

Economy of Diabetes: the Mist Gradually Clears

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Received date: 27 March 2026 | **Accepted:** 10 April 2026 | **Published:** 17 April 2026

Citation: Ahmed N, Halim H, Halim A, Abdel Aziz M, Rashad Z, et al, (2026), Economy of Diabetes: the Mist Gradually Clears, *Clinical Endocrinology and Metabolism*, 5(2); **Doi:**10.31579/2834-8761/109

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Abstract

Diabetes mellitus is a major worldwide health problem with evident economic consequences affecting individuals, healthcare systems, and national economies. Let us summarize recent evidence on the direct, indirect, and macroeconomic costs of diabetes, highlighting global and regional disparities and future projections, We aim to clear the facts for the public.

Keywords: Diabetes; economic; complications; cost; burden

Introduction

In 1921 a surgeon named Frederick Banting and his assistant Charles Best figured out how to remove insulin from a dog's pancreas [1]. Nowadays diabetes mellitus becomes a chronic metabolic disorder with rapidly increasing global prevalence. It imposes a significant economic stress due to long-term treatment requirements and complications. Moreover, it reduces workforce productivity and economic growth worldwide [2,3].

Viewpoints:

In 1921 a surgeon named Frederick Banting and his assistant Charles Best figured out how to remove insulin from a dog's pancreas [1].

Currently, components of Economic Burden:

Direct Medical Costs: It expenditures on medications, hospitalizations, outpatient visits, and complication management [2]. Complications such as cardiovascular disease, nephropathy, and neuropathy are the primary drivers of increased healthcare expenditure [2,4].

Indirect Costs: It includes productivity losses due to absenteeism, disability, and premature mortality. These costs often exceed direct medical costs, particularly in low- and middle-income countries [2,3].

Intangible Costs: It includes reduced quality of life, psychological burden, and social consequences. Although difficult to quantify, these costs contribute significantly to the overall societal burden [4].

Globally, diabetes imposes a massive economic burden. A recent macroeconomic analysis estimated that the global economic burden of diabetes could reach INT\$10.2 trillion (excluding informal care) and up to INT\$78.8 trillion when including informal care between 2020 and 2050 [3].

In the Eastern Mediterranean Region a systematic review showed that diabetes imposes substantial direct and indirect costs with increasing trends over time [5].

High-income countries: higher direct medical costs and low- and middle-income countries: higher relative indirect costs and expenditures. These differences reflect variations in healthcare infrastructure and economic capacity [2]. Chronic complications are the main contributors to economic burden as Cardiovascular disease, diabetic nephropathy and retinopathy Management of complications significantly increases healthcare costs [2,4].

Productivity Loss: Diabetes reduces workforce productivity through absenteeism, presenteeism, and early retirement. A life-table modeling study demonstrated substantial economic losses due to reduced productivity in affected populations [6]. Patients without diabetic foot ulcers cost around \$17,000 each year. Patients with diabetic foot ulcers? \$58,000, diabetic foot ulcers are actually more expensive than the five most costly forms of cancer. It totals over \$100 billion, we're well-educated about the toll that cancer has but diabetic foot ulcers are often swept under the rug in conversations about health care costs, and this needs to change and that's just diabetic foot ulcers.

Every four minutes, there's a limb lost to diabetes and each procedure costs as much as \$100,000. [7]. There is a complicated association between diabetes mellitus and cancers. In summary, the risk of a number of cancers and cancer mortality is increased in T1DM and T2DM. On the other hand, some kinds of cancer and cancer therapies are associated with the increased risk of diabetes mellitus. Additionally, genetic factors, obesity, inflammation, oxidative stress, hyperglycemia, hyperinsulinemia, cancer therapies, insulin and some oral hypoglycemic drugs appear to play a role in the crosstalk between diabetes mellitus and cancers[8]. Urbanization, aging populations, and lifestyle changes such as obesity and physical inactivity contribute to increasing diabetes prevalence and economic burden [4]. At the macroeconomic level, diabetes affects: gross domestic product, labor supply and National healthcare expenditure, a global analysis showed that diabetes leads to significant reductions in economic growth due to mortality, morbidity, and resource diversion [3].

The economic burden of diabetes is expected to increase due to: Rising prevalence, Aging populations, Increasing healthcare costs Without intervention, diabetes will continue to exert substantial pressure on global and national economies [3]. Effective strategies to Reduce Economic Burden include: Prevention programs targeting lifestyle modification, Early diagnosis and glycemic control, Cost-effective healthcare delivery, Strengthening health systems and universal coverage These measures can significantly reduce both direct and indirect costs [2].

Conclusion and recommendations

Diabetes mellitus imposes a substantial and growing economic burden worldwide. The majority of costs arise from complications and productivity losses, particularly in low- and middle-income countries. Addressing this burden requires comprehensive prevention and management strategies to ensure economic sustainability, Now, I hope that the mist gradually clears.

Acknowledgment:

Thanks to any one helps to convey our message to the the public.

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