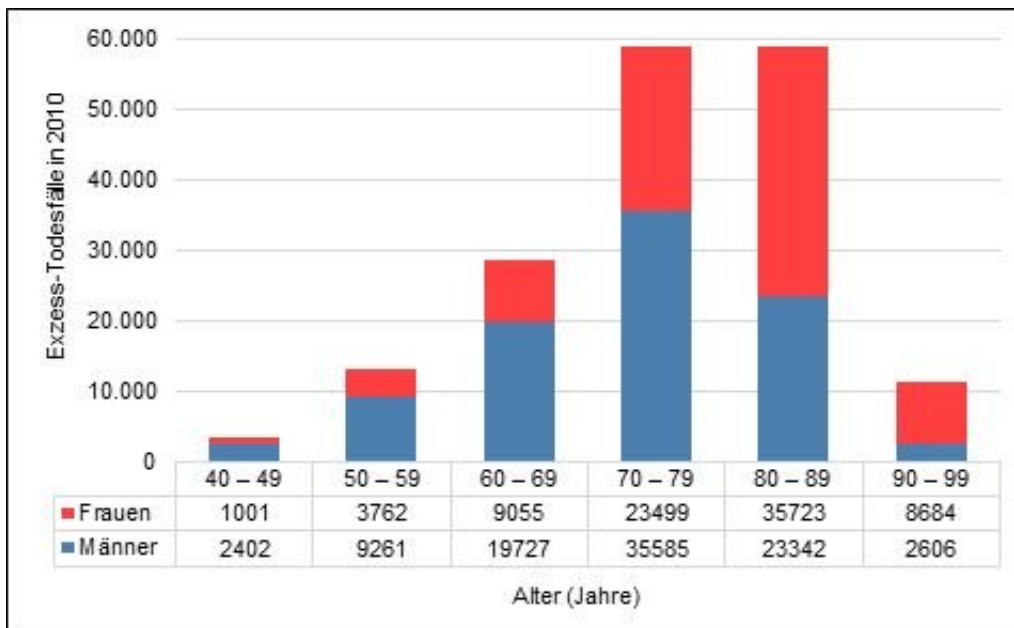


Diabetes-related mortality in Germany higher than expected

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Age-specific excess deaths of men and women diagnosed with diabetes in persons over 40 years of age in Germany (2010). Source: DDZ Credit: DDZ

In the October 2017 issue of the journal *Diabetes Care*, DDZ scientists published their study on the number of deaths in Germany due to diabetes and its complications. The number of diabetes-related deaths worldwide has doubled between 1990 and 2010. In 2013, 5.1 million people worldwide and 620,000 people in Europe are estimated to have died of diabetes or diabetes-related complications. This means that life expectancy for people with diabetes is on average about five to six years

shorter than for people of the same age without diabetes.

The use of routine data of all persons insured in the statutory health insurance system in Germany opens up new opportunities for diabetes research.

In Germany, there have so far only been estimates of diabetes-related mortality based on regionally limited cohort studies and surveys in which only a few people with diabetes were examined. These publications show that people with diabetes have a mortality risk that is up to 2.6 times higher than people without diabetes. Since 2014, as a result of the data transparency regulations implemented in 2012, routine data from the statutory health insurance scheme (GKV), which are collected for morbidity-oriented risk structure compensation (Morbi-RSA) between the health insurance funds, can be used for healthcare analyses. These data provide us with new opportunities to carry out epidemiological and care-relevant studies for Germany as a whole," said Dr. Wolfgang Rathmann, deputy director of the Institute for Biometrics and Epidemiology at the German Diabetes Center and member of the Research Coordination Board of the German Center for Diabetes Research (DZD). Rathmann went on to say that the data cover about 90 percent of the German population and have the advantage that all age groups are represented.

For the calculation of deaths due to diabetes in Germany (excess deaths), the prevalence of diabetes was calculated on the basis of these routine data (total of around 65 million people insured in the German statutory health insurance system) in 2010. The incidence of diabetes (ICD-10 codes: E10-E14) was 10.1 percent, and the prevalence of type 2 diabetes (ICD-10: E11) was 7.1 percent of those insured in the statutory health system. Due to a lack of reliable estimates of the mortality of people with and without diabetes, the calculation took into account the age- and gender-specific relative mortality (mortality of people with diabetes

divided by the mortality of people without diabetes) from Denmark. The estimates are based on the national diabetes registry of Denmark, which includes almost all people with diabetes. Denmark and Germany have a similar health system, and the prevalence of diabetes is comparable. Together with the age pyramid and the mortality table for Germany of the Federal Statistical Office in 2010, the age and gender-specific excess deaths were calculated. This corresponds to the number of deaths in people with diabetes minus the number of deaths in people with diabetes if mortality were the same as in people without diabetes.

Result: Diabetes-related mortality in Germany is higher than expected.

Calculations have shown that in 2010 a total of 175,000 deaths (Type 2 diabetes: 137,950 deaths) could have been prevented if mortality in people with diabetes were the same as in people without diabetes. Thus, in 2010, around 21 percent of all deaths in Germany were attributable to diabetes. Type 2 diabetes was associated with 16 percent of all deaths.

The majority of diabetes-related deaths occurred in the 70-89 age group. On average, the largest proportion of excess deaths due to diabetes occurred ten years earlier in men than in women (the proportion of excess deaths was 38.3 percent in men aged 70-79 and 43.7 percent in women aged 80-89). In addition, it could be shown that the number of excess deaths in men was higher than in women (~11,000).

The authors of the study come to the conclusion that far more people died in Germany in 2010 from diabetes and its complications than is shown in the official statistics on the causes of [death](#). For 2010, the number of deaths due to diabetes was only 23,000, which represents 2.7 percent of all deaths in Germany..

Internationally, there is a positive trend in the [mortality](#) rate of people with diabetes. Mortality rates have been falling steadily for more than 20

years. The reasons for this include improved care for people with diabetes (medication, disease management programs) and improved prevention and treatment of [diabetes](#)-related complications. The extent to which these trends also apply to Germany will be determined by future analyses.

More information: Jacobs E et al. Burden of Mortality Attributable to Diagnosed Diabetes: A Nationwide Analysis Based on Claims Data from 65 Million People in Germany, *Diabetes Care*, October 18, 2017, dc170954. doi.org/10.2337/dc17-0954

Provided by Deutsches Zentrum fuer Diabetesforschung

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