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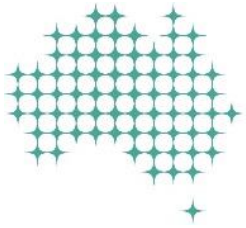

Australian Academy
of Health and
Medical Sciences

Standing Committee on Health, Aged Care and Sport – Inquiry into diabetes in Australia

Submission from the Australian Academy of Health and Medical Sciences

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The Australian Academy of Health and Medical Sciences

PO BOX 6114, WOOLLOONGABBA, QLD 4102
www.aahms.org | Ph +61 7 3102 7220 | policy@aahms.org
ABN: 55 167 124 067

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We are an independent, interdisciplinary body of Fellows – elected by peers for outstanding achievements and exceptional contributions to health and medical science in Australia. Collectively, AAHMS Fellows are a representative and independent voice, through which we engage with the community, industry and governments.

We welcome the opportunity to contribute to this consultation. Our response has been informed by input from Fellows and Associate Members of the Academy.

Acknowledgment of Country

The Australian Academy of Health and Medical Sciences acknowledges the traditional custodians of the land on which our offices stand and on which we hold our meetings and events across the country. Aboriginal and/or Torres Strait Islander peoples were the nation's first scientists, and they remain the spiritual and cultural custodians of their land. We pay our respects to elders past and present.

Introduction

The Australian Academy of Health and Medical Sciences (AAHMS) welcomes the Standing Committee on Health, Aged Care and Sport's inquiry into diabetes in Australia. This is an important inquiry that could help to improve the health and wellbeing of the Australian community by making recommendations to reduce the incidence of diabetes and improve quality of life for those living with the condition. We note that the inquiry terms of reference are broad. We have focussed our submission on the causes, prevention, management, and treatment of obesity and diabetes – and the interrelated issues between the two.

Decreasing the incidence of diabetes in Australia will lead to downstream social and economic benefits. Diabetes was ranked as one of the most prevalent chronic diseases in the 2021 National Health Survey.[1] It affects one in twenty people in the Australian population (5.3%), with the most common type being Type 2 diabetes (4.5% of the population).[2] The number of people living with diabetes increased almost three-fold between 2000 and 2021 – from 460,000 to 1.3 million.[3] Diabetes has a number of preventable complications, including heart disease, stroke, eye disease, peripheral vascular disease, foot problems that can lead to a series of lower limb amputations, damage to the nerves, gum disease and mental health impacts.[4] The Australian Institute for Health and Welfare (AIHW) estimates that diabetes had a direct cost of $3 billion in Australia in 2018-2019.[5]

Diabetes disproportionately affects vulnerable populations such as forced migrants, those in regional, rural, and remote communities, and Aboriginal and Torres Strait Islander peoples.[6,7,8] For example, in the 2018–19 National Aboriginal and Torres Strait Islander Health Survey, the incidence rates were 2.0 times higher in First Nations men and 2.4 times as high in First Nations women compared to non-Indigenous people. In 2019, diabetes was one of the three leading causes of death among Aboriginal and Torres Strait Islander people.[9]

A coordinated, cross-sector response to develop and implement policy strategies is required to alter the trajectory of diabetes in the community. A series of interlinked policy frameworks to approach diabetes and obesity are already in place. In 2021, the Australian Government published the *Australian National Diabetes Strategy 2021-2030* (*Diabetes Strategy*) and the *National Preventive Health Strategy 2021-2030* (*Preventive Health Strategy*).[10,11] The *2021-30 Diabetes Strategy* built on the 2016-2020 Diabetes Strategy, and set out a vision to *"Strengthen, integrate and coordinate all sectors to improve health outcomes and reduce the social and economic impact of diabetes in Australia"*. Five principles underpin seven goals to achieve this vision. It also describes the enablers that influence the nation's capacity to achieve the vision. The *Diabetes Strategy* defines measures of success by a range of diabetes-relevant indicators collected through existing national frameworks. Similarly, the *Preventive Health Strategy* and the *National Obesity Strategy 2022-2032* offer frameworks to build a prevention system that seeks to address the increasing burden of chronic conditions. These three strategies are drawn together by the *National Strategic Framework for Chronic Conditions* (the *Strategic Framework for Chronic Conditions*) which provides the high-level guidance needed to deliver a coordinated national response to chronic conditions.[12] These strategies show that federal, state and territory governments are seeking to improve efforts to prevent and manage these conditions, but implementation of the reforms described in these documents has been slow. They require system-wide reform, with strong cross-government collaboration and investment.

This inquiry presents an opportunity to build on the three strategies and make recommendations for how they can be better implemented in a way that not only aims to improve the treatment of diabetes, but seeks to address the preventable causes.

Key messages

- Obesity and diabetes are conditions that impact some populations more than others. Efforts to address health inequities should include action to prevent and treat these conditions as a priority.
- The World Health Organization (WHO) has recommended that countries introduce (or increase existing) levies on SSBs. This warrants serious consideration in Australia, where strategies implemented overseas can act as frameworks on which to base an Australian approach.
- The Australian government should develop and publish clear implementation plans for the National Obesity Strategy, National Preventive Health Strategy, National Diabetes Strategy and the National Framework for Chronic Conditions, and ensure there is coordination across these plans so that they are mutually reinforcing.
- Implementation of the National Obesity Strategy should incorporate measures to ensure patients are able to access the necessary surgical and non-surgical treatments for obesity, including support for behavioural change, surgery and pharmacological intervention.
- Unfortunately, the populations needing obesity treatments most often face the biggest challenges in accessing the most appropriate service and this needs to be addressed. It is important that we investigate which treatment options should be used in which circumstances. Research is needed to build our understanding of who will benefit most from each option and therefore inform decisions about how to make access fair and equitable.
- Early detection gives the best opportunity for positive health outcomes. For type 1 diabetes, this may mean community education to build awareness of typical symptoms. For type 2 diabetes, early detection also involves community education as to symptoms and risk factors, but also the need for regular health checks in primary care.
- We would encourage the Committee to seek further insights into partnerships that involve First Nations communities, ACCHOs and other healthcare providers, government and researchers to consider how they might be applied in other settings to improve health outcomes.

Obesity

Obesity is the leading cause of type 2 diabetes

The focus of the inquiry on modifiable risk factors for type 2 diabetes is welcome – an important one is obesity. Through research, we have an increasingly good understanding of the drivers of obesity and ways to prevent it, including the role of the environments in which we live, where there is wide availability of unhealthy foods and rising levels of stress and physical inactivity.[13] Genetics and social determinants of health also play important roles in the development of obesity. Obesity not only increases the risk of developing diabetes but also of other prevalent chronic diseases such as high blood pressure, atherosclerosis, stroke, fatty liver disease and cancer. There is no single solution, but the best way to reduce the incidence of obesity is through prevention.

Obesity and diabetes are conditions that impact some populations more than others. Efforts to address health inequities should include action to prevent and treat these conditions as a priority. For example:

- Disadvantaged populations – obesity disproportionately affects priority population groups in Australia. Australians living in regional, remote and rural communities experience higher rates of obesity than those in metropolitan areas.[14] Programs need to be designed with equity in mind, to better support these populations.
- Obesity in pregnancy – pregnancy is a vulnerable time for excess weight gain and, potentially, insulin insufficiency. Mothers who begin their pregnancy with overweight or obesity have a higher risk of developing serious conditions such as preeclampsia, gestational diabetes and blood clotting problems, and their children are at increased risk of future health problems including obesity. Gestational diabetes is a key risk factor for developing type 2 diabetes later in life and the cascade of detrimental adverse events. In 2021, 28% of women giving birth were affected by overweight and 23% by obesity.[15] This is a critical point in the obesity timeline for both mother and child. It can also be an opportunity to provide support, when individuals are engaged with the health system.

Preventing obesity

Introducing early intervention initiatives at critical life stages (e.g. pregnancy, childhood) is important. Programs should be designed to meet local objectives and adapted over time to meet the changing needs of a community. Prevention is preferable to treatment in terms of health outcomes and also economically. A 2019 OECD report estimated that every USD $1 invested in preventing obesity would generate an economic return of up to USD $6.[16]

Taking the example of pregnancy as a critical life stage, we know from research that lifestyle interventions around diet and physical activity can reduce excessive weight gain during pregnancy, and consequently lower the risks of diseases such as diabetes for both mother and baby.[17] Implementing these kinds of interventions more widely could improve health and decrease hospitalisations stemming from obesity-related complications. Pilot studies of community-based lifestyle interventions that include regular meetings and digital-based tools have also shown some positive results.[18]

Education, levies and advertising

There is evidence from overseas that some interventions such as taxing sugar-sweetened beverages (SSBs) can reduce sugar consumption.[19] For example, the UK introduced a *Soft Drinks Industry Levy* in 2018, which taxes the producers of SSBs based on a drink's sugar concentration. The UK Government stated that its aim in introducing the levy was to encourage companies to reformulate their soft drinks and research findings indicate manufactures did indeed reduce the sugar content.[20,21,22] Mexico introduced a tax on SSBs in 2014, after which the country saw a reduction in the volume of sugary drinks purchased, which was greatest among those who purchased higher volumes of the drinks before the tax was introduced.[23,24] Research in Australia, for instance a study using a Citizens' Jury, have indicated that levies on SSBs may be considered acceptable by the Australian public.[25]

In fact, in December 2022 **the World Health Organization (WHO) recommended that countries introduce (or increase existing) levies on SSBs**, noting the examples highlighted above and stating that *"Taxes on SSBs can be a powerful tool to promote health because they save lives and prevent disease, while advancing health equity and mobilizing revenue"*.[26] According to the World Bank, as of February 2023, 106 countries and territories had some type of SSBs taxation in place, covering 52% of the world's population.[27] WHO have published a global tax manual for SSBs to assist countries in implementing policies.

This warrants serious consideration in Australia, where strategies implemented overseas can act as frameworks on which to base an Australian approach.

Implementing the strategic visions

The national *Obesity Strategy*, *Diabetes Strategy*, *Preventive Health Strategy*, and the *Strategic Framework for Chronic Conditions* set out guiding principles and measures of success. Effective implementation is needed urgently if Australia is to prevent a further rise of obesity, diabetes, and other chronic conditions. Implementation must deliver cross-sector, cross-government efforts within a system of prevention that jointly enables individuals, as actors within that system, to make better decisions about their health. Digitally delivered programs can also be effective in some cases and can be associated with lower costs and broader reach.[28] **The Australian government should develop and publish clear implementation plans for the National Obesity Strategy, National Preventive Health Strategy, National Diabetes Strategy and the National Framework for Chronic Conditions, and ensure there is coordination across these plans so that they are mutually reinforcing.**

Treatments for obesity

As of 2018, 67% of Australians were affected by overweight or obesity.[29] Although a system to prevent the development of obesity is ideal and should be urgently established, it remains a significant health issue, consequently options are also needed to treat obesity.

Treatment options

Addressing the complexities of obesity requires a multidisciplinary approach. Several options exist to treat obesity, which all have a role to play. **Implementation of the National Obesity Strategy should incorporate measures to ensure patients are able to access the necessary surgical and non-surgical treatments for obesity, including support for behavioural change, surgery and pharmacological intervention.**

Support for behavioural change

Support for behavioural change is the foundation of obesity treatment. However, lifestyle changes driven by an individual are not always a reliable mechanism for achieving long-term weight-loss – some level of support is usually required to help people identify and maintain suitable lifestyle

changes and healthy behaviours, for example ongoing clinical support and weight-loss counselling.[30] Obesity treatment in Australia needs to be reformed to develop a sustainable system that includes community-based support programs with ongoing Medicare support for nonsurgical weight-loss programs. This should include consultations with psychologists, dieticians, exercise scientists and other allied health professionals, as well as nursing staff, to provide ongoing weight-loss counselling to help create lifestyle changes that promote and maintain weight loss.

Surgical intervention

There are a range of bariatric surgical options and these approaches have demonstrated impacts on weight loss, morbidity, mortality, and the chronic diseases resulting from obesity.[31] Surgery is more expensive but is an effective and durable option for treating people with moderate to severe obesity. Bariatric surgery availability in individual state health systems is variable and usually associated with substantial waiting lists. Data from the Australian Bariatric Surgery Registry show that over 95% of primary bariatric surgery procedures are performed in the private sector.[32] There would be marked benefit in making surgical options more widely accessible through the public system. There are different types of surgery and some are more effective than others or more appropriate in different circumstances. It is important that patients receive the best advice on these options and the various implications to inform their decision about how to proceed.

Pharmacological intervention

In recent years, more pharmacological options for treating obesity have become available and they are becoming more effective. Several such treatments are now approved by the Therapeutic Goods Administration. Historically, pharmacological therapies have come with problematic side-effects. Evidence is increasingly suggesting that newer treatments provide beneficial effects beyond those associated with glucose control and weight reduction, which make them more attractive. For example, one class of drugs, Glucagon-like peptide 1 (GLP1) receptor agonists and related peptides (e.g. liraglutide, semaglutide, dulaglutide, tirzepatide) control blood sugar levels and appetite, and may also reduce the risk of cardiovascular disease, stroke and kidney disease.[33,34] GLP1 receptor agonists are currently prescribed for those living with type 2 diabetes that is not under control, but they could potentially also benefit individuals at risk of developing diabetes, and those already living with obesity. This could be particularly valuable for those in regional, remote and rural areas as they are at a higher risk of obesity, diabetes and other chronic conditions, and experience limited access to health services. Pharmacological interventions, however, can be expensive and will likely need to be used for long periods (perhaps life-long), since stopping therapy is associated with regaining weight. To become a sustainable option and harness the potential benefits of pharmacological treatment options, more equitable access is needed. This should be accompanied by support for lifestyle changes and careful clinical monitoring.

The treatment environment

There are other factors that impact on how effective treatments can be, which must also be considered. This includes:

- Access to treatment – treating obesity is a complex problem that requires a multidisciplinary approach to deliver cost-effective, patient-centred management of the condition. While treatment for obesity can be expensive, these costs should be seen in the context of the wider individual and societal benefits associated with reduced disease burden, and consequently healthier communities. **Unfortunately, the populations needing these treatments most often face the biggest challenges in accessing the most appropriate service and this needs to be addressed. It is important that we investigate which treatment options should be used in which circumstances. Research is needed to**

build our understanding of who will benefit most from each option and therefore inform decisions about how to make access fair and equitable.

- Addressing stigma – obesity is complex, with strong behavioural, social, biological, and environmental drivers. Those living with this chronic condition can experience stigma from the community, educators, healthcare providers and workplaces, which can be harmful to their mental and physical health, and can exacerbate the condition. Placing responsibility, and to some extent "blame", on individuals has sometimes inadvertently promoted discriminatory behaviours. This does not reflect the complex causes of obesity or the issues that exist within the health system that inhibit effective prevention and management. Efforts are needed to reduce this stigma, particularly in healthcare settings, to support patients to work through the effects of weight bias and stigma. Education campaigns can also help improve understanding and reduce stigma.

Diabetes

The impacts of diabetes on individuals

Early detection gives the best opportunity for positive health outcomes. For type 1 diabetes, this may mean community education to build awareness of typical symptoms so that people do not present late with consequences such as diabetes ketoacidosis, which is potentially life-threatening. **For type 2 diabetes, early detection also involves community education as to symptoms and risk factors, but also the need for regular health checks in primary care**.

The primary management of diabetes involves blood glucose control, which demands attention to lifestyle factors as well as regular (usually at least daily) blood glucose monitoring and treatment, but there is also the need for intermittent screening for complications such as those involving the kidneys, eyes and feet, by those living with the condition. These demands create a potentially significant psychological burden, including the need to make many health-related decisions each day. Even periods of sleep can be a concern since it can be difficult to sense when glucose levels reach dangerously low levels in those using treatments such as insulin. There are now tools that can help ease this latter burden, such as continuous glucose monitors linked to insulin pumps. Interconnectivity with mobile devices alleviates the amount of decision-making by the individual, provides notifications when glucose levels are dropping concerningly, and reduces the number of finger pricks and skin injections required.

The considerable physical, psychological and financial burden experienced by those living with diabetes could be alleviated by providing broader and more equitable access to modern diagnostic and treatment options through subsidy schemes such as the National Diabetes Services Scheme (NDSS).

Financial impacts

Continuous glucose monitors and insulin pumps can help alleviate the psychological burden and improve the lives of people with diabetes, but these devices are expensive. It costs approximately $2,400 per year for continuous glucose monitors, and an insulin pump costs between $5,000-$10,000.[35,36] The NDSS now subsidises continuous glucose monitors for adults with type 1 diabetes, but it should be made more affordable to those with other forms of the disease to provide more equitable access. Consideration should be given to increasing availability of insulin pump therapy for individuals with type 1 diabetes, which is currently only affordable for most through appropriate private health cover.

Societal implications

As with obesity, the causes of diabetes are complex, for instance type 2 diabetes is associated with genetics, environment and societal factors. People living with all types of diabetes report experiencing stigma, which can affect their mental wellbeing and social interactions, and also their adherence to diabetes management strategies.[37] Data suggest that those living with diabetes in all its forms who need the most help – e.g. those with a higher body mass index or poor self-reported glucose control – experience this kind of stigma at higher rates.[38] Stigma does not just come from other members of the public, but can also come from health professionals. This can lead to internalisation of the stigma and in turn, a lower sense of self-worth, higher psychological distress and lower quality of life.[39] The stigma experienced by people living with diabetes should be addressed to reduce the negative effects attributed to discrimination. Education and awareness campaigns can improve understanding and reduce the stigma of this disease.

The terms of reference of this inquiry directly mention type 1, 2 and gestational diabetes. Other forms of the disease, such as diabetes caused by damage to the pancreas (typically through chronic inflammation, viral infection or surgery), are also important. Although these are less common, they often occur as a result of other critical health issues and this diagnosis adds to the health burden on the individual and health system. These types of diabetes should not be overlooked, and policies should ensure that all individuals with diabetes, no matter the cause, can access the care they need.

Data to support research

Australia needs a comprehensive registry of diabetes data that confidentially collects data from appropriate sources and collates it so that it can be properly used and leveraged for patient and health system benefit. Data availability and access are not currently sufficient to inform effective strategy implementation and to subsequently monitor the impact of these strategies, to adapt them in ways that meet community needs. The NDSS already captures data from a high proportion of the individuals living with diabetes in Australia; with a modest amount of work and investment, a registry could be developed from this data.

More generally, Australia needs to create an environment in which safe and secure use of patient and public data for legitimate research purposes is balanced with the rights and interests of individuals – doing so will mean that researchers can better understand and improve the nation's health, including in relation to diabetes and obesity.

Diabetes inequity

As with many chronic diseases, diabetes disproportionately affects vulnerable populations in Australia, including Aboriginal and Torres Strait Islanders and culturally and linguistically diverse communities. For instance, the burden of diabetes in the remote Aboriginal population of the Northern Territory is among the highest in the world.[40] However, up to date data on diabetes in at-risk groups is limited.

Healthcare led by First Nations communities has improved outcomes for Aboriginal and Torres Strait Islander peoples in areas including diabetes and heart disease. There are some positive examples of partnership approaches that involve First Nations communities, ACCHOs and other healthcare providers, government and researchers that are working towards sharing knowledge and finding appropriate solutions that work in these settings, recognising the intergenerational cycle of diabetes. For example, the *Diabetes across the Lifecourse – Northern Australian Partnership* is making important progress in addressing diabetes in the Northern Territory and these kinds of approaches could be useful models in other areas of the country.[41] **We would encourage the Committee to seek further insights into these kinds of partnerships to consider how they might be applied in other settings to improve health outcomes.**

For questions about this submission, or to arrange a consultation with Fellows and Associate Members of the Academy, please contact the Academy's Head of Policy, Lanika Mylvaganam, (policy@aahms.org). The Academy is grateful for the input received from our Fellows and Associate Members in developing this submission.

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