Social-economic impact of diabetes in New Zealand

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As in many other developed countries, diabetes is one of New Zealand’s fastest-growing long-term conditions. Rising occurrence replicates a blend of influences, including rising prevalence, better uncovering of cases through increased screening, slower development from uncomplicated to late-stage disease and demographic change.

An estimated 257,000 people in New Zealand have diabetes as at December 2014 or 6% of the population.

The prevalence of diabetes has been rising at an average of 7% per year for the last eight years.

The prevalence of diabetes is increasing across all ethnic groups and age groups; the largest increases in diabetes are among adults aged 25–44 years, and at least one in six adults aged 65 years and over has diabetes.

The increase in diabetes is consistent with trends in obesity.

The increasing occurrence of diabetes in New Zealand is having a foremost bearing on our health system.

Diabetes, because it is a long-term condition with the potential for severe complications, has high health costs. For example, the total direct health care costs for a person with diabetes in New Zealand are approximately three times those for people without diabetes.

More generally, the long-term effects of diabetes will have an inclusive bearing on society. This is because an increasing number of people may not be able to continue working as they did before the onset of their diabetes. The cost of this loss of productivity has been estimated as being more than direct health care costs.
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Socio-economic impact and initiatives of diabetes in Indonesia

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Indonesia is a growing diabetic epidemic country despite strong economic fundamentals, and improving standard of living. Existences of many barriers to appropriate diabetes care prevent many people from living a healthy and productive life. This abstract mainly focus on the burden of diabetes, barriers for improved diabetic care and steps that help Indonesia to overcome the barriers. It is reported that two-thirds of diabetes population is found in low to middle income countries. With the average of 6%, urban cities in Indonesia are populated with people living with diabetes. There are 7.6 million people living with diabetes and 12.6 million others have pre diabetes (National Health Survey in 2007). Fewer than half of those with diabetes are aware of their condition. Less than one percent of those who are aware and received diabetes treatment achieve their goal of treatment. As results from the under diagnosed and under treated, disability, loss of life and productivity due to diabetes complications burden may negatively affect the Indonesian economic progress. Today, with its low population growth rate (1% annual growth rate since 2006), coupled with solid productivity gains (5.6% of annual GDP rate) together with stable inflation rate Indonesia has strong, long term economic growth potential. The improving standard of living in Indonesia is bringing with its lifestyle changes that increase diabetes risk and prevalence, thereby hampering sustainable economic growth. Demand for healthcare, however, may outstrip the country’s ability to provide it. Four key barriers of diabetes care in Indonesia include lack of awareness about diabetes in the general public and among some healthcare professionals and policy makers, inequity of healthcare supply and demand resulting from an expanding patient population and too few diabetes specialists, lack of resources in the public healthcare system and among Indonesian population, and that too few people receiving appropriate treatment. Analytical study was done to estimate long-term clinical and economic impact of a 1% HbA1c reduction in patients with type 2 diabetes in Indonesia. The analysis was performed using the published and validated CORE Diabetes Model over a time horizon of 35 years, with future costs and clinical benefits discounted at a rate of 3% per annum. The analysis compared patients outcomes in two groups. In the poorly controlled patient arm, HbA1c remained at 9.8%, in comparison with reducing mean HbA1c to 8.8% in the active arm. Mean HbA1c was assumed to remain unchanged throughout the analysis. All other physiological characteristics were equal in the two treatment arms. Results of the study showed that 1% reduction in HbA1c from baseline led to improvements in both clinical and economic outcomes. Reducing HbA1c from 9.8% to 8.8% was predicted to improve life expectancy from 10.07 years to 10.69 years (a difference of 0.61 years) and quality-adjusted life expectancy from 6.56 quality-adjusted life years (QALYs) to 7.04 QALYs (a difference of 0.48 QALYs). In the reduced HbA1c arm, incidence of macular edema and background diabetic retinopathy were reduced by 20%, falling from 23.5% to 18.6% and from 29.0% to 23.7%, respectively. Incidence of micro albuminuria fell from 42.1% to 33.5%, incidence of gross proteinuria fell from 22.9% to 15.1% and incidence of end-stage renal disease fell from 13.7% to 8.3%. Also there is a significant reduction in diabetic foot complications, besides modest reduction in incidence of cardiovascular disease which was clinically
more significant. Direct medical costs were lower by EUR 541 per patient in the reduced HbA1c group over the 35-year time horizon of the analysis. Cost savings were driven by the reduced expenditure as a result of renal complications (EUR 2,838 in the control arm versus EUR 2,040 in the active arm). Treatment costs as a result of cardiovascular disease, neuropathy/diabetic foot and eye disease were also lower in the reduced HbA1c group. This study concludes that 1% reduction in HbA1c from baseline was associated with improved life expectancy and quality of life, as well as being cost-saving over a 35-year time horizon.

Another study was done to estimate current direct costs associated with managing diabetes-related complications from a healthcare payer perspective in Indonesia. A structured literature search of EMBASE, Medline and the Cochrane Library databases was carried out to identify published studies containing the costs of diabetes-related complications and management in Indonesia. Results showed that Myocardial infarction was the most costly complication in the year of onset, associated with a cost of USD 22,673. Renal complications were also associated with significant costs. Transplantation was estimated to cost approximately USD 21,532 in the first year and USD 5,033 in each subsequent year, hemodialysis cost over USD 9,994 annually and peritoneal dialysis cost over USD 6,391 each year. Ketoacidosis and lactic acidosis were associated with costs of USD 1,007, whilst minor hypoglycemia was the least costly at USD 36. Neuropathy/diabetic foot complications especially gangrene treatment was the most costly, at a cost of USD 3,356 in the year of onset. Amputation was also associated with significant costs. Study concludes that estimates of complication costs suggest that the seven million patients with diabetes represent a substantial economic burden in Indonesia. Also, this study highlights that cardiovascular and renal complications pose major economic burden, both in the year of onset and subsequent years for diabetic patients in Indonesia. Key initiatives to overcome the barriers and their outcomes: Mapping out key barriers to diabetes care and control, national action plan 2015 – 2019 to control the rapid rise of non-communicable disease (NCD) in Indonesia including diabetes consists include the following initiatives; advocacy and Public Private Partnership (PPP), health promotion and reduce risk factors, strengthening healthcare service system within the scope of integrating NCD care at primary care, improving quality of human resources, improving access to medicines and infrastructure as well as synchronizing policy. Moreover, surveillance, monitoring and evaluation (money) and research. Today, ranked as top seventh country with highest diabetes, the number has increased to 10 million people in Indonesia living with diabetes. Key stakeholders including government, national health insurance, HCP’s, patient support groups, media and private sector are working in partnership to establish a functional health system in Indonesia that recognizes the importance of diabetes awareness, diagnosis and treatment. Awareness is low, and most people do not know what they do not know about diabetes, its care and its consequences. There is a great need to make care more accessible by improving HCP skills and by encouraging teamwork among healthcare disciplines. Currently, the ability to afford insulin in Indonesia is dependent on income and health insurance coverage, more people should be able to afford care. Through the National Healthcare Insurance, government will expand its 250 million citizens to health care by end of 2019. Lack of availability, this is where multi stakeholder partnership to make healthcare available and affordable in rural areas is a factor in suboptimal quality of care. The issues stemming from these barriers are interconnected and resolving them will require a patient-centric, holistic approach.
Landscape of diabetes in the Philippines

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The Philippines is an archipelago composed of more than 7,500 islands and is considered the seventh most populated country in Asia, with a populace of over 100 million. In the past decade, a decline has been seen in communicable diseases, such as tuberculosis and malaria, however non-communicable diseases have been on the rise. Diabetes now follows diseases of the heart, vascular system and malignant neoplasms as leading causes of death. In the latest national survey, the prevalence of chronic energy deficient adults is lower compared to the prevalence of those who are overweight and obese. Almost half of the population is insufficient in physical activity. These are contributors to the rising epidemic of diabetes in the Philippines, where individuals affected are in the working age group and mostly living in urban areas. The increase in prevalence of diabetes and its implications is alarming for this emerging market economy and requires a more focused and unified intervention from all sectors.
The Diabetes burden in Singapore

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Singapore has one of the highest in prevalence of diabetes in South East Asia. More worryingly, local data seems to suggest that the number of young people (below the age of 40) developing diabetes appears to have doubled from 2004 to 2010.

This year, the Minister of Health of Singapore has declared ‘war on diabetes’. A diabetes task force has been set up and steps have been taken at numerous levels to treat and prevent diabetes. We discuss the numerous steps taken and its progress to tackle this growing epidemic in Singapore
Mongolia, a land-locked country located in North-East Asia, is the 19th largest country in the world. With a population of just 3.0 million, it is one of the most sparsely populated countries in the world. In the 1990s, after 70 years of socialist system, the country transitioned to a market economy, seeing rapid economic changes. Since 2000 Mongolia has experienced steady economic growth, with promising opportunities for future economic development, especially with the boom in its mining sector. The political and economic transitions in the country are clearly reflected in the epidemiological changes as well. Infectious diseases have given way to non-communicable diseases as the leading causes of morbidity and mortality. Top causes of mortality are diseases of the circulatory system and cancers.

Mongolia’s stronger performance comes in its monitoring and surveillance, while action on national plans and policies could be boosted. The Government covers the 50% of diabetes medicines, but glucometers, test strips and needles are not covered. Some diabetes-related deaths (1.1%) have been prevented due to previous diabetes-related health expenditures. Increased funding for cost-effective prevention and treatment is needed.

National diabetes and NCD plans are partially implemented. Several Ministries apart from Health are developing a range of NCD policies on the production of and access to healthy food, regulation of marketing to children and promotion of physical activity. These will be included in the new National NCD Programme 2014 - 2020

Adult population of 20-79 years old is 1.807.390 people, diabetes cases are 135.750, diabetes raw prevalence 7.5 %. Diabetes expenditure per person with diabetes 214 USD, diabetes related deaths 3053 per year and number of people with diabetes (20-79) 73.440.

A framework for diabetes monitoring and surveillance exists but is not routinely implemented. It includes all relevant indicators except availability and affordability of NCD essential medicines and basic technologies and action to prevent heart attacks and strokes. Global monitoring framework is adopted.

The funding allocated for diabetes by the Government is part of the Health project (2008-2013) of the Millennium Challenge Account, USA. It includes prevention and early diagnosis.