



Ludwig Boltzmann Institut
für Sozialpsychiatrie



Hauptverband der österreichischen
Sozialversicherungsträger



FFG

Dementia and pathways of health services utilization in Austria: A record linkage study in a country with a fragmented provider payment system and only partially available unique patient identifiers

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Two topics

- The Austrian GAP-DRG database on health services use
- Dementia: Study on pathways of health service use

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Routine health care information should inform policy, but

Routinely published Information about the working of the health care system on national and international level (WHO, OECD, EUROSTAT ...)

- is about **events/episode** of care statistics (e.g. number/rates of hospital discharges, average length of stay)
- nearly always **hospital data only**, with outpatient and social service use data poorly or not at all reported

>>>> **distortion of the real pattern of service utilization**, usefulness for planning and evaluating health care is very limited, many relevant questions cannot be answered, especially of mental health care, such as

- **Heavy utilizers?** e.g. in Austria 17% of patients account for 50% of psychiatric hospital days
- **Hospital readmissions?** not only to the same hospital!, „revolving door“ psychiatry, failure of community psychiatry?
- **Referral patterns?** motives for referral? Reimbursement mechanisms, cream skimming, calculating costs for pathways of care and not only for episodes, contacts
- **Pathways between outpatient and inpatient care and vice versa?** e.g. continuity of care? Dropping out of care?
- **Role of the general practitioner?** effect of gatekeeping? referral patterns to specialized care? Reimbursement mechanisms? Aftercare after hospital discharge?

Need for identifying pathways of care

Health services record linkage database was set up for the whole population of Austria by the Main Association of Austrian Social Insurance Institutions

Europe



Austria

83.000 km²

8.3 mio inhabitants

Data on health service use in Austria 1

- Collected for reimbursement purposes in a highly fragmented payment system (historically grown, 9 autonomous states)
- Mandatory health insurance system
- > 98% of the population covered
- 19 public health insurance companies - no choice of insurer
- No way to opt out
- Private insurance not important (only add-on for hotel component in hospital)
- e-card with Unique patient identifier (UPI)

Data on health service use in Austria 2

- Outpatient: 19 different insurance company data bases
 - Good for record linkage:
 - UPI, superb reporting discipline of providers: „no UPI, no pay!“
 - Bad for record linkage:
 - Different semantics (e.g. „psychiatrist“),
 - many different fee for service catalogues for GP and specialist OP
- Inpatient: 9 different regional funds (one for each state)
 - Good for record linkage:
 - data finally collected at the federal level in a single data base
 - Bad for record linkage:
 - no UPI, only anonymous hospital episodes

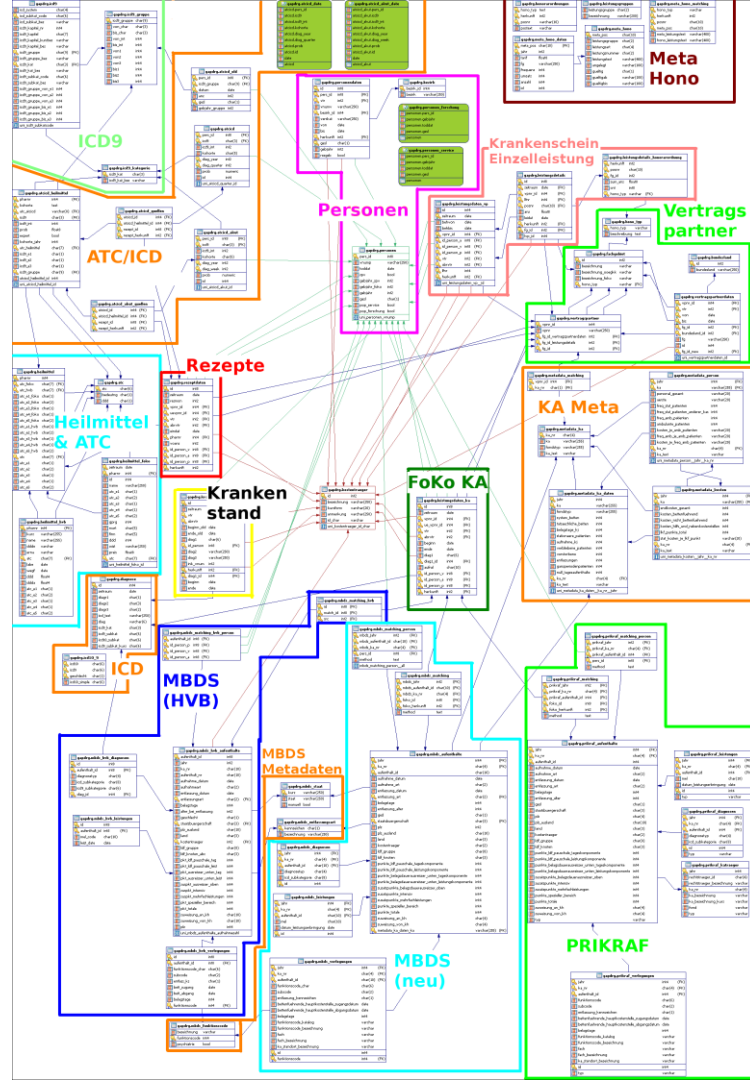
Challenges for record linkage in Austria

- If UPI is available in databases (all except inpatient)
 - > data protection problem > **pseudonymisation** required
- If UPI is not available in database (inpatient)>
 - > **matching** required
- Different semantics in different databases
 - > **clearing house approach**
- Large computer power needed
 - > **cooperation with large computer clusters**

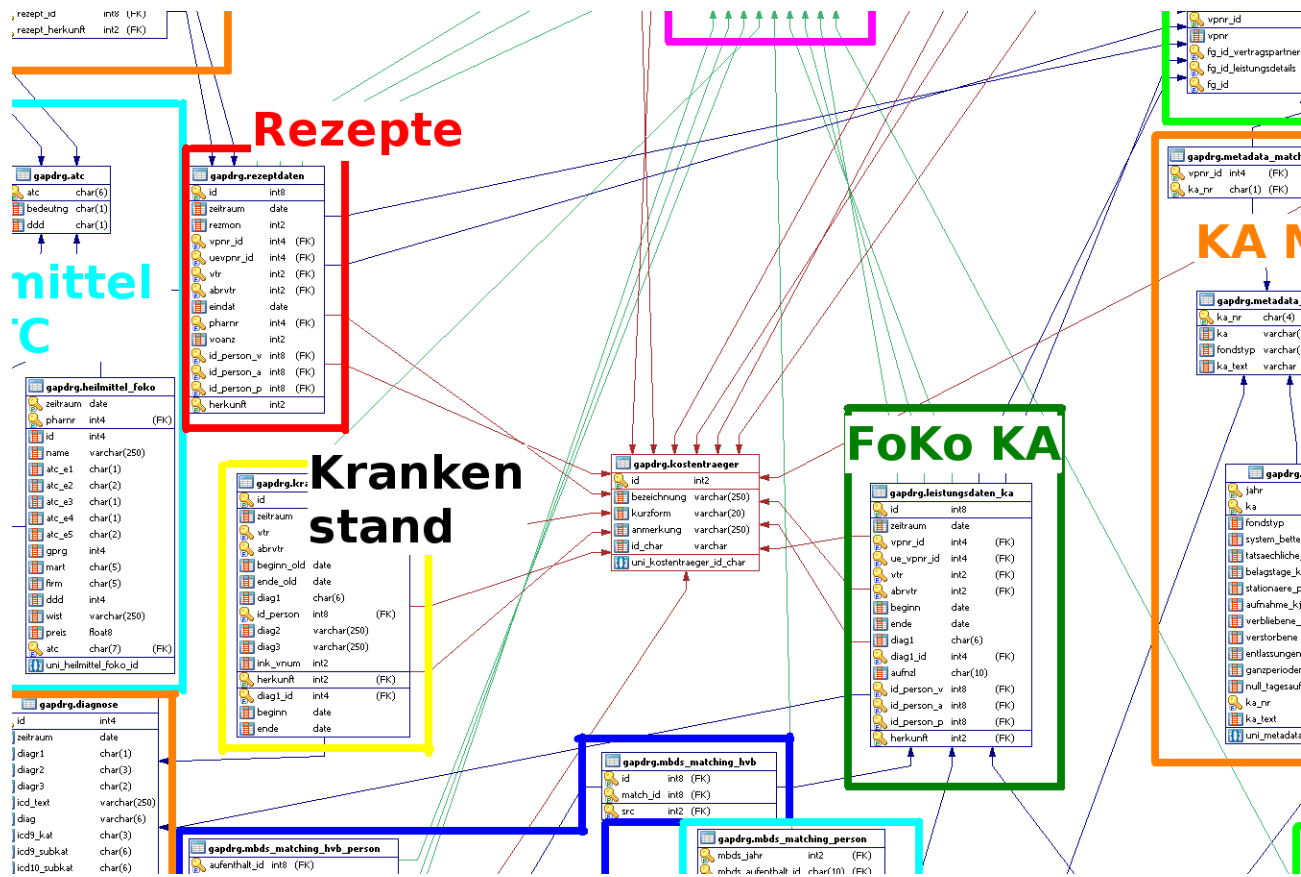
The Austrian National Health GAP-DRG Databank

- Ready for 2006 and 2007 (more recent years in progress)
- Includes all records of publicly reimbursed health care events
- Covers all types of health service utilization (IP, OP, GP, pharmacies)
- Approximately 2,2 billion data sets (2,176.810.111)
- Data sets can be linked by a **pseudonymised UPI** (disadvantage: no exact date of birth available!, place of residence: only county)
- Can be accessed and analysed online if the owner of the data bank commissions a project

Data on service utilization are located in
many different databases
some of which record a UPI some don't,
different semantics



Data Model of the
GAP-DRG database
Austria 2006 & 2007



Data Model of the GAP-DRG database Austria 2006 & 2007 (detail)

Two topics

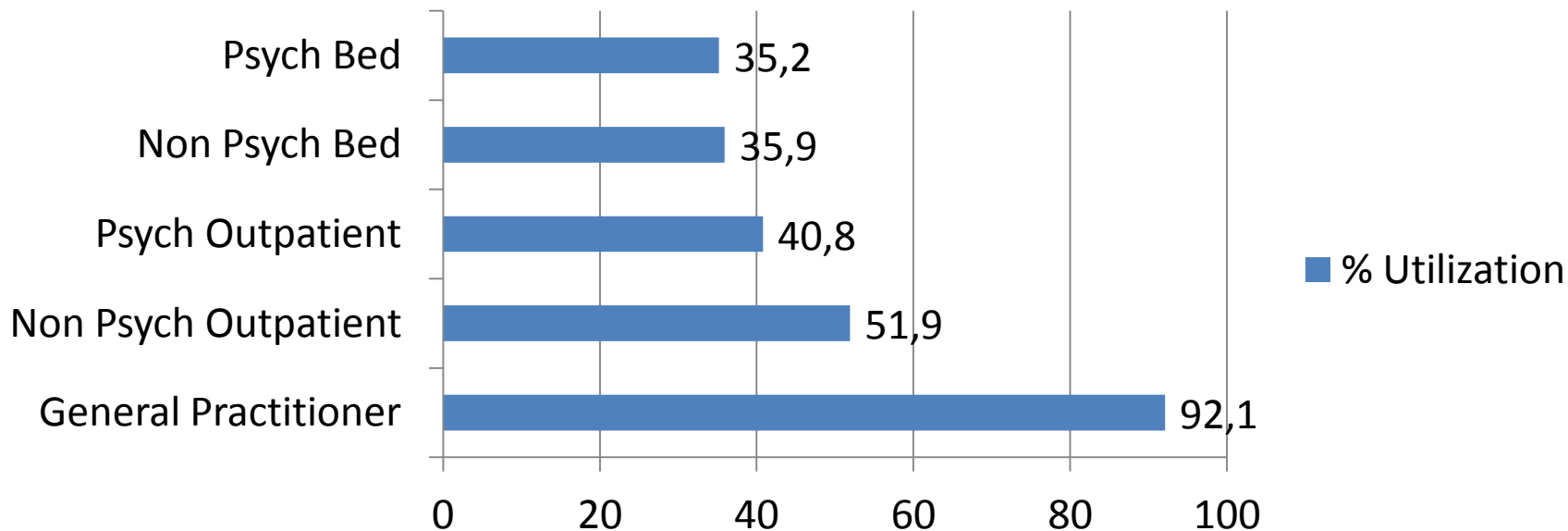
- The Austrian GAP-DRG database on health services use
- Dementia: Study on pathways of health service use

Previous pathway study on psychiatric patients in general

Starting cohort: Patients discharged from a psychiatric bed with a main psychiatric diagnosis: Which services do they use in the 12 months after discharge?

**Service utilization during the 12 months after discharge
with a main psychiatric ICD-10 diagnosis from a psychiatric bed
Residents of the State of Lower Austria, 18+years, 2006, N= 4.480**

% Utilization



Dementia pathway study

Start cohort with dementia in outpatient services:
Which services do they use in the year after outpatient contact?

Study population

- All residents of Austria in 2006 (8,27 million)
- Covered by mandatory health Insurance – > 98% of the population are covered
- Since no coded diagnoses are reported in Austrian outpatient services > prescription of antidementia drug (N06D) as proxy
- Persons with at least one prescriptions filled at least once between October and December 2006

Baseline population Q4 2006

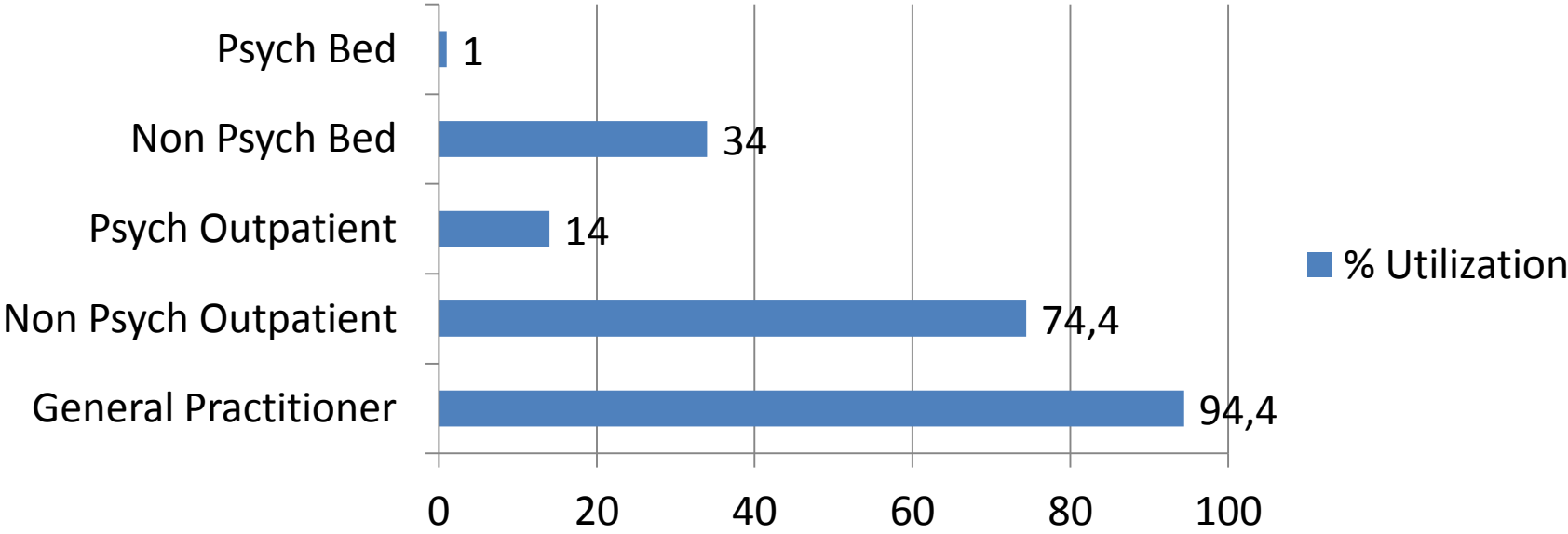
Anti-Dem. Prescription Q4 2006	144.457
Excluded: Died before 2008	8.596
Followed up in 2007	135.861

Of 135.861 patients Q4 2006

Women	70%
„New“ patients (Q1-8: no preceding prescription, no hospital discharge with F0)	19%
Core anti-dementia agents (Anticholinesterase inhibit. & Memantine)	15%
% Co-prescription for physical diseases	53%

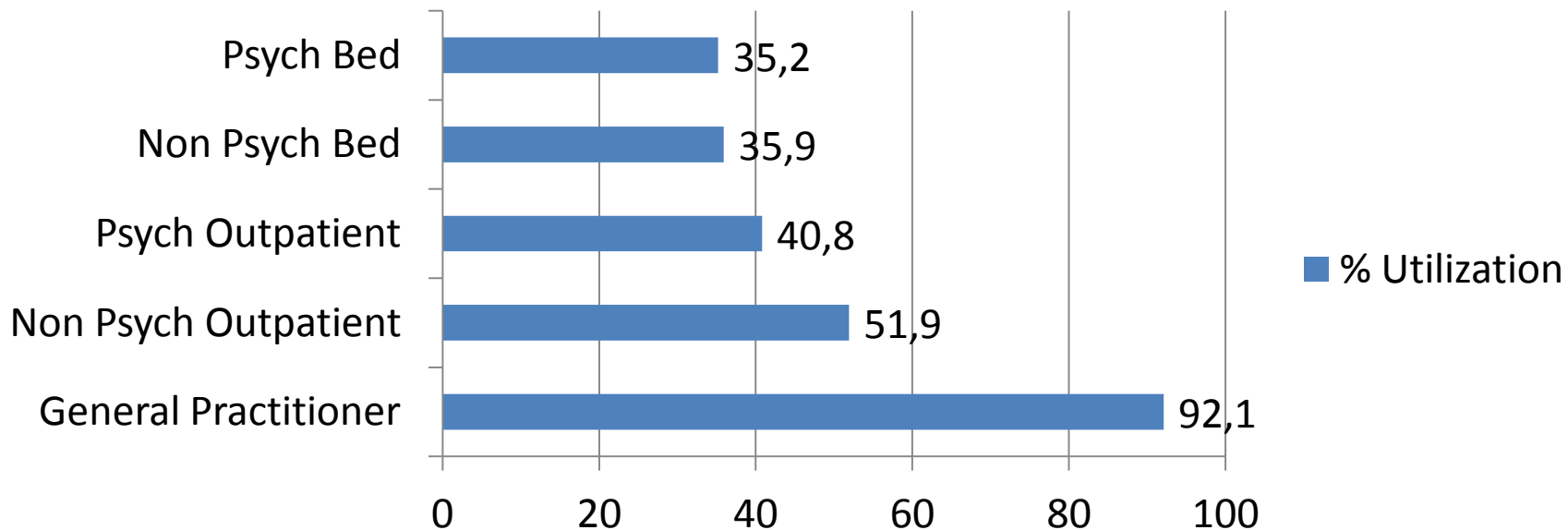
Service utilization 2007 of patients with a prescription for an anti-dementia drug (ATC: N06D) in the 4th quarter of 2006 and not having died before 2008. N 135.861 (1,64%) of total popn of 8,27 mio

% Utilization



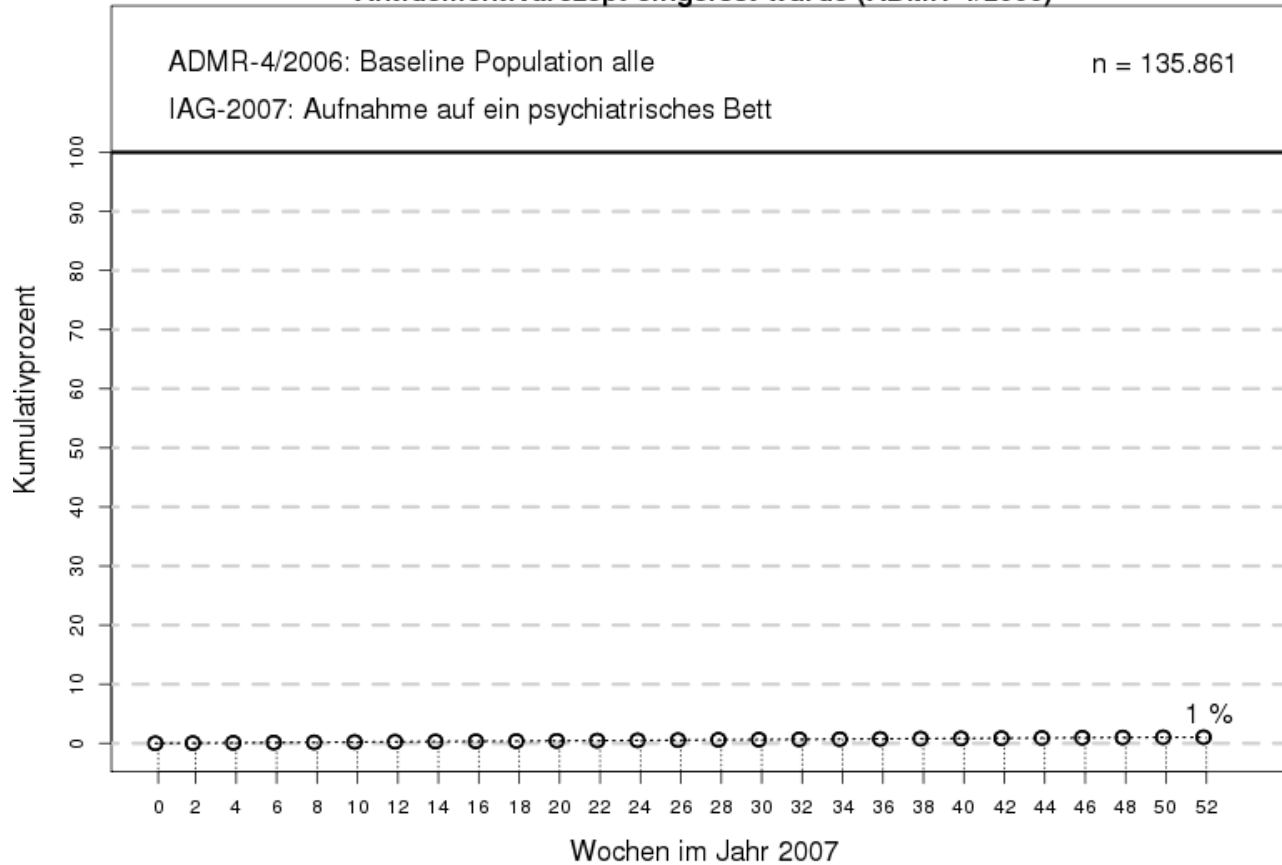
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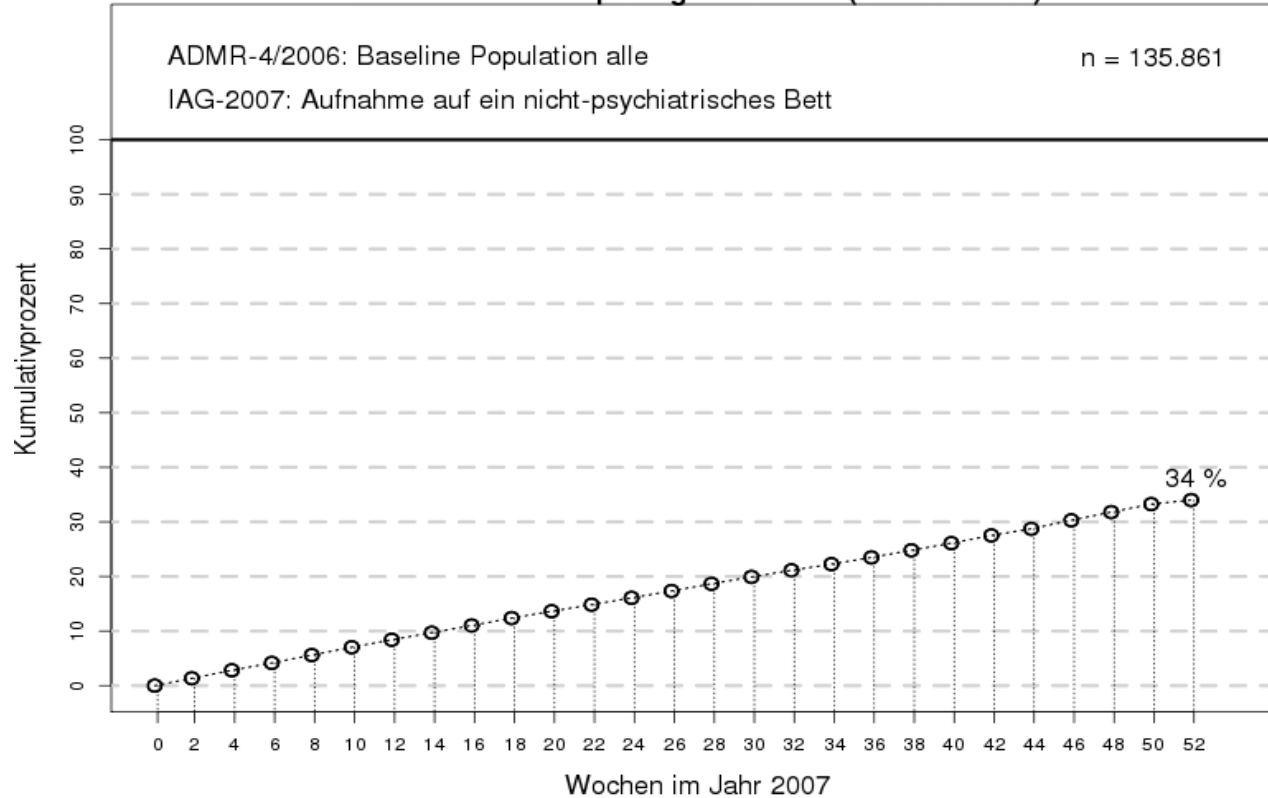
Admitted to hospital bed in 2007	Absolute numbers	% main mental diagnosis
Psychiatric	1.396	97,9
Non-psychiatric bed	46.205	2,9

Inanspruchnahme von Gesundheitsleistungen im Jahr 2007 Kumulative Prozentwerte im 2 Wochenabstand (IAG-2007) durch Personen, für die im 4. Quartal 2006 ein Antidementivarezept eingelöst wurde (ADMR-4/2006)



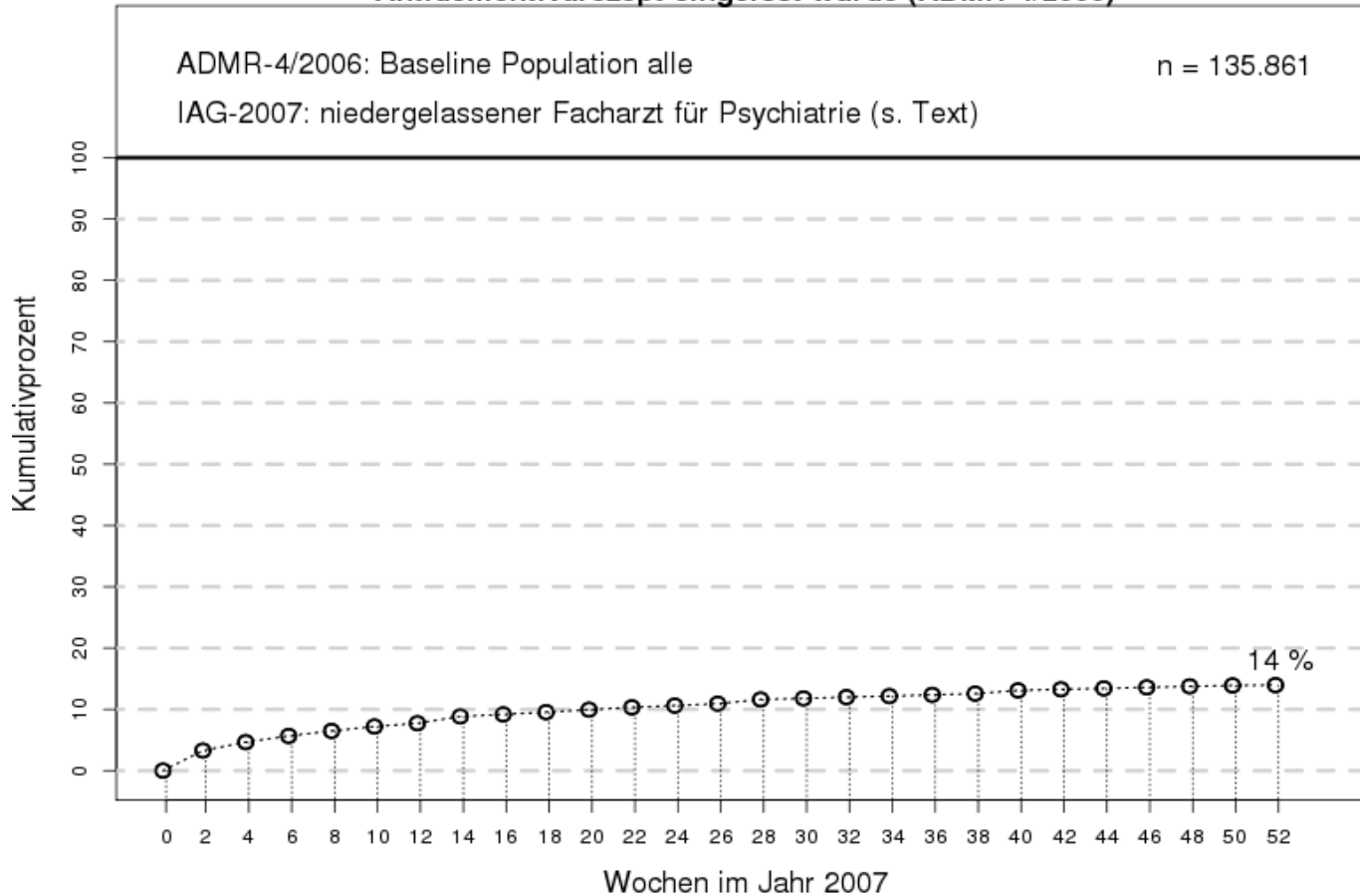
Admitted to a psychiatric bed in 2007

Inanspruchnahme von Gesundheitsleistungen im Jahr 2007 Kumulative Prozentwerte im 2 Wochenabstand (IAG-2007) durch Personen, für die im 4. Quartal 2006 ein Antidemtivarezept eingelöst wurde (ADMR-4/2006)



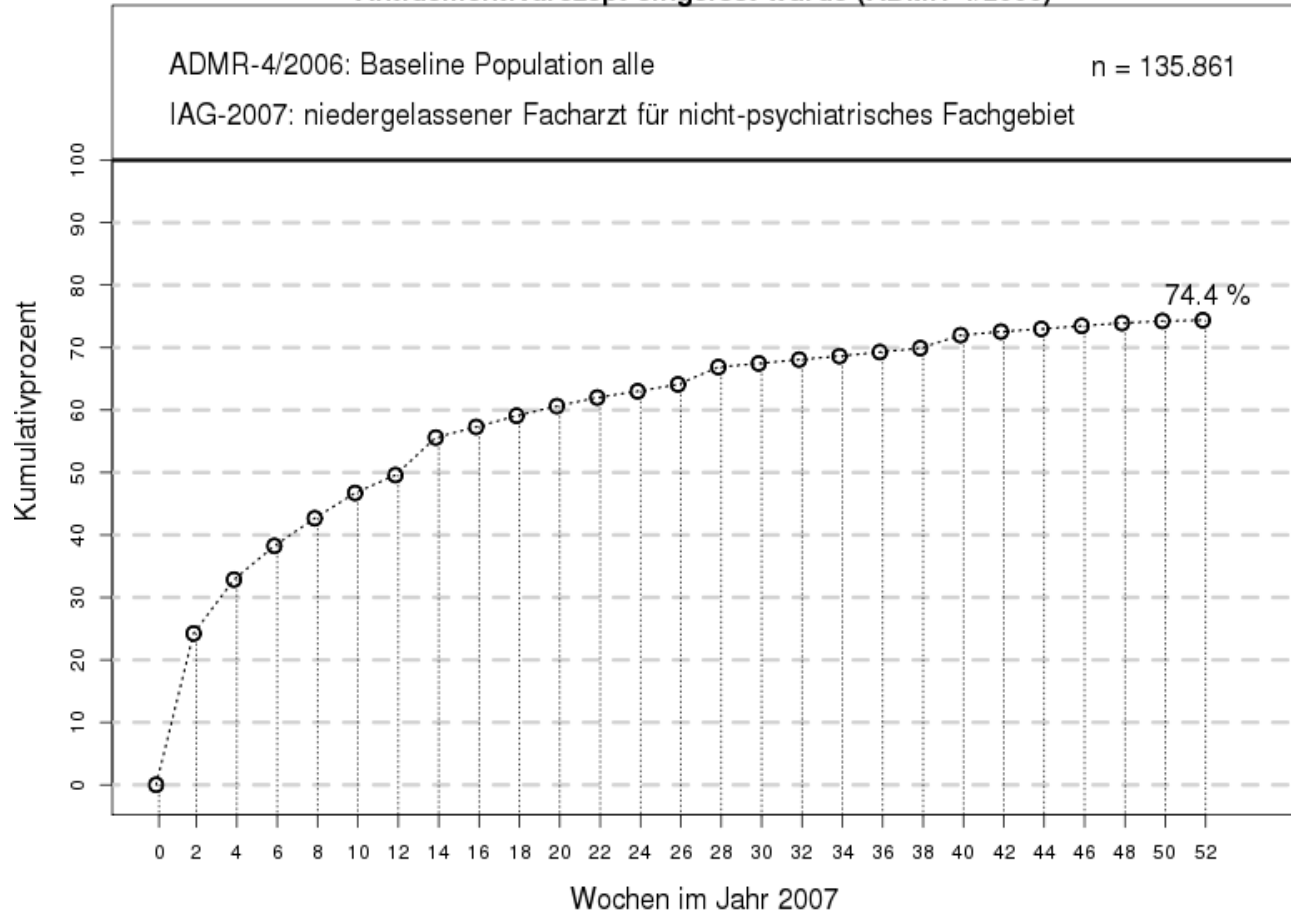
Admitted to a non-psychiatric bed in 2007

Inanspruchnahme von Gesundheitsleistungen im Jahr 2007 Kumulative Prozentwerte im 2 Wochenabstand (IAG-2007) durch Personen, für die im 4. Quartal 2006 ein Antidementivarezept eingelöst wurde (ADMR-4/2006)



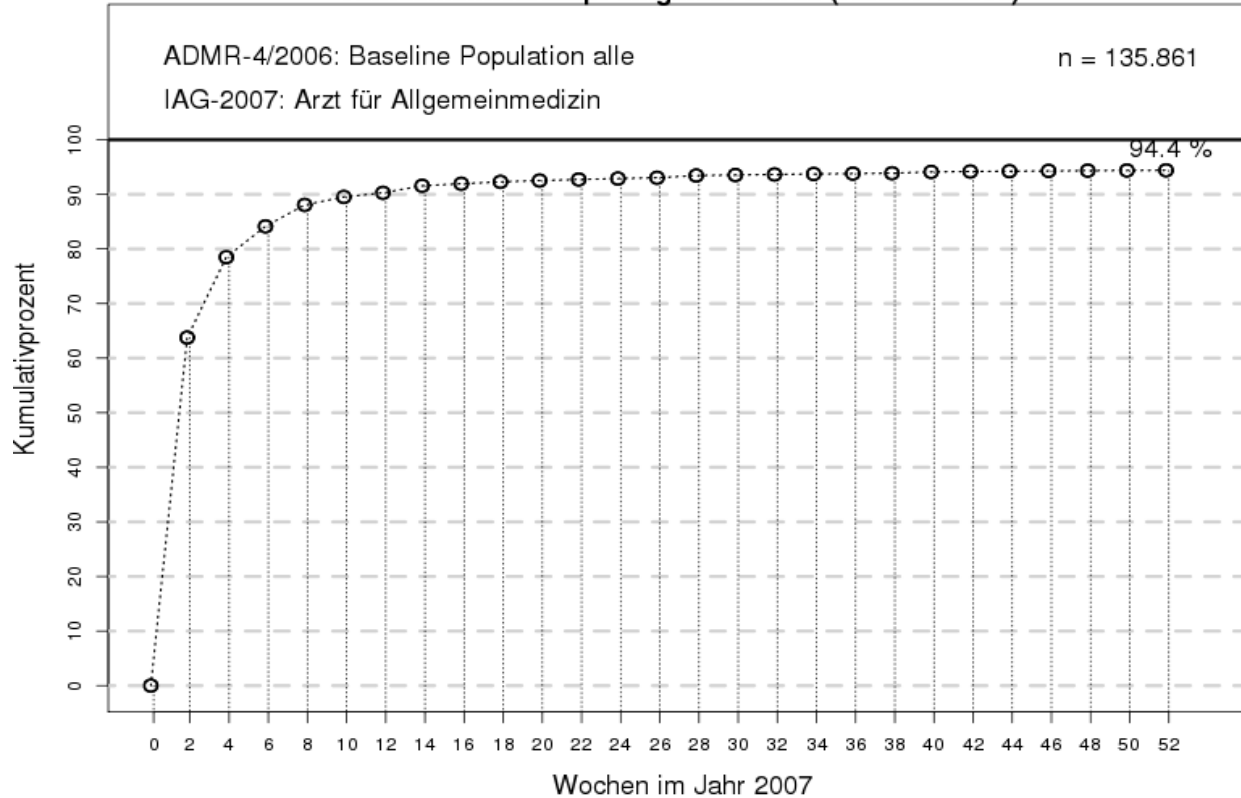
Seen a
psychiatrist
in 2007

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Seen a non-psychiatric specialist in 2007

**Inanspruchnahme von Gesundheitsleistungen im Jahr 2007 Kumulative Prozentwerte im
2 Wochenabstand (IAG-2007) durch Personen, für die im 4. Quartal 2006 ein
Antidementivarezept eingelöst wurde (ADMR-4/2006)**



Seen a GP in 2007

Discussion 1

Methods: Record linkage of routinely collected service utilization data is possible also in a very fragmented payment system

Discussion 2

High utilization of non-psychiatric services and GPs by patients with a filled prescription for antimentia drugs

Possible explanations

- Stigma avoidance?
- Better geographical accessibility?
- Physical comorbidity?

Outlook

More specific analyses possible

- For other diagnostic groups
- More than one step pathways
- Prediction of future health service use – identify persons at risk
- Relate pathways of care to incentives in provider payment mechanisms

Tool for continued monitoring of pathways – assess consequences of changes in

- Mental health policy
- Provider payment system