

## Doubled healthcare costs of type 2 diabetes mellitus during years 2006–2014: a nationwide cost-of-illness study in Sweden

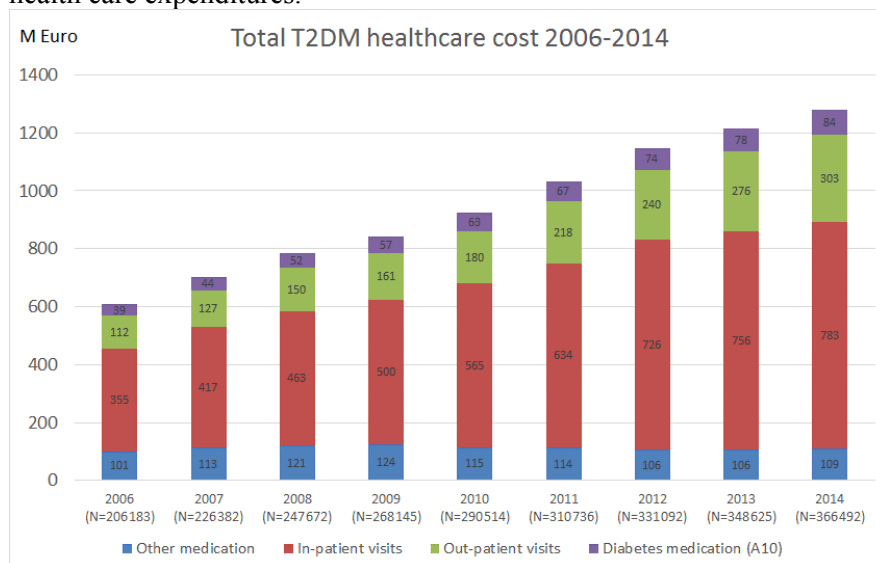
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**Background and aims:** There is a lack of longitudinal studies estimating the total costs of type 2 diabetes (T2DM) in Sweden. The aim of this study was to examine changes in the total costs related to T2DM and potential reasons for changes in costs.

**Materials and methods:** All T2DM patients in Sweden who were dispensed any glucose-lowering drug (GLD) during years 2006–2014 were identified in the mandatory national Prescribed Drug Registry. Annual hospital admissions, discharges and hospital outpatient visits were extracted in the National Patient Register using ICD- and DRG codes for each occasion. A prevalence-based cost of illness-study was performed evaluating total costs of medication and healthcare consumption. The price level and exchange rate of 2014 (1 Euro= 9.10 SEK) was applied.

**Results:** The number of GLD-treated patients increased throughout the observation period (n= 206,183 in 2006 to n=366,492 in 2014). Patient mean age in 2014 was 67 years and 43% were female. The total cost for all T2DM patients in Sweden doubled over the period, from €608 million in 2006 to €1.279 billion in 2014, mainly due to the increased prevalence of patients. An increase in costs was also observed when estimating the total cost per patient, from €2,947 in 2006 to €3,490 in 2014 (+18%). The main driver in cost per patient was substantially increased costs for hospital care; from 77% of total costs in 2006 to 85% in 2014. Remaining costs were represented by medication costs, with costs for anti-diabetics (A10) accounting for 6% of total costs throughout the observation period. The same distribution occurred in costs per patient. The number of T2DM-related inpatient care visits increased from 45,559 in 2006 to 78,245 in 2014. The share of patients visiting inpatient care was 22% and 21% at observation start and end, respectively. However, the length of stay in inpatient care decreased from an annual average of 13.3 days per patient in 2006 to 11.6 days per patient in 2014. At the same time, cost for treating the most common comorbidities (i.e. heart failure, chest pain, myocardial infarction and cerebral infarction) increased over the period. The utilization of hospital outpatient care also increased over the period, from 105,653 visits in 2006 to 209,417 visits in 2014, showing an increase in patients visiting hospital outpatient care from 51% to 57%, respectively.

**Conclusion:** Total costs for T2DM in Sweden have increased substantially over the observation period 2006–2014, mainly due to increased costs for inpatient and hospital outpatient care. Antidiabetic drugs represented only a small portion of total costs, and this portion has remained stable during the recent years. Prevention of diabetes development and complications is of major importance for reducing future health care expenditures.



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