

# **Conference Materials**

# Wennberg International Collaborative 2017 Fall Research Meeting

Lady Margaret Hall, Oxford, UK September 11-13, 2017



# Wennberg International Collaborative 2017 Fall Research Meeting

# <u>Acknowledgements</u>

The Wennberg International Collaborative is a partnership between The Dartmouth Institute for Health Policy & Clinical Practice and The London School of Economics and Political Science

This conference was made possible with the generous support from our sponsors listed below:







# **Logistics**

# Wennberg International Collaborative Fall Research Meeting

# Dates & Times

September 11, 2017 | noon

through

September 13, 2017 | noon

# **Conference Location**

Talbot Hall Lady Margaret Hall 35 Norham Gardens, Oxford OX3 6QA, United Kingdom

# **Reception**

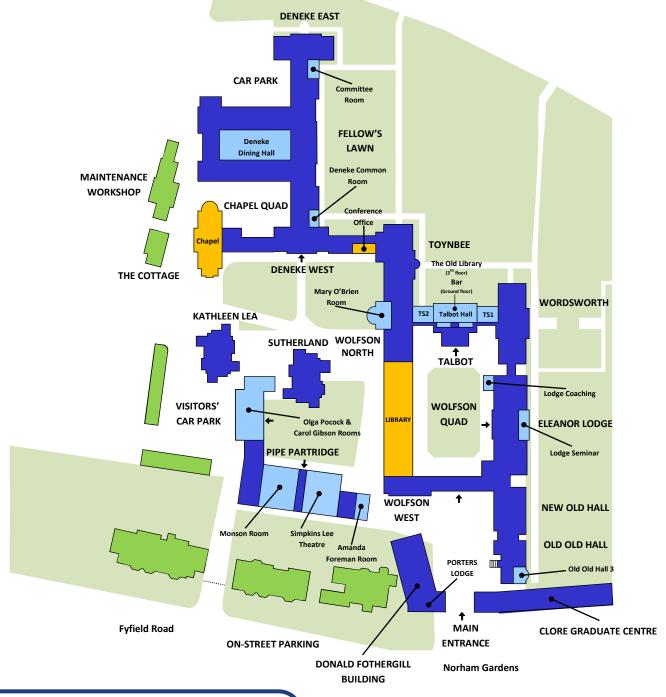
September 11, 2017 | 18:30 Talbot Hall Bar | Lady Margaret Hall

# <u>Dinner</u>

September 12, 2017 | 18:00 (drinks) & 19:00 (dinner)

Deneke Dining Hall | Lady Margaret Hall









# How do I set up my iPhone, iPod or iPad to use The Cloud network of hotspots?

There is one time authentication process to follow when you first visit a Cloud <u>hotspot</u>. Simply follow the steps below to register or login...

- 1. Check your WiFi is on by selecting 'Settings' from the home screen and selecting 'Wi-Fi'.
- 2. If you are in coverage of a Cloud hotspot, you will be offered '\_The Cloud', select this SSID to connect.
- Now return to the home screen and select 'Safari', you will see the Cloud landing page. If you don't click to refresh the page.
- 4. Now simply select 'Get Online' and follow the onscreen instructions.
- When the WiFi session is established, you will see 'welcome to The Cloud' and the session counter displays the session time. You can now begin your WiFi browsing session.

All you will need to do is ensure you are in a Cloud <u>hotspot</u> and then start browsing, using You Tube or downloading a track from iTunes. It couldn't be easier.

### How to connect to The Cloud on a Windows 7 mobile

- 1. Turn on your device and check that your WiFi is switched on. You can do this by going into the 'settings' option on your menu screen, then selecting the 'WiFi" option and moving the slider to the "on" position. Once WiFi is switched on select '\_The Cloud' from the available network list, on the same screen, to connect.
- 2. Open your internet browser. If you do not have a Cloud account you will be presented with The Cloud landing page. Please click the 'Get online' button to login or if it's your first time with The Cloud you will need to follow the simple one time registration process.
- 3. If the venue you have connected to does not offer a period of free WiFi or offer access codes/vouchers you will need to purchase a PayGo or subscription product from the product page to gain internet access (which is accessed via the 'products' button on the landing page).

### How to connect on an Android device

- 1. Turn on your device and check that WiFi is switched on. You can so this by clicking 'settings', then 'wireless and networks'. Select the tick box to turn on WiFi.
- Select '\_The Cloud' from the available network list, you will then connect automatically.
- Open your internet browser and The Cloud landing page will appear. Please click the 'Get online' button to login or if it's your first time with The Cloud you will need to follow the simple one time registration process.
- 4. If the venue you have connected to does not offer a period of free WiFi or offer access codes/vouchers you will need to purchase a PayGo or subscription product from the product page to gain internet access (which is accessed via the 'products' button on the landing page).



# **Agenda**



# Fall Research Meeting 2017 Agenda

# <u>September 11, 2017 - September 13, 2017</u>

Lady Margaret Hall 2017 Wennberg International Collaborative Fall Research

Meeting

# Monday, September 11th, 2017

# Welcome

12:00-18:10	Presentations & Discussions - Talbot Hall
12:00	Welcome
	David Goodman, USA
12:15	Welcome 2
	Gwyn Bevan, UK
12:35	Logistics
	Julie Doherty, USA
12:45	Health Care Variation- A Canadian Perspective
	Michael Schull, Canada
13:05	Discussion

### Research Session A

(Moderator: Yoon Kim, Republic

of Korea)

13:15 Quantitative Benefit Harm Assessment to Explore

**Preference Sensitive Treatment Decisions** 

Milo Puhan, Switzerland

13:40 Regional Variation of Mortality Within One Year After Acute

**Myocardial Infarction and Factors Affecting Mortality** 

Hyun Joo Kim, Republic of Korea

14:05	Relation Between Morbidity, Diagnostics and Intervention Rates
	for Coronary Heart Disease in Younger and Elderly Patients
	Frank Olsen, Norway
14:30	Discussion
14:50	Break
Research Session B	
(Moderator: Therese Stukel, Canada)	
15:20	Variations in Very Low Birth Weight Infant Outcome and
	Practices Between Neonatal Units in Switzerland and the
	United States
	Mark Adams, Switzerland
15:45	Does the Use of Diagnostic Technology Reduce Fetal Mortality?
	Jostein Grytten, Norway
16:10	How Much Variation in Paediatric Epilepsy Admission Rates in
	England Can Be Explained by Variation in Unit-Level
	Performance in The National Clinical Audit (Epilepsy12)
	Dougal Hargreaves, UK
16:35	Caesarean Sections and Private Insurance: Systematic Review
	and Meta-Analysis
	Ilir Hoxha, Kosovo
17:00	A Multilevel Analysis of the Determinants of Emergency Care Visits by
	the Elderly
	Zeynep Or, France
17:25	Discussion
17:45	Adjourn for the day

Talbot Hall Bar

18:30-22:30

# Tuesday, September 12<sup>th,</sup> 2017

8:30-18:05 Presentations & Discussions - Talbot Hall

Spring Policy Meeting Discussion

(Moderator: David Goodman,

USA)

8:30 Thomas Czihal, Germany

8:40 Sabina Nuti, Italy

8:50 Paula Wilton, Australia

9:00 Discussion

Research Session C

(Moderator: Catherine Gerard,

New Zealand)

9:10 Prevalence of Antibiotic Prescription in Pediatric Outpatients in Italy:

The Role of Local Health Districts and Primary Care Physicians in

**Determining Variation** 

Mirko Di Martino, Italy

9:35 Prescribing Variation in Relation to Newly-initiated and Pre-existing

Patients Receiving Proton Pump Inhibitors within the Preferred Drugs

Scheme in Ireland

Ron McDowell, Ireland

10:00 Unwarranted Socioeconomic Variation in Access to Palliative Care in a

Tax-Financed Health Care System: Drug Reimbursement Due to

Terminal Illness in Denmark

Cecilie Daugaard, Denmark

10:25 Discussion

10:45 Break

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15:00

(Moderator: Sabina Nuti, Italy	
11:05	Tackling Unwarranted Variations in Health Care - The Analysis of
	Patient-Sharing Networks as a Tool to Improve Quality of Care
	Thomas Czihal, Germany
11:30	Practical Use of Variation at GP Practice Level to Support
	Commissioners Improving Services for Populations
	Steven Batty, UK
11:55	The English General Practices Spatial-Temporal Pattern of Preventable
	Emergency Admissions: Its Stability and Explanatory Factors
	Rita Santos, UK
12:20	Discussion
2018 Spring Policy	
Meeting	
12:30	Milo Puhan, Switzerland
12:40	Lunch
Research Session E	
(Moderator: Søren Johnsen,	
· ·	
Denmark)	Reducing Unwarranted Variation in New Zealand: Where We've Been
	Reducing Unwarranted Variation in New Zealand: Where We've Been and Where We're Going
Denmark)	
Denmark) 13:45	and Where We're Going
Denmark) 13:45	and Where We're Going  Catherine Gerard, New Zealand
Denmark) 13:45	and Where We're Going  Catherine Gerard, New Zealand  Timetrends in Medical Practice Variation and the Influence Public
Denmark)	and Where We're Going  Catherine Gerard, New Zealand  Timetrends in Medical Practice Variation and the Influence Public  Reporting
Denmark) 13:45 14:10	and Where We're Going  Catherine Gerard, New Zealand  Timetrends in Medical Practice Variation and the Influence Public  Reporting  Gert Westert, The Netherlands

in Australia

Brendon Kearney, Australia

Health Care Variation in Oncology: A Snapshot of Linked Data Research

15:25 Discussion

15:45 Break

# Research Session F

(Moderator: Gert Westert, The

Netherlands)

16:05 Factors Influencing Extended Time to Diagnosis in Multiple Sclerosis:

What is the Role of Geography?

Marco Kaufmann, Switzerland

16:30 Managing Waiting Times and Avoidable Variations in Elective Surgery:

The Case of Tuscany Region

Daniel Lungu, Italy

16:55 Overuse and Underuse of Follow-Up Tests After Breast Cancer Surgery:

Exploring Variation Within the Lazio Region, Italy

Marina Davoli, Italy

17:20 Four Layers of Burden of Disease Analysis at Different Administrative

level Dynamic and Territorial Analysis of Romanian YLL Data 2005-

2015

Adrian Pana, Romania

17:45 Discussion

18:05 Adjourn for the day

Formal Dinner Deneke Dining Hall

18:00 - 19:00 Drinks

19:00 - 22:30 Dinner

# Wednesday, September 13<sup>th,</sup> 2017

8:30 -12:25	Presentations & Discussions - Talbot Hall
Research Session G	
(Moderator: David Goodman,	
USA)	Extent, Regional Variation and Impact of Gynecologist Payment Models
8:30	in Unwarranted Pelvic Examinations: A Nationwide Cross-Sectional
	Study
	Ingvild Rosenlund, Norway
	Is High Quality of Care Associated with Higher Costs? - A Nationwide
8:55	Cohort Study Among Hip Fracture Patients
	Pia Kristensen, Denmark
	Utilizing Payment Reform to Reduce Unwarranted Variation in
9:20	Medicaid Managed Care Program: Mechanism to Increase the Value of
	Care Rendered to its Beneficiaries
	Dan Culica, USA
	Discussion
9:45	Break
10:05	
Research Session H	
(Moderator: Gwyn Bevan, UK)	
10:25	Two-Year Outcomes of Extremely Preterm Infants < 26 Weeks
	Of Gestation Born in Switzerland: Is Intensity of Perinatal Care
	Associated with Increased Neurodevelopmental Impairment?
	Mark Adams, Switzerland
10:50	The Expansion of Percutaneous Coronary Intervention Services in
	England: Impacts for Patient Care and Clinical Outcomes
	Elaine Kelly, UK
11:15	Evaluating Variation in Quality of Care Settings for End-Of-Life Cancer
	Patients: A Retrospective Database Analysis

Francesca Ferré, Italy

11:40	Regional Practice Variation in Diabetic Care: A Perspective of Care		
	Quality		
	Sanghyun Cho, Republic of Korea		
12:05	Discussion		
12:25	Adjourn Meeting		

# **Poster Presentations**

# Lady Margaret Hall, Talbot Hall

Geographical Variations in the Use of Specialist Health Services Among Elderly Cancer Patients

Beate Hauglann, Norway

Determinants of quality of assistance in end-of-life care, Tuscany (Italy)

Silvia Forni, Italy

Regional Variation in Hospitalization of Ambulatory Care-Sensitive Conditions - Presumption for Associated Differences of Healthcare Availability and Socioeconomic Situation in Lithuania Skirmante Jureviciute, Lithuania

Comparison of a Patient-origin and Hospital-origin Method in Investigating Geographic Variation of Health Care Use

Agnus Kim, Republic of Korea

Variation in Physician Empathy Among Danish General Practitioners

Troels Kristensen, Denmark

Regional Variation of Medical Expenditure After Adjusting Age and Hierarchical Condition Categories

Jeehye Lee, Republic of Korea

How Differences in Province Antenatal Care Guidelines Impacted on Stillbirths in South Africa Tina Lavin, Australia

Health Care Services for People with Chronic Obstructive Pulmonary Disease in Norway

Linda Leviseth, Norway

Characteristics and Health Care Use of High-Cost Patients in Seven Countries

Marit Tanke, The Netherlands

Delivering a World Leading Healthcare System: The Creation of a New Data Agency Paula Wilton, Australia



# **Participant List**



# 2017 Fall Research Meeting

# **Participant List**

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# **Abstracts**



# **Fall Research Meeting**

September 11 – 13, 2017 Lady Margaret Hall, Oxford, UK

**Instructions:** The second page of this form will be used in the abstract section of the conference materials. Please fill out all sections and submit to: <a href="https://www.weinberg.collaborative@Dartmouth.edu">weinberg.collaborative@Dartmouth.edu</a> by **June 30, 2017** 

# Full Name or List of all Contributing Authors:

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	,
<b>Date</b> 6/30/1	of Submission: 7
Natur	e of Paper: Research Idea Research in Progress New Methods Other:
Pleas	e indicate your preference for presenting your paper: Oral Presentation Poster Presentation No Preference

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### **Abstract Title:**

Variations In Very Low Birth Weight Infant Outcome And Practices Between Neonatal Units In Switzerland And The United States

# Background:

Use of evidence-based practices, such as antenatal steroid exposure and less invasive respiratory support, have been shown to improve neonatal outcome.

### **Objectives:**

To analyze the difference in adverse outcome and treatment practices between the Swiss Neonatal Network SNN and the US members of the Vermont Oxford Network VON for very low birth weight infants (501-1500 g, VLBW). Does the observed difference in adverse outcome relate to differential use of practices according to published evidence?

### Methods:

Inclusion of all VLBW infants born alive and registered by either SNN or US members of VON in 2012-2014. Adverse outcome combined mortality, necrotizing enterocolitis, late sepsis, intraventricular hemorrhage grade 3-4, chronic lung disease or retinopathy of prematurity stages 3-4. Practices included obstetrical, delivery room and long-term treatment, including antenatal steroids, delivery room interventions, respiratory practices and feeding at discharge. Adverse outcome was adjusted for case-mix, ethnicity, and unit-level parameters (ownership, levels, staffing). Practices were adjusted for case-mix and indirectly standardized with US infants as reference population. Analysis was repeated with a subgroup of infants between 25-29 gestational weeks. Propensity score matching was performed.

### Results:

123'689 infants were born at 696 US units and 2209 infants were born at 13 Swiss units. Patient population coverage was 84% in the US and 95% in Switzerland. Adverse outcome was 45.5% for

US and 31.7% for Swiss units. After adjustment, odds for adverse outcome in Swiss units vs. US units was 0.43 (0.37 - 0.49, 95% CI). Indirect standardization revealed higher ratios of Swiss units for antenatal steroids, less invasive delivery room interventions, less invasive respiratory practices, and maternal milk feeding at discharge. Lower ratios were observed for oxygen requirement after delivery room and for postnatal steroid application. Subgroup analysis for both outcome and practices confirmed the results: A lower proportion of delivery room deaths in US units did not result in a competing risk.

### **Conclusion:**

Swiss units have a lower odds for adverse outcome after adjusting for all known major neonatal confounders that do not form part of practices. Propensity score matching confirmed that the differences in network size and major confounders had only a minor effect on the results. A subgroup analysis, limited to infants for which both Swiss and US units generally initiate intensive care, ruled out competing risk. The observed effect of the Swiss practices on outcome matches published evidence. We propose further research into which practice differences have the strongest beneficial impact.



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September 11 – 13, 2017 Lady Margaret Hall, Oxford, UK

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Date of Submission:
6/30/17

Nature of Paper:
Research Idea
Research in Progress
New Methods
Other:

Please indicate your preference for presenting your paper:

Oral Presentation
Poster Presentation

No Preference

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### **Abstract Title:**

Two-Year Outcome Of Extremely Preterm Infants < 26 Weeks Of Gestation Born In Switzerland: Is Intensity Of Perinatal Care Associated With Increased Neurodevelopmental Impairment?

### Background:

In Switzerland, neonatal survival of extremely low gestational age neonates (ELGANs) with gestational age <26 weeks improved following the publication of the 2002 Swiss guidelines for the perinatal care of infants born at the limit of viability, with no increase in the rate of short-term complications. A substantial centre-to-centre difference in neonatal mortality persisted after the guidelines' publication.

# **Objectives:**

This study aimed to compare survival and neurodevelopmental impairment rates at 2 years of corrected age among ELGANs born alive in the 9 Swiss level III perinatal centres; and to investigate the impact of centre-specific levels of perinatal interventional activity on these outcomes.

### Methods:

Prospective population-based study including all ELGANs without major congenital malformations born alive in Switzerland in 2006-2013 with gestational age <26 weeks. Perinatal interventional activity was graded as low, medium and high based on 3 obstetric and 4 neonatal key indicators (Serenius et al. 2015). Outcomes at 2 years were mortality, survival with unfavourable (i.e. one of following: cerebral palsy with GMFCS >1; equivalent of a developmental test score <2SD from the respective norm; hearing loss; uni- or bilateral blindness) and favourable outcome (none of the above). Crude and risk-adjusted standardized outcome ratios (SOR, 95%-CI) based on the centrespecific level of perinatal interventional activity were calculated with regression models using 5-fold imputed data.

### Results:

Among 927 included infants, 564 (61% of cohort) died before discharge and 319 (88% of survivors) were assessed at 2 years corrected age [46% females, mean (SD) gestational age 25.1 (0.5) weeks]. Favourable and unfavourable outcomes were observed in 75% and 25% of survivors, respectively. After risk adjustment (for gestational age, birth weight z-score, male sex, multiple birth, outborn, and socioeconomic status), mortality was significantly higher (1.33, 1.30-1.36) and favourable outcome significantly lower (0.76, 0.74-0.79) in centres with low perinatal interventional activity compared to other centres. In contrast, centres with high perinatal interventional activity had significantly lower mortality (0.84, 0.80-0.90) and significantly higher favourable outcome (1.07, 1.07-1.13).

### Conclusion:

There are significant differences in 2-year outcome of ELGANs between the 9 Swiss level III perinatal centres. The level of perinatal interventional activity for ELGANs is negatively correlated with mortality and positively correlated with favourable outcome.



# **Fall Research Meeting**

September 11 – 13, 2017 Lady Margaret Hall, Oxford, UK

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Date of Submission:
6/30/17

Nature of Paper:
Research Idea
Research in Progress
New Methods
Other:

Please indicate your preference for presenting your paper:

Oral Presentation Poster Presentation No Preference

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### **Abstract Title:**

Relation between Morbidity, Diagnostics and Intervention rates for Coronary Heart Disease in younger and elderly patients

# **Background:**

The 4th National Healthcare Atlas for Norway, dealing with healthcare services in elderly patients, was published in June 2017. Among several topics, healthcare services related to heart diseases were described in the atlas. According to official policy in Norway, age should not be a criterion for priority setting in health care.

### **Objectives:**

Investigate the correlation between admission rates of myocardial infarction (MI) and intervention (i.e.coronary revascularization) rates, and the correlation between diagnostic test (i.e cardiac stress test) rates and coronary revascularization rates among younger and elderly patients.

### Methods:

All patients, 50 years and older, undergoing MI admission (n=13.222), coronary revascularization (coronary artery bypass graft surgery or percutaneous coronary intervention) (n=12.994) or cardiac stress test (n=88.700) per year in Norway 2013 – 2015 were identified in the Norwegian Patient Registry. The patients were divided into two age groups: younger (50 – 74 years) and older (75 years and older). For each age group we calculated age- and gender adjusted rates for MI, revascularization and cardiac stress test per catchment area for twenty health trusts. Possible correlations between the rates were investigated by Spearman's correlation coefficient.

### Results:

Admission rates of MI were 4-fold higher in the elderly compared with the younger patients (18.6 vs 4.6 per 1.000 inhabitants). Revascularization rates were, however, only 40% higher in the elderly than in the younger patients (9.4 vs 6.7 per 1.000 inhabitants). The correlation coefficient between revascularization rates and MI rates were 0.10 (p=0.68) and 0.57 (p=0.01) in the elderly and in the

younger patients, respectively. The cardiac stress test rates were slightly higher in the elderly than in the younger (54.2 vs 47.5 per 1.000 inhabitants). The correlation coefficient between revascularization rates and cardiac stress test rates were 0.36 (p=0.12) in the elderly and 0.42 (p=0.07) in the younger patients.

### **Conclusion:**

The use of diagnostic testing for ischemic heart disease were slightly higher in the age group 75 years and older.

There was a strong correlation between MI rates and revascularization rates for younger, but not for elderly patients. This may be due to insufficient individual assessment, lack of guidelines or lack of priority for the elderly patients.



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### **Abstract Title:**

Practical Use Of Variation At GP Practice Level To Support Commissioners Improving Services For Populations.

# **Background:**

NHS healthcare commissioners have an annual budget of £64 billion across. NHS RightCare is a national programme committed to helping healthcare commissioners maximise the value of this budget and improve people's health and outcomes. It does this through using data and evidence to shine a light on unwarranted variation in healthcare to promote change and improve quality. The programme has been rolled out to cover all commissioners for the England population

# **Objectives:**

NHS RightCare will help commissioners (all 209 CCGs in every part of the country) make better health investment decisions to improve patient outcomes and deliver better value for money for the taxpayer. GP Practices are the gateway for patients into accessing services within the NHS and this latest pack explores the unwarranted variation within these GP Practices for the CCGs.

### Methods:

CCGs have indentified potential priorities to action from using other RightCare products. The GP Practice packs reenforce this analysis and allows the CCG to look at variance within it's CCG. We benchmark GP Practices within each CCG for each disease using the latest data on risk factors, prevalence, activity, spend, quality and outcomes with other GP Practices that have the most similar population characteristics. In addition to the analytical assistance, the CCGs receive support from Delivery Partners – NHS colleagues experienced in delivering change.

### Results:

We have published a series of reports and tools for all CCGs which initially focussed on identifying the priorities for CCGs, but are increasingly more detailed and provide evidence on what to change. These were well received by the NHS and led to enough service change to convince the senior management of NHS England to provide significant extra funding so RightCare can be integrated into

the mainstream of CCG business. This has allowed RightCare to employ Delivery Partners who can catalyse change in CCGs and more analysts to support their role while also increasing the breadth and depth of new products.

### Conclusion:

We have proven that variation studies can be produced at scale and that when commissioners are provided with this evidence and appropriate support then they will change what they intend to do. Therefore studying variation can have a significant and practical effect on what services and how services are delivered.



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### **Date of Submission:**

6/30/17

Nature	e of Paper: Research Idea Research in Progress New Methods Other:
Please	e indicate your preference for presenting your paper:
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#### **Abstract Title:**

Regional Practice Variation In Diabetic Care: A Perspective Of Care Quality

### Background:

The level of diabetic care can be used as a key indicator of the quality of primary care. However, there have been no studies on regional differences in diabetic care in Korea.

### **Objectives:**

The purpose of this study is to examine the quality of diabetic care by region and to find out the degree of variation between regions.

### Methods:

The data used in this study was from Korean National Health Insurance Service(KNHIS), which includes electronic insurance claims data for all citizens and biennial medical check-up data for eligible population. The people aged 30 years or older who had type 2 diabetes (E11) in 2010 and 2014 were the population of the study. Cross-sectional analysis was conducted to identify the quality of diabetic care by region. The unit of analysis was 251 districts. Prescription day, lipid test rate, microalbuminuria test rate, fundus examination rate, the proportion of patients with normal blood pressure and the proportion of the patients with normal LDL cholesterol level were used as indicators to measure the quality of diabetic care.

### Results:

There was a wide variation in the quality of diabetic care between districts. Both 2010 and 2014, the largest variation was seen in fundus examination rate and the smallest variation was seen in prescription day. The fundus examination rate was lower than 10% in all districts in both years. All indicators, except prescription day, were improved in 2014 compared to 2010, but the regional variation still existed. The districts belong to major cities had higher quality of care. Although there was a tendency that wealthy districts and districts with diabetes registry program had higher quality of care and medically underserved districts had lower quality of care, the results were not consistent across all indicators.

#### Conclusion:

There was a wide variation in the quality of diabetic care between regions. In addition, several indicators were low in all regions. This suggests the possibility of lack of policy encouraging appropriate diabetic care, or the possibility of lack of coordination between primary care physicians and specialists.



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# Date of Submission: 6/26/17 Nature of Paper: Research Idea Research in Progress New Methods Other: Program Evaluation Please indicate your preference for presenting your paper: Oral Presentation Poster Presentation No Preference

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#### **Abstract Title:**

Utilizing Payment Reform To Reduce Unwarranted Variation In Medicaid Managed Care Program: Mechanism To Increase The Value Of Care Rendered To Its Beneficiaries.

#### **Background:**

As an essential component of the Payment Reform, three years ago the TSG HHS introduced language pertinent to its contractual agreements with Medicaid Managed Care Organizations (MCOs) and between the MCOs and their performing providers. In order to improve the quality and efficiency of care provided to Medicaid beneficiaries, HHS is introducing annual targets for value-based contracting between MCOs and their providers. These will be specific targets for the overall VBP contracts and for VBP contracts that place the providers at financial risk.

#### **Objectives:**

- 1. Identify the variation between 19 Managed Care Organizations in the volume and type of VBP contracts they developed with their providers in the year prior to the intrduction of the new directives for Payment Reform.
- 2. The VBP targets will be calculated based on the amount of provider VBP made by an MCO relative to their overall healthcare payments. Therefore, it is important to establish the perceptions, opinions and experience of MCOs and their providers with the first stage of the payment reform, regarding the opportunities, barriers and HHS's role in supporting implementation of VBPs.

#### Methods:

1. Quantitative analysis of the volume and type of VBP contracts each MCO established with their providers for overall and risk-based VBP; identify the type of providers involved in VBP; establish which VBP type and provider types are more prevalent to get engaged in VBP contracts in this first stage of payment reform.

2. Qualitative analysis of a survey administered to 150 respondants (MCOs and providers) to obtain their insight regarding the implementation of the VBPs as the transition from volume based payment approaches (fee-for-service). There is wide variation between the MCOs related to the volume and types of VBPs established with providers as measured by the amounts committed to these contracts.

#### Results:

Currently, there is a lower level of interest and readiness among providers regarding risk-based arrangements between MCOs and providers. VBP contracts seemed to be most prevalent among primary care practitioners and are typically built off of the fee for service payment model and are incentive based.

Overall, the MCOs saw improvements in (1) Access to Care, (2) Reduction in ER visits, (3) Increases in Preventive Care Visits, (4) Greater Collaboration between Providers, Members, and MCO's, (5) Provider much better educated in the health care delivery system for the entire community, and (6) Improvements with incentive payment models.

#### Conclusion:

Although the VBP was implemented statewide, its limited success in stage one (no targets), determined HHS to adavance the payment reform with a revised model (with targets). Given the wide variation in the understanding of VBP and experience with VBP, HHS is exploring all policy and financial levers, to include a roadmap for the payment reform in the state.



# **Fall Research Meeting**

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Poster Presentation No Preference

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#### **Abstract Title:**

Tackling Unwarranted Variations In Health Care - The Analysis Of Patient-Sharing Networks As A Tool To Improve Quality Of Care

#### **Background:**

'In healthcare geography is destiny' – with this statement Wennberg calls on physicians to tackle unwarranted variation. Inspite of vast evidence on regional variations changing geographic patterns in healthcare has remained a daunting task. This may partly be due to the fact that individual accountability for geographic patterns can rarely be assumed given the increasing specialization in medicine and the complexity of utilization patterns. In Germany this is particularly relevant as patients have unlimited access to care.

#### **Objectives:**

Finding a combination of small area analysis and network analysis in order to develop a feedback for physicians.

#### Methods:

Data-analysis is based on the complete nation-wide claims data on ambulatory physician services from 2015 (N≅68,000,000 patients, 165.000 physicians). Subgroups of patients with congestive heart failure, cancer and back-pain have been extracted to study how PSN structurally respond to patient need. Methods to identify PSN vary widely and have recently evolved to incorporate social network analysis. We applied different methods of identifying PSN to German claims data for the first time, and compared results. Social network analysis can be applied at individual or at specialty group level to detect geographic differences in the degree of medical division of labor. Also, short random walk functions have been used to identify PSN on the level of counties.

#### **Results:**

Patterns of care vary more widely between PSN that by the geographic categories used in small area analysis. This suggests that the analysis of PSN may provide concrete feedback which healthcare providers could use to change care patterns. Most of the analyses conducted so far, however, are

experimental and reveal open questions. While social network analysis helps to identify factual cooperation it does not yield distinctive populations. To achieve accountability, methods to describe PSN still need refinement, and we will report our latest results based on combining various methods to identify PSN. Therefore identified PSN should reflect actual patterns of voluntary or involuntary cooperation, and a maximum accountability for the resulting care experienced by a defined population.

#### **Conclusion:**

In order to implement change the actors in the health care system need to understand individually how and why their actions are potentially contributing to unwarranted patterns of care. Based on this information they could then define and resume responsibility for actions to improve unwarranted outcomes. In Germany as in some other countries this has led to the development of feedback mechanisms and/or public reporting as an extension to atlases of geographic variations.



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#### **Date of Submission:**

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Nature	e of Paper:
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#### **Abstract Title:**

Unwarranted Socioeconomic Variation In Access To Palliative Care In A Tax-Financed Health Care System: Drug Reimbursement Due To Terminal Illness In Denmark

#### **Background:**

Socioeconomic inequalities may pose a serious barrier to enhance quality of end-of-life care even in developed welfare states.

The Danish health care system provides a general partial drug reimbursement for drug expenses above 75 € to all citizens. Furthermore, a patient has the right to receive complete drug reimbursement due to terminal illness (DRTI), when life expectancy is estimated to be short and no further life-prolonging treatment can be offered. Hence, the DRTI is considered important for insuring equal end-of-life care.

#### **Objectives:**

The study aims to examine if unwarranted socioeconomic variation occurs in relation to DRTI status among Danish end-of-life patients.

#### Methods:

We will conduct a nationwide register-based study on an estimated population of more than 350,000 patients deceased in the period 2006-2015 due to cancer, dementia, diabetes, ischemic heart disease, congestive heart failure, stroke, chronic obstructive pulmonary disease, or chronic liver disease.

Individual-level data is obtained from Danish health registers, including data on socioeconomic status, DRTI registration, and covariates. We will use multilevel regression models to estimate the relationship between five socioeconomic markers (occupation, level of education, income, cohabiting status, and migrant status) and DRTI status.

#### Results:

The analyses are ongoing. Results will be available at the meeting.

#### **Conclusion:**

This study will determine whether DRTI is provided equally to patients in end-of-life irrespectively of socioeconomic status. Such insight may facilitate identification of patients, in whom the needs of end-of-life care are not currently fully met. Furthermore, it may add to the broader understanding on how universal tax-financed health care systems perform with respect to end-of-life care.



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#### **Abstract Title:**

Overuse And Underuse Of Follow-Up Tests After Breast Cancer Surgery: Exploring Variation Within The Lazio Region, Italy.

## **Background:**

The administrative data can provide useful information for monitoring the quality of care at population level and the overuse or underuse of key health services. Monitoring women over time after breast cancer surgery is one of the main objectives of breast cancer network of Lazio region (Central Italy) constituted in 2014. Clinical guidelines recommend annual ipsilateral and/or contralateral mammography after breast cancer surgery to detect early local recurrences or contralateral breast cancer. There are no data to indicate that other laboratory or imaging tests produce a survival benefit.

#### **Objectives:**

The aim of our study was to measure the underuse and overuse and factors associated with use of follow up tests after breast cancer surgery in the Lazio region before the constitution of the breast cancer network.

#### Methods:

This study was carried out using health information systems of the Lazio region. We calculated the proportion of mammography executed within 18 months after discharge for women who underwent a surgical resection for breast cancer in Lazio hospitals from 1 January 2014 to 31 December 2014. Moreover, overuse of follow up tests was measured with the proportion of women undergoing inappropriately intensive follow-up 12 months after discharge from 1 January 2015 to 31 December 2015. Intensive follow-up was defined as the execution of bone scan plus measurement of tumor markers plus magnetic resonance imaging or computed tomography during the follow-up period.

#### Results:

The proportion of women who underwent a mammography after breast cancer surgery within 18 months from discharge was 51.6% while the proportion of women who underwent intensive follow-up 12 months after discharge was 20.7%. The proportion of timely mammography after discharge ranged from 5.2% to 76.0% across hospitals of discharge and from 40.9% to 70.0% among local health units of residence (LHUs). The proportion of intensive follow-up ranged from 2.7% to 49.1% across hospitals and from 13.3% to 29.1% among LHUs. Younger women, who underwent conservative surgery in public hospitals were more likely to perform timely mammography after discharge.

#### Conclusion:

Despite international and national clinical guidelines, the proportion of women undergoing timely mammography after discharge is still unsatisfactory. Moreover, a relevant variation across hospitals of discharge and among LHUs was detected. Both women and organizational characteristics are associated with the likelihood to perform timely mammography. On the other hand, a significant proportion of women undergoes inappropriate intensive follow-up after discharge, raising issues on the sustainability of the regional healthcare system.



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#### **Abstract Title:**

Prevalence Of Antibiotic Prescription In Pediatric Outpatients In Italy: The Role Of Local Health Districts And Primary Care Physicians In Determining Variation.

#### **Background:**

Antibiotic resistance is a growing international threat, with high social costs for communities and severe clinical consequences. However, it is well recognized that antibiotics are prescribed to children for the treatment of conditions that do not benefit from antibiotic therapy.

#### **Objectives:**

To analyze geographic variation in antibiotic prescribing. To identify the priority axes for action aimed at improving the rational use of antibiotic drugs.

#### Methods:

The study was conducted among pediatric outpatients of the Lazio Region, Italy, aged 13 years or less. Antibiotic prescription patterns were analyzed during a 1-year follow-up. We applied an innovative statistical method, the multilevel modelling for health decision-making. Multilevel models were performed to analyze geographic variation, by measuring and comparing the variability in antibiotic prescribing attributable to local health districts (LHDs) and primary care physicians. Variation was expressed as Median Odds Ratios (MORs). If the MOR is 1.00, there is no variation between clusters. If there is considerable between-cluster variation, the MOR will be large.

#### Results:

We enrolled 636,911 children. Most of them were aged 6-13 years (57.3%). In 2015, the antibiotic prescription prevalence was 46% in the 0-13, 58% in the 0-5, and 37% in the 6-13 age group. Overall, penicillins were the most prescribed antibiotics, their consumption increased from 43% to 52% during the 2007-2015 period. In 2015, the antibiotic prescription prevalence ranged from 30% to 62% across LHDs of the region. Moreover, a significant (p<0.001) variation was observed between physicians working in the same LHD. MORs were equal to 1.52 (1.48-1.56) and 1.46 (1.44-1.48) in the 0-5 and

6-13 age groups, respectively. The probability of prescribing antibiotics was significantly (p<0.001) lower for more-experienced physicians.

#### **Conclusion:**

Despite international and national guidelines, pediatric antibiotic use in the Lazio region of Italy is still much higher than in other European countries. The intra-regional variability underlines the lack of therapeutic protocols shared at regional level and raises equity issues in access to optimal care. Both LHD managers and primary care physicians should be involved in interventions aimed to improve the rational use of antibiotics and mitigate the effect of contextual variables, such as the spatial-related socioeconomic status of the patient/parent binomial.

Due: June 30th, 2017



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<b>Date</b> 6/28/	of Submission: 17
Natur □ ⊠ □	re of Paper: Research Idea Research in Progress New Methods Other:
Pleas	oral Presentation  Poster Presentation  No Preference

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#### **Abstract Title:**

Evaluating Variation In Quality Of Care Settings For End-Of-Life Cancer Patients: A Retrospective Database Analysis

#### **Background:**

End-of-life care for terminally ill cancer patients often includes hospice and home care as care delivery models that emphasize better value creation across the care pathway. Indeed, evidence suggest that early referral to non-hospital care settings and limited overly aggressive treatments in the last months before death improve value by increasing the quality of life of patients and their families. Moreover, allocation of resources to appropriate care setting benefits the health systems by improving the allocative value for example, reducing unnecessary hospital admissions and overtreatment

#### **Objectives:**

Despite this pattern, there is a lack of data at national/regional level about the quality of cancer care for patients with advanced disease, especially with reference to appropriateness of setting and quality of end-of-life care. The aim of the contribution is twofold: understand if setting of cares are homogeniusly used within health systems in order to meet the needs of end-of-life cancer patients; which factors are associated with the choice of the setting of death.

#### Methods:

To address this concern, we analysed a retrospective administrative database analysis of the population of cancer patients who died for cancer in Tuscany Region (Italy) in 2016 by providing a first description of the heterogeneity of setting of care for cancer assistance in the end-of-life and an assessment of their quality in terms of appropriateness. End-of-life care indicators are measured following the Dartmouth Atlas of Health Care and are developed using multiple Tuscany healthcare administrative databases (hospital and emergency care, home based, hospice and assisted patient

Due: June 30th, 2017

register and drug consumption). Furthermore, we analyse the determinants of such patterns, looking at provider characteristics (availability of resource and services accessibility).

#### **Results:**

We created indicators on end-of-life cancer patients' stay in hospital in the last 30-day period of life or use of chemotherapy in the last two weeks of life, and indicators on access to palliative care or home care as well as indicators on death rates. Early results highlight a large variability in the distribution of patients across end-of-life care settings and quality of end-of-life cancer care at provider level (i.e., local health authority). Additionally, a preliminary inferential analysis identified an association between some provider structural characteristics (e.g. n. of hopital beds; timeliness of access to end-of-life care) and the setting of death.

#### Conclusion:

The analysis of quality performance measures for end-of-life cancer patients provides the understanding about who is delivering end-of-life care, in what settings, and intensity of care. The resulting variability detects differences in level of appropriateness and quality of care and carries out different practices and organizational structures within the regional healthcare system. These results provide regional administrator and local health management with valuable information on the efficient allocation and use of costly medical services and drug treatments for end-stage cancer disease



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8/11/17

Natur	e of Paper: Research Idea Research in Progress New Methods Other:
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#### **Abstract Title:**

Determinants of quality of assistance in end-of-life care in Tuscany (Italy)

#### **Background:**

The quality of end-of-life care for is one of today's major challenges, given the growing number of people suffering from one or more chronic conditions that can potentially evolve in a terminating condition is constantly increasing.

The challenge is therefore to ensure homogeneous care pathways that enable the detection and early care of any chronic illness conditions, thus enabling the continuity of care, early care planning and the best quality of end of life care.

#### **Objectives:**

The aim of the study is to evaluate the variability of end-of-life care quality through a set of specific indicators per area of residence, socioeconomic condition and pathology in Tuscany.

#### Methods:

The data used are Death Registry, Hospital Admission data, Emergency department data, Hospice. The study population includes all residents in Tuscany over the age of 18 who died between January 1, 2015 and December 31, 2015, with a clinical history in the 36 months preceding the death of cancer, chronic illness or both (tumor + Chronic illness). From the analysis were excluded the deaths from trauma in first aid and hospital. The outcomes concern access to care in the last month of life, particularly access to hospital; intensity of such assistance and access to Hospice and place of death. Differences were assessed for pathology, place of residence, socioeconomic condition and degree of study.

#### Results:

In 2015, 18,601 people died with a clinical history of cancer and / or chronic illnesses (congestive heart failure and COPD), accounting for 41% of all deaths in Tuscany. Of these, 50% suffered only from chronic conditions, 33% for cancer and 17% for both.

In the last month of life, more than one-third of patients had at least one access to Emergency Department and 75% had at least one hospital admission, more frequent for patients with chronic disease.

Approximately 13% of hospitalizations have been characterized by intensive care, with a higher probability in patients with chronic illness compared to neoplastic and deceased patients with a high degree of study.

Death in the hospital occurred in 45.5% of the cases: 55% for chronic illnesses, 35% for the cancer. Eight percent of subje

#### Conclusion:

Compared to other studies on quality of end of life care, this study takes into account also degenerative chronic diseases, which represent the most prevalent causes of death. The study shows that end-of-life care in Tuscany in 2015 is hospital-centered and consequently requires high-intensity and invasive care. This varies according to the type of pathology and the area of residence. It is therefore necessary to train practitioners and citizens to see palliative care as a resource for patients with chronic (either neoplastic or not) pathological conditions close to their terminal phase.



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	Research in Progress
	New Methods
$\boxtimes$	Other: Using variation analyses to drive change and improve quality
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Health Quality & Safety Commission

#### **Abstract Title:**

Reducing Unwarranted Variation In New Zealand: Where We've Been And Where We're Going

#### Background:

The Health Quality & Safety Commission of New Zealand published its first Atlas of Healthcare Variation in 2012. The original intent was to 'stimulate debate and action between clinicans, managers, policymakers ad the public regarding how best to target resources to improve healthcare quality and outcome.'

There now are 20 Atlas domains and reducing unwarranted variations in patterns of care is one of the Commission's four strategic priorities for 2017-2021.

#### **Objectives:**

#### Methods:

A review of the Atlas programme completed early 2017 concluded that the Atlas had successfully delivered in its development phase, establishing effective processes and methods and building a positive reputation. The review identified a range of actions on a number of fronts in order to maximise its use.

#### Results:

The question of how Atlases can be used to drive change has been a topic of much research. While there are examples of change stimulated by the publication of an Atlas domain, these changes tend to focus on and address local issues and typically action is taken in outlier regions. Increasingly, the international discourse is focusing on how Atlases can shift the whole curve of quality, i.e. stimulate system-wide improvement.

The emerging discussion on the impact of the system structure itself as a cause of unwarranted variation and the observation of this phenomen in the New Zealand context led us to explore how we

can take a systematic approach to addressing variation. The proposed model builds on a comprehensive, multi-level approach as described by Ferlie and Shortell .

#### **Conclusion:**

This talk will share this model, including how we will partner with different organisations and seek to address variation at different levels.



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☐ Oral Presentation
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#### **Abstract Title:**

Does The Use Of Diagnostic Technology Reduce Fetal Mortality?

#### **Background:**

During the 1970s and 1980s, there was a rapid increase in the use of ultrasound and electronic fetal monitoring in maternity care. During the same period there was a significant decline in the number of fetal deaths. There are few well-designed studies in which the effect of ultrasound and electronc fetal monitoring on fetal death have been examined. The studies that exist have their limitations. In particular, they have often been done on small and selected samples. The results may therefore be difficult to generalize to populations that are different from those in the study.

#### Objectives:

To examine the effect that the introduction of new diagnostic technology in obstetric care has had on fetal death.

#### Methods:

The Medical Birth Registry of Norway provided detailed medical information for approximately 1.2 million deliveries from 1967 to 1995. Information about diagnostic technology was collected directly from the maternity units, using a questionnaire.

The data were analyzed using a hospital fixed-effects regression with fetal mortality as the outcome measure. The key independent variables were the introduction of ultrasound and electronic fetal monitoring at each maternity ward. Hospital specific trends and risk factors of the mother were included as control variables. The richness of the data allowed us to perform several robustness tests.

#### Results:

The introduction of ultrasound caused a significant drop in fetal mortality rate, while the introduction of electronic fetal monitoring had no effect on the rate. In the population as a whole, ultrasound

contributed to a reduction of fetal deaths of nearly 20%. For post-term deliveries, the reduction was well over 50%.

#### **Conclusion:**

The introduction of ultrasound made a major contribution to the decline in fetal mortality at the end of the last century. The use of electronic fetal monitoring can be reduced, without that leading to an increase in the number of fetal deaths



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#### **Abstract Title:**

How Much Variation In Paediatric Epilepsy Admission Rates In England Can Be Explained By Variation In Unit-Level Performance In The National Clinical Audit (Epilepsy12).

#### **Background:**

The UK has higher rates of epilepsy deaths among children and young people than comparable countries, and poor care quality is a contributing factor in a significant proportion of epilepsy-related deaths. Admission rates are widely used as a proxy measure of care quality in other paediatric conditions. For epilepsy, admission rates vary 4-5 fold between areas in England and the national clinical audit of paediatric epilepsy care (Epilepsy 12) shows wide variation in measures of care quality. It is not known whether better audit performance is associated with lower admission rates.

#### **Objectives:**

To investigate the degree to which better performance in the national clinical audit is associated with lower admission rates for paediatric epilepsy (0-19 years).

#### Methods:

Independent variables: 12 unit-level quality indicators including access to paediatric, specialist nurse and paediatric neurologist expertise. (Round 1=2009-12; Round 2=2014) N=144 units.

Dependent variable: unit-level admission rate (admissions calculated from Hospital Episode Statistics (HES 2011/12-2013/14; estimated unit catchment populations derived from age-specific, all-cause admissions and population data).

#### Analyses

1. Cross-sectional, multi-level regression models of Round 2 audit data and contemporaneous admission rates.

2. Difference-in-difference analyses comparing time trends in performance measures and admission rates between 2011/12 and 2013/14.

All analyses excluded tertiary centres and were adjusted for postcode-level deprivation decile.

#### Results:

In 2013/14, matched data were available on 8685 epilepsy-related admissions across 144 units.

In random effect models, unit-level variation accounted for 77% of total variation in admission rates, reduced to 72% after standardising for age, sex and deprivation.

The cross-sectional and longitudinal regression models showed no significant relationship between adjusted, unit-level admission rates and any performance indicator, including access to appropriate paediatric (cross-sectional analysis:  $\beta$ =0.06(-0.10-0.22); longitudinal analysis: r2=0.003), specialist nurse ( $\beta$ =0.09 (-0.00-0.17); r2=0.003)) and neurologist expertise ( $\beta$ =-0.05 (-0.15-0.04); r2=0.026))

Findings of the full difference-in-difference models will be presented.

#### Conclusion:

In national data, neither cross-sectional nor preliminary longitudinal models showed any consistent relationship between performance on the national clinical audit and unit-level admission rates for epilepsy among children and young people. This may reflect inconsistency in how the performance indicators are interpreted and measured, as well as the limitations of admission rates as a proxy for good seizure control and quality of life among children and young people with epilepsy.



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#### **Abstract Title:**

Geographical Variations In The Use Of Specialist Health Services Among Elderly Cancer Patients

#### **Background:**

About 14.500 persons, 70 years or older, are diagnosed with cancer every year in Norway. Due to an aging population in the coming years, about 24.400 new cancer cases in this age group are expected in 2030. Elderly cancer patients are at higher risk for adverse effects from treatment and they are underrepresented in cancer clinical trials. Thus, decision making about cancer treatment may be more complicated in elderly than in patients of younger age. Comorbidity, cognitive function, social support and goals of therapy are among the factors that may influence treatment decisions in elderly.

#### **Objectives:**

The objective of this research project is to investigate geographical variations in the use of specialist health services among cancer patients 70 years or older during the first year after diagnosis. Moreover, we aim to study to what extent geographical differences are explained by factors at the patient level, the family level and the system level, including tumor characteristics, comorbidity, age, sex, socioeconomic factors, family status and relatives living nearby, travel distance from residence to health service provider, and municipality and health trust characteristics.

#### Methods:

Linkage of personal data from national health and administrative registries in Norway based on the unique personal identity number. Data from The Cancer Registry of Norway, The Norwegian Patient Registry (NPR), The Cause of Death Registry, and Statistics Norway for approximately 73.000 patients who were 70 years or older when diagnosed with cancer between 2011 and 2015, will be analysed for all cancer sites combined and for breast, colorectal and prostate cancer separately. Descriptive statistics, health atlas methodology, and multilevel models will be applied.

#### Results:

This research idea originates from national health care atlases developed at SKDE. A recent health care atlas for elderly patients, 75 years or older, included descriptive and correlation analyses of non-surgical cancer treatment in Norway. Based on NPR-data, age and sex-adjusted rates per 1.000 inhabitants varied between 6.5 and 12 patients for the use of cancer medication and between 5.5 and 10.9 patients for radiotherapy among the 20 health trust catchment areas. Geographical differences in cancer incidence seem to explain some of the variation in cancer medication, but not in radiotherapy. Impact from centralization of radiotherapy in ten centres should be noted. The eleven highest radiotherapy rates included all ten catchment areas in which the radiotherapy centres are located.

#### **Conclusion:**

Unwarranted variation in non-surgical cancer treatment among elderly patients is suspected. Further analyses of explanatory factors require access to data from several national health and administrative registries. In addition, geographical variations in surgical cancer treatment should be explored. A research prosject on geographical variations in specialist cancer care is therefore initiated by SKDE in collaboration with national and international research institutions.



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#### **Abstract Title:**

Caesarean Sections And Private Insurance: Systematic Review And Meta-Analysis

#### **Background:**

The global raise of caesarean section (CS) rates during the past decades has raised concerns over appropriateness of usage of the procedure. The increase and immense variation among countries' regions and hospitals has been persistent over the years. Such increase and variation cannot be explained by clinical factors alone. Financial incentives associated with private insurance seem to influence supplier behaviour, be that physician or hospital, affecting this way clinical decision as to whether perform CS or not.

#### Objectives:

Financial incentives associated with private insurance may encourage health care providers to perform more caesarean sections. We therefore sought to determine the association of private insurance and odds of caesarean section.

#### Methods:

Design - Systematic review and meta-analysis.

Data sources - MEDLINE, Embase, and The Cochrane Library from the first year of records through August 2016.

Eligibility criteria – We included studies that reported data to allow the calculation of odds ratios of caesarean section of privately insured as compared to publicly insured women.

Outcomes - The pre-specified primary outcome was the adjusted odds ratio of births delivered by caesarean section of women covered with private insurance as compared with women covered with public insurance. The pre-specified secondary outcome was the crude odds ratio of births delivered by caesarean section of women covered with private insurance as compared with women covered with public insurance.

#### Results:

Eighteen articles describing 21 separate studies in 12.9 million women were included in this study. In a meta-analysis of 13 studies, the adjusted odds of delivery by caesarean section was 1.13 higher among privately insured women as compared with women with public insurance coverage (95% CI 1.07 to 1.18) with no relevant heterogeneity between studies (τ2=0.006). The meta-analysis of crude estimates from 12 studies revealed a somewhat more pronounced association (pooled odds ratio 1.35, 95% CI 1.27 to 1.44) with no relevant heterogeneity between studies (τ2=0.011).

#### **Conclusion:**

Caesarean sections are more likely to be performed in privately insured women as compared with women using public health insurance coverage. Although this effect is small on average and variable in its magnitude, it is present in all analyses we performed.



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#### **Abstract Title:**

Regional Variation In Hospitalization Of Ambulatory Care-Sentitive Conditions – Presumption For Associated Differences Of Healthcare Availability And Socioeconomic Situation In Lithuania

#### Background:

Hospitalization due to ambulatory care-sensitive condition (ACSC) represents hospital admissions which could be avoided if proper outpatient care was ensured. Thus commonly described as avoidable hospitalization, it is used to assess performance of healthcare system and might indicate some issues of healthcare availability. In Lithuania, it is particularly relevant within context of healthcare restructuring from historically determined inpatient care-oriented system towards primary and ambulatory care prioritization, whereas socioeconomic status of the population might be significant too.

#### **Objectives:**

To assess regional variation of hospital admissions due to ACSCs. To evaluate possible association between ACSC hospitalization and indicators of primary healthcare resources and socioeconomic status.

#### Methods:

Age-adjusted avoidable hospitalization rates (AH) of administrative area units were calculated using national hospital discharge data with ACSC as principal diagnosis and population census data. Absolute rate difference, rate ratio, extreme quotient, and coefficient of variation were used to assess the magnitude of regional inequalities. Statistically significant difference of rates was evaluated with the intersection of 95% confidence intervals. Correlation of regional AH rates and respective parameters was used to assess possible AH association with indicators of healthcare resources and socioeconomic status.

#### Results:

On national level, avoidable hospitalization decreased by 18%, with approximate 10-30% decrease in most regions in 2005-2011. In Utena region, AH level remained stable throughout the period, thus

resulting in significantly higher level as compared to national level. There was no great regional variation among municipalities of Utena region – most of them remained in the 4th quartile of AH in 2005-2011. Other high-level AH areas were identified at periphery of the country, while in major cities AH remained lower than national level. A weak negative correlation was found between AH and GP per capita rates; weak positive correlation – with average consultations per GP. A weak direct AH association was found with unemployment index, and average salary showed weak indirect correlation.

#### Conclusion:

The study showed that ACSC hospitalization was reduced in Lithuania 2005-2011, presumably proving healthcare restructuring policy to expand outpatient care and reduce inpatient services. Smaller and more rural regions had higher avoidable hospitalization compare to Lithuanian average. A few risky regions were identified, requiring more in-depth investigation on existing healthcare management practices. Within existing regional variation, lower capacity of primary healthcare might be associated with higher avoidable hospitalization, as well as areas with higher unemployment and lower income.



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#### **Abstract Title:**

Factors Influencing Extended Time To Diagnosis In Multiple Sclerosis: What Is The Role Of Geography?

#### **Background:**

In Multiple Sclerosis (MS), time between symptom onset and diagnosis can be substantial, with average time to diagnosis ranging from 1.1 to 3.6 years in Europe. Data from the newly established Swiss Multiple Sclerosis Registry (SMSR) suggest an average time to diagnosis of 3.6 years in Switzerland, but with large variability.

#### **Objectives:**

To investigate sociodemographic, clinical and geographic factors associated with time to MS diagnosis (>= 2 years versus less) in Switzerland, taking into account the changing diagnostic guidelines. In particular, we hypothesized that mountainous cantons will show a higher percentage of persons with extended time to diagnosis due to a lower availability of specialized MS care.

#### Methods:

The national, patient-centered SMSR was started in June 2016 and recruits adult persons with MS living in Switzerland. Until June 2017, it has enrolled 1500 patients. This analysis was restricted to patients with a year of diagnosis between 1995 and 2017 and resulted in inclusion of 972 persons with MS.

Multivariable logistic regression models were fit considering sex, age at diagnosis, MS type, time period of diagnosis (5 year periods), Swiss nationality, having relatives with MS and diagnosis setting as predictors. For each of the 26 Swiss cantons, expected percentages of MS patients with extended time to diagnosis were derived from the regression models and compared with observed percentages. Differences between expected and observed fractions were visualized using chloropleth maps.

#### Results:

The multivariable regression analyses pointed to more rapidly progressing forms of MS and older age as factors increasing the risk for an extended time to diagnosis.

When focussing on cantons with at least 10 persons included in the analysis (17 out of 26), the observed percentages of persons with extended time to diagnosis ranged from 26% (Luzern) to 62% (Wallis). Looking at the differences between observed and (predictor-adjusted) expected percentages, Luzern (-17%) and Wallis (13%) again were on opposite ends of the spectrum. The chloropleth maps suggested a geographical association with mountainous cantons having greater than expected fractions of MS patients with extended time to diagnosis (Graubünden: +3%, Bern: +6%, Wallis: +13%).

#### Conclusion:

Geographic factors appear to play a role with regard to time to diagnosis, with mountainous cantons exhibiting larger than expected percentages of MS patients with time to diagnosis exceeding 2 years. In these cantons, quick referral from first point-of-care to specialized MS neurologists, mostly located in more urbanized areas, may be essential for further reduction of time to diagnosis.



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Chairman, Population Health Research Network Board

**Abstract Title:** 

Health Care Variation In Oncology: A Snapshot Of Linked Data Research In Australia

Background:

Cancer patients expect, as all health consumers do, that the health care they receive is evidence based. However, the OECD and the Australian Commission on Safety and Quality in Health Care report that there is widespread health care variation in clinical practice. Linked Australian administrative data, accessed via the Population Health Research Network (PHRN), is a source of inquiry which has the capability for researchers to explore questions and answers about the causes and consequences of unwarranted health care variation in oncology in Australia.

**Objectives:** 

This paper will (1) Describe current PHRN infrastructure including services and facilities and determine whether the linkage infrastructure is being used to study healthcare variation in oncology; (2) Highlight research on health care variation in oncology which has arisen from use of the PHRN infrastructure; and (3) Identify opportunities for future research.

#### Methods:

As part of its reporting requirements, the PHRN annually monitors the peer-reviewed journal articles which arise from researchers' use of the PHRN infrastructure. A search of the PHRN peer-reviewed journal article list from 2010 to 2016 was conducted to determine whether the PHRN infrastructure is being used to study healthcare variation in Australia. The publications have been confirmed with PHRN facilities and services. The peer-reviewed journal articles identified were subjected to thematic analysis and descriptive statistical analysis. Thematic analysis of the data found that health care variation featured in the neoplasms (ICD-10-AM) and cancer control (National Health Priority Area) literature.

#### Results:

This paper found that the PHRN infrastructure helped researchers investigate the topic of health care variation in oncology in Australia. The identified peer-reviewed journal articles explored health care

variation in oncology by geography, population, cancer type and treatment modalities. The majority of studies utilised linked administrative data from a single jurisdiction and did not involve accessing linked administrative data from more than one jurisdiction.

#### Conclusion:

By using the PHRN infrastucture to explore Australian linked data literature, researchers have another source of data in which to to investigate health care variation in Australia. While the majority of research has been limited to a single jurisdiction, the PHRN will continue to work with all jurisdictions to streamline cross-jurisdictional data linkage in Australia in order to facilitate health care variation research on a national scale.



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Nature of Pape Research Research New Met Other:	n Idea n in Progress	
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Poster Presentation No Preference

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#### **Abstract Title:**

The Expansion Of Percutaneous Coronary Intervention Services In England: Impacts For Patient Care And Clinical Outcomes

#### **Background:**

Randomized Controlled Trials have indicated that primary Percutaneous Coronary Intervention (PCI) leads to improved outcomes for patients with STEMI AMIs relative to thrombolysis if administered within 2 hours. Adoption of PCI in England was much slower than in the US and other European countries. In 2008, The National Infarct Angioplasty Project (NIAP) determined that PCI centers should open such that 95% of the English population live within 120 minutes of a PCI center within 3 years

#### **Objectives:**

Our objectives are to consider whether and how the opening of primary PCI facilities: (i) altered the geographic variation in treatments for AMI; and (ii) Improved patient outcomes.

#### Methods:

We combine dates that primary PCI facilities opened, with data on AMI patients from administrative hospital admissions records for the period 1998 through 2014 to describe the changing distribution of PCI coverage and treatment. We then exploit changes in PCI coverage over time and space to estimate the impact of receiving a PCI on patient health outcomes, including length of stay, emergency readmissions, and 30 day in hospital mortality. We consider whether these impacts differ by age, sex, and underlying health, and compare the results to the findings of the original clinical trials.

#### **Results:**

The number of 24/7 PCI centers increased from 14 in 2006 to 52 in 2014. Over the same period, the share of AMI patients that received PCI on the day they were admitted rose from 4% to 23%. Almost all of the 209 health care regions in England experienced a growth in post AMI rates PCI rates between 2006 and 2014, but growth was uneven across the country. In 2014, the interquartile range of regional post AMI PCI rates was 9.8 percentage points (18.2%-28.0%), with a coefficient of

variation of 0.35. We find that receiving a PCI reduces hospital length of stay and one year emergency readmissions but had no impact on 30 day in-hospital mortality.

#### **Conclusion:**

The introduction of 24/7 PCI centers in England increased post AMI PCI rates but substantial variation in rates remained. Receiving a PCI reduced patient length of stay and emergency hospital readmissions but had no detectable impact on in-hospital mortality.



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Department of Health Policy and Management, Seoul National University College of Medicine, Seoul, Korea

#### **Abstract Title:**

Comparison of a patient-origin and hospital-origin method in investigating geographic variation of health care use

#### **Background:**

Most of the geographic variation studies were performed on the basis a patient-origin method; calculating the rate by dividing the number of residents who used a service by the total number of residents. This is relevant given that the purpose of variation study is to describe an undesirable amount of health care utilization of populations and to identify the factors for it. However, if the proportion of health care use by the residents outside their area of residence increases, a patient-origin method could be less accurate and lead to an erroneous attribution of health care use to local supp

#### **Objectives:**

The aim of this study is to investigate the geographic variation of health care use by a patient-origin and hospital-origin method and to compare the results.

#### **Methods:**

Data were obtained from the National Health Insurance (NHI) database in Korea for the 2013 period. We calculated utilization rates of eight major procedures (coronary artery bypass graft surgery, percutaneous transluminal coronary angioplasty, surgery after hip fracture, knee-replacement surgery, caesarean section, hysterectomy, computed tomography scan, and magnetic resonance imaging scan) by using a patient-origin and hospital-origin method. We compared the distribution of rates and coefficient of variation between a patient-origin and hospital-origin method.

#### Results:

A hospital-origin method showed more uneven distributions of rates and higher (up to seven times) coefficients of variation than a patient-origin method. The gap in the coeffcient of variation between a

patient-origin method and hospital-origin method decreased as the average size of geographic units increases.

#### **Conclusion:**

.A patient-origin method could underestimate the geographic variation in health care use. A hospitalorigin method could be more suitable for depicting the unequal health care use across regions.



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6/30/1	17
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#### **Abstract Title:**

Regional Variation Of Mortality Within 1 Year After Acute Myocardial Infarction And Factors Affecting Mortality

#### **Background:**

The mortality due to acute myocardial infarction (AMI) could be significantly reduced if adequate follow up in the primary care setting is achieved after discharge. However, large-scale research on this is not yet done.

#### **Objectives:**

The purpose of this study was to determine the regional variation of mortality within 1 year after AMI and the factors affecting it.

#### Methods:

The data used in this study was from Korean National Health Insurance Service(KNHIS), which includes electronic insurance claims data for all citizens. All medical records of patients who were admitted with AMI(I21, I21.0, I21.1, I21.2, I21.3, I21.4, I21.9) as primary diagnosis in 2004 were obtained. Patients who had medical records for AMI in 2002 and 2003 were excluded. There were 12,658 new AMI patients in 2004 and a total of 2,579,361 cases including 103,390 hospitalization cases and 2,475,971 outpatient cases was used for the analysis. Kaplan-Meier analysis was used to

obtain 1-year mortality. Cox proportional hazards regression model was used to determine the factors affecting 1-year mortality.

#### Results:

One-year mortality of new AMI patients was 15% on the average. However, there was four fold difference in age adjusted 1-year mortality between the highest region (22.7%) and the lowest region (5.6%). Older age and more comorbidities were related to higher mortality. If the first medical contact of patients was a tertiary hospital, the mortality was lower. Higher continuity of care (MFPC), using primary care clinics for follow up and more than 300 prescription day of essential drugs for AMI were related to lower mortality. (hazard ratio: 0.35, 0.55, 0.51)

#### **Conclusion:**

Patients with new AMI have high mortality within one year after discharge, but the mortality can be reduced to a maximum of about 1/6 by continuous outpatient follow up and drug prescriptions.



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Oral Presentation
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#### **Abstract Title:**

Is High Quality Of Care Associated With Higher Costs? - A Nationwide Cohort Study Among Hip Fracture Patients

#### **Background:**

Studies have shown considerable geographical variation in healthcare expenditures and a weak or even negative overall association between costs and quality of care at regional level. It is consequently unknown whether improvements in quality of care will require increased health care spending or whether improvements in quality of care will lead to a reduction in adverse patient outcomes, including fewer complications and readmissions, and hence less inappropriate use of health care and lower costs.

#### **Objectives:**

To examine whether fulfilment of process performance measures reflecting national clinical guideline are associated with in-hospital costs among hip fracture patients.

#### Methods:

We identified 20,458 hip fracture patients ≥65 years based on prospectively collected data from the Danish Multidisciplinary Hip Fracture Registry between March 1, 2010 and November 30, 2013. Quality of care were defined as fulfilment of seven process performance measures from the national multidisciplinary guideline for in-hospital hip fracture care: systematic pain assessment, early mobilisation, basic mobility assessment before admission and discharge, post discharge rehabilitation program, anti-osteoporotic medication and prevention of future fall accidents. Total costs were defined as the sum of costs used for treating the individual patient according to the Danish Reference Cost Database.

#### **Results:**

Fulfilment of nearly all process performance measures were all associated with lower total costs within the index admission. The adjusted ratio ranged from 0.90 (95% Confidence Interval (CI): 0.88-0.91) to 0.97 (95% CI: 0.95-0.99), corresponding to adjusted mean differences between EUR305 to

EUR3534. Receiving between 50% to 75% or more than 75% of the performance measures were also associated with lower total costs. The association were weakened when taking into account all costs related to hospitalisations within the first year.

#### **Conclusion:**

Improvement in quality of care will not imply increased spending and may even lead to lower hospital costs for the index admission and within the first year.



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#### **Abstract Title:**

Variation In Physician Empathy Among Danish General Practitioners

#### Background:

Physician empathy is a key factor in a strong physician-patient relationship. High levels of physician empathy have been correlated with improved health outcomes and physician satisfaction, and thus have potential for healthcare quality improvement. To the best of our knowledge, few studies have explored variation in empathy among general practitioners (GPs) or the relationship between general practitioners' empathy and their demographics and practice characteristics.

#### **Objectives:**

Our objectives are to measure and analyze variation in physician empathy among GPs, and to explore associations between selected GP characteristics and physician empathy.

#### Methods:

A web-based survey with the well-established and validated Jefferson Scale of Empathy (JSE), supplemented with questions on GP demographics and practice characteristics were randomly distributed to 1196 Danish GPs. Two models were used to analyze results. One used two-sample Wilcoxon rank-sum test and ANOVA to determine the presence of group differences in empathy levels. The other used random-effect logistic regression analysis to examine the predictive value of physician characteristics and high physician empathy.

#### **Results:**

A total of 464 respondents (38.8%) completed the questionnaire. The empathy scores ranged from 80-140 with a median score of 118 and a mean score of 117.8. The distribution was negatively skewed. Results showed that GPs who were employed outside of the clinic and those who felt the physician-patient relationship, intellectual stimulation and interaction with colleagues were of strong importance to their job satisfaction were more likely to have high empathy score. GPs with ages between 45 and 54 were more likely to have a lower empathy score than younger GPs. There was consistency across both models.

#### **Conclusion:**

Physicians who have outside interests and value interpersonal relationships tend to have higher empathy scores. Most, but not all the findings in this study were consistent with physician empathy studies in different geographic and specialty populations. Current literature shows that empathy levels can change with time and that promising interventions exist to increase physician empathy. Considering these findings, it seems possible to increase empathy among Danish GPs, which can lead to improved healthcare outcomes.



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No Preference

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#### Abstract Title:

How Differences In Province Antenatal Care Guidelines Impacted On Stillbirths In South Africa

#### **Background:**

In 2008 all provinces except Western Cape South Africa changed their antenatal care guidelines to align with the 2001 WHO Antenatal Care Guidelines. Western Cape has a antenatal care schedule of eight visits (at booking, 20,26,32,34,36,38, and 41 weeks if required), while all other provinces have five visits (at booking, 20,26,32,38 weeks).

#### **Objectives:**

We sought to explore if clinical variation in antenatal care schedules at a province level would impact on stillbirth risk in three provinces -Limpopo, Mpumalanga and Western Cape.

#### Methods:

All eligible stillbirths (>1000g, =>28 weeks, with antenatal care and certain gestational age) between October 2013 to August 2015 were audited using South Africa's Perinatal Problem Identification Program (n=4211). Stillbirth risk across pregnancy was calculated using Yudkin's method.

#### Results:

The variation in antenatal care schedules across South Africa impacted on stillbirth. Specifically in the provinces with reduced antenatal care schedules there was a higher stillbirth rate (Limpopo 18.5 per 1000 live births; Mpumalanga 17.5/1000; Western Cape 10.5/1000) and an increased relative risk of stillbirth at 38 weeks pregnancy after a six week absence of antenatal care (Limpopo:RR 3.1(95%Cl2.4-4.0) p<0.001;Mpumalanga RR3.1(95%Cl2.4-4.0);p<0.001) compared to Western Cape.

#### Conclusion:

In the provinces with reduced antenatal care schedules stillbirth risk increased in the third trimester compared to Western Cape, this demonstrates how clinical variation at a province level in South Africa may influence perinatal outcomes in the population.



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#### **Abstract Title:**

Regional Variation Of Medical Expenditure After Adjusting Age And Hierarchical Condition Categories

#### **Background:**

It is well known that there is regional variation of medical expenditure. These variations are not explained by price, health status and preference of patients. The difference of medical expenditure after adusting health status and price is caused by practice of supplier. Accordingly, medical expenditure variation is important in health service research. However, in Korea, there is few studies on regional variation of medical expenditure.

#### **Objectives:**

To discover regional variation of medical expenditure and analyze the factors that affect the variation. To develop adustment methology for identifying unwarranted variation.

#### Methods:

We construct Hierarchical Condition Categories (HCC) based on Korean Standard Classification of Diseases (KCD) for adjustment of medical expenditure and validate the predictive power using the National Health Information Database (NHID). The variation of medical expenditure was obtained after age standardization and health status adjustment using 2013 NHID.

#### Results:

The R-square of HCC is 0.3628 and the predictive power for next year is 0.3533. After age standardization, the medical expenses in the area where the medical expenses are the least and the area where the medical expenses are the largest are about 1.69 times. The coefficient of variation was 9.98%.

#### Conclusion:

Korea has a single insurer system for medical services as National Helath Insurance Service. However, regional variation of medical expenditure is observed. Thus, the research will focus on analyzing the factors affecting the variation.



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Date of Submission:
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Nature of Paper:
Research Idea
Research in Progress
New Methods
Other:

Please indicate your preference for presenting your paper:

Oral Presentation Poster Presentation No Preference

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#### **Abstract Title:**

Health Care Services For People With Chronic Obstructive Pulmonary Disease In Norway

#### Background:

Chronic obstructive pulmonary disease (COPD) is underdiagnosed and has high morbidity and mortality. Studies indicate a prevalence among people 40 years or older in Norway of 8-10% which equals 200 000-250 000 people. The consumption of health care services among people with COPD is unknown, and it is not known whether there is unwarranted geographical variation.

#### **Objectives:**

To study geographical variation in the number of people with COPD having contact with primary care physicians, outpatient clinics and who were hospitalised due to acute exacerbations of COPD.

#### Methods:

The study population included people 40 years or older with a diagnosis of COPD who had been in contact with primary care physicians or hospitals in 2013-15. We analysed data from primary care records (KUHR), which contain data on all contacts with primary care physicians, and data from the Norwegian Patient Registry (NPR), which contains data on all contacts with publicly financed specialist healthcare. To study geographical variation in health care consumption we calculated the age and sex adjusted number of people using different health care services per 10 000 population for each hospital referral area in Norway.

#### **Results:**

Among people with diagnosed and undiagnosed COPD in Norway, 20-25% were in contact with primary care physicians for COPD, 8-10% were in contact with outpatient clinics for COPD and 4-5% were hospitalised for acute exacerbations of COPD per year in 2013-15. In different hospital referral areas, about 97 to 249 people per 10 000 population (mean 196) were in contact with primary care physicians for COPD per year. About 58 to 133 people per 10 000 population (mean 82) were in contact with outpatient clinics for COPD per year. About 23 to 59 people per 10 000 population (mean

42) were hospitalised for acute exacerbations of COPD per year, and corresponding bed-days ranged from 226 to 602 per 10 000 population (mean 417).

#### **Conclusion:**

There was a considerable geographical variation in the number of people with COPD per 10 000 population who had been in contact with primary care physicians, outpatient clinics or who had been hospitalised for acute exacerbations of COPD in different hospital referral areas in Norway. Some of the observed variation may be explained by differences in prevalence of COPD. This prevalence is not known, but the known incidence of lung cancer may be used as a proxy. The results suggest that the observed geographical variation includes unwarranted variation in addition to explainable variation.



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	of Submission: ne 2017
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#### **Abstract Title:**

Managing waiting times and avoidable variations in elective surgery: the case of Tuscany Region

#### **Background:**

The reduction of waiting lists has been a relevant issue on policy makers' agenda. Indeed, actions to improve the supply have been often undertaken, given the important impact that waiting time has on consensus building. At the same time, starting from the work of Wennberg and colleagues, researchers have been focusing on the reported large geographical variation in the provision of elective surgical procedures delivered per inhabitant not driven by patients needs or preferences but by other factors.

#### **Objectives:**

The paper aims at analysing the relationship between waiting times and use rates for nine relevant elective surgerical procedures in order to evaluate the impact of waiting times on the availability of these services for the citizens. Moreover, by using the framework already proposed by Nuti and Vainieri for diagnostic services (BMJ Open, 2012), we aim to identify different taxonomies of actions that can be pursued to balance the supply side with the population needs.

#### Methods:

First, after measuring the waiting times and the use rates for the main elective surgical procedures in the Tuscan Local Health Authorities for the past three years, we have performed the correlation analysis. Then, we have mapped the results of each LHA in a matrix crossing waiting time and procedures rates. For each matrix quadrant, we have identified different governance areas that need specific interventions.

#### Results:

The results display a high degree of variation in use rates, especially for knee replacement, knee arthroscopy, hip replacement and percutaneous coronary angioplasty. The same surgical procedures have also shown a significant degree of variation in waiting times. The analysis performed for the nine elective surgical interventions has shown that LHAs position themselves all over the waiting time-use

rate matrix, suggesting that there does not exist a straighforward relationship between the use rates and the waiting times for the elective surgical procedures. Each combination of the matrix might have different determinants that require healthcare managers to adopt different specific strategies.

#### Conclusion:

In the Italian context waiting times don't explain geographical variation for elective surgical services. From our analysis it emerges that this variation is probably due to a combination of elements that have to be furtherly investigated, since the reduction of the unwarranted variation has a relevant value-for-money impact.



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#### **Abstract Title:**

Prescribing variation in relation to newly-initiated and pre-existing patients receiving Proton Pump Inhibitors within the Preferred Drugs Scheme in Ireland

# **Background:**

The Preferred Drug Scheme was introduced in Ireland in 2013 to increase evidence-based prescribing by recommending a preferred drug within common medication groups. Initial results have shown that changes in prescribing among general practioners have been modest at best, with significant variation between prescribers. However variability between patients has not been examined to date.

# **Objectives:**

The primary objective of the analyses was to compare prescribing of the preferred Proton Pump Inhibitor (PPI) (Lansoprazole) in a cohort of older adult patients who received PPIs both before and after the guidelines (April 2013) and those who received them for the first time after the guidelines, with reference to variation between both prescribers and patients.

#### Methods:

Prescribing data for adults 65 years and over was obtained from 41 Irish general practices between Jan 2011-Sept 2015. For each patient, the number of PPI prescriptions, and the proportion attributable to Lansoprazole, per quarter, per practice was calculated. This proportion was modelled over the course of the study period for both groups of interest simultaneously using a multigroup multilevel logistic segmented regression model. Random effects were incorporated as appropriate in order to examine patient- and practice-level variation further. Patient-level covariates (age, gender, type of patient (public/private), polypharmacy) were included, with effects allowed to vary between patient groups and, for pre-existing PPI patients, before and after the guidelines.

### **Results:**

Of the 14,242 patients receiving PPIs over the study period, 6,908 (48.5%) had PPI prescriptions both before and April 2013 and 4,337 (30.5%) from April 2013 onwards only. 84.8% (9,532) of patients in these two groups had PPI prescriptions in at least two calendar quarters. The odds of an individual PPI prescription being Lansoprazole just prior to introduction of the guidelines was 0.30 (SE 0.02), (probability 23.3%) among patients who received PPIs both before and after and 0.33 (SE 0.02) (probability 24.5%) in the three months following the guidelines, an increase which was statistical significance (p=0.04). Prescribing of Lansoprazole continued to increase after June 2013 in this group (p<0.001). The odds of an individual PPI prescription being Lansoprazole from April-June 2013 among patients who had not received PPI prescriptions prior to April 2013 was 0.47 (SE 0.04) (probability 32.7%), significantly higher than the other group at the same time (p<0.001). However prescribing did not continue to increase in this group (p=0.29). Practices which prescribed Lansoprazole after April 2013 among patients who were in receipt of PPIs prior to this also tended to prescribe Lansoprazole in newer PPI patients (Correlation 0.67, p<0.001). Most of the variation observed in the outcome was due to differences between patients rather than practices. Between-patient variance fell slightly among from 4.14 prior to April 2013 to 4.05 afterwards in patients already in receipt of PPIs, however variation between patients who did not have PPIs in the two years prior to April 2013 was lower (3.04). Among patients in receipt of PPIs between Jan 2011 and March 2013 and between April 2013 and Sept 2015, there was insufficient evidence that changes in prescribing of Lansoprazole following the guidelines varied with age (p=0.26), gender (p=0.09), patient type (p=0.50) or polypharmacy (p=0.64).

#### Conclusion:

The preferred drugs scheme has had a modest impact in the prescribing of the preferred PPI drug, although more so among older adults who did not have PPI prescriptions in the two years before guidelines were introduced. Furthermore variation between patients has reduced. Multigroup multilevel regression models provide an attractive methodological approach for comparing prescribing variation between different groups of patients. Results from these analyses will be complemented using frailty models in due course in order to compare the time between the first PPI prescription after guidelines and the first Lansoprazole prescription after guidelines in the two patient groups.

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Date of Submission:	
Natui	re of Paper: Research Idea
	Research in Progress
	New Methods
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**Abstract Title:** 

Measuring avoidable variation following the patient care path. The Italian experience

#### **Background:**

In the last decades we assisted to the emergence of new care needs (e.g. chronic diseases and other care pathways) whose related service delivery is characterized by the presence of multiple providers. This phenomenon poses new challenges in assessing and managing unwarranted variation and performance of health care systems. As such, performance measurement systems started including a new set of features (e.g.multidimensionality; benchmarking; etc). However, even this new generation of tools present limits since they tend to focus on the providers perspective rather than the patient one.

#### **Objectives:**

In order to measure performance with the aim to manage unwarranted variation, we suggest the introduction of new measurement mechanisms that, even with the help of effective graphical representations, enable one to assess the performance of a whole care pathway considering the multiplicity of providers involved in the service delivery. To do that, these measuring systems may help in detecting and tackling unwarranted variation by attributing co-responsibilities to providers and, consequently, shifting professionals' focus on critical factors that determine value creation in a patient perspective rather than in an organizational one.

#### Methods:

Since 2004 the Mes-Lab of Pisa (Italy), worked on the development of a PMS (the dartboard) that can be considers as a new generation PMS (multidimensional, based on benchmarking, disclosure, timely

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based). The adoption of this tool supported professionals and other stakeholders to focus on value creation and detect unwarranted variation through the inclusion of a large set of outcome measures. However, this tool may result static in framing the performance of healthcare systems in relation to care pathways. In order to overcome this limit we propose to re-frame the dartboard according to a value chain perspective. As such, the same indicators used in the dartboard may be repositioned according to the different phases of pathways.

#### **Results:**

The dartboard was reframed in order to assess performance of the service supply in the different phases characterizing a care pathway and, consequently, it allows one to attribute co-responsibilities to the multiplicity of providers involved in the service delivery of each phase. In order to show an example of this re-framing process, the case of the oncologic pathway in a network of Italian Regions will be developed and discussed.

#### **Conclusion:**

The evolution of measuring systems requires the introduction of new mechanisms and representations to detect and manage unwarranted variation in a pathway patient-perspective, overcoming the traditional measures related to acute care setting. As such, these measurement systems may incentive coordination and integration among professionals, organizations and other stakeholders.



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Natu □ □ ⊠	re of Paper: Research Idea Research in Progress New Methods Other:
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### **Abstract Title:**

A Multilevel Analysis of the determinants of emergency care visits by the elderly

# **Background:**

Emergency departments (EDs) are essential for providing a rapid treatment for some health problems but they are also used as the entry point by those who do not have any other means of obtaining non-urgent health care. The steady increase in ED visits, especially amongst the elderly, is a source of pressure on hospitals and on healthcare systems.

# **Objectives:**

This study aims to establish the determinants of ED visits in France at a territorial level with a focus on the impact of ambulatory care organisation (both primary and specialist care) for the population aged 65 years and over.

#### Methods:

We use multilevel regressions to analyse the role of factors associated with individual demand (socioeconomic characteristics and health status) and those related to the organisation of healthcare provision at the local level in determining emergency room visits.

#### Results:

ED visits vary significantly by the health status and the economic level of municipalities. Controlling for demand factors, ED rates by the elderly are lower in areas where accessibility to primary care is high, measured as availability of primary care professionals, out-of-hours care and home visits in an area. Proximity (distance) and size of ED are drivers of emergengy visits.

# **Conclusion:**

High rates of ED visits calls into question the quality, efficiency and accessibility of health services provided in ambulatory settings. Strenghtening the delivery of primary and social care services to assure regular and coordinated care, especially for the elderly, can reduce ED visits and improve the quality of care, while ensuring better use of the resources available at the local level.



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#### **Abstract Title:**

Four Layers Of Burden Of Disease Analysis At Different Administrative Level Dynamic And Territorial Analysis Ofromanian Yll Data 2005-2015

# **Background:**

Although decreasing, Romania is still ranking high when compare to other European countries in terms of YLL rates. Beside that, there is not yet published literature on YLL magnitude and structure at Romanian subnational level.

### Objectives:

The study aims to explore the magnitude and structure of YLL data at different administrative levels (national, regional, district and locality level) as well as to test the correlation between the YLL findings, and social determinants of health.

#### Methods:

The YLL is computed by summing the years of life lost due to premature death and analysed with descriptive statistical tools in order to assess the variability at different administrative levels. Multiple correlation analysis is performed in order to assess the link and explain the discrepancies between YLL and social determinants of health at different subnational levels. Garbage codes are reallocated according to scientific published data where available.

#### Results:

High variability of magnitude and structure of YLL is observed at district and locality levels, while at national level the top five causes of death impacting on YLL are constant.

Positive and moderate correlation is found between YLL and socio-development index at locality and district levels.



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#### **Abstract Title:**

Quantitative Benefit Harm Assessment To Explore Preference Sensitive Treatment Decisions

# **Background:**

Many medical decisions are considered to be preference-sensitive. Few approaches are able to determine if a particular decision is actually sensitive to patients' preference about treatments and outcomes and how much different preferences may explain variation in preference-sensitive care. We suggest that quantiative approaches can be used to systematically model to what extent different preferences for benefit and harm outcomes affect the benefit harm balance of a particular intervention and to determine if a decision for or against that intervention is preference-sensitive.

# **Objectives:**

To use quantitative benefit harm assessment to explore how the benefit harm balance of interventions changes according to different outcome preferences and to determine if decisions are preference-sensitive.

#### **Methods:**

We used three different treatment decisions (low dose aspirin for primary prevention, roflumilast for prevention of exacerbations in COPD and systolic blood pressure target of 140 vs. 120 mm Hg for treatment of hypertension) for which we performed quantiative benefit harm assessments using the Gail/National Cancer Institute approach. The most applicable and valid data for the assessments were selected from systematic reviews of randomized trials, observational studies, regulatory agencies and preference-elicitation surveys. We varied the preferences for benefit and harm outcomes and assessed how much the benefit harm balance changed accordingly.

#### Results:

The benefit harm balance of low dose aspirin for primary prevention and for the comparison of systolic blood pressure targets of 140 vs. 120 mm Hg varied substantially according to different preferences (e.g. giving more or less weight to myocardial infarction, stroke, and side effects) while the balance did not change for roflumilast (consistently negative favoring placebo) when varying

outcome weights. As a results, the decision for or against low dose aspirin and for different blood pressure targets appears to be preference-sensitive wheras the decision for roflumilast is not.

### **Conclusion:**

Quantitative benefit harm assessment provides a way to explore how different outcome preferences affect the benefit harm balance of interventions. This approach may be used to support guideline developers (e.g. to recommend use of decision aid if a decision is preference-sensitive rather than making an overall recommendation) and to assess if and to what extent variation in preference-sensitive care can be explained by different preferences.

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#### **Abstract Title:**

Extent, Regional Variation And Impact Of Gynecologist Payment Models In Unwarranted Pelvic Examinations: A Nationwide Cross-Sectional Study

# **Background:**

Based on moderate quality evidence, routine pelvic examination is strongly recommended against in asymptomatic women.

# **Objectives:**

The aims of this study was to quantify the extent of unwarranted pelvic examinations within specialized health care in Norway, to assess if the use of these services differs across hospital referral regions and to assess if the use of colposcopy and ultrasound differs with gynecologists' payment models.

#### **Methods:**

Nationwide cross-sectional study including all women aged 18 years and older in Norway in the years 2013-15 (2 016 852). Data was extracted from the Norwegian Patient Registry and Statistics Norway. The main outcome measures were 1. The number of appointments per 1000 women with a primary diagnosis of "Encounter for gynecological examination without complaint, suspected or reported diagnosis." 2. The age-standardized number of these appointments per 1000 women in the 21 different hospital referral regions of Norway. 3. The use of colposcopy and ultrasound in routine pelvic examinations, provided by gynecologists with fixed salaries and gynecologists paid by a fee-for-service model.

#### Results:

Annually 22.4 out of every 1000 women in Norway had a routine pelvic examination, with variation across regions from 6.6 to 42.9 per 1000. Gynecologists with fixed salaries performed colposcopy in 1.4% and ultrasound in 75.9% of appointments. Corresponding numbers for fee-for-service gynecologists were 52.2% and 96.6%, respectively.

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# **Conclusion:**

Unwarranted pelvic examinations are widely performed in Norway. The variation across regions is extensive. Fee-for-service payments for gynecologists drive the use of colposcopy and ultrasound in pelvic examinations of asymptomatic women.



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#### **Abstract Title:**

The English General Practices Spatial-Temporal Pattern Of Preventable Emergency Admissions: Its Stability And Explanatory Factors

# Background:

Preventable emergency admissions are increasing every year however its growth is not geographically homogeneous. A bigger focus on its spatial pattern is needed to fully understand the inequity implications of unwarranted variation.

The Dartmouth atlas reported the geographical variation of ACSCs across the US, showing a decrease of ACSCs discharges from east to west. In England several studies focus on variation in avoidable emergency admissions across the country, but none of the studies analysed the spatial pattern and the explanatory factors of the variation across GP practices.

#### **Objectives:**

We investigate the English spatial pattern of Ambulatory Care Sensitive Conditions (ACSCs) between 2004 and 2013 at a GP practice level. We identify the spatial pattern and it's stability over time, identifying the geographical areas with the highest and lowest rates of ACSCs for the last 10 years, as well as the areas that have experienced the highest growth rates of ACSCs.

We also study several explanatory factors at GP practice level that explain the variation of ACSCs, shedding a light into the importance of the supply and quality of health care, over and above the population need factors.

#### Methods:

To understand the space-time dynamics of ACSCs across England in the 10 years period of analysis we propose two different outputs considering two different methods. Firstly, since we are analysing point data, we use Inverse Distance Weight (IDW) maps to understand the spatial pattern of ACSCs emergency admission indirect standardised (by age and gender) rate. So we consider the difference between the two IDW maps as our first output. Secondly, we overlay 10 years of Local Indicator of

Spatial Analysis (LISA) clusters to understand the areas that belong to a cluster of high (or low) ACSCs ind std rates for 8 or more.

To understand the impact of different explanatory factors on ACSCs emerg adm, we use a Poisson Panel data model with fixed effects, from which we report the marginal effects

#### Results:

We present results of the space-time analysis using the two methods described above. The first method highlights areas, that although being among the areas with the highest (lowest) ACSCs emerg adm rates in England, have improved (deteriorated) their ACSCs emergency rate between 2004 and 2013. The second method highlights the areas that have been from 4 to 10 years in a significant local cluster of high or low ACSCs emerg adm rates. The stability of these significant clusters highlights the spatial concentration of high (and low) ACSCs emerg adm, sometimes in areas that have similar populations.

Besides the FTE GPs, practice list characteristics, the clinical quality and access to GP appointment had a significant impact. A STD Dev increase of clinical quality would decrease ACSCs by 0.38

#### Conclusion:

The stability of the ACSCs emerg adm ind std rate spatial pattern across GP practices over 10 years highlights that a decade of health policies could not break a dual regime of access to primary care, characterised also by an heterogenous spatial pattern within the English health authorities. Given that over and above the population characteristics the GP practice clinical quality and access to a GP appointment have an impact on the ACSCs emerg adm, it is important to question how to raise quality and accessibility of primary care in the areas affected by high rates for a decade

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#### **Abstract Title:**

Characteristics And Health Care Use Of High-Cost Patients In Seven Countries

### Background:

Across the world, medical spending in any given year is consistently concentrated in a relatively small number of high-cost patients. The heavy use of resources of this population have put strategies to reduce costs and improve quality for this patient group high on the policy agenda. However, as to date, little is known how health systems influence health care use for these patients. A cross-national comparison of high-cost patients may help to better understand how health systems care for this vulnerable patient group, help prioritize policies, and promote international learning.

#### **Objectives:**

The intention of this study is to help policy makers and health systems leaders to understand what their high-cost population looks like, interpret variations in spending and utilization across countries, and consider what further information and analysis are necessary to identify priorities for action.

#### Methods:

We performed a retrospective cohort study design based on administrative data to describe the characteristics and health care use of high costs patients in the U.S., the Netherlands, Germany, Canada, the UK, Spain and Japan. High-cost patients were defined as the top 5% highest spenders of medical care population. This abstract contains preliminary results from the U.S., the Netherlands, Germany, Canada and Japan.

#### Results:

We found that in all countries, high-cost patients were on average older than the general population, more likely to be female, and to have multiple chronic conditions. Countries differed in the concentration of costs by this population, ranging from 41% in Japan to 60% in Canada. Adjusted for PPP, average medical spending for the top 5% ranged from USD 21,000 (in Canada) to USD 42,170 (US). Inpatient spending was the largest category of spending in all countries (32 percent of costs in

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Canada to 72 percent of costs in Japan). In comparison with the other countries, the Netherlands spent more on mental health care, especially in adolescent and younger adults; in Germany, the relative spending on drugs was higher than in other countries and the US spent more on rehabilitative care.

#### **Conclusion:**

In this first systematic cross-country comparison of high-cost patients, we have been able to highlight broad similarities within a key segmeent of the population, and identify significant differences in medical spending. Our findings add to the understanding of what is possible in comparing these data and identify policy relevant topics to explore further. In addition, they provide an evidence base for policymakers to prioritize policy targets to meet their goals for their high-cost population.



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#### **Abstract Title:**

Timetrends In Medical Practice Variation And the Influence Public Reporting.

#### Background:

From previous work, we know that medical practice varies widely and that unwarranted variation means low value for patients and society. Despite the availability of rich data, most Western countries have no clear, valid andreliable insight in the geographical distribution of the use, costs and outcome of healthcare, and in trends in variation over time. Moreover, we do not know whether public reporting about practice variation has an effect in itself on the extent of the variation

# Objectives:

- 1. To explore time trends in practice variation outcomes over time.
- 2. To discuss the influence of public reporting about practice variation outcomes on the variation time trends.

#### Methods:

We present two cases of public reporting of healthcare variation and the collateral trends in variation over time: a) variation in herniated disc surgery in The Netherlands over four consecutive years, and b) variation in opoid use in New Zealand over vife consecutive years.

# Results:

Ad a) We observed a decreasing trend in herniated disc surgeries over time (2011-2014). The factor score, i.e. the ratio obetween the highest scoring hospital and the lowest scoring hospital, decreased substantially from 28.9 (2011), 25.3 (2012),17.5 (2013) to 13.2 (2014).

Ad b) The variation between District Health Boards (DHBs) with respect to the opioid dispensing rate per 1.000 inhabitants decreased over time. First there was a stable trend in 2011, 2012, 2013 (factor score 2.8) and then a decreasing trend in 2014 (factor scoe 2.4) and 2015 (factor score 2.1).

#### Conclusion:

We conclude that in both cases the extent of practice variation decreased over time. In The Netherlands public reports about variation in herniated disc surgeries came available in 2011. In New-Zealand public report about opid use came available in 2014. It might be possible that the public reports have created awareness about the variations in care and that this awareness has add to the decrease in variation. Strong conclusions about this causal relationshiop can however not be drawn from this data, but might be interesting to explore in more detail.



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#### **Abstract Title:**

Delivering A World Leading Healthcare System: The Creation Of A New Data Agency

# **Background:**

The Victorian Agency for Health Information was created as part of Victorian Government reforms to overhaul quality and safety across Victoria's public healthcare system, in response to 'Targeting Zero: the review of hospital safety and quality assurance in Victoria'. The Agency's responsibilities flow across measurement of patient care and outcomes for three key purposes, 1) public reporting, 2) oversight and 3) clinical improvement.

### **Objectives:**

The Victorian Agency for Health information will analyse and share information across our system. The Agency will ensure that a) the community has access to better information about health services and hospital performance b) patients and carers can access meaningful and useful information, c) boards, health executives and clinicians get the information they need to best serve the community, d) researchers can access data to support research and deliver information to audiences that can use it to drive better, smarter, safer care.

#### Methods:

To obtain the best quality data from health services the Agency is playing a pivitol role in data management, standards and integrity. A multipronged approach is being utilised including a) changing the dimensions of health service reporting to include access, efficiency and financial performance, b) increasing the audience for safety and timely safety and quality reports through new dissemination pathways, c) development of a clinical 'portal' to support interactive access to information and d) revised contractual arrangements with health services for the provision of quality data

#### Results:

Advisory groups of target audiences were established to offer advice regarding measurement and reporting. Two new reports have been developed and disseminated across the system, 1) Inspire - a

quarterly safety and quality report which aims to provide information, tools and resources that support conversations on safety and quality performance improvement among clinicians and health service management, 2) Board safety and Quality Report - a quarterly safety and quality report which supports conversations on safety and quality performance amoung board members, health service management and clinicians.

#### **Conclusion:**

In January 2017 the Victorian Agency for Health Information was successfully established. New information products have been disseminated to support safety and quality conversations across the system. The reports have been well received by the sector. The Agency continues to analyse and share information to inform clinical safety and quality decision making.



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2010 – ongoing	The ML. von Franz Institute for Studies in Synchronicity, Zurich
	Foundation Board Secretary (www.spielzeit.ch)
2001 – ongoing	1997 Lydia Freeman Charitable Foundation, Santa Barbara, USA
	Trustee / CEO (www.lfcf.info)

#### **Selected Publications**

- 1. **Adams M**, Braun J, Bucher HU, Puhan MA, Basser D, VonWyl V and The Swiss Neonatal Network. Comparison of three different methods for risk adjustment in neonatal medicine. BMC Pediatrics 2017-12. doi: 10.1186/s12887-017-0861-5.
- 2. Natalucci G, Bucher HU, Von Rhein M, Borradori Tolsa C, Latal B, **Adams M**. Population based report on health related quality of life in adolescents born very preterm. Early Hum Dev. 2016 Dec 6;104:7-12.
- 3. **Adams M**, Borradori-Tolsa C, Bickle-Graz M, Grunt S, Weber P, Capone Mori A, Bauder F, Hagmann C, Natalucci G, Pfister RE, Latal B, for the Swiss Neonatal Network & Follow-up Group. Follow-up assessment of high-risk newborns in Switzerland. Recommendations. Paediatrica Vol. 25 No. 5 2014:6-10.
- 4. **Adams, M**, Bucher, HU, Hoehre TC; the Swiss Neonatal Network. (2013). The Swiss Neonatal Quality Cycle, a monitor for clinical performance and tool for quality improvement. BMC Pediatrics 2013, 13:152.
- 5. Steurer MA, **Adams M**, Bacchetti P, Schulzke SM, Roth-Kleiner M, Berger TM, on behalf of the Swiss Neonatal Network. Swiss medical centres vary significantly when it comes to outcomes of neonates with a very low gestational age. Acta Paediatr. 2015 May 25. doi: 10.1111/apa.13047.

#### Sandeepa Arora

Research Analyst The Nuffield Trust London, UK

#### Biography

Sandeepa Arora is a research analyst at the Nuffield trust. Sandeepa primarily focuses on the application of quantitative techniques in health care research. She has experience of working on patient-level data to understand how patients use care and services, and tracking how the quality of health and social care are changing over time.

Her recent projects include evaluating the cost effectiveness of complex interventions such as social action programs trying to reduce pressures on the NHS; developing clinical approaches to improving the care of frail elderly patients in hospital. In addition, Sandeepa is working on an evaluation of schemes for improving public access to primary care and on the management of individuals with complex care need. Sandeepa is interested in engaging and empowering delivers of health care by turning data into actionable insights as the tools to monitor and track changes over time.

Sandeepa has a Masters in Economics from the University of Edinburgh and before joining the Nuffield Trust, Sandeepa assisted in a research projects at Healthcare Management Group, Imperial College London.

#### **Selected Publications**

- 1. **Arora, S.**, Charlesworth, A., Kelly, E., & Stoye, G. (2013). Public payment and private provision. The changing landscape of health care in the 2000s. Nuffield Trust.
- 2. Lafond, S., **Arora, S.**, Charlesworth, A., McKeon, A. (2014). Into the red? The state of the NHS' finances. An analysis of NHS expenditure between 2010 and 2014. London: Nuffield Trust
- 3. Thorlby, R. & **Arora, S.** (2016). International Profiles of Health care system. 49-57 (The commonwealth fund May 2017), version 5.
- 4. Georghiou, T., Ariti, C., Davies, M., **Arora, S**., Bhatia, M., Bardsley, M., Thorlby, R. (2016). Harnessing social action to support older people. Nuffield Trust.

**Marte Bale**, MSc Helse Forde Norway

### **Biography**

The last one and a half year I have coordinated the work in Norwegian Atlas of Variation in Healthcare "helseatlas" in Forde, Norway, which cooperates with helseatlas in Tromso, Norway.

My former jobs have mainly been as a physiotherapist, treating patients suffering from neurological or musculoskeletal diseases.

The MSc degree is from the University of Bergen, Norway, 2004.

#### **Selected Publications**

1. **Bale M**, Strand LI. 2008. Does functional strength training of the leg in subacute stroke improve physical performance? A pilot randomized controlled trial. <u>Clin Rehabil.</u> 2008 Oct-Nov;22(10-11):911-21. doi: 10.1177/0269215508090092.

#### **Lise Balteskard**

Senior Consultant, Center of Clinical Documentation and Evaluation, Tromsoe, Norway

#### Biography

Oncologist, MD, PhD. In the period 2004 – 2009, secretary and later head of the Norwegian Gastrointestinal Cancer Group. Employed at the Center of Clinical Documentation and Evaluation since 2009. Have participated in the production of the Norwegian National Health Atlases.

#### **Selected Publications**

- 1. Kristiansen JA, **Balteskard L**, Slettebø H, Solberg T. The use of surgery for cervical degenerative disease in Norway in the period 2008-2014: A population-based study of 6511 procedures. Acta Neurochirurgica 2016; 158(5):969-74
- Bentzen AG, Guren MG, Vonen B, Wanderaas EH, Frykholm G, Wilsgaard T, Dahl O, Balteskard L Faecal incontinence after chemoradiotherapy in anal cancer survivors: longterm results of a national cohort. Radiother Oncol 2013 Jul;108(1):55-60
- 3. Bentzen AG, **Balteskard** L, Wanderås EH, Frykholm G, Wilsgaard T, Dahl O, Guren MG. Impaired health-related quality of life after chemoradiotherapy for anal cancer: late effects in a national cohort of 128 survivors. Acta Oncol 2013 May;52(4):736-44
- Bentzen AG, Guren MG, Wanderaas EH, Dahl O, Frykholm G, Tveit K, Wilsgaard T, Balteskard L. Chemoradiotherapy of Anal Carcinoma; Survival and Recurrence in an Unselected National Cohort. Int J Radiat Oncol Biol Phys 2012 Jun 1;83(2):73-80
- 5. Emaus N, Olsen LR, Ahmed LA, **Balteskard L**, Jacobsen BK, Magnus T, Ytterstad B. Hip fractures in a city in Northern Norway over 15 years: time trends, seasonal variation and mortality: The Harstad Injury Prevention Study. Osteoporos Int. 2011; 22:2603-10.

### **Steven Batty**

Senior Analytical Manager, Rightcare Leeds, UK

# **Biography**

Steven is a Senior Analytical Manger in NHS RightCare team working in NHS England and formerly the Department of Health. He has worked in several teams across these departments including; Primary Care, Workforce and Health Improvement. He led on the production of the first Long-Term Condition Pack and is the RightCare analytical lead for Cancer. He was part of the initial team that produced the first CCG variation packs and provided innovative data visualisation to look at variation across the disease pathway. This helps commissioners understand the holistic system rather than an indicator at a time.

#### **Gwyn Bevan**

Professor of Policy Analysis

Department of Management, London School of Economics and Political Science.

London, England

#### Biography

Gwyn Bevan has been head of LSE's Department of Management and a Director at the Commission for Health Improvement. He is a member of the Advisory Committee on Resource Allocation that advises the Secretary of State for Health on the formulas to be used in allocating resources for health care and public health in England. His research in health care includes evaluations of the 'natural experiment' of policy differences that have developed between the different countries of the UK after devolution and applying a new approach to improving the value of health care in austerity by the socio-technical allocation of resource.

#### **Selected Publications**

- 1. Parker, D. M., Schang, L., Wasserman, J. R., Viles, W. D., **Bevan, G.,** & Goodman, D. C.. Variation in Utilization and Need for Tympanostomy Tubes across England and New England. *The Journal of pediatrics*, 2016; **179**, 178-184.
- 2. **Bevan, G.,** Karanikolos M, Exley J, Nolte E, Connolly S, Mays N. *Comparing the performance of the National Health Service in the four countries of the United Kingdom before and after devolution*. London: the Nuffield Trust, 2014. <a href="http://www.nuffieldtrust.org.uk/compare-UK-health">http://www.nuffieldtrust.org.uk/compare-UK-health</a>
- 3. Schang L, De Poli C, Airoldi M, Morton A, Bohm N, Lakhanpaul M, Schilder A, **Bevan G.** Using an epidemiological model to investigate unwarranted variation: the case of ventilation tubes for otitis media with effusion in England. *Journal of Health Services Research and Policy*. 2014; **19**(4): 236-244.
- 4. Wennberg DE, Sharp SM, **Bevan G**, Skinner JS, Freedman JO, Gottlieb DJ, Wennberg JE, A population health approach to reducing observational intensity bias in health risk adjustment: cross sectional analysis of insurance claims. *BMJ* 2014; **348**: g2392.
- 5. Schang L, Morton A, DaSilva P, **Bevan G**. From data to decisions? Exploring how healthcare payers respond to the NHS Atlas of Variation in Healthcare in England. *Health Policy* 2014; **11**(1): 79-87.

#### **Antonio Chiarenza**

PhD, Sociology Azienda Unità Sanitaria Locale Reggio Emilia Italy

#### Biography

Antonio Chiarenza, graduated in Political Science at the University of Bologna and received his PhD in Sociology from the University of Leicester (UK). He is currently serving as the head of the Research & Innovation Department at the Local Health Authority of Reggio Emilia in Italy (AUSL-RE). His research interests have focused on health promotion, migrant health care, health service organisation, and community health. He leads the international Health Promoting Hospitals and Health Services" Network Task Force on Migration, Equity and Diversity (HPH-TF MED) and the Regional HPH network of Emilia-Romagna. He collaborates with international networks and organisations focused on migrant health, e.g.: the migrant's health section of EUPHA, the Italian Society of Migration Medicine (SIMM), the International Organisation for Migration IOM. He has specific expertise on the impact of access barriers and inequities on the health care of migrants and other vulnerable groups. He has participated in several EU projects and published articles and presented papers on the issue of migrant's health care in national and international journals and conferences.

#### **Selected Publications**

- 1. Bischoff A., **Chiarenza**, **A**. & Loutan, L. (2009). Migrant-friendly hospitals: a European initiative in an age of increasing mobility. *World Hospitals and Health services*, Vol. 45 No. 3, pp.10-12
- 2. **Chiarenza, A.** (2012). Developments in the concept of cultural competence. In: Ingleby, D., Chiarenza, A., Devillé, W. and Kotsioni, I. (eds.), *Inequalities in health care for migrants and ethnic minorities*. Antwerp: Garant. pp. 66-81
- 3. Cattacin S., **Chiarenza A.**, Domenig D. (2013) Equity standards for health care organisations: a theoretical framework. *Diversity and Equality in Health and Care* 10(4): 249-258
- 4. Riccardo, F., Dente, M.G., Karki, T., Fabiani, M., Napoli, C., **Chiarenza, A.**, Giorgi Rossi, P., Velasco Munoz, C., Noori, T., Declich, S., Towards a European framework to monitor infectious diseases among migrant populations: design and applicability. *Int. J. Environ. Res. Public Health.* 2015, 12, 11640-11661; doi:10.3390/ijerph 120911640
- 5. Giorgi Rossi, P., Riccardo, F., Pezzarossi, A., Ballotari, P., Dente, M.G., M., Napoli, C., Chiarenza, A., Velasco Munoz, C., Noori, T., Declich, S. Factors Influencing the Accuracy of

Infectious Disease Reporting in Migrants: A Scoping Review. International *Journal of Environmental Research and Public Health* 14(7):720 · July 2017. DOI: 10.3390/ijerph14070720

## **Sanghyun Cho**

MD, Graduate student Seoul National University College of Medicine Seoul, Korea

## **Biography**

Dr. Cho received his doctor of medicine (MD) degree by Han-yang University medical school. He is currently studying as a graduate student in Seoul National University, College of medicine and being trained in a preventive medicine residency program. He also works as a research assistant in Korean Health Atlas Project.

Dan Culica, MD, PhD Senior Research Specialist Health and Human Services Texas State Government Austin, TX, USA

## **Biography**

Extensive expertise in medical care organization with consistent history of contribution to health care reform on international, national and state level. Recognized for leading quality improvement efforts through the development of transformation programs rooted in outcome measures for healthcare interventions. Currently, involved in the coordination of statewide value-based payment reform, evaluation of quality improvement interventions by Medicaid Managed Care Organizations and hospital avoidable readmissions and complications program. Recent major role in the design and implementation of the Delivery System Reform Incentive Payment program. Proficient at coordinating healthcare interventions, long-range planning, survey and certification, program evaluation, and research in the areas of population with high needs, chronic disease management, HIV/AIDS, cardiovascular surgery, trauma care organization, emergency room utilization and health system governance. Excel at planning, implementing, and evaluating interventions based on clinical evidence and data analysis to maximize healthcare effectiveness, efficiency and quality in healthcare settings. Knowledgeable in current and emerging hospital and outpatient healthcare industry trends. Previous experience as a surgeon. Published more than 30 peer-reviewed articles and made over 30 presentations at diverse forums.

- 1. Prezio EA, Pagan JA, Shuval K, **Culica D**. Long-term health outcomes and cost-effectiveness of the Community Diabetes Education (CoDE) program: a Simulated Controlled Trial. American Journal of Preventive Medicine 47(6):771-779, November 2014.
- Todd M. Dewey, David L. Brown, Morley A. Herbert, **Dan Culica**, Craig R. Smith, Martin B. Leon, Lars G. Svensson, Murat Tuzcu, John G. Webb, Alain Cribier, Michael J. Mack. Effect of Concomitant Coronary Artery Disease on Procedural and Late Outcomes of Transcatheter Aortic Valve Implantation. Annals of Thoracic Surgery. Ann Thorac Surg. 2010 Mar;89(3):758-67.
- 3. **Culica D**, Walton J, Harker K, Prezio EA. Evidence for Community Health Worker effectiveness to act as the sole diabetes educator: a feasibility study. Journal of Health Care for the Poor and Underserved. 2008(19):1076–1095.
- 4. **Culica D**, Aday LA, Rohrer JE. Regionalized trauma care system in Texas: Implications for redesigning trauma systems. Med Sci Monit, 2007;13(5): SR1-10.

5.	<b>Culica D</b> , Rohrer JE, Ward MJ, Hilsenrath P, Pomrehn P. Medical Check-Ups: Who Does Not Get Them? AJPH January 2002, 92(1):88-92.

## **Cecilie Daugaard**

Master's Degree Candidate Aarhus University Aarhus, Denmark

## Biography

Cecilie Daugaard is a medical student at Aarhus University, Denmark. In February 2017, Cecilie initiated a research year project to study unwarranted socioeconomic variation in access to palliative care. The register-based study is conducted at Department of Clinical Epidemiology, Aarhus University Hospital in collaboration with The Palliative Team, Department of Oncology, Aarhus University Hospital.

### **Marina Davoli**

MD, MSc Department of Epidemiology, Lazio Regional Health Service, ASL Roma 1 Rome, Italy

### **Biography**

I have been working in the field of epidemiology since 1990 and, most recently have developed a specific experience in conduction of epidemiological studies on Outcome Evaluation of health care interventions and conduction of systematic reviews. I am responsible of the methodological development of the National Outcome Evaluation Program on behalf of the Italian National Agency for Regional Health Service. I am the head of the Department of Epidemiology of the Lazio Region. Our mission is to provide public health policy makers with state-of-the-art scientific evidence on effectiveness and equity of health care. We have been working in variation of access to health care across population and providers. We are recently working on impact of policy actions to reduce variation and expanding the area of interest from hospital care to community care.

- Cacciani L, Agabiti N, Bargagli AM, Davoli M. Access to percutaneous transluminal coronary angioplasty and 30-day mortality in patients with incident STEMI: Differentials by educational level and gender over 11 years. PLoS One. 2017 Apr 6;12(4):e0175038. doi: 10.1371/journal.pone.0175038. eCollection 2017. PMID: 28384181 [PubMed - in process] Free Article
- 2. Parmelli E, Amato L, Oxman AD, Alonso-Coello P, Brunetti M, Moberg J, Nonino F, Pregno S, Saitto C, Schünemann HJ, **Davoli M**; GRADE Working Group. *GRADE Evidence to Decision (EtD) framework for coverage decisions*. Int J Technol Assess Health Care. 2017 Jun 28:1-7. doi: 10.1017/S0266462317000447. PMID: 28655365
- 3. Di Martino M, Ventura M, Cappai G, Lallo A, **Davoli M**, Agabiti N, Fusco D. *Adherence to Long-Acting Bronchodilators After Discharge for COPD: How Much of the Geographic Variation is Attributable to the Hospital of Discharge and How Much to the Primary Care Providers?* COPD. 2016 Jul 15:1-9. PMID: 27419396
- 4. Di Martino M, Alagna M, Cappai G, Mataloni F, Lallo A, Perucci CA, **Davoli M**, Fusco D. Adherence to evidence-based drug therapies after myocardial infarction: is geographic variation related to hospital of discharge or primary care providers? A cross-classified multilevel design. BMJ Open. 2016 Apr 4;6(4):e010926. doi: 10.1136/bmjopen-2015-010926. PMID: 27044584

5.	Colais P, Di Martino M, Fusco D, Perucci CA, <b>Davoli M</b> . <i>The effect of early surgery after hip fracture on 1-year mortality</i> . BMC Geriatr. 2015 Oct 28;15:141. PMID: 26510919

## Pauline Dawson MMid, RM

Professional Practice Fellow/PhD Candidate University of Otago Dunedin, New Zealand

## Biography

Pauline Dawson is a professional practice fellow with the Department of Women's and Children's Health, University of Otago. Pauline's research objective is to improve care and outcomes in women's health, focusing on maternity services. Her Master's thesis "Travel Patterns of Women Giving Birth in the Southern District Health Board" concentrated on geographic access, service distribution and birthplace choice and she has now begun her PhD thesis, "Barriers to equitable access to maternity services in Aotearoa New Zealand". Pauline continues to work clinically and is active in teaching in women's health and interdisciplinary education. Pauline is also a representative on the national Maternal Morbidity Working Group with Health Quality and Safety Commission and acts as a clinical consultant in national maternity guideline development.

#### Mirko Di Martino

PhD in Statistical Methodology for Scientific Research and Medical Statistics Master in Biostatistics and University Degree in Statistics, Demography and Social Sciences University of Bologna, Department of Epidemiology, Lazio Regional Health Service Rome, Italy

## **Biography**

Dr. Mirko Di Martino is senior biostatistician in the Health Services Epidemiology Unit, Department of Epidemiology at the Lazio Regional Health Service in Rome, Italy. From 2007 to 2010, he held a senior statistician position at the Regional Service for Strategic Statistical Control in the Emilia-Romagna Region of Bologna. In 2008, he completed a Ph.D. program in Statistical methodology for scientific research and Medical statistic at the University of Bologna. Dr. Di Martino is the Principal Investigator of a multicenter, national research on medication adherence, funded by the Italian Ministry of health.

- 1. **Di Martino M**, Ventura M, Cappai G, et al. Adherence to Long-acting bronchodilators after discharge for COPD: how much of the geographic variation is attributable to the hospital of discharge and how much to the primary care providers? COPD 2016: 1-9.
- 2. **Di Martino M**, Alagna M, Cappai G, et al. Adherence to evidence-based drug therapies after myocardial infarction: is geographic variation related to hospital of discharge or primary care providers? A cross-classified multilevel design. BMJ Open 2016; 6(4):e010926.
- 3. **Di Martino M**, Agabiti N, Cascini S, et al. The Effect on Total Mortality of Adding Inhaled Corticosteroids to Long-Acting Bronchodilators for COPD: A Real Practice Analysis in Italy. COPD 2016; 13(3): 293-302.
- 4. **Di Martino M**, Kirchmayer U, Agabiti N, et al. The impact of time-window bias on the assessment of the long-term effect of medication adherence: the case of secondary prevention after myocardial infarction. BMJ Open, 2015; 5(6): e007866.
- 5. **Di Martino M**, Fusco D, Colais P, et al. Differential misclassification of confounders in comparative evaluation of hospital care quality: caesarean sections in Italy. BMC Public Health, 2014; vol. 14, ISSN: 1471-2458.

## **Julie Doherty**

Research Project Coordinator The Dartmouth Institute for Health Policy and Clinical Practice Lebanon, NH, United States

## Biography

Julie Doherty is a Research Project Coordinator at The Dartmouth Institute for Health Policy & Clinical Practice in Lebanon, New Hampshire, USA. She has worked with Dr. David Goodman at Dartmouth College since 2012. In her current role, Julie helps to coordinate several research projects and organizes the Wennberg International Collaborative. In 2017, Julie graduated with a Master of Art in Creative Writing from Dartmouth College.

### Francesca Ferrè

Post Doc Scuola Superiore Sant'anna Di Pisa, Institute of Management Pisa, Italy

## **Biography**

Francesca Ferrè, PhD is a post-doc fellow at the Health and Management Laboratory, Institute of Management - Sant'Anna School of Advanced Studies in Pisa (SSSA). She holds a PhD in Public Management from the University of Parma and a Master of Public Administration from the State University of New York (SUNY), Albany and a Master in Research Science from ESADE Business School, Spain. Her current research focuses on performance management systems in healthcare organizations and the development and evaluation of outcome measures in cancer care. Before joining the SSSA in March 2016, Francesca was Market Access and Health Economics Senior Consultant at IMSQuintiles Italy. From 2010 to 2014 she was a Research Fellow at CERGAS Bocconi University where she conducted research in the field of healthcare policy and economic evaluations. She has published on these topics in Italian and English. She has been involved in several European-wide projects (e.g. EC FP-7 Coordinating for Cohesion for the Public Sector of the Future - COCOPS Project; EC FP-7 Methods for Health Technology Assessment of Medical Devices: a European Perspective - MEDTECHTA Project). She collaborated with the European Observatory on Health Systems and Policies in the monitoring and study of health systems reforms.

- 1. Vainieri M., **Ferrè F**., Giacomelli G. e Nuti S. (2017), "Explaining performance in healthcare: how and when top management competencies make the difference", Healthcare Management Review, in print (doi: 10.1097/HMR.000000000000164)
- 2. Frusca T., Gervasi M.T., Paolini D., Dionisi M., **Ferrè F**. e Cetin I. (2017), "Budget impact analysis of sFlt-1/PIGF ratio as prediction test in Italian women with suspected preeclampsia", The Journal of Maternal-Fetal & Neonatal Medicine, 1-7
- 3. Ongaro E., **Ferrè F.**, Galli D. e Longo F. (2016), "Italy: set along a Neo-Weberian trajectory of administrative reform?", (pg.185-293) in Public Administration Reforms in Europe. The view from the top, edited by Gerhard Hammerschmid, Steven Van de Walle, Rhys Andrews, and Philippe Bezes, Edward Elgar Publishing. ISBN 9781783475391
- 4. Ongaro E., **Ferré F**. and Fattore G. (2015), "The fiscal crisis in the health sector: patterns of cutback management across Europe", Health Policy, 119(7): 954-963
- 5. **Ferré F.**, De Belvis A.G., Valerio L., Longhi S., Fattore G., Ricciardi W. and Maresso A. (2014), Italy: Health System Review, Health Systems in Transition, 2014, 16(4): 1–168

### Silvia Forni

Regional Health Agency of Tuscany Florence, Italy

## **Biography**

Silvia Forni graduated in Statistics at the Università di Padova in 1997 and earned the Health Statistics Degree from the Università degli Studi di Milano in 2005, defending a thesis on the Evaluation of quality of cardiosurgical services: outcome measures, risk adjustment, Euro SCORE. Since January 2009 she is with Regional Health Agency of Tuscany (Italy) as Researcher in collection, analysis, elaboration and interpretation of data concerning epidemiology and healthcare service quality. In particular she is the head of the Quality Evaluation Unit (since 2011), as well as the head of the Program on outcome evaluation of in Tuscany Region. She is the Scientific Coordinator of various projects concerning antibiotic resistance and antibiotic use surveillance. She is the chairperson of the Microbiological surveillance and monitoring Network in Tuscany (SMART). Her activity is mainly focused on quality assessment and the development of assistance monitoring programs, including end-of-life care. This entails data quality assessment, clinical audit support, performance indicators design and proposal. Other activities concern the evaluation of the impact of organizational changes on healthcare service deployment.

- 1. Albolino S, Tartaglia R, Bellandi T, Bianchini E, Fabbro G, **Forni S**, Cernuschi G, Biggeri A. *Variability of adverse events in the public health-care service of the Tuscany region*. Intern Emerg Med. 2017 Jun 23. doi: 10.1007/s11739-017-1698-5.
- 2. Bellandi T, Tartaglia R, **Forni S**, D'Arienzo S, Tulli G, *Adverse events in cardiac surgery, a mixed methods retrospective study in an Italian teaching hospital* Journal of Evaluation in Clinical Practice 28 marzo 2017. doi:10.1111/jep.12727.
- 3. Messina G, **Forni S**, Rosadini D, Falcone M, Collini F, Nante N. *Risk adjusted mortality after hip replacement surgery: a retrospective study.* Ann lst Super Sanità. 2017 Jan-Mar;53(1):40-45.
- 4. **Forni S**, Pieralli F, Sergi A, Lorini C, Bonaccorsi G, Vannucci A, *Mortality after hip fracture in the elderly: The role of a multidisciplinary approach and time to surgery in a retrospective observational study on 23,973 patients*, Archives of Gerontology and Geriatrics, Volume 66, September–October 2016, Pages 13-17
- 5. Messina G, **Forni S**, Collini F, Galdo A, Di Fabrizio V, Nante N, *Short-term adjusted outcomes* for heart failure Heart Int 2015; 10(1): e1 e5

#### **Catherine Gerard**

Health Quality & Safety Commission Wellington, New Zealand

## **Biography**

Catherine Gerard is the evaluation manager for the health quality and evaluation team. Her responsibilities include the *New Zealand Atlas of Healthcare Variation* and the primary care patient experience survey. Catherine's background includes clinical research, and design and implementation of a clinical research programme. Her previous role centered on the implementation of clinical guidelines, working across the health sector to deliver supports and systems for the translation of guidance into everyday clinical practice.

- 1. Dalbeth N, **Gerard C**, Gow P, Jackson G, Shuker C, Te Karu L, Winnard D. Gout in Aotearoa New Zealand: are we going to ignore this for another 3 years? N Z Med J. 2016 Jan 29; 129 (1429):
- 2. Hamblin R, Bohm G, **Gerard C**, Shuker C, Wilson J, Merry AF. The measurement of New Zealand health care. N Z Med J. 2015 May 1;128(1413):50-64.
- 3. Jackson G, Dalbeth N, Te Karu L, Winnard D, Gow P, **Gerard C**, Minko N. Variation in gout care in Aotearoa New Zealand: a national analysis of quality markers. N Z Med J. 2014 Oct 17;127(1404):37-47.
- 4. Jackson G, **Gerard C**, Minko N, Parsotam N. Variation in benzodiazepine and antipsychotic use in people aged 65 years and over in New Zealand. N Z Med J. 2014 Jun 20;127(1396):67-78.
- 5. Davis A, Davis K, **Gerard C**, Goyal S, Jackson G, James C, Loe E, Nicolls B, O'Rourke MA, Shuker C, Te Karu L. Opioid rain: opioid prescribing is growing and practice is diverging. N Z Med J. 2016 Aug 19: 129(1440).

### David Goodman, MD MS

Professor of Pediatrics and Co-Founder of the Wennberg International Collaborative The Dartmouth Institute for Health Policy and Clinical Practice Hanover, NH, United States

## Biography

David C. Goodman is Professor of Pediatrics and of Health Policy at The Dartmouth Institute for Health Policy and Clinical Practice; and Co-Principal Investigator, *Dartmouth Atlas of Health Care*. He is also an Adjunct Professor at the Institute for Social and Preventive Medicine at the Univ. of Bern. Dr. Goodman has a longstanding research interest in the causes and consequences of health care variation. Currently, his research team is investigating under and overuse in neonatal intensive care.

Dr. Goodman is one of the founding investigators of the *Dartmouth Atlas of Health Care* and has led multiple Atlas projects on such diverse topics as end-of-life cancer care, post hospital discharge care, and care for infants and children. Dr. Goodman has served on multiple journal editorial boards, and on Federal and Institute of Medicine committees. His research papers and editorials have been published in the *New England Journal of Medicine, JAMA, Health Affairs, Pediatrics*, and *The New York Times*.

Dr. Goodman received his medical degree from the State University of New York Upstate Medical Center and his master's degree in medical care epidemiology from Dartmouth College. He served his residency in pediatrics at The Johns Hopkins Hospital and received specialty training in Allergy and Clinical Immunology at Dartmouth.

- 1. Parker DM, Schang L, Wasserman JR, Viles WD, Bevan G, **Goodman DC**. <u>Variation in utilization and need for tympanostomy tubes across England and New England</u>. *J Pediatrics, in print*.
- 2. Staiger DO, Marshall SM, **Goodman DC**, Auerbach DI, Buerhaus PI. <u>Association Between Having a Highly Educated Spouse and Physician Practice in Rural Underserved Areas</u>. *JAMA*. 2016 Mar 1;315(9):939-41. doi: 10.1001/jama.2015.16972.
- 3. Chang CH, Malley AJ, **Goodman DC**. <u>Association between Temporal Changes in Primary Care Workforce and Patient Outcomes</u>. *Health Serv Res*. 2016 Jun 3. doi: 10.1111/1475-6773.12513.
- 4. Harrison W, **Goodman DC**. <u>Epidemiologic Trends in Neonatal Intensive Care: 2007-2012</u>, *JAMA Pediatr.* doi:10.1001/jamapediatrics.2015.1305 Published online July 27, 2015.
- 5. Ralston SL, Harrison W, Wasserman J, **Goodman DC**. <u>Hospital Variation in Health Care</u> Utilization by Children With Medical Complexity. *Pediatrics*. 2015;136(5):860-867.

## Dr. Roberto Grilli, MD

Director, Clinical Governance Program, Local Health Authority of Reggio Emilia Reggio Emilia, Italy

## **Biography**

Roberto Grilli MD, epidemiologist and health services researcher, is currently Director of the Clinical Governance Program at the Local Health Authority of Reggio Emilia (Italy), the organisation responsible for the provision of care to the 500,000 residents in the province. His role includes the development of initiatives aimed at assessing and improving quality and safety of health care, as well as the design and conduct of research projects on issues relevant to the strategic development of health services. From 2006 to 2015 Dr Grilli was Director of the Regional Agency for Health and Social Care of Emilia-Romagna.

He has been working extensively in the areas of health technology assessment, quality of care evaluation, development and implementation of practice guidelines, systematic reviews of scientific lieterature, governance of healthcare organisations. He has been involved in several national and international projects. He is author or co-author of 229 publications, including 24 books or book chapters.

## **Jostein Grytten**

Professor Department of Community Dentistry Oslo, Norway

## **Biography**

Jostein Grytten has worked with research questions related to funding and distribution of health services. The main focus has been on how competition, incentives and different types of contract influence the availability, quality, cost and effectiveness of health services. A specific research question has been how physicians and dentists should be remunerated in order to ensure that they do not provide either too little or too much treatment.

- 1. **Grytten J**, Skau I, Sørensen R. Do mothers decide? The impact of preferences in health care. Journal of Human Resources 2013; 48:142-168.
- 2. **Grytten J**, Monkerud L, Sørensen R. Adoption of diagnostic technology and variation in Caesarean section rates: a test of the practice style hypothesis in Norway. Health Services Research 2012; 47: 2169-2189.
- 3. **Grytten J**, Skau I, Sørensen R. Do expert patients get better treatment than others? Agency discrimination and statistical discrimination in obstertrics. Journal of Health Economics 2011; 30: 163-80.
- 4. **Grytten J**, Monkerud L, Skau I, Sørensen R. Regionalization and local hospital closure in Norwegian maternity care the effect on neonatal and infant mortality. Health Services Research 2014; 49: 1184-1204.
- 5. **Grytten J**, Monkerud L, Skau I, Eskild A, Sørensen R, Saugstad OD. Saving newborn babies the benefits of interventions in neonatal care in Norway over more than 40 years. Health Economics 2016; DOI: 10.1002/hec.3314

## **Dougal Hargreaves**

Clinical Senior Research Fellow/Consultant Paediatrician UCL Institute of Child Health London, UK

## **Biography**

Dougal Hargreaves is an Honorary Consultant Paediatrician at University College London Hospital and a Health Foundation Improvement Science Fellow at the UCL Institute of Child Health. His main research interests are in defining, monitoring and improving the quality of healthcare for children and young people (CYP) (0-24 years). His current work encompasses projects investigating geographical variation in health outcomes, health inequalities, CYP and family perspectives on quality, new models of care delivery for CYP, and the link between care quality and health outcomes.

Since qualifying from Cambridge University in 1999, he has worked in a wide range of clinical roles, including international work in Turkmenistan, Pakistan and Bosnia. He holds a MD(Res) in Adolescent Health Services from University College London and also has postgraduate qualifications in public health and health economics. From 2009-11, he worked as a Clinical Advisor at the English Department of Health, leading a national project to develop national quality standards for adolescent care within the NHS. More recently, he was awarded a Harkness Fellowship at Harvard Medical School, where he studied healthcare policies affecting adolescents and young adults.

- 1. Yassaee AA, **Hargreaves DS**, Chester K, Lamb S, Hagell A, Brooks FM. Experience of primary care services among early adolescents in England and association with health outcomes. *J Adolesc Health*. 2017 Apr;60(4):388-394.
- 2. **Hargreaves DS**, Elliott MN, Viner RM, Richmond TK, Schuster MA. Unmet Healthcare Need in US Adolescents and Adult Health Outcomes. *Pediatrics*. 2015 Sep;136(3):513-20
- 3. **Hargreaves DS**, Greaves FE, Levay CE et al. Comparison of healthcare experience and access between young and older adults in 11 high-income countries. *J Adolesc Health*. 2015 Oct;57(4):413-20
- 4. Viner RM, **Hargreaves DS**, Coffey C, Patton GC, Wolfe I. Deaths in young people aged 0-24 years in the UK compared with the EU15+ countries, 1970-2008: analysis of the WHO Mortality Database. *Lancet*. 2014 Sept 6;384(9946):880-892
- 5. **Hargreaves DS**, McDonagh JE, Viner RM. Validation of You're Welcome quality criteria for adolescent health services using data from national inpatient surveys in England. *J Adolesc Health*. 2013 Jan;52(1):50-57.

#### Ilir Hoxha

Project Advisor, Kosana Program, Solidar Suisse Prishtina Kosovo

## **Biography**

Ilir Hoxha is Medical Doctor, researcher and consultant from Kosovo. His professional and academic interests lie in: medical practice variation and health services research; health economics and financing; and, regulation of health care service delivery - in particular related to mother and child health.

He holds a MD degree from University of Prishtina, Master of Science degree in Health Systems Management from London School of Hygiene and Tropical Medicine and has completed residency program in Public Health at National Institute for Public Health of Kosovo. In addition, he has a record of research/academic training at Dartmouth Medical School, Karl Franzens University, Graz, Austria, and New Bulgarian University. In 2009 he was awarded Fulbright Research Fellowship at The Dartmouth Institute for Health Policy and Clinical Practice. From 2012 to 2017 he completed PhD studies (with honors insigni cum laude) at Institute for Social and Preventive Medicine at University of Bern and was a member of health services research group.

During the course of professional involvement he has performed work for The World Bank, UNICEF, UNFPA, USAID, in Kosovo. He has also been part of civil society initiatives with Action for Mother and Children, Institute for Advanced Studies GAP, Balkan Investigative and Reporting Network, Foundation Kosovo Luxembourg, Prishtina Institute for Political Studies and Center for Advanced Studies.

Between years 2010 to 2014 he has served as external adviser, in matters related to implementation of health insurance reform, for two Ministers of Health of Republic of Kosovo, Dr. Bujar Bukoshi, and Dr. Ferid Agani. As of 2011 he works for SOLIDAR Suisse as project adviser in the Kosana project that facilitates policy processes related to implementation of national health insurance scheme.

- 1. **Hoxha** I, Syrogiannouli L, Braha M, Goodman DC, da Costa BR, Jüni P. Caesarean Sections and Private Health Insurance: Systematic Review and Meta-analysis. Accepted for publication at BMJ Open.
- 2. **Hoxha** I, Syrogiannouli L, Luta X, et al. Caesarean sections and for-profit status of hospitals: systematic review and metaanalysis. BMJ Open 2017;7: e013670. doi:10.1136/bmjopen-2016-013670

- 3. **Hoxha I,** Busato A, Luta XH, "Medical Practice Variations in Reproductive, Obstetric, and Gynaecological Care" in Medical Practice Variations Volume, Health Services Research Series. Springer, 2015.
- 4. Stanculescu MS, Neculau G, Atanasov P, Benkovic V, Bjelovic M, Goldstein J, **Hoxha I,** Ljaljevic A, Mitevska L, Stikova E, The Performance of Public Health-care Systems in South-East Europe A comparative qualitative study. Friedrich Ebert Stiftung, 2014.

**Erica Ison,** Ms Better Value Healthcare Oxford, United Kingdom

## **Biography**

Erica has worked across the spectrum in the health sector for the last 25 years from acute care to public health. She now specialises in public health, but looks at the public health aspects of healthcare as well as the protection and promotion of health for communities and populations. She has acted as the Editor/Production Editor for the English NHS Atlases of Variation in Healthcare, having been responsible for 3 compendium atlases and 8 specialist atlases (including 2 editions of the Diagnostic Services Alas and 2 editions of the Liver Disease Atlas). Erica also worked with Public Health England's Global Burden of Disease Team for over 2 years.

Erica's particular specialties include health and related forms of impact assessment, health in all policies (HiAP), and community consultation. Erica has been an Expert Adviser to various parts of the World Health Organization (WHO) since 2003, her roles including tool development, evaluation, and training and skills development. She was made an honorary member of the Faculty of Public Health in 2005.

- 1. **Ison E**. (2002) Rapid Appraisal Tool for Health Impact Assessment. A task-based approach. Eleventh iteration. Available at: http://www.apho.org.uk/resource/item.aspx?RID=44890
- 2. Mindell J, **Ison E**, Joffe M. (2003) A glossary for health impact assessment. *J Epidemiol Community Health* 57;647-651. doi:10.1136/jech.57.9.647 Available at: http://eprints.ucl.ac.uk/889/1/647.pdf
- 3. **Ison E**. (2004) Rapid appraisal techniques. In Kemm J, Parry J and Palmer S (eds) *Health impact assessment*. Oxford University Press.
- 4. **Ison E.** (2009) The introduction of health impact assessment in the WHO European Healthy Cities Network. *Health Promot Int* 24 (suppl 1): i64-i71. doi:10.1093/heapro/dap056 Available at: <a href="http://heapro.oxfordjournals.org/content/24/suppl 1/i64.full?sid=d9e7acd8-89fb-41ad-8813-fa3a6d453927">http://heapro.oxfordjournals.org/content/24/suppl 1/i64.full?sid=d9e7acd8-89fb-41ad-8813-fa3a6d453927</a>
- 5. **Ison E** (2013) Health impact assessment in a network of European cities. *J Urban Health* 90 (Suppl 1); 105-115. Available at: <a href="https://link.springer.com/article/10.1007/s11524-011-9644-8">https://link.springer.com/article/10.1007/s11524-011-9644-8</a>

#### **Skirmante Jureviciute**

Master of Public Health Lithuanian University of Health Sciences (LUHS), Department of Health Management Kaunas, Lithuania

## Biography

Skirmante Jureviciute is a part-time assistant lecturer of social medicine at LUHS Department of Health Management, focusing her interest on regional inequalities of hospital admissions and their association to structural changes of healthcare institutions and services in Lithuania. She has also worked as a supervisor of several final master theses on healthcare management. Along to academic activity, S. Jureviciute has former practical experience in hospital management and administration.

- 1. **Jureviciute Skirmante**, Kalediene Ramune. Regional inequalities of hospital morbidity and associations to mortality in Lithuania. Medicina; 51(5), 2015.
- 2. **Jureviciute Skirmante**, Kalediene Ramune. Regional inequalities of avoidable hospitalization in Lithuania, 2005–2011. European journal of public health: 8th European Public Health Conference: 14-17 October 2015, Milan, Italy: abstracts and posters; 25(3), 2015.
- 3. **Jureviciute Skirmante**, Kalediene Ramune. Regional inequalities of avoidable hospitalisation in Lithuania. Sveikatos politika ir valdymas: mokslo darbai = Health policy and management: research papers; 1(9), 2016.

### Søren Paaske Johnsen

Research Consultant, Associate Professor of Clinical Epidemiology Department of Clinical Epidemiology Aarhus University Hospital Science Center Skejby Aarhus N, Denmark

## **Biography**

Søren Paaske Johnsen is research consultant and associate professor in clinical epidemiology at Aarhus University Hospital and Aarhus University, Denmark. Dr. Johnsen's primary field of interest is quality of clinical care including use of evidence-based care, effectiveness and safety of recommended clinical interventions and evaluation of quality improvement strategies. The activities are primarily focused on scientific use of clinical quality databases and administrative registers.Dr. Johnsen received his medical degree and PhD degree in epidemiology from Aarhus University. He has worked with clinical quality databases since the late 1990's and was for ten years head of Center for Clinical Databases at Department of Clinical Epidemiology, Aarhus University Hospital. This center is one of three national Danish centers supporting clinical databases with expertise in clinical epidemiology and biostatistics. He currently leads a research group working with quality of care at Aarhus University Hospital and Aarhus University.

- 1. Tøttenborg SS, Thomsen RW, **Johnsen SP**, Nielsen H, Lange P. Determinants of smoking cessation in COPD patients treated in the outpatient setting. Chest 2016: S0012-3692: 49107-5.
- 2. Jørgensen M, Mainz J, **Johnsen SP**. Admission Volume and Quality of Mental Health Care Among Danish Patients With Recently Diagnosed Schizophrenia. Psychiatr Serv 2016;67:536-42.
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- 4. Videbæk J, Laursen HB, Olsen M, Høfsten DE, **Johnsen SP**. Long-Term Nationwide Follow-Up Study of Simple Congenital Heart Disease Diagnosed in Otherwise Healthy Children. Circulation 2016;133:474-83.
- 5. Vestergaard AH, Christiansen CF, Nielsen H, Christensen S, **Johnsen SP**. Geographical variation in use of intensive care: a nationwide study. Intensive Care Med 2015;41:1895-902.

## Marco Kaufmann, M.Sc.

Epidemiology, Biostatistics and Prevention Institute (EBPI); University of Zurich Zurich, Switzerland

## Biography

Marco Kaufmann M.Sc., joined the Epidemiology department of the EPBI in Mai 2017 as a Ph.D. candidate under the supervision of PD Dr. Viktor von Wyl. Previously he obtained a bachelor's degree in Biology as well as a master's degree in Biostatistics at the University of Zurich. His research focuses on the incidence and prevalence of multiple sclerosis in Switzerland and is set within the frame of the Swiss Multiple Sclerosis registry (SMSR).

### **Brendon Kearney**

Clinical Professor University of Adelaide Adelaide, Australia

## Biography

Professor Kearney presently works as a Clinical Professor in the Faculty of Medicine, University of Adelaide, practicing as a Consultant in the Haematology Unit of the Royal Adelaide Hospital (RAH) Cancer Service with a private practice based at the Royal Adelaide Hospital. He also has management responsibilities for pathology services at the RAH. He is the Chair of the Population Health Research Network Board.

For 10 years he was Deputy Chairman of the Medical Services Advisory Committee, Australia's Health Technology Assessment Committee for assessment and recommendations on procedures, devices and diagnostics. This involved the establishment of policies and systems for HTA assessment directly linked to reimbursement decisions.

Professor Kearney has chaired numerous committees, including, the Health Prioritizing Advisory Committee on Technology, of which he has chaired since 2003. He has been Chair and Chief Executive Office of the South Australian Health Service, Chief Health Office and Chief Executive of the Royal Adelaide Hospital.

He has been the Director of South Australia's Institute of Medical and Veterinary Science from 1983-2008. He was a member of the Australian Productivity Commission Review that recommended the present Private Health Insurance scheme that has for two decades been a vital part of Australia's health system. He has served on the National Health and Medical Research Council for twelve years. He was awarded the Sidney Sax medal for services to health and an AM for contribution to emergency services and health research.

## **Elaine Kelly**

PhD Institute for Fiscal Studies London, UK

## **Biography**

Elaine Kelly is a Senior Research Economist at the Institute for Fiscal Studies. She has a PhD in Economics from University College London. Her work on the English NHS has focused on patient choice, competition and technological diffusion. Recent cross country projects have examined patterns of individual medical spending, and the share of medical spending accounted for by those at the end of life.

- Eric B. French, Jeremy McCauley, Maria Aragon, Pieter Bakx, Martin Chalkley, Stacey H.
  Chen, Bent J. Christensen, Hongwei Chuang, Aurelie Ct-Sergent, Mariacristina De Nardi,
  Elliott Fan, Damien chevin, Pierre-Yves Geoffard, Christelle Gastaldi-Mnager, Mette Grtz,
  Yoko Ibuka, John B. Jones, Malene Kallestrup-Lamb, Martin Karlsson, Tobias J. Klein,
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  Skinner, Eddy van Doorslaer, and Nicolas R. Ziebarth, and E. Kelly (2017) "End-Of-Life
  Medical Spending In Last Twelve Months Of Life Is Lower Than Previously Reported" Health
  Affairs Volume 36, no. 7. Pages 1211-1217
- 2. **Kelly, E**, G. Stoye and Marcos Vera Hernandez (2017) "Public Hospital Spending in England: Evidence from National Health Service Administrative Records', joint with, Fiscal Studies Volume 37, Issues 3-4, Pages
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- 4. **Kelly**. E and I. Rasul (2014), "Policing cannabis and drug related hospital admissions: Evidence from administrative records", Journal of Public Economics, Volume 112, 2014, Pages 89-114, ISSN 0047-2727, http://dx.doi.org/10.1016/j.jpubeco.2014.01.008.
- 5. **Kelly E.** and G. Stoye (2014) "Does GP Practice Size Matter? GP practice size and primary care" with George Stoye (2014), IFS Report R101

## Agnus M. Kim MD (김민주)

Ph.D. candidate

Department of Health Policy and Management, Seoul National University, College of Medicine Seoul, Korea

## **Biography**

Agnus M. Kim is a Ph.D. candidate in the Department of Health Policy and Management, Seoul National University, College of Medicine. Prior to arriving at SNU, she worked as a physician in geriatric hospitals in rural areas and had a brief experience attending to the homeless. Her research interest is searching for an effective way of shedding light on the underprivileged in society, who have remained unnoticed. She hopes that her studies of geographic variation will contribute to revealing the neediest parts of the health care system.

Dr. Kim received her medical degree from Seoul National University College of Medicine and her master's degree in Health Policy and Management from Seoul National University. She served her residency in preventive medicine at Seoul National University College of Medicine. She lives with her parents, husband, and two children in Seoul, where she serves as a regular instrumentalist in several Roman Catholic churches.

- 1. **Agnus M. Kim**. Why do psychiatric patients in Korea stay longer in hospital? *International Journal of Mental Health Systems*, 2017 Jan. 11(1), 2. doi:10.1186/s13033-016-0110-6
- 2. **Agnus M. Kim,** Jong Heon Park, Sungchan Kang, Yoon Kim, <u>Evaluation of Geographic Indices Describing Health Care Utilization</u>. *J Prev Med Public Health*, 2017 Jan. 50(1), 29-37. doi:https://doi.org/10.3961/jpmph.16.099
- 3. **Agnus M. Kim,** Jong Heon Park, Sungchan Kang, Yoon Kim, <u>The Effect of Geographic Units of Analysis on Measuring Geographic Variation in Medical Services Utilization</u>. *J Prev Med Public Health*, 2017 July. 49(4), 230-239. doi:10.3961/jpmph.16.034

# Hyun Joo Kim

RN, PhD Shinsung University Dangjin, Korea

## **Biography**

Professor Hyun Joo Kim is an Associate Professor in the Department of Nursing Science at Shinsung University. Prior to her current position, Professor Kim worked as Head nurse at Konyang University Hospital (2000-2015). Her research interests include health policy and management, healthcare system, quality of life and primary care. Professor Kim received her MPH and PhD degrees from Konyang University.

- 1. Jeong JY, Lee JY, Chung BS, Choi Y, Alley AB, **Kim HJ**. A new method for estimating the prevalence of clonorchiasis in Korea: A proposal to replace arbitrary riverside sampling. Medicine (Baltimore). 2017 Mar;96(13):e6536.
- 2. Na BJ, Lee JY, **Kim HJ**. Are public health physicians still needed in medically underserved rural areas in Korea?. Medicine. 2017;96(19):e6928.
- 3. Lee K, **Kim HJ**, You M, Lee JS, Eun SJ, Jeong H, Ahn HM, Lee JY. Defining the activities of publicness for Korea's public community hospitals using the Delphi method. Medicine (Baltimore). 2017 Mar;96(11):e6402.
- 4. Lee JY, Ock M, Kim SH, Go DS, **Kim HJ**, Jo MW. Health-Adjusted Life Expectancy (HALE) in Korea: 2005-2011. J Korean Med Sci. 2016 Nov;31 Suppl 2:S139-S145.
- 5. Lee JY, Eun SJ, **Kim HJ**, Jo MW. Finding the Primary Care Providers in the Specialist-Dominant Primary Care Setting of Korea: A Cluster Analysis. PLoS One. 2016;11(8):e0161937. doi: 10.1371/journal.pone.0161937

**Yoon Kim**, MD, Ph.D. Seoul National University College of Medicine Seoul, Korea

### **Biography**

Dr. Yoon Kim is a professor and an associate dean for planning at Seoul National University College of Medicine. He is a principal investigator of Korean Health Atlas Project supported by the Korean National Health Insurance Service. His research interests are geographical variation in medical resources and utilization, primary health care system, and medical informatics. He received his MD and Ph.D. degree from Seoul National University and his M.S. degree of medical informatics from University of Utah.

- 1. Y Kim, JW Oh, A Jha. Contribution of hospital mortality variations to socioeconomic disparities in-hospital mortality. BMJ Quality & Safety 2014 March (17):1-8.
- 2. Kim SY, Park JK, SG Kim, HK Woo, JH Park, **Y Kim**, EC Park. Disparities in utilization of high-volume hospitals for cancer surgery: results of a korean population-based study. Annals of Surgical Oncology 2010 Jun;17(11):2806-2815.
- 3. Kim AM, Park JH, Kang S, Hwang K, Lee T, **Kim Y**. The Effect of Geographic Units of Analysis on Measuring Geographic Variation in Medical Services Utilization. *Journal of Preventive Medicine and Public Health*. 2016;49(4):230-239. doi:10.3961/jpmph.16.034.
- 4.JH Bang, SH Hwang, EJ Lee, **Y Kim**. The predictability of claim-data-based comorbidity-adjusted models could be improved by using medication data. BMC Medical Informatics and Decision Making 2013 Nov;13:128-137.
- 5.JH Lee, JY Jang, BG Shim, ST Kim, JH Kim, HY Kim, SH Song, JA Kim, IS Cho, **Y Kim**. A workflow based clinical decision support system through integration of clinical workflow and knowledge processing. International Journal of Innovative Computing, Information and Control 2012 July;8(7):1-14.

### Pia Kjær Kristensen

PhD, Master of Health Science and registered nurse Department of Clinical Epidemiology, Aarhus University Hospital, Science Center Skejby, Olof Palmes Allé 43, 8200 Aarhus N, Denmark and Department of Orthopedic Surgery, Regional Hospital Horsens, Sundvej 30, 8700 Horsens, Denmark.

### **Biography**

Pia Kjær Kristensen is a post doc at, Aarhus University Hospital and Regional Hospital Horsens, Denmark. Pia Kjær Kristensen primary field of interest is clinical epidemiology including variation in quality of clinical care, the organization of in-hospital care and evaluation of quality improvement strategies among patients with hip fracture.

Pia Kjær Kristensen was trained as an orthopedic nurse in 2004 and has been working as an orthopedic nurse for 10 years. She received her Master of Health Science from Aarhus University in 2013 and her PhD in 2017. The main purpose of her thesis was to identify links in health care quality by examining overall associations between selected aspects of structure of care (orthogeriatric specialization) and process performance measures, mortality, hospital bedday use and hospital costs among patients with hip fracture. She is currently a part of the research group working with quality of care at Aarhus University Hospital and Aarhus University lead by Dr. Johnsen.

- 1. **Kristensen PK**, Thillemann TM, Pedersen AB, Søballe K, Johnsen SP. Socioeconomic inequality in patient outcome among hip fracture patients: A population- based cohort study. Osteoporos Int. 2017 28(4), 1233-124
- 2. **Kristensen PK**, Mor A, Thillemann TM, Johnsen SP, Pedersen AB. Is the higher mortality among men with hip fracture explained by sex-related differences in quality of in-hospital care? A population-based cohort study? Age Ageing. 2016 45(2):193-199\
- 3. **Kristensen PK**, Thillemann TM, Søballe K, Johnsen SP. Are process performance measures associated with clinical outcomes among patients with hip fractures? A population-based cohort study. Int J for Qual Health Care 2016 28(6):698-708
- 4. **Kristensen PK**, Thillemann TM, Søballe K, Johnsen SP. Can improved quality of care explain the success of the orthogeriatric units? A population based study. Age Ageing 2016 45(1):66-71

5.	<b>Kristensen PK</b> , Thillemann TM, Johnsen SP. Is bigger always better? A nationwide study of hip fracture unit volume, 30-day mortality, quality of in-hospital care, and length of hospital stay. <i>Med Care</i> , 2014; 52:1023-1029.			

### Troels Kristensen, Ph.D., MSc

Associate Professor of Health Economics and Health Policy at COHERE, Institute of Public Health(IST) and The Research Unit of General Practice Odense C, Denmark

## **Biography**

Troels Kristensen is an Associate Professor of Health Economics and Health Policy at The University of Southern Denmark, Institute of Public Health. He is also a part of Centre of Health Economics Research (COHERE) embedded in the Department of Business and Economics and the Institute of Public Health. Based on interdisciplinary collaboration between general practitioners, economists and other professionals The Research Unit of General Practice and COHERE has a research interest in the causes and consequences of health care variation.

Dr. Kristensen has a research interest in organization of health care systems and consequences of variation in health care needs and risk adjustment within the case mix field and a specific interest in investigating integrated care, approaches to case mix adjustment and related resource allocation through mixed remunerations systems.

Dr. Kristensen is involved in a range of research projects such as a project on the effect of POCT of HbA1c on variation in hospital activity, measurement of variation in personality characteristics (empathy and medical engagement) among general practitioners and projects related to applications of case mix systems for public health purposes and remuneration of general practitioners. Dr. Kristensen has served as a reviewer on multiple journals and conducted research funded by the Danish Regions and other Danish authorities. His working-papers and research papers as well as policy oriented reports have been published in International Journal such as Health Care Management Science, European Journal of Health Economics, Health Policy and working paper series.

Dr. Kristensen received his economics degree (MSc) from University of Southern Denmark and his PhD degree in Health Economics from University of Southern Denmark. During his PhD he was a visiting researcher at the University of York (CHE) and received a part of his PhD training at the Swiss School of Public Health (SSPH).

- 1. **Kristensen T**, Olsen KR, Schroll H, Thomsen JL, Halling A. Association between fee-for-service expenditures and morbidity burden in primary care. Eur J Health Econ 2013.
- 2. **Kristensen T**, Rose OK, Sortso C, Ejersted C, Thomsen JL, Halling A. Resources allocation and health care needs in diabetes care in Danish GP clinics. Health Policy 2013; 113(1-2):206-

- 3. **Kristensen T**, Laudicella M, Ejersted C, Street A. Cost variation in diabetes care delivered in English hospitals. Diabetes Medicin 2010; 27, 949-957.
- 4. Milton Bache SH, Kristensen T. A simple but efficient approach to the analysis of multilevel data. Health Economic papers 2013:6 University of Southern Denmark, Department of Business and Economics, Faculty of Social science. <a href="http://econpapers.repec.org/paper/hhssduhec/2013\_5f006.htm">http://econpapers.repec.org/paper/hhssduhec/2013\_5f006.htm</a>
- 5. Kristensen T, Halling A. Can case mix-systems be applied in Danish primary care? Working paper. University of Southern Denmark, Department of public health. Report for Region of Zealand. <a href="http://findresearcher.sdu.dk/portal/da/publications/kan-casemixsystemer-anvendes-i-den-danske-primaersektor(fe16907e-aa80-4499-b3f1-799f0125539e).html">http://findresearcher.sdu.dk/portal/da/publications/can-casemixsystems-be-applied-in-danish-primary-care(78d63ee1-ecb3-48ea-ab82-5a44a284dc1a).html</a>

### Tina Lavin

PhD Candidate
University of Western Australia
Perth, Australia

## Biography

Ms Tina Lavin is an early career researcher specializing in maternal, child and perinatal health. Ms Lavin is currently completing a PhD at the Centre for Health Services Research in the School of Public and Global Health at The University of Western Australia (UWA). Her PhD is investigating antepartum and intrapartum stillbirth in South Africa and challenges with detection and management of pregnancies at risk of stillbirth. Ms Lavin, completed her Master of Public Health at UWA under the prestigious Governor Sanderson Scholarship in Public Health (Dr Haruhisa Handa Leadership Scholarship Program) in March 2015, during her MPH she established an on-going collaboration with the Academy of Social Sciences, Vietnam. She was recognized by UWA for her academic excellence in Introductory Analysis of Linked-Health Data. Ms Lavin also has a Master of International Health (with distinction) from Curtin University for her work evaluating the quality of government maternal health services in Bangladesh. A UWA Research Collaboration Award was recently awarded to Ms Lavin as a co-investigator to explore the underlying causes of perinatal mortality in South Africa.

- Lavin T, Pattinson RC. Does antenatal care timing influence stillbirth risk in the third trimester?: a secondary analysis of perinatal death audit data in South Africa. *BJOG 2017*; doi 10.1111/1471-0528.14645
- Lavin T, Preen D, Pattinson R. Timing and cause of perinatal mortality for small-forgestational-age babies in South Africa: critical periods and challenges with detection. *BMC Maternal Health, Neonatology and Perinatology* 2016; 2:11-19. doi 10.1186/s40748-016-0039-4
- 3. **Lavin T**, Preen DB, Newnham EA. Access to Obstetric Care and Children's Health, Growth and Cognitive Development in Vietnam: Evidence from Young Lives. *Maternal Child Health Journal*, 2017.
- 4. Lavin T, Franklin P, D Preen. Association between Caesarean Delivery and Childhood Asthma in India and Vietnam. *Paediatric and Perinatal Epidemiology 2017; 31:*47-54.
- 5. **Lavin T**, Newnham E, & D Preen. Determinants of home, health centre and hospital delivery for vaginal birth in Vietnamese women. *Vietnam Journal of Public Health 2016; 4*(1):16-30.

## Jin Yong Lee

MD, PhD, MHA Seoul National University Boramae Medical Center Seoul, Korea

## **Biography**

Dr Jin Yong Lee is an Associate Professor in the Department of Public Health Medical Service at Boramae Medical Center, Seoul National University College of Medicine. Prior to his current position, Dr Lee worked as an Assistant Professor in the Department of Preventive Medicine at Konyang University College of Medicine (2010-2013). His research interests are healthcare systems, quality of life, and the management of public hospital. In particular, he is trying to find the reasons of malfunction of primary care, excessive competition among healthcare providers, and inefficiency in public hospital. He is also focusing on the health problems of the vulnerable such as the disabled, teenagers, and mothers living in obstetric care underserved area. Dr Lee received his MD degree from Chung-Buk National University and his PhD degree from Seoul National University and his MHA degree from the University of North Carolina at Chapel Hill.

- 1. **Lee JY**, Eun SJ, Kim HJ, Jo MW. Finding the Primary Care Providers in the Specialist-Dominant Primary Care Setting of Korea: A Cluster Analysis. PLoS One. 2016;11(8):e0161937. doi: 10.1371/journal.pone.0161937
- 2. Lee SH, Lee SM, Lim NG, Kim HJ, Bae SH, Ock M, Kim UN, Lee JY, Jo MW. Differences in pregnancy outcomes, prenatal care utilization, and maternal complications between teenagers and adult women in Korea: A nationwide epidemiological study. Medicine (Baltimore) 2016;95(34):e4630. doi: 10.1097/MD.0000000000004630
- 3. **Lee JY**, Jo MW, Yoo WS, Kim HJ, Eun SJ. Evidence of a Broken Healthcare Delivery System in Korea: Unnecessary Hospital Utilization Among Patients with a Single Chronic Disease Without Complications. J Korean Med Sci 2014;29(12):1590-1596. http://dx.doi.org/10.3346/jkms.2014.29.12.1590
- 4. Ock MS, Kim JE, Jo MW, Lee HJ, Kim HJ, **Lee JY**. Perceptions of primary care in Korea: A comparison of patient and physician focus group discussions. BMC Family Practice 2014;15:178. http://www.biomedcentral.com/1471-2296/15/178
- 5. Na BJ, Kim HJ, **Lee JY**. An Early Stage Evaluation of the Supporting Program for Obstetric Care Underserved Areas in Korea. J Korean Med Sci. 2014;29(6):764-770.

### **Linda Leivseth**

PhD

Centre for Clinical Documentation and Evaluation, Northern Norway Regional Health Authority Tromsø, Norway

## Biography

Linda Leivseth is a researcher at Centre for Clinical Documentation and Evaluation. She is currently in charge of the Norwegian Atlas of Variation on Chronic Obstructive Pulmonary Disease, and she is involved in other health services research. In her former job at the Norwegian Patient Registry Dr. Leivseth was in charge of producing national data files on all publicly financed patient activity at public and private somatic specialist health care institutions. Due to the unique personal identification number of every resident in Norway, it is possible to follow every patient over years and between institutions. It is also possible to link health records to other registry data like education, income, family ties and cause of death. Data from the Norwegian Patient Registry is the main source of information for the Norwegian Atlases of Variation in Health Care.

Dr. Leivseth received her physiotherapy degree from Keele University in England and her master's degree in health science and her PhD in community medicine from the Norwegian University of Science and Technology. Both her master and PhD theses are epidemiological studies on chronic obstructive pulmonary disease, and they are based on data from the large population based Nord-Trøndelag Health Study. In addition to her formal degrees, Dr. Leivseth has attended several courses in statistics and epidemiology, health economy and ICD-10.

- 1. Balteskard L, Sellæng WF, Otterdal P, Steindal AH, Bakken T, Førde OH, Olsen F, **Leivseth L**, Uleberg B, Vonen B. *Eldrehelseatlas for Norge (Norwegian Health Atlas of the Elderly)*. Report. June 2017.
- 2. Soriano JB, Lamprecht B, ..., Leivseth L, ..., Sin DD. Mortality prediction in chronic obstructive pulmonary disease comparing the GOLD 2007 and 2011 staging systems: a pooled analysis of individual patient data. *Lancet Respir Med*. 2015;3(6):443-50.
- 3. **Leivseth L.** Chronic obstructive pulmonary disease; lung function, respiratory symptoms, and mortality. The HUNT Lung Study 1995-97. Doctoral thesis. October 2013.
- 4. **Leivseth L**, Brumpton BM, Nilsen TI, Mai XM, Johnsen R, Langhammer A. GOLD classifications and mortality in chronic obstructive pulmonary disease: the HUNT Study, Norway. *Thorax*. 2013;68(10):914-21.
- 1. **Leivseth L**, Nilsen TI, Mai XM, Johnsen R, Langhammer A. Lung function and respiratory symptoms in association with mortality: The HUNT Study. *COPD*. 2014;11(1):59-80.

# **Daniel Adrian Lungu**

PhD Student Scuola Superiore Sant'Anna Pisa, Italy

# Biography

I have obtained my Bachelor's degree in Mechanical Engineering from the University of Florence in 2014 and then in 2016 I have graduated in the MSc in Innovation Management jointly organized by the University of Trento and the Scuola Superiore Sant'Anna, Pisa. Since October 2016 I am enrolled in the international PhD program in Management of Innovation, Sustainability and Healthcare.

# Noémie Malléjac

Research fellow IRDES (Research institute in health economics) Paris, France

## **Biography**

I have just graduated from the APE (*Analyse et Politique Économique*) Master's degree at Paris School of Economics/Paris 1 Panthéon-Sorbonne. During my studies, I worked on several topics. My interests lie on the economics of provision of care for the elderly, and also on the cooperation/competition and service provision of the hospital sector. What definitely drives me to health economics was my internship within Hospinnomics. This is a research chair in health economics, which targets to link scientific production and public decision-making and strengthens cooperation between PSE and the AP-HP (Public Assistance – Paris Hospitals). Along with several researchers and PhD students, I carried out a study on the risks of mortality and morbidity in employment. This year, I have been writing my master thesis under the codirection of Lise Rochaix and Daniel Herrera-Araujo. My paper deals with the empirical estimation of the value of a statistical life (VSL) in France. This project seeks to offer new tools to decision-makers by suggesting a manner to evaluate monetary benefits of a public policy which reduces the risk of mortality.

From July, I worked at IRDES as a research fellow with Zeynep Or. My work aims at assessing the introduction of a coordinated health care circuit in orthopedic surgery. We will also go further and study all occurring costs in order to assess the relevance and feasibility of a bundled payment for total hip and knee replacements.

### Ron McDowell

Postdoctoral Researcher in Biostatistics Royal College of Surgeons in Ireland Dublin, Ireland

# **Biography**

Postdoctoral Researcher in Biostatistics.

# **Selected Publications**

1. **McDowell, R.D.,** Ryan, A., Bunting, B.P., O'Neill, S.M., Alonso, J., Bruffaerts, R., de Graaf, R., Florescu, S., Vilagut, G., de Almeida, J.M.C., de Girolamo, G., Haro, J.M., Hinkov, H., Kovess-Masfety, V., Matschinger, H., Tomov, T. Mood and anxiety disorders across the adult lifespan: a European perspective. Psychological Medicine 2014, 44(4), 707-722

### Mats Nilsson, Ph.D.

Statistician/Epidemiologist at Futurum, Academy for Health and Care Jönköping, Sweden

# **Biography**

Mats Nilsson is a statistician/epidemiologist at Futurum, -Academy for Health and Care Region Jönkōping County Tutor for PhD students, lecturer and researcher in statistics and epidemiology. Mr. Nilsson's main interests are analysis of geographical variation in public health, public health interventions, Patient Reported Measures (PROM and PREM), Quality registers, analysis of ordered categorical data, children's health, odontology, cancer genetics, immune deficiency, and skiing safety. Have experience of working in the public health area and register studies for more than 30 years. Mr. Nilsson is a member of the steering committee for the Swedish quality register PID-Care (Primary Immune Deficiency) and collaborates with the Register Center in South East Sweden (RCSO). Mr. Nilsson is a supervisor in statistics and epidemiology for Ph.D. students in cancer-genetic research, head and neck cancer, cancer radiation therapy, public health, primary immune deficiency, hereditary angioedema, psoriasis, survival after dental implants and children's health. Mr. Nilsson has a B.Sc. in Statistics and Economics, Ph.D. student in Statistics, Master in Public Health and a Ph.D. in medical science from Umeå University, Sweden. He has a wide training in epidemiology, psychometrics and biostatistics, from the Universities in Umeå, Stockholm, and Uppsala.

- 1. Godfrey M.M., Andersson-Gäre B., Nelson E.C., **Nilsson M.** & Ahlstrom G. Coaching Interprofessional Health Care Improvement Teams: The Coachee, The Coach and the Leader Perspectives. 2013, J Nurs Manag. 2014 May;22(4):452-64
- 2. Skogar Ö, **Nilsson M**, Törnhage C-J, Lökk J. National Surveys A Way to Manage Treatment Strategies in Parkinson's Disease? Pharmaceutical prescribing patterns in Parkinson's disease and patients' experiences of symptom control and its impact on disease in two Scandinavian countries. J Multidiscip Healthc. 2013 Jul 3;6:239-47
- 3. Davidson T, Rohlin M, Hultin M, Jemt T, Nilner K, Sunnegårdh-Grönberg K, Tranæus S, **Nilsson M**. Reimbursement systems influence prosthodontic treatment of adult patients. Acta Odontol Scand. 2015 Aug;73(6):414-20.
- 4. Jemt T, Kowar J, **Nilsson M**, Stenport V. Patterns of Mortality in Patients Treated with Dental Implants: A Comparison of Patient Age Groups and Corresponding Reference Populations. Int J Prosthodont. 2015 Nov-Dec;28(6):569-76
- 5. Oliva D, **Nilsson M**, Andersson B-Å, Sharp L, Lewin F. Single nucleotide polymorphisms might influence chemotherapy induced nausea in women with breast cancer. Clinical and Translational Radiation Oncology. Volume 2, February 2017, Pages 1–6

## Guido Noto, Ph.D.

MeS-Lab, Institute of Management, Sant'Anna School of Advanced Studies Pisa, Italy

# Biography

Dr. Guido Noto holds a PhD in Business and Public Management at the University of Palermo and he is currently Post Doc at Institute of Management of Sant'Anna School of Advanced Studies. His research interests are related to Performance Management in the public sector.

- 1. F. Cosenz, **G. Noto** (2016). Applying System Dynamics Modelling to Strategic Management: a literature review. System Research and Behavioral Science, 33(6): 703-741.
- 2. **G. Noto**, L. Noto (2017). Local Strategic Planning and Stakeholder Analysis: suggesting a Dynamic Performance Management approach. Public Organization Review, accepted for publication.
- 3. **G. Noto**, C. Bianchi (2015). Dealing with Multi-Level Governance and Wicked Problems in Urban Transportation Systems: The Case of Palermo Municipality. Systems, 3, 62-80.
- 4. F. Cosenz, **G. Noto** (2014). A Dynamic Simulation Approach to Frame Drivers and Implications of Corruption Practices on Firm Performance. European Management Review, 11(3-4): 239-257.

#### Sabina Nuti

Full Professor Sant'Anna School of Advanced Studies Pisa, Italy

## Biography

Sabina Nuti is full professor of Health Management at Sant'Anna School of Advanced Studies of Pisa, a public university that holds a unique position within the Italian higher education system. She is member of the Expert Panel on Effective Ways of Investing in Health of the European Commission for the triennium 2016-2019.

Prof. Nuti is in charge of the performance evaluation system for the healthcare sector in Tuscany Region and for a network of other twelve Italian Regions. She is a Member of the Scientific Committee of the National Outcome Program at National Agency for Regional Health Services.

She has been a visiting professor at the University of Toronto. She is responsible for European and National research projects regarding healthcare management, performance evaluation and policies, and author of various national and international publications. She has recently been appointed as a member of the Editorial Board of Health, Economics, Policy and Law, of the Cambridge University Press.

- 1. **Nuti S.,** Grillo-Ruggieri T., Podetti S. (2016), Do university hospitals perform better than general hospitals? A comparative analysis among Italian regions, BMJ Open, forthcoming.
- 2. **Nuti, Sabina;** Vola, Federico; Bonini, Anna; Vainieri, Milena (2015), Making governance work in the healthcare sector: evidence from a "natural experiment" in Italy, in Health Economics, Policy And Law, November 2015, pp 1-22
- 3. A.M. Murante; M. Vainieri; D. C. Rojas; **S. Nuti** (2014), Does feedback influence patient professional communication? Empirical evidence from Italy, in Health Policy Volume 116, Issues 2–3, June 2014, pp. 273–280
- 4. **Nuti S**.; Seghieri C. (2014), Is variation management included in regional healthcare governance systems? Some proposals from Italy, Health Policy, pp. 71-78, Vol. 114 n. 1
- 5. Barsanti S.; **Nuti S.** (2013), The equity lens in the Health care performance evaluation system , The International Journal Of Health Planning And Management Volume 29, Issue 3, pp. 233-246, July/September 2014

#### Frank Olsen

Researcher/Ph.D. student, University of Tromsoe Center of Clinical Documentation and Evaluation Tromsoe, Norway

## Biography

Economist. In the period 2010 – 2017, researcher at the Center of Clinical Documentation and Evaluation since. Have participated in the production of the Norwegian National Health Atlases.

- 1. Aahlin, EK, **Olsen,** F, Uleberg, B, Jacobsen, BK, Lassen, K (2016). Major postoperative complications are associated with impaired long-term survival after gastro-esophageal and pancreatic cancer surgery: a complete national cohort study. BMC Surg, 16, 1:32.
- 2. **Olsen, F**, Uleberg, B, Jacobsen, BK, Balteskard, L (2016). Norwegian patients with colon cancer start their adjuvant therapy too late. Tidsskr. Nor. Laegeforen., 136, 1:27-31.
- 3. **Olsen, F,** Abelsen, B, Olsen, JA (2012). Improving response rate and quality of survey data with a scratch lottery ticket incentive. BMC Med Res Methodol, 12:52.
- 4. Aanesen, M, Lotherington, AT, **Olsen, F** (2011). Smarter elder care? A cost-effectiveness analysis of implementing technology in elder care. Health Informatics J, 17, 3:161-72.
- 5. Aanesen, M, Moilanen, M, **Olsen, F** (2010). Economic gains from electronic message exchange: the importance of working procedures. Int J Med Inform, 79, 9:658-67.

Zeynep Or, HDR

Research Director
IRDES, Institute for Research and Information in Health Economics
Paris, France

# Biography

Zeynep Or is an economist and research director at the Institute for Research and Information in Health Economics (IRDES, *Institut de Recherche et Documentation en Economie de la Santé*). She has a PhD and the *tenure* in Economic Analysis from Sorbonne Paris-I University.

She specialises in evaluation of health system performance from an international comparative perspective, including the determinants of health outcomes, analysis of efficiency, equity and health care quality. She has published extensively on the measurement and determinants of variations in health care provision and utilisation, efficiency and quality of hospital services within and across countries, and the interaction between institutional and policy settings and health system performance.

Zeynep has been at IRDES since 2005 and has worked previously as a health economist and consultant for the Organisation for Economic Cooperation and Development (OECD) and the French National Institute of Medical Research (Inserm). She is an active member of several international networks such as European Observatory of Health Systems and Policy Monitor, European Health Policy Group and Health Evidence Network. Since 2013, she is an associate editor of the journal Health Policy.

- 1. Charlesworth A., **Or Z**., Spencelayh E. (2016). Efficiency measurement for policy formation and evaluation. In *Health system efficiency: How to make measurement matter for policy and management*, Cylus J., Papanicolas I. and Smith P.C. (Eds), Health Policy Series ; 46, Copenhague: OMS Bureau régional de l'Europe, Chapter 8, 2016, 167-202.
- 2. **Or Z**., LeBail M. (2015), Pour un atlas des variations de pratiques en France (For an Atlas of medical practice variation in France), *Actualité et Dossier en Santé Publique*, n° 92 septembre 2015, 45-48.
- 3. Lin E, **Or Z**, Codefy M, Urbanoski K, Seitz D, Carlisle C, Szatmari P, Kurdyak P (2015). Medical Practice Variations in Mental Health and Addictions Care. In: Sobolev B, Johnson A, Stukel T (eds). *Medical Practice Variations*. *Health Services Research*. Springer, New York.
- 4. **Or Z**., Verboux D. (2015) Appropriateness of hospital utilisation in France: An analysis of variations in prostatectomy rates (in French), *Revue Economique*, vol.66, 2015

Adrian Pana, MD, MPH
Center for Health Outcomes & Evaluation
Bucharest, Romania

# **Biography**

Adrian Pana, is a 49 years old Romanian, Public Health and Health Management senior consultant physician with a sound academic and professional background in epidemiology, public health, and health economics, policy and management. Currently he is working as a health consultant, being involved in several projects focused on health system governance, innovative ways of financing / costing health services, accountability and transformation, value—based health care services and their outcomes, reshaping & designing new models of delivery of healthcare services, and evidence based policies for assessment of new health technologies.

His professional background consists in over 15 years of working experience for the Romanian Government at the central level also for more than 7 years of work as a consultant in international projects on the health sector. He gained this, by working as a Secretary of State as well as a management executive in several departments for the National Health Insurance House and later on for the National Institute for Health Research and Development, the Ministry of Health, and for the Health Commission at the Romanian Parliament. During this period he had also the opportunity to be part in several projects in collaboration with international organizations (WHO, The World Bank, and the European Commission).

- Global, regional, and national comparative risk assessment of 79 behavioral, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015
- 2. Healthcare Access and Quality Index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990-2015: a novel analysis from the Global Burden of Disease Study 2015.
- 3. Smoking prevalence and attributable disease burden in 195 countries and territories, 1990-2015: a systematic analysis from the Global Burden of Disease Study 2015.
- 4. Socio-economic analysis of burden of premature deliveries in Romania.
- 5. Romanian medicine, European medicine

Milo Puhan, MD PhD
Professor of Epidemiology and Public Health
Director of Epidemiology, Biostatistics & Prevention Institute (EBPI)
University of Zurich
Zurich, Switzerland

## **Biography**

Milo Puhan leads the EBPI of the University of Zurich, which offers a unique combination of academic and public health services. The EBPI carries out or coordinates much of the public health services and campaigns for the largest canton of Switzerland. This public health work is directly informed by the extensive research performed at the institute. The EBPI also trains the next generation of the public health force and researchers through a Master of Public Health, residency and PhD programs. Dr. Puhan has a longstanding interest in prevention of and care for patients with chronic conditions, outcomes of surgery and medical research methods including quantitative methods for benefit harm assessment and evidence synthesis. He is actively engaged in improving health data in Switzerland through improvements of data linkage, data harmonization and closure of data gaps in order to provide an evidence base for health care and public health decisions.

Dr. Puhan serves as president of the National Research Program "Smarter Health Care" of the Swiss National Science Foundation, which promotes health care epidemiology and its research community in Switzerland. He serves on multiple journal editorial boards, and cantonal and federal research and public health committees. His research papers have been published in the Lancet, Annals of Internal Medicine, JAMA, or the BMJ.

Dr. Puhan received his medical degree from the University of Zurich and his PhD in Epidemiology from the University of Amsterdam. He served as associate professor for the Department of Epidemiology of the Johns Hopkins Bloomberg School of Public Health between 2008 and 2012 before he accepted his current role at the University of Zurich in 2013.

- 1. Clavien PA, Vetter D, Staiger RD, Slankamenac K, Mehra T, Graf R, **Puhan MA**. The Comprehensive Complication Index (CCI®): Added Value and Clinical Perspectives 3 Years "Down the Line". Ann Surg. 2017;265(6):1045-1050.
- 2. Yu T, Holbrook JT, Thorne JE, **Puhan MA**. Using a patient-centered approach to benefitharm assessment in treatment decision-making. Pharmacoepidemiol Drug Saf. 2016;25(4):363-71
- 3. Frei A, Siebeling L, Wolters C, Held L, Muggensturm P, Strassmann A, Zoller M, Ter Riet G, **Puhan MA** The Inaccuracy of Patient Recall for COPD Exacerbation Rate Estimation and Its Implications: Results from Central Adjudication. Chest. 2016;150(4):860-868.

- 4. **Puhan MA**, et al. A GRADE Working Group approach for rating the quality of treatment effect estimates from network meta-analysis. BMJ 2014;349:g5630.
- 5. Yu T et al. Benefits and harms of roflumilast in moderate to severe COPD. Thorax. 2014;69(7):616-22.

### **Professor Rosalind Raine**

Professor and Head of the Department of Applied Health Research; Director of NIHR CLAHRC North Thames
UCL (University College London)
London, UK

## **Biography**

Rosalind is Professor and Head of the Department of Applied Health Research at UCL, a public health medicine doctor, Director of NIHR CLAHRC North Thames and Vice Director of the Department of Health Cancer Policy Research Unit (England). She is recognised as a world leading applied researcher with expertise in the evaluation of major health service change, of digital health innovations and of determinants of widespread implementation of evidence based care. She applies diverse techniques from complex data analysis to ethnography to examine the impact of health/public health interventions on health outcomes, health / health care inequalities, health care quality and costs. Rosalind advises on health policy internationally, nationally and regionally; chaired the UK Heads of Academic Departments of Public Health (representing Departments at over 30 universities), sat on the HEFCE Research Excellence Framework Panel (whose recommendations inform the distribution of Government funding to UK universities) and is Clinical Specialty Lead for Health Services Research and for Public Health, NIHR Clinical Research Network (North Thames). She was selected by the British Medical Association as one of 29 national role models in academic medicine and by NIHR as one (of just six) of the countries 'leading edge scientists'. She has also been selected as an NIHR Senior Investigator.

- Wardle J, Von Wagner C, Kralj Hans I, Halloran S, Smith S, McGregor L, Vart G, Howe R, Snowball J, Handley G, Logan R, Rainbow S, Smith S, Thomas M, Counbsell N, Morris S, Duffy S, Hackshaw A, Moss S, Atkin W, RAINE R. Reducing the socioeconomic gradient in uptake of colorectal cancer screening in the English NHS Bowel Cancer Screening Programme: results from four randomised controlled trials with 747,856 participants. *Lancet* 2016 <a href="http://dx.doi.org/10.1016/S0140-6736(15)01154-X">http://dx.doi.org/10.1016/S0140-6736(15)01154-X</a>
- 2. Bajekal, M., Scholes, S., Love, H., Hawkins, N., O'Flaherty, M., RAINE, R, Capewell, S. Analysing recent socioeconomic trends in coronary heart disease mortality in England, 2000-2007: a population modelling study. *PLoS Med* 2012, 9(6): e1001237. doi:10.1371/journal.pmed.100123
- 3. **Raine R**, Fitzpatrick R (editors). Challenges, solutions, and future directions in the evaluation of service innovations in health care and public health. *Health Serv Deliv Res* 2016; 2016;4(16) DOI: http://dx.doi.org/10.3310/hsdr04160
- 4. McBride D, Hardoon S, Walters K, Gilmore S, **RAINE R**. Explaining variation in referral from primary to secondary care- a cohort study. *BMJ* 2010; 341:c6267 doi: 10.1136/bmj.c6267

5. **RAINE R,** Scholes S, Wong W, Ashton C, Obichere A, Ambler G. Social variations in access to hospital care for patients with colorectal, breast and lung cancer between 1999 and 2006: a retrospective analysis of Hospital Episode Statistics *BMJ* 2010;340:b5479. doi: 10.1136/bmj.b54796.

**Ingvild Mathiesen Rosenlund** MD; PhD student UIT The Arctic University of Norway Tromsø, Norway

## **Biography**

Ingvild Mathiesen Rosenlund is a medical doctor and a PhD student. She started her PhD program with a special interest in overtreatment and utilization of health care. This has so far led to a study on the need of diagnostic imaging of all urolithiasis patients and to a study on extent, geographical variation and impact of gynecologist payment models in routine pelvic examinations. Rosenlund received her medical degree from the UIT The Arctic University of Norway. In addition to the PhD program she works as a GP once a week.

### **Selected Publications**

1. **Rosenlund IM**, Førde OH, Revhaug A. Routine deferred computed tomography for patients with suspected urolithiasis is low-value healthcare. <u>Scand J Urol.</u> 2017 Feb;51(1):62-67

#### **Rita Santos**

Research Fellow Centre for Health Economics, University of York York, UK

## Biography

Rita Santos is a research fellow at Centre for Health Economics of the University of York. She holds an NIHR doctoral research fellowship on "Measuring and explaining primary care quality variation". In the past years, she worked on GP gender pay differences, GP practice choice, hospital competition and GP practices competition. Her main interests are developing new applications of geographical information system for health economics and applying spatial econometric methods to economic theory.

- 1. Risk of Care Home Placement following Acute Hospital Admission: Effects of a Pay-for-Performance Scheme for Dementia. Kasteridis, P., Mason, A., Goddard, M., Jacobs, R., Santos, R., Rodriguez-Sanchez, B. & McGonigal, G. 26 May 2016. Article in PloS One
- 2. Does quality affect patients' choice of Doctor? Evidence from England. **Santos, R.**, Gravelle, H. S. E. & Propper, C. 2015. Article in The Economic Journal
- 3. Does a hospital's quality depend on the quality of other hospitals?: A spatial econometrics approach. Gravelle, H. S. E., **Santos, R**. & Siciliani, L. Nov 2014. Article in Regional Science and Urban Economics
- 4. Measuring and testing for gender discrimination in physician pay: English family doctors Gravelle, H. S. E., Hole, A. R. & **Santos, R.** Jul 2011. Article in Journal of health economics
- 5. The link between local environment and obesity: A multilevel analysis in the Lisbon Metropolitan Area, Portugal Article *in* Social Science & Medicine 68(4):601-9 · February 2009. DOI: 10.1016/j.socscimed.2008.11.033 · Source: PubMed

### **Michael Schull**

MSc, MD, FRCPC

Institute for Clinic Evaluative Sciences, Department of Medicine, University of Toronto Toronto, Canada

## **Biography**

Michael Schull is President, CEO and Senior Scientist at the Institute for Clinical Evaluative Sciences, and Professor in the Department of Medicine at the University of Toronto. His research focuses on health service utilization, quality of care, health system integration and patient outcomes, and the evaluation of health policy. His studies use administrative health datasets and linkages with clinical data, and he works closely with health system decision and policy makers. Dr. Schull practices as an Emergency Medicine specialist at Sunnybrook Health Sciences Centre in Toronto.

- 1. Kirkham KR, Wijeysundera DN, Pendrith C, Ng R, Tu JV, Boozary AS, Tepper J, **Schull MJ**, Levinson W, Bhatia RS. Preoperative Laboratory Investigations: Rates and Variability Prior to Low-risk Surgical Procedures. Anesthiesiology. 2016 Apr;124(4):804-14.
- 2. Vermeulen MJ, Stukel TA, Boozary AS, Guttmann A, **Schull MJ**. The effect of Pay-for-performance in the emergency department on patient waiting times and quality of care in Ontario, Canada: a difference-in-differences analysis. Annals of Emergency Medicine. 2016 Apr;67(4):496-505.
- 3. Bhatia RS, Austin PC, Stukel TA, **Schull MJ**, Chong A, Tu JV, Lee DS. Outcomes in patients with heart failure treated in hospitals with varying admission rates: population-based cohort study. BMJ Qual Saf. 2014 Dec;23(12):981-8.
- 4. Berdahl CT, Vermeulen MJ, Larson DB, **Schull MJ**. Emergency Department Computed Tomography Utilization in the United States and Canada. Annals of Emergency Medicine. 2013 Nov;62(5):486-494.
- 5. Guttmann A, **Schull MJ**, Vermeulen M, Stukel TA. Association between waiting times and short term mortality and hospital admission after departure from emergency department: population based cohort study from Ontario, Canada. British Medical Journal: Clinical Research. 2011 Jun 1;342:d2983.

# **Dr Gregor Smith**

Deputy Chief Medical Officer, Scottish Government Edinburgh, Scotland

# **Biography**

Dr Gregor Smith is proud to be a GP and was appointed Deputy Chief Medical Officer for Scotland in October 2015. Prior to this he combined roles as a Senior Medical Officer in the Scottish Government and medical director for Primary Care in NHS Lanarkshire where he spent most of his clinical career as a GP in Larkhall. He is an Honorary Clinical Associate Professor at the University of Glasgow and Fellow of both the Scottish Patient Safety Programme and Salzburg Global.

He is passionate about continuous quality improvement and innovation in healthcare, with a particular interest in person-centred care, shared decision making and working in teams. He is a resolute advocate of the values that define our NHS, of universal healthcare, and of widening access to medical careers to those from all backgrounds. When not working, he tries very hard, but not so successfully, to use his quality improvement skills to improve his cycling, triathlon and guitar. To find him on Twitter, follow @DrGregorSmith

### Thérèse A. Stukel, PhD

Professor, Health Policy, Management & Evaluation and Biostatistics, University of Toronto Senior Scientist, Institute for Clinical Evaluative Sciences, Toronto, Canada Professor, Dartmouth Institute for Health Policy and Clinical Practice, Hanover NH USA

## Biography

Thérèse A. Stukel, PhD, is a biostatistician focusing on health services and health policy research. She was statistical director of the Dartmouth Atlas of Health Care and co-authored two influential publications on the U.S. healthcare system demonstrating that higher healthcare spending did not lead to better outcomes, and a publication showing that in Canada, higher spending hospitals was associated with better outcomes for acute care patients. Other research interests are the analyses of observational studies, particularly the use of instrumental variables to remove unmeasured confounding and survival bias.

Current research interests are on the effects of health system resources and organization on delivery of care and outcomes in Canada and the U.S., including international comparative studies. She created Ontario Multispecialty Physician Networks, virtual physician networks that mimic U.S. Accountable Care Organizations (ACOs), and has evaluating their efficiency (quality vs. costs) in managing patients with chronic disease. She was an inaugural recipient of a Canadian CIHR Foundation Grant to fund work on predicting high need, high cost patients, prospectively identifying these patients and evaluating their quality of care. Methods will compare traditional statistical prediction models with modern machine-learning methods. She has published over 200 peer-reviewed articles in medical and statistical journals. She was nominated Fellow of the American Statistical Association in 2007.

- 1. **Stukel TA**, Glazier RH, Schultz SE, Guan J, Zagorski BM, Gozdyra P, Henry DA. Multispecialty physician networks in Ontario. Open Medicine 2013; 7(2):40-55.
- 2. **Stukel TA**, Fisher ES, Alter DA, et al. Association of hospital spending intensity with mortality and readmissions in Ontario hospitals. JAMA 2012; 307(10):1037-45.
- 3. **Stukel TA**, Fisher ES, Wennberg DE, et al. Analysis of observational studies in the presence of treatment selection bias: effects of invasive cardiac management on AMI survival using propensity score and instrumental variable methods. JAMA. 2007;297(3):278-285.
- Stukel TA, Lucas FL, Wennberg DE. Long-term outcomes of regional variations in intensity of invasive vs. medical management of Medicare patients with acute myocardial infarction. JAMA. 2005; 293(11):1329-1337.

#### Dario Tedesco

MD, PhD Candidate University of Bologna Bologna, Italy

## **Biography**

I am a PhD candidate with a clinical degree specialized in Public Health. My research has been focused on a variety of topics which include: outcomes research, comparison of healthcare systems on key outcomes (comparison of Patient Safety Indicators between Italy and US), health equity, conflict of interest in healthcare. I have also been involved in synthesizing empirical evidence using systematic reviews and meta-analyses. Currently working on health services research projects aimed at improving post-operative pain management, with a particular focus on orthopedic surgery and non pharmacological interventions.

**November 2015 - current** PhD candidate in Health Services Research ("General Medical and Services Sciences") at the University of Bologna, Department of Biomedical and Neuromotor Sciences (Advisor: Professor Maria Pia Fantini).

**September 2016 - June 2017** Postdoctoral Research Fellow at Stanford University, Center for Biomedical Informatics Research (P.I. Professor Tina Hernandez-Boussard).

**July 2016** Specialization in Hygiene and Preventive Medicine (University of Bologna). Grade: 110/110 cum laude.

**2011-2012** Postgraduate Course in *Systematic Reviews and Meta-Analysis for the production of evidence-based guidelines (Cochrane Methodogy)* at the University of Milan and Mario Negri Institute for Pharmacological Research, Milan.

July 2010 Italian Medical Licensure (Medical Board of the District of Bologna, No. 16353).

March 2010 Medical Degree at University of Bologna. Grade 107/110.

**July 2001** High school diploma at Liceo-Ginnasio "Giovanni Meli" (Classical Studies High School) in Palermo. Grade 100/100.

# Research and scientific activity:

Main research interests:

- Healthcare systems and Outcomes research, focused on quality indicators based on administrative data.
- Clinical Risk Management, Infectious disease Risk Management.
- Analysis and production of evidence, based on systematic reviews and meta-analyses.
- Health Equity and Conflict of interest in Health.

Since 2012, collaboration with the "Management and Healthcare Lab (MeS)" of the Scuola Superiore S. Anna in Pisa, Italy. Research activity on indicators aimed at evaluating oncological care pathways, and management policies on innovative/oncological drugs.

Since 2013, collaboration with Stanford University, Department of Surgery and Center for Health policy/Center for Primary care and Outcomes Research (PCOR), on AHRQ's Patient Safety Indicators. Mentors: Kathryn M McDonald, Tina Hernandez-Boussard (Research project: "Comparing Patient Safety Indicators in Orthopedics between Italy and United States").

Peer reviewer for *PlosOne* and *Internal and Emergency Medicine*.

- 1. **Tedesco D**, Gori D, Desai KR, Asch S, Carroll IR, Curtin C, McDonald KM, Fantini MP, Hernandez-Boussard T. Drug-Free Interventions to Reduce Pain or Opioid Consumption After Total Knee Arthroplasty: A Systematic Review and Meta-analysis. JAMA Surg. 2017 Aug 16:e172872. doi: 10.1001/jamasurg.2017.2872. [Epub ahead of print]
- Yim WW, Tedesco D, Curtin C, Hernandez-Boussard T. Annotation of pain and anesthesia events for surgery-related processes and outcomes extraction. Proceedings of the 2017 ACL Workshop on Biomedical Natural Language Processing (BioNLP), 2017.
- 3. **Tedesco D**, Hernandez-Boussard T, Carretta E, Rucci P, Rolli M, Di Denia P, McDonald K, Fantini MP. Evaluating patient safety indicators in orthopedic surgery between Italy and the USA. Int J Qual Health Care. 2016 Sep;28(4):486-91.
- 4. Fabbri A, Gregoraci G, **Tedesco D**, Ferretti F, Gilardi F, Iemmi D, Lisi C, Lorusso A, Natali F, Shahi E, Rinaldi A. Conflict of interest between professional medical societies and industry: a cross-sectional study of Italian medical societies' websites. BMJ Open. 2016 Jun 1;6(6):e011124.
- 5. Banzi R, Cusi C, Randazzo C, Sterzi R, **Tedesco D**, Moja L. Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) for the prevention of tension-type headache in adults. Cochrane Database Syst Rev. 2015 May 1;5:CD011681.
- 6. A.M. Murante, M.P. Fantini, **D. Tedesco**. Gli indicatori e le evidenze nel percorso oncologico, in "Valutare i percorsi in sanità. I percorsi della salute mentale e il percorso oncologico. Un progetto della Commissione parlamentare d'inchiesta del Senato sull'efficienza e l'efficacia del SSN", a cura di S. Nuti, M.P. Fantini, A.M. Murante. Il Mulino ISBN: 9788815246455 (2014). [Book in Italian]

#### **Barthold Vonen**

Professor Center for Clinical Documentation and Evaluation Tromsø, Norway

## **Biography**

MD from University of Tromsø, PhD on experimental endocrinology from 1992, Surgical training at University Hospital of North Norway, Consultant gastrointestinal surgeon from 1995, Professor of surgery, Institute of Clinical Medicine, University of Tromsø 2000-2013, Chief of gastrointestinal surgery, University Hospital of North Norway 2008-2009, CMO at Nordland Hospital Trust 2010-2016, Professor of Health Care Research, Institute of Community Medicine, University of Tromsø from 2013. From 2016 Managing Director of Center for Clinical Documentation and Evaluation (SKDE) at North Norway Regional Health Authority. SKDE is the National Service Provider for all national medical quality registers and the main responsible body for the Norwegian Health Atlas. SKDE has status as a scientific research institution and collaborates formally with the Faculty of Health Sciences at the University of Tromsø - The Arctic University of Norway

#### **Recent Publications:**

- 1. Adverse events in hospitalised cancer patients: a comparison to a general hospital population.
  - Haukland EC, von Plessen C, Nieder C, **Vonen B.** Acta Oncol. 2017 Apr 5:1-6. doi: 10.1080/0284186X.2017.1309063. [Epub ahead of print] PMID 28379721
- Is inter-rater reliability of Global Trigger Tool results altered when members of the review team are replaced? Mevik K, Griffin FA, Hansen TE, Deilkås E, Vonen B.
   Int J Qual Health Care. 2016 Sep;28(4):492-6. doi: 10.1093/intqhc/mzw054. Epub 2016 Jun 9.PMID: 27283442
- 3. Does increasing the size of bi-weekly samples of records influence results when using the Global Trigger Tool? An observational study of retrospective record reviews of two different sample sizes. Mevik K, Griffin FA, Hansen TE, Deilkås ET, **Vonen B.** BMJ Open. 2016 Apr 25;6(4):e010700. doi: 10.1136/bmjopen-2015-010700. PMID: 27113238
- Nationwide improvement of rectal cancer treatment outcomes in Norway, 1993-2010. Guren MG, Kørner H, Pfeffer F, Myklebust TÅ, Eriksen MT, Edna TH, Larsen SG, Knudsen KO, Nesbakken A, Wasmuth HH, Vonen B, Hofsli E, Færden AE, Brændengen M, Dahl O, Steigen SE, Johansen MJ, Lindsetmo RO, Drolsum A, Tollåli G, Dørum LM, Møller B, Wibe A. Acta Oncol. 2015 Nov;54(10):1714-22. doi: 10.3109/0284186X.2015.1034876. Epub 2015 Apr 30. PMID: 25924970
- 5. Anal incontinence, urinary incontinence and sexual problems in primiparous women a comparison between women with episiotomy only and women with episiotomy and

obstetric anal sphincter injury. Stedenfeldt M, Pirhonen J, Blix E, Wilsgaard T, **Vonen B**, Øian P.

BMC Womens Health. 2014 Dec 16;14:157. doi: 10.1186/s12905-014-0157-y. PMID: 25511413

### John E. Wennberg, M.D., M.P.H.

Peggy Y. Thomson Professor Emeritus in the Evaluative Clinical Sciences and Founder and Director Emeritus of The Dartmouth Institute for Health Policy & Clinical Practice Hanover, United States

# **Biography**

John E. Wennberg, M.D., M.P.H., is the Peggy Y. Thomson Professor Emeritus in the Evaluative Clinical Sciences and Founder and Director Emeritus of The Dartmouth Institute for Health Policy and Clinical Practice. He has been a Professor in the Department of Community and Family Medicine since 1980 and in the Department of Medicine since 1989.

Dr. Wennberg is a member of the Institute of Medicine of the National Academy of Science and the Johns Hopkins University Society of Scholars. He has received numerous awards, including the Institute of Medicine's 2008 Gustav O. Lienhard Award, the Association for Health Services Research's Distinguished Investigator Award, the Richard and Hinda Rosenthal Foundation Award in Clinical Medicine, and the Baxter Foundation's Health Services Research Prize.

He is a graduate of Stanford University and the McGill University Faculty of Medicine. His post-graduate training was in internal medicine and nephrology at Johns Hopkins University, but he became interested in the application of epidemiological principles to the health care system while pursuing his Master's degree in Public Health at Johns Hopkins.

With colleague Alan Gittelsohn, he developed a strategy for studying the population-based rates of health resource allocation and utilization (small area analysis), which revealed large variations in the rates among local and regional health care markets, much of which appeared to relate to the distribution of supply of resources and to differences in local medical opinion. Together with colleagues in Maine and Boston, Dr. Wennberg undertook a series of studies designed to reduce scientific uncertainty, primarily in the area of prostate disease (where surgical procedures had been shown to vary by a factor of three or more among neighboring regions). Efforts to clarify the outcomes and the theoretical basis for undertaking prostate surgery led, in turn, to awareness of the importance of patient preference in the rational choice of treatment and to studies involving the patient as an active participant in the choice of treatment. Recent research includes a focus on the question of how many physicians are needed.

Wennberg and colleague Al Mulley are co-founders of the Informed Medical Decisions Foundation, a non-profit corporation providing objective scientific information to patients about their treatment choices using interactive media. In 2005, Dr. Wennberg and Dr. Mulley were co-recipients of the Picker Institute Award for Advancement of Patient Centered Care.

Dr. Wennberg is the founding editor of <u>The Dartmouth Atlas of Health Care</u>, which examines the patterns of medical resource intensity and utilization in the United States. The Atlas project has also reported on patterns of end of life care, inequities in the Medicare reimbursement system, and the underuse of preventive care.

He is also the author of <u>Tracking Medicine</u>: A <u>Researcher's Quest to Understand Health Care</u>, which provides a framework for understanding and remedying the health care crisis in the United States.

#### Gert P. Westert

PhD, professor of health services research Radboudumc, IQ healthcare The Netherlands

## Biography

Prof. Gert Westert is head of IQ healthcare and professor of healthcare research/quality of care. Apart from his management work he studies the relation between quality and costs in healthcare. He has a background in Medical Socioloy and Statistics. Dr. Westert developed and was the project leader of the Dutch Healthcare Perormance report from 2005 – 2010 and was professor at Tilburg University before he came to Nijmegen in 2011. Westert published more than 250 papers on health services research in the past 25 years and contributed to numerous text books, e.g. the Springer book on Medical Practice Variation (2016), edited by Johnson and Stukel.

Gert Westert studies the comparison between healthcare systems in various countries. His objective in this is to study what we can learn from others, and what foreigners can learn from our system.

A theme Gert Westert has been studying for a longer period is the fact that large differences occur in quality of care between care professionals. It really does matter which care professional you go to. Even so, patients, care professionals and health insurers have but a limited knowledge of these kind of differences and the variation in practices.

## **Recent Publications**

1. Choosing Wisely should bring the cost of unnecessary care back into the discussion.

Haverkamp MH, Cauterman M, Westert GP.

BMJ Qual Saf. 2017 May 24. pii: bmjqs-2017-006483. doi: 10.1136/bmjqs-2017-006483. [Epub ahead of print] No abstract available.

PMID: 28539505 [PubMed - as supplied by publisher]

2. [Inter-practice variation in polypharmacy prevalence amongst older patients in primary care].

Sinnige J, Braspenning JC, Schellevis FG, Hek K, Stirbu I, Westert GP, Korevaar JC.

Ned Tijdschr Geneeskd. 2017;161(0):D864. Dutch.

PMID: 28181895 [PubMed - in process]

3. Identifying and prioritizing lower value services from Dutch specialist guidelines and a comparison with the UK do-not-do list.

Wammes JJ, van den Akker-van Marle ME, Verkerk EW, van Dulmen SA, Westert GP, van Asselt AD, Kool RB.

BMC Med. 2016 Nov 25;14(1):196.

PMID: 27884150 [PubMed - indexed for MEDLINE] Free PMC Article

4. Analysis of variation in the surgical treatment of patients with distal radial fractures in the Netherlands.

Walenkamp MM, Mulders MA, Goslings JC, Westert GP, Schep NW.

J Hand Surg Eur Vol. 2016 Jun 10. pii: 1753193416651577. [Epub ahead of print]

PMID: 27289051 [PubMed - as supplied by publisher]

5. Inter-practice variation in polypharmacy prevalence amongst older patients in primary care.

Sinnige J, Braspenning JC, Schellevis FG, Hek K, Stirbu I, Westert GP, Korevaar JC.

Pharmacoepidemiol Drug Saf. 2016 Sep;25(9):1033-41. doi: 10.1002/pds.4016. Epub 2016 May 2.

PMID: 27133740 [PubMed - in process]

### Paula Wilton

Director, Clinical Analytics and Outcomes Research Victorian Agency for Health Information Melbourne, Victoria, Australia

# Biography

Paula Wilton is a health economist with over 20 years of experience in health and applied social policy, having worked in a variety of government, university and private organisations, in Australia and overseas. In her current role at the Victorian Agency for Health Information, Paula has responsibility for the areas of safety and surveillance, including oversight of the Victorian Health Incident Management System, patient experience and patient reported outcome measures, clinical quality registries, and clinical analytics. Paula comes from a strong research background and she has previously completed work for the World Health Organisation on the cost-effectiveness of strategies to contain the spread of antimicrobial resistance. This work, and other research has been published in The British Medical Journal, the Australian Health Review, Health Policy, Health Economics, the Journal of Health Services Research and Policy, and the International Journal of Tuberculosis and Lung Disease. In her previous role, Paula was the Director of Health and Human Services, at the Victorian Department of Premier and Cabinet where she provided strategic to the Premier of Victoria on issues relating to health and human services. In 2016, she was seconded to the Victorian Department of Health and Human Services, where she was responsible for overseeing the implementation of 179 recommendations from 'Targeting Zero: the review of hospital safety and quality assurance in Victoria'. This review was commissioned by the Minister for Health, following the discovery of potentially avoidable perinatal deaths at the Djerriwarrh Health Services, and among other reforms, led to the establishment of the Victorian Agency for Health Information at the beginning of 2017.