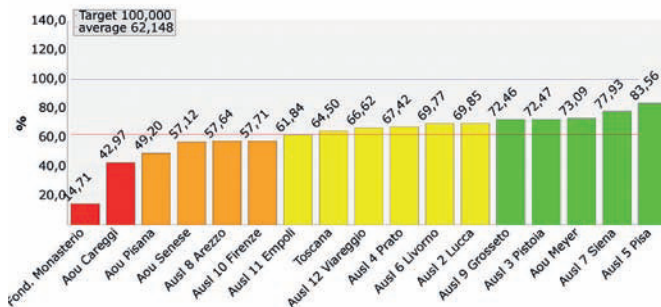
In 2008 a new indicator has been introduced: Employees' budget knowledge. The indicator refers to the percentage of employees who, in the organizational climate survey, said they were aware that the Authority uses a system of planning and control through budgeting.

Employees' understanding of such matters is important as it is symptomatic of the level of involvement of the professional components. International studies have shown that to be effective, the budget must be familiar to professionals so that the overall objectives of the organization do not conflict with professional expectations (Stoelwinder and Abernethy, 1995; Comfort and Abernethy, 1999). In this sense the knowledge of the instrument can be a proxy for the level of participation to the instrument. The theoretical goal of the indicator is 100%.

Indicator	Value	Average	Performance	Year
F9 – Budget's knowledge by employees	64,50%	62,15%	● 2,45	2010

### F9 Budget's knowledge by employees

#### F9 – Budget's knowledge by employees



#### F9 Budget's knowledge by employees

Health Authority	Score 2010	Value 2008	Value 2010	Delta %	Numerator 2008	Numerator 2010	Denominator 2008	Denominator 2010
T - Toscana	2,45	66,61	64,50	-3,16	13.571,00	12.653,00	20.375,00	19.616,00
T - Ausl 2 Lucca	2,83	63,78	69,85	9,52	442,00	834,00	693,00	1.194,00
T - Ausl 3 Pistoia	3,02	71,45	72,47	1,43	1.106,00	937,00	1.548,00	1.293,00
T - Ausl 4 Prato	2,66	78,08	67,42	-13,65	1.147,00	863,00	1.469,00	1.280,00
T - Ausl 5 Pisa	3,82	72,60	83,56	15,10	657,00	1.271,00	905,00	1.521,00
T - Ausl 6 Livorno	2,83	78,83	69,77	-11,49	1.069,00	1.048,00	1.356,00	1.502,00
T - Ausl 7 Siena	3,41	74,50	77,93	4,60	1.382,00	1.112,00	1.855,00	1.427,00
T - Ausl 8 Arezzo	1,96	0,00	57,64	(*)	0,00	898,00	0,00	1.558,00
T - Ausl 9 Grosseto	3,02	62,38	72,46	16,16	1.043,00	1.305,00	1.672,00	1.801,00
T - Ausl 10 Firenze	1,96	63,63	57,71	-9,30	1.214,00	1.489,00	1.908,00	2.580,00
T - Ausl 11 Empoli	2,26	65,61	61,84	-5,75	1.776,00	645,00	2.707,00	1.043,00
T - Ausl 12 Viareggio	2,60	62,17	66,62	7,16	792,00	495,00	1.274,00	743,00
T - Aou Pisana	1,35	71,67	49,20	-31,35	668,00	523,00	932,00	1.063,00
T - Aou Senese	1,92	54,00	57,12	5,78	958,00	301,00	1.774,00	527,00
T - Aou Careggi	0,97	68,87	42,97	-37,61	365,00	730,00	530,00	1.699,00
T - Aou Meyer	3,07	51,52	73,09	41,87	693,00	182,00	1.345,00	249,00
T - Fond. Monasterio	0,33	76,27	14,71	-80,71	241,00	20,00	316,00	136,00



## Indicator F9: Budget's knowledge by employees

### F9 Budget's knowledge by employees

<b>Definition:</b>	Percentage of employees who participated in the climate survey and who know the budget system adopted by their Authority
<b>Numerator:</b>	Number of employees who know the budget system
<b>Denominator:</b>	Number of employees who participated in the climate survey
<b>Formula:</b>	$\frac{\text{Number of employees who know the budget system}}{\text{Number of employees who participated in the climate survey}} \times 100$
<b>Notes:</b>	Question: In my Authority is there a planning system by budget?
<b>Source:</b>	Internal climate survey MeS Laboratory aimed at employees.
<b>Reference:</b>	100%
<b>Meaning:</b>	Measures the level of spread in the knowledge of the business management tool amongst employees

## 7.16 Indicator F10a: Pharmaceutical Expenditure

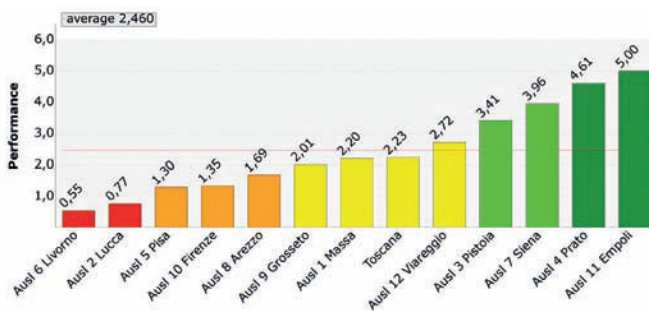
The indicator is designed to monitor how well the region obtains set targets with respect to rationalising and limiting pharmaceutical expenditure. At the territorial level (F10) it detects the pharmaceutical expenditure per capita for Class A drugs provided under the Regional Health System. The figure includes drugs provided under the National Health System, as well as those supplied through direct distribution and on account of Local Health Authorities. The indicator also includes the data on hospital pharmaceutical expenditure (F10.2), but this is not being evaluated this year. The data come from the Innovation, Appropriateness, and Drug Policies Division, Tuscan Regional Government.

Indicator	Performance	Year
F10a – Pharmaceutical Expenditure	● 2,23	2010

### F10a Pharmaceutical Expenditure

- F10 – Pharmaceutical expense per capita: 214,12 euro per capita
- F10.2 – Hospital pharmaceutical expense: 54,83 per day of hospital stay

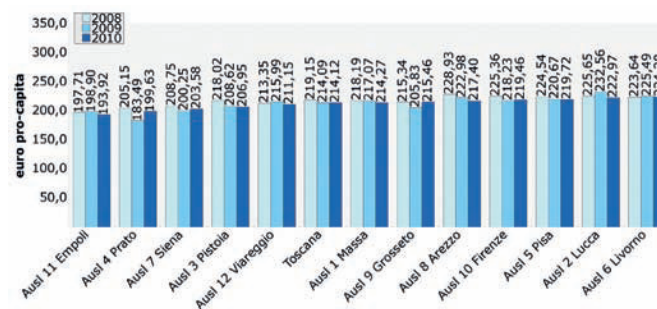
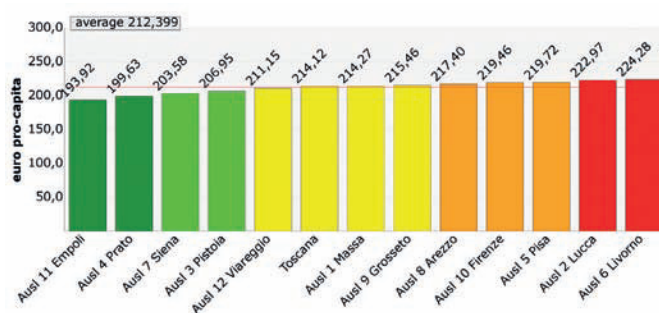
### F10a – Pharmaceutical Expense Management





## Indicator F10: Pharmaceutical expense per capita 7.17

### F10 – Pharmaceutical expense per capita



### F10 Pharmaceutical expense per capita

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,23	214,09	214,12	0,01	793.816.697,90	798.678.271,07	3.707.818,00	3.730.130,00
T - Ausl 1 Massa	2,20	217,07	214,27	-1,29	45.202.482,79	44.694.808,64	208.243,00	208.590,43
T - Ausl 2 Lucca	0,77	232,56	222,97	-4,12	51.590.204,82	49.775.348,50	221.833,00	223.233,14
T - Ausl 3 Pistoia	3,41	208,62	206,95	-0,80	59.434.943,74	59.433.983,39	284.890,00	287.186,25
T - Ausl 4 Prato	4,61	183,49	199,63	8,80	41.863.258,22	45.956.338,31	228.153,00	230.207,15
T - Ausl 5 Pisa	1,30	220,67	219,72	-0,43	73.035.399,36	73.300.727,22	330.965,00	333.610,65
T - Ausl 6 Livorno	0,55	225,49	224,28	-0,54	81.161.712,89	81.122.863,33	359.932,00	361.701,50
T - Ausl 7 Siena	3,96	200,25	203,58	1,66	55.339.024,82	56.589.233,49	276.356,00	277.973,21
T - Ausl 8 Arezzo	1,69	222,98	217,40	-2,50	75.840.457,00	74.376.702,03	340.122,00	342.125,54
T - Ausl 9 Grosseto	2,01	205,83	215,46	4,68	48.498.809,05	50.868.367,41	235.623,00	236.097,05
T - Ausl 10 Firenze	1,35	218,23	219,46	0,56	180.611.828,65	182.586.421,09	827.628,00	831.972,25
T - Ausl 11 Empoli	5,00	198,90	193,92	-2,51	45.117.866,10	44.383.335,48	226.838,00	228.879,91
T - Ausl 12 Viareggio	2,72	215,99	211,15	-2,24	36.120.710,50	35.590.142,15	167.235,00	168.552,92

## Indicator F10a: Pharmaceutical Expenditure

### F10 Pharmaceutical expense per capita

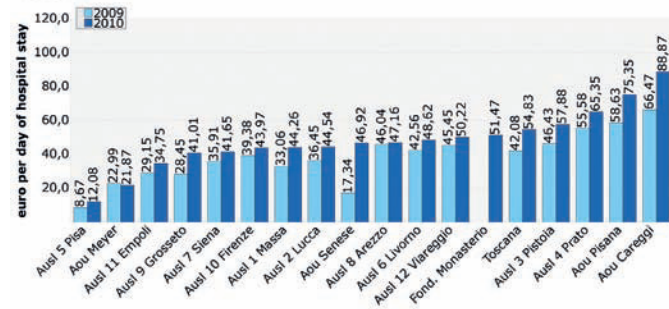
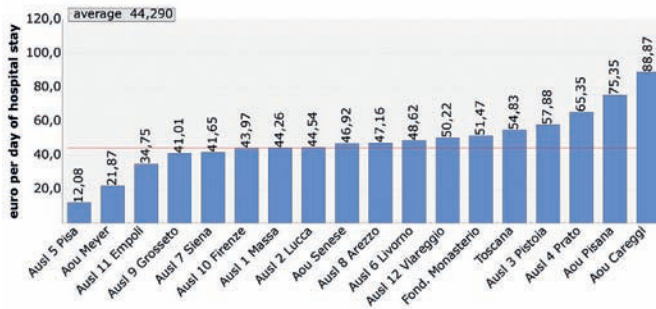
<b>Definition:</b>	Local pharmaceutical expenses per capita
<b>Numerator:</b>	Net expense for pharmaceuticals under the National Health System + direct supply expense
<b>Denominator:</b>	Population on 1 Jan 2009; weighted according to the criteria of PSR 2008-2010
<b>Formula:</b>	$\frac{\text{Net expense for pharmaceuticals under the National Health System} + \text{direct supply expense}}{\text{Population on 1 Jan 2009 weighted according to the criteria of PSR 2008-2010}}$
<b>Notes:</b>	<p>The expense for pharmaceuticals under the National Health System net of the patient contribution. Expense for additional pharmaceuticals is excluded</p> <p>The indicator is calculated per Authority of residence, and it refers to the expenditure for residents of Tuscany.</p> <p>Intra regional mobility is included</p> <p>Extra regional mobility is excluded</p> <p>As for direct supply we refer to class A drugs, and class C drugs.</p> <p>Coagulation factors, albumin, and immunoglobulin for intravenous use, drugs for non-uniform diseases in the area, and those generating significant expenditure per patient treated are not considered. Expenses for class A drugs reclassified in November 2010 were excluded.</p>
<b>Source:</b>	Data Flow SPF, FED Flow Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region ( <i>Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana</i> )
<b>Reference:</b>	Regional average, 2010





## 7.18 Indicator F10.2: Hospital pharmaceutical expense

### F10.2 – Hospital pharmaceutical expense



### F10.2 Hospital pharmaceutical expense

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	42,08	54,83	30,30	154.675.667,00	191.452.891,53	3.580.915,00	3.491.936,00
T - Ausl 1 Massa	not assessed	33,06	44,26	33,88	6.041.938,00	7.780.912,06	182.768,00	175.815,00
T - Ausl 2 Lucca	not assessed	36,45	44,54	22,19	6.654.653,00	7.653.175,60	182.575,00	171.836,00
T - Ausl 3 Pistoia	not assessed	46,43	57,88	24,66	8.295.476,00	10.306.876,22	178.677,00	178.063,00
T - Ausl 4 Prato	not assessed	55,58	65,35	17,58	11.154.177,00	13.078.488,20	200.684,00	200.128,00
T - Ausl 5 Pisa	not assessed	8,67	12,08	39,33	1.170.112,00	1.602.481,72	134.939,00	132.604,00
T - Ausl 6 Livorno	not assessed	42,56	48,62	14,24	10.976.021,00	11.876.151,47	257.903,00	244.256,00
T - Ausl 7 Siena	not assessed	35,91	41,65	15,98	3.979.636,00	4.577.417,01	110.835,00	109.894,00
T - Ausl 8 Arezzo	not assessed	46,04	47,16	2,43	11.388.726,00	11.785.993,88	247.360,00	249.920,00
T - Ausl 9 Grosseto	not assessed	28,45	41,01	44,15	5.027.653,00	6.687.822,70	176.732,00	163.097,00
T - Ausl 10 Firenze	not assessed	39,38	43,97	11,66	11.817.639,00	12.800.710,46	300.116,00	291.124,00
T - Ausl 11 Empoli	not assessed	29,15	34,75	19,21	4.145.092,00	5.267.282,30	142.188,00	151.561,00
T - Ausl 12 Viareggio	not assessed	45,45	50,22	10,50	6.033.749,00	6.571.349,81	132.756,00	130.856,00
T - Aou Pisana	not assessed	58,63	75,35	28,52	25.270.547,00	33.280.604,92	430.987,00	441.705,00
T - Aou Senese	not assessed	17,34	46,92	170,59	4.473.062,00	11.658.839,71	257.903,00	248.484,00
T - Aou Careggi	not assessed	66,47	88,87	33,70	32.419.111,00	42.931.562,66	487.746,00	483.104,00
T - Aou Meyer	not assessed	22,99	21,87	-4,87	1.828.075,00	1.889.407,11	79.512,00	86.388,00
T - Fond. Monasterio	not assessed	0,00	51,47	(*)	0,00	1.703.815,70	0,00	33.101,00

## Indicator F10a: Pharmaceutical Expenditure

### F10.2 Hospital pharmaceutical expense

<b>Definition:</b>	Hospital pharmaceutical expense
<b>Numerator:</b>	Expenditure for drugs administered within the wards
<b>Denominator:</b>	Number of days of stay
<b>Formula:</b>	$\frac{\text{Expenditure for drugs administered within the wards}}{\text{Number of days of stay}}$
<b>Notes:</b>	Distribution in inpatient- and outpatient admissions are included. Direct supply is excluded Data is per providing Authority.
<b>Source:</b>	Data FES Flow, SDO Flow Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region Dati Flusso FES, flusso SDO (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)

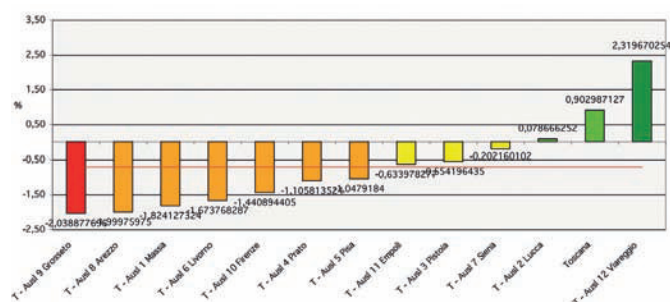


## Indicator F11: Extra-regional compensation index 7.19

Extra Regional compensation index is a synthetic indicator comprising the balance of extra regional compensations. The indicator is calculated only for Local Health Authorities (AUSL), because these are the only subjects that have passive compensation. The financing system of the National Health System (SSN) and the Regional Health System (SSR) provides that Local Authorities have to ensure the delivery of health services and socio-health care to all customers within its territory. Moreover Local Health Authorities (AUSL) of residence bear costs of services used by its customers in their facilities as well as in other facilities both public or private operating within the SSN. This indicator therefore reflects the Authority's ability to maintain a balance between costs and proceeds coming from extra regional compensations by managing the outflows (passive mobility) of its residents to other regions and inflows (active mobility) of users from outside the region. Only extra regional compensation have been taken into account, as if also intra-regional compensation had been covered the Authorities would have been induced to compete on the services trying to attract as many users as possible from neighbouring areas. This would have been in contrasts with the logical choice to promote regional cooperation among the healthcare companies in the region. The indicator is calculated as the difference between the active extra regional compensation carried out by public authorities and passive extra regional compensation as a percentage of production costs. In the calculation of costs and proceeds derived from extra regional mobility are taken into account, hospital, outpatient, and rehabilitation services provided by healthcare organizations. The compensation also includes active and passive billing that passes directly across the healthcare organizations. The data of Tuscany Region refers to the Regional consolidated balance. The indicator refers to 2009.

### F11 Extra-regional compensation index

#### F11 – Extra-regional compensation index



#### F11 Extra-regional compensation index

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	0,90%	3,90	74.806.000,00	8.284.282.000,00	2009
T - Ausl 1 Massa	-1,82%	1,82	-7.051.000,00	386.541.000,00	2009
T - Ausl 2 Lucca	0,08%	3,08	321.000,00	408.053.000,00	2009
T - Ausl 3 Pistoia	-0,55%	2,45	-2.732.000,00	492.966.000,00	2009
T - Ausl 4 Prato	-1,11%	1,11	-4.525.000,00	409.201.000,00	2009
T - Ausl 5 Pisa	-1,05%	1,05	-5.631.000,00	537.351.000,00	2009
T - Ausl 6 Livorno	-1,67%	1,67	-10.331.000,00	617.230.000,00	2009
T - Ausl 7 Siena	-0,20%	2,80	-940.000,00	464.978.000,00	2009
T - Ausl 8 Arezzo	-2,00%	2,00	-12.319.000,00	616.024.000,00	2009
T - Ausl 9 Grosseto	-2,04%	0,93	-8.521.000,00	417.926.000,00	2009
T - Ausl 10 Firenze	-1,44%	1,44	-21.072.000,00	1.462.425.000,00	2009
T - Ausl 11 Empoli	-0,63%	2,37	-2.486.000,00	392.127.000,00	2009
T - Ausl 12 Viareggio	2,32%	4,51	7.091.000,00	305.690.000,00	2009



## Indicator F11: Extra-regional compensation index

### F11 Extra-regional compensation index

<b>Definition:</b>	Indicates the trend of the balance of compensation in relation to the cost of production
<b>Numerator:</b>	Active extra regional mobility less (minus) Passive extra regional mobility
<b>Denominator:</b>	Production costs
<b>Formula:</b>	$\frac{\text{Active extra regional mobility} - \text{Passive extra regional mobility}}{\text{Production costs}} \times 100$
<b>Notes:</b>	Active extra regional mobility (code A02075) Passive extra regional mobility (code B02045, B02065, B02085, B02165, B02190, B02265, B02295, B02325, B02485) Production costs (code B99999).
<b>Source:</b>	Income statement (CE Flow)



## Indicator F12a: Efficiency of Drug Prescription 7.20

The indicator was initially constructed according to the guidelines contained in regional resolutions 463/2006 and 148/2007, and it specifically monitors some categories of drugs such as statins or antihypertensive drugs, especially those drugs with high consumption and a significant impact on expenses. For the following years, the selection of drug categories to be evaluated and the setting of specific objectives have been updated according to the regional guidelines.

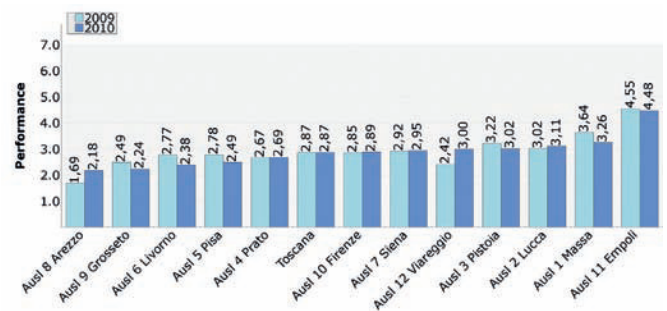
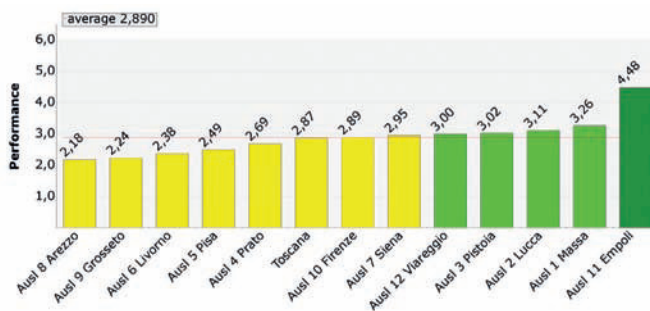
The indicator monitors the use of drugs not under patent protection, which have a lower cost compared to those that are still patent-protected, since often the newer, patent-protected drugs do not offer therapeutic benefits to justify their higher price. The use of generic drugs allows investing resources in truly innovative drugs. The new indicators introduced in the system are not being assessed this year. The data come from the Innovation, Appropriateness, and Drug Policies Division, Tuscan Regional Government.

Indicator	Performance	Year
F12a – Efficiency of Drug Prescription	● 2,87	2010

### F12a Efficiency of Drug Prescription

- F12a.14 – Percentage of off-patent molecules: 59,68% ■
- F12a.15.1 – Statins (Lipid Lowering):
  - F12a.2 – Percentage of statins off patents: 50,92% ■
- F12a.15.2 – Antihypertensives:
  - F12a.3 – Percentage of off-patent ACE inhibitors (Antihypertensive) : 94,72% ■
  - F12a.6 – Percentage of off-patent dihydropyridine derivatives (Antihypertensive): 80,59% ■
  - F12a.7 – Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent: 84,33% ■
  - F12a.11 – Prevalence of Losartan on sartans: 18,40% ■
  - F12a.12 – Prevalence of Losartan on sartans in combination with other drugs: 16,92% ■
- F12a.16 – Gastrointestinal:
  - F12a.1 – Percentage of off-patent proton pump inhibitors (Antacid): 84,06% ■
- F12a.17 – Antimicrobial:
  - F12a.9 – Percentage of off-patent fluoroquinolone (Antibiotics): 34,64% ■
  - F12a.13 – Antibiotics: average cost per box: 8,28 euro ■
- F12a.18 – Nervous System:
  - F12a.5 – Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants): 84,32% ■
  - F12a.10 – Percentage of other off-patent antidepressants (Anti-hypertension) : 79,95% ■

### F12a – Efficiency of Drug Prescription



## Indicator F12a: Efficiency of Drug Prescription

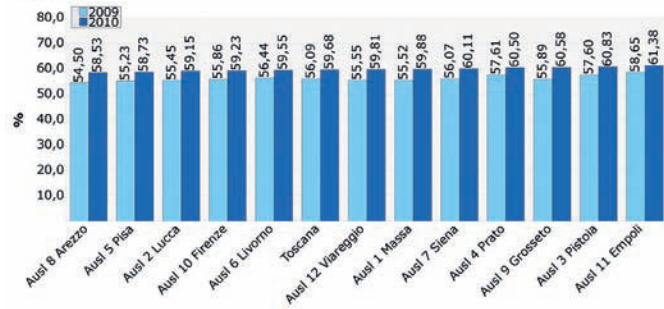
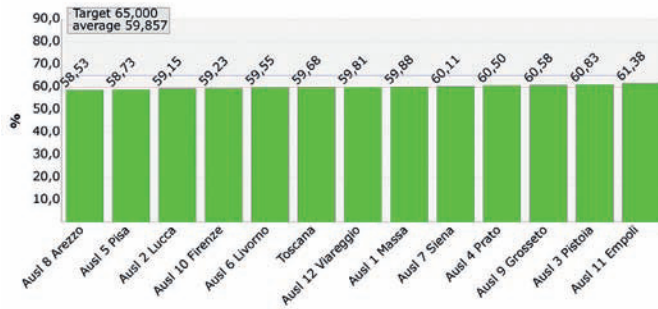
### F12a Efficiency of Drug Prescription

Notes
Indicator F12a has a value equal to the average score of indicators: F12a.1, F12a.2, F12a.3, F12a.5, F12a.6, F12a.7, F12a.8, F12a.10, F12a.11, F12a.12, F12a.13, F12a.14



## 7.21 Indicator F12a.14: Percentage of off-patent molecules

### F12a.14 – Percentage of off-patent molecules



### F12a.14 Percentage of off-patent molecules

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,49	56,09	59,68	6,40	37.192.010,00	41.071.444,00	66.311.963,00	68.817.352,00
T - Ausl 1 Massa	3,55	55,52	59,88	7,85	2.139.239,00	2.383.566,00	3.853.261,00	3.980.801,00
T - Ausl 2 Lucca	3,34	55,45	59,15	6,67	2.278.362,00	2.542.148,00	4.108.993,00	4.297.932,00
T - Ausl 3 Pistoia	3,82	57,60	60,83	5,61	3.051.567,00	3.374.915,00	5.298.245,00	5.547.732,00
T - Ausl 4 Prato	3,73	57,61	60,50	5,02	2.007.782,00	2.240.825,00	3.485.223,00	3.703.689,00
T - Ausl 5 Pisa	3,22	55,23	58,73	6,34	3.229.071,00	3.544.923,00	5.846.940,00	6.035.918,00
T - Ausl 6 Livorno	3,45	56,44	59,55	5,51	3.671.512,00	3.991.098,00	6.505.693,00	6.702.067,00
T - Ausl 7 Siena	3,61	56,07	60,11	7,21	2.712.006,00	2.992.779,00	4.836.625,00	4.978.889,00
T - Ausl 8 Arezzo	3,16	54,50	58,53	7,39	3.408.755,00	3.792.000,00	6.254.573,00	6.478.911,00
T - Ausl 9 Grosseto	3,75	55,89	60,58	8,39	2.362.053,00	2.605.870,00	4.225.908,00	4.301.805,00
T - Ausl 10 Firenze	3,36	55,86	59,23	6,03	8.417.600,00	9.269.959,00	15.069.971,00	15.651.929,00
T - Ausl 11 Empoli	3,98	58,65	61,38	4,65	2.306.061,00	2.517.083,00	3.931.952,00	4.100.685,00
T - Ausl 12 Viareggio	3,53	55,55	59,81	7,67	1.608.002,00	1.816.278,00	2.894.579,00	3.036.994,00

## Indicator F12a: Efficiency of Drug Prescription

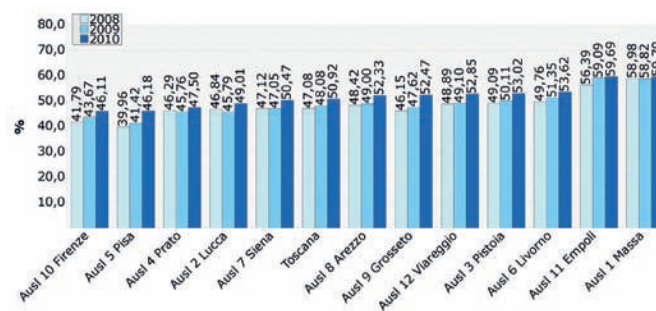
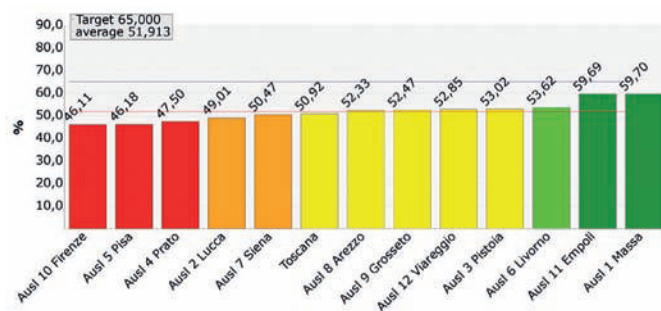
### F12a.14 Percentage of off-patent molecules

<b>Definition:</b>	Percentage of molecules not covered by patent, distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of boxes of molecules not covered by patent provided x 100
<b>Denominator:</b>	Total No. of boxes provided
<b>Formula:</b>	$\frac{\text{No. of boxes of molecules not covered by patent; distributed} \times 100}{\text{Total No. of boxes provided}}$
<b>Notes:</b>	Data is per providing Authority
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 65\%$



## Indicator F12a.2: Percentage of statins off patents 7.22

### F12a.2 – Percentage of statins off patents



### F12a.2 Percentage of statins off patents

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,15	48,08	50,92	5,91	30.248.766,00	36.139.912,00	62.911.186,00	70.968.762,00
T - Ausl 1 Massa	5,00	58,82	59,70	1,50	2.472.378,00	2.761.296,00	4.202.984,00	4.625.316,00
T - Ausl 2 Lucca	1,44	45,79	49,01	7,03	1.676.672,00	2.013.908,00	3.661.902,00	4.109.476,00
T - Ausl 3 Pistoia	2,92	50,11	53,02	5,81	2.407.718,00	2.899.344,00	4.804.472,00	5.468.258,00
T - Ausl 4 Prato	0,89	45,76	47,50	3,80	1.429.870,00	1.686.386,00	3.124.766,00	3.549.922,00
T - Ausl 5 Pisa	0,40	41,42	46,18	11,49	2.449.824,00	2.976.678,00	5.913.978,00	6.445.778,00
T - Ausl 6 Livorno	3,14	51,35	53,62	4,42	3.530.124,00	4.086.876,00	6.874.164,00	7.621.406,00
T - Ausl 7 Siena	1,98	47,05	50,47	7,27	2.153.522,00	2.541.704,00	4.577.096,00	5.035.648,00
T - Ausl 8 Arezzo	2,66	49,00	52,33	6,80	3.103.760,00	3.748.756,00	6.333.824,00	7.163.488,00
T - Ausl 9 Grosseto	2,72	47,62	52,47	10,18	2.085.554,00	2.574.806,00	4.379.226,00	4.907.124,00
T - Ausl 10 Firenze	0,37	43,67	46,11	5,59	5.844.020,00	7.171.434,00	13.380.752,00	15.552.820,00
T - Ausl 11 Empoli	5,00	59,09	59,69	1,02	1.876.634,00	2.174.624,00	3.175.856,00	3.643.316,00
T - Ausl 12 Viareggio	2,85	49,10	52,85	7,64	1.218.690,00	1.504.100,00	2.482.166,00	2.846.210,00

## Indicator F12a: Efficiency of Drug Prescription

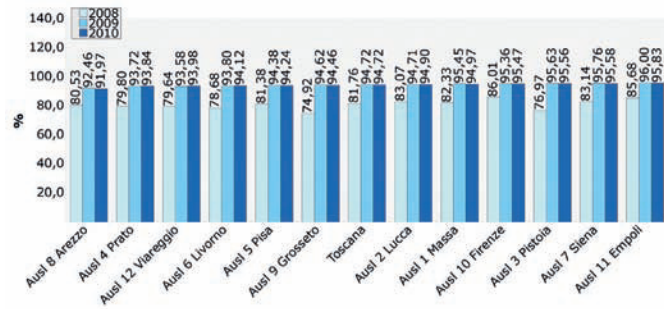
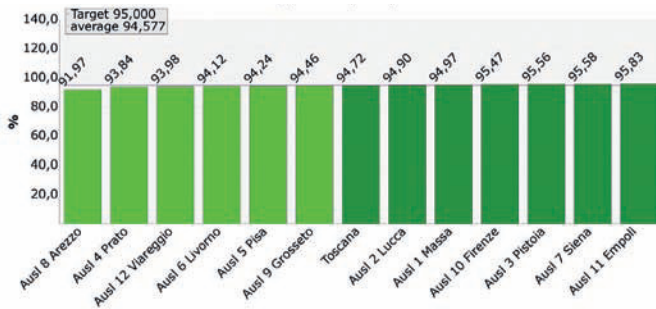
### F12a.2 Percentage of statins off patents (lipid lowering)

<b>Definition:</b>	Percentage of statins not covered by patent, distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of Statins not covered by patent; distributed
<b>Denominator:</b>	Total No. of unit doses of Statins provided
<b>Formula:</b>	$\frac{\text{No. of unit doses of Statins not covered by patent; distributed} \times 100}{\text{Total No. of unit doses of Statins provided}}$
<b>Notes:</b>	Statins are ATC class C10AA. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 65\%$



## 7.23 Indicator F12a.3: Percentage of off-patent ACE inhibitors (Antihypertensive)

F12a.3 – Percentage of off-patent ACE inhibitors (Antihypertensive)



F12a.3 Percentage of off-patent ACE inhibitors (Antihypertensive)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,10	94,72	94,72	0,00	75.086.702,00	75.086.702,00	79.269.346,00	79.269.346,00
T - Ausl 1 Massa	4,20	95,45	94,97	-0,50	4.296.720,00	4.331.066,00	4.501.322,00	4.560.498,00
T - Ausl 2 Lucca	4,17	94,71	94,90	0,20	4.484.094,00	4.510.178,00	4.734.678,00	4.752.692,00
T - Ausl 3 Pistoia	4,43	95,63	95,56	-0,07	6.148.874,00	6.322.240,00	6.430.136,00	6.616.284,00
T - Ausl 4 Prato	3,74	93,72	93,84	0,13	3.857.726,00	3.951.076,00	4.116.234,00	4.210.574,00
T - Ausl 5 Pisa	3,91	94,38	94,24	-0,15	5.978.086,00	6.116.928,00	6.333.768,00	6.490.958,00
T - Ausl 6 Livorno	3,86	93,80	94,12	0,34	7.083.306,00	7.060.590,00	7.551.676,00	7.502.038,00
T - Ausl 7 Siena	4,44	95,76	95,58	-0,19	5.156.026,00	5.231.826,00	5.384.086,00	5.473.534,00
T - Ausl 8 Arezzo	3,00	92,46	91,97	-0,53	6.523.214,00	6.576.788,00	7.055.388,00	7.150.906,00
T - Ausl 9 Grosseto	3,99	94,62	94,46	-0,17	4.798.878,00	4.825.502,00	5.071.882,00	5.108.520,00
T - Ausl 10 Firenze	4,40	95,36	95,47	0,12	18.348.024,00	18.616.014,00	19.240.776,00	19.498.826,00
T - Ausl 11 Empoli	4,54	96,00	95,83	-0,18	5.191.558,00	5.308.956,00	5.408.142,00	5.540.254,00
T - Ausl 12 Viareggio	3,80	93,58	93,98	0,43	3.220.196,00	3.344.792,00	3.441.258,00	3.558.914,00

## Indicator F12a: Efficiency of Drug Prescription

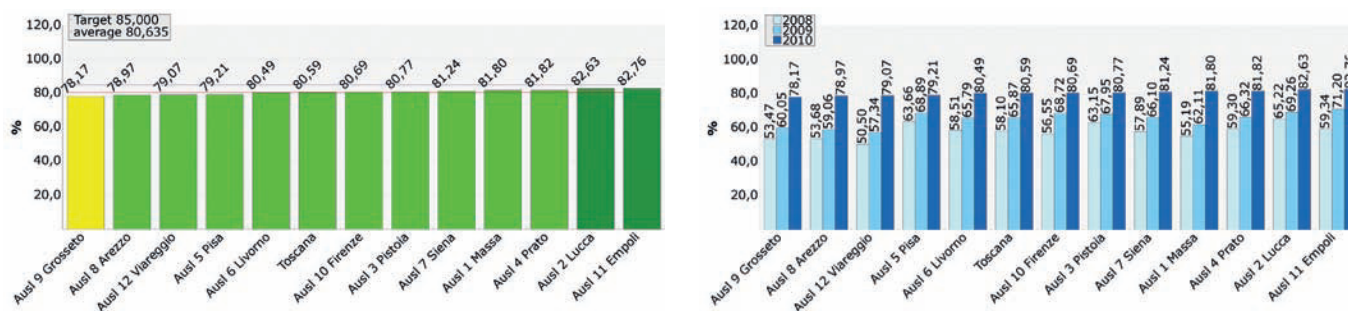
F12a.3 Percentage of off-patent ACE inhibitors (Antihypertensive)

<b>Definition:</b>	Percentage of ACE inhibitors not covered by patent, distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of ACE inhibitors not covered by patent; distributed x 100
<b>Denominator:</b>	Total No. of unit doses of ACE inhibitors distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of ACE inhibitors not covered by patent; distributed} \times 100}{\text{Total No. of unit doses of ACE inhibitors distributed}}$
<b>Notes:</b>	ACE inhibitors are class ATC3 C09AA drugs. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 95\%$



## Indicator F12a.6: Percentage of off-patent dihydropyridine derivatives (Antihypertensive) 7.24

**F12a.6** – Percentage of off-patent dihydropyridine derivatives (Antihypertensive)



**F12a.6** Percentage of off-patent dihydropyridine derivatives (Antihypertensive)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,54	65,87	80,59	22,35	35.616.308,00	44.949.162,00	54.073.462,00	55.775.802,00
T - Ausl 1 Massa	3,94	62,11	81,80	31,70	2.160.278,00	2.961.994,00	3.478.374,00	3.621.218,00
T - Ausl 2 Lucca	4,22	69,26	82,63	19,30	2.629.265,00	3.221.472,00	3.796.431,00	3.898.444,00
T - Ausl 3 Pistoia	3,60	67,95	80,77	18,87	3.180.054,00	3.937.212,00	4.680.206,00	4.874.326,00
T - Ausl 4 Prato	3,95	66,32	81,82	23,37	2.033.514,00	2.635.600,00	3.066.428,00	3.221.034,00
T - Ausl 5 Pisa	3,08	68,89	79,21	14,98	3.220.062,00	3.852.838,00	4.673.978,00	4.863.808,00
T - Ausl 6 Livorno	3,51	65,79	80,49	22,34	3.635.936,00	4.500.334,00	5.526.644,00	5.591.152,00
T - Ausl 7 Siena	3,76	66,10	81,24	22,90	2.403.620,00	2.987.287,00	3.636.282,00	3.677.029,00
T - Ausl 8 Arezzo	3,00	59,06	78,97	33,71	2.750.052,00	3.817.060,00	4.656.096,00	4.833.774,00
T - Ausl 9 Grosseto	2,73	60,05	78,17	30,17	1.920.784,00	2.554.112,00	3.198.444,00	3.267.358,00
T - Ausl 10 Firenze	3,57	68,72	80,69	17,42	8.024.977,00	9.704.516,00	11.677.833,00	12.026.272,00
T - Ausl 11 Empoli	4,26	71,20	82,76	16,24	2.052.032,00	2.476.829,00	2.882.240,00	2.992.805,00
T - Ausl 12 Viareggio	3,03	57,34	79,07	37,90	1.605.734,00	2.299.908,00	2.800.506,00	2.908.582,00

## Indicator F12a: Efficiency of Drug Prescription

**F12a.6** Percentage of off-patent dihydropyridine derivatives (Antihypertensive)

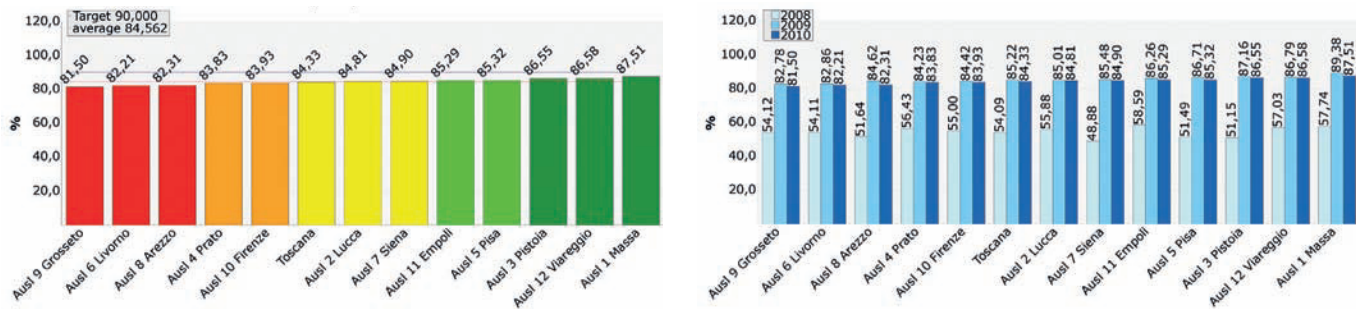
<b>Definition:</b>	Percentage of dihydropyridine derivatives not covered by patent distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of dihydropyridine derivatives not covered by patent; distributed x 100
<b>Denominator:</b>	Total No. of unit doses of dihydropyridine derivatives complessivamente; distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of dihydropyridine derivatives not covered by patent; distributed} \times 100}{\text{Total No. of unit doses of dihydropyridine derivatives distributed}}$
<b>Notes:</b>	Dihydropyridine derivatives are ATC class C08CA. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 85\%$





## 7.25 Indicator F12a.7: Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent

**F12a.7** – Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent



**F12a.7** Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,32	85,22	84,33	-1,04	34.378.038,00	34.155.094,00	40.341.338,00	40.502.162,00
T - Ausl 1 Massa	4,97	89,38	87,51	-2,09	2.059.834,00	2.050.000,00	2.304.554,00	2.342.474,00
T - Ausl 2 Lucca	2,71	85,01	84,81	-0,24	2.155.096,00	2.159.230,00	2.535.042,00	2.546.064,00
T - Ausl 3 Pistoia	4,17	87,16	86,55	-0,70	3.218.062,00	3.242.154,00	3.692.228,00	3.745.902,00
T - Ausl 4 Prato	1,90	84,23	83,83	-0,47	1.952.580,00	1.978.362,00	2.318.260,00	2.360.100,00
T - Ausl 5 Pisa	3,14	86,71	85,32	-1,60	2.759.576,00	2.701.384,00	3.182.362,00	3.166.198,00
T - Ausl 6 Livorno	0,55	82,86	82,21	-0,78	3.376.908,00	3.354.312,00	4.075.340,00	4.080.324,00
T - Ausl 7 Siena	2,79	85,48	84,90	-0,68	2.439.782,00	2.438.810,00	2.854.322,00	2.872.572,00
T - Ausl 8 Arezzo	0,64	84,62	82,31	-2,73	3.143.478,00	3.046.294,00	3.714.888,00	3.700.878,00
T - Ausl 9 Grosseto	0,00	82,78	81,50	-1,55	2.238.578,00	2.225.318,00	2.704.204,00	2.730.354,00
T - Ausl 10 Firenze	1,99	84,42	83,93	-0,58	7.078.592,00	7.043.396,00	8.385.044,00	8.391.904,00
T - Ausl 11 Empoli	3,12	86,26	85,29	-1,12	2.445.930,00	2.442.798,00	2.835.648,00	2.864.002,00
T - Ausl 12 Viareggio	4,19	86,79	86,58	-0,24	1.509.622,00	1.473.036,00	1.739.446,00	1.701.390,00

### Indicator F12a: Efficiency of Drug Prescription

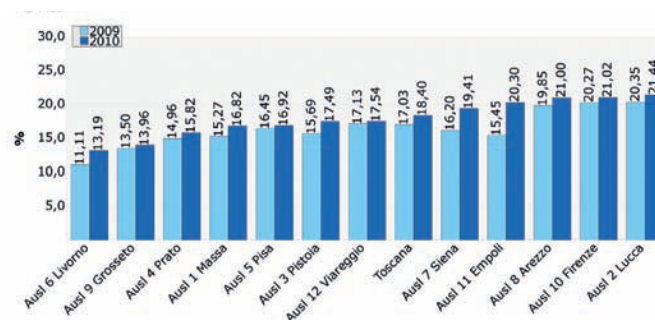
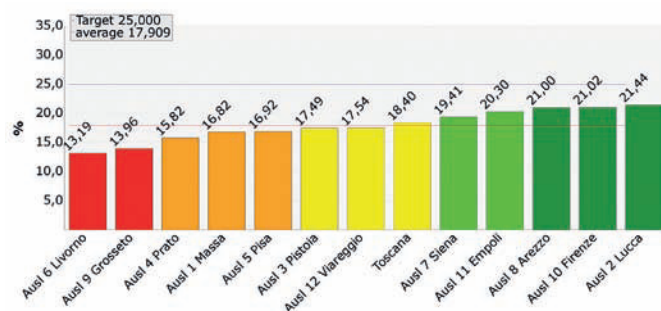
**F12a.7** Percentage of ACE inhibitors (Antihypertensive), combined with other drugs, off-patent

<b>Definition:</b>	Percentage of ACE inhibitors combined with other drugs not covered by patent distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of ACE inhibitors combined with other drugs not covered by patent; distributed x 100
<b>Denominator:</b>	Total No. of unit doses of ACE inhibitors combined with other drugs; distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of ACE inhibitors combined with other drugs not covered by patent; distributed} \times 100}{\text{Total No. of unit doses of ACE inhibitors combined with other drugs; distributed}}$
<b>Notes:</b>	ACE inhibitors combined with other drugs are ATC class C09AB. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 90\%$



## Indicator F12a.11: Percentage of Losartan on sartans 7.26

### F12a.11 – Percentage of Losartan on sartans



### F12a.11 Percentage of Losartan on sartans

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,81	17,03	18,40	8,04	7.059.416,00	8.120.294,00	41.445.040,00	44.122.484,00
T - Ausl 1 Massa	1,85	15,27	16,82	10,15	411.320,00	472.563,00	2.693.488,00	2.809.793,00
T - Ausl 2 Lucca	4,65	20,35	21,44	5,36	542.472,00	596.792,00	2.665.082,00	2.783.606,00
T - Ausl 3 Pistoia	2,26	15,69	17,49	11,47	445.151,00	540.085,00	2.836.799,00	3.087.595,00
T - Ausl 4 Prato	1,25	14,96	15,82	5,75	320.628,00	369.439,00	2.143.372,00	2.334.871,00
T - Ausl 5 Pisa	1,91	16,45	16,92	2,86	610.428,00	660.849,00	3.710.686,00	3.906.665,00
T - Ausl 6 Livorno	0,00	11,11	13,19	18,72	434.476,00	544.096,00	3.912.090,00	4.125.198,00
T - Ausl 7 Siena	3,42	16,20	19,41	19,81	500.416,00	621.824,00	3.088.974,00	3.204.208,00
T - Ausl 8 Arezzo	4,39	19,85	21,00	5,79	889.413,00	1.009.827,00	4.481.407,00	4.807.929,00
T - Ausl 9 Grosseto	0,12	13,50	13,96	3,41	352.863,00	390.565,00	2.613.541,00	2.798.005,00
T - Ausl 10 Firenze	4,40	20,27	21,02	3,70	1.954.414,00	2.178.134,00	9.642.668,00	10.360.602,00
T - Ausl 11 Empoli	3,96	15,45	20,30	31,39	264.138,00	376.992,00	1.709.372,00	1.857.030,00
T - Ausl 12 Viareggio	2,29	17,13	17,54	2,39	333.697,00	359.128,00	1.947.561,00	2.046.982,00

## Indicator F12a: Efficiency of Drug Prescription

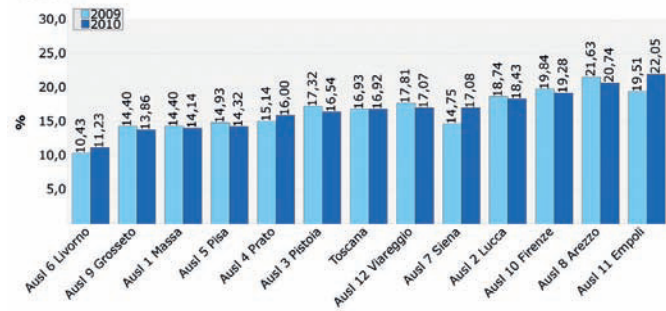
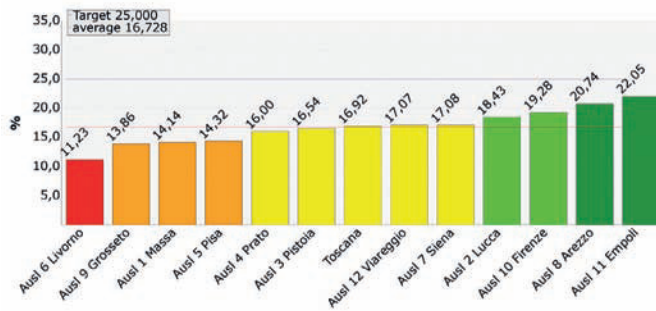
### F12a.11 Percentage of Losartan on sartans

<b>Definition:</b>	Prevalence of Losartan, distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of Losartan distributed x 100
<b>Denominator:</b>	Overall No. of unit doses of sartans provided
<b>Formula:</b>	$\frac{\text{No. of unit doses of Losartan distributed} \times 100}{\text{Overall No. of unit doses of sartans provided}}$
<b>Notes:</b>	Sartans are ATC class C09C Losartan is ATC class C09CA01 Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriata e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 25\%$



## 7.27 Indicator F12a.12: Percentage of Losartan on sartans in combination with other drugs

F12a.12 – Percentage of Losartan on sartans in combination with other drugs



F12a.12 Percentage of Losartan on sartans in combination with other drugs

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,60	16,93	16,92	-0,06	6.759.256,00	7.294.644,00	39.919.096,00	43.108.296,00
T - Ausl 1 Massa	1,32	14,40	14,14	-1,81	376.348,00	387.912,00	2.613.352,00	2.742.936,00
T - Ausl 2 Lucca	3,30	18,74	18,43	-1,65	491.148,00	528.920,00	2.620.800,00	2.870.028,00
T - Ausl 3 Pistoia	2,42	17,32	16,54	-4,50	556.080,00	572.460,00	3.211.236,00	3.461.892,00
T - Ausl 4 Prato	2,17	15,14	16,00	5,68	339.052,00	409.192,00	2.238.796,00	2.556.904,00
T - Ausl 5 Pisa	1,40	14,93	14,32	-4,09	522.060,00	534.352,00	3.496.836,00	3.731.952,00
T - Ausl 6 Livorno	0,00	10,43	11,23	7,67	428.428,00	497.728,00	4.105.752,00	4.432.120,00
T - Ausl 7 Siena	2,67	14,75	17,08	15,80	453.684,00	540.120,00	3.076.808,00	3.162.292,00
T - Ausl 8 Arezzo	4,36	21,63	20,74	-4,11	885.976,00	917.476,00	4.095.644,00	4.424.308,00
T - Ausl 9 Grosseto	1,19	14,40	13,86	-3,75	322.616,00	347.116,00	2.239.664,00	2.503.676,00
T - Ausl 10 Firenze	3,69	19,84	19,28	-2,82	1.755.124,00	1.844.136,00	8.846.964,00	9.563.624,00
T - Ausl 11 Empoli	4,97	19,51	22,05	13,02	320.124,00	401.548,00	1.640.660,00	1.820.868,00
T - Ausl 12 Viareggio	2,67	17,81	17,07	-4,15	308.616,00	313.684,00	1.732.584,00	1.837.696,00

### Indicator F12a: Efficiency of Drug Prescription

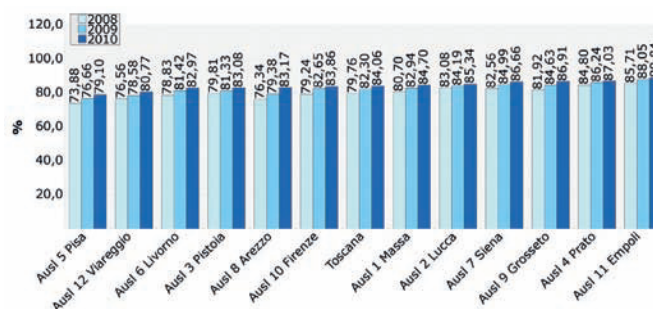
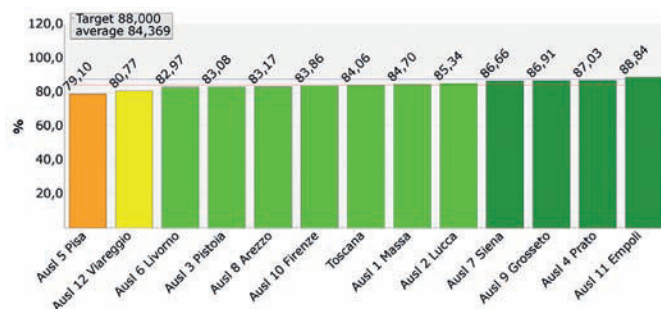
F12a.12 Percentage of Losartan on sartans in combination with other drugs

<b>Definition:</b>	Prevalence of Losartan in combination with other drugs, distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of Losartan in combination with other drugs distributed x 100
<b>Denominator:</b>	Total No. of unit doses of sartans in combination with other drugs distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of Losartan in combination}}{\text{Total No. of unit doses of sartans in combination with other drugs distributed}} \times 100$
<b>Notes:</b>	Sartans in combination with other drugs are class ATC3 C09D Losartan in combination with other drugs is class ATC C09DA01 Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 25\%$



## Indicator F12a.1: Percentage of off-patent proton pump inhibitors (Antacid) 7.28

### F12a.1 – Percentage of off-patent proton pump inhibitors (Antacid)



### F12a.1 Percentage of off-patent proton pump inhibitors (Antacid)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,44	82,30	84,06	2,14	64.344.196,00	72.862.328,00	78.181.572,00	86.675.610,00
T - AUsl 1 Massa	3,69	82,94	84,70	2,12	3.838.268,00	4.242.630,00	4.627.700,00	5.009.004,00
T - AUsl 2 Lucca	3,95	84,19	85,34	1,37	3.546.060,00	4.030.208,00	4.211.732,00	4.722.592,00
T - AUsl 3 Pistoia	3,04	81,33	83,08	2,15	5.079.354,00	5.959.422,00	6.245.134,00	7.173.012,00
T - AUsl 4 Prato	4,62	86,24	87,03	0,92	3.780.070,00	4.399.136,00	4.383.008,00	5.054.672,00
T - AUsl 5 Pisa	1,45	76,66	79,10	3,18	5.375.188,00	5.965.820,00	7.011.578,00	7.542.472,00
T - AUsl 6 Livorno	3,00	81,42	82,97	1,90	6.623.036,00	7.440.986,00	8.134.420,00	8.968.470,00
T - AUsl 7 Siena	4,48	84,99	86,66	1,96	4.986.184,00	5.548.634,00	5.866.882,00	6.402.494,00
T - AUsl 8 Arezzo	3,08	79,38	83,17	4,77	5.396.174,00	6.260.268,00	6.797.686,00	7.526.890,00
T - AUsl 9 Grosseto	4,58	84,63	86,91	2,69	4.455.052,00	4.936.148,00	5.264.406,00	5.679.422,00
T - AUsl 10 Firenze	3,35	82,65	83,86	1,46	14.873.390,00	16.722.258,00	17.994.662,00	19.940.326,00
T - AUsl 11 Empoli	5,00	88,05	88,84	0,90	3.575.460,00	4.019.372,00	4.060.756,00	4.524.380,00
T - AUsl 12 Viareggio	2,12	78,58	80,77	2,79	2.815.960,00	3.337.446,00	3.583.608,00	4.131.876,00

## Indicator F12a: Efficiency of Drug Prescription

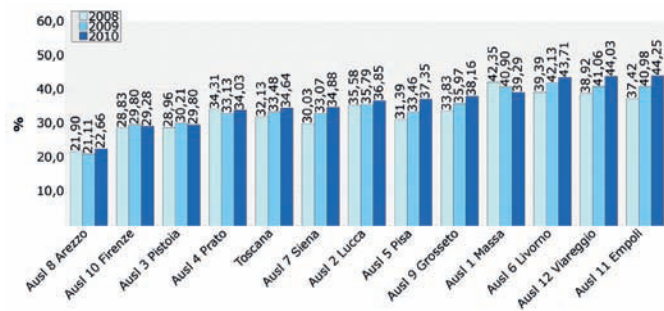
### F12a.1 Percentage of off-patent proton pump inhibitors (Antacid)

<b>Definition:</b>	Percentage of proton pump inhibitors (PPIs) not covered by patent; distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of PPIs distributed but not covered by patent
<b>Denominator:</b>	Total No. of unit doses of PPIs distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of PPIs distributed but not covered by patent} \times 100}{\text{Total No. of unit doses of PPIs distributed}}$
<b>Notes:</b>	Proton pump inhibitors are ATC class A02BC. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 88\%$



## 7.29 Indicator F12a.9: Percentage of off-patent fluoroquinolone (Antibiotics)

**F12a.9** – Percentage of off-patent fluoroquinolone (Antibiotics)



**F12a.9** Percentage of off-patent fluoroquinolone (Antibiotics)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,15	33,48	34,64	3,46	1,06	1,09	3,17	3,16
T - Ausl 1 Massa	3,23	40,90	39,29	-3,94	1,27	1,22	3,10	3,10
T - Ausl 2 Lucca	2,66	35,79	36,85	2,96	1,26	1,29	3,51	3,51
T - Ausl 3 Pistoia	1,03	30,21	29,80	-1,36	1,05	1,04	3,47	3,50
T - Ausl 4 Prato	2,01	33,13	34,03	2,72	0,72	0,77	2,19	2,25
T - Ausl 5 Pisa	2,78	33,46	37,35	11,63	1,18	1,25	3,51	3,35
T - Ausl 6 Livorno	4,25	42,13	43,71	3,75	1,36	1,40	3,23	3,20
T - Ausl 7 Siena	2,21	33,07	34,88	5,47	1,18	1,21	3,58	3,47
T - Ausl 8 Arezzo	0,00	21,11	22,66	7,34	0,71	0,74	3,35	3,27
T - Ausl 9 Grosseto	2,97	35,97	38,16	6,09	1,17	1,23	3,25	3,23
T - Ausl 10 Firenze	0,91	29,80	29,28	-1,74	0,89	0,89	2,98	3,04
T - Ausl 11 Empoli	4,38	40,98	44,25	7,98	1,21	1,34	2,95	3,02
T - Ausl 12 Viareggio	4,33	41,06	44,03	7,23	1,21	1,28	2,94	2,90

### Indicator F12a: Efficiency of Drug Prescription

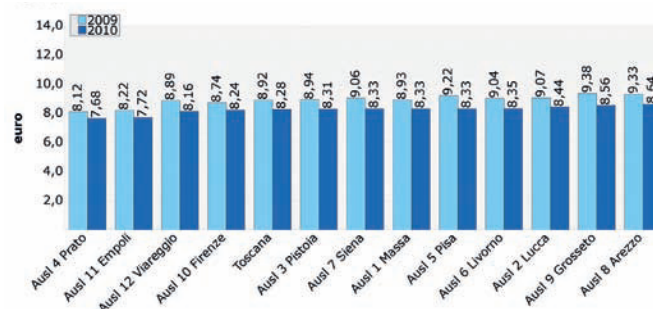
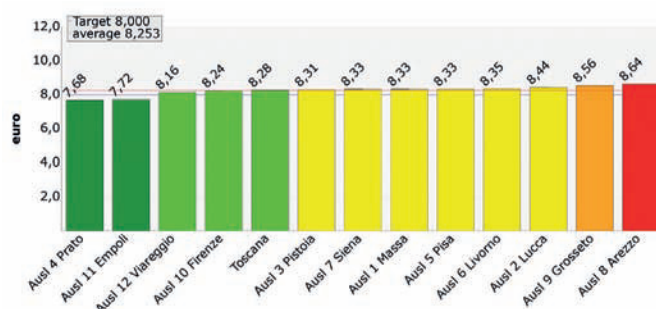
**F12a.9** Percentage of off-patent fluoroquinolone (Antibiotics)

<b>Definition:</b>	Percentage of fluoroquinolone not covered by patent distributed by pharmacies under the National Health System
<b>Numerator:</b>	DDD per 1,000 inhabitants per day for fluoroquinolone not covered by patent provided x 100
<b>Denominator:</b>	Overall DDD per 1,000 inhabitants per day for fluoroquinolone provided
<b>Formula:</b>	$\frac{\text{DDD per 1,000 inhabitants per day for fluoroquinolone not covered by patent provided} \times 100}{\text{Overall DDD per 1,000 inhabitants per day for fluoroquinolone provided}}$
<b>Notes:</b>	Fluoroquinolone is an ATC class J01MA. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 50\%$



## Indicator F12a.13: Antibiotics: average cost per box 7.30

F12a.13 – Antibiotics: average cost per box



F12a.13 Antibiotics: average cost per box

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,17	8,92	8,28	-7,21	6.052.065,00	49.343.611,62	53.987.422,49	5.961.730,00
T - Ausl 1 Massa	2,83	8,93	8,33	-6,75	315.314,00	2.599.611,31	2.815.787,81	312.186,00
T - Ausl 2 Lucca	2,09	9,07	8,44	-6,97	395.923,00	3.369.671,18	3.592.366,74	399.370,00
T - Ausl 3 Pistoia	2,95	8,94	8,31	-7,06	489.245,00	4.005.260,21	4.374.822,33	482.053,00
T - Ausl 4 Prato	5,00	8,12	7,68	-5,39	356.679,00	2.722.625,70	2.896.690,75	354.418,00
T - Ausl 5 Pisa	2,82	9,22	8,33	-9,67	584.835,00	4.778.288,16	5.393.281,57	573.740,00
T - Ausl 6 Livorno	2,66	9,04	8,35	-7,61	607.239,00	4.837.707,35	5.486.688,80	579.230,00
T - Ausl 7 Siena	2,84	9,06	8,33	-8,11	414.568,00	3.396.582,58	3.755.981,47	407.978,00
T - Ausl 8 Arezzo	0,71	9,33	8,64	-7,34	606.262,00	5.163.434,45	5.655.970,54	597.290,00
T - Ausl 9 Grosseto	1,30	9,38	8,56	-8,78	365.917,00	3.014.091,25	3.433.549,72	352.263,00
T - Ausl 10 Firenze	3,43	8,74	8,24	-5,76	1.273.270,00	10.400.241,18	11.130.438,21	1.262.688,00
T - Ausl 11 Empoli	5,00	8,22	7,72	-6,05	389.870,00	3.011.190,11	3.202.806,34	389.914,00
T - Ausl 12 Viareggio	3,94	8,89	8,16	-8,21	252.943,00	2.044.908,26	2.249.038,22	250.600,00

## Indicator F12a: Efficiency of Drug Prescription

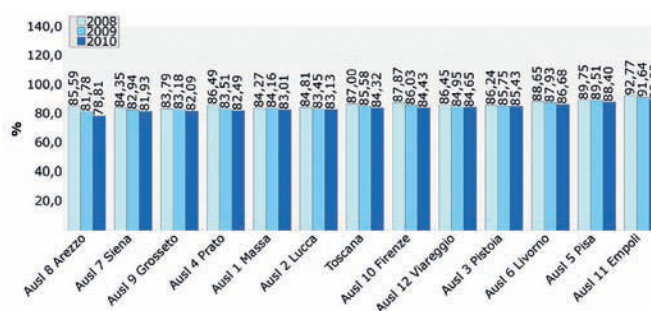
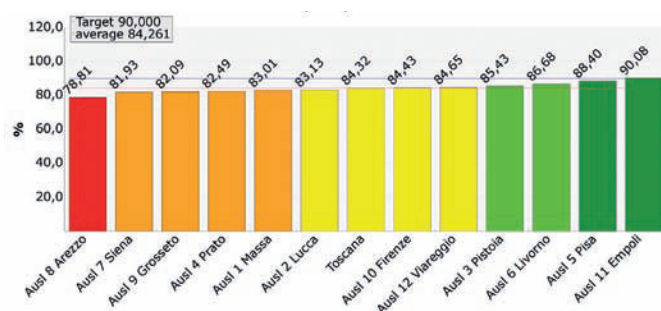
F12a.13 Antibiotics: average cost per box

<b>Definition:</b>	Average cost per box of antibiotics, distributed by pharmacies under the National Health System
<b>Numerator:</b>	Cost of antibiotics distributed x 100
<b>Denominator:</b>	Total No. of boxes of antibiotics distributed
<b>Formula:</b>	$\frac{\text{Cost of antibiotics distributed} \times 100}{\text{Total No. of boxes of antibiotics distributed}}$
<b>Notes:</b>	Antibiotics are ATC class J01. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatelyzza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 8 Euro per box



## 7.31 Indicator F12a.5: Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants)

F12a.5 – Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants)



F12a.5 Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,54	85,58	84,32	-1,47	49.176.340,00	49.889.403,00	57.461.084,00	59.164.217,00
T - Ausl 1 Massa	1,96	84,16	83,01	-1,37	2.965.203,00	2.974.220,00	3.523.463,00	3.582.798,00
T - Ausl 2 Lucca	2,01	83,45	83,13	-0,38	3.443.191,00	3.537.239,00	4.125.813,00	4.255.031,00
T - Ausl 3 Pistoia	3,03	85,75	85,43	-0,37	4.736.548,00	4.846.709,00	5.523.520,00	5.673.195,00
T - Ausl 4 Prato	1,73	83,51	82,49	-1,22	2.462.718,00	2.528.217,00	2.949.112,00	3.064.801,00
T - Ausl 5 Pisa	4,35	89,51	88,40	-1,24	4.369.049,00	4.427.474,00	4.881.163,00	5.008.190,00
T - Ausl 6 Livorno	3,58	87,93	86,68	-1,42	4.656.978,00	4.702.399,00	5.296.334,00	5.425.261,00
T - Ausl 7 Siena	1,48	82,94	81,93	-1,22	3.066.321,00	3.134.501,00	3.696.897,00	3.825.615,00
T - Ausl 8 Arezzo	0,09	81,78	78,81	-3,63	4.254.684,00	4.268.664,00	5.202.482,00	5.416.588,00
T - Ausl 9 Grosseto	1,55	83,18	82,09	-1,31	2.575.607,00	2.623.531,00	3.096.531,00	3.195.775,00
T - Ausl 10 Firenze	2,58	86,03	84,43	-1,86	11.225.973,00	11.312.647,00	13.048.191,00	13.398.771,00
T - Ausl 11 Empoli	5,00	91,64	90,08	-1,70	3.056.910,00	3.077.246,00	3.335.600,00	3.416.012,00
T - Ausl 12 Viareggio	2,68	84,95	84,65	-0,35	2.363.158,00	2.456.556,00	2.781.978,00	2.902.180,00

## Indicator F12a: Efficiency of Drug Prescription

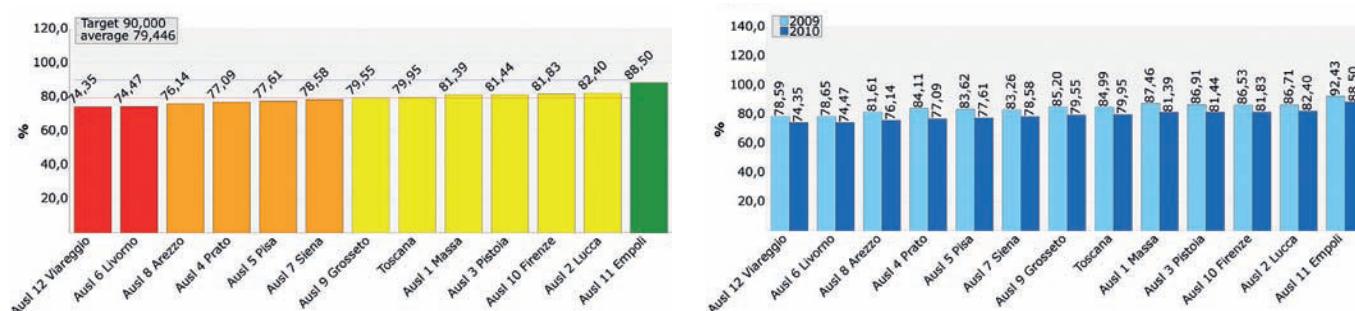
F12a.5 Percentage of off-patent selective serotonin reuptake inhibitors (Antidepressants)

<b>Definition:</b>	Percentage of selective serotonin reuptake inhibitors (SSRI) not covered by patent distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of SSRI not covered by patent; distributed x 100
<b>Denominator:</b>	Total No. of unit doses of SSRI distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of SSRI not covered by patent; distributed} \times 100}{\text{Total No. of unit doses of SSRI distributed}}$
<b>Notes:</b>	Selective serotonin reuptake inhibitors (SSRI) are ATC class N06AB. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 90\%$



## Indicator F12a.10: Percentage of other off-patent antidepressants (Anti-hypertension)

F12a.10 – Percentage of other off-patent antidepressants (Anti-hypertension)



F12a.10 Percentage of other off-patent antidepressants (Anti-hypertension)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,14	84,99	79,95	-5,93	15.346.202,00	15.706.508,00	18.056.469,00	19.645.469,00
T - Ausl 1 Massa	2,55	87,46	81,39	-6,94	1.046.232,00	1.018.201,00	1.196.179,00	1.250.970,00
T - Ausl 2 Lucca	2,84	86,71	82,40	-4,97	1.105.410,00	1.139.063,00	1.274.908,00	1.382.285,00
T - Ausl 3 Pistoia	2,57	86,91	81,44	-6,29	1.361.597,00	1.407.450,00	1.566.711,00	1.728.144,00
T - Ausl 4 Prato	1,32	84,11	77,09	-8,35	745.421,00	764.846,00	886.275,00	992.170,00
T - Ausl 5 Pisa	1,47	83,62	77,61	-7,18	1.030.743,00	1.034.712,00	1.232.609,00	1.333.171,00
T - Ausl 6 Livorno	0,57	78,65	74,47	-5,32	1.054.910,00	1.103.432,00	1.341.287,00	1.481.780,00
T - Ausl 7 Siena	1,75	83,26	78,58	-5,62	890.653,00	881.942,00	1.069.734,00	1.122.323,00
T - Ausl 8 Arezzo	1,05	81,61	76,14	-6,70	1.372.240,00	1.409.383,00	1.681.458,00	1.851.036,00
T - Ausl 9 Grosseto	2,02	85,20	79,55	-6,63	638.930,00	648.724,00	749.901,00	815.506,00
T - Ausl 10 Firenze	2,68	86,53	81,83	-5,43	4.393.668,00	4.512.965,00	5.077.505,00	5.514.917,00
T - Ausl 11 Empoli	4,58	92,43	88,50	-4,25	1.004.378,00	1.063.713,00	1.086.635,00	1.201.941,00
T - Ausl 12 Viareggio	0,54	78,59	74,35	-5,40	702.020,00	722.077,00	893.267,00	971.226,00

## Indicator F12a: Efficiency of Drug Prescription

F12a.10 Percentage of other off-patent antidepressants (Anti-hypertension)

<b>Definition:</b>	Percentage of other antidepressants not covered by patent distributed by pharmacies under the National Health System
<b>Numerator:</b>	No. of unit doses of other antidepressants not covered by patent distributed x 100
<b>Denominator:</b>	Total No. of unit doses of other antidepressants distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of other antidepressants not covered by patent distributed} \times 100}{\text{Total No. of unit doses of other antidepressants distributed}}$
<b>Notes:</b>	Other antidepressants are class ATC3 N06AX. Data is per providing Authority.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 90\%$





### 7.33 Indicator F20: Efficiency of Hospital Drug Prescription

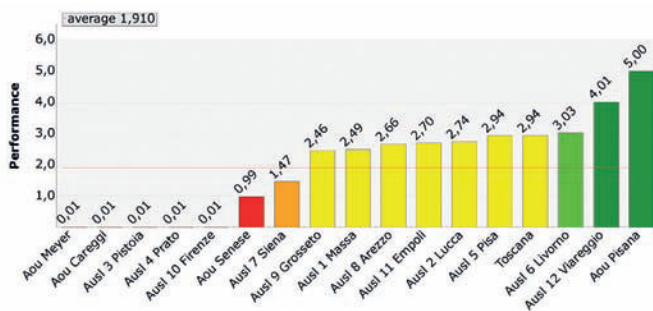
The indicator evaluates the use of some not patent-protected molecules in the wards and the impact of biological cancer drugs and immune suppressants on expenses.

Indicator	Performance	Year
F20 – Efficiency of Hospital Drug Prescription	2,94	2010

#### F20 Efficiency of Hospital Drug Prescription

- F20.1 – Biological cancer drugs: incidence on expenses: 45,45%
- F20.2 – Biological immunosuppressive drugs: incidence on expenses: 43,02%
- F20.3 – Percentage of erythropoietin off patent: 1,76% ■
- F20.4 – Percentage of somatotropin off patent: 3,94% ■
- F20.5 – Percentage of Filgrastim off patent: 20,24% ■

#### F20 – Efficiency of Hospital Drug Prescription



### Indicator F20: Efficiency of Hospital Drug Prescription

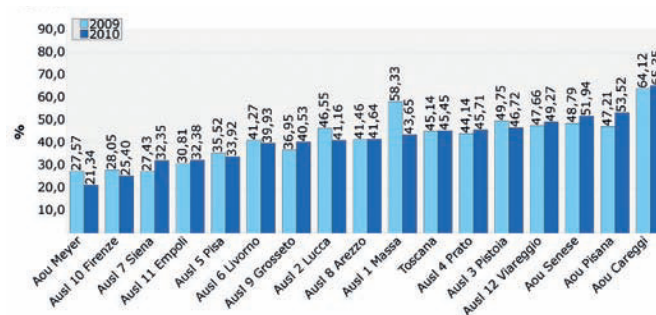
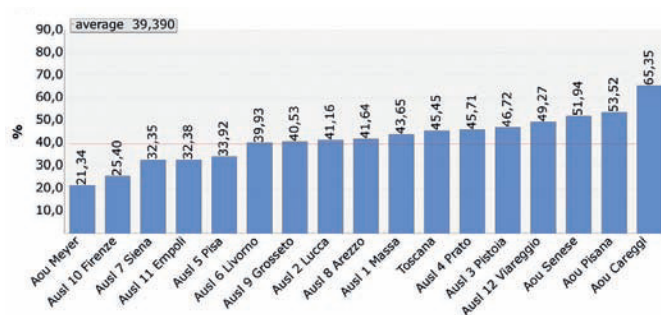
#### F20 Efficiency of Hospital Drug Prescription

**Notes** Indicator F20 has a value equal to the average score of indicators: F20.3, F20.4, F20.5



## Indicator F20.1: Biological cancer drugs: incidence on expenses 7.34

### F20.1 – Biological cancer drugs: incidence on expenses



### F20.1 Biological cancer drugs: incidence on expenses

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	45,14	45,45	0,69	43.611.825,00	48.599.395,34	96.610.129,00	106.921.286,82
T - Aysl 1 Massa	not assessed	58,33	43,65	-25,17	1.185.701,00	1.919.672,22	2.032.835,00	4.397.762,04
T - Aysl 2 Lucca	not assessed	46,55	41,16	-11,58	1.773.011,00	2.018.544,43	3.808.651,00	4.903.746,67
T - Aysl 3 Pistoia	not assessed	49,75	46,72	-6,09	2.923.236,00	3.264.482,83	5.875.647,00	6.987.666,83
T - Aysl 4 Prato	not assessed	44,14	45,71	3,56	2.175.994,00	2.636.868,18	4.929.336,00	5.768.972,89
T - Aysl 5 Pisa	not assessed	35,52	33,92	-4,50	1.166.155,00	1.345.363,00	3.282.998,00	3.966.446,45
T - Aysl 6 Livorno	not assessed	41,27	39,93	-3,25	3.441.727,00	3.310.780,67	8.339.252,00	8.292.226,64
T - Aysl 7 Siena	not assessed	27,43	32,35	17,94	609.958,00	844.627,27	2.223.638,00	2.610.795,45
T - Aysl 8 Arezzo	not assessed	41,46	41,64	0,43	2.693.342,00	2.900.982,70	6.495.521,00	6.967.584,36
T - Aysl 9 Grosseto	not assessed	36,95	40,53	9,69	1.059.156,00	1.060.814,18	2.866.308,00	2.617.406,16
T - Aysl 10 Firenze	not assessed	28,05	25,40	-9,45	3.238.578,00	3.196.391,44	11.544.671,00	12.582.123,04
T - Aysl 11 Empoli	not assessed	30,81	32,38	5,10	853.615,00	1.035.382,11	2.770.274,00	3.197.986,76
T - Aysl 12 Viareggio	not assessed	47,66	49,27	3,38	2.234.806,00	2.106.655,73	4.688.685,00	4.275.742,98
T - Aou Pisana	not assessed	47,21	53,52	13,37	7.121.629,00	9.193.872,32	15.085.185,00	17.179.145,35
T - Aou Senese	not assessed	48,79	51,94	6,46	4.259.609,00	5.003.167,46	8.730.275,00	9.631.786,60
T - Aou Careggi	not assessed	64,12	65,35	1,92	8.829.017,00	8.719.425,27	13.768.932,00	13.343.410,72
T - Aou Meyer	not assessed	27,57	21,34	-22,60	46.291,00	42.365,53	167.921,00	198.483,88

## Indicator F20: Efficiency of Hospital Drug Prescription

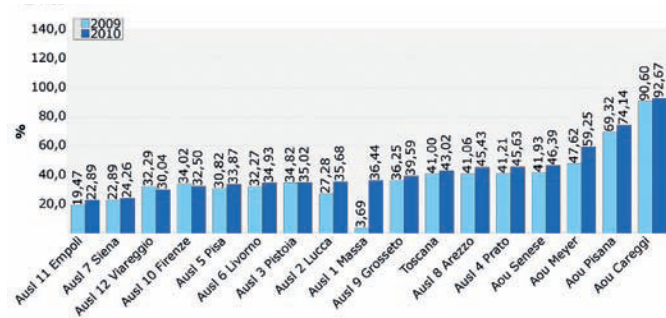
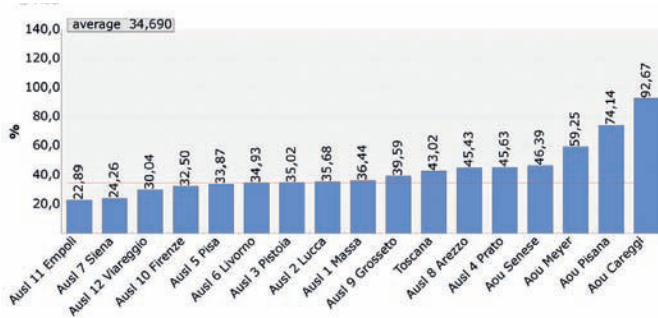
### F20.1 Biological cancer drugs: incidence on expenses

<b>Definition:</b>	Incidence on expenses of biological cancer drugs distributed within the wards
<b>Numerator:</b>	Cost for biological cancer drugs distributed x 100
<b>Denominator:</b>	Total cost for cancer drugs distributed
<b>Formula:</b>	$\frac{\text{Cost for biological cancer drugs distributed} \times 100}{\text{Total cost for cancer drugs distributed}}$
<b>Notes:</b>	Cancer drugs are ATC class L01. Data is per providing Authority. Data includes direct supply.
<b>Source:</b>	Data SFERA – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatezza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 34% per Aysl ≤ 52% per AOU (excluding AOU Meyer)



## 7.35 Indicator F20.2: Biological immunosuppressive drugs: incidence on expenses

### F20.2 – Biological immunosuppressive drugs: incidence on expenses



### F20.2 Biological immunosuppressive drugs: incidence on expenses

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	41,00	43,02	4,93	24.892.500,69	29.724.046,38	60.719.679,45	69.088.243,12
T - Ausl 1 Massa	not assessed	3,69	36,44	887,53	10.257,52	771.917,40	277.986,36	2.118.116,97
T - Ausl 2 Lucca	not assessed	27,28	35,68	30,79	551.966,82	1.070.162,15	2.023.173,01	2.999.590,91
T - Ausl 3 Pistoia	not assessed	34,82	35,02	0,57	1.361.937,93	1.616.129,03	3.911.507,50	4.614.697,44
T - Ausl 4 Prato	not assessed	41,21	45,63	10,73	2.495.886,12	3.249.127,20	6.056.955,02	7.120.406,45
T - Ausl 5 Pisa	not assessed	30,82	33,87	9,90	995.207,44	1.247.058,72	3.228.914,46	3.682.106,58
T - Ausl 6 Livorno	not assessed	32,27	34,93	8,24	1.387.689,27	1.708.038,88	4.299.889,08	4.889.495,90
T - Ausl 7 Siena	not assessed	22,89	24,26	5,99	285.495,05	421.279,97	1.247.018,61	1.736.686,67
T - Ausl 8 Arezzo	not assessed	41,06	45,43	10,64	1.729.950,14	2.459.488,21	4.212.780,64	5.413.512,12
T - Ausl 9 Grosseto	not assessed	36,25	39,59	9,21	1.389.364,70	1.337.636,58	3.832.230,37	3.378.431,84
T - Ausl 10 Firenze	not assessed	34,02	32,50	-4,47	3.764.673,55	4.105.813,64	11.067.560,47	12.631.759,57
T - Ausl 11 Empoli	not assessed	19,47	22,89	17,57	443.418,76	656.775,61	2.277.921,60	2.869.891,92
T - Ausl 12 Viareggio	not assessed	32,29	30,04	-6,97	706.857,36	691.322,71	2.189.191,22	2.301.009,45
T - Aou Pisana	not assessed	69,32	74,14	6,95	2.173.219,00	2.160.464,93	3.134.829,00	2.914.014,02
T - Aou Senese	not assessed	41,93	46,39	10,64	3.463.521,00	3.177.695,47	8.259.403,00	6.849.941,43
T - Aou Careggi	not assessed	90,60	92,67	2,28	3.994.208,00	4.857.837,08	4.408.745,00	5.242.359,02
T - Aou Meyer	not assessed	47,62	59,25	24,42	138.848,00	193.298,80	291.574,00	326.222,83

## Indicator F20: Efficiency of Hospital Drug Prescription

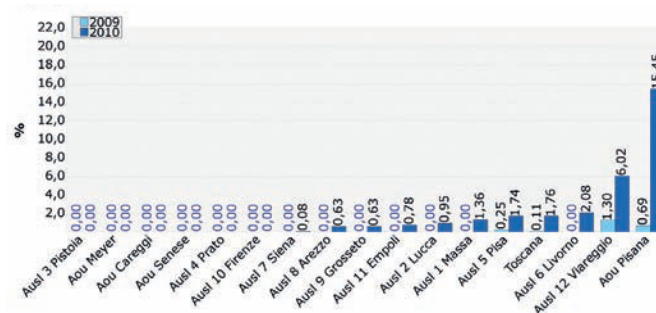
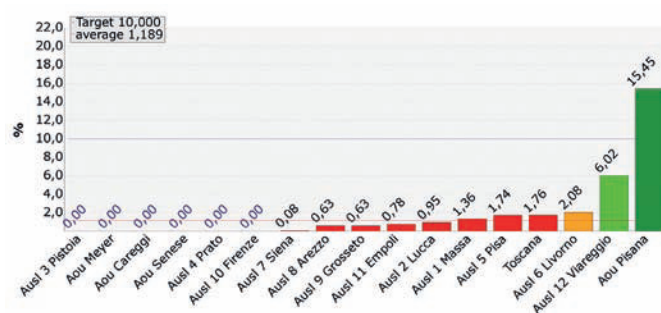
### F20.2 Biological immunosuppressive drugs: incidence on expenses

<b>Definition:</b>	Incidence on expenses of biological immunosuppressive provided within the wards
<b>Numerator:</b>	Expenses for biological immunosuppressive drugs provided x 100
<b>Denominator:</b>	Overall expenses for immunosuppressive drugs provided
<b>Formula:</b>	$\frac{\text{Expenses for biological immunosuppressive drugs provided} \times 100}{\text{Overall expenses for immunosuppressive drugs provided}}$
<b>Notes:</b>	Immunosuppressive drugs are ATC classL04. Data is per providing Authority. Data includes direct supply.
<b>Source:</b>	Data FES Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≤ 33% per Ausl ≤ 60% per AOU (excluding AOU Meyer)



## Indicator F20.3: Percentage of erythropoietin off patent 7.36

### F20.3 – Percentage of erythropoietin off patent



### F20.3 Percentage of erythropoietin off patent

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	0,89	0,11	1,76	1.500,00	374,00	6.033,00	327.976,00	343.427,00
T - Aou 1 Massa	0,69	0,00	1,36	(*)	0,00	306,00	11.759,00	22.582,00
T - Aou 2 Lucca	0,49	0,00	0,95	(*)	0,00	207,00	21.774,00	21.693,00
T - Aou 3 Pistoia	0,01	0,00	0,00	(*)	0,00	0,00	16.236,00	15.599,00
T - Aou 4 Prato	0,01	0,00	0,00	(*)	0,00	0,00	8.141,00	8.835,00
T - Aou 5 Pisa	0,88	0,25	1,74	596,00	40,00	328,00	16.024,00	18.866,00
T - Aou 6 Livorno	1,05	0,00	2,08	(*)	0,00	694,00	33.690,00	33.363,00
T - Aou 7 Siena	0,05	0,00	0,08	(*)	0,00	19,00	18.847,00	22.776,00
T - Aou 8 Arezzo	0,33	0,00	0,63	(*)	0,00	185,00	29.327,00	29.164,00
T - Aou 9 Grosseto	0,33	0,00	0,63	(*)	0,00	84,00	16.678,00	13.250,00
T - Aou 10 Firenze	0,01	0,00	0,00	(*)	0,00	0,00	83.508,00	77.607,00
T - Aou 11 Empoli	0,40	0,00	0,78	(*)	0,00	173,00	18.856,00	22.054,00
T - Aou 12 Viareggio	3,02	1,30	6,02	363,08	220,00	1.121,00	16.947,00	18.614,00
T - Aou Pisana	5,00	0,69	15,45	2.139,13	114,00	2.916,00	16.568,00	18.879,00
T - Aou Senese	0,01	0,00	0,00	(*)	0,00	0,00	13.040,00	13.276,00
T - Aou Careggi	0,01	0,00	0,00	(*)	0,00	0,00	5.194,00	5.860,00
T - Aou Meyer	0,01	0,00	0,00	(*)	0,00	0,00	1.387,00	874,00

## Indicator F20: Efficiency of Hospital Drug Prescription

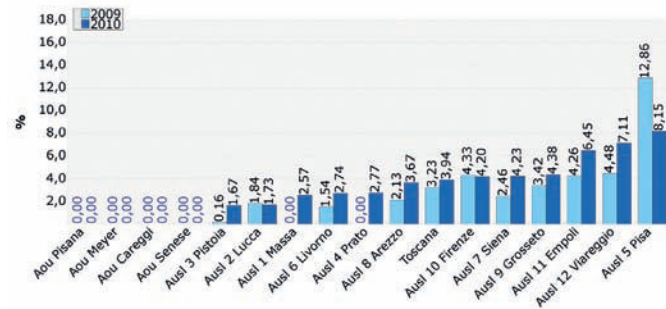
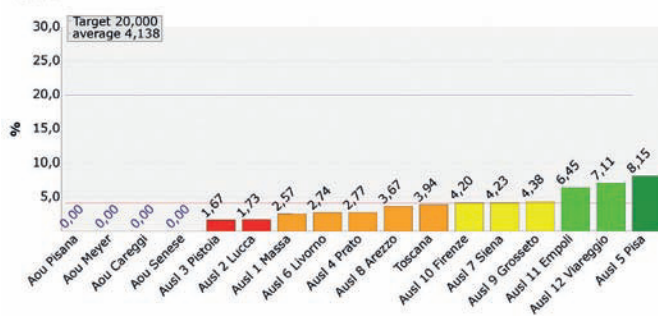
### F20.3 Percentage of erythropoietin off patent

<b>Definition:</b>	Percentage of erythropoietin distributed within the wards
<b>Numerator:</b>	No. of unit doses of erythropoietin distributed x 100
<b>Denominator:</b>	Total No. of unit doses of erythropoietin distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of erythropoietin, distributed} \times 100}{\text{Total No. of unit doses of erythropoietin distributed}}$
<b>Notes:</b>	Erythropoietin ia class ATC3 B03XA01. Data is per providing Authority. Data includes direct supply.
<b>Source:</b>	Data FES Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 10\%$



### 7.37 Indicator F20.4: Percentage of somatotropin off patent

F20.4 – Percentage of somatotropin off patent



F20.4 Percentage of somatotropin off patent

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,98	3,23	3,94	21,90	2.666,00	3.106,00	82.568,00	78.888,00
T - Ausl 1 Massa	1,29	0,00	2,57	(*)	0,00	178,00	1.226,00	6.933,00
T - Ausl 2 Lucca	0,88	1,84	1,73	-5,90	93,00	95,00	5.060,00	5.487,00
T - Ausl 3 Pistoia	0,84	0,16	1,67	941,25	8,00	83,00	5.012,00	4.982,00
T - Ausl 4 Prato	1,39	0,00	2,77	(*)	0,00	135,00	4.705,00	4.878,00
T - Ausl 5 Pisa	4,08	12,86	8,15	-36,66	750,00	487,00	5.830,00	5.979,00
T - Ausl 6 Livorno	1,38	1,54	2,74	77,72	199,00	296,00	12.957,00	10.815,00
T - Ausl 7 Siena	2,13	2,46	4,23	72,05	140,00	287,00	5.687,00	6.781,00
T - Ausl 8 Arezzo	1,84	2,13	3,67	72,18	176,00	232,00	8.267,00	6.326,00
T - Ausl 9 Grosseto	2,20	3,42	4,38	28,04	170,00	140,00	4.965,00	3.197,00
T - Ausl 10 Firenze	2,11	4,33	4,20	-3,03	697,00	598,00	16.083,00	14.242,00
T - Ausl 11 Empoli	3,23	4,26	6,45	51,40	175,00	220,00	4.109,00	3.411,00
T - Ausl 12 Viareggio	3,57	4,48	7,11	58,80	258,00	355,00	5.756,00	4.990,00
T - Aou Pisana	0,01	0,00	0,00	(*)	0,00	0,00	2.173,00	45,00
T - Aou Senese	0,01	0,00	0,00	(*)	0,00	0,00	655,00	740,00
T - Aou Careggi	0,01	0,00	0,00	(*)	0,00	0,00	0,00	8,00
T - Aou Meyer	0,01	0,00	0,00	(*)	0,00	0,00	83,00	74,00

### Indicator F20: Efficiency of Hospital Drug Prescription

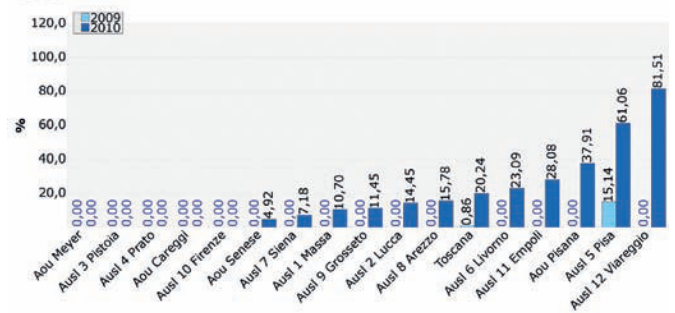
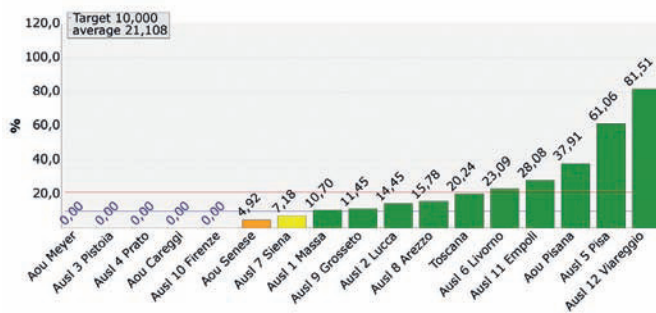
F20.4 Percentage of somatotropin off patent

<b>Definition:</b>	Percentage of somatotropin distributed within the wards
<b>Numerator:</b>	No. of unit doses of somatotropin distributed x 100
<b>Denominator:</b>	Total No. of unit doses of somatotropin distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of somatotropin distributed} \times 100}{\text{Total No. of unit doses of somatotropin distributed}}$
<b>Notes:</b>	Somatotropin belongs to class ATC3 H01AC01. Data is per providing Authority. Data includes direct supply.
<b>Source:</b>	Data FES Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriatazza e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: ≥ 20%



## Indicator F20.5: Percentage of Filgrastim off patent 7.38

### F20.5 – Percentage of Filgrastim off patent



### F20.5 Percentage of Filgrastim of patent

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	5,00	0,86	20,24	2.253,04	164,00	3.994,00	19.005,00	19.737,00
T - Ausl 1 Massa	4,29	0,00	10,70	(*)	0,00	66,00	465,00	617,00
T - Ausl 2 Lucca	5,00	0,00	14,45	(*)	0,00	147,00	1.037,00	1.017,00
T - Ausl 3 Pistoia	0,01	0,00	0,00	(*)	0,00	0,00	391,00	308,00
T - Ausl 4 Prato	0,01	0,00	0,00	(*)	0,00	0,00	456,00	475,00
T - Ausl 5 Pisa	5,00	15,14	61,06	303,30	164,00	461,00	1.083,00	755,00
T - Ausl 6 Livorno	5,00	0,00	23,09	(*)	0,00	395,00	2.211,00	1.711,00
T - Ausl 7 Siena	2,88	0,00	7,18	(*)	0,00	77,00	1.006,00	1.073,00
T - Ausl 8 Arezzo	5,00	0,00	15,78	(*)	0,00	140,00	606,00	887,00
T - Ausl 9 Grosseto	4,59	0,00	11,45	(*)	0,00	108,00	892,00	943,00
T - Ausl 10 Firenze	0,01	0,00	0,00	(*)	0,00	0,00	1.551,00	2.140,00
T - Ausl 11 Empoli	5,00	0,00	28,08	(*)	0,00	82,00	143,00	292,00
T - Ausl 12 Viareggio	5,00	0,00	81,51	(*)	0,00	1.049,00	65,00	1.287,00
T - Aou Pisana	5,00	0,00	37,91	(*)	0,00	1.274,00	3.768,00	3.361,00
T - Aou Senese	1,98	0,00	4,92	(*)	0,00	195,00	5.011,00	3.965,00
T - Aou Careggi	0,01	0,00	0,00	(*)	0,00	0,00	308,00	890,00
T - Aou Meyer	0,01	0,00	0,00	(*)	0,00	0,00	12,00	16,00

## Indicator F20: Efficiency of Hospital Drug Prescription

### F20.5 Percentage of Filgrastim off patent

<b>Definition:</b>	Percentage of Filgrastim distributed within the wards
<b>Numerator:</b>	No. of unit doses of Filgrastim distributed x 100
<b>Denominator:</b>	Total No. of unit doses of Filgrastim distributed
<b>Formula:</b>	$\frac{\text{No. of unit doses of Filgrastim distributed} \times 100}{\text{Total No. of unit doses of Filgrastim distributed}}$
<b>Notes:</b>	Filgrastim belongs to class ATC3 L03AA02. Data is per providing Authority. Data includes direct supply.
<b>Source:</b>	Data FES Flow – Drug Policy Sector, Innovation and Appropriateness of the Tuscany Region (Settore Politiche del Farmaco, Appropriata e Innovazione, Regione Toscana)
<b>Reference:</b>	Regional goal: $\geq 10\%$



### 7.39 Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

The indicator is structured in four macro indicators that analyse phenomena of great importance for the monitoring of the sector Prevention, Hygiene and Safety in the Workplace Safety and Health (PISLL): Territory Coverage, Production Efficiency, Results, and Flows. In particular, compared to last year, some indicators have been introduced; they use the System of Finished Products as an official recognition source for the activities of the Prevention Departments, which entered into force on a trial basis in 2008.

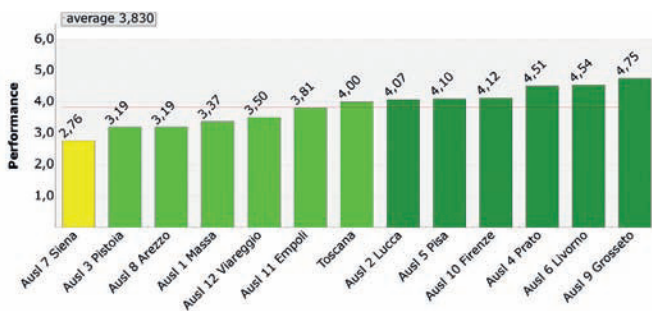
The most representative result indicator is the accident rate, but to date updated data are not yet available, the latest data available are that of 2007. As happens with other indicators of health status (outcome), the accident rate is only partly influenced by the activities of departments for prevention as there are many factors that influence it. However, carrying out checks, inspections and surveys, and the establishment of an adequate number of hours of training in an extensive territory can be prerequisites for obtaining a greater safety in the workplace, and can be some of the elements to rely on in order to prevent accidents at work.

Indicator	Performance	Year
F15 – Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)	● 4,00	2010

#### F15 Efficiency and Effectiveness of prevention hygiene and Safety on Workplace Services (PISLL)

- F15.1 – Territory coverage: ■
  - F15.1.8 – Territory coverage with respect to the number of farms checked: 150,14% ■
  - F15.1.7 – Territory coverage with respect to services delivered n. 25-26-72: 1,08
  - F15.1.4 – Territory coverage with respect to training activity per 1,000 workers: 4,75
  - F15.1.6 – Territory coverage with respect to the various construction sites inspected: 111,17% ■
- F15.2 – Efficiency: ■
  - F15.2.1 – Efficiency with respect to the Vigilance Activity:
  - F15.2.2 – Efficiency with respect to the training period for external users: 14,81 Average value
  - F15.2.3 – Efficiency with respect to the Health Activity:
  - F15.2.4 – Efficiency with respect to services delivered n. 25-26-27-72: 44,03 ■
  - F15.2.5 – Efficiency with respect to the number of prescriptions: 11,19
- F15.3 – Results: ■
  - F15.3.1 – Standardized rate of accidents: 32,17 per 1,000 inhabitants ■
  - F15.3.3 – Results with respect to the number of prescriptions: 29,88
- F15.4 – Flows: ■
  - F15.4.1 – Punctuality with regard to flows: 2,78% ■
  - F15.4.2 – Data quality with regard to flows: 95,28% ■

#### F15 – Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)



### Indicator F15: Efficiency and Effectiveness of Prevention, Hygiene and Safety in Workplace Services (Servizi di Prevenzione Igiene e Sicurezza nei luoghi di lavoro PISLL)

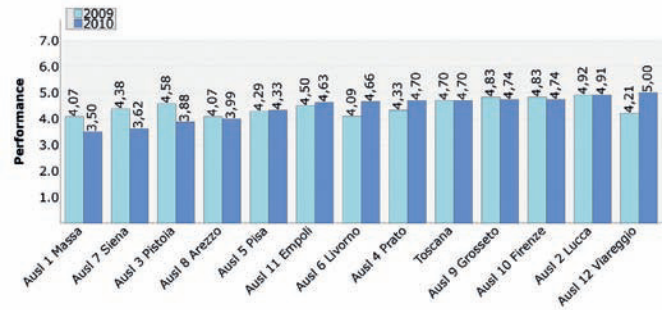
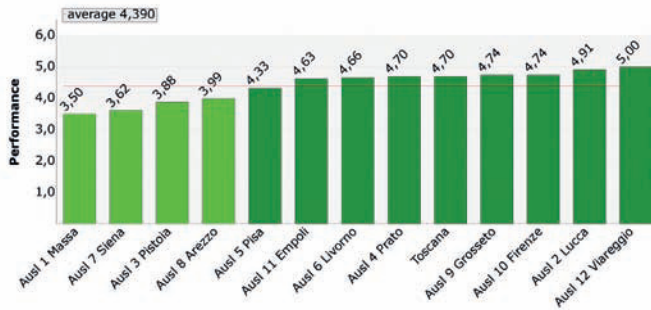
Notes
Indicator F15 has a value equal to the average score of indicators: F15.1, F15.2, F15.3, F15.4. Indicator F15.1 has a value equal to the average score of indicators: F15.1.6, F15.1.8. Indicator F15.2 has a value equal to the average score of indicator: F15.2.4. Indicator F15.3 has a value equal to the average score of indicator: F15.3.1. Indicator F15.4 has a value equal to the average score of indicators: F15.4.1, F15.4.2.



**Indicator F15.1: Territory coverage 7.40**

The Territory Coverage indicators show the extent to which the department activities can meet the needs of the territory. In particular the activities of the department are divided in inspection and supervision, and training (which is strongly oriented to prevention in the workplace).

**F15.1 – Territory coverage**



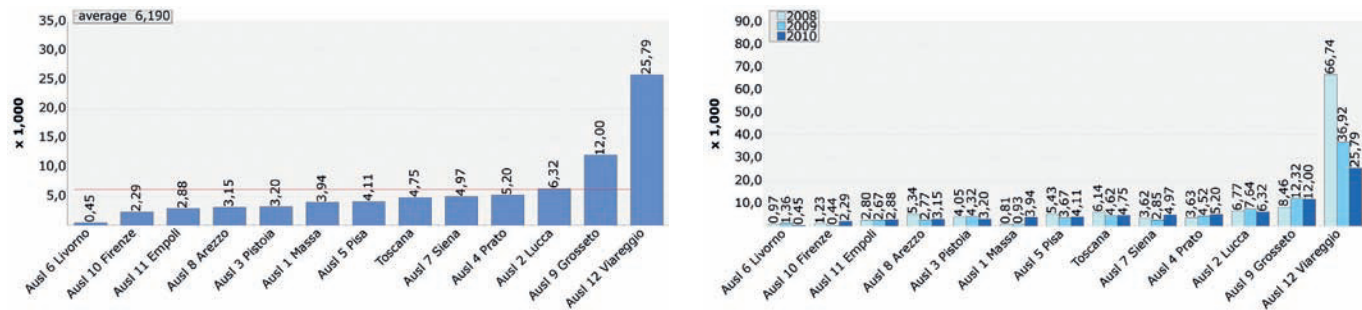




## 7.41 Indicator F15.1.4: Territory Coverage with respect to training activity per 1,000 workers

This indicator emphasizes the importance of training as a means of prevention of work accidents. The training provides a good indication of potential long-term results (fewer accidents are expected in workplaces where such activity is widely held), even though the real outcome will be known only after some time.

**F15.1.4** – Territory Coverage with respect to training activity per 1,000 workers



**F15.1.4** Territory Coverage with respect to training activity per 1,000 workers

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	4,62	4,75	2,81	6.588,50	6.781,00	1.427.402,00	1.427.402,00
T - Ausl 1 Massa	not assessed	0,93	3,94	323,66	65,00	274,00	69.558,00	69.558,00
T - Ausl 2 Lucca	not assessed	7,64	6,32	-17,28	650,00	537,00	85.027,00	85.027,00
T - Ausl 3 Pistoia	not assessed	4,32	3,20	-25,93	487,00	361,00	112.745,00	112.745,00
T - Ausl 4 Prato	not assessed	4,52	5,20	15,04	463,00	532,00	102.386,00	102.386,00
T - Ausl 5 Pisa	not assessed	3,67	4,11	11,99	473,00	530,00	128.886,00	128.886,00
T - Ausl 6 Livorno	not assessed	1,36	0,45	-66,91	168,00	56,00	123.552,00	123.552,00
T - Ausl 7 Siena	not assessed	2,85	4,97	74,39	301,00	526,00	105.747,00	105.747,00
T - Ausl 8 Arezzo	not assessed	2,77	3,15	13,72	377,00	429,00	136.148,00	136.148,00
T - Ausl 9 Grosseto	not assessed	12,32	12,00	-2,60	979,50	954,00	79.508,00	79.508,00
T - Ausl 10 Firenze	not assessed	0,44	2,29	420,45	145,00	755,00	329.903,00	329.903,00
T - Ausl 11 Empoli	not assessed	2,67	2,88	7,87	250,00	269,00	93.542,00	93.542,00
T - Ausl 12 Viareggio	not assessed	36,92	25,79	-30,15	2.230,00	1.558,00	60.400,00	60.400,00

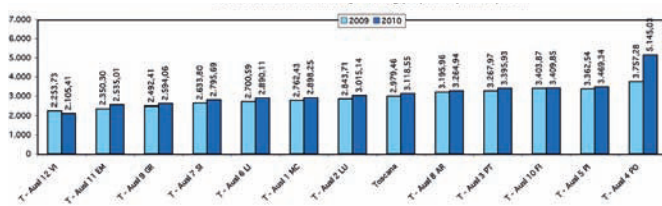
## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

**F15.1.4** Territory Coverage with respect to training activity per 1,000 workers

<b>Definition:</b>	Territory coverage with reference to the number of training hours per 1,000 workers
<b>Numerator:</b>	Number of training hours
<b>Denominator:</b>	Number of working people
<b>Formula:</b>	$\frac{\text{Number of training hours} \times 1,000}{\text{Number of working people}}$
<b>Source:</b>	Training hours: Ministry File B, entry 9.1 Working population: Data ISTAT 2001
<b>Reference:</b>	Inter Authority Average



### F15.1.4s – Structural efficiency with reference to the number of employees with respect to personnel (PISLL)



### F15.1.4s Structural efficiency with reference to the number of employees with respect to personnel (PISLL)

Health Authority	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Ausl 12 VI	2.253,73	2.105,41	-0,066	60.400	60.400	26,8	28,7
T - Ausl 11 EM	2.350,30	2.535,01	0,079	93.542	93.542	39,8	36,9
T - Ausl 9 GR	2.492,41	2.594,06	0,041	79.508	79.508	31,9	30,7
T - Ausl 7 SI	2.633,80	2.795,69	0,061	105.747	105.747	40,2	37,8
T - Ausl 6 LI	2.700,59	2.890,11	0,070	123.552	123.552	45,8	42,3
T - Ausl 1 MS	2.762,43	2.898,25	0,049	69.558	69.558	25,2	24,0
T - Ausl 2 LU	2.843,71	3.015,14	0,060	35.027	35.027	29,9	28,2
T - Toscana	2.979,46	3.118,55	0,047	1.427.402	1.427.402	479,1	457,7
T - Ausl 8 AR	3.195,96	3.264,94	0,022	136.148	136.148	42,6	41,7
T - Ausl 3 PT	3.267,97	3.395,93	0,039	112.745	112.745	34,5	33,2
T - Ausl 10 FI	3.403,87	3.409,85	0,002	329.903	329.903	96,9	96,8
T - Ausl 5 PI	3.362,54	3.469,34	0,032	128.886	128.886	38,3	37,2
T - Ausl 4 PO	3.757,28	5.145,03	0,369	102.386	102.386	27,3	19,9

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.1.4s Structural efficiency with reference to the number of employees with respect to personnel (PISLL)

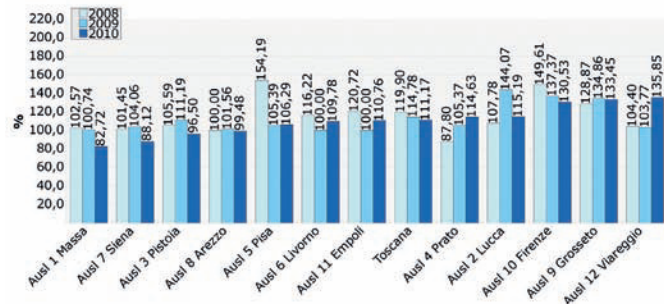
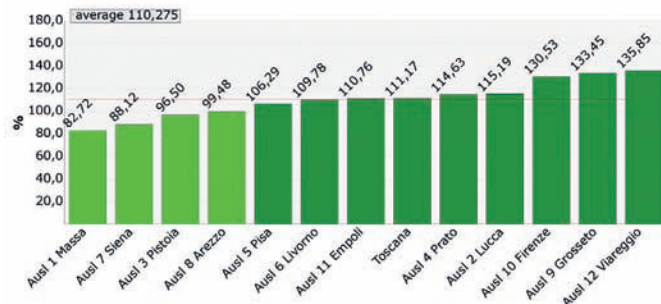
<b>Definition:</b>	Structural efficiency related to the number of employees with respect to qualified personnel
<b>Numerator:</b>	Number of working people
<b>Denominator:</b>	Number of qualified personnel members
<b>Formula:</b>	$\frac{\text{Number of working people}}{\text{Number of qualified personnel members}}$
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average



## 7.42 Indicator F15.1.6: Territory Coverage with respect to the various construction sites inspected

This territory coverage indicator shows the number of sites in which the objective set by resolution 330/2008 has been achieved, as compared to the total local units inspected.

**F15.1.6** – Territory Coverage with respect to the various construction sites inspected



**F15.1.6** Territory Coverage with respect to the various construction sites inspected

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,93	114,78	111,17	-3,15	4.591,00	4.447,00	4.000,00	4.000,00
T - Ausl 1 Massa	3,14	100,74	82,72	-17,89	274,00	225,00	272,00	272,00
T - Ausl 2 Lucca	5,00	144,07	115,19	-20,05	389,00	311,00	270,00	270,00
T - Ausl 3 Pistoia	3,83	111,19	96,50	-13,21	318,00	276,00	286,00	286,00
T - Ausl 4 Prato	5,00	105,37	114,63	8,79	216,00	235,00	205,00	205,00
T - Ausl 5 Pisa	4,52	105,39	106,29	0,85	352,00	355,00	334,00	334,00
T - Ausl 6 Livorno	4,81	100,00	109,78	9,78	450,00	494,00	450,00	450,00
T - Ausl 7 Siena	3,41	104,06	88,12	-15,32	359,00	304,00	345,00	345,00
T - Ausl 8 Arezzo	3,97	101,56	99,48	-2,05	390,00	382,00	384,00	384,00
T - Ausl 9 Grosseto	5,00	134,86	133,45	-1,05	383,00	379,00	284,00	284,00
T - Ausl 10 Firenze	5,00	137,37	130,53	-4,98	1.044,00	992,00	760,00	760,00
T - Ausl 11 Empoli	4,90	100,00	110,76	10,76	251,00	278,00	251,00	251,00
T - Ausl 12 Viareggio	5,00	103,77	135,85	30,91	165,00	216,00	159,00	159,00

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

**F15.1.6** Territory Coverage with respect to the various construction sites inspected

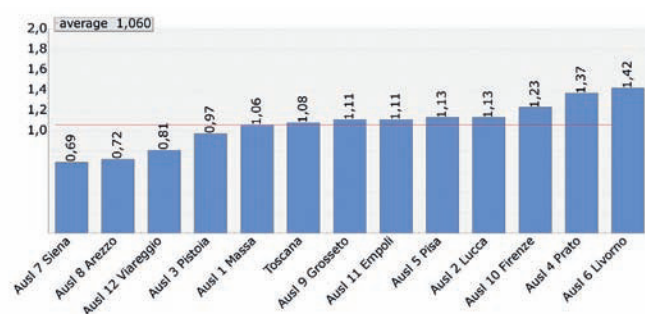
<b>Definition:</b>	Territory Coverage with respect to the various construction sites inspected
<b>Numerator:</b>	Number of different construction sites inspected
<b>Denominator:</b>	Number of construction sites to inspect according to the Regional Committee Resolution (DGR) 330 of 2008
<b>Formula:</b>	$\frac{\text{Number of different construction sites inspected}}{\text{Number of construction sites to inspect according to the DGR 330 of 2008}} \times 100$
<b>Target:</b>	The inspection of a number of companies not inferior to that set by the Regional Construction Plan for each Local Health Authority
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division Regional Construction Plan (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro Piano Regionale Edilizia)



## Indicator F15.1.7: Territory Coverage with respect to services delivered n. 25-26-72 7.43

This is a new indicator of territory coverage that considers the activities of the finished products 25, 26 and 72, compared to the number of local units to be controlled. This indicator has been identified as an evolution of the F15 .1.1 on local units inspected compared to the total units. Note: With regard to the PF 25 of the AUSL 7, there is a disproportion with the corresponding activity data on the local units inspected, which are well above (about double). This is due to a very restrictive interpretation of PF 25. The resulting underestimation of the work associated with the PF 25 means that the AUSL 7 is greatly penalized in terms of both coverage and efficiency.

### F15.1.7 – Territory Coverage with respect to services delivered n. 25-26-72



### F15.1.7 Territory Coverage with respect to services delivered n. 25-26-72

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	1,08	not assessed	17.147,00	15.939,01	2010
T - Ausl 1 Massa	1,06	not assessed	970,00	911,20	2010
T - Ausl 2 Lucca	1,13	not assessed	1.027,00	907,30	2010
T - Ausl 3 Pistoia	0,97	not assessed	1.091,00	1.129,76	2010
T - Ausl 4 Prato	1,37	not assessed	928,00	676,23	2010
T - Ausl 5 Pisa	1,13	not assessed	1.342,00	1.186,32	2010
T - Ausl 6 Livorno	1,42	not assessed	2.124,00	1.495,08	2010
T - Ausl 7 Siena	0,69	not assessed	794,00	1.156,89	2010
T - Ausl 8 Arezzo	0,72	not assessed	1.352,00	1.868,67	2010
T - Ausl 9 Grosseto	1,11	not assessed	1.581,00	1.423,93	2010
T - Ausl 10 Firenze	1,23	not assessed	4.202,00	3.407,01	2010
T - Ausl 11 Empoli	1,11	not assessed	1.096,00	985,55	2010
T - Ausl 12 Viareggio	0,81	not assessed	640,00	791,06	2010

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.1.7 Territory Coverage with respect to services delivered n. 25-26-72

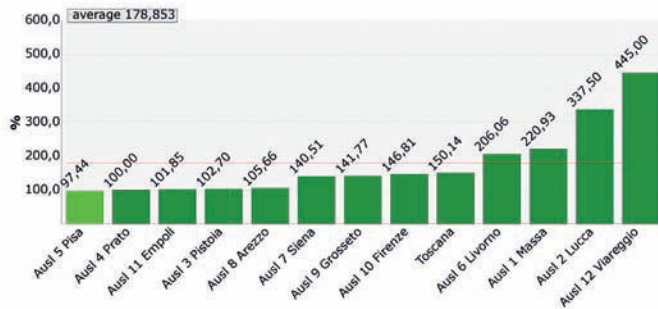
<b>Definition:</b>	Territory coverage with respect to services delivered 25-26-72
<b>Numerator:</b>	Final products 25-26-72
<b>Denominator:</b>	Local units in charge according to DGR 330/2008 adjusted on the basis of the percentage of qualified operators set in 2010
<b>Notes:</b>	The sum of PF (final products) 25, 26 and 72 must be at least equal to the number of local units in charge according to the DGR 330/2008, adjusted proportionally on the basis of the variation of qualified operators set in 2010.
<b>Target:</b>	The indicator is the ratio between the sum of PF 25, 26, 72, and the local units adjusted and it shall be $\geq 1$ .
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)



## 7.44 Indicator F15.1.8: Territory Coverage with respect to the number of farms checked

The territory coverage also requires the surveying of farms. The data source comes from the Regional Plan for Agriculture (formalized by the DGR 783/2010 and DD 5395) which in turn trickles down from the National Plan for Agriculture and Forestry (PNPAS). The latter requires the Tuscany Region to inspect 700 farms in 2010. The flow of controlled farms, identified through the Ministerial file B, has been collected since 2007 and it is, therefore, a well-established flow.

### F15.1.8 – Territory Coverage with respect to the number of farms checked



### F15.1.8 Territory Coverage with respect to the number of farms checked

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	150,14%	4,15	1.051,00	700,00	2010
T - Ausl 1 Massa	220,93%	4,35	95,00	43,00	2010
T - Ausl 2 Lucca	337,50%	4,69	54,00	16,00	2010
T - Ausl 3 Pistoia	102,70%	4,01	76,00	74,00	2010
T - Ausl 4 Prato	100,00%	4,00	5,00	5,00	2010
T - Ausl 5 Pisa	97,44%	3,87	38,00	39,00	2010
T - Ausl 6 Livorno	206,06%	4,31	68,00	33,00	2010
T - Ausl 7 Siena	140,51%	4,12	222,00	158,00	2010
T - Ausl 8 Arezzo	105,66%	4,02	56,00	53,00	2010
T - Ausl 9 Grosseto	141,77%	4,12	224,00	158,00	2010
T - Ausl 10 Firenze	146,81%	4,14	69,00	47,00	2010
T - Ausl 11 Empoli	101,85%	4,01	55,00	54,00	2010
T - Ausl 12 Viareggio	445,00%	5,00	89,00	20,00	2010

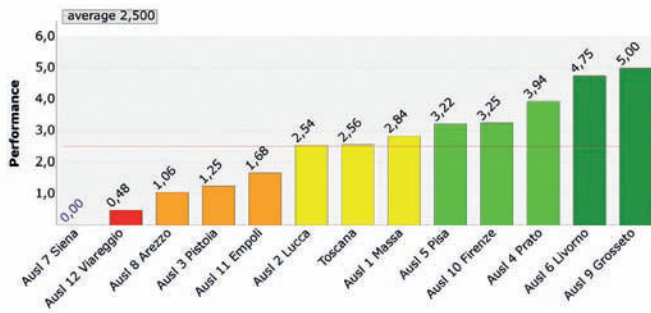
## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.1.8 Territory coverage with reference to the number of farms checked

<b>Definition:</b>	Territory coverage with reference to the number of farms checked
<b>Numerator:</b>	Number of farms checked
<b>Denominator:</b>	Number of farms to inspect according to DGR 330/2008
<b>Formula:</b>	$\frac{\text{Number of farms checked}}{\text{Number of farms to inspect according to DGR 330/2008}} \times 100$
<b>Target:</b>	The inspection of a number of farms not inferior to that set by the Regional Agriculture Plan for each Local Health Authority
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division Regional Agriculture Plan (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro Piano Regionale Edilizia)



F15.2 – Efficiency

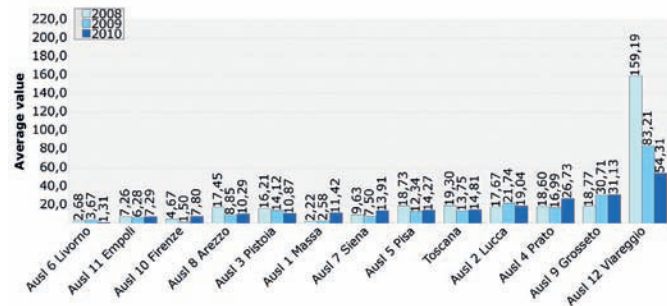
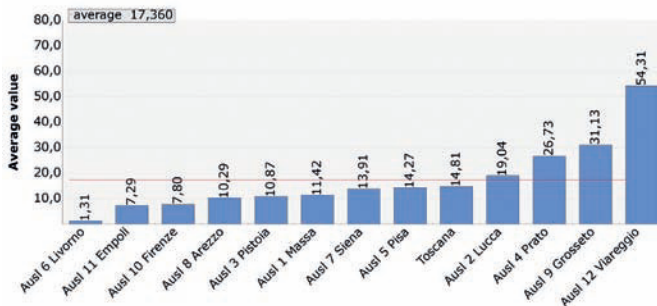




## 7.46 Indicator F15.2.2: Efficiency with respect to the training period for external users

The following indicator on the average number of hours of training provides a measure of the efficiency with which the PISLL staff members fulfil their job.

### F15.2.2 – Efficiency with respect to the training period for external users



### F15.2.2 Efficiency with respect to the training period for external users

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	13,75	14,81	7,71	6.588,50	6.781,00	479,08	457,71
T - Asl 1 Massa	not assessed	2,58	11,42	342,64	65,00	274,00	25,18	24,00
T - Asl 2 Lucca	not assessed	21,74	19,04	-12,42	650,00	537,00	29,90	28,20
T - Asl 3 Pistoia	not assessed	14,12	10,87	-23,02	487,00	361,00	34,50	33,20
T - Asl 4 Prato	not assessed	16,99	26,73	57,33	463,00	532,00	27,25	19,90
T - Asl 5 Pisa	not assessed	12,34	14,27	15,64	473,00	530,00	38,33	37,15
T - Asl 6 Livorno	not assessed	3,67	1,31	-64,31	168,00	56,00	45,75	42,75
T - Asl 7 Siena	not assessed	7,50	13,91	85,47	301,00	526,00	40,15	37,83
T - Asl 8 Arezzo	not assessed	8,85	10,29	16,27	377,00	429,00	42,60	41,70
T - Asl 9 Grosseto	not assessed	30,71	31,13	1,37	979,50	954,00	31,90	30,65
T - Asl 10 Firenze	not assessed	1,50	7,80	420,00	145,00	755,00	96,92	96,75
T - Asl 11 Empoli	not assessed	6,28	7,29	16,08	250,00	269,00	39,80	36,90
T - Asl 12 Viareggio	not assessed	83,21	54,31	-34,73	2.230,00	1.558,00	26,80	28,69

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.2.2 Efficiency with respect to the training period for external users

<b>Definition:</b>	Efficiency with respect to the training period for external users
<b>Numerator:</b>	Number of training hours
<b>Denominator:</b>	Number of qualified PISLL operators
<b>Formula:</b>	$\frac{\text{Number of training hours}}{\text{Number of qualified PISLL operators}}$
<b>Notes:</b>	Training hours: Ministry File B, entry 9.1 Qualified personnel: Ministry File A. Qualified personnel include: doctors, engineers, technicians of prevention, and other graduates who perform or support control activities in all sections. Those performing exclusively equipment testing are not included.
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average



## Indicator F15.2.4: Efficiency with respect to services delivered n. 25-26-27-72 7.47

This indicator measures the efficiency of personnel with respect to Finished Products 25 “control of local units for work risks”, 26 “Control in the construction site for work risks”, 27 “Penal sanction procedure within the PISLL”, and 72 “Quarries”.

Note:

With regard to the PF 25 of the AUSL 7, there is a disproportion with the corresponding activity data on the local units inspected, which are well above (about double). This is due to a very restrictive interpretation of PF 25. The resulting under-estimation of the work associated with the PF 25 means that the AUSL 7 is greatly penalized in terms of both coverage and efficiency.

### F15.2.4 – Efficiency with respect to services delivered n. 25-26-27-72



### F15.2.4 Efficiency with respect to services delivered n. 25-26-27-72

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	44,03 –	2,56	20.154,00	457,71	2010
T - Ausl 1 Massa	45,58 –	2,84	1.094,00	24,00	2010
T - Ausl 2 Lucca	43,94 –	2,54	1.239,00	28,20	2010
T - Ausl 3 Pistoia	36,69 –	1,25	1.218,00	33,20	2010
T - Ausl 4 Prato	51,76 –	3,94	1.030,00	19,90	2010
T - Ausl 5 Pisa	47,75 –	3,22	1.774,00	37,15	2010
T - Ausl 6 Livorno	59,53 –	4,75	2.545,00	42,75	2010
T - Ausl 7 Siena	24,69 –	0,00	934,00	37,83	2010
T - Ausl 8 Arezzo	35,66 –	1,06	1.487,00	41,70	2010
T - Ausl 9 Grosseto	62,02 –	5,00	1.901,00	30,65	2010
T - Ausl 10 Firenze	47,89 –	3,25	4.633,00	96,75	2010
T - Ausl 11 Empoli	39,11 –	1,68	1.443,00	36,90	2010
T - Ausl 12 Viareggio	29,84 –	0,48	856,00	28,69	2010

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.2.4 Efficiency with respect to services delivered n. 25-26-27-72

<b>Definition:</b>	Efficiency with respect to services delivered n. 25-26-27-72
<b>Numerator:</b>	Number of services delivered n. 25-26-27 -72
<b>Denominator:</b>	Number of qualified operators
<b>Formula:</b>	$\frac{\text{Number of services delivered n. 25-26-27 -72}}{\text{Number of qualified operators}}$
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average

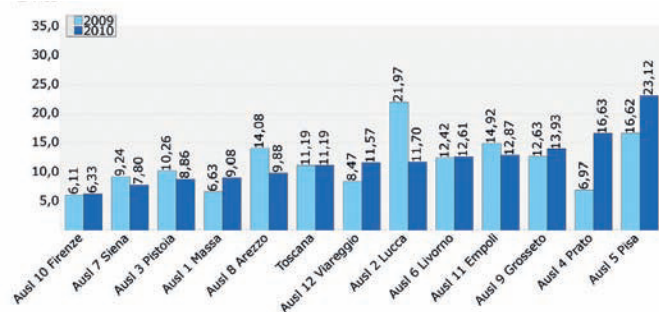
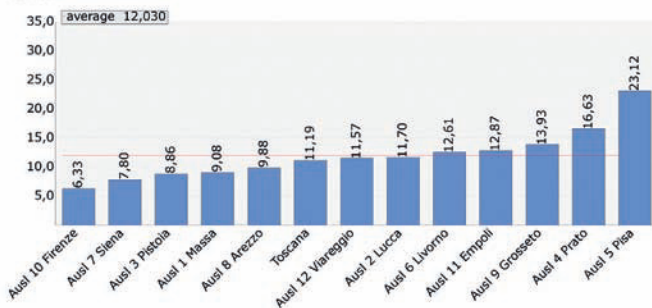




## 7.48 Indicator F15.2.5: Efficiency with respect to the number of prescriptions

This indicator measures the staff efficiency in relation to the number of prescriptions issued (under Legislative Decree 758/94).

### F15.2.5 – Efficiency with respect to the number of prescriptions



### F15.2.5 Efficiency with respect to the number of prescriptions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	11,19	11,19	0,00	5.360,00	5.124,00	479,08	457,71
T - Asl 1 Massa	not assessed	6,63	9,08	36,95	167,00	218,00	25,18	24,00
T - Asl 2 Lucca	not assessed	21,97	11,70	-46,75	657,00	330,00	29,90	28,20
T - Asl 3 Pistoia	not assessed	10,26	8,86	-13,65	354,00	294,00	34,50	33,20
T - Asl 4 Prato	not assessed	6,97	16,63	138,59	190,00	331,00	27,25	19,90
T - Asl 5 Pisa	not assessed	16,62	23,12	39,11	637,00	859,00	38,33	37,15
T - Asl 6 Livorno	not assessed	12,42	12,61	1,53	568,00	539,00	45,75	42,75
T - Asl 7 Siena	not assessed	9,24	7,80	-15,58	371,00	295,00	40,15	37,83
T - Asl 8 Arezzo	not assessed	14,08	9,88	-29,83	600,00	412,00	42,60	41,70
T - Asl 9 Grosseto	not assessed	12,63	13,93	10,29	403,00	427,00	31,90	30,65
T - Asl 10 Firenze	not assessed	6,11	6,33	3,60	592,00	612,00	96,92	96,75
T - Asl 11 Empoli	not assessed	14,92	12,87	-13,74	594,00	475,00	39,80	36,90
T - Asl 12 Viareggio	not assessed	8,47	11,57	36,60	227,00	332,00	26,80	28,69

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.2.5 Efficiency with respect to the number of prescriptions

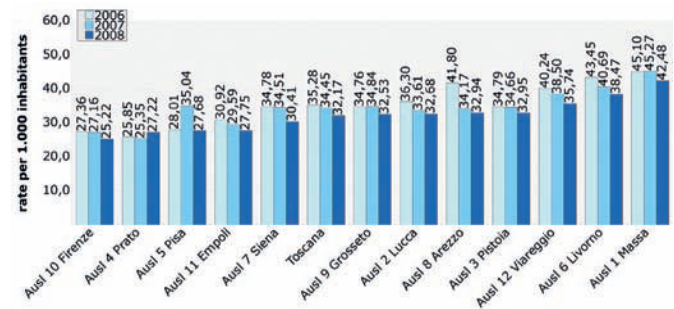
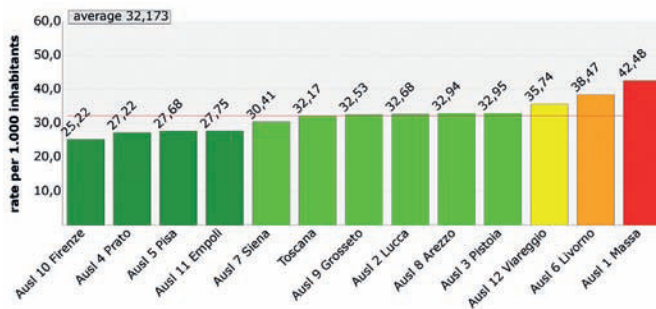
<b>Definition:</b>	Efficiency with respect to the number of prescriptions
<b>Numerator:</b>	Number of single prescriptions
<b>Denominator:</b>	Number of qualified operators
<b>Formula:</b>	$\frac{\text{Number of single prescriptions}}{\text{Number of qualified operators}}$
<b>Notes:</b>	We consider single prescriptions according to the provisions of Legislative Decree (D.lgs.) 758/94
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average



## Indicator F15.3.1: Standardized rate of accidents 7.49

The indicator shows any organizational and structural deficiencies that may affect safety in the workplace.

### F15.3.1 – Standardized rate of accidents



### F15.3.1 Standardized rate of accidents

Health Authority	Score 2008	Value 2007	Value 2008	Delta %	Numerator 2007	Numerator 2008	Denominator 2007	Denominator 2008
T - Toscana	3,33	34,45	32,17	-6,62	-	-	-	-
T - Asl 1 Massa	0,42	45,27	42,48	-6,16	-	-	-	-
T - Asl 2 Lucca	3,14	33,61	32,68	-2,77	-	-	-	-
T - Asl 3 Pistoia	3,04	34,66	32,95	-4,93	-	-	-	-
T - Asl 4 Prato	5,00	25,35	27,22	7,38	-	-	-	-
T - Asl 5 Pisa	4,96	35,04	27,68	-21,00	-	-	-	-
T - Asl 6 Livorno	1,04	40,69	38,47	-5,46	-	-	-	-
T - Asl 7 Siena	3,97	34,51	30,41	-11,88	-	-	-	-
T - Asl 8 Arezzo	3,05	34,17	32,94	-3,60	-	-	-	-
T - Asl 9 Grosseto	3,20	34,84	32,53	-6,63	-	-	-	-
T - Asl 10 Firenze	5,00	27,16	25,22	-7,14	-	-	-	-
T - Asl 11 Empoli	4,93	29,59	27,75	-6,22	-	-	-	-
T - Asl 12 Viareggio	2,03	38,50	35,74	-7,17	-	-	-	-

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

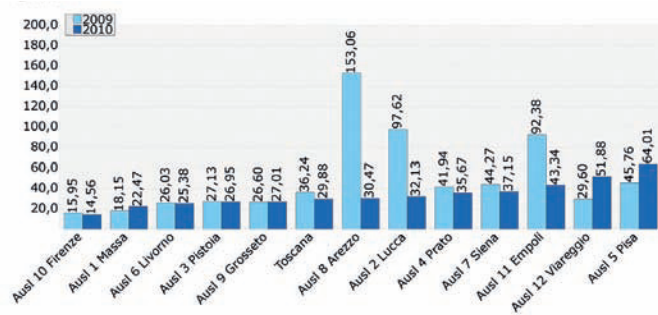
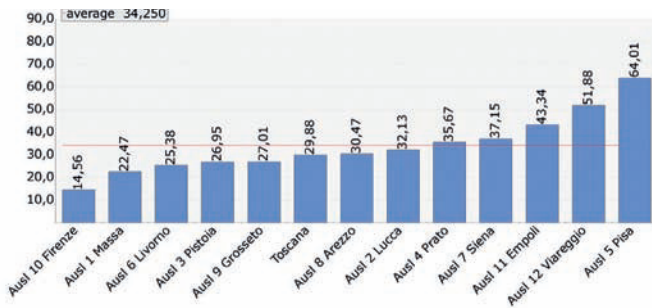
### F15.3.1 Standardized rate of accidents

<b>Definition:</b>	Standardized rate of accidents (includes Numerator and Denominator)
<b>Notes:</b>	This indicator considers accidents taking place within the territory of reference of the LHA and concerning personnel of companies located within that territory,
<b>Source:</b>	INAIL – ISPELS – Regions - CeRIMP
<b>Reference:</b>	Inter Authority Average
<b>Meaning:</b>	The indicator measures the data relative to the prevention activities that are performed in the workplace.



## 7.50 Indicator F15.3.3: Results with respect to the number of prescriptions

### F15.3.3 – Results with respect to the number of prescriptions



### F15.3.3 Results with respect to the number of prescriptions

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	36,24	29,88	-17,55	5.360,00	5.124,00	14.792,00	17.147,00
T - Ausl 1 Massa	not assessed	18,15	22,47	23,80	167,00	218,00	920,00	970,00
T - Ausl 2 Lucca	not assessed	97,62	32,13	-67,09	657,00	330,00	673,00	1.027,00
T - Ausl 3 Pistoia	not assessed	27,13	26,95	-0,66	354,00	294,00	1.305,00	1.091,00
T - Ausl 4 Prato	not assessed	41,94	35,67	-14,95	190,00	331,00	453,00	928,00
T - Ausl 5 Pisa	not assessed	45,76	64,01	39,88	637,00	859,00	1.392,00	1.342,00
T - Ausl 6 Livorno	not assessed	26,03	25,38	-2,50	568,00	539,00	2.182,00	2.124,00
T - Ausl 7 Siena	not assessed	44,27	37,15	-16,08	371,00	295,00	838,00	794,00
T - Ausl 8 Arezzo	not assessed	153,06	30,47	-80,09	600,00	412,00	392,00	1.352,00
T - Ausl 9 Grosseto	not assessed	26,60	27,01	1,54	403,00	427,00	1.515,00	1.581,00
T - Ausl 10 Firenze	not assessed	15,95	14,56	-8,71	592,00	612,00	3.712,00	4.202,00
T - Ausl 11 Empoli	not assessed	92,38	43,34	-53,09	594,00	475,00	643,00	1.096,00
T - Ausl 12 Viareggio	not assessed	29,60	51,88	75,27	227,00	332,00	767,00	640,00

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

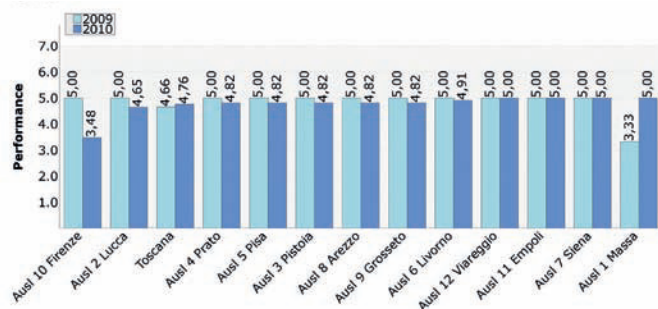
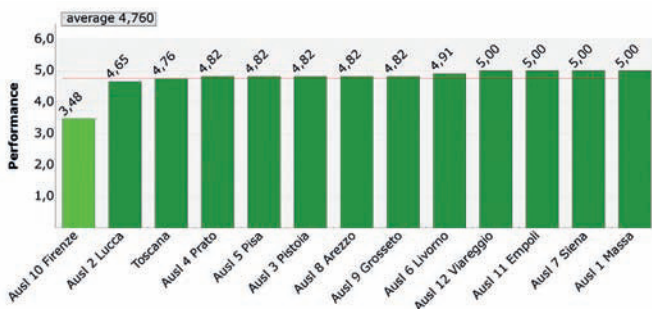
### F15.3.3 Results with respect to the number of prescriptions

<b>Definition:</b>	Results with respect to the number of prescriptions
<b>Numerator:</b>	Number of single prescriptions
<b>Denominator:</b>	Number of finished products n. 25- 26 - 72
<b>Formula:</b>	$\frac{\text{Number of single prescriptions}}{\text{Number of finished products n. 25- 26 - 72}}$
<b>Notes:</b>	We consider single prescriptions according to provisions of the Legislative Decree (D.L.vo) 758/94
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average

## 7.51 Indicator F15.4: Flows

As for flows, introduced this year, there are two sub-indicators: the first (F15.4.1) is the punctuality with which Authorities send information flows to the Tuscany Region, and the second (F15.4.2) data quality, indicating the level of compliance of the data contained in information flows sent by Authorities, compared to the guidelines and norms of the Tuscany Region.

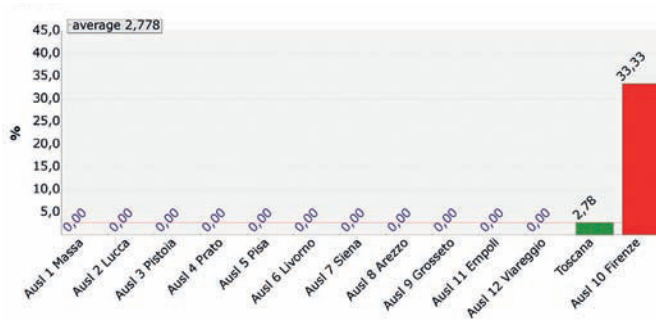
### F15.4 – Flows





**Indicator F15.4.1: Punctuality with regard to flows 7.52**

**F15.4.1 – Punctuality with regard to flows**



**F15.4.1 Punctuality with regard to flows**

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,66	8,33	2,78	-66,63	3,00	1,00	36,00	36,00
T - Ausl 1 Massa	5,00	100,00	0,00	-100,00	3,00	0,00	3,00	3,00
T - Ausl 2 Lucca	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 3 Pistoia	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 4 Prato	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 5 Pisa	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 6 Livorno	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 7 Siena	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 8 Arezzo	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 9 Grosseto	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 10 Firenze	0,99	0,00	33,33	(*)	0,00	1,00	3,00	3,00
T - Ausl 11 Empoli	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00
T - Ausl 12 Viareggio	5,00	0,00	0,00	(*)	0,00	0,00	3,00	3,00

**Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)**

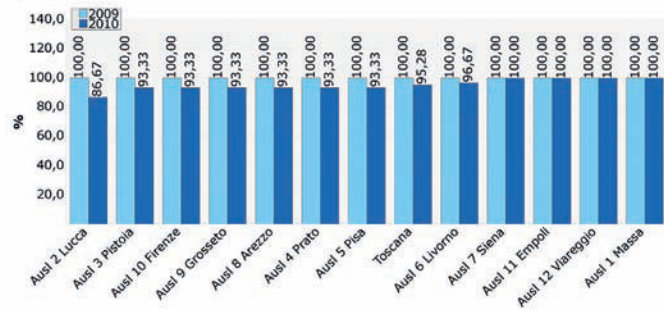
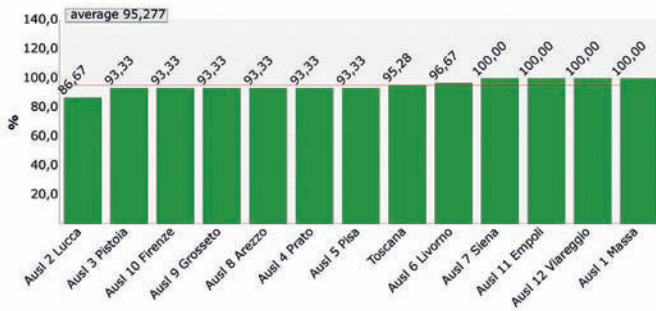
**F15.4.1 Punctuality with regard to flows**

<b>Definition:</b>	Punctuality with regard to flows
<b>Numerator:</b>	Delayed Flows
<b>Denominator:</b>	Expected Flows
<b>Formula:</b>	$\frac{\text{Delayed Flows}}{\text{Expected Flows}} \times 100$
<b>Notes:</b>	We consider five flows: Final Product 25, Final Product 26, Final Product 27, Flow Ministry – File A, Flow Ministry – File B. Delay weightage: <ul style="list-style-type: none"> <li>• 0: Flow in time</li> <li>• 0,5: Flow arrived within one week after due date</li> <li>• 1: Flow arrived after one week following due date</li> </ul> undelivered flows are considered delayed and of poor quality
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average



## 7.53 Indicator F15.4.2: Data quality with regard to flows

### F15.4.2 – Data quality with regard to flows



### F15.4.2 Data quality with regard to flows

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,81	100,00	95,28	-4,72	36,00	34,30	36,00	36,00
T - Ausl 1 Massa	5,00	100,00	100,00	0,00	3,00	3,00	3,00	3,00
T - Ausl 2 Lucca	4,47	100,00	86,67	-13,33	3,00	2,60	3,00	3,00
T - Ausl 3 Pistoia	4,73	100,00	93,33	-6,67	3,00	2,80	3,00	3,00
T - Ausl 4 Prato	4,73	100,00	93,33	-6,67	3,00	2,80	3,00	3,00
T - Ausl 5 Pisa	4,73	100,00	93,33	-6,67	3,00	2,80	3,00	3,00
T - Ausl 6 Livorno	4,87	100,00	96,67	-3,33	3,00	2,90	3,00	3,00
T - Ausl 7 Siena	5,00	100,00	100,00	0,00	3,00	3,00	3,00	3,00
T - Ausl 8 Arezzo	4,73	100,00	93,33	-6,67	3,00	2,80	3,00	3,00
T - Ausl 9 Grosseto	4,73	100,00	93,33	-6,67	3,00	2,80	3,00	3,00
T - Ausl 10 Firenze	4,73	100,00	93,33	-6,67	3,00	2,80	3,00	3,00
T - Ausl 11 Empoli	5,00	100,00	100,00	0,00	3,00	3,00	3,00	3,00
T - Ausl 12 Viareggio	5,00	100,00	100,00	0,00	3,00	3,00	3,00	3,00

## Indicator F15: Efficiency and Effectiveness of Prevention Hygiene and Safety on Workplace Services (PISLL)

### F15.4.2 Data quality with regard to flows

<b>Definition:</b>	Data quality with regard to flows
<b>Numerator:</b>	Flows with complying data
<b>Denominator:</b>	Expected Flows
<b>Formula:</b>	$\frac{\text{Flows with complying data}}{\text{Expected Flows}} \times 100$
<b>Notes:</b>	<p>We consider five flows: Final Product 25, Final Product 26, Final Product 27, Flow Ministry – File A, Flow Ministry – File B.</p> <p>Compliance is:</p> <ul style="list-style-type: none"> <li>• compliance within Ministry guidelines (and data completeness), with respect to Ministry Files</li> <li>• compliance of data according to Executive Decree 4196 of 16 September 2008 with reference to final products</li> </ul> <p>Non delivered flows are considered delayed and of poor quality</p>
<b>Source:</b>	Tuscany Region – Prevention Hygiene and Safety on Workplace Division (Regione Toscana – Settore Prevenzione, igiene e sicurezza sui luoghi di lavoro)
<b>Reference:</b>	Inter Authority Average



## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services (SPV-IAN) 7.54

The objective of this indicator, replaced by F14, is to assess the overall food security involving two areas of Prevention, Veterinary Public Health and Food Hygiene and Nutrition, according to the guidelines of the PSR 2008-2010.

Note: For the calculation of the overall score the following weights were used for each indicator:

INDICATOR WEIGHT	F16.1 INFORMATION FLOWS	F16.3 FOOD SAFETY AND PLANS FOR RESIDUALS	F16.5 PRODUCTION EFFICIENCY	F16.7 CHECKLIST NATIONAL DATABASE (NDB) TERAMO	F16.8 PHARMACOVIGILANCE
AUSL	15%	20%	15%	25%	25%

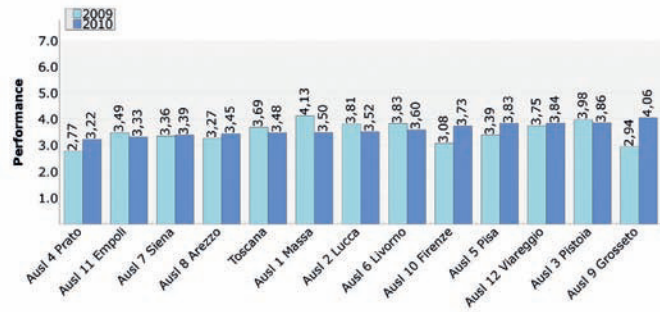
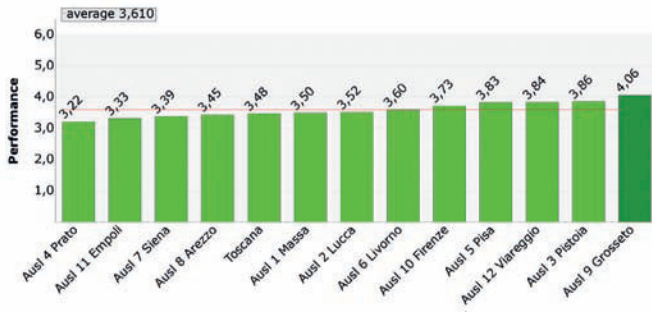
Indicator	Performance	Year
F16 – Efficiency and Effectiveness in Food Safety and Nutrition Services (SPV-IAN)	● 3,48	2010

### F16 Efficiency and Effectiveness in Food Safety and Nutrition Services (SPV-IAN)

- F16.1 – Information flows: ■
  - F16.1.1 – Information flows delayed with respect to due date: 4,82% ■
  - F16.1.2 – Information flows with non-compliant forms: 2,01% ■
  - F16.1.3 – Data Quality with regard to flows: 3,70% ■
- F16.2 – Nutrition: 95,54
  - F16.2.1 – Percentage of completed nutritional plans of the total planned: 92,24%
  - F16.2.2 – Percentage of completed checklists of validated national plans: 96,84%
- F16.3 – Food Safety and Plans for Residuals: ■
  - F16.3.1 – Samples analysed for PNAA and PNR Plans: 103,47% ■
  - F16.3.2 – Adherence to quarterly programming plans for PNAA and PNR: 96,09% ■
- F16.4 – Categorisation (Territory coverage): ■
  - F16.4.1 – Categorisation – No. of companies in risk group 1: 100,00% ■
  - F16.4.2 – Categorisation – No. of companies in risk group 2: 24,56% ■
- F16.5 – Production efficiency: ■
  - F16.5.1 – Production efficiency for services delivered n. 49: 38,60 ■
  - F16.5.2 – Production efficiency for services delivered n. 4: 7,07 ■
  - F16.5.3 – Production efficiency for services delivered n. 43: 21,47 ■
- F16.6 – Organisational efficiency: ■
  - F16.6.1 – Non-compliance certificate ISO 9001: 2000: 100,00% ■
  - F16.6.2 – Quality Management System (SGQ) Internal Control Performance: 95,83% ■
- F16.7 – Checklist National Database (NDB) Teramo: ■
  - F16.7.1 – Checklist for cattle: 8,54 ■
  - F16.7.2 – Checklist for ovine and caprine: 4,10 ■
  - F16.7.3 – Checklist for swine: 1,63 ■
- F16.8 – Pharmacovigilance: ■
  - F16.8.1 – Pharmacovigilance – Wholesales: 96,15% ■
  - F16.8.2 – Pharmacovigilance – Pharmacies: 32,79% ■



**F16** – Efficiency and Effectiveness in Food Safety and Nutrition Services (SPV-IAN)



**Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition [Public Veterinary Healthcare (SPV) – Food Hygiene and Nutrition (IAN)]**

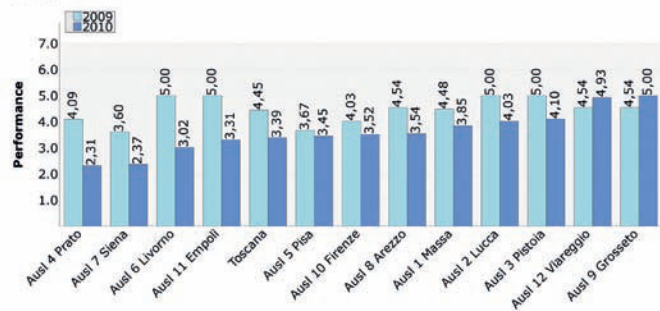
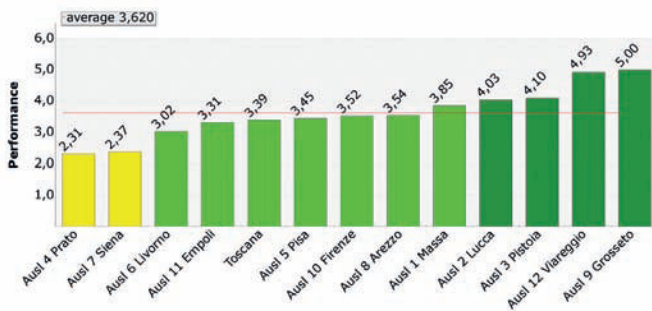
Notes
Indicator F16 has a value equal to the average score of indicators: F16.1, F16.3, F16.4, F16.5, F16.6, F16.7, F16.8.
Indicator F16.1 has a value equal to the average score of indicators: F16.1.1, F16.1.2, F16.1.3.
Indicator F16.3 has a value equal to the average score of indicators: F16.3.1, F16.3.2.
Indicator F16.4 has a value equal to the average score of indicators: F16.4.1, F16.4.2.
Indicator F16.5 has a value equal to the average score of indicators: F16.5.1, F16.5.2, F16.5.3.
Indicator F16.6 has a value equal to the average score of indicators: F16.6.1, F16.6.2.
Indicator F16.7 has a value equal to the average score of indicators: F16.7.1, F16.7.2, F16.7.3.
Indicator F16.8 has a value equal to the average score of indicators: F16.8.1, F16.8.2.

**7.55 Indicator F16.1: Information flows**

The indicator of information flows has some aspects considered of particular importance for a simpler data analysis; they are the following: punctuality in flows transmission by Authorities with respect to deadlines, the respect of the required forms and data compliance.

Data compliance, conformity of forms, and flows timeliness are crucial elements for the Tuscany Region, which in turn shall revise what has been received in order to send it to the Ministry. The information flows received by the Tuscany Region may have different periodicity: annual, semi-annual and quarterly. For a clearer and more effective monitoring the indicator is constructed on the number of flows forwarding rather than on the number of flows. For some Authorities, in order to calculate the indicator, some not required flows are excluded (this is the case of the flow 24, which provides data that officially certified companies are not required to send in order to obtain the health qualification). Last year the indicator F16.1 did not include data from the flow IAN.

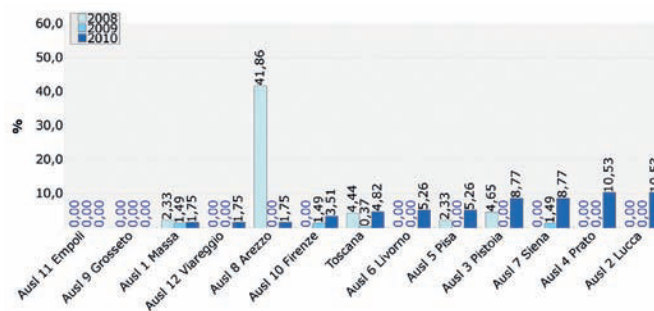
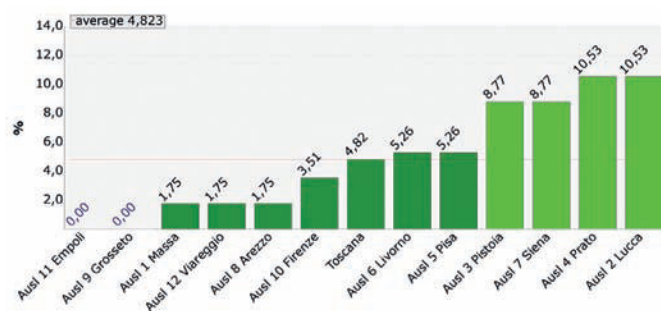
**F16.1** – Information flows





## Indicator F16.1.1: Information flows delayed with respect to due date 7.56

### F16.1.1 – Information flows delayed with respect to due date



### F16.1.1 Information flows delayed with respect to due date

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,41	0,37	4,82	1.202,70	3,00	33,00	804,00	684,00
T - Ausl 1 Massa	4,78	1,49	1,75	17,45	1,00	1,00	67,00	57,00
T - Ausl 2 Lucca	3,70	0,00	10,53	(*)	0,00	6,00	67,00	57,00
T - Ausl 3 Pistoia	3,92	0,00	8,77	(*)	0,00	5,00	67,00	57,00
T - Ausl 4 Prato	3,70	0,00	10,53	(*)	0,00	6,00	67,00	57,00
T - Ausl 5 Pisa	4,35	0,00	5,26	(*)	0,00	3,00	67,00	57,00
T - Ausl 6 Livorno	4,35	0,00	5,26	(*)	0,00	3,00	67,00	57,00
T - Ausl 7 Siena	3,92	1,49	8,77	488,59	1,00	5,00	67,00	57,00
T - Ausl 8 Arezzo	4,78	0,00	1,75	(*)	0,00	1,00	67,00	57,00
T - Ausl 9 Grosseto	5,00	0,00	0,00	(*)	0,00	0,00	67,00	57,00
T - Ausl 10 Firenze	4,57	1,49	3,51	135,57	1,00	2,00	67,00	57,00
T - Ausl 11 Empoli	5,00	0,00	0,00	(*)	0,00	0,00	67,00	57,00
T - Ausl 12 Viareggio	4,78	0,00	1,75	(*)	0,00	1,00	67,00	57,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.1.1 Information flows delayed with respect to due date

<b>Definition:</b>	Information flows delayed with respect to due date
<b>Numerator:</b>	No. of forwardings of flows delayed with respect to due date
<b>Denominator:</b>	No. of forwardings of expected flows
<b>Formula:</b>	$\frac{\text{No. of forwardings of flows delayed with respect to due date}}{\text{No. of forwardings of expected flows}} \times 100$
<b>Notes:</b>	The expected flows considered are those set in the Executive Decree no. 6300 of 30/12/2008 with regard to IAN, and those set in the Executive Decree no. 7102 of 23/11/2004 with regard to SPV. The flow is considered delayed from the first day after the due date set by the above-mentioned decrees. When an expected flow is delivered to the regional office in charge with more than 30 days of delay non compliance is registered also for indicators F16.1.2 and F16.1.3.
<b>Source:</b>	Information flows transmitted by the Organizational units dealing with Food Hygiene and Veterinary Public Health and belonging to the Prevention Department of Health Authorities in Tuscany, Predictive and Preventive Medicine Division
<b>Reference:</b>	Inter Authority Average



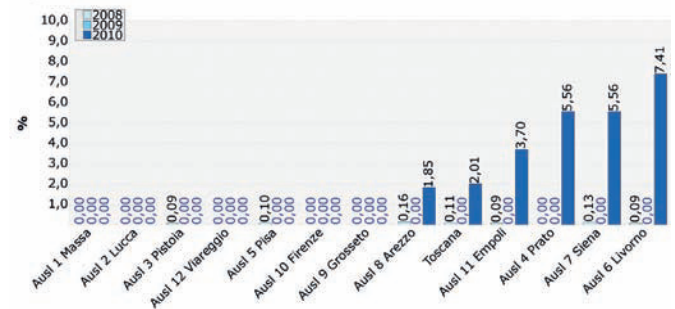
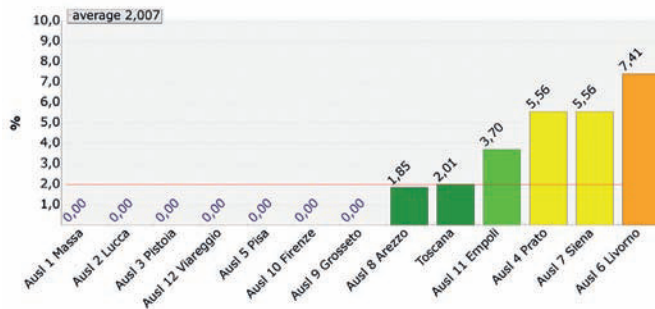


F16.1.1		Azienda												TOTAL		
DEADLINE	CODRUSSO E DESCRIZIONE	Ausl 1	Ausl 2	Ausl 3	Ausl 4	Ausl 5	Ausl 6	Ausl 7	Ausl 8	Ausl 9	Ausl 10	Ausl 11	Ausl 12			
I QUARTER	15/1/10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		4	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	0	0	0	0	0	0	0	0	0	0	0	0	0	
		22	0	0	0	0	0	0	0	0	0	0	0	0	0	
		23	0	0	0	0	0	0	0	0	0	0	0	0	0	
		25	0	0	0	0	0	0	0	0	0	0	0	0	0	
		29	0	0	0	0	0	0	0	0	0	0	0	0	0	
		35	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		17 IAN	-4	6	0	0	10	0	0	0	13	0	0	0	0	33
	31/1/10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8	0	4	27	8	0	0	3	0	0	0	0	0	42	
		10	0	4	27	8	0	0	3	0	0	0	0	0	42	
		11	0	4	27	8	0	0	3	0	0	0	0	0	42	
		12	0	0	0	0	0	0	0	0	0	0	0	0	0	
		18	0	0	0	0	0	0	0	0	0	10	0	0	10	
		24 IAN	0	20	0	8	0	29	0	0	0	0	0	0	57	
		30	0	0	0	0	0	0	0	0	0	0	0	0	0	
		37	0	0	0	0	0	0	0	0	0	0	0	0	0	
		39	0	0	0	0	0	0	0	0	0	0	0	0	0	
		13A 13 B	0	0	0	0	0	0	0	0	0	0	0	0	0	
		17 B	0	0	0	0	0	11	0	0	0	0	0	0	11	
		9 IAN	0	4	27	8	0	0	3	0	0	0	0	0	42	
		9 SPV relaz annuale	0	0	0	0	0	0	0	0	0	0	0	0	0	
		43	0	0	0	0	0	0	0	0	0	0	0	0	0	
	15/2/10	7	0	0	0	0	0	0	0	0	0	0	0	0		
	24 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0		
	25/2/10	42 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
	28/2/10	15	0	0	0	0	0	0	0	0	0	0	0	0		
		16	0	0	0	0	0	0	0	0	0	0	0	0		
36		0	0	0	0	0	0	0	0	0	0	0	0			
17A		0	0	0	0	0	0	0	0	0	0	0	0			
9 SPV attività produttive	0	0	0	0	0	0	0	0	0	0	0	0	0			
1/3/10	6 IAN	0	0	3	6	0	0	0	0	0	0	0	9			
15/3/10	32	0	0	0	0	5	0	5	0	0	0	0	10			
II QUARTER	31/03/2010	40 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		22 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		23 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
	15/04/2010	25 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		35 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		18 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
30/04/2010	38 SPV	0	0	0	0	0	0	0	0	0	0	0	0			
	24 SPV	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr			
III QUARTER	07/07/2010	17 IAN	0	0	0	0	43	0	0	0	0	0	42	85		
		22 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		23 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		25 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		3 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
	15/07/2010	35 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		12 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		37 SPV	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr		
		17 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		32 SPV	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr		
31/07/2010	39 SPV	0	0	0	0	0	0	0	0	0	0	0	0			
	33 SPV	0	0	0	0	0	8	0	0	0	9	0	17			
	22 SPV	0	0	0	0	0	0	0	0	0	0	0	0			
	23 SPV	0	0	0	0	0	0	0	0	0	0	0	0			
	25 SPV	0	0	0	0	0	0	0	0	0	0	0	0			
IV QUARTER	30/09/2009	28 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		35 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		39 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
	15/10/2009	33 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
		22 SPV	0	0	0	0	0	0	0	0	0	0	0	0		
31/12/2009	39 SPV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0			
TOTAL		4	42	111	46	58	48	17	13	0	19	0	42	400		
Flows average		57	57	57	57	57	57	57	57	57	57	57	57	57		
Flows average		30,5	49,5	84	51,5	57,5	52,5	37	35	28,5	38	28,5	49,5	228,5		



## Indicator F16.1.2: Information flows with non-compliant forms 7.57

### F16.1.2 – Information flows with non-compliant forms



### F16.1.2 Information flows with non-compliant forms

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,01	0,00	2,01	(*)	–	13,00	744,00	648,00
T - Ausl 1 Massa	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00
T - Ausl 2 Lucca	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00
T - Ausl 3 Pistoia	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00
T - Ausl 4 Prato	2,25	0,00	5,56	(*)	–	3,00	62,00	54,00
T - Ausl 5 Pisa	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00
T - Ausl 6 Livorno	1,33	0,00	7,41	(*)	–	4,00	62,00	54,00
T - Ausl 7 Siena	2,25	0,00	5,56	(*)	–	3,00	62,00	54,00
T - Ausl 8 Arezzo	4,08	0,00	1,85	(*)	–	1,00	62,00	54,00
T - Ausl 9 Grosseto	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00
T - Ausl 10 Firenze	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00
T - Ausl 11 Empoli	3,17	0,00	3,70	(*)	–	2,00	62,00	54,00
T - Ausl 12 Viareggio	5,00	0,00	0,00	(*)	–	0,00	62,00	54,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.1.2 Information flows with non-compliant forms

<b>Definition:</b>	Information flows with non-compliant forms
<b>Numerator:</b>	No. of flows sent with non-compliant forms
<b>Denominator:</b>	No. of flows of expected
<b>Formula:</b>	$\frac{\text{No. of flows sent with non-compliant forms}}{\text{No. of flows of expected}} \times 100$
<b>Notes:</b>	The expected flows are set in the Executive Decree no. 6300 of 30/12/2008 with regard to IAN, and set in the Executive Decree no. 7102 of 23/11/2004 with regard to SPV.
<b>Source:</b>	Information flows transmitted by the Organizational units dealing with Food Hygiene and Veterinary Public Health and belonging to the Prevention Department of Health Authorities in Tuscany, Predictive and Preventive Medicine Division <i>Flussi informativi trasmessi da parte delle Articolazioni Organizzative che si occupano di Igiene degli Alimenti e Sanità Pubblica Veterinaria appartenenti ai Dip. Prev. delle Aziende sanitarie della Toscana.</i>
<b>Reference:</b>	Inter Authority Average

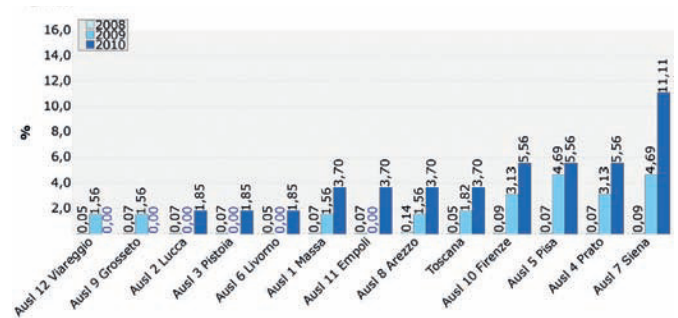
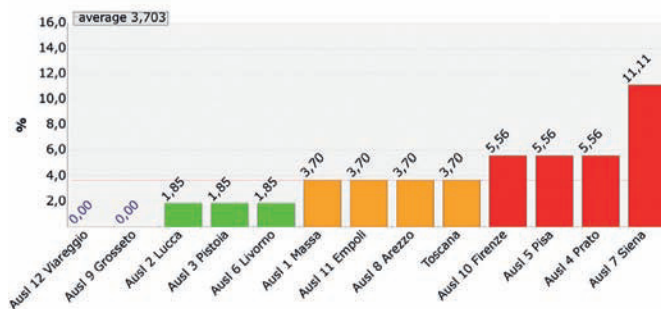


F16.1.2	DEADLINE	CODFLUSSO E DESCRIZIONE	Azienda												TOTAL		
			Ausl 1	Ausl 2	Ausl 3	Ausl 4	Ausl 5	Ausl 6	Ausl 7	Ausl 8	Ausl 9	Ausl 10	Ausl 11	Ausl 12			
I QUARTER	15/1/10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		17 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	31/1/10	1 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8 IAN	0	0	0	1	0	1	1	0	0	0	0	0	0	3	
		10 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		11 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		18 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		24 IAN	0	0	0	1	0	0	0	1	0	0	1	0	0	3	
		30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	13A 13 B	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0		
	17 B	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9 IAN	0	0	0	1	0	1	1	0	0	0	0	0	0	3		
	9 SPV relax annuale	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0		
	43 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	15/2/10	7	0	0	0	0	0	0	0	0	0	0	0	0	0		
		24 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	25/2/10	42 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	28/2/10	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
36		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17A		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9 SPV attività produttive		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1/3/10	6 IAN	0	0	0	0	0	1	1	0	0	0	0	0	2			
15/3/10	32	0	0	0	0	0	0	0	0	0	0	0	0	0			
II QUARTER	31/03/2010	40 SPV	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0		
	22 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	23 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	25 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	35 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	18 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	38 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
III QUARTER	07/07/2010	24 SPV	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	0		
	17 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	22 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	23 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	25 SPV	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
	3 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	35 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	37 SPV	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	0		
	31/07/2010	17 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0		
32 SPV	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	0			
39 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
33 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
IV QUARTER	30/09/2009	22 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0		
	23 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	25 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	28 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	35 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	31/12/2009	39 SPV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0		
TOTAL			0	0	0	3	0	4	3	1	0	0	2	0	13		
Flows			54	54	54	54	54	54	54	54	54	54	54	54	54		
average			27	27	27	28,5	27	29	28,5	27,5	27	27	28	27	33,5		



## Indicator F16.1.3: Data Quality with regard to flows 7.58

### F16.1.3 – Data Quality with regard to flows



### F16.1.3 Data Quality with regard to flows

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,76	1,82	3,70	102,97	14,00	24,00	768,00	648,00
T - Ausl 1 Massa	1,76	1,56	3,70	136,80	1,00	2,00	64,00	54,00
T - Ausl 2 Lucca	3,38	0,00	1,85	(*)	0,00	1,00	64,00	54,00
T - Ausl 3 Pistoia	3,38	0,00	1,85	(*)	0,00	1,00	64,00	54,00
T - Ausl 4 Prato	0,99	3,13	5,56	77,92	2,00	3,00	64,00	54,00
T - Ausl 5 Pisa	0,99	4,69	5,56	18,61	3,00	3,00	64,00	54,00
T - Ausl 6 Livorno	3,38	0,00	1,85	(*)	0,00	1,00	64,00	54,00
T - Ausl 7 Siena	0,93	4,69	11,11	137,01	3,00	6,00	64,00	54,00
T - Ausl 8 Arezzo	1,76	1,56	3,70	136,80	1,00	2,00	64,00	54,00
T - Ausl 9 Grosseto	5,00	1,56	0,00	-100,00	1,00	0,00	64,00	54,00
T - Ausl 10 Firenze	0,99	3,13	5,56	77,92	2,00	3,00	64,00	54,00
T - Ausl 11 Empoli	1,76	0,00	3,70	(*)	0,00	2,00	64,00	54,00
T - Ausl 12 Viareggio	5,00	1,56	0,00	-100,00	1,00	0,00	64,00	54,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.1.3 Data Quality with regard to flows

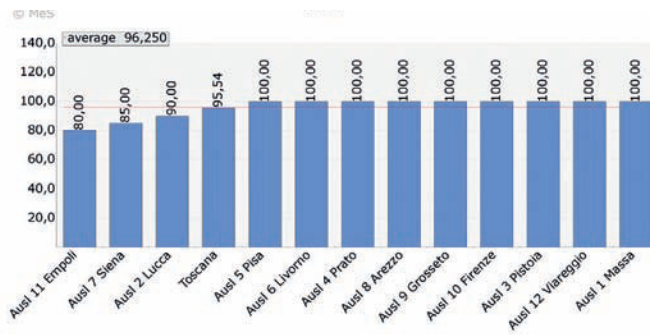
<b>Definition:</b>	Information flows with poor quality data
<b>Numerator:</b>	No. of flows sent with poor quality data
<b>Denominator:</b>	No. of flows expected
<b>Formula:</b>	$\frac{\text{No. of flows sent with poor quality data}}{\text{No. of flows expected}} \times 100$
<b>Notes:</b>	<p>The expected flows are set in the Executive Decree no. 6300 of 30/12/2008 and in the Executive Decree no. 7102 of 23/11/2004</p> <p>A serious error is detected (red, weight 1) in the following cases:</p> <ul style="list-style-type: none"> <li>For errors of calculation (in the summation given by column / row)</li> <li>For errors in the transcription of the data used in the cell</li> <li>Cells missing the required data</li> <li>For errors in inserted data (example 1: if the data is non compliant with the actual data known by the RT reference: example 2: the actual number of companies in the area &lt;&gt; than the number reported in the information flow)</li> <li>Need on the part of the RT to collate partial data received (eg. Data sent by the separate divisions of a Local Authority)</li> </ul> <p>A medium error is detected (orange, weight 0,5) in the following cases:</p> <ul style="list-style-type: none"> <li>non readable information flow sent by fax</li> </ul> <p>An objective qualitative problem, but slightly significant (yellow, weight 0,25) in the following cases:</p> <ul style="list-style-type: none"> <li>Need on the part of the RT to seek data confirmation (for example, if the data varies considerably from that of the previous year)</li> </ul>
<b>Source:</b>	Information flows transmitted by the Organizational units dealing with Food Hygiene and Veterinary Public Health and belonging to the Prevention Department of Health Authorities in Tuscany, Predictive and Preventive Medicine Division. <i>Flussi informativi trasmessi da parte delle Articolazioni Organizzative che si occupano di Igiene degli Alimenti e Sanità Pubblica Veterinaria appartenenti ai Dip. Prev. delle Aziende sanitarie della Toscana</i>
<b>Reference:</b>	Inter Authority Average



F16.1.3		Azienda												TOTAL		
DEADLINE	CODFLUSSO E DESCRIZIONE	Ausl 1	Ausl 2	Ausl 3	Ausl 4	Ausl 5	Ausl 6	Ausl 7	Ausl 8	Ausl 9	Ausl 10	Ausl 11	Ausl 12			
I QUARTER	15/1/10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		4	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	0	0	1	0	0	0	0	0	0	0	0	0	0	1
		22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	31/1/10	2 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		17 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1 IAN	0	0	0	0	0	0	1	0	0	0	0	0	0	1
		8 IAN	1	0	0	0	0	0	0	0	0	0	0	0	0	1
		10 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		11 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		18 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		24 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		39	1	0	0	1	1	0	1	0	0	0	0	0	0	4
		13A 13 B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		17 B	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	9 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9 SPV relaz annuale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	43 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	15/2/10	7	0	0	0	0	0	0	0	0	0	0	0	0	0	
	25/2/10	24 SPV	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
		42 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28/2/10	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	16	0	1	0	0	0	1	1	0	0	0	1	0	0	4	
	36	0	0	0	1	1	0	1	1	0	1	0	0	0	5	
	17A	0	0	0	1	0	0	0	0	0	1	1	0	0	3	
	9 SPV attività produttive	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0	
1/3/10	6 IAN	0	0	0	0	0	0	1	0	0	0	0	0	1		
15/3/10	32	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0	
II QUARTER	31/03/2010	40 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		22 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		23 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
	15/04/2010	25 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		35 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
30/04/2010	18 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0		
	38 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0		
III QUARTER	07/07/2010	24 SPV	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
		17 IAN	0	0	0	0	0	0	0	0	0	0	0	0	0	
		22 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
	15/07/2010	23 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		25 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		35 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
	31/07/2010	12 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		37 SPV	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
		17 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
IV QUARTER	30/09/2009	32 SPV	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
		39 SPV	0	0	0	0	1	0	1	0	0	0	0	0	3	
		33 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
	15/10/2009	22 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
		23 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	
31/12/2009	25 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0		
28 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
35 SPV	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
39 SPV	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0	
TOTAL		2	1	1	3	3	1	6	2	0	3	2	0	24		
Flows		54	54	54	54	54	54	54	54	54	54	54	54	54		
average		28	27,5	27,5	28,5	28,5	27,5	30	28	27	28,5	28	27	39		



## F16.2 – Nutrition



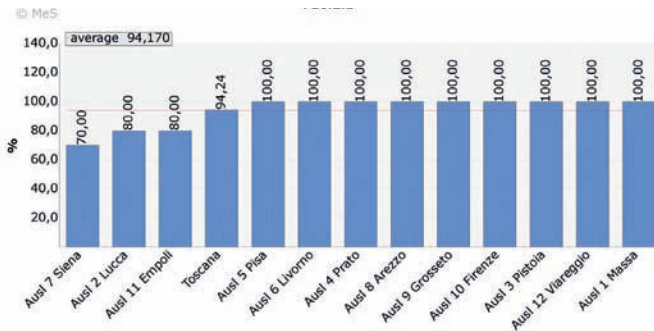
## F16.2 Nutrition

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	95,54	not assessed	–	–	2010
T - Ausl 1 Massa	100,00	not assessed	–	–	2010
T - Ausl 2 Lucca	90,00	not assessed	–	–	2010
T - Ausl 3 Pistoia	100,00	not assessed	–	–	2010
T - Ausl 4 Prato	100,00	not assessed	–	–	2010
T - Ausl 5 Pisa	100,00	not assessed	–	–	2010
T - Ausl 6 Livorno	100,00	not assessed	–	–	2010
T - Ausl 7 Siena	85,00	not assessed	–	–	2010
T - Ausl 8 Arezzo	100,00	not assessed	–	–	2010
T - Ausl 9 Grosseto	100,00	not assessed	–	–	2010
T - Ausl 10 Firenze	100,00	not assessed	–	–	2010
T - Ausl 11 Empoli	80,00	not assessed	–	–	2010
T - Ausl 12 Viareggio	100,00	not assessed	–	–	2010



## 7.60 Indicator F16.2.1: Percentage of completed nutritional plans of the total planned

### F16.2.1 – Percentage of completed nutritional plans of the total planned



### F16.2.1 Percentage of completed nutritional plans of the total planned

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	94,24%	not assessed	229,00	243,00	2010
T - Ausl 1 Massa	100,00%	not assessed	20,00	20,00	2010
T - Ausl 2 Lucca	80,00%	not assessed	16,00	20,00	2010
T - Ausl 3 Pistoia	100,00%	not assessed	20,00	20,00	2010
T - Ausl 4 Prato	100,00%	not assessed	30,00	30,00	2010
T - Ausl 5 Pisa	100,00%	not assessed	20,00	20,00	2010
T - Ausl 6 Livorno	100,00%	not assessed	20,00	20,00	2010
T - Ausl 7 Siena	70,00%	not assessed	14,00	20,00	2010
T - Ausl 8 Arezzo	100,00%	not assessed	3,00	3,00	2010
T - Ausl 9 Grosseto	100,00%	not assessed	20,00	20,00	2010
T - Ausl 10 Firenze	100,00%	not assessed	30,00	30,00	2010
T - Ausl 11 Empoli	80,00%	not assessed	16,00	20,00	2010
T - Ausl 12 Viareggio	100,00%	not assessed	20,00	20,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

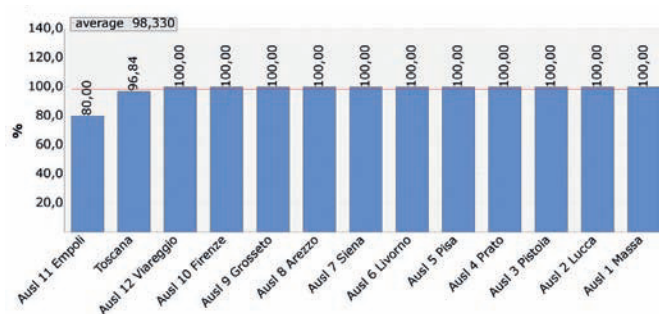
### F16.2.1 Percentage of completed nutritional plans of the total planned

<b>Definition:</b>	Completion of the evaluation work plan and nutritional plans monitoring
<b>Numerator:</b>	Number of nutritional plans evaluated /checked yearly with reference to catering facilities
<b>Denominator:</b>	Number of nutritional plans scheduled to be evaluated/checked yearly with reference to catering facilities
<b>Method of calculation:</b>	$\frac{\text{Number of nutritional plans evaluated /checked yearly with reference to catering facilities}}{\text{Number of nutritional plans scheduled to be evaluated/checked yearly with reference to catering facilities}}$
<b>Notes:</b>	Year of reference is the period between 01 January and 31 December As for 2010 the period between 01 March and 31 December ( Rif. Regional note of 19/02/2010 prot. nr. AOO-GRT/47260/Q.100.30)
<b>Source:</b>	Information flow no. 64 D.D. 6250/10 transmitted by Organizational Units dealing with Food Hygiene and Nutrition belonging to the Prevention Department of Health Authorities in Tuscany, set by the above mentioned Note
<b>Reference:</b>	100%



## Indicator F16.2.2: Percentage of completed checklists of validated national plans 7.61

### F16.2.2 – Percentage of completed checklists of validated national plans



### F16.2.2 Percentage of completed checklists of validated national plans

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	96,84%	not assessed	245,00	253,00	2010
T - Ausl 1 Massa	100,00%	not assessed	20,00	20,00	2010
T - Ausl 2 Lucca	100,00%	not assessed	16,00	16,00	2010
T - Ausl 3 Pistoia	100,00%	not assessed	20,00	20,00	2010
T - Ausl 4 Prato	100,00%	not assessed	30,00	30,00	2010
T - Ausl 5 Pisa	100,00%	not assessed	20,00	20,00	2010
T - Ausl 6 Livorno	100,00%	not assessed	20,00	20,00	2010
T - Ausl 7 Siena	100,00%	not assessed	14,00	14,00	2010
T - Ausl 8 Arezzo	100,00%	not assessed	3,00	3,00	2010
T - Ausl 9 Grosseto	100,00%	not assessed	20,00	20,00	2010
T - Ausl 10 Firenze	100,00%	not assessed	30,00	30,00	2010
T - Ausl 11 Empoli	80,00%	not assessed	32,00	40,00	2010
T - Ausl 12 Viareggio	100,00%	not assessed	20,00	20,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.2.2 Percentage of completed checklists of validated national plans

<b>Definition:</b>	Completed checklists
<b>Numerator:</b>	Number of checklists completed in a year by the staff in charge of evaluation/monitoring of nutritional plans in catering facilities that have been validated by the Head of the organizational unit
<b>Denominator:</b>	Number of checklists completed per year by the staff in charge of evaluation/monitoring of nutritional plans in catering facilities
<b>Method of calculation:</b>	$\frac{\text{Number of checklists completed in a year by the staff in charge of evaluation/monitoring of nutritional plans in catering facilities that have been validated by the Head of the organizational unit}}{\text{Number of checklists completed per year by the staff in charge of evaluation/monitoring of nutritional plans in catering facilities}}$
<b>Notes:</b>	Year of reference is the period between 01 January and 31 December As for 2010 the period between 01 March and 31 December ( Rif. Regional note of 19/02/2010 prot. nr. AOO-GRT/47260/Q.100.30)
<b>Source:</b>	Information flow no. 64 D.D. 6250/10 transmitted by Organizational Units dealing with Food Hygiene and Nutrition and belonging to the Prevention Department of Health Authorities in Tuscany, set by the above mentioned Note
<b>Reference:</b>	Greater than or equal to 90%

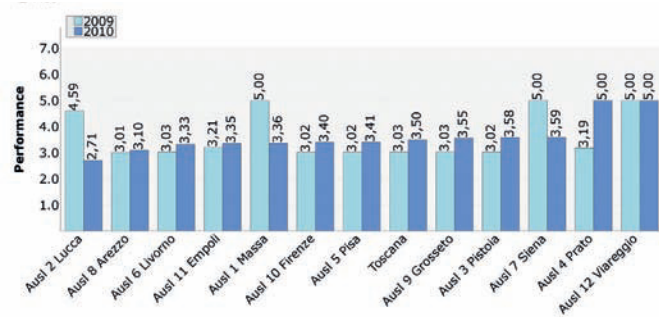
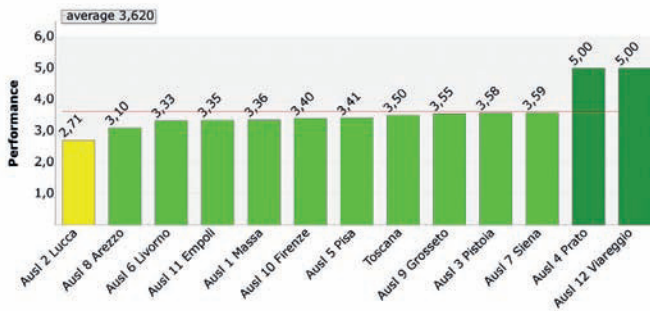




## 7.62 Indicator F16.3: Food Safety and Plans for Residuals

The data source for the construction of this indicator is the PNAA (National Plan for Animal Feeding), the PNR (National Plan for Residuals), the data flow of the National Data Bank, the Annual Report on Finished Products, and periodic standardised reports provided by Local Health Authorities. The annual target with respect to food safety requires that LHAs achieve, compared to annual samples allocated by PNAA and PNR, the objective of 100%. Therefore, are considered better only the performances of those LHAs that have made between 98% and 100% of scheduled samples. When the indicator exceeds 100% the performance is not considered better, as this is an index of incorrect use of resources or of an incorrect initial planning. Furthermore, it has been introduced this year an indicator that monitors adherence to the quarterly program.

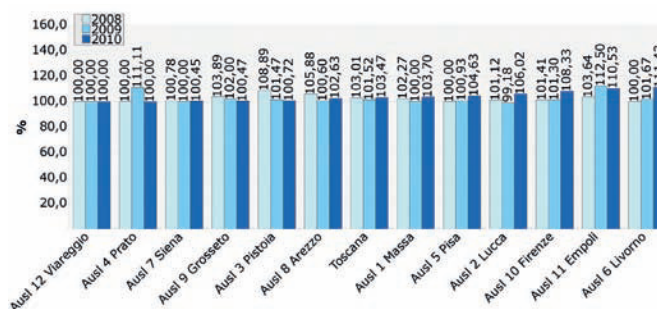
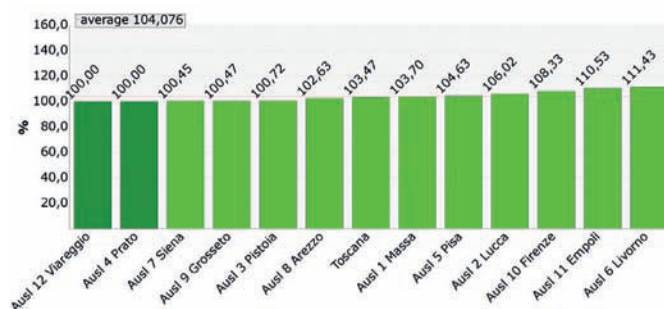
**F16.3** – Food Safety and Plans for Residuals





## Indicator F16.3.1: Samples analysed for PNAA and PNR Plans 7.63

### F16.3.1 – Samples analysed for PNAA and PNR Plans



### F16.3.1 Samples analysed for PNAA and PNR Plans

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	3,09	101,52	103,47	1,92	1.265,00	1.403,00	1.246,00	1.356,00
T - Ausl 1 Massa	3,09	100,00	103,70	3,70	84,00	56,00	84,00	54,00
T - Ausl 2 Lucca	3,15	99,18	106,02	6,90	121,00	141,00	122,00	133,00
T - Ausl 3 Pistoia	3,02	101,47	100,72	-0,74	138,00	139,00	136,00	138,00
T - Ausl 4 Prato	5,00	111,11	100,00	-10,00	20,00	18,00	18,00	18,00
T - Ausl 5 Pisa	3,12	100,93	104,63	3,66	108,00	113,00	107,00	108,00
T - Ausl 6 Livorno	3,29	101,67	111,43	9,60	61,00	78,00	60,00	70,00
T - Ausl 7 Siena	3,01	100,00	100,45	0,45	177,00	225,00	177,00	224,00
T - Ausl 8 Arezzo	3,07	100,60	102,63	2,02	167,00	195,00	166,00	190,00
T - Ausl 9 Grosseto	3,01	102,00	100,47	-1,50	204,00	215,00	200,00	214,00
T - Ausl 10 Firenze	3,21	101,30	108,33	6,94	78,00	104,00	77,00	96,00
T - Ausl 11 Empoli	3,26	112,50	110,53	-1,75	72,00	84,00	64,00	76,00
T - Ausl 12 Viareggio	5,00	100,00	100,00	0,00	35,00	35,00	35,00	35,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

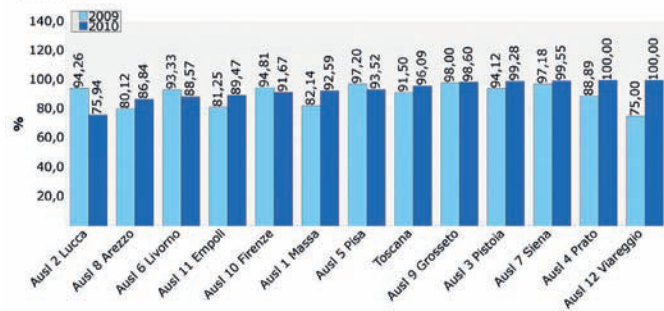
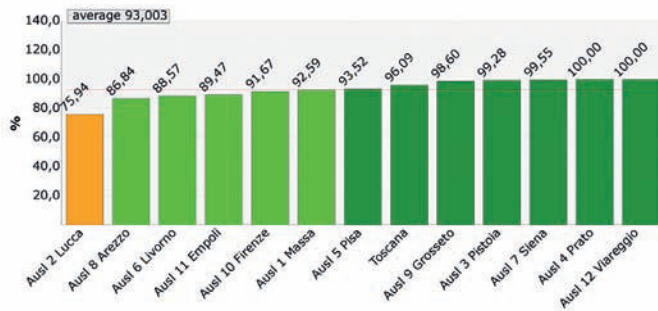
### F16.3.1 Samples analysed for PNAA and PNR Plans

<b>Definition:</b>	Samples analysed according to the National Plan for Residuals (PNR) and the National Plan for Animal Feeding (PNAA)
<b>Numerator:</b>	No. of samples taken according to the PNR and PNAA plans in the quarter being examined
<b>Denominator:</b>	No. of samples expected (according to the authority's plan) in the quarter being examined
<b>Formula:</b>	$\frac{\text{No. of samples taken in the quarter being examined}}{\text{No. of samples expected in the quarter being examined}} \times 100$
<b>Notes:</b>	Reg. 470/2009 (CE) Legislative Decree no. 158 of 16/03/2006 PNR 2010 issued by the Ministry of Labour, Health, and Social Policy in early 2010, and subsequent GRT Resolution No. 15 of 11/01/2010 for the allocation of samples to be made at the level of individual UUSSLL (Regional Plan for Residuals: PRR) Law no. 281 of 15/02/63 Reg. 882/04 (CE) Reg. 183/05 (CE) PNAA 2009-2011 issued by the Ministry of Labour, Health, and Social Policy in early 2009, and subsequent GRT Resolution No. 99 of 16/02/2009 for the allocation of samples to be made at the level of individual UUSSLL (Regional Plan for Animal Feeding: PRAA)
<b>Source:</b>	– Data flows transmitted by the Regional Veterinary Epidemiological Observatory (OEVR) of Siena Flussi dati trasmessi dall'Osservatorio Epidemiologico Veterinario Regionale (OEVR) di Siena and – Flow of distribution of samples PNR-PNAA transmitted by Organizational units dealing with Veterinary Public Health and belonging to the Prevention Department of Health Authorities in Tuscany Flusso ripartizione campioni PNR-PNAA trasmessi da parte delle Articolazioni Organizzative che si occupano di Sanità Pubblica Veterinaria appartenenti ai Dip. Prev. Delle Aziende sanitarie della Toscana
<b>Target:</b>	100%



## 7.64 Indicator F16.3.2: Adherence to quarterly programming plans for PNAA and PNR

### F16.3.2 – Adherence to quarterly programming plans for PNAA and PNR



### F16.3.2 Adherence to quarterly programming plans for PNAA and PNR

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,46	91,50	96,09	5,02	1.141,00	1.303,00	1.247,00	1.356,00
T - Ausl 1 Massa	3,98	82,14	92,59	12,72	69,00	50,00	84,00	54,00
T - Ausl 2 Lucca	1,67	94,26	75,94	-19,44	115,00	101,00	122,00	133,00
T - Ausl 3 Pistoia	4,90	94,12	99,28	5,49	128,00	137,00	136,00	138,00
T - Ausl 4 Prato	5,00	88,89	100,00	12,50	16,00	18,00	18,00	18,00
T - Ausl 5 Pisa	4,10	97,20	93,52	-3,78	104,00	101,00	107,00	108,00
T - Ausl 6 Livorno	3,42	93,33	88,57	-5,10	56,00	62,00	60,00	70,00
T - Ausl 7 Siena	4,94	97,18	99,55	2,44	172,00	223,00	177,00	224,00
T - Ausl 8 Arezzo	3,18	80,12	86,84	8,39	133,00	165,00	166,00	190,00
T - Ausl 9 Grosseto	4,81	98,00	98,60	0,61	196,00	211,00	200,00	214,00
T - Ausl 10 Firenze	3,85	94,81	91,67	-3,31	73,00	88,00	77,00	96,00
T - Ausl 11 Empoli	3,54	81,25	89,47	10,12	52,00	68,00	64,00	76,00
T - Ausl 12 Viareggio	5,00	75,00	100,00	33,33	27,00	35,00	36,00	35,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

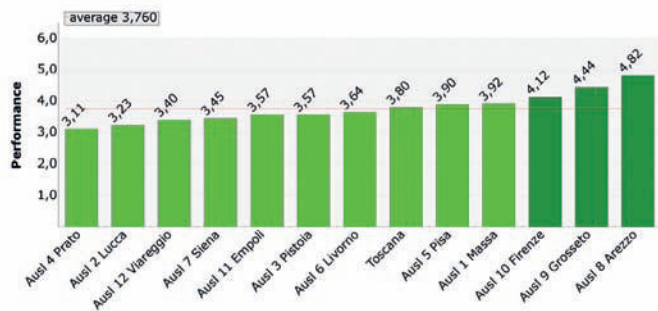
### F16.3.2 Adherence to quarterly programming plans for PNAA and PNR

<b>Definition:</b>	Adherence to quarterly programming plans for PNAA and PNR
<b>Numerator:</b>	No. of proper annual samples
<b>Denominator:</b>	No. of allocated annual samples
<b>Formula:</b>	$\frac{\text{No. of proper annual samples}}{\text{No. of allocated annual samples}}$
<b>Notes:</b>	<p>Reg. 2377/90 (CE)            Legislative Decree no. 158 of 16/03/2006            PNR 2010 issued by the Ministry of Labour, Health, and Social Policy in early 2010, and subsequent GRT Resolution No. 15 of 11/01/2010 for the allocation of samples to be made at the level of individual UUSSLL (Regional Plan for Residuals: PRR)            Law no. 281 of 15/02/63            Reg. 882/04 (CE)            Reg. 183/05 (CE)</p> <p>PNAA 2009-2011 issued by the Ministry of Labour, Health, and Social Policy in early 2009, and subsequent GRT Resolution No. 99 of 16/02/2009 for the allocation of samples to be made at the level of individual UUSSLL (Regional Plan for Animal Feeding: PRAA)            The proper annual samples are calculated as follows:            (No. of allocated annual samples – Summation ((expected samples per quarter – samples taken per quarter)))            The indicator will be for observation in 2009, and for evaluation from 2010</p>
<b>Source:</b>	<ul style="list-style-type: none"> <li>– Data flows transmitted by the Regional Veterinary Epidemiological Observatory (OEVR) of Siena and</li> <li>– Flow of distribution of samples PNR-PNAA transmitted by Organizational units dealing with Veterinary Public Health and belonging to the Prevention Department of Health Authorities in Tuscany</li> </ul>
<b>Target:</b>	100%



Indicator F16.4: Categorisation (Territory coverage) 7.65

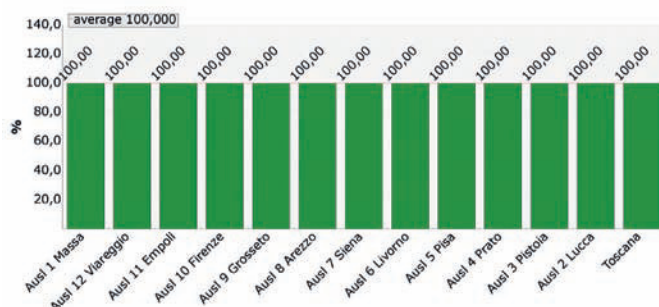
F16.4 – Categorisation (Territory coverage)





## 7.66 Indicator F16.4.1: Categorisation – No. of companies in risk group 1

### F16.4.1 – Categorisation – No. of companies in risk group 1



### F16.4.1 Categorisation – No. of companies in risk group 1

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	100,00%	5,00	6.574,00	6.574,00	2010
T - Asl 1 Massa	100,00%	5,00	257,00	257,00	2010
T - Asl 2 Lucca	100,00%	5,00	566,00	566,00	2010
T - Asl 3 Pistoia	100,00%	5,00	375,00	375,00	2010
T - Asl 4 Prato	100,00%	5,00	234,00	234,00	2010
T - Asl 5 Pisa	100,00%	5,00	641,00	641,00	2010
T - Asl 6 Livorno	100,00%	5,00	952,00	952,00	2010
T - Asl 7 Siena	100,00%	5,00	523,00	523,00	2010
T - Asl 8 Arezzo	100,00%	5,00	823,00	823,00	2010
T - Asl 9 Grosseto	100,00%	5,00	634,00	634,00	2010
T - Asl 10 Firenze	100,00%	5,00	877,00	877,00	2010
T - Asl 11 Empoli	100,00%	5,00	414,00	414,00	2010
T - Asl 12 Viareggio	100,00%	5,00	278,00	278,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

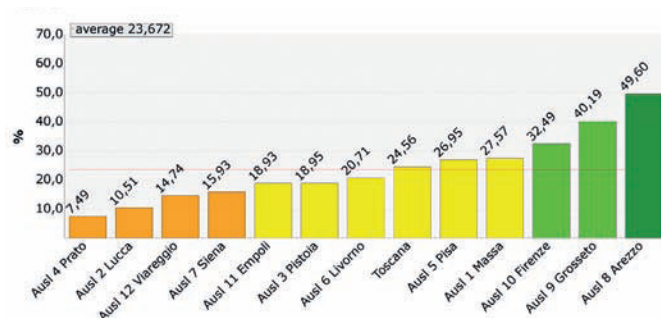
### F16.4.1 Categorisation – No. of companies in risk group 1

<b>Definition:</b>	Territory coverage with reference to risk assessment of food companies subject to registration Reg.CE 852/04 classified group 1
<b>Numerator:</b>	No. of companies categorized in risk group 1
<b>Denominator:</b>	No. of companies to be categorized in risk group 1 (ref. Annual plan Art. 3 comma 1 Reg. CE 882/04) according to provisions of Reg. 852/2004 present in the area of competence
<b>Method of calculation:</b>	$\frac{\text{No. of companies risk group 1 - categorized}}{\text{No. of companies risk group 1 - to be categorized}} \times 100$
<b>Notes:</b>	Resolution No. 1269 of the 28.12.2009 - Guidelines for the official control of food companies subject to registration according to provisions issued with Decree of the President of the Regional Committee No.40/R of 1 August 2006, according to risk categorization. Revocation DGR 861/2007 Decree no. 867 of 04.03.2008 - Approval of the "Guidelines for triennial programming (2008-2010) of the official control of food companies subject to registration according to Regulations issued with DPGR No. 40/R of 1 August 2006 based on risk categorisation", and of the forms for the official control activities provided by the DGR 862/2007 and subsequent amendments (pending approval) Official Control Program in accordance with Art. 3 paragraph 1 Reg. CE 882/04 drawn up by the organizational articulations belonging to Prevention Departments of Local Health Authorities
<b>Source:</b>	Information flow transmitted by the Prevention Departments of Health Units of Tuscany (single flow of categorisation activities performed by SIAN and SPV) according to Decree no. 867 of 04/03/2008 amended by the D.D. 1399 of 29/03/2010
<b>Target:</b>	Inter Authority Average



## Indicator F16.4.2: Categorisation – No. of companies in risk group 2 7.67

### F16.4.2 – Categorisation – No. of companies in risk group 2



### F16.4.2 Categorisation – No. of companies in risk group 2

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	24,56%	2,60	7.464,00	30.391,00	2010
T - Ausl 1 Massa	27,57%	2,85	490,00	1.777,00	2010
T - Ausl 2 Lucca	10,51%	1,46	190,00	1.808,00	2010
T - Ausl 3 Pistoia	18,95%	2,14	482,00	2.544,00	2010
T - Ausl 4 Prato	7,49%	1,21	118,00	1.576,00	2010
T - Ausl 5 Pisa	26,95%	2,80	684,00	2.538,00	2010
T - Ausl 6 Livorno	20,71%	2,29	750,00	3.621,00	2010
T - Ausl 7 Siena	15,93%	1,90	516,00	3.240,00	2010
T - Ausl 8 Arezzo	49,60%	4,64	1.046,00	2.109,00	2010
T - Ausl 9 Grosseto	40,19%	3,87	1.000,00	2.488,00	2010
T - Ausl 10 Firenze	32,49%	3,25	1.558,00	4.795,00	2010
T - Ausl 11 Empoli	18,93%	2,14	252,00	1.331,00	2010
T - Ausl 12 Viareggio	14,74%	1,80	378,00	2.564,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.4.2 Categorisation – No. of companies risk group 2

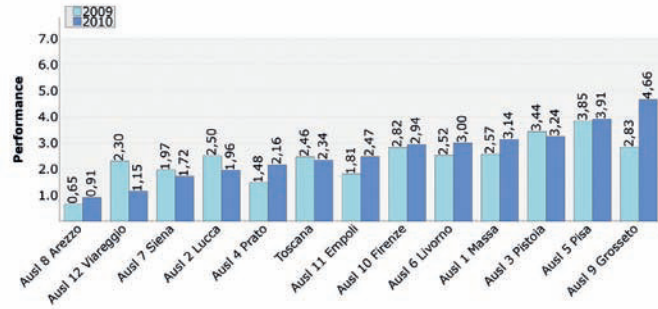
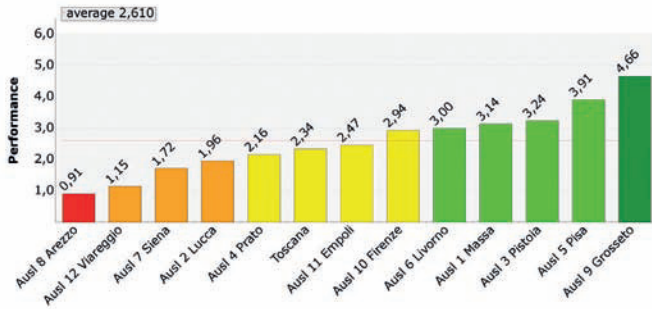
<b>Definition:</b>	Territory coverage with reference to the categorisation of risk of food companies subject to registration Reg.CE 852/04 classified group 2
<b>Numerator:</b>	No. of companies categorised in risk group 2
<b>Denominator:</b>	No. of companies to be categorised in risk group 2 (ref. Annual plan Art. 3 comma 1 Reg. CE 882/04) according to provisions of Reg. 852/2004 present in the area of competence
<b>Method of calculation:</b>	$\frac{\text{No. of companies risk group 2 - categorised}}{\text{No. of companies risk group 2 - to be categorised}} \times 100$
<b>Notes:</b>	Resolution No. 1269 of the 28.12.2009 - Guidelines for the official control of food companies subject to registration according to provisions issued with Decree of the President of the Regional Committee No.40/R of 1 August 2006, according to risk categorization. Revocation DGR Decree no. 867 of 04.03.2008 861/2007 - Approval of the "Guidelines for triennial programming (2008-2010) of the official control of food companies subject to registration according to Regulations issued with DPGR No. 40/R of 1 August 2006 based on risk categorization", and to the forms for the official control activities provided by the DGR 862/2007 and subsequent amendments (pending approval) Official Control Program in accordance with Art. 3 paragraph 1 Reg. CE 882/04 drawn up by the organizational articulations belonging to Prevention Departments of Local Health Authorities
<b>Source:</b>	Information flow transmitted by the Prevention Departments of Health Authorities of Tuscany (single flow of categorization activities performed by SIAN and SPV) according to Decree no. 867 of 04/03/2008
<b>Target:</b>	Inter Authority Average



## 7.68 Indicator F16.5: Production efficiency

In connection with the introduction of the flow of services delivered (PF), 3 sub-indicators have been introduced related to the PF 49 “Establishment approved/registered under official control”, PF4 “Official analytical control for food/feed” and PF 43 “control on the farms under control for prevention/surveillance Plans”. These allow measuring the number of activities carried out by LHAs in relation to the staff belonging to the reference sector.

### F16.5 – Production efficiency



## Indicator F16.5: Production efficiency

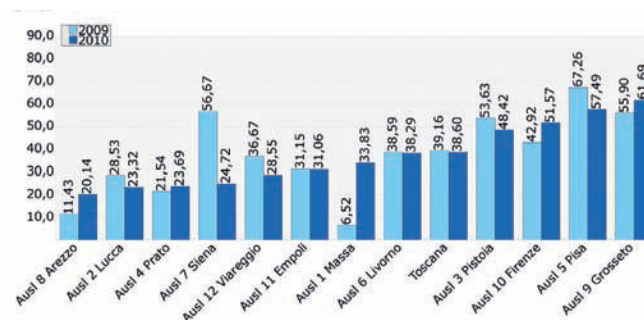
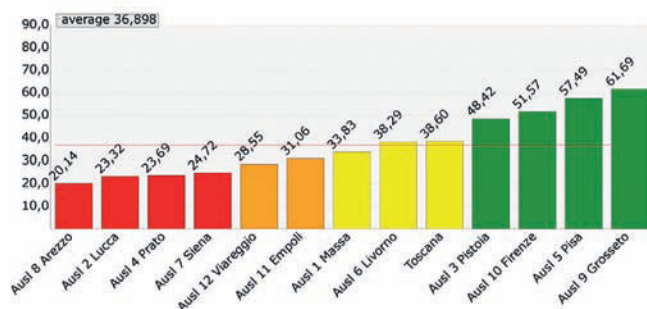
### F16.5. Production efficiency

**Notes:** Indicator F16.5 has a value equal to the average of the score of indicators: F16.5.1, F16.5.2, F16.5.3



## Indicator F16.5.1: Production efficiency for services delivered n. 49 (PF 49) 7.69

### F16.5.1 – Production efficiency for services delivered n. 49 (PF 49)



### F16.5.1 Production efficiency for services delivered n. 49 (PF 49)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,74	39,16	38,60	-1,42	29.890,00	27.128,00	763,35	702,75
T - Ausl 1 Massa	2,08	6,52	33,83	418,97	411,00	1.399,00	63,05	41,35
T - Ausl 2 Lucca	0,89	28,53	23,32	-18,25	1.141,00	1.026,00	40,00	44,00
T - Ausl 3 Pistoia	4,05	53,63	48,42	-9,72	3.379,00	3.113,00	63,00	64,29
T - Ausl 4 Prato	0,91	21,54	23,69	9,99	602,00	488,00	27,95	20,60
T - Ausl 5 Pisa	4,70	67,26	57,49	-14,53	3.464,00	2.717,00	51,50	47,26
T - Ausl 6 Livorno	2,69	38,59	38,29	-0,77	2.402,00	2.345,00	62,25	61,25
T - Ausl 7 Siena	0,95	56,67	24,72	-56,38	5.157,00	2.238,00	91,00	90,55
T - Ausl 8 Arezzo	0,77	11,43	20,14	76,17	926,00	1.621,00	81,00	80,50
T - Ausl 9 Grosseto	5,00	55,90	61,69	10,36	4.265,00	4.719,00	76,30	76,50
T - Ausl 10 Firenze	4,28	42,92	51,57	20,15	5.537,00	5.167,00	129,00	100,20
T - Ausl 11 Empoli	1,69	31,15	31,06	-0,28	1.495,00	1.460,00	48,00	47,00
T - Ausl 12 Viareggio	1,34	36,67	28,55	-22,14	1.111,00	835,00	30,30	29,25

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.5.1 Production efficiency for services delivered n. 49 (PF 49)

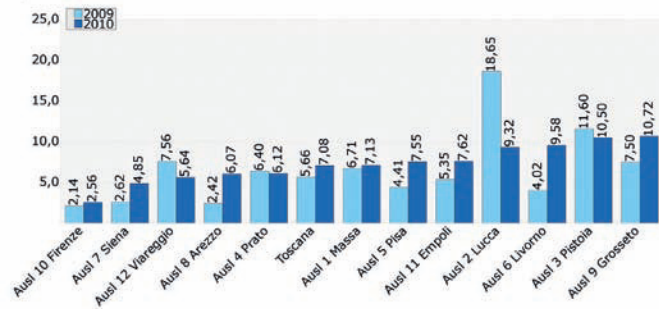
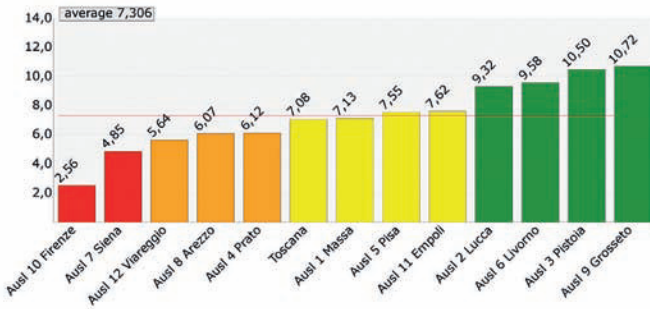
<b>Definition:</b>	Production efficiency – PF 49
<b>Numerator:</b>	Finished products with regard to prevention no. 49 reported annually by the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany.
<b>Denominator:</b>	Number of staff members allocated to the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany
<b>Formula:</b>	$\frac{\text{Finished products 49}}{\text{Annex II – Country Profile}}$
<b>Notes:</b>	Finished Product 49: Plant recognised/registered under official control As for Report "Target" with reference to 2009 only finished products with regard to prevention completed between 01.01.2009 and 31.12.2009 will be calculated. As for Report "Target" with reference to 2010 only finished products with regard to prevention completed between 01.01.2010 and 31.12.2010. Including their weighting
<b>Source:</b>	Resolution GR No. 670 of 01/09/2008 Decree No. 4196 of 16/09/2008 Annual Report PF Data flow relative to Country Profile from IAN SPV service
<b>Reference:</b>	Inter Authority Average





## 7.70 Indicator F16.5.2: Production efficiency for services delivered n. 4 (PF 4)

### F16.5.2 – Production efficiency for services delivered n. 4 (PF 49)



#### F16.5.2 Production efficiency for services delivered n. 4 (PF 4)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	2,32	5,66	7,08	25,05	4.324,00	4.978,00	763,35	702,75
T - Ausl 1 Massa	2,36	6,71	7,13	6,34	423,00	295,00	63,05	41,35
T - Ausl 2 Lucca	4,12	18,65	9,32	-50,04	746,00	410,00	40,00	44,00
T - Ausl 3 Pistoia	4,86	11,60	10,50	-9,51	731,00	675,00	63,00	64,29
T - Ausl 4 Prato	1,53	6,40	6,12	-4,49	179,00	126,00	27,95	20,60
T - Ausl 5 Pisa	2,70	4,41	7,55	71,38	227,00	357,00	51,50	47,26
T - Ausl 6 Livorno	4,28	4,02	9,58	138,63	250,00	587,00	62,25	61,25
T - Ausl 7 Siena	0,89	2,62	4,85	85,37	238,00	439,00	91,00	90,55
T - Ausl 8 Arezzo	1,49	2,42	6,07	151,04	196,00	489,00	81,00	80,50
T - Ausl 9 Grosseto	5,00	7,50	10,72	42,98	572,00	820,00	76,30	76,50
T - Ausl 10 Firenze	0,47	2,14	2,56	19,88	276,00	257,00	129,00	100,20
T - Ausl 11 Empoli	2,76	5,35	7,62	42,26	257,00	358,00	48,00	47,00
T - Ausl 12 Viareggio	1,14	7,56	5,64	-25,36	229,00	165,00	30,30	29,25

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

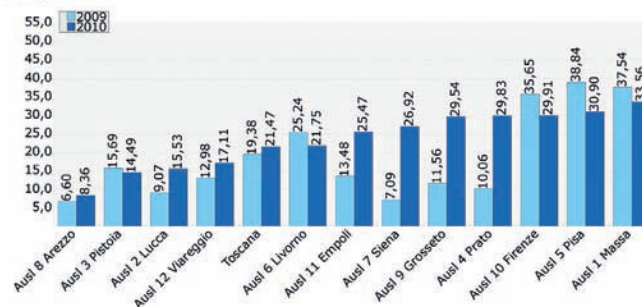
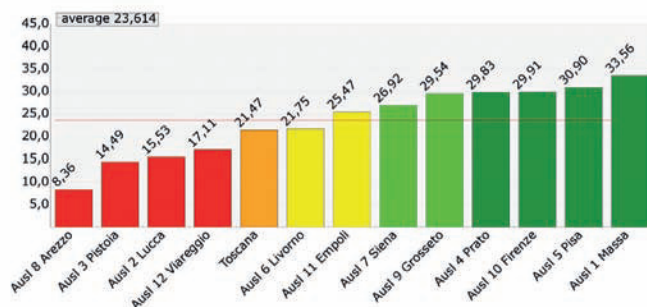
### F16.5.2 Production efficiency for services delivered n. 4 (PF 4)

<b>Definition:</b>	Production efficiency – PF 4
<b>Numerator:</b>	Finished Product No. 4 reported annually by the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany to the appropriate Regional authority.
<b>Denominator:</b>	Number of staff members allocated to the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany
<b>Formula:</b>	$\frac{\text{Finished products 4}}{\text{Annex II – Country Profile}}$
<b>Notes:</b>	<p>Final Product 4: Local Unit under control due to Food Safety</p> <p>As for Report "Target" with reference to 2009 only finished products with regard to prevention completed between 01.01.2009 and 31.12.2009 will be calculated.</p> <p>As for Report "Target" with reference to 2010 only finished products with regard to prevention completed between 01.01.2010 and 31.12.2010. Including their weighting</p> <p>Resolution GR no. 670 of 01/09/2008</p> <p>Decree no. 4196 of 16/09/2008</p>
<b>Source:</b>	Annual report PF Data flow relative to Country Profile from IAN SPV services
<b>Reference:</b>	Inter Authority Average



## Indicator F16.5.3: Production efficiency for services delivered n. 43 (PF 43) 7.71

### F16.5.3 – Production efficiency for services delivered n. 43 (PF 43)



### F16.5.3 Production efficiency for services delivered n. 43 (PF 43)

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,97	19,38	21,47	10,82	10.468,00	10.613,00	540,25	494,26
T - Ausl 1 Massa	5,00	37,54	33,56	-10,60	1.757,00	1.027,00	46,80	30,60
T - Ausl 2 Lucca	0,88	9,07	15,53	71,26	263,00	497,00	29,00	32,00
T - Ausl 3 Pistoia	0,82	15,69	14,49	-7,65	651,00	620,00	41,50	42,80
T - Ausl 4 Prato	4,05	10,06	29,83	196,55	173,00	346,00	17,20	11,60
T - Ausl 5 Pisa	4,32	38,84	30,90	-20,44	1.410,00	1.068,00	36,30	34,56
T - Ausl 6 Livorno	2,03	25,24	21,75	-13,84	833,00	696,00	33,00	32,00
T - Ausl 7 Siena	3,32	7,09	26,92	279,50	493,00	1.879,00	69,50	69,80
T - Ausl 8 Arezzo	0,47	6,60	8,36	26,69	409,00	514,00	62,00	61,50
T - Ausl 9 Grosseto	3,98	11,56	29,54	155,64	824,00	2.201,00	71,30	74,50
T - Ausl 10 Firenze	4,07	35,65	29,91	-16,10	2.995,00	1.744,00	84,00	58,30
T - Ausl 11 Empoli	2,96	13,48	25,47	88,87	418,00	764,00	31,00	30,00
T - Ausl 12 Viareggio	0,97	12,98	17,11	31,85	242,00	284,00	18,65	16,60

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

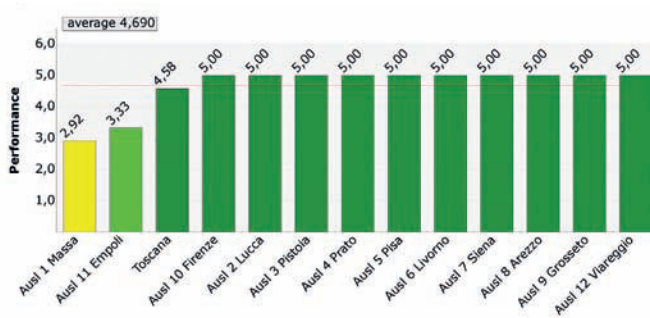
### F16.5.3 Production efficiency for services delivered n. 43 (PF 43)

<b>Definition:</b>	Production efficiency – PF 43
<b>Numerator:</b>	Finished Product 43 reported annually by the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany to the appropriate Regional authority.
<b>Denominator:</b>	Number of staff members allocated to the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany
<b>Formula:</b>	$\frac{\text{Finished products 43}}{\text{Annex II – Country Profile (only personnel of the Veterinary Public Health Sector)}}$
<b>Notes:</b>	<p>Finished Product 43: farms under control due to prophylaxis/monitoring plans            Resolution GR no. 670 of 01/09/2008            Decree no. 4196 of 16/09/2008</p> <p>As for Report "Target" with reference to 2009 only finished products with regard to prevention completed between 01.01.2009 and 31.12.2009 will be calculated.            As for Report "Target" with reference to 2010 only finished products with regard to prevention completed between 01.01.2010 and 31.12.2010. Including their weighting</p>
<b>Source:</b>	Annual report PF Data flow relative to Country Profile from IAN SPV services
<b>Reference:</b>	Inter Authority Average



## 7.72 Indicator F16.6: Organisational efficiency

### F16.6 – Organisational efficiency



### Indicator F16.6: Organisational efficiency

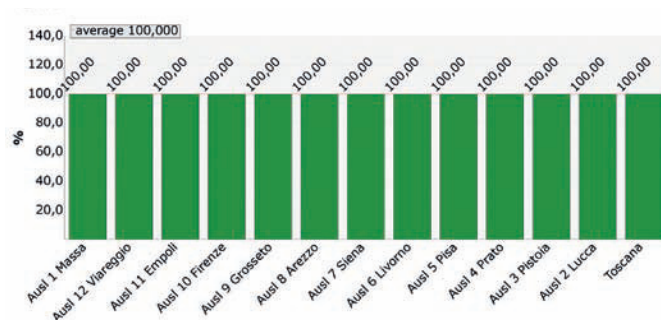
#### F16.6 Organisational efficiency

**Notes:** Indicator F16.6 has a value equal to the average of the score of indicators: F16.6.6.1, F16.6.2



## Indicator F16.6.1: Non-compliance certificate ISO 9001: 2000 7.73

### F16.6.1 – Non-compliance certificate ISO 9001: 2000



### F16.6.1 Non-compliance certificate ISO 9001: 2000

Health Authority	Value	Score	Numerator	Denominator	Year
T-Toscana	100,00%	5,00	–	57,00	2010
T - Ausl 1 Massa	100,00%	5,00	–	11,00	2010
T - Ausl 2 Lucca	100,00%	5,00	–	1,00	2010
T - Ausl 3 Pistoia	100,00%	5,00	–	4,00	2010
T - Ausl 4 Prato	100,00%	5,00	–	3,00	2010
T - Ausl 5 Pisa	100,00%	5,00	–	6,00	2010
T - Ausl 6 Livorno	100,00%	5,00	–	8,00	2010
T - Ausl 7 Siena	100,00%	5,00	–	8,00	2010
T - Ausl 8 Arezzo	100,00%	5,00	–	2,00	2010
T - Ausl 9 Grosseto	100,00%	5,00	–	4,00	2010
T - Ausl 10 Firenze	100,00%	5,00	–	4,00	2010
T - Ausl 11 Empoli	100,00%	5,00	–	4,00	2010
T - Ausl 12 Viareggio	100,00%	5,00	–	2,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

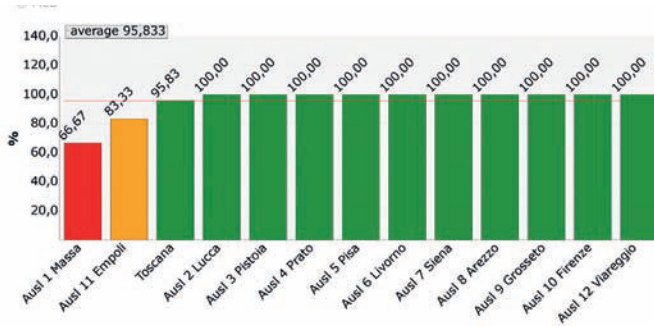
### F16.6.1 Non-compliance certificate ISO 9001: 2000

<b>Definition:</b>	Non-compliance certificate ISO 9001: 2000
<b>Numerator:</b>	Number of non-compliant issues reported by the certifying Authority during the inspection visit paid by the competent territorial authority
<b>Denominator:</b>	Number of competent territorial authorities (reference Reg.CE 882/2004)
<b>Formula:</b>	$\frac{\text{Total no. of non compliant issues per Health Authority} \times 100}{\text{Number of competent territorial authorities}}$
<b>Notes:</b>	Verification report issued by the certifying Authority during the inspection visit. In case of Competent Territorial Authorities not certified ISO 9001: 2000 On 31.12.2009, the Health Authority will be placed in the red section of the target
<b>Source:</b>	Verification report issued by the certifying Authority during the inspection visit paid by the Organizational Units dealing with Food Hygiene and Veterinary Public Health belonging to the Prevention Departments of the Health Authorities of Tuscany certified ISO 9001: 2000
<b>Reference:</b>	Inter Authority Average



## 7.74 Indicator F16.6.2: Quality Management System (SGQ) Internal Control Performance

### F16.6.2 – Quality Management System (SGQ) Internal Control Performance



### F16.6.2 Quality Management System (SGQ) Internal Control Performance

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	95,83%	4,17	115,00	120,00	2010
T - Asl 1 Massa	66,67%	0,83	8,00	12,00	2010
T - Asl 2 Lucca	100,00%	5,00	4,00	4,00	2010
T - Asl 3 Pistoia	100,00%	5,00	8,00	8,00	2010
T - Asl 4 Prato	100,00%	5,00	4,00	4,00	2010
T - Asl 5 Pisa	100,00%	5,00	7,00	7,00	2010
T - Asl 6 Livorno	100,00%	5,00	4,00	4,00	2010
T - Asl 7 Siena	100,00%	5,00	27,00	27,00	2010
T - Asl 8 Arezzo	100,00%	5,00	5,00	5,00	2010
T - Asl 9 Grosseto	100,00%	5,00	4,00	4,00	2010
T - Asl 10 Firenze	100,00%	5,00	35,00	35,00	2010
T - Asl 11 Empoli	83,33%	1,67	5,00	6,00	2010
T - Asl 12 Viareggio	100,00%	5,00	4,00	4,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.6.2 Quality Management System (SGQ) Internal Control Performance

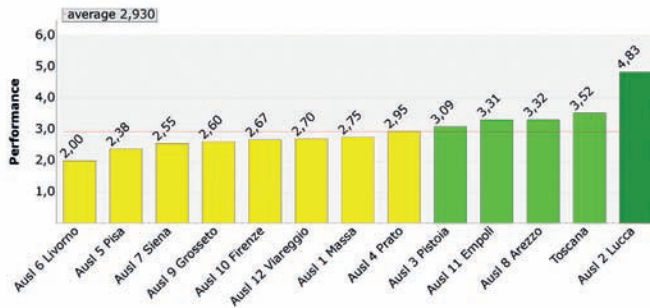
<b>Definition:</b>	Organizational efficiency with reference to Internal Control performance SGQ
<b>Numerator:</b>	Number of internal controls performed by the Competent Territorial Authorities belonging to the Prevention Departments of the Health Authorities of Tuscany certified ISO 9001: 2000
<b>Denominator:</b>	Number of internal controls reported in the annual plan of internal controls
<b>Formula:</b>	$\frac{\text{Number of internal controls}}{\text{Number of internal controls reported in the annual plan of internal controls}}$
<b>Notes:</b>	Document annual review of internal controls SGQ/internal verification report
<b>Source:</b>	Document annual review of internal controls SGQ drawn up by Competent Territorial Authorities belonging to the Prevention Departments of the Health Authorities of Tuscany
<b>Reference:</b>	Inter Authority Average



## Indicator F16.7: Checklist National Database (NDB) Teramo 7.75

This indicator, introduced in 2009, aims to compare the data identified and registered in the National Data Base (NDB) of Teramo with that collected during inspections. The sub-indicators of F16.7 provide the details of the composition of the macro indicator considering the checklists per animal species: cattle, sheep and goats, and swine.

### F16.7 – Checklist National Database (NDB) Teramo



### Indicator F16.7: Checklist national database (NDB) Teramo

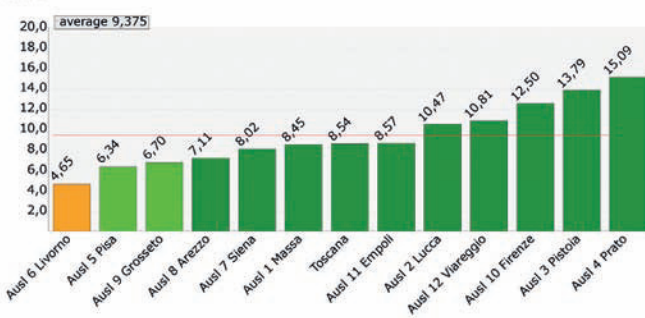
#### F16.7 Checklist national database (NDB) Teramo

**Notes:** Indicator F16.7 has a value equal to the average of the score of indicators: F16.7.1, F16.7.2, F16.7.3



## 7.76 Indicator F16.7.1: Checklist for cattle

### F16.7.1 – Checklist for cattle



### F16.7.1 Checklist for cattle

Health Authority	Value	Score	Numerator	Denominator	Year
T-Toscana	8,54 –	4,22	386,00	4.519,00	2010
T - Ausl 1 Massa	8,45 –	4,21	60,00	710,00	2010
T - Ausl 2 Lucca	10,47 –	4,50	49,00	468,00	2010
T - Ausl 3 Pistoia	13,79 –	4,97	24,00	174,00	2010
T - Ausl 4 Prato	15,09 –	5,00	8,00	53,00	2010
T - Ausl 5 Pisa	6,34 –	3,34	18,00	284,00	2010
T - Ausl 6 Livorno	4,65 –	1,65	10,00	215,00	2010
T - Ausl 7 Siena	8,02 –	4,15	30,00	374,00	2010
T - Ausl 8 Arezzo	7,11 –	4,02	43,00	605,00	2010
T - Ausl 9 Grosseto	6,70 –	3,70	59,00	881,00	2010
T - Ausl 10 Firenze	12,50 –	4,79	54,00	432,00	2010
T - Ausl 11 Empoli	8,57 –	4,22	15,00	175,00	2010
T - Ausl 12 Viareggio	10,81 –	4,54	16,00	148,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

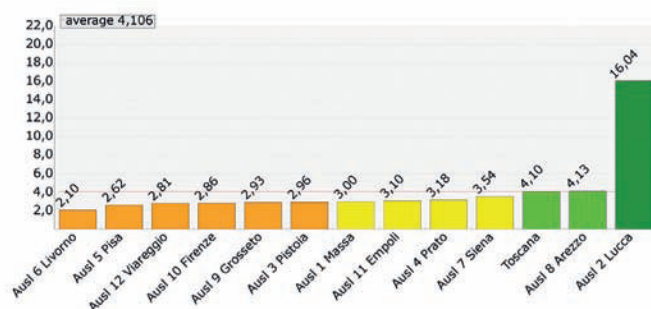
### F16.7.1 Checklist for cattle

<b>Definition:</b>	Checklists submitted and filled in at the National Data Base (NDB) of Teramo
<b>Numerator:</b>	No. of checklists filled in and submitted in NDB for types of farms and for the period of observation.
<b>Denominator:</b>	No. of farms with at least one head of cattle on 31/12/2008 in NDB
<b>Formula:</b>	$\frac{\text{No. of checklists filled in and submitted to NDB for the period of observation with reference to cattle farms}}{\text{No. of farms with at least one head of cattle on 31/12/2008 in NDB}} \times 100$
<b>Source:</b>	Data flow NDB
<b>Reference:</b>	5% (of cattle farms started early in the year with at least one head of cattle)



## Indicator F16.7.2: Checklist for ovine and caprine 7.77

### F16.7.2 – Checklist for ovine and caprine



### F16.7.2 Checklist for ovine and caprine

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	4,10	3,10	296,00	7.217,00	2010
T - Ausl 1 Massa	3,00	2,00	26,00	868,00	2010
T - Ausl 2 Lucca	16,04	5,00	89,00	555,00	2010
T - Ausl 3 Pistoia	2,96	1,96	11,00	371,00	2010
T - Ausl 4 Prato	3,18	2,18	5,00	157,00	2010
T - Ausl 5 Pisa	2,62	1,62	14,00	535,00	2010
T - Ausl 6 Livorno	2,10	1,10	5,00	238,00	2010
T - Ausl 7 Siena	3,54	2,54	28,00	791,00	2010
T - Ausl 8 Arezzo	4,1	3,13	34,00	823,00	2010
T - Ausl 9 Grosseto	2,93	1,93	46,00	1.568,00	2010
T - Ausl 10 Firenze	2,86	1,86	22,00	768,00	2010
T - Ausl 11 Empoli	3,10	2,10	8,00	258,00	2010
T - Ausl 12 Viareggio	2,81	1,81	8,00	285,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.7.2 Checklist for ovine and caprine

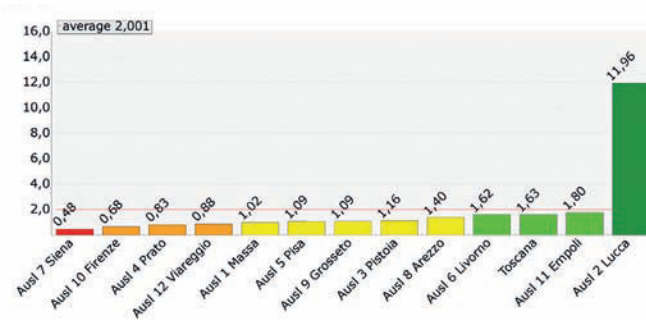
<b>Definition:</b>	Checklists submitted and filled in at the National Data Base (NDB) of Teramo
<b>Numerator:</b>	No. of checklists filled in and submitted in NDB for types of farms and for the period of observation.
<b>Denominator:</b>	No. of farms on 31/12/2008 in NDB
<b>Formula:</b>	$\frac{\text{No. of checklists filled in and submitted in NDB for the period of observation with reference to ovine and caprine farms}}{\text{No. of farms on 31/12/2008 in NDB}} \times 100$
<b>Source:</b>	Data flow NDB
<b>Reference:</b>	3% (of the ovine and caprine farms started early in the year)





## 7.78 Indicator F16.7.3: Checklist for swine

### F16.7.3 – Checklist for swine



### F16.7.3 Checklist for swine

Health Authority	Value	Score	Numerator	Denominator	Year
T - Toscana	1,63	3,25	122,00	7.505,00	2010
T - Asl 1 Massa	1,02	2,04	8,00	783,00	2010
T - Asl 2 Lucca	11,96	5,00	47,00	393,00	2010
T - Asl 3 Pistoia	1,16	2,33	6,00	516,00	2010
T - Asl 4 Prato	0,83	1,65	1,00	121,00	2010
T - Asl 5 Pisa	1,09	2,17	7,00	645,00	2010
T - Asl 6 Livorno	1,62	3,25	5,00	308,00	2010
T - Asl 7 Siena	0,48	0,96	6,00	1.248,00	2010
T - Asl 8 Arezzo	1,40	2,81	19,00	1.354,00	2010
T - Asl 9 Grosseto	1,09	2,18	13,00	1.191,00	2010
T - Asl 10 Firenze	0,68	1,36	3,00	440,00	2010
T - Asl 11 Empoli	1,80	3,60	5,00	278,00	2010
T - Asl 12 Viareggio	0,88	1,75	2,00	228,00	2010

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

### F16.7.3 Checklist for swine

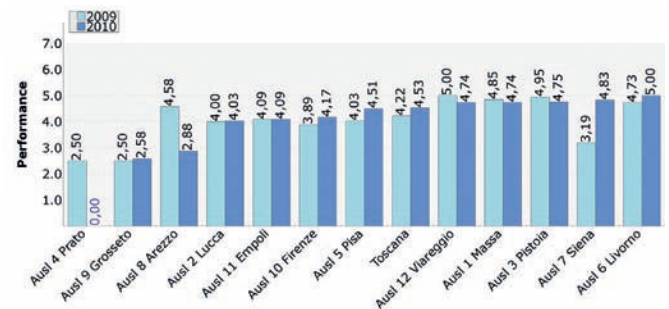
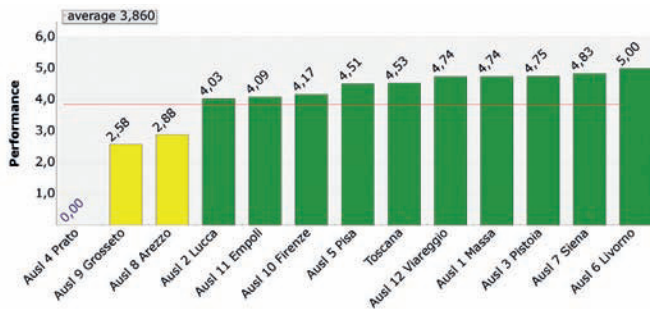
<b>Definition:</b>	Checklists submitted and filled in at the National Data Base (NDB) of Teramo
<b>Numerator:</b>	No. of checklists filled in and submitted in NDB for types of farms and for the period of observation.
<b>Denominator:</b>	No. of farms on 31/12/2008 in NDB
<b>Formula:</b>	$\frac{\text{No. of checklists filled in and submitted in NDB for the period of observation with reference to swine farms}}{\text{No. of farms on 31/12/2008 in NDB}} \times 100$
<b>Source:</b>	Data flow NDB
<b>Reference:</b>	1% (of swine farms started early in the year, can be doubled to 2% in case of non-compliance Ref. Note MiNo. of 12882 del 29/10/2007)



## Indicator F16.8: Pharmacovigilance 7.79

The activity of pharmacovigilance is aimed at protecting the health of consumers of food of animal origin and is achieved by the activities of control and supervision over production, distribution and use of drugs. The legislation in force [DLgs 193/2006 (Legislative Decree)] provides for the performing of inspections/control checks over wholesales and pharmacies in the area, sub-indicators that are in the report. For indicator F16.8.1 “wholesales” the goal was set at 100%. For pharmacies (indicator F16.8.2) the Ministry of Health within LEA (Essential Levels of Care provided by the National Health Service) requires that the regions perform 50% of controls. In the present report we considered the achievement of at least 25%.

### F16.8 – Pharmacovigilance



### Indicator F16.8: Pharmacovigilance

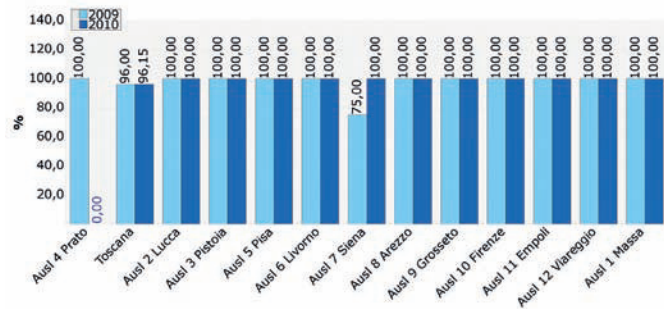
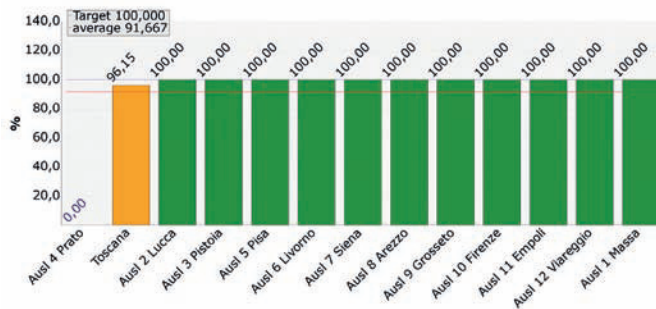
#### F16.8 Pharmacovigilance

**Notes:** Indicator F16.8 has a value equal to the average of the score of indicators: F16.8.1, F16.8.2



## 7.80 Indicator F16.8.1: Pharmacovigilance – Wholesale

### F16.8.1 – Pharmacovigilance – Wholesale



### F16.8.1 Pharmacovigilance – Wholesale

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	1,74	96,00	96,15	0,16	25,00	25,00	24,00	26,00
T - Ausl 1 Massa	5,00	100,00	100,00	0,00	1,00	1,00	1,00	1,00
T - Ausl 2 Lucca	5,00	100,00	100,00	0,00	1,00	1,00	1,00	1,00
T - Ausl 3 Pistoia	5,00	100,00	100,00	0,00	1,00	1,00	1,00	1,00
T - Ausl 4 Prato	0,00	100,00	0,00	-100,00	1,00	0,00	1,00	1,00
T - Ausl 5 Pisa	5,00	100,00	100,00	0,00	5,00	5,00	5,00	5,00
T - Ausl 6 Livorno	5,00	100,00	100,00	0,00	0,00	0,00	0,00	0,00
T - Ausl 7 Siena	5,00	75,00	100,00	33,33	4,00	4,00	3,00	4,00
T - Ausl 8 Arezzo	5,00	100,00	100,00	0,00	2,00	4,00	2,00	4,00
T - Ausl 9 Grosseto	5,00	100,00	100,00	0,00	5,00	4,00	5,00	4,00
T - Ausl 10 Firenze	5,00	100,00	100,00	0,00	3,00	3,00	3,00	3,00
T - Ausl 11 Empoli	5,00	100,00	100,00	0,00	1,00	1,00	1,00	1,00
T - Ausl 12 Viareggio	5,00	100,00	100,00	0,00	1,00	1,00	1,00	1,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition Services

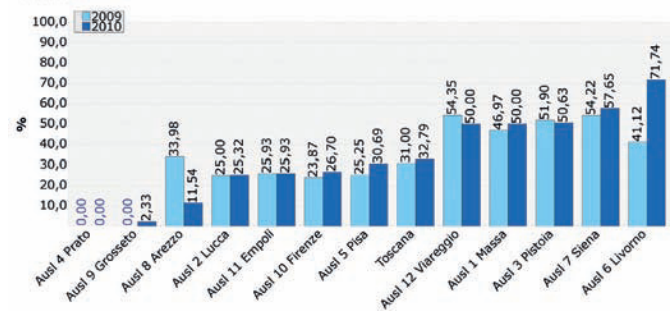
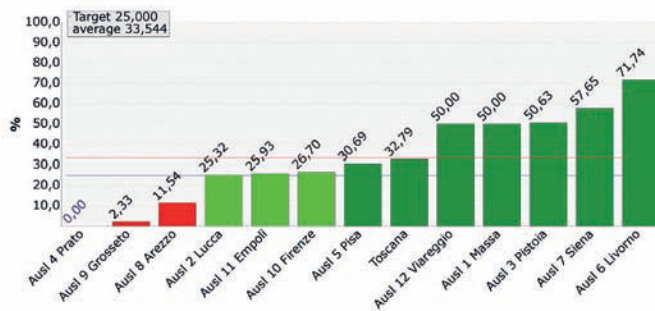
### F16.8.1 Pharmacovigilance – Wholesale

<b>Definition:</b>	Resale of veterinary drugs (Note: wholesalers + pharmacies)
<b>Numerator:</b>	Checked wholesales
<b>Denominator:</b>	Verifiable wholesales
<b>Formula:</b>	$\frac{\text{Checked wholesales}}{\text{Verifiable wholesales}} \times 100$
<b>Source:</b>	Information flows (No. 17a, and No. 17b of D.D. 7102/2004) transmitted by the Organizational Articulations dealing with Veterinary Public Health and with Territorial Drug Service
<b>Target value:</b>	Coverage at least 100 % of verifiable wholesales



## Indicator F16.8.2: Pharmacovigilance – Pharmacies 7.81

### F16.8.2 – Pharmacovigilance – Pharmacies



### F16.8.2 Pharmacovigilance – Pharmacies

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	4,07	31,00	32,79	5,78	1.071,00	341,00	332,00	1.040,00
T - Ausl 1 Massa	4,48	46,97	50,00	6,45	66,00	33,00	31,00	66,00
T - Ausl 2 Lucca	3,06	25,00	25,32	1,28	76,00	20,00	19,00	79,00
T - Ausl 3 Pistoia	4,49	51,90	50,63	-2,44	79,00	40,00	41,00	79,00
T - Ausl 4 Prato	0,00	0,00	0,00	(*)	57,00	0,00	0,00	57,00
T - Ausl 5 Pisa	4,02	25,25	30,69	21,53	99,00	31,00	25,00	101,00
T - Ausl 6 Livorno	5,00	41,12	71,74	74,46	107,00	66,00	44,00	92,00
T - Ausl 7 Siena	4,66	54,22	57,65	6,33	83,00	49,00	45,00	85,00
T - Ausl 8 Arezzo	0,77	33,98	11,54	-66,04	103,00	12,00	35,00	104,00
T - Ausl 9 Grosseto	0,16	0,00	2,33	(*)	79,00	2,00	0,00	86,00
T - Ausl 10 Firenze	3,34	23,87	26,70	11,84	222,00	51,00	53,00	191,00
T - Ausl 11 Empoli	3,19	25,93	25,93	0,02	54,00	14,00	14,00	54,00
T - Ausl 12 Viareggio	4,48	54,35	50,00	-8,00	46,00	23,00	25,00	46,00

## Indicator F16: Efficiency and Effectiveness in Food Safety and Nutrition

### F16.8.2 Pharmacovigilance – Pharmacies

<b>Definition:</b>	Resale of veterinary drugs (Note: wholesalers + pharmacies)
<b>Numerator:</b>	Checked pharmacies
<b>Denominator:</b>	Verifiable pharmacies
<b>Formula:</b>	$\frac{\text{Checked pharmacies}}{\text{Verifiable pharmacies}} \times 100$
<b>Source:</b>	Information flows (No. 17a, and No. 17b of D.D. 7102/2004) transmitted by the Organisational Articulations dealing with Veterinary Public Health and with Territorial Drug Service
<b>Target value:</b>	Coverage at least 25 % of pharmacies



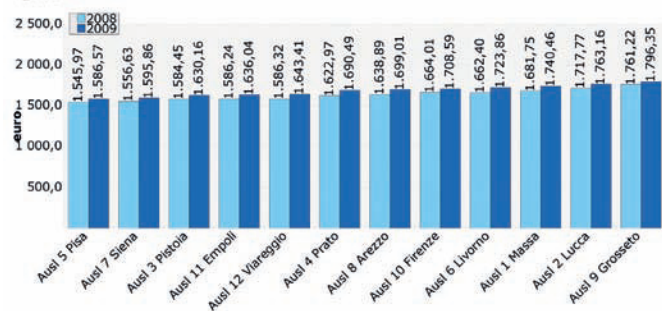
## 7.82 Indicator F17: Health expenditure per capita

The indicator is constructed as the ratio between the total costs paid by the Local Health Authority for its residents and the resident population in the municipalities of the LHA. It was adjusted according to weights relating to care, of the PSR in Tuscany. The total costs paid by the LHA for its residents is obtained as the total costs of the income statement excluding active mobility revenues because it is assumed that the costs paid by the Authority to provide services to non-residents are equal to proceeds coming from active mobility. Another feature related to the calculation of the costs for residents is the elimination of the effect of the ceilings on mobility within the region, in force since 2004. The indicator was discussed and modified several times during the process of sharing with Authority managers. An earlier version presented the expenditure per capita of Local Authorities “consolidated” with that of hospitals: the costs of the hospitals had been overturned on Local Authorities on the basis of the number of inpatient and outpatient services received. These two versions of the expenditure per capita are connected to two different points of view: the consolidation of costs between Local Authorities and teaching privileges the perspective of those who believe that the purchase of services for its residents may cost less than the provision of such services. An indicator based exclusively on data from Local Authorities, however, privileges the perspective of those who believe that consolidation leads to overturning not only with reference to the costs of services, but also to the inefficiencies of the Teaching Hospitals. While, on one hand, an indicator is closer to the consolidated expenditure per capita paid by the Regional Health System, on the other hand, it is difficult to assign responsibility to Authorities with reference to joint values. We decided not to proceed with the consolidation of data in order to assure the responsibility of Authorities on the use of resources.

### F17 Health expenditure per capita

- F19 – Expenditure per DRG fee: 1,55 euro
  - F19.1 – Expenditure per DRG value (Hospital Care): 1,56 euro
  - F19.2 – Expenditure per fee with reference to outpatient care: 1,54 euro

### F17 – Health expenditure per capita



### F17 Health expenditure per capita

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Ausl 1 Massa	1,81	1.871,50	1.740,46	-7,00	6.881.610.000,00	359.366.834,00	3.677.048,00	206.477,98
T - Ausl 2 Lucca	1,53	1.681,75	1.763,16	4,84	344.139.614,43	391.469.230,00	204.632,00	222.027,11
T - Ausl 3 Pistoia	3,17	1.717,77	1.630,16	-5,10	378.360.531,96	467.595.526,50	220.262,30	286.839,97
T - Ausl 4 Prato	2,43	1.584,45	1.690,49	6,69	449.862.010,78	396.006.688,50	283.924,00	234.255,78
T - Ausl 5 Pisa	3,71	1.622,97	1.586,57	-2,24	378.581.143,31	526.671.064,50	233.265,10	331.956,16
T - Ausl 6 Livorno	2,02	1.545,97	1.723,86	11,51	507.301.470,66	614.293.294,50	328.144,30	356.347,94
T - Ausl 7 Siena	3,59	1.662,40	1.595,86	-4,00	589.331.934,40	438.588.942,00	354.506,40	274.829,25
T - Ausl 8 Arezzo	2,32	1.556,63	1.699,01	9,15	424.297.905,93	581.842.833,50	272.574,10	342.459,25
T - Ausl 9 Grosseto	1,12	1.638,89	1.796,35	9,61	555.098.270,15	416.564.018,00	338.703,50	231.894,09
T - Ausl 10 Firenze	2,20	1.761,22	1.708,59	-2,99	402.523.403,13	1.406.409.822,00	228.547,80	823.141,88
T - Ausl 11 Empoli	3,10	1.664,01	1.636,04	-1,68	1.362.023.090,48	377.241.272,50	818.518,30	230.581,78
T - Ausl 12 Viareggio	3,01	1.586,24	1.643,41	3,60	362.375.947,59	274.460.067,50	228.449,80	167.006,78



## Indicator F17: Health expenditure per capita

### F17 Health expenditure per capita

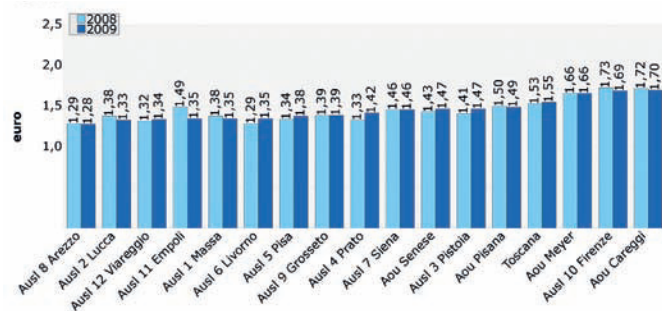
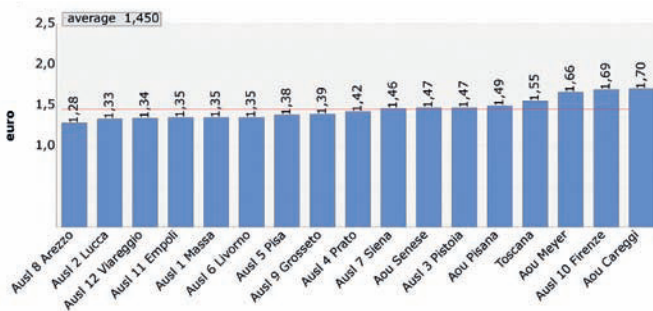
<b>Definition:</b>	Health expenditure per capita
<b>Numerator:</b>	Total expenditure AUSL per resident population
<b>Denominator:</b>	Weighted population (weights PSR 08-10)
<b>Formula:</b>	$\frac{\text{Total expenditure AUSL} - \text{Active compensation value} - \text{ceiling effect on the active} + \text{passive mobility}}{\text{Weighted population (weights PSR 08-10)}}$
<b>Notes:</b>	<p>Total expenditure</p> <p>B) Total production costs (code B99999)</p> <p>C.3) Interest expense (code C03000)</p> <p>C.4) Other expenses (code C04000)</p> <p>E.2) Extraordinary charges (code E02000)</p> <p>Y) Total taxes (code Y99999)</p> <p>Active mobility</p> <p>A.2.A.1) Revenues from health and social services provided under the National Health System (code A02010)</p> <p>A.2.A.3) Revenues for health services provided to self-paying patients (code A02175)</p> <p>A.2.A.2) Revenues for health services provided by private facilities to extra regional residents in compensation – active mobility (code A02150)</p> <p>Other adjustments</p> <p>A.3.B.1) Competitions, recoveries, and reimbursements to Asl/AO, IRCCS, Regional General Hospitals (code A03015)</p> <p>Correction due to the elimination of the roofs on the regional flows:</p> <p>Inpatient admissions in public hospitals – infra regional</p> <p>Admissions to nursing homes – infra regional</p> <p>Primary care – infra regional</p> <p>Blood components – infra regional</p> <p>Pharmaceutical – infra regional</p> <p>Outpatient services – infra regional</p> <p>Rehabilitation pursuant to Art. 26 – infra regional</p> <p>Spas – infra regional</p> <p>Organs and tissues</p>
<b>Source:</b>	Costs: CE Flow health + regional mobility flows - Population: ISTAT 31/12/2010 weights PSR 08-10



### 7.83 Indicator F19: Expenditure per DRG fee

A typical indicator used in the literature on the productivity of the LHAs with regard to hospital care is the calculation of costs per DRG point; it expresses the amount of resources used by the LHA for the provision of admissions and their complexity. After the first year of experimentation and confrontation with the LHAs, the indicator has been changed. In particular, in the numerator in addition to hospital care there is also outpatient care, and at the denominator, for consistency, there were inserted both the economic value of provided admission (by DRG) and the economic value of provided outpatient services (through fees for service). The data sources are: the LA model with regard to costs, the SDO for calculating the value of DRG points, the SPA flow to calculate the value through the outpatient services fees. Costs per Local Health Authority are equal to the total expenditure of hospital care, net of costs for First Aid and net of “costs for health services” which are the passive mobility (both public and private) supported by Local Health Authorities for the purchase of services by third parties. The sub-indicators of F19 provide the detail of the composition of the macro indicator: F19.1 cost per DRG point value, and F19.2 cost per outpatient fees.

**F19** – Expenditure per DRG fee



**F19** Expenditure per DRG fee

Health Authority	Score 2010	Value 2009	Value 2010	Delta %	Numerator 2009	Numerator 2010	Denominator 2009	Denominator 2010
T - Toscana	not assessed	1,53	1,55	1,62	3.762.179.000,00	4.061.649.063,00	2.458.532.522,11	2.612.014.848,00
T - Ausl 1 Massa	not assessed	1,38	1,35	-1,81	184.698.000,00	189.391.000,00	134.228.891,09	140.174.304,40
T - Ausl 2 Lucca	not assessed	1,38	1,33	-3,66	170.988.000,00	171.680.000,00	123.558.755,85	128.768.140,43
T - Ausl 3 Pistoia	not assessed	1,41	1,47	4,30	192.318.000,00	206.441.000,00	136.376.848,90	140.350.469,40
T - Ausl 4 Prato	not assessed	1,33	1,42	6,47	163.788.000,00	169.649.000,00	123.107.394,42	119.766.017,89
T - Ausl 5 Pisa	not assessed	1,34	1,38	2,87	109.589.000,00	118.881.000,00	81.479.778,07	85.923.289,54
T - Ausl 6 Livorno	not assessed	1,29	1,35	5,30	249.871.000,00	259.245.000,00	194.214.101,84	191.363.380,71
T - Ausl 7 Siena	not assessed	1,46	1,46	-0,33	112.240.000,00	117.625.000,00	76.867.508,76	80.822.942,37
T - Ausl 8 Arezzo	not assessed	1,29	1,28	-0,68	259.717.000,00	265.926.000,00	200.809.097,85	207.009.151,50
T - Ausl 9 Grosseto	not assessed	1,39	1,39	0,11	173.564.000,00	175.828.000,00	124.717.727,86	126.207.925,74
T - Ausl 10 Firenze	not assessed	1,73	1,69	-2,38	391.094.000,00	403.248.000,00	225.580.817,56	238.271.441,67
T - Ausl 11 Empoli	not assessed	1,49	1,35	-9,08	139.976.000,00	140.367.000,00	94.216.371,26	103.911.726,73
T - Ausl 12 Viareggio	not assessed	1,32	1,34	1,83	132.325.000,00	136.209.000,00	100.315.096,24	101.404.375,80
T - Aou Pisana	not assessed	1,50	1,49	-0,63	467.860.000,00	497.805.000,00	312.344.490,96	334.441.779,13
T - Aou Senese	not assessed	1,43	1,47	3,18	235.653.000,00	261.059.000,00	165.321.391,25	177.507.444,08
T - Aou Careggi	not assessed	1,72	1,70	-1,18	552.574.000,00	569.543.000,00	320.728.083,00	334.528.611,81
T - Aou Meyer	not assessed	1,66	1,66	0,01	74.168.000,00	87.846.000,00	44.666.167,20	52.896.148,00



## Indicator F19: Expenditure per DRG fee

### F19 Expenditure per DRG fee

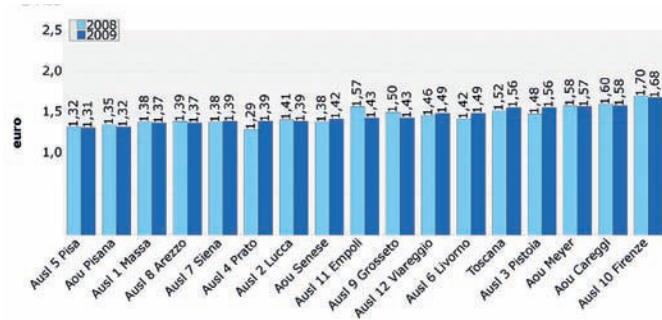
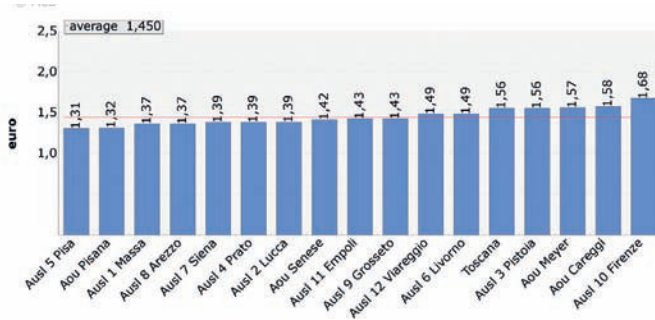
<b>Definition:</b>	Expenditure per DRG fee with reference to inpatient and outpatient care
<b>Numerator:</b>	Inpatient and outpatient care costs less expenditure for purchase of health services less expenditure for the ER
<b>Denominator:</b>	Inpatient and outpatient activities evaluated according to fees plus direct billing of outpatient specialists
<b>Formula:</b>	$\frac{\text{Inpatient and outpatient care - expenditure for purchase of health services - expenditure for the ER}}{\text{Inpatient and outpatient activities evaluated according to fees plus direct billing of outpatient specialists}}$
<b>Notes:</b>	<p>Numerator: Inpatient care cost (code 39999, entry TS013 of LA Flow), and outpatient care cost (code 30010, entry TS013 of LA Flow) are net of the costs for purchase of health services (code 39999, entry TS003 of LA Flow), and net of costs for First Aid (code 30010, entry TS003 of LA Flow).</p> <p>Denominator: As for outpatient services provided by the Authority in public facilities evaluated according to fees all ambulatory specialist services have been considered.</p>
<b>Source:</b>	SDO Flow, SPA Flow, LA Flow





## 7.84 Indicator F19.1: Expenditure per DRG value (Hospital Care)

F19.1 – Expenditure per DRG value (Hospital Care)



F19.1 Expenditure per DRG value (Hospital Care)

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	1,52	1,56	2,65	2.686.900.000,00	2.926.815.063,00	1.770.929.198,95	1.875.850.894,00
T - Ausl 1 Massa	not assessed	1,38	1,37	-1,03	134.472.000,00	138.563.000,00	97.591.951,45	101.457.671,80
T - Ausl 2 Lucca	not assessed	1,41	1,39	-1,53	118.870.000,00	122.123.000,00	84.248.188,05	87.960.172,80
T - Ausl 3 Pistoia	not assessed	1,48	1,56	5,56	138.164.000,00	147.977.000,00	93.299.480,90	94.717.312,80
T - Ausl 4 Prato	not assessed	1,29	1,39	7,59	112.839.000,00	115.674.000,00	87.228.942,05	83.345.151,10
T - Ausl 5 Pisa	not assessed	1,32	1,31	-0,83	75.434.000,00	81.364.000,00	57.308.620,55	62.157.270,65
T - Ausl 6 Livorno	not assessed	1,42	1,49	4,76	174.679.000,00	182.886.000,00	123.252.512,65	122.942.399,95
T - Ausl 7 Siena	not assessed	1,38	1,39	0,50	66.321.000,00	69.755.000,00	48.157.784,05	50.293.745,10
T - Ausl 8 Arezzo	not assessed	1,39	1,37	-1,60	179.898.000,00	183.665.000,00	129.792.326,10	134.275.899,35
T - Ausl 9 Grosseto	not assessed	1,50	1,43	-4,35	133.700.000,00	124.520.000,00	89.309.272,25	86.785.531,00
T - Ausl 10 Firenze	not assessed	1,70	1,68	-0,90	248.138.000,00	259.725.000,00	146.029.046,40	154.160.765,90
T - Ausl 11 Empoli	not assessed	1,57	1,43	-9,11	96.645.000,00	96.938.000,00	61.572.965,55	67.931.468,15
T - Ausl 12 Viareggio	not assessed	1,46	1,49	1,79	106.003.000,00	107.242.000,00	72.445.997,80	72.159.368,05
T - Aou Pisana	not assessed	1,35	1,32	-2,02	329.020.000,00	346.442.000,00	244.056.277,70	261.925.813,05
T - Aou Senese	not assessed	1,38	1,42	2,63	183.723.000,00	197.157.000,00	133.176.308,65	139.202.643,60
T - Aou Careggi	not assessed	1,60	1,58	-0,98	428.046.000,00	435.950.000,00	267.870.522,80	275.159.665,20
T - Aou Meyer	not assessed	1,58	1,57	-0,40	56.327.000,00	66.805.000,00	35.589.002,00	42.451.335,00

## Indicator F19: Expenditure per DRG fee

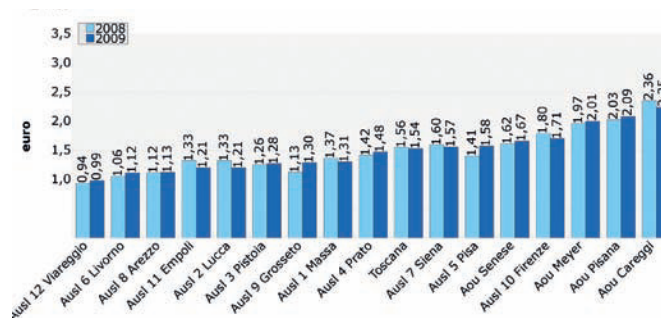
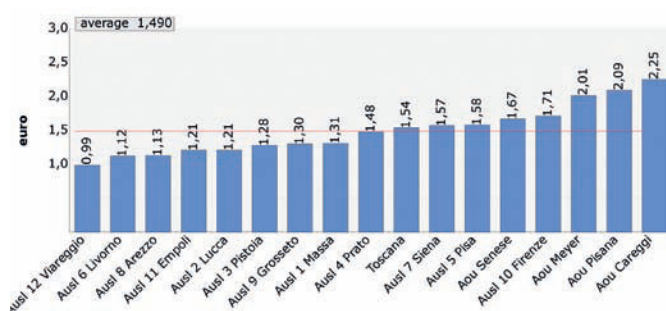
F19.1 Expenditure per DRG value (Hospital Care)

<b>Definition:</b>	Expenditure per DRG value (Hospital Care)
<b>Numerator:</b>	Inpatient care costs less expenditure for purchase of health services less expenditure for the ER
<b>Denominator:</b>	Inpatient activity evaluated according to fees
<b>Formula:</b>	$\frac{\text{Inpatient care costs} - \text{expenditure for purchase of health services} - \text{expenditure for the ER}}{\text{Inpatient activity evaluated according to fees}}$
<b>Notes:</b>	Numerator: Inpatient care cost (code 39999, entry TS013 of LA Flow), and outpatient care cost (code 30010, entry TS013 of LA Flow) are net of the costs for purchase of health services (code 39999, entry TS003 of LA Flow), and net of costs for First Aid (code 30010, entry TS003 of LA Flow).
<b>Source:</b>	SDO Flow, LA Flow



## Indicator F19.2: Expenditure per fee with reference to outpatient care 7.85

**F19.2** – Expenditure per fee with reference to outpatient care



**F19.2** Expenditure per fee with reference to outpatient care

Health Authority	Score 2009	Value 2008	Value 2009	Delta %	Numerator 2008	Numerator 2009	Denominator 2008	Denominator 2009
T - Toscana	not assessed	1,56	1,54	-1,18	1.075.279.000,00	1.134.834.000,00	687.603.323,16	736.163.954,00
T - Ausl 1 Massa	not assessed	1,37	1,31	-4,17	50.226.000,00	50.828.000,00	36.636.939,64	38.716.632,60
T - Ausl 2 Lucca	not assessed	1,33	1,21	-8,69	52.118.000,00	49.557.000,00	39.310.567,80	40.807.967,63
T - Ausl 3 Pistoia	not assessed	1,26	1,28	1,68	54.154.000,00	58.464.000,00	43.077.368,00	45.633.156,60
T - Ausl 4 Prato	not assessed	1,42	1,48	4,36	50.949.000,00	53.975.000,00	35.878.452,37	36.420.866,79
T - Ausl 5 Pisa	not assessed	1,41	1,58	11,96	34.155.000,00	37.517.000,00	24.171.157,52	23.766.018,89
T - Ausl 6 Livorno	not assessed	1,06	1,12	5,28	75.192.000,00	76.359.000,00	70.961.589,19	68.420.980,76
T - Ausl 7 Siena	not assessed	1,60	1,57	-2,00	45.919.000,00	47.870.000,00	28.709.724,71	30.529.197,27
T - Ausl 8 Arezzo	not assessed	1,12	1,13	0,98	79.819.000,00	82.261.000,00	71.016.771,75	72.733.252,15
T - Ausl 9 Grosseto	not assessed	1,13	1,30	15,18	39.864.000,00	51.308.000,00	35.408.455,61	39.422.394,74
T - Ausl 10 Firenze	not assessed	1,80	1,71	-5,20	142.956.000,00	143.523.000,00	79.551.771,16	84.110.675,77
T - Ausl 11 Empoli	not assessed	1,33	1,21	-9,25	43.331.000,00	43.429.000,00	32.643.405,71	35.980.258,58
T - Ausl 12 Viareggio	not assessed	0,94	0,99	5,37	26.322.000,00	28.967.000,00	27.869.098,44	29.245.007,75
T - Aou Pisana	not assessed	2,03	2,09	2,82	138.840.000,00	151.363.000,00	68.288.213,26	72.515.966,08
T - Aou Senese	not assessed	1,62	1,67	2,98	51.930.000,00	63.902.000,00	32.145.082,60	38.304.800,48
T - Aou Careggi	not assessed	2,36	2,25	-4,65	124.528.000,00	133.593.000,00	52.857.560,20	59.368.946,61
T - Aou Meyer	not assessed	1,97	2,01	2,26	17.841.000,00	21.041.000,00	9.077.165,20	10.444.813,00

### Indicator F19: Expenditure per DRG fee

**F19.2** Expenditure per fee with reference to outpatient care

<b>Definition:</b>	Expenditure per fee with reference to outpatient care
<b>Numerator:</b>	Outpatient care costs less costs for purchase of health services
<b>Denominator:</b>	Inpatient and outpatient activities evaluated according to fees plus direct billing of outpatient specialists
<b>Formula:</b>	$\frac{\text{Outpatient care costs} - \text{costs for purchase of health services}}{\text{Inpatient and outpatient activities evaluated according to fees} + \text{direct billing of outpatient specialists}}$
<b>Notes:</b>	Numerator: Outpatient care cost (code 30010, entry TS013 of LA Flow) is net of the costs for purchase of health services (code 39999, entry TS003 of LA Flow) Denominator: As for outpatient services provided by the Authority in public facilities evaluated according to fees all outpatient specialist services have been considered.
<b>Source:</b>	SPA Flow, LA Flow





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# THE LABORATORIO MANAGEMENT E SANITÀ

The Laboratorio Management e Sanità (MeS), established in 2004 by the [Scuola Superiore Sant'Anna of Pisa](#), thanks to the collaboration of [Tuscany Region](#), operates today within the Institute of Management and works for research and training in economics and management of health care in favour of public and private health institutions at the regional, national and international level. Its [mission](#) is to enhance the logic at the base of the public health system, in the study and evaluation of its specificity, in the comparison between different regional and international systems, in organisational and managerial innovation for the benefit of health protection, and finally in the systematisation of a management know-how for those working in the health care community. The MeS Laboratory adopts a multidisciplinary approach to assessment, incorporating both quantitative and qualitative statistical methods.

In this perspective, the MeS Laboratory has designed and developed the [Performance Evaluation System of Health Care in Tuscany](#), an instrument of Regional government, to support, evaluate and enhance the actions of social and health care Authorities as key players in the system.

Moreover, since 2008, in order to address the processes of planning and evaluation of results, some other regions have been joining the system and now constitute its current network. The regions that today are part of the network are: Basilicata, Liguria, Marche, Piemonte, Umbria, Valle d'Aosta, Provincia Autonoma di Bolzano and Provincia Autonoma di Trento.

Nationally, since 2008 the Ministry of Health has entrusted the MeS Laboratory, within the project SIVEAS, with the development of a set of indicators to measure the appropriateness, efficiency and quality of health services provided, processed at the Regional and individual provider level.

Professor Sabina Nuti is the Scientific Director of the Evaluation System, Dr Linda Marcacci is the Operations Coordinator for the Region of Tuscany, and Dr Domenico Cerasuolo is the manager of the Information Systems.

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The data contained in this report are generated directly from the web system designed and implemented in all its parts by Domenico Cerasuolo







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The Management and Health Laboratory (MeS), established in 2004 by the Scuola Superiore Sant'Anna of Pisa, thanks to the collaboration with the Tuscany Region, operates today within the Institute of Management and works for research and training in economics and management of health care in favour of public and private health institutions at regional, national and international level. Its mission is to enhance the logic at the basis of the public health system in the study and evaluation of its specificity, in the comparison between different regional and international systems, in organizational and managerial innovation for the benefit of health protection, and finally in the systematization of a management know-how for those working in the health care community.

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ISBN 978-88-902492-6-6



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