



Australian  
Patients  
Association

**Australian Patients Association Limited**  
**ABN 25 146 474 688**  
**Level 22, 114 William Street**  
**Melbourne, VIC. 3000**  
**Phone: 03 92740788**

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Submission to the Parliamentary Committee Inquiry into Diabetes

**By email:** [Health.Reps@aph.gov.au](mailto:Health.Reps@aph.gov.au)

**Submission by the Australian Patients Association (APA) to the House of Representatives  
Standing Committee on Health, Aged Care and Sport on Diabetes**

The Australian Patients Association (APA) is an independent not-for-profit organisation dedicated to championing and protecting the rights and interests of patients, improving the patient experience and their health outcomes. Our main roles are providing patient advocacy, information and support.

We constantly advocate to ensure that all patients have access to affordable healthcare of the highest quality without being discriminated on the basis of their age, gender, ethnicity or socioeconomic status.

At the APA, we believe that ***prevention is better than cure*** and we envision a future in Australia where the healthcare system prioritises and invests in preventative medicine.

Obesity and Type II diabetes mellitus (TIIDM) are two of the most common, most debilitating and most preventative chronic medical conditions in Australia. The statistics are shocking: one third of Australians are overweight, one third of Australians are obese and over one million adults were diagnosed with TIIDM between 2000 and 2021. This equates to an average of 165 new cases of TIIDM every day in the past two decades.

This has a significant impact not only on the individual and their family but also on the society due to the complications associated with TIIDM and the financial costs of these complications. The three macrovascular complications of diabetes are cerebrovascular disease (stroke), cardiovascular disease (heart attack) and peripheral vascular disease (arterial ulcers). The three microvascular complications are retinopathy (eye disease), nephropathy (kidney disease) and neuropathy (nerve damage). Even if an individual manages to achieve adequate glycaemic control, the reality is most people will experience at least one of these complications which significantly reduce the quality of life, the quantity of life and costs the federal healthcare budget an estimated \$2.0 billion annually.

Obesity is by far the leading cause of TIIDM, and these conditions are intrinsically linked. By tackling the obesity epidemic in Australia, the rates of TIIDM will inevitably start to decline.

This not only has huge benefits for the individual but will significantly benefit the Australian economy, with far less money needing to be invested in diagnosing, treating and monitoring patients for the lethal complications of T1DM.

At the APA, we strongly believe that obesity should no longer be regarded as an individual problem. The stigma, shame and judgement placed upon people suffering from obesity only exacerbates the problem. It is time that obesity is seen as a disease in its own right, brought about by genetic, metabolic and behavioural factors. People who are obese should be treated with empathy and understanding for their condition and its complexity. It is inappropriate that all people suffering from obesity continue to be treated as indulgent, greedy and lazy individuals who lack self-discipline. The “obesogenic” environment that has evolved in Western countries is the primary contributor to the current obesity epidemic facing Australia. For people who are genetically predisposed to carry more adipose tissue, the accessibility and affordability of processed, refined foods and beverages make it almost impossible to maintain a healthy weight. The long-standing “eat less, move more” mantra is overly simplistic and does not take into account the complexities of the condition. As a nation, we need a more nuanced approach to support people in making healthier lifestyle choices to reduce obesity rates and thus reduce T1DM diagnoses. As these conditions are complex, the solutions will also be complex and will require key stakeholders to come together and agree on the best way forward.

This submission will focus on the following elements:

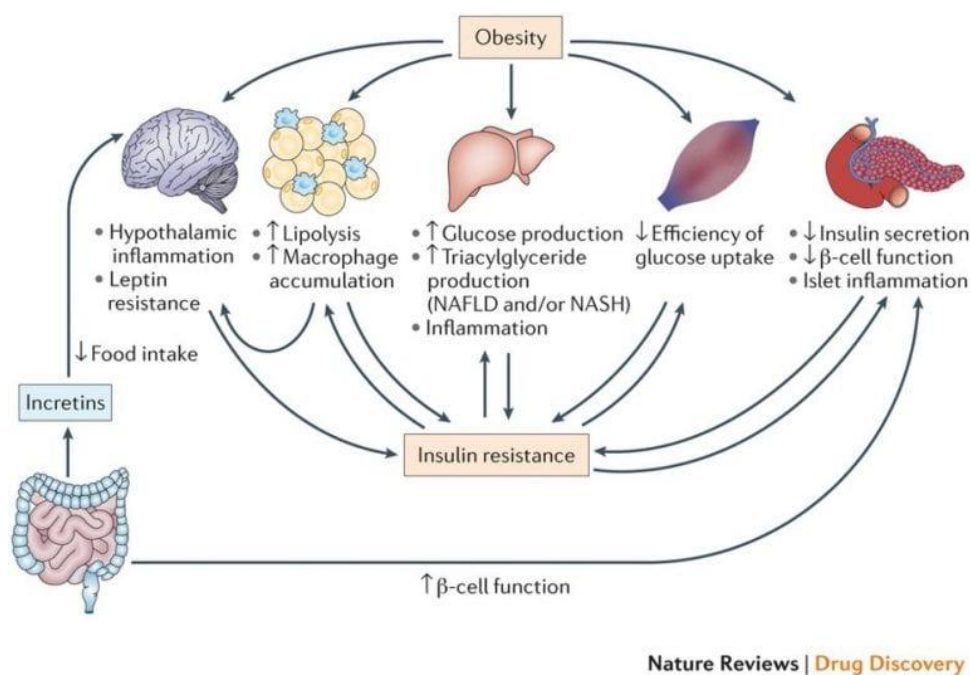
- The relationship between obesity and T1DM
- Inter-related health issues of obesity and T1DM
- The four P’s of obesity – predisposing, precipitating, perpetuating and protective factors of the disease
- Overview of tackling obesity by enforcing change at the societal level
- Implementation of a sugar tax
- Addressing the flaws of, and improving, the current Health Star rating system
- Acknowledging the importance of a health, rather than weight, focused approach
- The role of medications in tackling obesity

### ***Relationship between T2DM and obesity***

1. Obesity causes the production of diacylglycerols (DAGs)
  - The excess amount of free fatty acids (FFAs) which are the breakdown product of fats, overwhelm the normal fatty acid oxidation pathways which means fats are not metabolised properly
  - Instead of being metabolised in the usual way, FFAs are converted into toxic intermediate products called DAGs which activate inflammatory pathways

within pancreatic beta cells and causes these cells to become dysfunctional. The beta cells can no longer produce insulin, the key hormone responsible for glucose metabolism.

2. Obesity causes a reduction in adiponectin
  - Adiponectin is a protein hormone important in controlling glucose metabolism through insulin sensitivity
  - Low adiponectin levels are correlated with a reduction in insulin resistance, and is a key early feature of T2DM
3. Obesity causes activation of protein kinase C (PKC)
  - PKC causes an incorrect phosphorylation of the insulin receptor which inhibits the GLUT-4 receptor translocation onto peripheral tissues
  - The GLUT-4 receptor is essential for allowing glucose to move from the bloodstream into the tissues, and without this receptor acting properly, hyperglycaemia ensues
4. Obesity is a chronic pro-inflammatory state
  - In response to excessive FFAs, inflammatory cytokines (IL-1 $\beta$ ) are released
  - The ongoing inflammation contributes to both insulin resistance and beta-cell dysfunction



**Figure 2. Obesity and type II diabetes mellitus (Oh & Olefsky, 2016).**

***The Four P's – Predisposing, Precipitating, Perpetuating and Protective Factors of Obesity***

***Predisposing factors for obesity***

- *From when a person is born, there are both individual and societal factors that increase a person’s risk of obesity.*

<b><i>Individual</i></b>	<b><i>Societal/ Environmental</i></b>
<ul style="list-style-type: none"> <li>• Genetic conditions (e.g. genetic disorders such as Prader Willi syndrome)</li> <li>• Fetal conditions (e.g. maternal obesity or malnutrition, gestational diabetes, low birth weight, macrosomia)</li> <li>• Female (women have greater body fat percentage)</li> <li>• Composition of gut microbiome</li> </ul>	<ul style="list-style-type: none"> <li>• Movement of individual to mass preparation of food</li> <li>• Greater number of people working in sedentary occupations (e.g. sitting at a desk in an office), rather than manual labour jobs (e.g. construction)</li> <li>• Technological advancements such as televisions, computers, social media and streaming services all leading to increases in sedentary behaviour</li> <li>• Socioeconomic inequities (people who are socioeconomically disadvantaged are at greater risk of obesity)</li> </ul>

***Precipitating and perpetuating factors for obesity***

- *Throughout a person’s life, there are many individual and societal factors that can both lead to obesity and cause the condition to persist into the future*

<b><i>Individual</i></b>	<b><i>Societal/ Environmental</i></b>
<ul style="list-style-type: none"> <li>• Advancing age</li> <li>• Post-menopausal</li> <li>• Medications associated with weight gain (e.g. corticosteroids, antipsychotics, antidepressants)</li> <li>• Neuroendocrine disorders (e.g. Cushing’s syndrome, polycystic ovarian syndrome, hypothyroidism)</li> <li>• Mental illness (e.g. depression, anxiety, binge eating disorder)</li> <li>• Sedentary lifestyle (e.g. office worker, lack of ability or</li> </ul>	<ul style="list-style-type: none"> <li>• Ease of accessibility and affordability of ultra-processed foods in supermarkets and vending machines</li> <li>• High number of fast-food outlets offering tasty, affordable and convenient meals</li> <li>• High volume of advertisements for ultra-processed foods, particularly aimed at children</li> <li>• Food and beverage companies being sponsors of sporting games,</li> </ul>

<p>opportunity to exercise, lack of enjoyment of exercise, lack of motivation to exercise)</p> <ul style="list-style-type: none"><li>• High sugar, high fat, processed diet (e.g. potato chips, white bread, chocolate, lollies, fried foods, take-away foods)</li><li>• Sleep insufficiency</li></ul>	<p>normalising unhealthy products as part of Australian culture and paradoxically associating these foods with exercise</p> <ul style="list-style-type: none"><li>• Costs barriers to purchasing healthier options such as organic fruits and vegetables</li><li>• Increased portion sizes of foods, particularly when eating out at restaurants and cafes</li><li>• Increased production and consumption of Sugar-Sweetened Beverages (SSBs)</li><li>• Lack of access to recreational facilities such as bike paths, walking tracks, green spaces</li></ul>
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### ***Protective factors against obesity***

- Being breastfed as an infant
- Growing up with parents who are confident in their parental abilities
- Growing up in a safe, supportive environment with healthy role models
- Being educated early in life about the importance of a healthy lifestyle
- Having healthy home-made lunches rather than relying on tuck shop or take-away
- Eating dinner at the table as a family, away from television or other distractions
- Finding physical activities that are sociable, enjoyable and time efficient
- Higher levels of educational attainment
- Moderate alcohol intake
- Being employed in an active, rather than sedentary, occupation
- Optimal mental health without current psychiatric illness
- Body satisfaction and being surrounded by body positivity messages
- Having a clear sense of purpose and meaning in life

### ***Preventing obesity - tackling the “obesogenic” environment***

- In terms of addressing the “obesogenic” environment in the developed world, including Australia, there are many steps that both State and Federal Governments could consider. These include:
  - Introducing a sugar tax on SSBs – *see below for more details*

- Addressing the flaws of the current Health Star rating system on products in supermarkets and other grocery stores - *see below for more details*
- Improving accessibility and affordability of healthy food choices, particularly for Australians from lower socioeconomic backgrounds
- Investing in greater government advertisement of healthy foods and beverages
- Controlling fast-food and processed food marketing, such as banning the use of cartoon characters on breakfast cereals and introducing plain packaging (as has been employed for reducing smoking rates)
- Building infrastructure for safe and accessible green spaces, bike paths, walking tracks
- Subsidising gym memberships where appropriate
- Greater investment in local sporting clubs and exercise facilities
- Greater focus on education about healthy food choices, such as dietician groups in schools run for children, with informative pamphlets sent out to parents following sessions

### **Implementation of a sugar tax**

The APA is a strong supporter of the Australian Medical Association's (AMA) push for a tax on SSBs, with the evidence showing that around the world it has been an effective step towards tackling the obesity epidemic.

In the AMA's campaign, *Sickly Sweet*, calls for a tax of 40 cents for every 100 grams of sugar added to soft drinks. This would result in an increase of 16 cents per soft drink can which seems minimal but is estimated to have a hugely positive effect over a 25-year period including:

- 16, 000 fewer cases of T1DM
- 4, 400 fewer cases of heart disease
- 1, 100 fewer cases of a stroke

The AMA's President, Dr Steve Robson, has also stated that a sugar tax would result in a saving of \$2.8 million over a four-year period which could be directly put back into preventative healthcare. The savings could be invested into other measures to help tackle the obesity crisis, such as building more public sporting and exercise infrastructure and making healthier food options more affordable. The AMA's Vice President Danielle McMullen has described the move as a "win- win."

The AMA is not alone in its push for a sugar tax. The Grattan Institute, the Australian Council of Social Services and the Royal Australian College of General Practitioners (RACGP) are now all aligned in their support for a tax on SSBs.

From a global perspective, the World Health Organisation's *Global Action for the Prevention and Control of Non-Communicable Disease 2013-2020* also recommends that jurisdictions around the world implement a tax on sugary drinks. In the jurisdictions around the world that have implemented a sugar tax, it has led to a compete industry reformulation whereby soft drink companies have significantly reduced the amount of sugar in their products.

There are now 85 jurisdictions around the world that have implemented a sugar tax in some form, including the US, UK, Mexico, South Africa, India, France and Spain, and the evidence coming out of overseas is that a sugar tax is effective at reducing the intake of sugar at a population level. If we look at Mexico as an example, the Government introduced a tax on SSBs in 2016 which led to a 37 per cent reduction in soft drink purchases and is predicted to prevent a quarter of obesity diagnoses by 2026, with 40 per cent of those cases being children.

Despite obesity having complex genetic and metabolic factors associated with developing the disease, it is also known that excessive intake of SSBs is associated with increased energy intake and long-term weight gain. Despite there being many calories in SSBs, people tend not to eat less to compensate for this, and SSBs can actually trigger hunger. It is also known that decreasing consumption of SSBs is strongly associated with weight loss.

### Flaws of Health Star rating system in supermarkets

In 2014, the Australian Government launched the Health Star Rating system as a response to the growing obesity epidemic facing the nation. The initiative is essentially a front-of-package labelling scheme for packaged food purchasable from supermarkets.

A product is given a rating ranging from half a star (least healthy) to five stars (most healthy) which is calculated by assessing the content of the product. In particular, the calculator focuses on the ingredients that have been linked to obesity, mainly trans-saturated fats and refined sugars. The full label additional features a breakdown of the energy content in kilojoules and four nutrient items including saturated fats, sugars and salt and one other nutrient such as calcium.



Despite having good intentions, the system has many flaws and has arguably not been effective in addressing the current obesity epidemic, as obesity rates have continued to rise since the scheme's inception. Firstly, the scheme has a voluntary basis meaning food companies do not have to publish their Health Star rating on the front of their products, and the latest statistics from 2019 show only 41 per cent of brands chose to do so. Moreover, some brands choose to show their rating on some, but not all, of their products, or can also choose to only advertise the star rating without the corresponding nutritional breakdown.

Secondly, it is a poorly understood scheme by Australians, with only 20 per cent of people correcting being able to identify its purpose. Without greater awareness about its purpose and its benefits, it is not likely to become more efficacious as a means to reduce obesity and help people make healthier choices. Many people do not understand that the Health Star rating system should only be used when comparing the same food item, such as different brands and types of bread. It cannot be used to compare bread with yoghurt, as an example.

Further, the system only rates processed foods that come in packages. This means that a large proportion of food that makes up Australia's Healthy Eating Guide are not included in the labelling scheme, including fresh fruit, vegetables, meat, fish and poultry. This could have the negative effect whereby a person is trying to shop in a healthy way by following the rating system, but therefore ends up only buying processed options and missing out on fresher, healthier foods.

The current system also does not differentiate between refined sugars, which are unhealthy in large amounts and linked to obesity, and natural sugars, which are an integral part of a healthy diet. This results in some products that are very high in refined sugars, such as certain muesli bars or cereals, being given higher ratings than dairy products which contain high amounts of natural sugar.

In addition to addressing the flaws in the current Health Star rating system, there should also be introduction of warning signs on processed foods that contain excessive amounts of saturated fats, refined sugar, salt and energy. This initiative has been employed in Chile where, since 2016, it has been mandatory for food companies to publicise black octagonal "warning" signs on the front of their products if they contain certain levels of these nutrients.





### ***A tricky, but important, balance***

At the APA, we recognise obesity as a crisis in Australia. We know obesity is the major cause of T1DM which has a crippling effect on both the individual and our healthcare system. However, the push towards tackling our current obesity epidemic must be finely balanced with promoting body positivity, as there is currently an epidemic of eating disorders in this country as well. This was highlighted most recently by the 2023 recipient of Australian of the Year, body-positive activist Taryn Brumfitt. Obesity is not a lifestyle choice. It has now known to be a disease, as it rightly should be. The shame, stigma and judgmental attitudes towards people suffering from obesity only serves to perpetuate the problem.

We met many people who do not exercise in public because they are too scared of being judged for their body size. We have met many people who refuse to eat in cafes or restaurants, again for fear of being judged, and this leads to social isolation, withdrawal and depression. There is a misguided but persistent perception that obese people must be lazy, greedy, indulgent and lack any self-discipline. The reality is that most people who are obese have tried relentlessly to lose weight, but only ever manage short-term success, if any at all. This is due to the complex genetic and metabolic factors that play into obesity, in particular the dysregulation of hormones in the brain that function to suppress and stimulate hunger.

“Body-shaming is a universal problem and we have been bullied and shamed into thinking our bodies are the problem”, says Taryn Brumfitt. The focus of the obesity problem in Australia should focus on promoting healthy lifestyles, not weight loss as an end in itself.

### ***The role of medications***

As mentioned, some people have a genetic predisposition to obesity, and it is these people who may benefit from weight loss medication as an adjunct to a healthy diet and regular

physical activity. A particular medication called **semaglutide** has changed the way that obesity is being perceived and treated by doctors. Semaglutide is a synthetic analogue of the natural hormone GLP-1. There are two drugs made by the same company, Novo Nordisk, that both contain semaglutide as their active ingredient: *Ozempic* and *Wegovy*. *Ozempic* contains lower amounts of semaglutide and is approved in Australia as a treatment for T2DM but is being used “off-label” by doctors to help people struggling to lose weight with improved diet and exercise levels alone. *Wegovy* has been approved for use in Australia by the Therapeutic Goods Administration but is not yet currently available for use.

As mentioned, semaglutide is a synthetic analogue of GLP-1, an important hormone regulating glucose metabolism, appetite and satiety. Semaglutide has been designed to treat T2DM by stimulating insulin release, and thus treating hyperglycaemia, and this was its initial utility. However, more evidence has come out to show the significant role that GLP-1 plays in controlling weight and appetite at a higher level – in the brain.

It is actually very common for people struggling with obesity to lose weight rapidly by reducing caloric intake for a period of time, but the vast majority of people will re-gain the weight, and potentially more, just as rapidly. Semaglutide, and other similar medications, have now shed light on the neurochemical factors underpinning obesity. Essentially, the brain dictates a person’s weight “set” point meaning that it defines the amount of body fat that a particular individual carries, and this is genetically predetermined. By reducing a person’s hunger signals and increasing satiety, semaglutide is able to lower a person’s “set” point. Importantly, the evidence thus far shows that these effects only remain whilst the person is taking the medication, and thus the person is very likely to regain weight if they stop taking the drug.

Many doctors who specialise in the treatment of obesity are heralding these new drugs as game-changers and are hopeful that obesity will now finally be seen as a disease in its own right with a biological basis, rather than driven entirely by poor lifestyles.

However, many prominent experts on the subject, such as Dr Steve Robson (President of the AMA) and Dr James Muecke AM (an ophthalmologist and former Australian of the Year) are under the impression that pharmaceutical approaches to tackling obesity are not addressing the obesogenic society in Australia and gives too much power to the pharmaceutical industry.

Social media has additionally been playing a huge role in the promotion of *Ozempic* as a weight-loss drug, with Tik Tok influencers and celebrities endorsing its use and referring to it as a “magic drug”. This has unfortunately led to major shortages of the drug globally to the extent that patients with T2DM and a genuine prescription have had to either pay exorbitant prices or miss out on their much-needed medication.

Despite initially being sceptical of semaglutide due to the misinformation that permeates social media platforms, the scientific evidence thus shows that semaglutide has the potential to be a very effective treatment for obesity as an adjunct to improved diet and physical activity levels. A 2022 meta-analysis of four trials with a total of 3, 447 patients concluded that once-weekly semaglutide injections was superior to placebo in the percentage and total amount of body weight, waist circumference and BMI.

Further, on 8 August 2023, Novo Nordisk announced that its randomised control trial of over 17, 000 patients showed that patients who were administered once-weekly semaglutide injections had a reduced risk of cardiovascular events.

Semaglutide should therefore be seriously considered as a helpful additional tool in achieving weight loss goals for overweight and obese people.

### ***Recommendations***

- Implementation of a tax on sugar sweetened beverages
- Addressing the flaws in, and improving, the current Health Star rating system
- Promoting healthy habits (physical activity and healthy eating) at primary schools, through programs such as healthy lunch program, and an after school physical activity program to help students to enrol in various activities, will particularly help students from low socioeconomic background who often cannot afford a healthy meal or enrol in physical activity programs.
- A more holistic approach of targeting prevention of diabetes with programs offered through General Practice, particularly for people at high risk and also for people already living with diabetes.
- Partnering with health organisations, food suppliers, social groups, physical activity co-ordinators to prevent diabetes.
- Empowering individuals to take care of their health.
- Target campaigns like weight loss campaigns, campaigns focusing on exercise, etc. by providing resources and support to raise awareness. Running campaigns and advertising through various channels with influencers from various related fields, Medical Professionals, Sports and fitness, Chefs, etc., and promoting through Social Media.
- Promoting digital care to monitor the progress (Fitbit, Glucose monitoring, etc.), and providing them free of cost to people from low socioeconomic background.