



PHARMACOECONOMIC EVALUATION OF SCREENING AND DIAGNOSIS OF TYPE 2 DIABETES MELLITUS IN OUTPATIENT AND INPATIENT SETTINGS IN KAZAKHSTAN

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<https://doi.org/10.5281/zenodo.17341927>

Background. In recent years, there has been a rapid increase in the global prevalence of diabetes mellitus, which has reached the level of a non-communicable epidemic [1]. According to the International Diabetes Federation (IDF), the number of people with diabetes increased from 151 million in 2000 to 425 million in 2017 [2]. According to the National Diabetes Registry of Kazakhstan, as of January 1, 2017, 293,171 patients were registered, including 17,231 patients with type 1 diabetes and 275,736 patients with type 2 diabetes. The annual increase in the number of diabetic patients in Kazakhstan is 8–10%, along with a rising frequency of severe complications. All these factors demonstrate the high relevance of the problem for the country's healthcare system.

Objective: To conduct a pharmacoeconomic evaluation of costs associated with screening and diagnosis of newly identified type 2 diabetes mellitus at outpatient and inpatient levels in Kazakhstan.

Materials and Methods: Data from screening examinations for 2017–2022 were obtained from the "Damumed" database (City Polyclinic No. 17, Almaty). Costs of inpatient treatment were calculated based on the analysis of 211 medical records of patients with moderate and severe T2DM (AAA Medical Clinic LLP, 2020–2022). Statistical and economic methods of analysis were applied.

Results: The study analyzed pharmaceutical costs for treating patients newly diagnosed with type 2 diabetes in outpatient and inpatient settings. The average cost of medication provision in the outpatient setting was 283.6 ± 73.1 tenge per patient ($N=62$), whereas in the inpatient setting it reached $2,099 \pm 129.6$ tenge ($N=155$), an average difference of about 1,800 tenge.

Screening costs were minimal—only 233 tenge per examined individual ($N=4,734$). Meanwhile, the average cost of diagnosing one patient amounted to 5,136 tenge ($N=188$), while inpatient treatment expenses reached 139,000 tenge ($N=32$). The findings demonstrate that screening is a highly cost-effective strategy that enables early disease detection and substantially reduces costs compared with treatment of complicated T2DM. This highlights the need for integrating preventive and pharmacoeconomically justified approaches into the healthcare system.

Conclusions: Overall, expenditures on diagnosis, screening, and inpatient treatment of patients with diabetes vary due to numerous factors. Nevertheless, the study results show that effective cost management, including measures for early detection and prevention, can significantly reduce total healthcare expenditures. Screening, in turn, is a highly efficient and economically justified tool for assessing the risk of diabetes, ensuring coverage of broad population groups at minimal cost.