



Tackling Diabetes – It's Time for Stronger Regulation

Submission to the House of Representatives Inquiry into Diabetes

The George Institute for Global Health

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Acknowledgement of Country

The George Institute for Global Health acknowledges the traditional owners of the lands on which we work, and in particular the Gadigal people of the Eora Nation on which our Sydney office is situated. We pay our respects to Elders past, present and future. We value and respect the ongoing connection of Aboriginal and Torres Strait Islander peoples to Country and seek to work in partnership with communities to deliver better health outcomes.

Introduction

The George Institute is pleased to provide a submission to the House of Representatives Inquiry into Diabetes.

The Inquiry presents an opportunity to call attention to the rise of type 2 diabetes in Australia and analyse the effectiveness of prevention and treatment interventions.

The George Institute for Global Health is an Australian medical research institute focused on improving the health of millions of people worldwide. We conduct research on non-communicable diseases and how they lead to inequitable health outcomes. Our submission highlights the causes of type 2 diabetes, including the contribution of diet-related risk factors. We propose that these risk factors should be prioritised through better prevention policy, programs and practice.

We have also participated in a joint submission by public health groups led by the Food for Health Alliance, and we strongly support its recommendations. This submission complements the joint submission, using research conducted by The George Institute.

Our vision: a healthy society where people live long and fulfilling lives free of chronic disease.

This submission provides steps that we believe the Australian Government must take to achieve this vision. We thank the House of Representatives Committee for considering these suggestions and would be happy to provide any further information.

Recommendations

To reduce the incidence of type-2 diabetes in the population, the Australian Government must take stronger action to address diet-related risks, including:

1. Commit to fully **resourcing and implementing** prevention policy, including:
 - Funding and fully implementing the *National Preventive Health Strategy 2021-2030* and *National Obesity Strategy 2022-2032*. Implementation plans should be developed, with tangible goals, to create a roadmap for these strategies.
 - Setting a timeframe and strategic plan for incorporating prevention into the Australian Centre for Disease Control and commence a consultation process with public health experts to scope and progress this work.
2. Mandate **industry reformulation** of salt, sugar, and saturated fats to improve the nutritional value of packaged foods to better align with desired health outcomes.
 - Revise the Terms of Reference for the Healthy Food Partnership to deliver mandatory food reformulation targets and hold industry accountable for progress.
 - Legislate a nationwide ban on industrial trans-fats in food.
3. Introduce a **levy on manufacturers of sugar-sweetened beverages** (SSBs) to encourage industry reformulation to reduce sugar content.
 - Implement a levy to increase retail prices of SSBs by 20 per cent.
 - Earmark revenue to support preventive health policies.
4. Improve access to **nutritional information** for consumers.
 - Mandate and improve the voluntary Health Star rating system to apply to all packaged food.
 - Introduce added-sugar labelling in the nutrition information panels on packaged food and drinks.
5. Introduce regulation to **restrict unhealthy food marketing** to children.
 - Ensure television, radio and cinema are free from unhealthy food marketing from 6.00am to 9.30pm.
 - Prevent children from being exposed to the marketing of unhealthy foods.

Barriers and enablers to eliminating type 2 diabetes

The costs of diabetes to the Australian community

The rate of diabetes has increased 220% over the last two decades in Australia [1]. Diabetes is the leading contributor to the gap in life expectancy between Indigenous Australians and non-Indigenous Australians. Aboriginal and Torres Strait Islander people are nearly five times more likely to be hospitalised for diabetes-related complications and is the leading cause of death for Aboriginal people in the Northern Territory [1]. The onset of diabetes can lead to other diabetes-related complications, and is a leading cause of blindness, dementia, stroke, mental and emotional challenges, heart and chronic kidney disease, and severe side effects of COVID-19 [1].

The diabetes epidemic places a significant burden on the Australian health system and economy. In 2019-20, all types of diabetes cost the Australian health system \$3.1 billion, with nearly 40 per cent of these costs in hospitals. This includes expenditure on public hospital admitted patients (\$758.0 million), public hospital outpatients (\$374.2 million), private hospital services (\$86.4 million), and public hospital emergency departments (\$20.4 million). For the Australian Government, medications for diabetes dispensed through the Pharmaceutical Benefits Scheme (PBS) cost \$827 million, which is the single highest area of diabetes expenditure [2]. Medications for Type 2 Diabetes through the PBS accounted for \$575.2 million of government spending.

However, this does not capture the full cost burden including the impact of other diabetes-related complications, such as heart and kidney disease and dementia, or the broader productivity costs.

The indirect costs of diabetes are substantial. These include lost earnings, lost productivity, lost superannuation, carer costs, additional welfare payments, cost of aids, travel costs and home and work modifications [3]. A recent study estimated that 4.2 per cent of Australians aged 45–64 years were out of the labour force due to diabetes in 2010, projected to increase to nearly five per cent by 2030 [5]. In 2012, the estimated cost of lost labour-force participation in Australia due to diabetes was \$384 million, with resultant extra welfare payments of \$4 million and lost tax revenue of \$56 million [4]. A recent study estimated that 4.2% of Australians aged 45–64 years were out of the labour force due to diabetes in 2010, projected to increase to 4.95% by 2030 [5].

Every Australian has a right to lead healthy, productive and fulfilling lives, free from chronic disease [6]. As well as the individual benefits, there are system-wide gains from addressing diabetes, through reducing the pressures on our health and aged care systems, and economic benefits. In 2017, the Productivity Commission estimated that Australia's Gross Domestic Product could be increased by \$4 billion per year if population health was improved [7, 8].

Around two in three Australian adults, and one in four children are living with overweight or obesity [6]. Most Australians experience system-level barriers to consuming a healthy diet of fruits, vegetables and wholegrains. Highly processed products that are cheap to produce

and have a long-shelf life dominate the food market, and the price of food and marketing contribute to consumption [6, 9].

Type 2 diabetes is strongly linked to obesity and poor diet – with obesity responsible for 55% of cases and dietary risks responsible for 26% [10]. Action to reduce obesity and to improve the nutritional value of food consumed is fundamental to preventing and reducing type 2 diabetes in Australia.

Women diagnosed with gestational diabetes mellitus (GDM) during pregnancy are more likely to be later diagnosed with Type 2 diabetes [1]. GDM is the fastest growing type of diabetes in Australia with almost 400,000 mothers diagnosed over the past decade and half a million diagnoses expected over the coming decade [1]. There are many factors driving this steep rise in diagnoses including: increasing age of pregnant women, increased rates of overweight and obesity and genetic predisposition [1, 11]. Literature has shown that longer-term consequences of GDM can lead to increased maternal risks of developing type 2 diabetes, cardiovascular disease and chronic kidney disease. Long-term fetal outcomes of GDM include childhood and adulthood obesity [11].

Evidence supporting stronger regulation of the food industry

Diabetes is the fastest-growing non-communicable disease (NCD) in Australia [2]. As detailed in this submission, diabetes is a contributing factor to other health issues such as chronic kidney disease, which play a significant role in Australia's health expenditure. Successive Australian policies to prevent and disrupt the prevalence of diabetes has focused predominantly on encouraging individuals to change their lifestyle through education and health promotion. Policies focused on voluntary regulation have been unsuccessful in changing behaviour. A paradigm shift is required: from personal responsibility to shared responsibility and requires greater accountability from government and industry leaders [12, 13].

In 2017, the Australian Government introduced the Food Policy Index to assess the food and diet-related policies in Australia and recommended actions to improve effectiveness based on international best practice [14]. Strategies were developed by the Australian Government to address the burden of disease of diabetes through detailed preventative actions but have not been implemented across the country.

According to the *National Obesity Strategy 2022-2032*, Australia's food system favours the production and supply of highly processed food and drinks [15]. Highly processed foods make up 35% of the daily energy intake for adults and children, with only 5% of Australians eating the recommended daily intake of fruits and vegetables [15]. Social, cultural, economic and commercial environments have the greatest influence on our food options, accessible resources and lifestyle choices [15]. Australians are generally engaging in more sedentary work, with more screen time and less physical movement. This is coupled with a higher consumption of processed food that is high in sodium, sugar and fat and, also tends to be more convenient, cost-effective and more heavily promoted [15]. A longitudinal study led by researchers at The George Institute found that over a five-year period, ultra processed food accounted for 55% of total energy consumed in over 10,000 Australian households [16]. The

study found that high consumption of processed foods to be driven by convenience, affordability, highly palatable due to high sugar, salt and fat content and, also heavily marketed and promoted by food and supermarket retailers. The cumulative effect of increased consumption of ultra-processed foods is an increased risk of obesity, which also increases the risk of preventable chronic diseases including heart disease and type-2 diabetes. With approximately 14 million Australians still living with overweight or obesity, stronger regulation of unhealthy food marketing is needed to prevent diabetes [15].

Currently there are limited Australian Government regulations to reduce exposure of unhealthy foods to children and youth across all media platforms, with evidence showing that increased exposure influences food and lifestyle choices. In 2020, a study of Australian secondary school students found that frequent commercial television viewing was linked to weekly fast-food consumption [17]. The study also linked fast food consumption to soft drink consumption and a decreased intake of daily fruits and vegetables. [17]. The evidence highlights the need for targeted and integrated policies on fast food regulation particularly for the younger population.

The George Institute's annual FoodSwitch State of the Food Supply Report assesses the healthiness of Australia's product portfolios across the 20 largest food and beverage manufacturers in major grocery retailers: ALDI, Coles, Woolworths, and IGA [18]. Over the last five years, the reports have published an annual audit of packaged foods sold in the major retailers, capturing the nutrition data published on the labels of approximately 30,000 items each year. The reports make recommendations to encourage reform towards improving the healthiness of Australia's food supply.

The 2022 report identified limited uptake of the voluntary Health Star Rating (HSR) program, with only 41% of all products displaying a HSR on the pack [18]. The inconsistent uptake of the HSR means that consumers are not aware of the unhealthiness of some products and there is little incentive for producers to make their products healthier. The voluntary nature of the HSR allows manufacturers of healthier products to use it as a marketing tool, while the nutritional information of unhealthy products remains hidden. To be effective, the HSR was always envisaged as a tool to compare the healthiness of all products. The slow uptake of the HSR and high prevalence of diabetes and diet-related illnesses highlight the need to make the scheme mandatory for all packaged foods to ensure that Australians have transparent information about the comparative healthiness of different products available in the marketplace [18].

The 2022 report also assessed the Australian Government's Healthy Food Partnership (HFP) reformulation targets, which were designed to encourage and support food manufacturers to reduce the amount of sugar, sodium and saturated fat in the food and drinks they manufacture. According to the 2022 report, there was no improvement across any of the saturated fat categories with a lower proportion of products meeting the targets [18]. In addition, there were no significant changes towards the sugar and sodium targets. The lack of change across the products indicates that the voluntary reformulation targets have been ineffective in changing the healthiness of packaged foods and highlights the need for stronger government regulation [18].

The Australian Government should also legislate to eliminate industrial trans fats from the food supply in Australia. Coronary heart disease is the leading single cause of disease burden and death in Australia and is largely preventable [19]. People with diabetes are more likely to develop heart disease. In 2021, 41% of people who died from diabetes also had coronary heart disease [20]. In 2018, it was estimated that industrial trans fats were an underlying factor that caused approximately 540,000 global deaths annually through associated diseases [21]. In response to this health threat, the World Health Organization and Resolve to Save Lives announced the REPLACE initiative to make the world trans-fat free by 2023. 53 countries have now taken action to replace industrial trans fats with healthier oils. When New York City regulated to replace industrial trans fats in restaurant food, there was a 4.5% reduction in cardiovascular mortality in the years following the change [21].

As well as legislating to eliminate industrial trans fats, The George Institute is calling on the Australian Government to introduce a levy on all manufacturers of sugar-sweetened beverages (SSBs). There has been little use of fiscal measures in Australia to improve Australian diets. This contrasts with tobacco and alcohol control, where fiscal measures introduced have led to substantial public health improvements. A levy on SSBs could sit alongside these preventive health measures that influence alcohol and tobacco consumption. A levy on sugar content encourages industry to reformulate to avoid additional costs. To have a meaningful effect on consumers, the SSBs the measure also needs to raise the retail price of SSBs by at least 20 per cent [29] and data from the approximately 60 jurisdictions that have now implemented similar levies show them to be effective at reducing consumption [27]. Earmarking the revenue for preventive health has been shown to increase public support and may help to offset any potential equity concerns [28].

The National Preventive Health Strategy as a tool for change

The *National Preventive Health Strategy 2021-2030* presents a clear and comprehensive plan to address preventable disease in Australia [6]. To prevent diabetes, government policies must also address the wider determinants of health that disproportionately impact vulnerable groups and further contribute to health inequities such as burden of disease and life expectancy. These health inequities, faced by groups including Aboriginal and Torres Strait Islander people, rural and remote communities, people living with disability and mental illness and those from linguistically and culturally diverse (CALD) backgrounds [6]. The strategy proposes that a health equity lens must be applied to all preventative health measures for diabetes, with the needs of vulnerable groups at the forefront.

The George Institute endorses and recommends a systems-based approach as detailed in the Strategy, where prevention efforts need to be systematised, strengthened and embedded across the life course to create long-term, sustainable improvements to the diagnoses and prevalence of diabetes in Australia. The Strategy outlines multiple approaches aimed at the individual, communities, food systems and food environments to create a more holistic response to tackling diabetes and the obesity epidemic. The George Institute recommends that the Australian Government develop and adequately resource an implementation plan to ensure the National Preventive Health Strategy is delivered.

Innovative new approaches to addressing the causes of diabetes

The George Institute is currently leading ground-breaking research on 'Food is Medicine': a program that incorporates the prescribing of healthy foods or meals in the same way that doctors prescribe drugs [22, 23]. Such programs seek to improve the integration of nutrition into the core of healthcare and tackle the socio-economic inequities in nutrition, because patients with lower income and/or food insecurity struggle to access and afford healthy foods. Food insecurity exacerbates both the risk of diabetes *and* predicts worse outcome among those with type 2 diabetes [23]. One in 20 Australian households has been estimated to regularly experience food insecurity based on a national survey [23], but the prevalence has likely risen substantially in recent years. Finally, when connected with local food producers, healthy food or meal prescription programs have the additional benefit of supporting the local economy and jobs [23].

Together with colleagues at the Royal Prince Alfred Hospital, The George Institute researchers found that when implemented over an initial 12-week period, a produce prescription program was related to substantial improvements in diet quality, reduced food insecurity, weight loss and improvements to blood lipid profile [23]. Evidence from overseas suggests food prescription programs may lead to overall healthcare cost *savings* by averting worse health outcomes among patients with chronic diseases. These initial findings highlight prescribing fresh food as a promising healthcare-based, innovative strategy to enable the consumption of foods in accordance with the Australian Dietary Guidelines and reduce diet-related health inequities [22].

Based on these promising findings, The George Institute is currently progressing two Food is Medicine randomised controlled trials among individuals with type 2 diabetes and assessing the health impact and cost-effectiveness of these approaches to improve blood sugar control and overall wellbeing of the program participants.

One of these trials is investigating produce prescription, with a larger cohort of patients and involving more healthcare partners, and a longer period (26 weeks) of produce support. The second trial is assessing medically tailored meals. Rather than fresh produce boxes, this approach involves the provision of pre-prepared healthy meals delivered to those with type 2 diabetes, with the meals nutritionally tailored to their health needs. Medically tailored meals offer a potentially complementary approach to produce prescription and may be especially impactful among individuals who struggle with activities of daily living and have difficulty preparing their own meals.

Treatments for diabetes

Diabetes is the leading cause of kidney disease and kidney failure in the world. The increasing prevalence of type 2 diabetes is the primary factor behind the substantial global increase of end-stage kidney disease [24]. There is no cure for kidney disease and slowing the progression is the only option. Several treatments to slow progression of kidney disease have been discovered in the last few years. One of these are the sodium-glucose cotransporter 2 inhibitors (SGLT-2i). A large-scale clinical trial carried out by The George Institute trialled Canagliflozin, a (SGLT2), to lower blood glucose levels in patients with type

2 diabetes and showed that these medications not only reduced blood glucose levels but also reduced cardiovascular events such as heart attacks and strokes. People with diabetes and especially those with diabetic kidney disease are at high risk for such events as well as for developing kidney failure. This study also suggested that there might also be improved renal outcomes. Researchers from The George Institute then designed and completed the CREDENCE (Canagliflozin and Renal Events in diabetes with Established Nephropathy Clinical Evaluation) trial to assess the effects of a sodium-glucose inhibitor on renal outcomes in patients with Type 2 diabetes. This randomised, controlled trial, conducted across 4401 patients in 34 countries was the first to show that there was a 30% lower risk of end-stage kidney disease (dialysis, transplant, or death from renal and cardiovascular causes) with the use of SGLT2-inhibitors compared to placebo. The risk of both kidney failure and cardiovascular events was lower than the placebo in patients with diabetic kidney disease. Subsequently, SGLT2-inhibitors have been incorporated into clinical guidelines for the management of diabetic kidney disease.

However, while research has highlighted the many benefits of SGLT-2 inhibitor medication for diabetes, the uptake of the drug has been low in patients and particularly in the sub-populations that are most likely to benefit from them. Some of the most prominent barriers to the uptake of the medicine include lack of knowledge, concern of side effects, costs involved and change resistance from both clinicians and patients [25]. Novel therapies have also shown to have a slower uptake from research to clinical practice due to 'clinical inertia', a multi-factorial phenomenon involving patient, clinician and health system factors requiring a targeted advocacy approach [25]. SGLT2 inhibitors have been shown to not only protect people with diabetes from developing kidney failure, but also increased protection against other morbidities including heart disease and heart failure [26]. If the barriers to access of this medication are adequately addressed, such that everyone who is eligible for this medication is receiving it, this class of medication could contribute to improved quality of life and capacity of affected individuals, leading to reduced burden on the health system.

Another class of medications called novel mineralocorticoid receptor antagonists (Finerenone) has recently been added to clinical guidelines and the PBS (July 2023) as treatment for people with diabetic kidney disease. Ensuring adequate uptake of this treatment will also reduce the burden on the health system from diabetic kidney disease.

Conclusion

Diabetes causes significant burden of disease in the population and needs to be addressed. The George Institute commends the House of Representatives Committee for investigating this very significant population health issue.

While there have been improvements in the prevention and treatment of type-2 diabetes, there remains much more work to do. This submission present five evidence-based measures that, if implemented, could prevent diet-related illnesses, including type-2 diabetes. We call on the Australian Government to implement these measures, to support the achievement of a healthy society where people can live long and fulling lives free of chronic disease.

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