

Variations in preference-sensitive care in Switzerland

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Historical background

- In the 1970s, John Wennberg demonstrated a great variation in the use of elective surgical interventions across U.S. hospital regions not explained by patient preferences and illness.
- More care is not necessarily better: higher health care resulted in more costs but not in better quality of care, patient outcomes, or satisfaction.

Wennberg J. et al. Small area variations in health care delivery. Science 1973;182:1102-8.

Definition

- Preference-sensitive interventions are elective interventions for which there is more than one option and where outcomes will differ according to the chosen option.
- Main drivers are physician beliefs about the indications

Preference-sensitive care in Switzerland

- In the 1980s/90s great variations in preference-sensitive surgery (e.g. hysterectomy, tonsillectomy) were found
 - socioeconomic factors (e.g. insurance) partly explained variation
- Widmer et al. (2005) showed a 3 to 37-fold variation in age- and sex-standardized rates for orthopedic procedures
- To date, there is no systematic approach to monitor regional variations in health care utilization of preference sensitive procedures in Switzerland

Specific aims

1. To generate up-to-date Swiss Hospital Service Areas (HSAs) using population-based inpatient data for 8 preference sensitive procedures of controversial clinical benefit
2. To assess variations in age and sex-adjusted rates of preference-sensitive procedures during the calendar year 2012/2013 across Swiss HSAs

Methods overview

Design	Population-based, retrospective, small area variation analysis
Data	Routinely collected, person-level, patient discharge data of all hospitals in Switzerland (Medizinische Statistik der Krankenhäuser, Swiss Federal Statistical Office (SFSO))
Study period	Calendar years 2012 and 2013
Inclusion	Procedure codes for 8 procedures <ul style="list-style-type: none">- Percutaneous vertebroplasty and balloon kyphoplasty- Hip- and knee arthroplasty- Cholecystectomy- Cardiac bypass surgery, patent foramen ovale closure- Hysterectomy- Prostatectomy
Exclusion	<ul style="list-style-type: none">- Patients younger than 18 years- Patients living outside Switzerland at the time of treatment

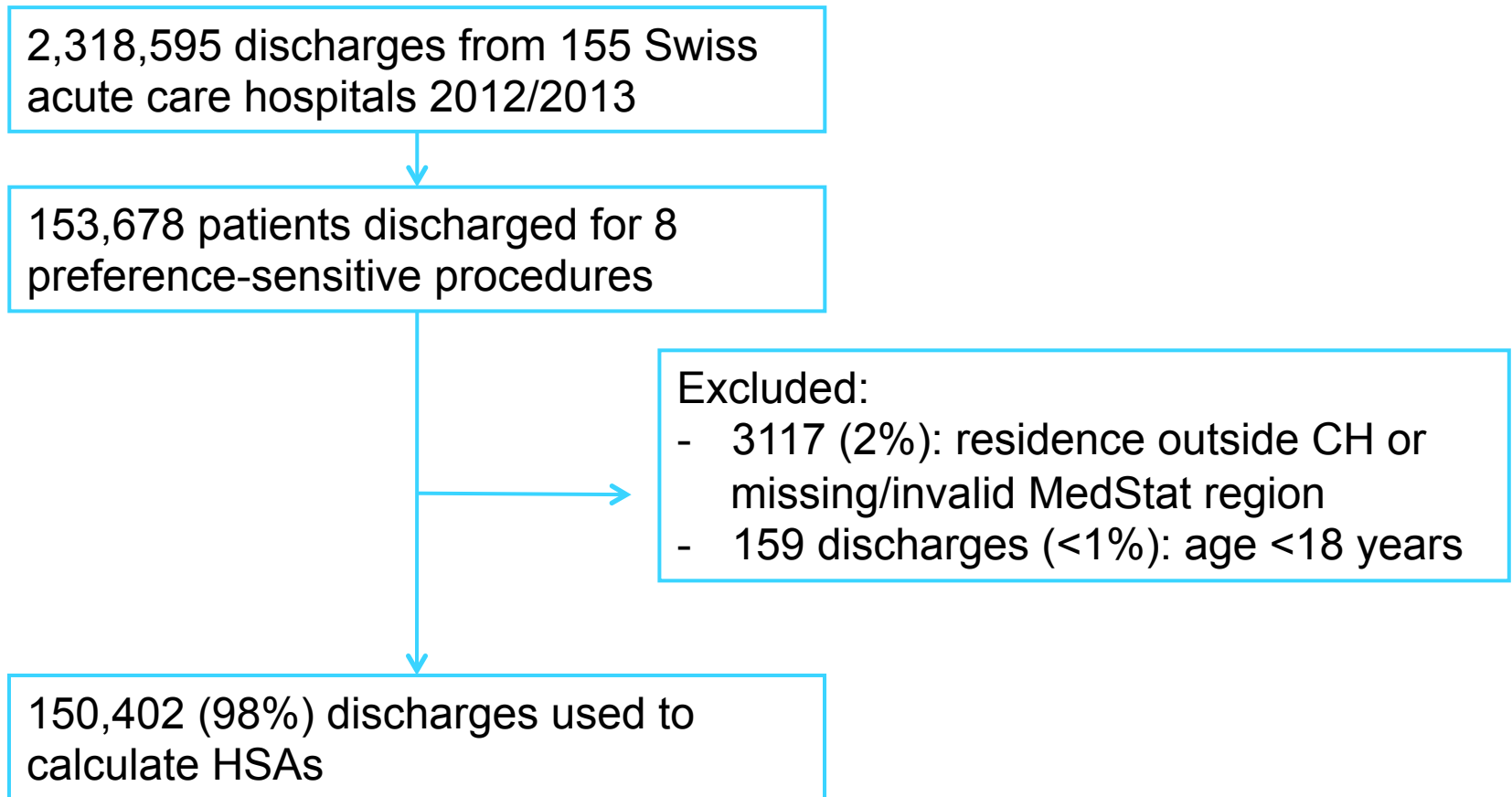
Hospital service areas (HSAs)

- HSAs were derived by analyzing patient flows for all 8 procedures to determine where the majority of residents were hospitalized.
- Areas served by the same hospital were merged into HSAs.
- “Specialized” HSAs were derived by merging HSAs where a specific procedure is not performed to larger HSAs.

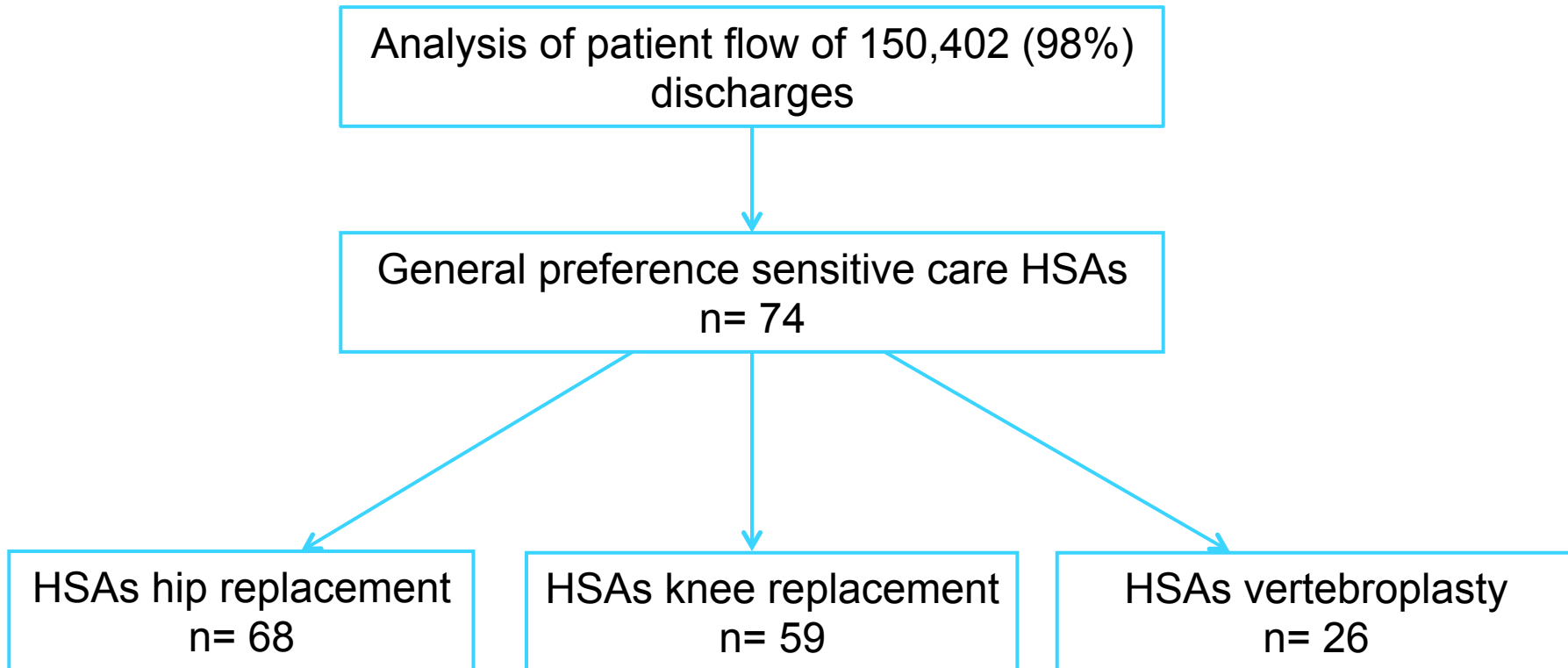
Measures of variation

- Age-/sex-standardized mean utilization rates per 10,000 persons
- Extremal quotient (EQ, maximum divided by the minimum rate)
- Systemic component of variation (SCV), a measure of the non-random variation (a SCV >10 indicates a very high variation)

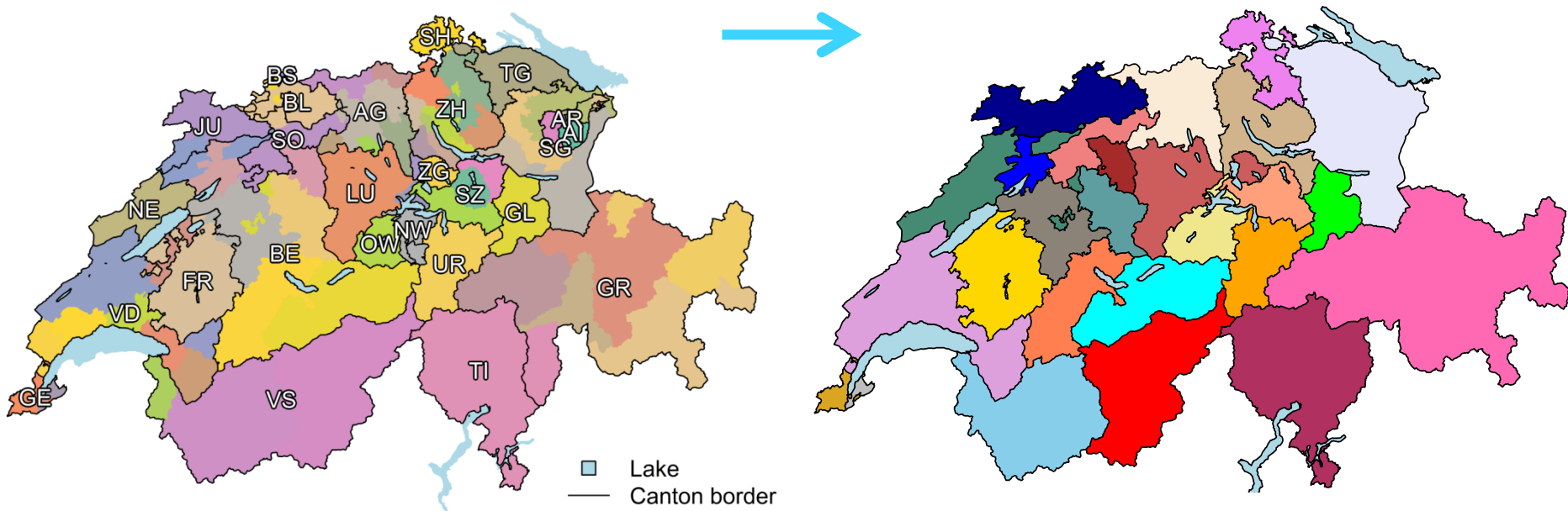
Study population



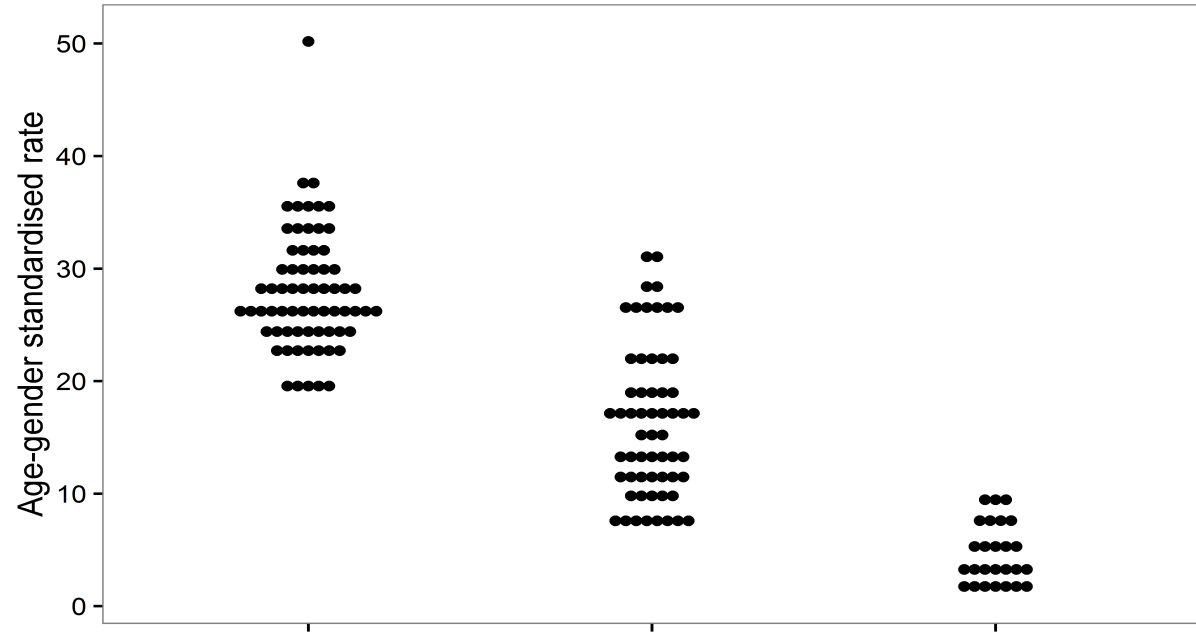
General and “specialized” HSAs



General and “specialized” HSAs



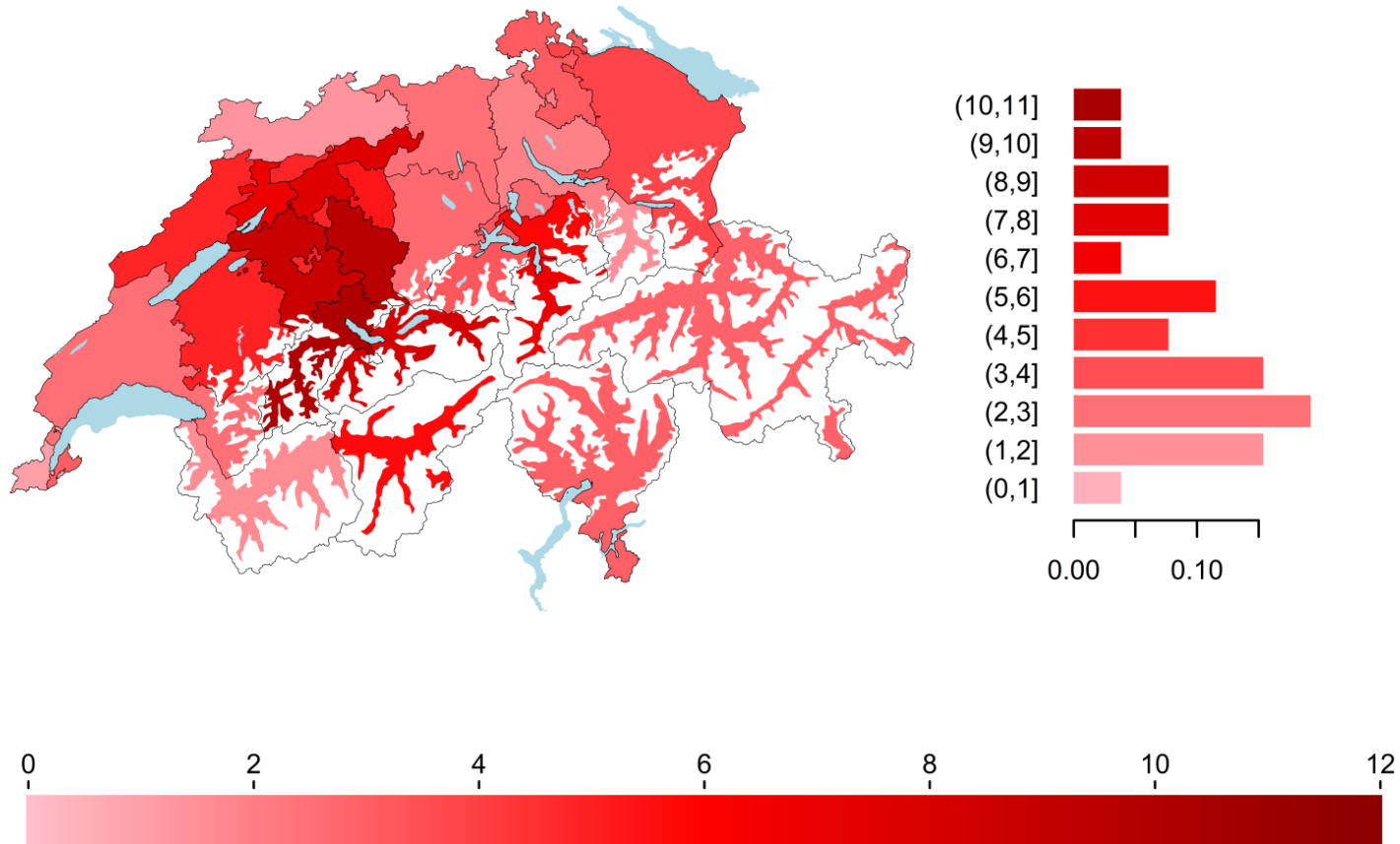
Variation in preference sensitive procedures



Measures	Hip	Knee	Vertebroplasty
Age-/ sex adjusted rates (range) ¹	28 (19-50)	16 (7-31)	4.6 (1.0-10)
EQ	2.6	4.5	10.1
SCV	2.9	17.8	57.6

¹per 10'000 persons

Variation in age and gender adjusted VP rates per 10'000 persons across Swiss HSA



Summary

- We generated up-to-date Swiss HSA using reproducible methods
- We found considerable variation across Swiss HSA for knee replacement and vertebroplasty
- As vertebroplasty is not recommended in most instances, the great variation indicates potential overuse

Outlook

- This project was the first and necessary step in addressing, and eventually reducing, unwarranted variations in Swiss health care
- Methods developed and used for this project will be applied to 15 preference sensitive interventions and procedures for the calendar year 2014 – 2017 (funded by the SNF NRP 74)
- The objective is to establish a longitudinal Swiss Health Atlas

Acknowledgments

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Thank you for your attention

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