

## Development of elderly patient safety indicators using Swiss and French administrative linked data

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### Background and objectives

Population ageing has hugely increased hospital utilization and expenditures in Europe. Older inpatients aged 65 and over account now for half of acute care hospitals' admissions and bed-days. However, frailty, chronic multimorbidity, disability, polypharmacy and the complexity of care expose elderly inpatients to an increased risk of potentially preventable adverse events (PPAEs).

According to the Swiss Health2020 Reform and the French National Health Strategy that both promote safety measurements in inpatient and outpatient settings, we aim to develop and validate in-hospital and post-hospital elderly patient safety indicators (EPSIs) using hospital administrative data linked to insurance claims data to inform health policies, help patients' choice, and improve equity and efficiency.

### Methods

Study population will consist of individuals aged 65 or older who were hospitalised in acute care between 2012 and 2014 and who were insured at least one year before their hospitalisation. Swiss data will be extracted from a dataset of 1.2 million persons (15% of the Swiss residents) who were insured by the Helsana Group. French data will include all beneficiaries of the general health insurance scheme (70% of the French residents).

The development and validation process will comprise a 6-step strategy: 1) a systematic literature review, 2) structured expert panel reviews, 3) empirical measures of the adjusted EPSIs at hospital and territorial level using Swiss and French linked databases, 4) a 4-step validation process, 5) the study of EPSIs' temporal trends and geographical variations, 6) graphical analyses of the results for hospital/territorial profiling and benchmarking.

### Conclusions

EPSIs based on administrative linked data should provide valid and reliable tools for monitoring PPAEs affecting elderly patients hospitalised in acute care and for comparing elderly patients' safety across Swiss and French hospitals or health territories.

### Key messages

- Patient safety indicators based on hospital administrative data linked to insurance claims data could be used to evaluate elderly patients' safety both in hospital and in primary care settings
- Elderly patient safety indicators (EPSIs) based on hospital administrative data linked to insurance claims data should be more reliable and valid than EPSIs based on hospital administrative data alone