

# Substantial geographic variation in French mental health admission rates suggest cultural differences in admitting practices

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# Background

- Mental health disorders are increasingly common and expensive
- France experiences the third highest total direct and indirect costs associated with mental health disorders in Europe
- We thought that higher local admission rates for mental health conditions might be associated with lack of adequate psychiatric resources in the community (beds and psychiatrists)

# Methods

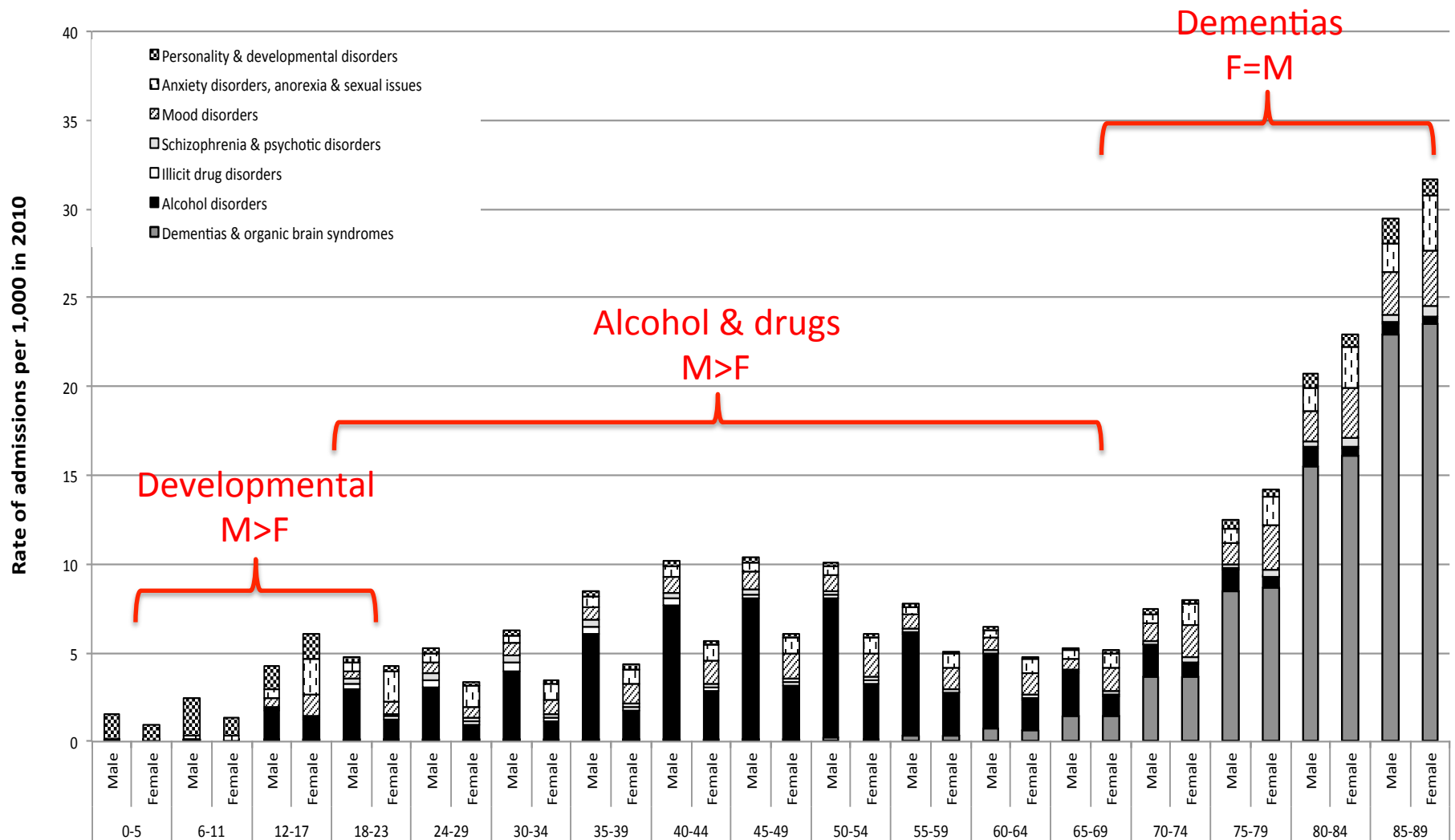
- For 2009 & 2010, we calculated annual sex- and age-adjusted per-capita admission rates for hospitalizations precipitated by seven categories of mental health diagnoses in 94 departments in mainland France.
- We examined trends in admission rates to non-psychiatric hospitals over time, measures and causes of geographic variation in those rates, and resources consumed by these admissions.

# Results

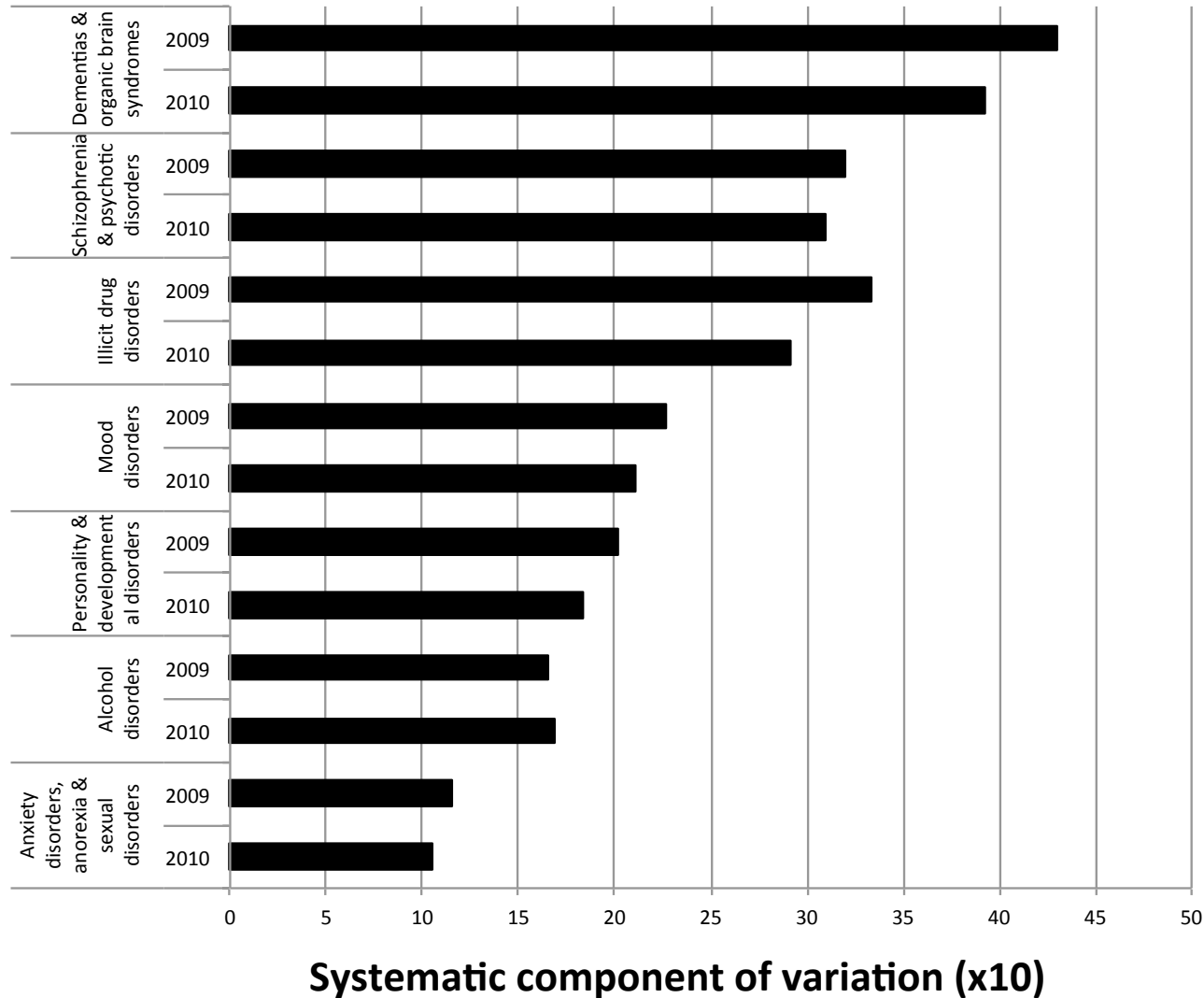
# Admissions for mental health issues were common and growing

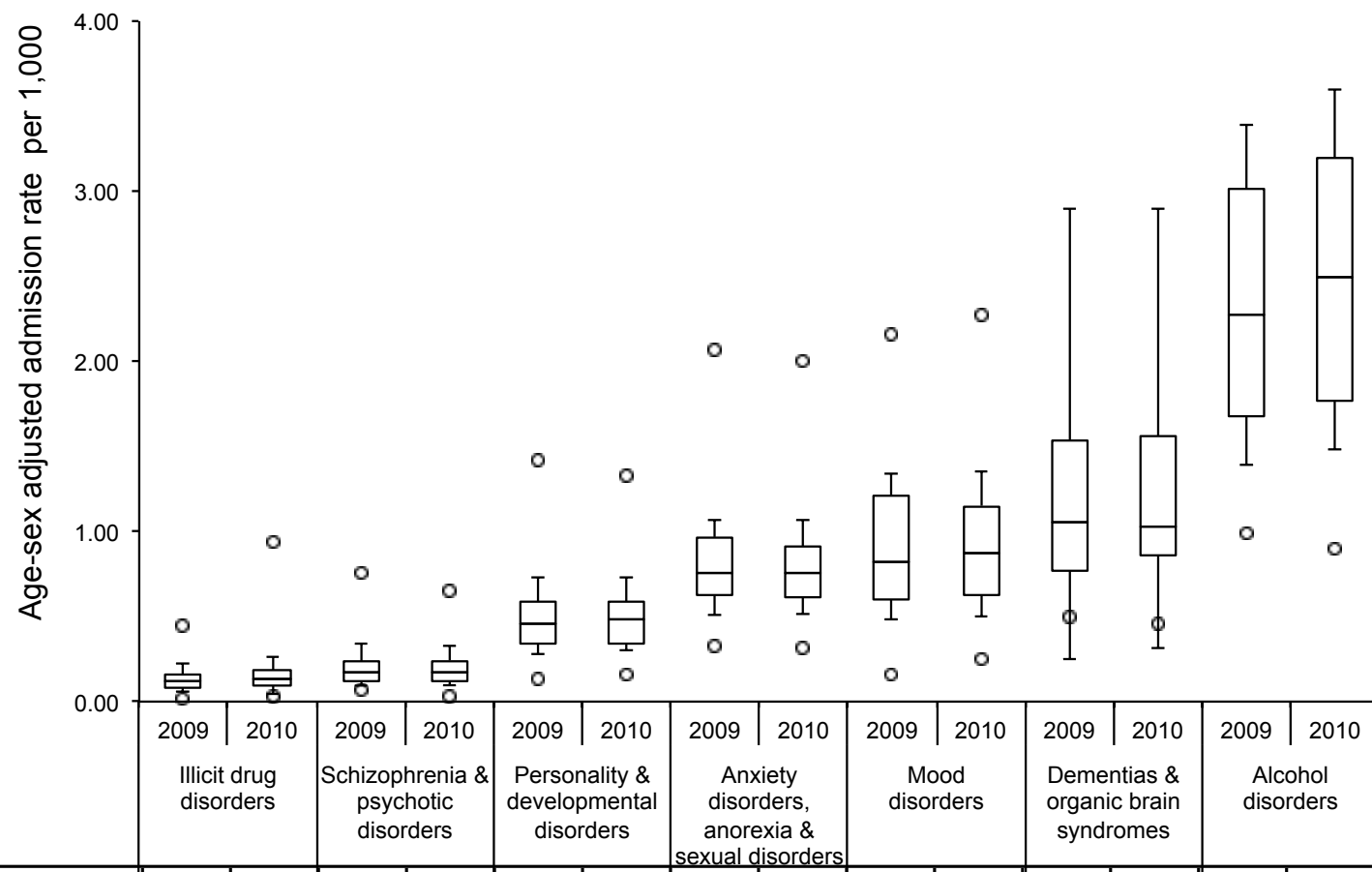
	ICD-10 diagnosis codes	Year	
		2009	2010
Dementias & organic brain syndromes	F00-F09	97,945	100,090
Alcohol disorders	F10	148,585	157,773
Illicit drug disorders	F11-F19	8,868	9,688
Schizophrenia & psychotic disorders	F20-F29	13,637	13,003
Mood disorders	F30-F39	56,496	57,461
Anxiety disorders, anorexia & sexual issues	F40-F59	48,827	48,995
Personality & developmental disorders	F60-F98	31,329	32,094
TOTAL		405,687	419,104

# Rates of admission per 1,000 varied according to age and sex



# Geographic variation was high, but falling



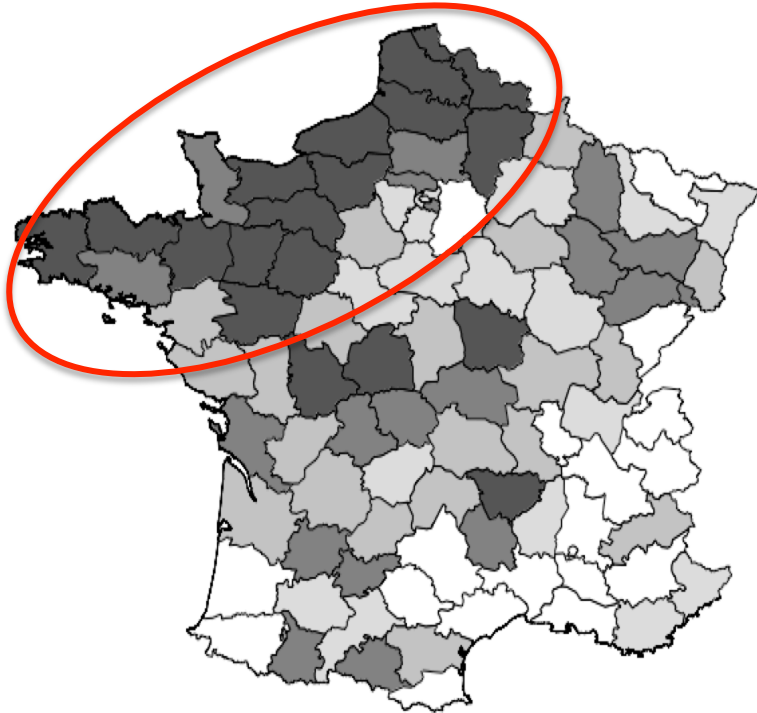


	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
	Illicit drug disorders		Schizophrenia & psychotic disorders		Personality & developmental disorders		Anxiety disorders, anorexia & sexual disorders		Mood disorders		Dementias & organic brain syndromes		Alcohol disorders	
Mean national age-sex adjusted rate per 1,000	0.143	0.156	0.220	0.209	0.504	0.516	0.786	0.789	0.909	0.925	1.574	1.608	2.391	2.539
Lowest department rate per 1,000	0.022	0.026	0.064	0.028	0.127	0.164	0.325	0.315	0.165	0.246	0.494	0.455	0.987	0.901
Highest department rate per 1,000	0.444	0.942	0.750	0.655	1.413	1.321	2.065	2.001	2.155	2.269	10.750	10.062	5.996	6.196
Extreme ratio	20.11	35.95	11.69	23.41	11.14	8.06	6.35	6.35	13.09	9.24	21.77	22.14	6.08	6.88
Interquartile range	1.85	1.84	1.97	1.95	1.69	1.69	1.55	1.48	2.05	1.85	1.98	1.82	1.80	1.80
Coefficient of variation	0.60	0.72	0.62	0.57	0.46	0.44	0.35	0.34	0.46	0.45	0.92	0.89	0.41	0.41
Systematic component of variation (x10)	33.36	29.17	32.04	30.94	20.17	18.38	11.58	10.51	22.69	21.05	42.97	39.24	16.55	16.89

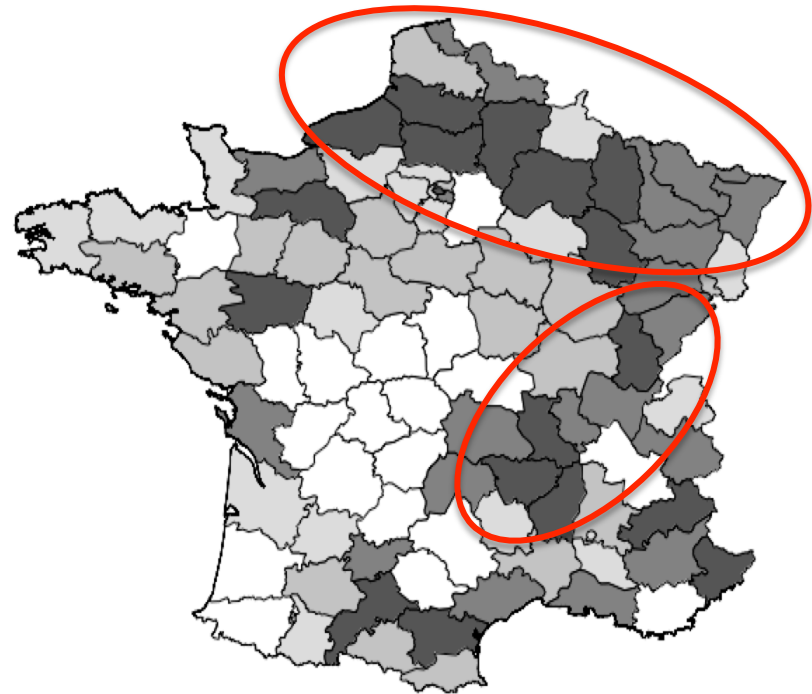


We saw some diagnosis-specific  
regional patterns

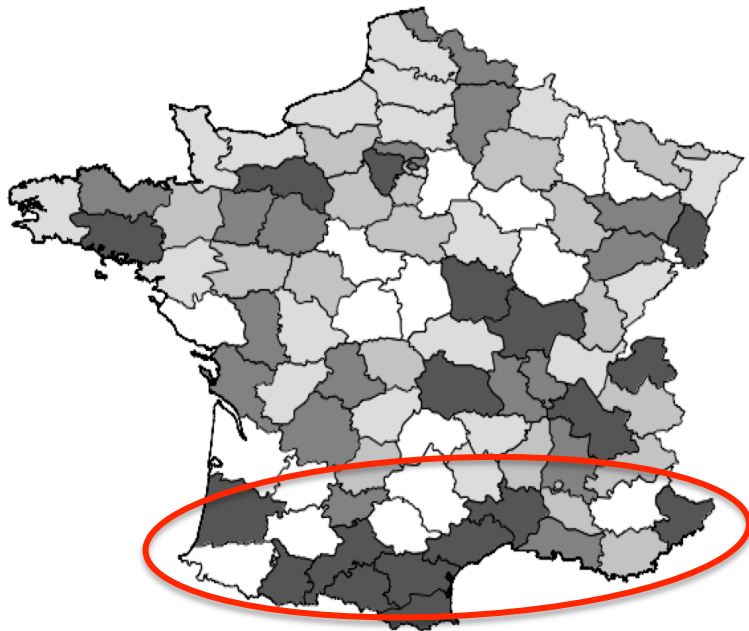
Alcohol



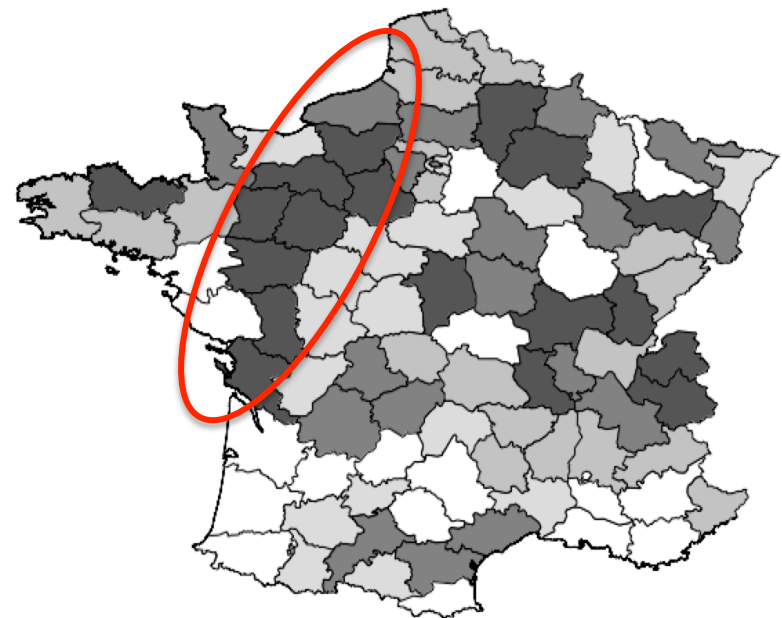
Illicit drugs



## Schizophrenia



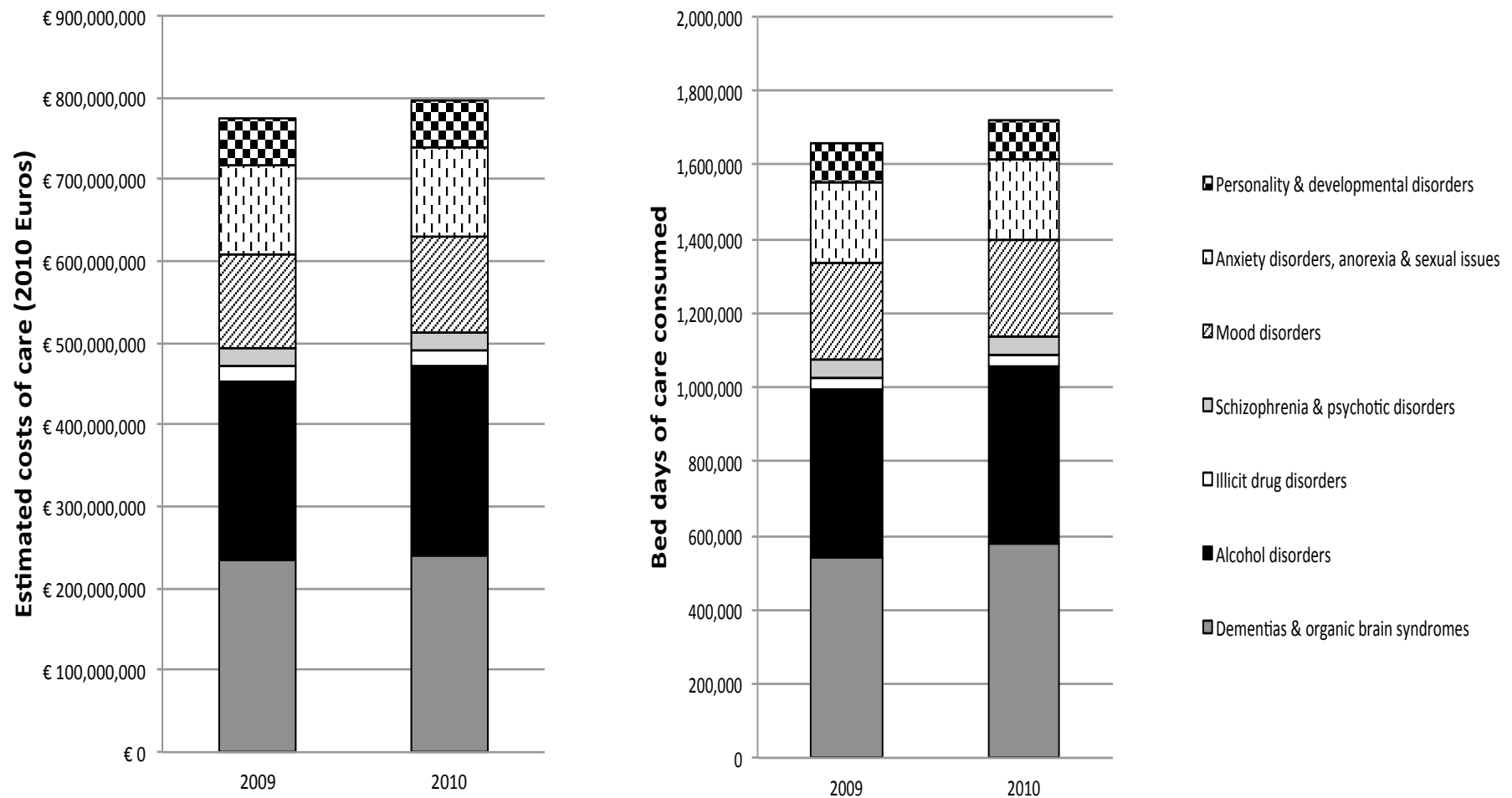
## Mood disorders



# Associations

- Higher numbers of beds per capita were associated with higher rates of admission for alcohol use disorders
- We found no other relationships between resource availability and admission rates
- Lower median income was associated with higher rates of admission for alcohol use disorders and illicit drug use disorders
- These accounted for very little of the observed variance ( $r\text{-square} < 0.10$ )

# Costs and resource consumption associated with providing this care were high and increasing



# Limitations

- We used an administrative dataset; coding errors might exist
- We examined only hospitalizations, not outpatient care
- We do not know if these admissions were warranted
- We were not able to correct for health status

# Conclusions

- We saw high levels of geographic variation and regional concentrations for hospitalizations precipitated by different mental conditions
- With one exception, we did not find an association between available resources and admission rates
- This suggests uncertainty regarding admission thresholds and/or regional cultural differences in admitting practices
- Geographically targeted interventions – particularly for illicit drug use disorders and alcohol use disorders – should become policy priorities

# Next steps

- Update with more recent data (2011 - 2014)
- Examine trends over time
- Explore availability of outpatient care and other treatment modalities as explanation of variation in admission rates

# Thanks!

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