



Administrative prevalence and incidence of diabetes mellitus in Germany, 2009 -2015

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Abstract

Background:

The prevalence of diabetes mellitus is rising both in Germany and around the world. Not least due to our increasingly ageing society, it is feared that diabetes will lead to a greater burden of disease in future. As a result, more people will experience a reduced quality of life and greater strain will be placed on the healthcare system. Over recent years, there has been more intensive analysis of regional variations in the prevalence of diabetes mellitus. This has included a discussion of new explanatory approaches that take account of population and spatial effects when studying the causes.

Method:

This study used Germany-wide claims data from SHI physicians in accordance with section 295 of the Fifth Book of the German Social Code (SGB V) to calculate the administrative prevalence of diabetes mellitus for the years 2009 to 2015 and its administrative incidence for the years 2012 to 2014. The prevalent cases were assigned to type 1, type 2 or other diabetes using an algorithm, with the stipulation that diagnoses were counted only if they were reliable and were recorded (in the form of a code) in at least two quarters per year. Patients were included in the incidence figures only if they received a reliable diagnosis in the reference year as well as at least one further diagnosis within the three subsequent quarters and had not been diagnosed with diabetes within a three-year period of prior observation.

Results/ Conclusion:

Overall, the standardised prevalence of diabetes mellitus rose from 8.9% in 2009 to 9.8% in 2015. This is primarily due to a rise in the prevalence of type 2 diabetes from 8.5% to 9.5%. On the other hand, the prevalence of type 1 diabetes fell slightly from 0.33% to 0.28% over the same period. The regional distribution of prevalence is characterised primarily by an east–west split. In Eastern Germany, the standardised prevalence is higher for type 2 diabetes, at 11.5% on average compared with 9% in Western Germany, and lower for type 1 diabetes, at 0.24% compared with 0.29%. There is considerable variation in the prevalence of type 2 diabetes at district level. With a minimum value of 6.5% and a maximum of 14.2% for the period from 2013 to 2015, the standardised prevalence varies by a factor of 2.2 in Germany. With a Global Moran's I of 0.76, type 2 diabetes exhibited a high degree of spatial autocorrelation at district level. Around 500,000 patients a year were diagnosed with diabetes mellitus for the first time between 2012 and 2014. The incidence in the population over the age of 40 was 1.6% in 2012 and 1.5% in 2014.

Based on predicted demographic change, it can be assumed that the disease burden due to diabetes mellitus will continue to rise. Among other factors, the development of prevention programmes and healthcare structures should also take account of regional variations in morbidity.

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Keywords

Diabetes mellitus, incidence, prevalence, type 1 diabetes, type 2 diabetes

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