Norwegian Prescription Database = NorPD

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Sources of drug use in Norway

- Norwegian Drug Wholesalers Database (NorDWD)
  (cover all sales of drugs from wholesalers to pharmacies and to non-pharmacy outlets)

- Population-based health surveys with questions on drug use

- Norwegian Prescription Database (NorPD)
  - From January 2004
  - www.norpd.no
Data flow – dispensed drugs into NorPD

~ 650 pharmacies

Doctor prescribing

Dispensed prescriptions

Statistics Norway

NorPD
Norwegian Institute of Public Health

encrypting processes

all dispensed prescription drugs (reimbursed or not)
The main objectives of NorPD
authoritative regulations: http://www.lovdata.no/for/sf/hd/hd-20031017-1246.html

are to collect and prepare data on drug use in individuals in order to:

• describe **drug utilisation** patterns, incl. changes over time

• promote and form a basis for **research** and review of the **safety** and **effectiveness** of drug use

• serve as a **management tool for the authorities** in order to assure quality of prescribing, in addition to general surveillance, control and planning

• **feedback to prescribers** as a basis for internal control, as a part of an audit method to **improve quality of prescribing** practices
Different kind of data

All prescribed drugs dispensed from all pharmacies in Norway to individuals and institutions

NorPD

Individual data

Prescriptions to individual humans

Prescriptions to individual animals

Prescriptions to prescribers office

Aggregate data

Deliveries to institutions (hospitals/nursing homes)
Variables in NorPD

Based on information on the prescriptions + information from administrative registers

Patient
– Person-identifier, age, gender, date of death (emigration), place of residence

Prescriber
– Person-identifier, age, gender, profession, speciality
Variables continued

Drug
- Nordic article number
  (brand name, strength, package size)
- Classified by ATC code
- Defined Daily Doses (DDD)
- Number of packages
- Code of reimbursement (from March 2008: ICD10 or ICPC)
- Area of application & and prescribed dose (freetext)
- Dispensing date
- Price

Pharmacy
- Licence number, name, location area (municipality, county)
Missing information in the NorPD

- Over-the-counter drugs
- Individual drug use in hospitals and nursing homes
- Indication for use
- Prescribed dose (only in free-text)
Linkage of **NorPD** to other registers and data sources

Record-linkage

**NorPD**

- Medical Birth Registry of Norway
- Cancer register
- Causes of Death Register
- Central Tuberculosis Surveillance Register
- System for Immunization Surveillance and Control
- System of Surveillance of Infectious Diseases
- Norwegian Patient Register (from July 2009?)

**Other registers and data sources**

- Health surveys
- Biobanks
- Patient records
- Data from Statistics Norway
- Hospitals
- GPs
- Sosioeconomy, Traffic accidents

Central personal health data filing systems
Data access

• All applications should be sent to datatilgang@fhi.no
• Some data are accessible online www.norpd.no

S601E Application Form

Access to data from the Norwegian Institute of Public Health (NIPH)

Please submit one form for each application to:
Norwegian Institute of Public Health
EPUT
P.O.Box 4404 Nydalen
0403 Oslo

Datatilgang@fhi.no

1. GENERAL INFORMATION
Submission date: _____
Number of attachments: _____ List of attachments, see article 13

1. PROJECT TITLE
Access to data from NorPD

All applications should be sent to datatilgang@fhi.no

- The aim of the research project has to be in accordance to the objectives of NorPD
- Details about the applicant and the institution, the names of participants, protocol for the study
- Licence/notification from the the Data Protection Officer/ Norwegian Data Inspectorate (Personvernombudet/Datatilsynet) needed when NorPD is linked to other registers or data sources
- Ethical approval: not usually needed
- Costs: ~815 NOK/hour +mva (≈ ~100 Euro/hour)
Establishment of the nationwide Norwegian Prescription Database (NorPD) – new opportunities for research in pharmacoepidemiology in Norway

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ABSTRACT

Objectives: To give an overview of the data collection and content of the Norwegian Prescription Database (NorPD). In addition, key figures and results from different studies using data from NorPD are presented.

Methods: From 1st January 2004 the Norwegian Institute of Public Health receives monthly data on prescriptions dispensed and collected at all Norwegian pharmacies.

Results: Overall, during the four year period (2004-2007) over 4.2 million unique individuals have been recorded in NorPD with at least one prescription medication dispensed from a pharmacy. In each year about two-thirds of the entire Norwegian population had at least one prescription dispensed. 75% of the women and 61% of the men. The age-specific prevalence was lowest in both genders in those aged 10-14 years. Among 0-17 years old children and adolescents 45% had one or more prescriptions issued in 2007. About 30% of the girls and 38% of the boys had a prescription issued before they were 1 year old. About 90% of individuals aged 70 years and older received prescription medications.

Conclusion: NorPD covers the entire nation, 4.75 million inhabitants, and is a valid and reliable data source for studying use of prescription drugs. New areas for pharmacoepidemiological research in Norway are made possible with NorPD, like doing longitudinal studies and record-linkage studies with health survey data.
Welcome to the Norwegian Prescription Database

The NorPD contains data about dispensed drugs in Norway. You can find information about the users of a particular drug or drug category. The data can be split by sex, age and geography.

Use of Data
The Norwegian Institute of Public Health (NIPH) permits that reports from this website may be stored electronically, printed, reproduced and further processed as long as the source “Norwegian Prescription Database” is cited on every report, table or figure – see About the Database for full details.

Data from the Prescription Database is intended for general scientific research purposes, statistical analysis and planning. The privacy of the individual is strictly protected and data is anonymous.

NIPH is not responsible for interpretation or analysis performed by third parties.
External web-site to make your own statistics

www.norpd.no
Number of users – proportion of users in the population

Norwegian Prescription Database

<table>
<thead>
<tr>
<th></th>
<th>Number of users</th>
<th>Users per 1000 inhabitants</th>
<th>Turnover by dosage (DDD)</th>
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<tbody>
<tr>
<td>ADHD, drugs used for</td>
<td>2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 - 9</td>
<td>1 734</td>
<td>6,04</td>
<td>536 571</td>
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<tr>
<td>Men</td>
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<td></td>
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</tr>
<tr>
<td>Women</td>
<td>443</td>
<td>1,61</td>
<td>120 712</td>
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<tr>
<td>10 - 19</td>
<td>9 168</td>
<td>28,40</td>
<td>3 788 973</td>
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<tr>
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<tr>
<td>Women</td>
<td>3 278</td>
<td>10,73</td>
<td>1 171 734</td>
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<tr>
<td>20 - 29</td>
<td>1 660</td>
<td>6,38</td>
<td>760 946</td>
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<tr>
<td>Men</td>
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<tr>
<td>Women</td>
<td>1 139</td>
<td>4,03</td>
<td>415 965</td>
</tr>
</tbody>
</table>

Selected unit of measurement:
- Number of users
- Users per 1000 inhabitants
- Turnover by dosage (DDD)

Selected search criteria:
- Drug: ADHD, drugs used for comprises "N06BA01 - Amfetamine, N06BA02 - Dexamfetamine, N06BA04 - Methylphenidate, N06BA09 - Atomoxetine".
- Period: 2007
- Age: 0 - 9, 10 - 19, 20 - 29
- Sex: Women, Men

Not selected search criteria:
- Residence: the numbers in the report are for Norway
Norwegian Prescription Database celebrates 5 years

Invitation to seminar
Thursday 23rd April 2009

Norwegian Institute of Public Health