

The Danish Health Care Registries

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When an Entire Country Is a Cohort

Denmark has gathered more data on its citizens than any other country. Now scientists are pushing to make this vast array of statistics even more useful





EDITORIAL

Danish population-based registers for public health and health-related welfare research: Introduction to the supplement

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Denmark and other Nordic countries have exceptional opportunities to perform register-based research, because of the unique personal identification number available to all persons with permanent residence [1]. This number makes it possible to link information at the individual level from several registers for investigation of various research questions. The unique personal identification number was introduced in Denmark in 1968, which enables follow-up of individuals for decades. This supplement of the *Scandinavian Journal of Public Health* presents public health and health-related registers and health-related welfare research based on Danish

identifies all unique housing unities. By the base registers it is possible to link persons, businesses and housing units.

The aim of the supplement is to present a wide range of Danish registers and register-based research. We invited Danish key researchers performing register-based research to contribute to this supplement. Thus, this publication also highlights that register-based research in Denmark is widely distributed at various research institutions and that registers are fundamental data sources in health and health-related welfare research. Twenty two institutes and departments at four Danish universities and 21

Danish Registries

www.DSFE.dk

Overview of Danish Registry Reviews

With the *Overview of Danish Registry Reviews*, the Danish Society for Pharmacoepidemiology aims to provide a recommendation on which reviews that most accurately describe the main Danish registries and their use for pharmacoepidemiological research.

Most Danish registries have previously been reviewed. However, reviews may become outdated with time for several reasons. Thus, the registries or the methods for which they can be used in research are often improved over time. The application procedures may also change. Finally, validation of the registry data with new information about the quality of the data may also justify updates of existing reviews.

There is therefore a consistent need to stay updated on which reviews that best describe each registry. To facilitate this information to individual researcher and to create a common platform where researcher easily can check if new reviews have been published, the Society have made the overview below.

Comments or suggestions for updates are welcome and can be mailed to morten.schmidt@clin.au.dk.

Morten Schmidt, MD, PhD

Overview of the timeline for the initiation Danish registries (*Clin Epidemiol* 2015;7:449–90)

- 1870: Danish Twin Registry
- 1925: Danish Registry of Cerebral Paresis
- 1937: Registry of Tuberculosis
- 1943: Danish Cancer Registry; Registry of Causes of Death
- 1949: Danish Multiple Sclerosis Registry; Military Conscription Registry
- 1968: Danish Civil Registration System; Cytogenetic Register
- 1969: Central Psychiatric Registry
- 1970: Income Statistics Register; Suicide registry

The Danish National Prescription Registry / Den National Receptdatabase

- [Kildemoes HW, Sørensen H, Hallas J. The Danish National Prescription Registry. *Scand J Public Health* 2011;**39**:38-41.](#)

The Danish National Database of Reimbursed Prescriptions

- [Johannesdottir SA, Horvath-Puho E, Ehrenstein V, et al. Existing data sources for clinical epidemiology: The Danish National Database of Reimbursed Prescriptions. *Clin Epidemiol* 2012;**4**:303-13.](#)

Aarhus University Prescription Database / Aarhus Universitets Receptdatabase

- [Ehrenstein V, Antonsen S, Pedersen L. Existing data sources for clinical epidemiology: Aarhus University Prescription Database. *Clin Epidemiol* 2010;**2**:273-9.](#)

Medstat.dk, Kvartalstal medicin, Kvartalstal medicin / The Danish online Drug use statistics

- Schmidt M, Hallas J, Laursen M, Friis Data Resource Profile: The Danish online drug use statistics (MEDSTAT). *Int J Epidemiol*. In press

The Civil Registration System / CPR-registret

- [Schmidt M, Pedersen L, Sørensen HT. The Danish Civil Registration System as a tool in epidemiology. *Eur J Epidemiol* 2014;**29**:541-9.](#)

The Danish National Patient Registry / Landspatientregistret

- [Schmidt M, Schmidt SAJ, Sandegaard JL, et al. The Danish National Patient Registry: a review of content, data quality, and research potential. *Clin Epidemiol* 2015;**7**:449-90.](#)

The Danish Psychiatric Central Research Register / Det Centrale psykiatrireger

- [Mors O, Perto GP, Mortensen PB. The Danish Psychiatric Central Research Register. *Scand J Public Health* 2011;**39**:54-7.](#)



Dokumentation



Her findes dokumentation af alle Sundhedsdatastyrelsens registre, og ikke kun de data som findes på eSundhed. Under 'Ord og begreber' kan du finde definitioner af ord og begreber, der anvendes inden for sundhedsområdet generelt eller i opgørelserne på eSundhed.

Kontakt

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Dokumentation af registre og tilhørende tabel- og variabel koder

Søg i dokumentationen

REGISTRE



TABELLER



VARIABLER

Landspatientregisteret

DUSAS

Register over legalt provokerede aborter

Det Nationale Diabetesregister

Svæsesikringsregisteret

t_vente

t_bes

t_diag

t_foedsler

t_pas

CPR Registry
Universal Danish healthcare

Patient Registry
Prescription Registry

Statistics Denmark
The Danish Health Data Authority

The Danish National Patient Registry: a review of content, data quality, and research potential

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Background: The Danish National Patient Registry (DNPR) is one of the world's oldest nationwide hospital registries and is used extensively for research. Many studies have validated algorithms for identifying health events in the DNPR, but the reports are fragmented and no overview exists.

Objectives: To review the content, data quality, and research potential of the DNPR.

Methods: We examined the setting, history, aims, content, and classification systems of the DNPR. We searched PubMed and the *Danish Medical Journal* to create a bibliography of validation studies. We included also studies that were referenced in retrieved papers or known to us beforehand. Methodological considerations related to DNPR data were reviewed.

Results: During 1977–2012, the DNPR registered 8,085,603 persons, accounting for 7,268,857 inpatient, 5,953,405 outpatient, and 5,097,300 emergency department contacts. The DNPR provides nationwide longitudinal registration of detailed administrative and clinical data. It has recorded information on all patients discharged from Danish nonpsychiatric hospitals since 1977 and on psychiatric inpatients and emergency department and outpatient specialty clinic contacts since 1995. For each patient contact, one primary and optional secondary diagnoses are recorded according to the International Classification of Diseases. The DNPR provides



Data Resource Profile

Data Resource Profile: The Danish National Prescription Registry

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Data resource basics

Nationwide Danish data for research

Denmark has a long tradition of creating nationwide ad-

Prescription drugs in the Danish healthcare system

The Danish National Health Service¹⁰ provides universal tax-supported healthcare, guaranteeing all Danish resi-

New developments....

Laboratory values

In-hospital medicines