

# Dementia and pathways of health service utilization in Austria

## A record linkage study in a country with a fragmented provider payment system

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### Background & Objectives

Huge amounts of routine data on health service utilization are collected today electronically, but they are rarely analysed in a way which is useful for health care planning. Usually only service/institution centred statistics are reported (e.g. numbers of hospital discharges). Very rarely patient records are linked across different service types in order to show how patients with specific diseases travel through the health care system, i.e. how their typical pathways of care look like (e.g. from primary care to specialized care or from hospital back to outpatient care). Such data would be extremely important for monitoring the performance of health care systems.

We have chosen dementia as an example for demonstrating how, even in a country with a highly fragmented payment system and numerous unrelated databases, a record linkage approach with anonymized/pseudonymized data can be implemented for studying patient pathways. Austria, with a population of 8.4 millions has 19 different mandatory social health insurance institutions who together cover more than 98% of the population.

### Methods

Since the first contact with health services of patients with dementia usually occurs in the primary care and outpatient sector, where no coded diagnoses are reported in Austria, filling a prescription for anti-dementia drugs was taken as a proxy for case definition (ATC 10 code N06D: N06DA Anticholinesterases, N06DX01 Memantine, N06DX02 Ginkgo). We identified patients with an anti-dementia drug prescription in the 4<sup>th</sup> quarter (Q4) of 2006 and followed them up for health service utilisation (primary, specialized outpatient and hospital care) in the year 2007.

The methodological challenge was to link records of many different databases. A countrywide database (GAP-DRG) covering the whole population was established for 2006 and 2007, in which service utilization records can be linked after pseudonymisation of the unique patient identifier (UPI) and by special matching methods. The database covers the whole range of health services, including hospital, specialized outpatient and primary care, as well as pharmacies. Semantic interoperability between databases was established.

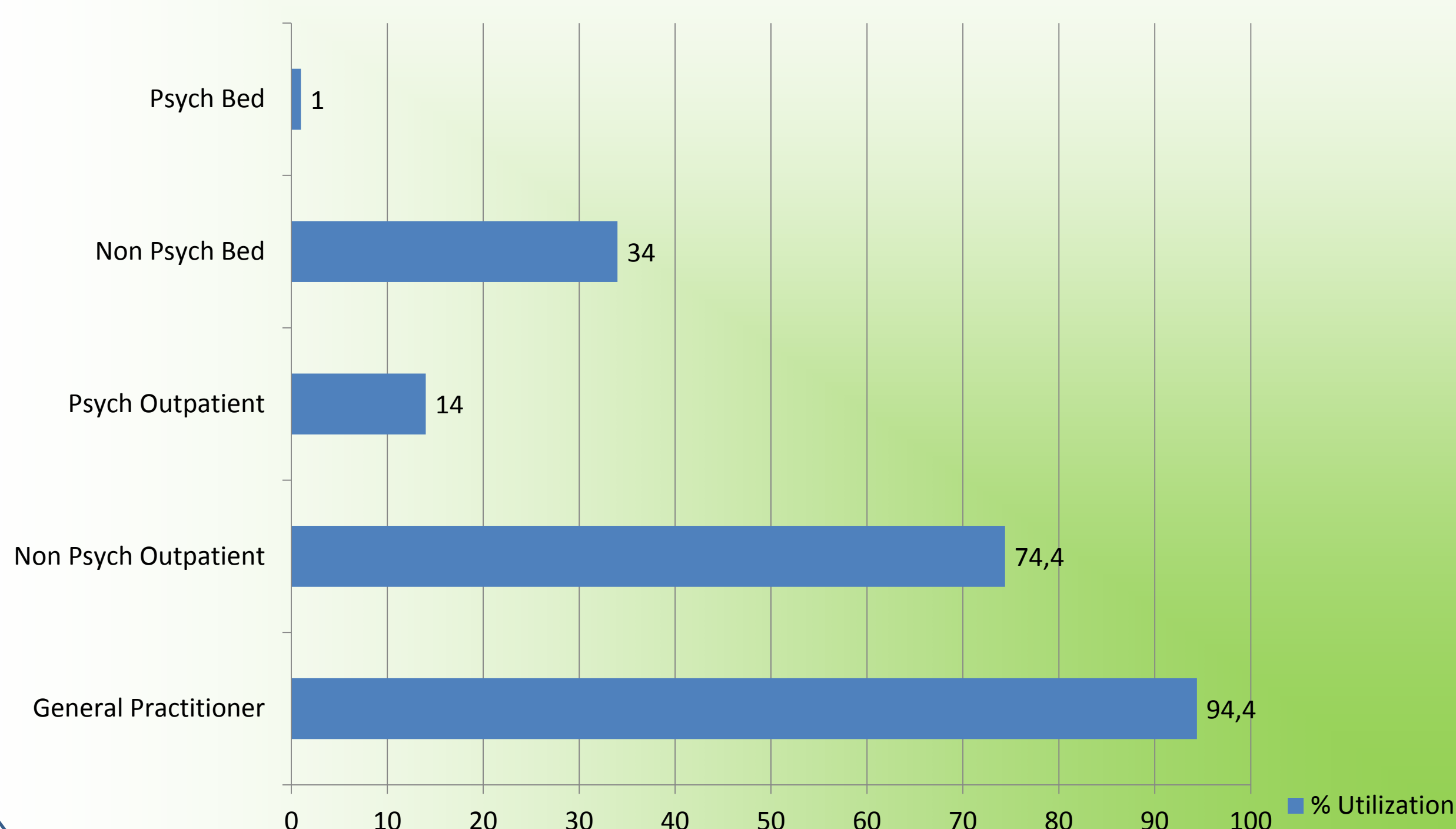
### Study population

Prescription of anti-dementia drugs in Q4 2006	144.457
Patients excluded (died before the end of 2007)	8.596
Baseline population for Follow-Up Study	135.861
Women	70.33%
New prescription in 4 <sup>th</sup> quarter 2006	19.25%
Core anti-dementia drug (N06DA/N06DX01)	15.00%
Co-prescription for physical disorders	52.95%

### Results

In 2007 only 1% of the 135.861 patients who had not died were admitted to a psychiatric bed, but 34% to a non-psychiatric bed in a general hospital, 14% attended a psychiatric outpatient service, but 74,4% visited a non-psychiatric outpatient service; 94,4% saw a general practitioner. Co-prescription for physical disorders increased contacts with non-psychiatric services; prescription of core antidementia drugs increased contacts with psychiatric services. Overall, the study shows that record linkage across multiple routine databases is possible and can provide important information on pathways of care.

Service utilisation 2007 of patients with a prescription for an anti-dementia drug (ATC: N06D) in the 4<sup>th</sup> quarter of 2006 and not having died before 2008; N=135.861



### Conclusions

- Record linkage of service utilization data which are routinely collected for reimbursement is possible also in a highly fragmented provider payment system.
- A rather low utilization of psychiatric services by patients for whom a prescription for anti-dementia drugs was filled could be observed in the subsequent year, while non-psychiatric services and general practitioners were contacted much more frequently.
- Co-prescription of medications for physical disorders led to increased admissions to non-psychiatric hospital wards during the follow-up period underlining the relevance of comorbidity with physical diseases.
- The application of record linkage methods for analysing routinely collected health service utilization records allows to identify patient groups who are at risk for subsequent hospitalization after a prescription was filled on an outpatient basis. We shall use this approach in further analyses on patients for whom anti-dementia and other drug prescriptions were filled.

Reference: Katschnig H.: Monitoring service utilization of persons with mental disorders – a case for mapping pathways of care. *Epidemiology and Psychiatric Sciences* 20 (2011) 7-13

