

Prevalence of documented diabetes

**Field of action 2:****Improving the early detection and treatment of diabetes****Adults**

Background

Alongside the prevalence based on population-representative surveys of the Robert Koch Institute (RKI) (indicator “prevalence of known and unknown diabetes”), the additional use of data collected in accordance with the Data Transparency Ordinance (DaTraV) enables even greater stratification of the documented prevalence. In particular, people of advanced age are also included, and the results can be depicted at federal state level.

Key messages

- ▶ For women and men, there is a continuous increase in documented prevalence with increasing age up to the age group 80 years and older.
- ▶ There are clear regional differences between federal states that persist even after taking different age structures into account.

Figure 1: Temporal development of the prevalence of documented diabetes in % among adults covered by statutory health insurance by sex between 2011 and 2013 (age-standardised).

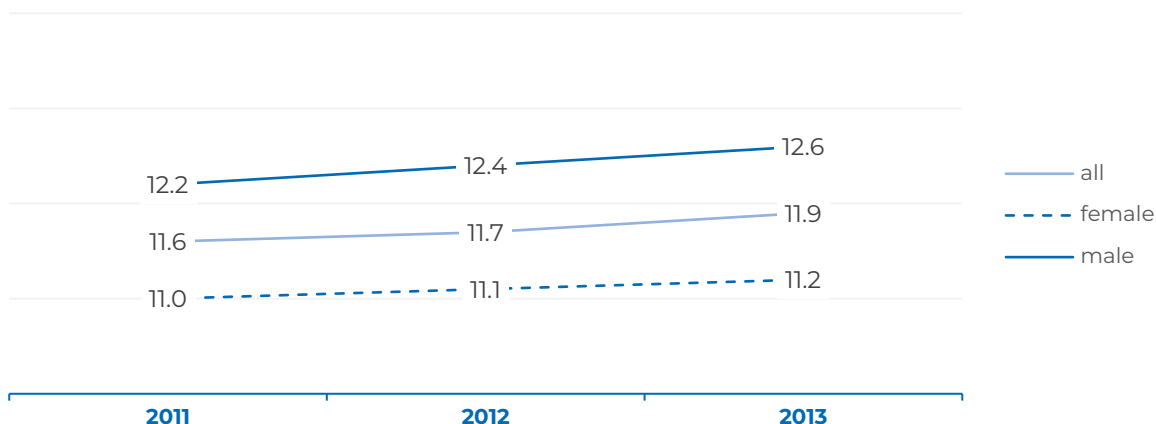


Figure 2: Prevalence of documented diabetes in % among adults covered by statutory health insurance by age and sex in 2013.

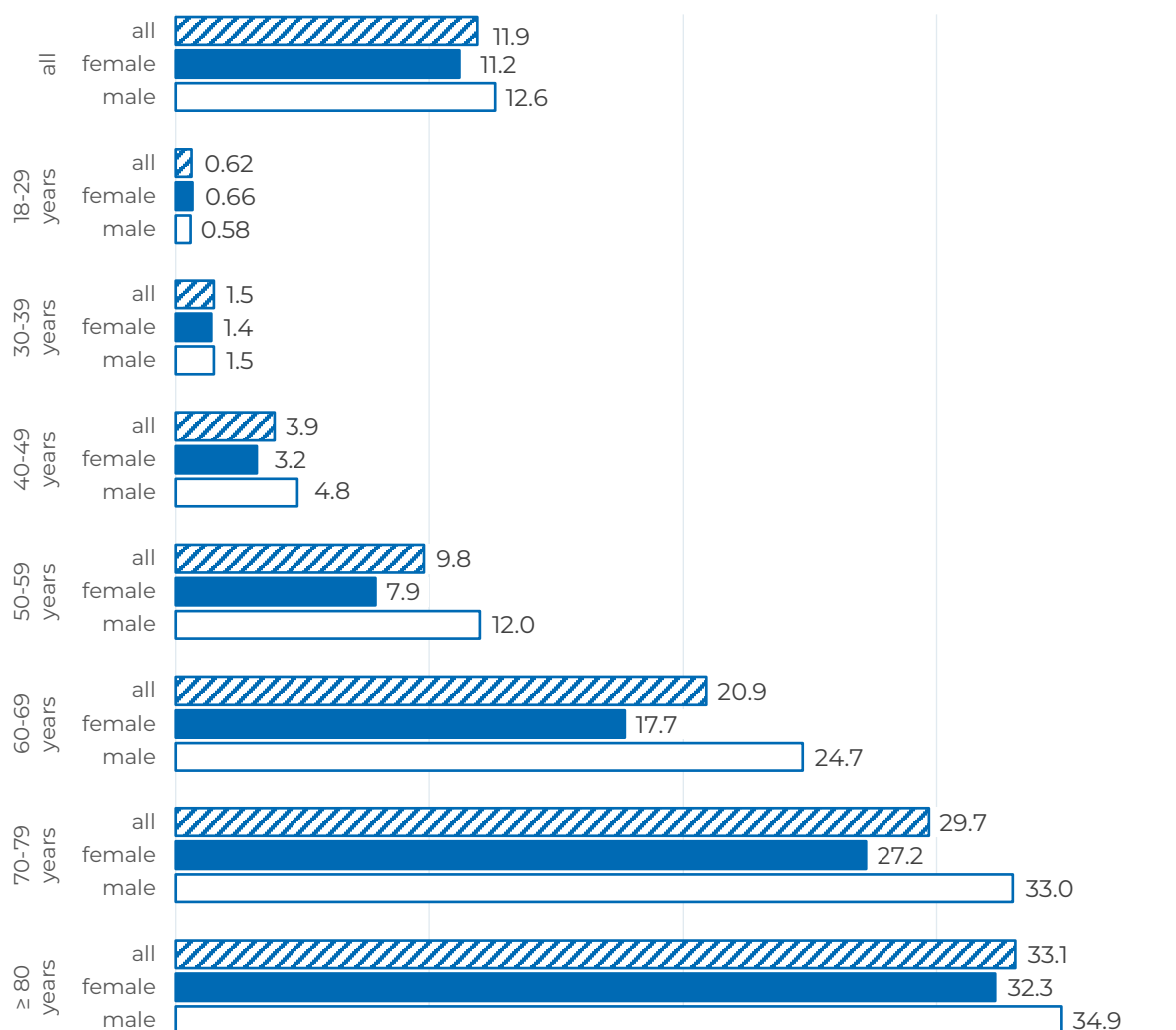
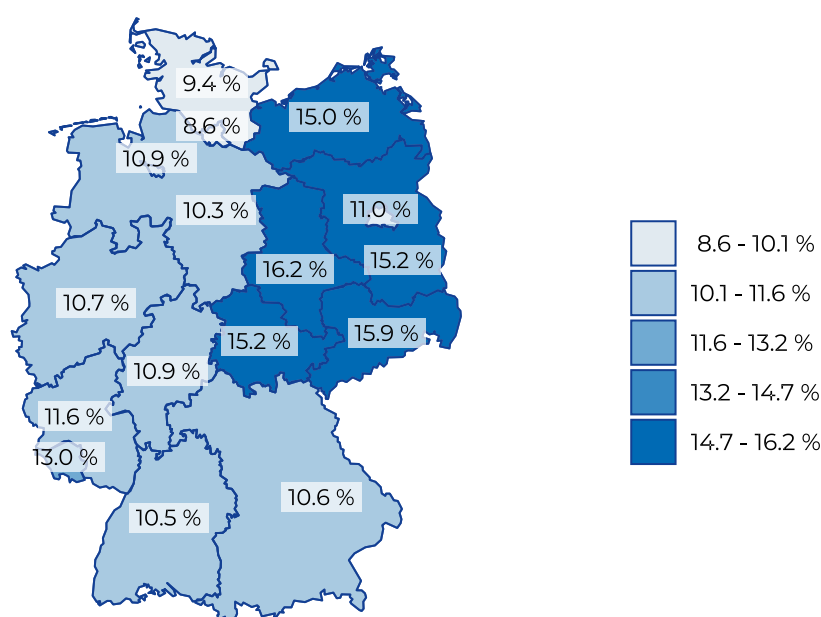


Figure 3: Prevalence of documented diabetes in % among adults covered by statutory health insurance by federal state in 2011.



Results

In 2013, diabetes prevalence is lower with 11.2% for women 18 years and older compared to 12.6% for men of the same age, resulting in an overall prevalence of 11.9%. The prevalence increases significantly with increasing age up to the age group of 80 years and older. While it is 1.5% among 30- to 39-year-olds, it rises to 9.8% among 50- to 59-year-olds and reaches 33.1% in the age group of 80 years and older. This pattern is similar for both sexes; however, women show the lower values in every age group from 40 years onwards. In 2011, the highest prevalence for both women and men is shown in Saxony-Anhalt, with 16.1% and 16.4%, respectively. In general, the new federal states and Saarland (women: 12.5%; men: 13.7%) show the highest values; whereas the lowest values are documented for Schleswig-Holstein (women: 8.6%; men: 10.3%) and Hamburg (women: 7.8%; men: 9.5%).

Conclusion

For both sexes, the documented prevalence presented according to 10-year age bands increases with chronological age. It should be noted that analyses of DaTraV data yield slightly higher prevalence estimates than analyses of population-based survey data, reflecting differences in reference population, age range, and data collection. The regional distribution pattern resembles that from RKI survey data and can be partly explained by differences in population structure between the German federal states [1]. Other possible underlying causes are regional differences in diabetes risk factors [1], diabetes diagnosis [2], and social deprivation [3]. It should be noted that the majority of persons with diabetes have type 2 diabetes. On the basis of data from the sub-sample of insured persons of one statutory health insurance (SHI), 93% of all documented diabetes cases were assigned to type 2 diabetes, 5.5% to type 1 diabetes, and 0.4% to other specific forms of diabetes according to a developed algorithm [4].

Methodology and data sources

Definition

The indicator prevalence of documented diabetes is defined as the proportion of people covered by SHI with either a documented hospital diagnosis of diabetes in at least one calendar quarter or a verified outpatient diagnosis (E10 – E14) in at least two calendar quarters, relative to all people covered by SHI in a given year.

Reference population

Adults are included in the analysis if they have SHI and have been insured for at least 360 days in the respective year, reside in Germany, and have their health benefits fully reimbursed by SHI.

Data source

Claims data from all approximately 70 million people with SHI collected in accordance with DaTraV, among them around 55 million people aged 18 years and over.

Calculation

- ▶ **Observed relative values:** The quotient of the number of people with documented diabetes in relation to the population with SHI. The stratification by federal state is based on place of residence.
- ▶ **Observed absolute values:** Number of persons covered by SHI with documented diabetes.
- ▶ **Age standardisation:** Direct age standardisation used 18- to 24-year-olds as one age group, five-year age groups for the ages 25 to 29 years until 80 to 84 years, and a separate group for the ages 85 years and over. The DaTraV population in 2013 was used as the reference population.

Data quality

DaTraV data are claims data on all people covered by SHI. DaTraV data include documented outpatient and inpatient diagnoses as well as information on prescribed medications. The quality of claims data from SHI depends on conduct of documentation. DaTraV data do not cover people insured by private health insurance and do not provide information on inpatient or outpatient care.

Data download

Robert Koch Institute. (2024). Results of the National Diabetes Surveillance 2015 – 2024 [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.14935276> (in German)

References

1. Diederichs C, Neuhauser H, Kroll L, Lange C, Mensink G, Dornquast C, et al. Regionale Unterschiede in der Prävalenz von kardiovaskulären Risikofaktoren bei Männern und Frauen in Deutschland. Bundesgesundheitsbl. 2017;60(2):151-62. doi: 10.1007/s00103-016-2493-6.
2. Heidemann C, Du Y, Paprott R, Haftenberger M, Rathmann W, Scheidt-Nave C. Temporal changes in the prevalence of diagnosed diabetes, undiagnosed diabetes and prediabetes: findings from the German Health Interview and Examination Surveys in 1997–1999 and 2008–2011. Diabet Med. 2016;33(10):1406-14. doi: 10.1111/dme.13008.
3. Kroll LE, Schumann M, Hoebel J, Lampert T. Regional health differences – developing a socioeconomic deprivation index for Germany. J Health Monit. 2017;2(2):98-114. doi: 10.17886/RKI-GBE-2017-048.2.

4. Reitzle L, Ihle P, Heidemann C, Paprott R, Koster I, Schmidt C. [Algorithm for the Classification of Type 1 and Type 2 Diabetes Mellitus for the Analysis of Routine Data]. Gesundheitswesen. 2023;85(S 02):S119-S26. doi: 10.1055/a-1791-0918.

External links

- ▶ Federal Institute for Drugs and Medical Devices (BfArM). Information on the SHI health data by the health data lab. [cited 19.02.2025]. Available from: <https://www.healthdatalab.de/data>.
- ▶ Schmidt C, Reitzle L, Dreß J, Rommel A, Ziese T, Heidemann C. Prevalence and incidence of documented diabetes based on health claims data - reference analysis for diabetes surveillance in Germany. Bundesgesundheitsbl. 2020; 63(1):93-102. <https://doi.org/10.1007/s00103-019-03068-9>.

Imprint

Editor

Robert Koch Institute · Department of Epidemiology and Health Monitoring
National Diabetes Surveillance · Nordufer 20 · 13353 Berlin

Citation

National Diabetes Surveillance at the Robert Koch Institute (2024)
Results of the Diabetes Surveillance 2015 – 2024. Prevalence of documented diabetes – Adults.
Robert Koch Institute, Berlin. doi: 10.25646/12293.

Open access

CC BY 4.0 Attribution 4.0 International

Funding

The project Developing National Diabetes Surveillance at the Robert Koch Institute with expansion to an NCD Surveillance (2015 – 2024) was funded by the Federal Ministry of Health (funding references: GE20150323, GE20190305, 2522DIA700, 2523DIA002).

Supported by:



on the basis of a decision
by the German Bundestag