

**Documentation of statistics for
Hospitalization 2016**

1 Introduction

The purpose of the statistics on hospitalisation is to contribute to a description of the relationship between social conditions and admissions to hospitals. 1990 is the first year covered by the statistics. Since then, the content of the statistics has continuously been extended. E.g., in 1994, the statistics were supplemented with a number of new variables to describe the social conditions at family level. Starting from 1999, the statistics have been supplemented with information about parentage. Starting from 2006, the statistics include outpatient treatments and visits to emergency rooms.

2 Statistical presentation

The statistics cover admissions to and outpatient treatments at public somatic hospital departments within one calendar year. The statistics are based on the National Patient Register from The National Health Data Authority (Sundhedsdatastyrelsen or SDS) combined with a number of background details from other registers. The statistics show e.g. how the use of hospitals varies with a range of social conditions, such as family, education, occupation, accommodation, parentage, and geography with standardisation for sex and age.

2.1 Data description

The key variables in the statistics are the number of admissions, the number of outpatient treatments (i.e. number of visits) and visits to the emergency room at public somatic hospital departments within one calendar year. The statistics are based on the National Register of Patients from The National Health Data Authority combined with a number of background details from other registers. The statistics show e.g. how the use of hospitals varies with a range of social conditions, such as family, education, occupation, accommodation, parentage, and geography with standardisation for sex and age.

Until the statistics on hospitalisations for 2008 background information from The Cohesive Social Statistics was included. After the termination of the Cohesive Social Statistics it may be considered to include other variables regarding income in future statistics on hospitalisations.

In connection with the publication of 2012, tables in the statistics bank have been extended and rearranged, which included integration with the statistics for outpatient treatments. Changes have been made in the population scope in some of the tables with standardised indexes and, for the preceding years (2006-2008), very small changes have been made regarding municipal information.

In connection with the publication of 2014, the scope for outpatient treatments and visits to emergency rooms has been changed, and this constitutes a break of data, as the former categorisation "emergency room patients has been discontinued in the National Register of Patients. Starting from 2014, the scope for outpatient treatments has been delimited by type of patient equal to outpatient and type of hospitalisation equal to planned. Starting from 2014, the scope for emergency room patients delimited by type of patient equal to outpatient and mode of hospitalisation equal to emergency.

2.2 Classification system

The following classifications are applied in connection with publication of Hospitalisation statistics:
- Diagnosis (disease diagnoses – all diagnoses). Diagnoses are grouped according to the International Classifications of Diseases ICD - on aggregated 23 and 99 groups (the S list), IDC10 from WHO. More on IDC10 and classification of diseases available on The SKS browser. - Admissions (emergency, planned).

Furthermore, other classifications from other sets of statistics are applied: - Socio-economic status (from AKM) (self-employed persons; assisting spouses; senior executives; high-level employees; mid-level employees; ground-level employees; other employees; unemployed persons; persons temporarily outside the labour force; students; retired persons etc.; recipients of cash benefit; other persons outside the labour force) - Education (basic general education or N/A; upper secondary education; basic vocational training and education; short-cycle education; medium-cycle education; bachelor; long-cycle education) - Family type (single; married/registered; cohabiting couples; cohabiting couples who have had children together) - Type of accommodation (single-family houses; terraced houses, linked houses and semi-detached houses; flats; other types of accommodation) - Parentage (persons with Danish parents; immigrants from the Western part of the world; immigrants from outside the Western part of the world; children of persons from the Western part of the world; children of persons from outside the Western part of the world) - Geography (municipalities; provinces; regions)

2.3 Sector coverage

Public somatic hospital sector

2.4 Statistical concepts and definitions

Outpatient: Outpatient, exclusive of patients visiting emergency rooms

Outpatient treatment: Outpatient treatment

Index (standardization): The index (e.g. the hospitalization rate) is the percentage of a given group in the population who have been admitted to hospital. The rates are standardized by sex and age, i.e. it has been corrected for the distribution by age being unequal for the different e.g. socioeconomic groups. Hence it is possible to compare the groups.

Inpatient: Persons, who have been admitted as inpatients on somatic public hospital once or more times during the year.

Admission: Admission to somatic public hospital, as an inpatient occupying a bed (in contrast to outpatients or patients visiting an emergency room).

Beddays: Beddays

Emergency room visit: Emergency room visit

Patient in emergency room: Patient in emergency room

2.5 Statistical unit

The unit is number of admissions and bed days for inpatients and the number of outpatient treatments. Further more unit may be number of patients or index (when standardised).

2.6 Statistical population

Admissions and out patient treatments at public somatic 24 hour departments during a calendar year.

2.7 Reference area

Denmark

2.8 Time coverage

The statistics has been produced on the present basis since 1990.

(Statistics prior to 2006 are to be found in the archive of <http://www.statbank.dk>)

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

- Number
- Index

2.11 Reference period

The reference period is the calendar year in which the admission/treatment take place.

2.12 Frequency of dissemination

Yearly

2.13 Legal acts and other agreements

The Act on Statistics Denmark § 6.

There is no EU Regulation related to the statistics on hospitalisations.

2.14 Cost and burden

There is no response burden as the data are collected via registers.

2.15 Comment

Other information can be obtained on: [Hospitalisations](#).

3 Statistical processing

Data are processed and checked in the different stages of production.

3.1 Source data

- National Register of Patients operated by The National Health Data Authority (Sundhedsdatastyrelsen). (From 2012-2015: by Statens Serum Institut. Before 2012: by the National Board of Health) and following registers operated by Statistics Denmark:
- The Population Statistics Register, see the following declaration of contents under the subject Population and elections: The population 1. January, Household and family statistics and Immigrants and their descendants
- The Medical Register of Births and Deaths (up to and including 2005), see the declaration of contents for Medical birth and death statistics under the subject Population and elections
- The Central Register of Buildings and Dwellings, see the declaration of contents for Census of Housing under the subject Construction and housing
- The Educational Classification Module, see the declaration of contents for Education of the population under the subject education and culture
- The Employment Classification Module
- The Register of Prosperity Statistics, see the declaration of contents for Family Income Statistics under the subject Income, consumption and prices

Before 2008: - The Register of Transfer Payments, see the declaration of contents for Coherent Social Statistics under the subject Social conditions, health and justice

3.2 Frequency of data collection

Yearly

3.3 Data collection

Register

3.4 Data validation

The data undergo a probability check in form of a comparison with data from the previous year. Explanations of possible big deflections in the distribution of key variables are looked for, possible by contacting the National Health Data Authority.

3.5 Data compilation

Not relevant for these statistics.

3.6 Adjustment

Not relevant for these statistics

4 Relevance

Not relevant for these statistics.

4.1 User Needs

- Users: Ministries and municipalities, organisations, educational institutions, research or scientific institutions, the media, private firms and private individuals.
- Applications: Public planning, education, research/science and public debate.

4.2 User Satisfaction

The statistics on hospitalisation are frequently used by the press and the tables in the <http://www.statbank.dk> are used frequently and contact with users contribute to the development of the statistics.

Twice a year Statistics Denmark have contact group meetings with The National Health Data Authority where issues regarding the National Register of Patients can be discussed.

4.3 Data completeness rate

Not relevant for these statistics.

5 Accuracy and reliability

The National Health Data Authority validates the National Register of Patients and the reliability of the data in the register is in general regarded as high. The overall accuracy of the Hospitalisation statistics is consequently regarded as high.

5.1 Overall accuracy

The accuracy of the statistics on hospitalizations is considered to be good.

In 2016 one region (Hovedstaden) experienced challenges due to implementing a new registration platform in some hospitals. These challenges were solved prior to the transmission of data to Statistics Denmark.

In 1990 an evaluation of the quality of the data in the National Register of Patients was carried out. The result of this evaluation was that the administrative information (e.g. dates) had a high level of reliability while the medical data (e.g. diagnoses) had a lower level of reliability. However, as Statistics Denmark uses the codes of diagnoses at an aggregated level this is not assessed to be of major importance. For an assessment of the reliability of the other registers of persons statistics, which are operated by Statistics Denmark and used in the statistics on hospitalization, reference is made to the specific declarations of contents of these registers.

5.2 Sampling error

Not relevant for these statistics.

5.3 Non-sampling error

On a detailed level of diagnosis there may be some differences in registration and thus less accuracy, which do not have any impact on these statistics, which are published on a more aggregated level.

5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

5.6 Quality assessment

The accuracy of the statistics on hospitalisations is considered to be good. The data come from a single administrative register system, and Statistics Denmark receives one register extract containing all the admissions and outpatient treatments reported from the hospitals to the authorities in Denmark.

5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

5.8 Data revision practice

Only final figures are published.

6 Timeliness and punctuality

The publishing time for the statistics is about 10 months. The statistics are usually published without delay in relation to the scheduled date.

Only final figures are published.

6.1 Timeliness and time lag - final results

The publishing time for the statistics is about 10 months.

The statistics are produced yearly. The statistics are published in News from Statistics Denmark 4-5 weeks and in Statistical News about 2 months after Statistics Denmark has received the necessary information from The National Health Data Authority.

In 2016 the data from the National Health Data Authority was medio September 2017. The time of delivery of the data from the National Board of Health has before 2012 varied during the years. This has implied that the statistics have been published between 1 and 1½ year after the end of the reference period.

Time lag:

- 2016: 9 months, 11 days
- 2015: 5 months, 20 days
- 2014: 9 months, 20 days
- 2013: 9 months, 21 days
- 2012: 10 months, 19 days
- 2011: 9 months, 5 days -2010: 11 months, 22 days
- 2009: 21 months, 11 days
- 2008: 26 months, 29 days
- 2007: 16 months, 25 days
- 2006: 17 months, 17 days

6.2 Punctuality

The statistics are usually published without delay in relation to the scheduled date.

7 Comparability

The statistics have been prepared on the same basis since 1990. Generally comparability over time is good. Though due to changes in the grouping of the diagnosis in 1994 and concepts of the background variables caution is recommended when comparing figures. In the years 1995 and 2008 labour market conflicts among nurses have reduced the activities in hospitals. Outpatient treatments and visits to emergency rooms are only available from 2006.

7.1 Comparability - geographical

EUROSTAT/OECD collect annual data in joint questionnaire from the member states on hospitalizations. The range of items included in the different groups differs between countries and comparisons based has to be made with caution.

7.2 Comparability over time

The same primary data have been used since 1990 when the statistics were compiled for the first time.

On 1 January 1994 the new International Classification of Diseases (ICD10) was introduced. This replaced the former ICD8-classification. This implies that caution has to be exercised in comparing the disease pattern before and after 1 January 1994. Furthermore, the development in the disease pattern can be influenced by changes in the practice of recording. For instance, there has been a considerable increase in the number of admissions with diagnoses in the group Symptoms, signs and ill-defined conditions. This is due to an increasing tendency to record symptoms in stead of a specific disease as long as the disease is not clearly defined. The information in the National Register of Patients on admissions caused by road traffic accidents is up to and including 1994 regarded as defective. Since 1995 the information is regarded as adequate.

When looking at the use of hospitals in 1995 and in 2008 the trade disputes among hospital nurses these years have to be taken into consideration.

When looking at outpatient treatments and visits to emergency rooms there is a break in the time series between 2013 and 2014. This has also had some impact in 2015 especially in the Capital Region.

The use of the background information in the statistics has continuously been extended, cf. item. 0.4. Consequently, some of the statistics cannot be found for all years.

7.3 Coherence - cross domain

The National Health Data Authority issues yearly statistics about the activity at hospitals. These statistics are also based on the information in the National Register of Patients. The statistics on the population's use of hospitals are comparable with these statistics, except the definition of the group of people covered by the statistics: In most of the tabulations the statistics on the population's use of hospitals only cover people living in Denmark as of 1 January in the specific year. This implies that people who were born or immigrated to Denmark during the year are not covered by the statistics. Another difference is that the statistics in the population's use of hospital assign people according to their municipality/county as of 1 January in the specific year, while the statistics from the National Board of Health assign people according to their municipality/county as of the date of admission. There can be other differences regarding the delimitation of the hospital activity e.g. publicly financed activity in private hospitals.

7.4 Coherence - internal

Data are internally consistent.

8 Accessibility and clarity

News from Statistics Denmark

StatBank Denmark: Hospitalisations

8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

8.3 User access

Statistics are always published at 9:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published. Theme publications etc. may be published at other times of the day. The National Statistician can decide that such publications may be released before their official publication time, e.g. to the media and other stakeholders.

8.4 News release

News from Statistics Denmark: The latest release can be found here: [Hospitalisations](#)

8.5 Publications

Yearly publications (paragraphs): *Statistical Yearbook*, "*Statistisk Tiårsoversigt*".

8.6 On-line database

The statistics are published in StatBank Denmark. Subject: Living conditions, Health, Hospitalisations: [Hospitalisations](#)

8.7 Micro-data access

The Register of Hospitalisations stores complete data on the population's use of hospitals at the level of individuals. Furthermore, complete data on all admissions (inpatients, outpatients, visitors at emergency rooms) at the level of individuals are stored. This information can be used in compiling other or more detailed statistics than those published.

8.8 Other

Not relevant for these statistics.

8.9 Confidentiality - policy

Publication from the register will be in accordance to: [the data privacy policy of Statistics Denmark](#).

8.10 Confidentiality - data treatment

The statistics on hospitalizations do not make identification possible.

8.11 Documentation on methodology

The content of the Register of Hospitalization is documented in Statistics Denmark's documentation system (TIMES).

8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

9 Contact

The administrative placement of this statistics is in the division of Social Statistics. The person responsible is Kamilla Heurlén, tel. +45 39 17 34 93, e-mail: kah@dst.dk

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