

Health promotion and disease prevention can substantially reduce the total economic burden of diabetes in the Netherlands

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Increased healthcare expenditures are not a guarantee for better overall health of a population. Diabetes, especially type 2, is responsible for substantial healthcare expenditures in the US, the Netherlands and many other countries in Europe, but despite increasing economic costs the prevalence of diabetes and its complications continues to rise.^{1,2} Overall the US spends per capita on healthcare almost double the average of other Organisation Economic Co-operation and Development (OECD) countries.^{1,3} Nevertheless, despite these higher economic costs, the Americans are not gaining benefits that commensurate with these higher expenditures: dozens of countries today even boast superior life expectancy compared with the US,³ showing that the healthcare expenditures as such do not go hand in hand with better health.

In this issue of the Netherlands Journal of Medicine, Peters et al. present a literature review which aimed to determine the current total economic burden of diabetes and its complications in the Netherlands.⁴ They found that the total costs of diabetes were quite similar to those previously reported in the UK by Hex et al.⁵ Peters et al. further came to the conclusion that diabetes and especially its complications pose a substantial burden on the Netherlands and predicted that this burden will increase further in the near future due to changing demographics and lifestyle. They suggested that a further rise in costs is unavoidable and cannot be halted in the near future.

One of the major limitations of descriptive cost analyses, such as those conducted by Peters et al., is that they do not provide an indication of the value obtained for the money spent. The chronic nature of diabetes and the high incidence of complications are the main reasons behind the high costs involved.¹ Complications related to diabetes account for a substantial proportion of the direct health costs.⁵ Therefore, with increasing prevalence of diabetes the costs of treating complications will grow if current

care regimes and strategies are maintained without any changes.⁵

Because the risk of developing diabetes and its complications further increases with age, the ageing population is expected to drive a substantial increase in the incidence of diabetes even if other risk factors remain unchanged.¹ As the total costs are proportional to the size of the affected population, stemming the rise in costs for diabetes will only be possible by successful diabetes prevention.⁶ Thus primary prevention may provide the greatest potential to reduce costs.

In this respect type 2 diabetes can function as a good model for management of other chronic diseases.⁷ Modern obesogenic environments, with the combination of unhealthy diet and physical inactivity, have serious implications for type 2 diabetes, and many other chronic diseases. However, it has been shown that type 2 diabetes and its complications, especially for people at high risk, can be delayed or even avoided by prevention programs.⁸⁻¹⁰ Evidence from large trials in Finland as well as real-world prevention programs have identified that lifestyle interventions can prevent or delay the onset of type 2 diabetes in people at high risk.⁸⁻¹⁰ Specifically the risk of developing type 2 diabetes can be reduced over a 3-5 year period for people with impaired fasting glucose tolerance by intensive lifestyle modification programs (58%) and pharmacological interventions (31%).¹⁰

Ideally, prevention programs should combine broad population-based primary prevention strategies for other chronic diseases, such as cardiovascular disease and cancer, while simultaneously targeting people at high risk of developing diabetes.^{11,12} In addition, research has also shown the benefits of an integrated approach in the case of subjects who have developed type 2 diabetes: intensifying treatment including tight control of multiple risk factors as high blood glucose, blood pressure and cholesterol have been found to significantly reduce the risk of death from

cardiovascular diseases and the development of end-stage renal disease.^{7,8}

Health promotion and the prevention of chronic diseases often has a low priority and as a consequence receives too small a share of the overall healthcare budget. The focus is often mainly on care for people who have already developed a disease.^{7,11} In their paper Peters et al. also do not present data about the costs of prevention of diabetes in the Netherlands.⁴

It is time for a treatment paradigm shift in light of the proven, evidence-based, value of early intensive treatment in preventing diabetes and its chronic diabetes complications.¹³ What is needed is the introduction of a comprehensive and integrated patient-centred approach that focuses on health promotion and starting early interventions to prevent the development of diabetes and its complications.^{7,13} Such an approach is relatively inexpensive to implement and highly cost-effective compared with the actual costs of treating the complications of diabetes.

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