Reframing Weight Management

Evolving the narrative around anti-obesity medications and prioritising care

It's time to recognise overweight and obesity as a complex, chronic disease

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Executive summary

Over eight million Australians currently live with obesity and an additional seven million people live with overweight. Many experience or are at heightened risk of a range of obesity-related health complications. In addition to higher rates of death, disability and hospitalisations, people living with obesity encounter stigma and mental health distress due to weight-related judgments.

We now have anti-obesity medications that represent a step-change in the medical management of overweight and obesity. New treatment options offer an opportunity to change the course of this systemic health challenge that affects two in every three Australian adults and one in four school-age children.

It's time to reframe the conversation in Australia to recognise overweight and obesity as a chronic condition that can be effectively managed through raising awareness, addressing stigma in seeking care, facilitating both lifestyle and add-on therapies such as anti-obesity medications and bariatric metabolic surgery, with the emphasis on supporting person-centred care. Community and system-wide management and support for people living with obesity, with additional funding and resourcing targeted at those who need it most, is critical to achieve long-term, sustainable outcomes.

1. Obesity is a public health priority with evidence-based treatment options

The Australian Government should recognise obesity as a chronic, relapsing disease, to sharpen the focus on appropriate medical management of obesity and allocate funds to support medical interventions in line with the *National Obesity Strategy*.

2. Support person-centred conversations in healthcare

The Australian Government should work with stakeholders to destigmatise and empower people living with obesity to seek and access appropriate primary and community care services.

For example, a co-designed public awareness campaign about the medical facts of overweight and obesity, and training and accreditation for healthcare practitioners.

3. Fund access to evidence-based interventions for those who need them most

The Australian Government should collaborate with the Royal Australian College of General Practitioners (RACGP) and other stakeholders to fund and develop multidisciplinary care models and system-wide support for people living with overweight and obesity to improve access to care and prevent missed opportunities to maintain good health. Strategies should recognise that primary care is typically the first point of contact in the Australian healthcare system; however, specialised multidisciplinary care is needed for those with the most severe forms of obesity.

Examples of strategies that could be considered include, the implementation of routine screening by including overweight and obesity in the '45-year-old health check', developing and implement national shared care pathways for primary and secondary care, and fund evidence-based digital health solutions.

The Australian Government should work with state and territory governments to fund and cut waiting times for specialised obesity care, including additional resourcing for multidisciplinary teams and appropriate access to pharmacotherapy and bariatric surgery.

Governments should work with the Australian community and stakeholders in the healthcare system to co-design options for improved access to services and interventions for people living with obesity, including anti-obesity medications. This includes working with communities known to have high background prevalence rates of obesity (e.g. rural New South Wales) and those living with low socioeconomic status and/or severe, complicated obesity, with these factors often going hand in hand. Aboriginal and Torres Strait Islander populations should also be prioritised.

"Like many women, I was always aware of my weight and appearance. I was lucky to stay active and within a normal weight range for most of my life. But things changed drastically during my pregnancy. The stress of managing a very sick baby at the time contributed towards my significant weight gain, and I've struggled with it ever since. Serious health challenges since then made it even harder, and yet I thought I just needed more willpower with diet and exercise to overcome them.

I tried everything under the sun: various diets, exercise programs, hypnotherapy, acupuncture—you name it. In 2020, I lost 15 kilograms during the first lockdown, only to gain it all back in the second one a year later. It took forever to lose just five kilograms again. The most disheartening moment came when I attended a four-day conference in 2023 and decided to take a break—no exercise, and I ate carbs. By the end of it, I had gained four kilograms. I felt utterly defeated.

Being overweight affected every aspect of my life. Family activities, once enjoyable, became daunting because I lacked energy and felt self-conscious. My work suffered as I constantly worried about my appearance and health, which eroded my self-confidence. Socialising turned into a source of anxiety; I felt judged and misunderstood, leading to isolation. Physical activities I once loved became burdensome, and my overall quality of life plummeted.

The emotional toll was equally severe. I felt trapped in a cycle of guilt and frustration, believing my inability to maintain a healthy weight was my fault. Society's stigma surrounding obesity only made these feelings worse, reinforcing the idea that I just needed more willpower.

Everything changed when I met Dr. Rigas. For the first time, I understood that obesity isn't about failing at willpower; it's a complex disease that needs proper treatment. With a multidisciplinary approach, combining medical treatment with a structured program of healthy eating and exercise, the transformation was incredible. I started to see improvements not only in my physical health but also in my emotional well-being. I felt healthier, happier, and more in control of my life. This experience showed me how important it is to have access to specialised obesity services and treatment options. It became clear that treating obesity requires more than just diet and exercise; it needs a holistic approach that addresses the medical, psychological, and social aspects of the disease.

My journey highlighted significant gaps in the current approach to weight management. Society often views obesity as a result of personal failure, placing the blame squarely on individuals. This perspective is not only wrong but also harmful. Obesity is a chronic disease influenced by many factors, including genetics, environment, and psychological health.

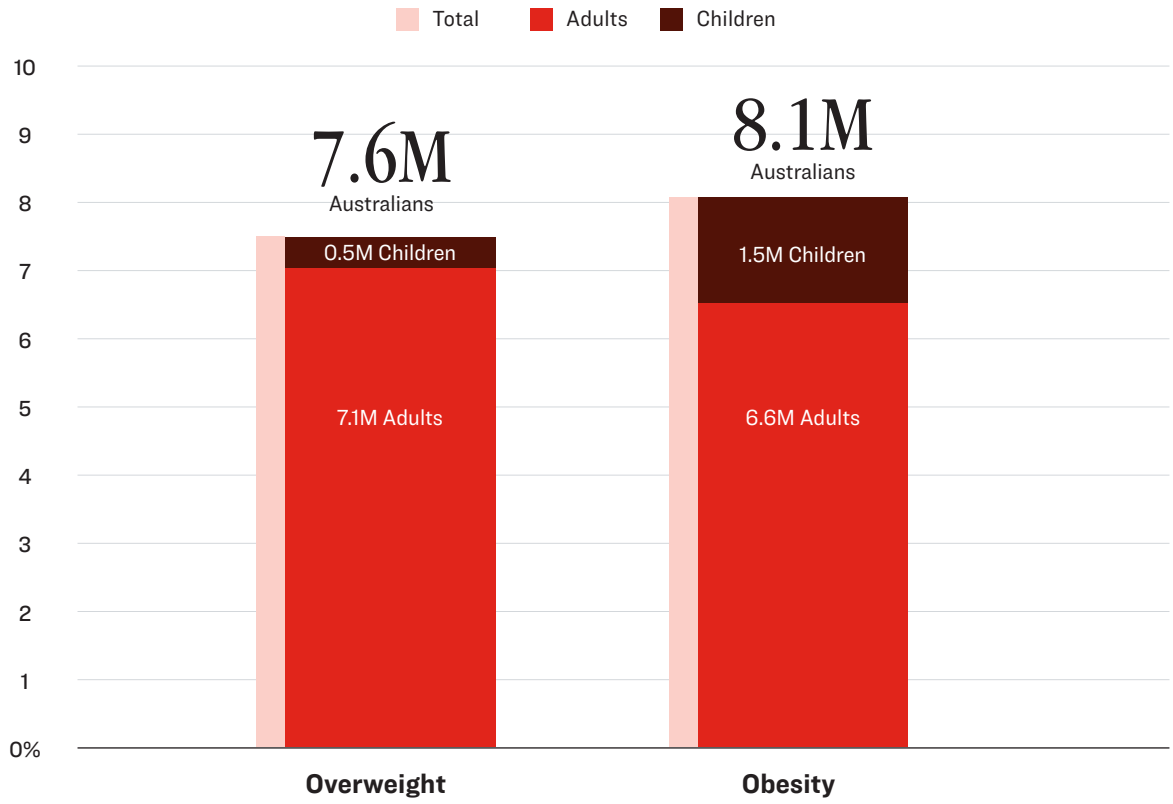
There's an urgent need to shift the blame from individuals and recognise the shared responsibility in addressing obesity. This includes ensuring access to comprehensive medical support, creating supportive environments that promote healthy lifestyles, and fighting the stigma associated with obesity. Policy makers must understand that effective weight management requires a collaborative effort involving healthcare providers, communities, and individuals.

My journey with obesity has taught me that weight management is far more complex than I initially thought. It required a multidisciplinary approach and a shift in attitude. By treating obesity as a disease and providing comprehensive support, we can significantly improve the quality of life for those affected. Government funding for obesity weight management drugs and specialised services is crucial in this effort, helping to alleviate the physical and emotional burdens of this disease".

- Sandra D'Souza, lived experience with overweight

Key findings

Figure 1.
Australian adults and children living with overweight and obesity 2022

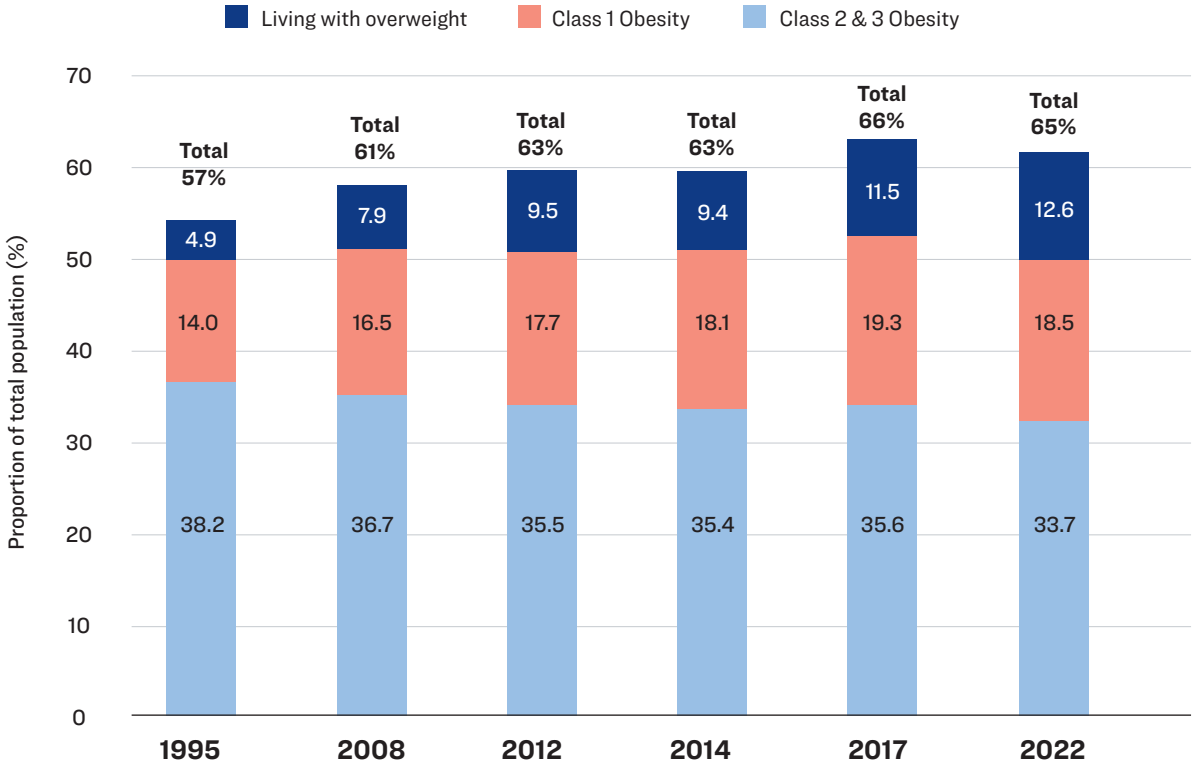


Source: Australian Bureau of Statistics. National Health Survey 2022. *https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/latest-release*

Overweight and obesity was responsible for 8.4% of Australia's disease burden in 2018, making it the second leading contributor to disease burden after tobacco use, and amounting to an economic impact of over $40 billion in 2019[1,2]. Complications of overweight and obesity include a range of high-burden diseases. Over 55% of Australia's total disease burden is due to type 2 diabetes, 51% of the burden is due to hypertensive heart disease, 42% of the burden is due to chronic kidney disease, 28% of the burden is due to coronary heart disease, and over 28% of the burden from osteoarthritis were attributable to overweight and obesity in 2018[2]. Overweight and obesity also contributed to the burden of 17 types of cancer, including bowel, liver, and oesophageal cancers[2].

There have been coordinated efforts to promote healthy lifestyles from Australian governments (federal, state and territory) since the first comprehensive obesity action report in Australia in 1995. Despite this, rates of overweight and obesity have continued to rise[2,3] (Figure 2). Community and system-wide management and support for people living with obesity is critical to achieve long-term, sustainable outcomes.

Figure 2.
Proportion of the Australian adult population living with overweight or obesity, 1995 to 2022



Source: Adapted from: Age-standardisedrates are for adults aged 18 and over. AIHW analysis of ABS2009a, 2013a, 2014a, 2016; ABS2009b, 2013b, 2015b, 2018, 2019c, 2023b and 2023d. See Data Tables S4 and S11 for data and footnotes.

1. Obesity is a public health priority with evidence-based treatment options

Obesity is considered by the medical profession as a chronic condition that increases the risk of developing other complications. The Royal Australasian College of Physicians (RACP), the Australian and New Zealand Obesity Society (ANZOS) and the Australian and New Zealand Metabolic and Obesity Surgery Society (ANZMOSS) recognise obesity as a chronic condition[4–6].

Australian clinicians contributing to this White Paper emphasised the importance of treating overweight and obesity as a chronic condition that requires appropriate medical treatment and not just as a risk factor. The reluctance to classify obesity as a disease has resulted in underfunding and a gap in comprehensive care for individuals living with overweight and obesity[7]. The *ACTION-IO* study emphasised that "recognition across Australia of obesity as a chronic condition may challenge the misconception that people living with obesity are solely to blame for their weight, reduce stigma surrounding obesity and enable more appropriate approaches to obesity management"[8,9].

2. Support person-centred conversations in healthcare

Primary care serves as the entry point to the healthcare system for most people, but General Practitioners (GPs) need additional support and resources to initiate conversations on overweight and obesity with their patients. As the next generation of anti-obesity medications become available, GPs are expected to lead in prescribing these treatments, which highlights the need for greater support. Clinicians contributing to this White Paper emphasised the ongoing importance of access to specialist care and access to anti-obesity medications, particularly for people living with severe obesity.

Primary care professionals require adequate resources, training, and support to identify at-risk patients, engage in effective conversations about the management of their health and wellbeing, and design Chronic Disease Management Plans for people living with obesity.

Clinicians contributing to this White Paper confirmed that some people lack awareness that they are heading on a trajectory towards issues with weight management. For others, stigma and mental health issues associated with excess weight, coupled with an expectation that treatment options are ineffective or inappropriate for them, deter them from seeking medical assistance[10].

3. Fund access to evidence-based interventions for those who need them most

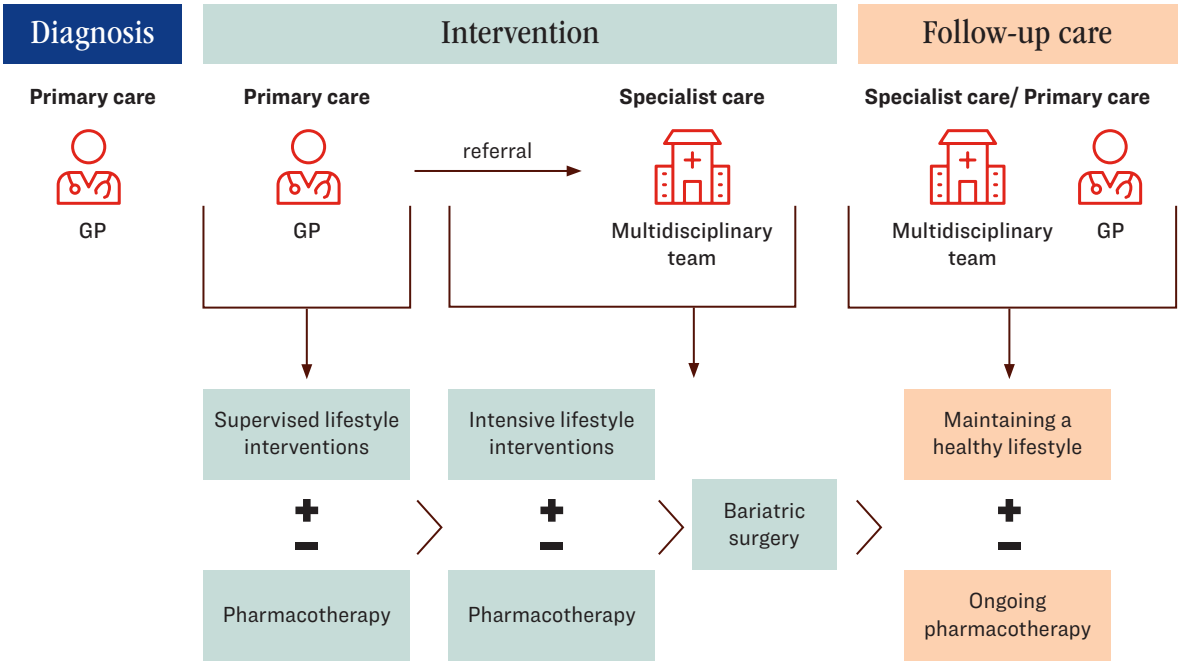
Weight loss of at least 10-15% of bodyweight for an individual living with overweight or obesity has demonstrable health impacts and the potential to address the disease burden of overweight and obesity in Australia[11]. New anti-obesity medications have been demonstrated in clinical trials to achieve these outcomes for people living with obesity[12].

Prevention and early intervention remain priorities for obesity management; however, only 2% of government health expenditures go towards preventative initiatives, and as little as 0.1% of the health budget has been spent on obesity prevention in the last 10 years[13].

Medical management of obesity is available in Australia. Figure 3 summarises obesity management pathways in Australia. It is important to note that people do not necessarily progress from early stages of obesity into specialist care – it is common (and preferable) for people to maintain their weight and be proactively managed in primary care[11,14]. If an individual progresses to severe and complicated obesity, specialist care is essential.

Key opportunities to enhance access to services include funding additional relevant allied health services and providing workforce support, addressing capacity issues in publicly funded metabolic bariatric surgery, with access to multidisciplinary care and, potentially, anti-obesity medications, as part of system-wide, patient-centred care. Clinicians cited several examples of effective care models to improve access to targeted services in regional, rural, and remote areas, such as mobile outreach specialist clinics, integrated care models and virtual care services with patient-end support (healthcare workers sitting alongside the patient receiving a telehealth service).

Figure 3.
Obesity management pathway in Australia



Source: Adapted from Markovic, T. P., et al. The Australian Obesity Management Algorithm: A simple tool to guide the management of obesity in primary care. Obesity Research & Clinical Practice, 16(5) (2022).

Note: This pathway illustrates the sequence from diagnosis to follow-up care in managing obesity. The multidisciplinary team involved in this process may include endocrinologists, dietitians, psychologists, bariatric surgeons, physiotherapists, and exercise physiologists, depending on the specialty centre. Dashed arrows represent potential transitions between stages of care. Obesity services also help people to investigate and manage their complications and/or refer on to other services. For example, mental health, disability services and cardiorespiratory services.

Continued focus on the prevention of overweight and obesity is essential; however, we cannot forget about the millions of Australians currently living with overweight and obesity for whom lifestyle interventions alone have not been effective.

The advent of new and effective treatment options offers an opportunity to encourage people living with overweight and obesity to seek appropriate support and medical care.

It is time to reframe the narrative of overweight and obesity with the building blocks of prevention, appropriate access to effective medical management and system-wide lifestyle interventions for all communities, to curb the public health challenge of obesity in Australia.

Key related recommendations from the House of Representatives the State of Diabetes Mellitus in Australia in 2024

	State of Diabetes Mellitus in Australia Recommendations	Alignment to Reframing weight management White Paper report recommendations
3.177	The Committee recommends that the National Health and Medical Research Council expedites a review of the Australian Dietary Guidelines, and ensures that the revised guidelines include adequate information for Australians living with diabetes.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity
3.179	The Committee recommends that the Australian Government implements food labelling reforms targeting added sugar to allow consumers to clearly identify the content of added sugar from front-of-pack labelling. This food labelling initiative should be separate from the information regarding added sugar potentially being included in the Nutrition Information Panel.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity
3.181	The Committee recommends that the Australian Government implements a levy on sugar-sweetened beverages, such that the price is modelled on international best practice and the anticipated improvement of health outcomes. The levy should be graduated according to the sugar content.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity
3.184	The Committee recommends that the Australian Government considers regulating the marketing and advertising of unhealthy food to children, and that this regulation should: • Focus on children defined as those aged 16 and under • Be applied to television, radio, gaming and online • Use definition of unhealthy food that has been independently developed.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity
3.186	The Committee recommends that the Australian Government provides its response to the Australian Food Story: Feeding the Nation and Beyond report and considers a dedicated resource within the Department of Health and Aged Care to support access to healthy food to all Australian communities.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity
3.188	The Committee recommends that the Australian Government, in consultation and cooperation with state and territory governments, develops a best practice framework to tackle the problem of obesogenic environments, including through better urban planning and the development of physical activity initiatives and supports efforts to increase access to regular exercise in schools and neighbourhoods as a matter of urgency.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity

4.138	The Committee recommends that the Australian Government explores the potential for effective national screening programs for all forms of diabetes, particularly Type 2 diabetes.	This White Paper recommends introducing screening for overweight and obesity in the 45-year old health check
4.139	The Committee recommends that the Australian Government implements a national public health campaign to increase public awareness of the early signs of all forms of diabetes mellitus.	This White Paper recommends a national public health campaign to raise awareness of overweight and obesity, including identifying early signs
4.141	The Committee recommends that the Australian Government funds the development of education-based obesity screening information and resources.	A key recommendation that would also provide mutual benefits for those people living with overweight and obesity
4.143	The Committee recommends that the Australian Government implements a national public health campaign to increase awareness of the importance of prevention, identification of early signs, and good management of all forms of diabetes mellitus.	This White Paper recommends that the Australian Government implements a national public health campaign to increase awareness of overweight and obesity and of potential preventative and medical intervention options for treatment of obesity
4.144	The Committee recommends that equitable access to healthcare for people living with all forms of diabetes be improved through: • Access to longer appointments with a healthcare provider subsidised by the Medicare Benefits Schedule (MBS) • Access to case conferencing models of healthcare, especially in rural and remote areas • Access to telehealth services • Increase in the number of item numbers for allied health consultation for those with diabetes for diabetes educators and dieticians and other allied health providers. • Access to diabetes educators, including in high-risk outer metropolitan, rural and remote communities.	This White Paper recommends a similar approach to increasing access to multidisciplinary care in primary and community care settings, targeted at people living with overweight and obesity
6.88	The Committee recommends that the Australian Government, subject to a positive recommendation from the Pharmaceutical Benefits Advisory Committee, expands the eligibility criteria for Glucagon-like Peptide-1 (GLP-1) receptor agonists, particularly for high-risk patients.	This White Paper recommends that appropriate access to new anti-obesity medications be considered for individuals requiring treatment, and that treatment guidelines be updated as new medications become available
6.90	The Committee recommends that the Australian Government establishes mechanisms for securing supplies of Glucagon-like Peptide-1 (GLP-1) receptor agonists for disadvantaged and remote communities, including Aboriginal and Torres Strait Islander communities.	This White Paper recommends that appropriate access to new anti-obesity medications be considered for disadvantaged and remote communities
6.91	The Committee recommends that the Australian Government considers expanding access to bariatric surgery within the public system for eligible patients.	This White Paper supports this recommendation

Introduction

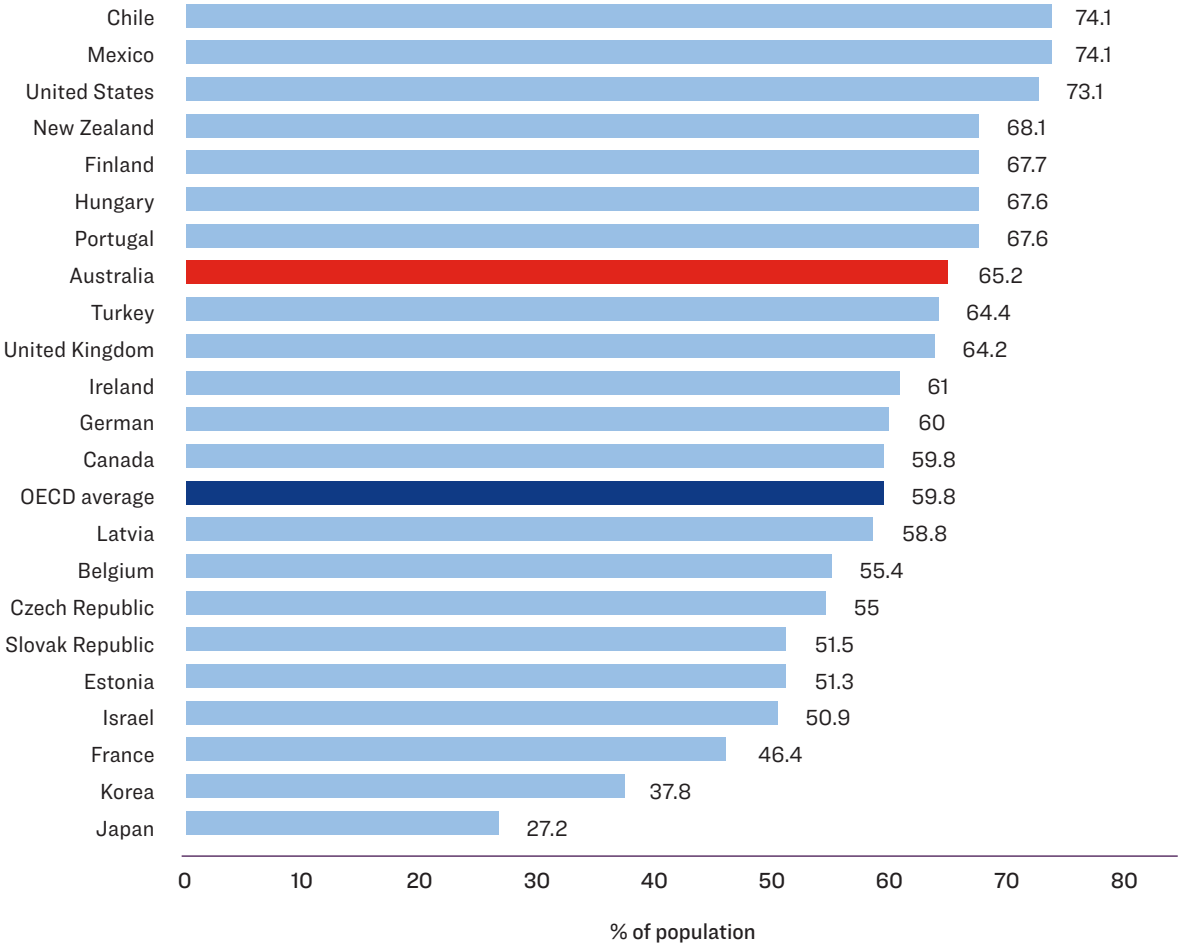
Key takeaways

- Australia faces a substantial public health challenge: over eight million Australians are living with obesity, positioning Australia eighth among OECD countries in terms of obesity prevalence.
- Obesity is not solely caused by caloric imbalance, but results from a combination of genetic, physiological, behavioural, and environmental factors that create challenges in long-term maintenance of weight loss.
- This White Paper seeks to reframe the narrative on obesity, acknowledging the complex causes of overweight and obesity and the need for both prevention and medical management within a system-wide approach to care.

Overweight and obesity in Australia

Obesity is a silent healthcare crisis in Australia. Sixty-five percent of Australians aged 15 and over are living with overweight or obesity, and Australia ranks eighth on this measure among OECD nations[2] (Figure 4). In 2017-18 one in three Australians, approximately eight million people, were classified as living with obesity[15].

Figure 4.
Proportion of overweight or obesity in persons aged 15 years and over, OECD countries, 2021 or nearest year



Source: AIHW, Australian Burden of Disease Study 2018: Interactive Data on Risk Factor Burden. *https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/report-editions (2021).*

Overweight and obesity has been a public health concern in Australia since the 1980s. Dramatic increases in rates of overweight and obesity led to the publication of the Australian and New Zealand Obesity Society policy in 1995 and the National Health and Medical Council's 1997 report, *Acting on Australia's Weight*, one of the first comprehensive obesity action reports globally[3]. Its recommendations; however, largely went unimplemented. *Weighing it up: Obesity in Australia* (2009), with an Australian Government response in 2013, focused on implications for the health system and economy, complementing other policy efforts in preventative health.

Most recently, the *National Obesity Strategy 2022-2032* (the Obesity Strategy)[11] has set goals to:

1. Halt the rise and reverse the trend in the prevalence of obesity in adults by 2030; and
2. Reduce overweight and obesity in children and adolescents aged two to 17 years by at least five per cent by 2030.

Prevention and early intervention to empower people to manage their own health and wellbeing are core priorities for the Obesity Strategy and Australian clinical guidelines for the management of overweight and obesity[11,16].

Despite efforts to prioritise overweight and obesity, many potentially effective policies remain unimplemented, and there is currently no clear roadmap towards achieving the goals of the Obesity Strategy[11]. Efforts to promote healthy lifestyles from Australian governments (federal, state and territory) and other stakeholders have so far had limited impacts, as rates of overweight and obesity have continued to rise.

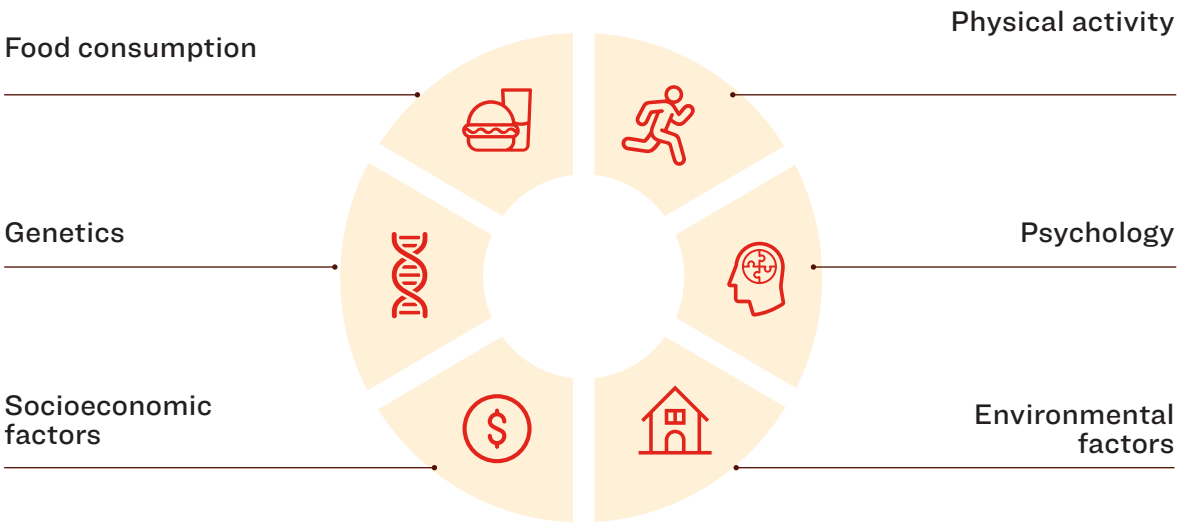
Understanding the complex drivers of obesity

Overweight refers to a condition of excess adiposity, while clinical obesity is a multifactorial disease characterised by excessive body fat that adversely affects health[7,17,18]. Obesity results from a complex interplay of genetic, physiological, behavioural, and social factors with environmental influences, collectively known as the exposome (Figure 5).

The exposome encompasses all external factors to which an individual is exposed throughout their life, such as diet, pollutants, and social environments, and is a major risk factor contributing to the varying geographical prevalence of obesity[19]. Recognising these environmental determinants of health is essential for understanding how individuals reach the severe end of the obesity spectrum, which is typically defined as a BMI ≥ 40, and requires particular attention due to its profound health impacts and the urgent need for targeted treatment[20].

In a sub-population, obesity may be closely linked to a single major cause, such as medicine usage, other health conditions, lack of mobility, or a genetic syndrome[21]. The most severe cases often involve a combination of these factors, requiring a comprehensive and directive approach to treatment. Clinicians indicated that treatment strategies focus on mitigating complications and improving health outcomes, specifically addressing the critical needs of those with severe obesity.

Figure 5.
Drivers of overweight and obesity



Family history, lifestyle choices, and psychological factors play important roles in the development of obesity. For instance, children with parents who have obesity are more likely to develop obesity themselves. A child with one parent who is living with obesity has three times the risk of living with obesity as an adult, while a child with both parents who are living with obesity has a tenfold risk[22]. The local environment can significantly exacerbate the likelihood of obesity. An obesogenic environment promotes high-calorie, low-nutrient food consumption and restricts physical activity opportunities[20].

Socioeconomic factors further limit access to affordable, high-quality, and conveniently located healthy food options, exacerbating health disparities. The financial burden of maintaining a healthy diet is substantial and particularly challenging in rural and remote areas of Australia. Recent data from the Northern Territory shows that the cost of healthy food is 52% higher in remote food stores, compared to supermarkets in urban areas[23]. As such, it has been estimated that a family of two adults and two children from low-income households would need to spend about 28% of their income to afford a healthy diet, compared to only about 8.9% for those from high-income households[24].

This economic disparity significantly contributes to the inescapable obesogenic environment that can overpower individual efforts to adopt health-promoting behaviours[25] (Figure 6). Further still, lower socioeconomic status may be associated with increased stress, adverse life experiences, and social isolation, contributing to poorer health outcomes. These challenges not only hinder individuals' abilities to maintain a healthy diet, but also drive health complications related to obesity, such as cardiovascular disease, type 2 diabetes, and mental health disorders.

Genetic predispositions also interact with homeostatic circuits and brain reward systems, contributing to fat accumulation. Neurological pathways exhibit plasticity, meaning obesogenic environments can modify these pathways from in utero through childhood and beyond, further altering appetite. The interplay between the gut microbiome, epigenetic changes, lipid metabolism, inflammation, and impaired brain signalling, play significant roles in promoting weight gain[22,26]. These complex interactions highlight the multifaceted nature of obesity, challenging the oversimplified views of its causation and management.

Figure 6.
Impact of social disadvantage on health and weight

Source: The Obesity Collective. Equity and obesity risks. *https://theobesitycollective.org.au/wp-content/uploads/2023/08/Equity-Statement.pdf*

Living with overweight and obesity

Living with overweight and obesity can be described as a daily struggle filled with physical discomfort, emotional distress, and social stigma. For many people, it involves constant battles with mobility issues, chronic health conditions, and the psychological toll of societal judgment.

Supporting people to manage obesity, particularly severe obesity, is crucial for improving health and wellbeing and enabling people to participate in work and daily activities. While some studies have found that these effects are less pronounced in older age groups, it remains vital that we adopt effective interventions and enable access across the population, particularly for those with the greatest need[27,28].

The lifestyle modification misconception

Long-term maintenance of weight loss is incredibly challenging. Some obesity interventions, such as 'crash diets', result in rapid, early weight loss, followed by a weight plateau and progressive regain[14]. Of those individuals who lose weight, 80% eventually regain it[29].

Lifestyle modifications, such as dietary changes and physical activity, are fundamental to both preventing and managing obesity as part of multidisciplinary care and the long-term sustainability of results. Lifestyle modifications alone; however, have shown limited results. Intensive programs such as the Diabetes Prevention Program (DPP) and Look AHEAD (Action for Health in Diabetes) have effectively initiated weight loss but led to weight regain after about six months[30]. This is significant because failing to maintain optimal outcomes can result in weight cycling, where repeated cycles of weight loss and regain send starvation signals to the body, enhancing fat storage efficiency[31]. This process not only undermines long-term weight management but also increases strain on vital organs, heightening the risk of cardiometabolic diseases such as type 2 diabetes and cardiovascular disease[31].

There are several theories that attempt to explain this rebound; one is that this is largely due to the body's efforts to revert to its previous set-point – a predetermined weight range maintained by complex compensatory physiological mechanisms[29,32–34]. Weight loss activates increased appetite through changes in satiety hormones, alters food preferences, and slows metabolism, all of which drive the body back towards its set-point. A person's set-point is established early in life and typically remains stable unless altered by factors like childbirth, menopause, ageing, an obesogenic environment, or diseases[34].

"What is evident in the medical literature is that weight loss activates a cascade of neuro-hormonal events which results in the symptoms people living with obesity often report, such as "hunger", "lack of satiety", "food noise" and so forth. Numerous studies have shown that weight loss also slows down a person's metabolic rate as their body becomes more efficient in energy utilisation. These phenomena are not under a person's voluntary control."

Clinician specialising in the treatment of people living with obesity

To attribute the responsibility solely to the individual overlooks the broader social determinants of health and the complex physiological underpinnings of obesity. Transitioning from a status of overweight or obesity to better health and wellbeing involves much more than simple lifestyle modifications. While bariatric surgery is an effective option for some people[35], it is typically targeted at those with higher BMI[36]. This and the fact that many patients are not suitable for surgery underscores the need for additional therapeutic strategies.

Emerging anti-obesity medications

Our improved understanding of weight loss resistance mechanisms and the gut-brain access on appetite has resulted in the introduction of new anti-obesity medications (AOMs). Safe and effective entero-pancreatic hormone-based treatments for obesity such as glucagon-like peptide-1 (GLP-1) receptor agonists (RA), have brought renewed hope for the treatment of obesity[37]. A once-weekly subcutaneous injection of the GLP-RA semaglutide 2.4 mg was approved for the treatment of obesity in Australia in September 2022 and has shown up to 15% mean weight loss with evidence of cardiac protection and slowing the progression of chronic kidney disease[38–40]. These results shift the historical benchmark of 10% weight loss seen in clinical trials[41].

Development of oral GLP-RAs are being investigated with similar weight loss efficacy[41]. Newer classes of AOMs involve combining GLP-RAs with other entero-pancreatic hormones with mutual reinforcing actions, such as glucose-dependent insulinotropic polypeptide (GIP), glucagon, and amylin, to bolster the weight loss and cardioprotective benefits[42].

Incorporating these novel AOMs into comprehensive care plans may dramatically enhance weight loss and subsequent health outcomes for individuals with obesity. While it is still early days, clinicians expect that AOMs will become an essential tool in the management of obesity, rivalling the results once only achievable through bariatric surgery[37]. There is potential to use AOMs for people with severe obesity, in place of or in combination with bariatric surgery, both pre- and post-surgery, to enhance perioperative fitness.

Reframing the narrative on obesity

This White Paper seeks to shift the narrative surrounding the medical management of obesity as part of a system-wide response to its complex causes. Informed by the literature and interview insights from Australian clinicians, including clinicians from the Aboriginal Community Controlled Health Organisations, we outline key strategies to destigmatise obesity care, address gaps in healthcare service provision and workforce, and promote proactive early intervention and ongoing management of overweight and obesity. We investigate the potential role that new AOMs may play as part of a system-wide approach to obesity management, transforming patient and population health outcomes.

Burden of overweight and obesity in Australia

Key takeaways

- In 2018, overweight and obesity accounted for 8.4% of Australia's disease burden, contributing to the development of serious health complications including cardiovascular disease, mental health disorders, and type 2 diabetes.
- In 2019, the economic cost of obesity and its complications in Australia exceeded $40 billion, incorporating both direct medical costs and indirect costs such as productivity losses, including:
  - Increased demands on health services and use of medicines, more frequent visits to GPs and prolonged hospital stays; and
  - Earlier aged care admissions due to disability and chronic illnesses, with intensified pressures on disability and aged care services.
- Overweight and obesity disproportionately affects First Nations peoples and those in outer metropolitan, regional, rural, and remote areas and/or of lower socioeconomic status.
- The profound implications of living with obesity extend beyond individual health, affecting family and societal wellbeing, healthcare systems, quality of life, and the economy.

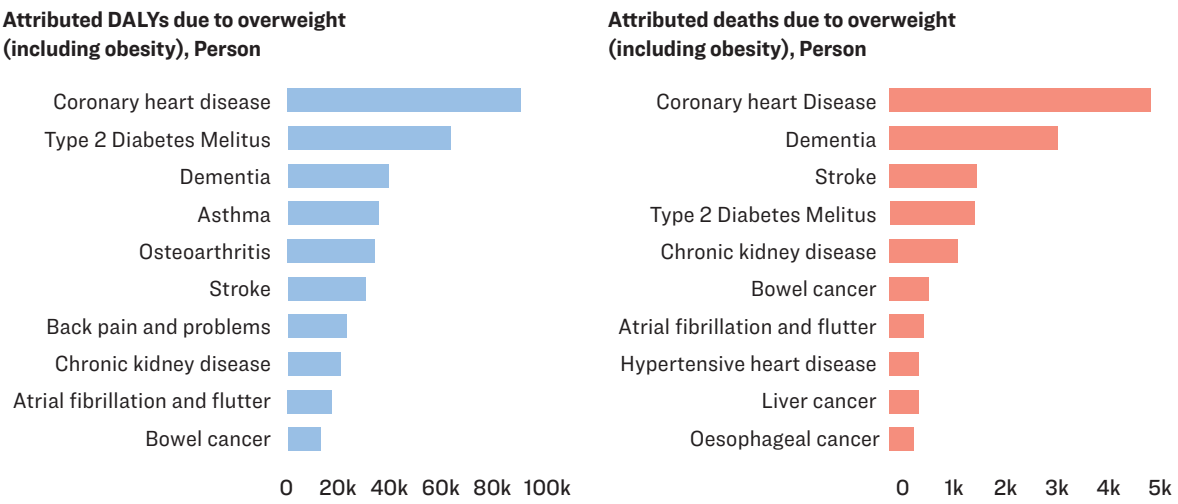
Impact of overweight and obesity on health

Higher BMI is linked to lower life expectancy of eight to ten years for Australians aged 20-39 living with obesity, compared with other Austrailans[43]. Overweight and obesity was associated with 4,495 deaths due to coronary heart disease and 2,900 deaths due to dementia in Australia in 2018[2].

In 2018, overweight and obesity accounted for 8.4% of Australia's total disease burden, making it the second leading contributor to disease burden, after smoking at 8.6%. These conditions significantly impact public health, contributing to the burden of disease across 30 different health complications, the top 10 shown in Figure 7. Excess weight has the greatest impact on coronary heart disease and type 2 diabetes, with significant effects also seen in dementia, asthma, and osteoarthritis.

Overweight and obesity affect all age groups, with the highest burden on those aged 65-84[2]. Increasing rates of overweight and obesity in younger people (41% of young people aged 15-24 were living with overweight or obesity compared to 28% in 1995), and the potential for lifelong health implications, highlight the urgency to address this growing burden[44].

Figure 7.
DALYs and deaths for complications that are attributable to overweight and obesity in Australia, 2018



Source: AIHW, Australian Burden of Disease Study 2018: Interactive Data on Risk Factor Burden. *https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/report-editions (2021).*

Note: Only the leading 10 linked diseases are presented for each measure. Disability-adjusted life years (DALYs) measure the impact of overweight and obesity in terms of the total number of years lost due to ill-health, disability, or premature death within a population. The DALY measure combines years of life lost due to premature mortality and years lived with disability. One DALY represents the loss of one year of full health, allowing comparison of diseases that cause premature death with those that cause disability[39]

Overweight (but not obesity) reduces life expectancy by 2.7 years in OECD countries[45]. Countries with a low prevalence of overweight see a smaller impact on life expectancy, with Japan losing less than a year, compared to Mexico, where living with overweight reduces life expectancy by more than four years.

People living with obesity or a disability report poorer general and mental health, compared to others living with healthy weight or without disabilities[46]. Living with obesity increases the probability of disabilities among Australian adults, compounding these issues[47].

Childhood obesity remains a pressing public health issue. The urgency to address childhood obesity stems not only from the tendency to persist into adulthood, but also from the immediate risk it poses, increasing the likelihood of developing conditions such as sleep apnoea, asthma, bone and joint problems, high cholesterol, hypertension, type 2 diabetes, and mental health issues[48].

Disease burden in remote and rural populations and in First Nations peoples

"Obesity is unfairly distributed, and some Australians are at higher risk. The economic and social barriers that many Australians face make choosing healthy options harder. These barriers can also limit a person's options, or ability to be heard, when making health care decisions."

Australian Commission on Safety and Quality in Health Care (ACSQHC). Health literacy: taking action to improve safety and quality. Sydney NSW: ACSQHC;2014.

Disease burden in remote and rural Australia

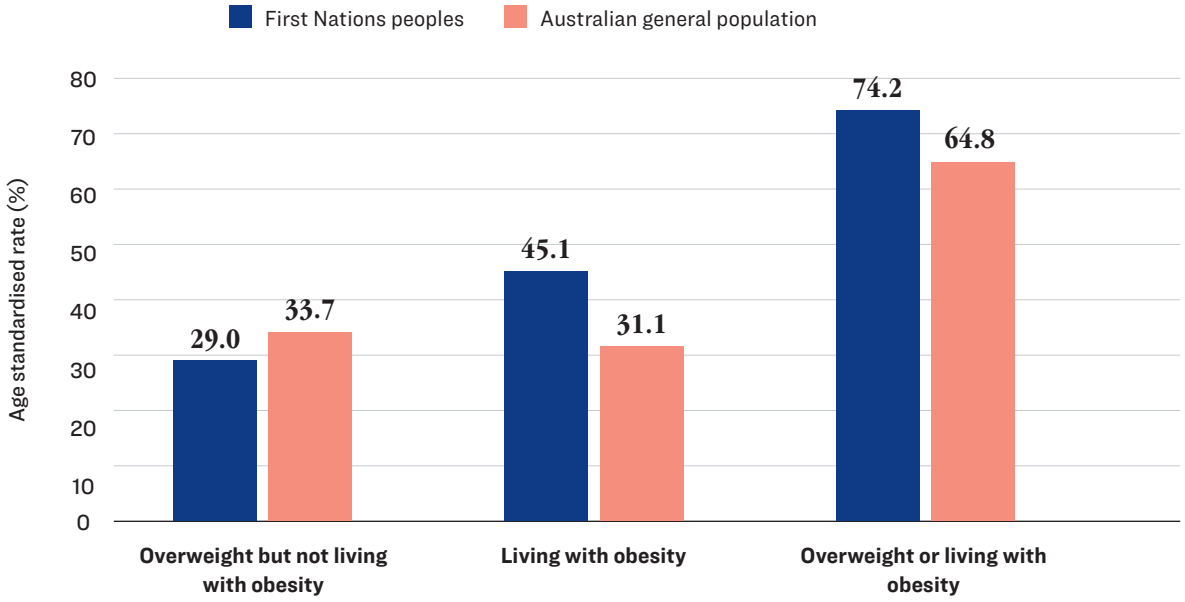
Geographic remoteness limits access to healthcare, healthy food, and exercise opportunities, leading to significant health disparities. Remote areas have fewer healthcare facilities, limited fresh produce, and scarce recreational spaces. Transportation barriers and higher poverty levels further hinder access to health services and healthy living options, resulting in poorer health outcomes for remote populations. In 2022, adults aged 18 and over from inner regional (68%) and outer regional and remote areas (70%) had higher rates of overweight and obesity compared to those in major cities (64%)[2].

Lower socioeconomic status plays a crucial role in obesity prevalence, particularly affecting rural and First Nations communities[49]. In 2022, children and adolescents from the lowest socioeconomic areas were more likely to be living with overweight or obesity (34%) compared to their counterparts from the highest socioeconomic areas (21%)[49]. Adults in the lowest socioeconomic areas exhibited a higher prevalence of obesity, with 68% living with overweight or obesity compared to 60% in the highest socioeconomic areas. The total disease burden attributable to overweight (including obesity) was twice as high in the most disadvantaged socioeconomic group compared to the least disadvantaged group[2].

Disease burden in First Nations Australians

The health outcomes of First Nations Australians demonstrate the significant impact of social disadvantage on health and wellbeing. The social and economic barriers faced by this group lead to restricted access to healthy food options and limited opportunities for physical activity. This social disadvantage contributes to greater incidences of overweight and obesity among First Nations communities, compared to the general population (Figure 8), as well as high incidence of obesity-related health complications.

Figure 8.
The proportion of overweight and obesity among First Nations Australian adults compared to the general Australian population (adults)



Source: AIHW. Overweight and obesity. *https://www.aihw.gov.au/reports/overweight-obesity/overweight-and-obesity/data (2024).*

Alarmingly, 37% of First Nations children aged two to 14 years and 71% of those aged 15 years and older are living with overweight or obesity, a factor that significantly increases their risk of developing health complications[49]. People with BMI of 40 or more among Indigenous Australians account for 62% of those with endocrine disorders, including type 2 diabetes, 37% for kidney and urinary diseases, and 34% for cardiovascular diseases[50].

Economic impacts of obesity in Australia

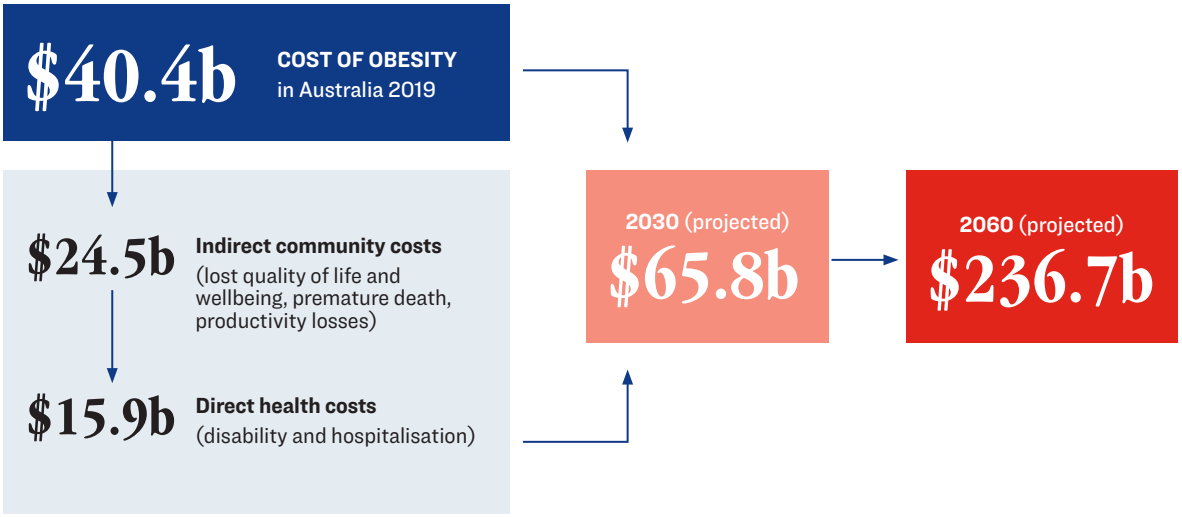
The economic burden due to health complications associated with obesity is substantial and escalating, with major impacts on individuals, communities, and society[11]. Managing the complications of obesity is projected to consume 8.4% of the healthcare budget of OECD countries over the next three decades, with a consequent reduction in GDP of 3.3%[45].

The World Obesity Federation (World Obesity)* estimated that obesity cost the Australian community $40.03 billion in 2019, and that this was projected to reach an estimated $65.8 billion by 2030, and more than triple by 2060[51]. To offset these costs, each Australian would need to contribute an additional $678 in taxes annually. These figures underscore the urgency of both addressing the rates of overweight and obesity we face today and stemming growth in these rates.

The costs associated with obesity can be divided into direct and indirect categories (Figure 9). Direct costs include healthcare services (GP and specialist services, hospital care, pharmaceuticals, and other interventions), while indirect costs encompass factors associated with loss of quality of life, productivity losses, and foregone tax and revenues associated with productivity losses[52].

* Formerly, the International Association for the Study of Obesity and the International Obesity Task Force.

Figure 9.
The cost of obesity in Australia: Direct and indirect costs of obesity in Australia, with 2023 and 2060 projections using 2019 World Obesity Economic Impact data



Source: World Obesity. Economic Impact of Overweight and Obesity: Australia. *https://data.worldobesity.org/economic-impact-new/countries/AU.pdf (2023).*

Healthcare services

Obesity is categorised into specific classes, wherein a BMI of 30-34.9 kg/m^2, 35-39.9 kg/m^2 and 40+ kg/m^2 are denoted as classes 1, 2 and 3, respectively. Higher obesity classes correlate with greater healthcare service utilisation in Australia, including more GP visits, longer hospital stays, and increased medicine prescriptions[53]. Specifically, people living with most severe obesity (Class 3 and beyond, BMI >40) are about 42% more likely to visit a GP, 60% more likely to be hospitalised, and 140% more likely to use prescribed medicines than those who are not in this category[53]. People living with Class 3 obesity also experience 13% longer hospital stays, on average, than those with Class 1 and 2 obesity[54].

Children living with overweight and obesity, aged 6 to 13 years, have been estimated to cost the Australian government an additional $43.2 million annually, compared to children of normal weight. The extra expense for a child living with obesity is $103 per year, and $63 per year for a child living with overweight. These costs primarily stem from increased visits to GPs and specialists, compounding Medicare expenses[48].

Aged and disability care services

Obesity and related health complications increase the likelihood of entering an aged care facility at a younger age and staying for longer periods before death. Rising prevalence of obesity among older Australians signals an impending surge in demand for caregivers and aged care facilities. Obesity is associated with increased aged care costs due to heightened discomfort, immobility, and chronic illness among older adults. Additional financial resources are required to accommodate these residents adequately, including funding for equipment, supplies, and staff with the skills to manage complex care needs[55].

As obesity rates surge, so does the demand for disability services, resulting in a growing financial burden associated with addressing the needs of people living with obesity. The expenditure on National Disability Insurance Scheme (NDIS) support plans for those living with obesity has surged from $2.4 million in 2019-20 to $4.5 million in 2020-21, reflecting the escalating costs of providing tailored disability services[56]. Clinicians contributing to this White Paper noted that this is likely to be an underestimate, as many people cannot access services.

Workforce productivity

Higher rates of obesity have been associated with diminished work productivity, evident from a higher likelihood of taking sick leave[53]. Australians living with obesity, especially women, suffer discrimination due to these perceptions and are seen as less competent and are perceived as less qualified than their peers[57]. This results in challenges to obtain employment at all, and contributes to acceptance of lower paying jobs, lack of higher paying promotions, perpetuating a low socioeconomic status, contributing to a cycle of poverty[58,59].

System-wide changes

Insufficient funding has been allocated to the prevention of obesity. Only 0.1% of the total Australian Government health budget was allocated to obesity prevention over nearly a decade[13]. Funding from the three largest federally funded research agencies, the National Health and Medical Research Council (NHMRC), the Australian Research Council (ARC), and the Medical Research Future Fund (MRFF), is also limited; just 1.1%, 0.2% and 0.8% of the total funding of each agency, respectively. There were no Australian Government funding allocations for obesity prevention initiatives in 2015 and 2020.

Potential impact of weight loss on obesity-related health complications

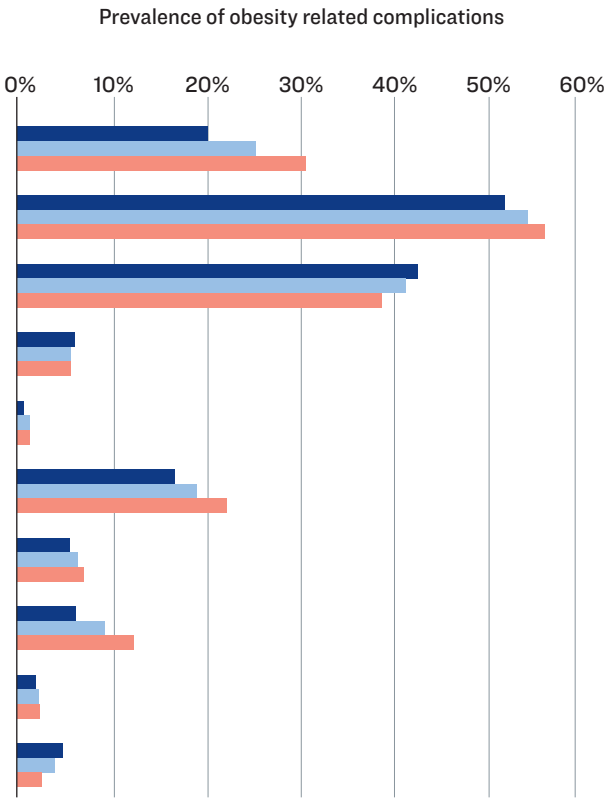
Given the relationship between obesity and health complications[60–64], meaningful reductions in rates of obesity have been projected to have a broad impact on the health and wellbeing of the Australian population[35,65–67].

Two recent studies have investigated the association between weight loss and risk reduction of obesity-related health complications in retrospective cohort analyses of a large UK primary care database (UK Clinical Practice Research Datalink (CPRD) GOLD database)[68]. Figure 10 shows the prevalence of cases of obesity-related health complications[69] and highlights that, in general, patients with higher BMI are more likely to be diagnosed with a health complication. Over 50% of participants had a diagnosis of hypertension, across all three obesity classes. The Class 1 population showed a 20% rate of type 2 diabetes diagnosis and 42% rate of dyslipidaemia.

One of these studies, Haase et al., found that median weight loss of 13% of bodyweight across the population resulted in risk reductions of developing complications, for individuals with BMI profile of 35 kg/m^2 before weight loss, risk reductions were observed for type 2 diabetes (39%), hypertension (23%), dyslipidaemia (19%), obstructive sleep apnoea (42.6%) and asthma (21%)[15].

Figure 10.
Prevalence of obesity-related health complications across obesity classes

	Obesity Class 1	Obesity Class 2	Obesity Class 3
T2DM	20.3%	25.5%	30.8%
Hypertension	50.8%	53.3%	54.9%
Dyslipidaemia	42.6%	41.2%	38.5%
Chronic kidney disease	5.9%	5.7%	5.8%
Sleep apnoea	0.9%	1.6%	1.6%
Asthma	16.2%	18.4%	21.5%
Hip/Knee osteoarthritis	5.8%	6.7%	7.3%
Polycystic ovary syndrome	5.6%	8.3%	11.0%
Heart failure	1.8%	2.1%	2.4%
Myocardial infarction	4.7%	3.6%	2.5%



Source: MedSci KKF, Schnecke V, Haase CL,*et al*. Weight change and risk of obesity-related health complications: A retrospective population-based cohort study of a UK primary care database. Diabetes Obes Metab. 2023;25(9):2669-2679. doi:10.1111/dom.15154

Note: Prevalence of obesity-related characteristics has been taken from Khunti *et al*, 2023 which noted the percentage of people in obesity classes 1 to 3 with complications. The study was a retrospective population-based cohort design from a UK population. A population of 418,774 met the inclusion criteria of having a BMI of in excess of 30 kg/m2. From the included 418,774, 62% were in Obesity class 1, 25% were in Obesity class 2 and 13% were in Obesity class 3 The study included.

Abbreviations: T2DM – type 2 diabetes, PCOS – polycystic ovary syndrome, MI – Myocardial infarction

Overweight and obesity is the second greatest contributor to Australia's burden of disease. Increasing prevalence of these conditions strains our health, disability and aged care services and disproportionately affects First Nations peoples and people living in outer metro, regional, rural and remote areas and/or with lower socioeconomic status. Economic impacts already exceed $40 billion per year and are projected to triple by 2060 if we do not curb the rising prevalence and effectively treat obesity.

Improving access to evidence-based interventions and system-wide support for people living with overweight and obesity offers opportunities to improve their health and wellbeing and reduce the risk of developing obesity-related health complications.

Medical treatment of overweight and obesity in Australia

Key takeaways

- Effective obesity management requires a coordinated, person-centred, multidisciplinary approach that addresses the complex nature of obesity and involves a range of healthcare professionals.
- Weight bias affects both treatment-seeking behaviours and healthcare provider attitudes, resulting in stigma and inadequate care. Addressing this bias is essential to enhancing patient engagement and improving treatment outcomes.
- Current evidence-based treatment options for overweight and obesity in Australia include lifestyle interventions, anti-obesity medications, and bariatric surgery.
- Recognising obesity as a disease (and not just as a lifestyle-related risk factor) can shift its perception from a personal responsibility to a medical condition that requires appropriate treatment and support from the healthcare system.

Person-centred, multidisciplinary obesity care models

Person-centred obesity care emphasises coordinated, personalised treatment delivered with dignity, compassion, and respect[70]. Given the complex causes of obesity and its associated complications, a multidisciplinary model of care is essential. This model recognises that individuals may require support from various professionals, including dietitians, psychologists, endocrinologists, psychiatrists, bariatric surgeons, and exercise physiologists. The level of care required may differ among patients with different classes of obesity. For example, patients with Class 1 obesity may need support from a GP focused on obesity management and a dietitian. However, patients with severe obesity require better integration with mental health, social, and disability support services to address the broader spectrum of challenges they face.

Effective coordination among these professionals is vital to integrate care pathways and ensure swift, clear communication. Using appropriate diagnostic tools and continuous patient monitoring are also key components to facilitate ongoing feedback and support, allowing for adjustments to the care plan as needed[70]. Openly discussing treatment goals and aligning expectations regarding medical and non-medical benefits is essential[71].

Impact of weight bias on healthcare provider attitudes and patients seeking treatment

Weight bias significantly affects people living with obesity, particularly in healthcare settings where they encounter stigma and mental health distress due to weight-related judgments[10]. This stigma often stems from the misconception that obesity results solely from poor personal lifestyle choices, such as diet and exercise.

In clinical practice, the focus on lifestyle modifications often overshadows the complex interplay of biological, environmental, and genetic factors contributing to obesity. This oversimplification can leave patients feeling solely responsible and ashamed, particularly when they face difficulties achieving and maintaining weight loss[14].

Patients often report dissatisfaction with the care they receive, citing weight-related biases that adversely affect their interactions within healthcare settings. The resulting stress, disengagement from healthcare services, and poor adherence to treatment plans not only complicate individual health but also undermine the overall effectiveness of public health efforts to manage obesity, posing a major barrier to access[72].

Weight sensitivity in healthcare and education to empower the individual are crucial. Prior poor experiences can make individuals with obesity reluctant to engage in further interventions[35]. Clinicians contributing to this White Paper stated that it is essential to approach care with compassion and respect, ask permission to discuss weight, and ensure all conversations are positive, helpful, supportive, collaborative, and understanding.

Current treatment options for overweight and obesity in Australia

Obesity management has the main goal of reducing visceral adipose score and thereby improving existing and/or preventing the onset of obesity-related health complications[65]. In Australia, a target

of 10-15% weight loss is recommended for individuals with a BMI of 30-40 or central adiposity obesity, and more than 15% for those with a BMI over 40 (Figure 11). Core treatment options include lifestyle interventions in conjunction with therapies such as AOM and metabolic bariatric surgery[35].

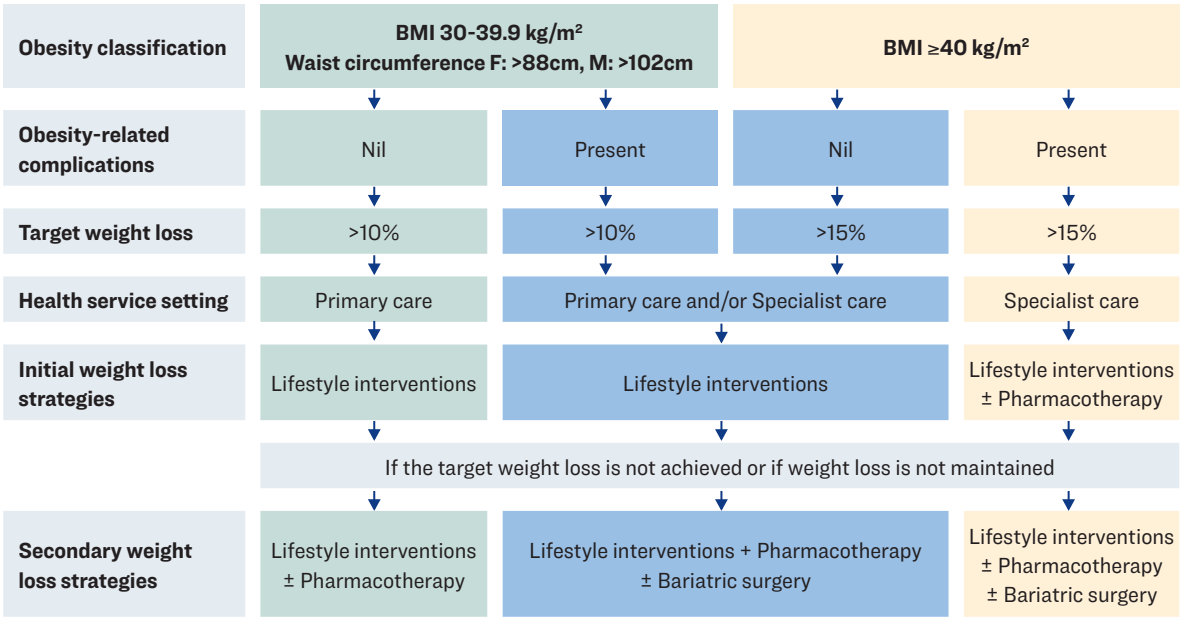
> "Perceived 'failure' and stigma surrounding this, can be prevented or ameliorated over time by empathic, respectful, non-judgemental conversations with individuals. It is important that suitable explanations about the science of obesity, the concept that some individuals may or may not respond to any one particular treatment, and metabolic adaptation explains why maintaining reduced adiposity and weight loss in the longer term is challenging. Hence, to develop trust, rapport and a shared understanding."
>
> **Dr Georgia Rigas, NSW clinician**

Care coordination

Chronic Disease Management Plans, coordinated by a GP, are funded through Medicare for any health condition persisting for six months or longer. There is no list of eligible or exempt health conditions, which provides some autonomy to collaborate with a patient to develop a plan to help manage their health and wellbeing[73]. These plans should consider the long-term and multifactorial aspects of the disease and integrate the expertise of the multidisciplinary team to optimise care, as well as the particular challenges of accessing primary care and allied health services in rural and regional areas.

The total number of Chronic Disease Management Plans created for all conditions in Australian primary care practices in 2022 was 3.8 million; while this is substantial, it represents less than half of the population living with obesity[73].

Figure 11.
Overview of the Australian algorithm for the management of obesity



Source: Adapted from Markovic, T. P., *et al*. The Australian Obesity Management Algorithm: A simple tool to guide the management of obesity in primary care. Obesity Research & Clinical Practice, 16(5) (2022).

Lifestyle intervention

Lifestyle modifications, including dietary adjustments and increasing physical activity, are typically the initial approach to obesity prevention and management. These interventions aim to reduce energy intake, enhance diet quality, and boost energy expenditure. Strategies to reduce energy intake include adopting a reduced energy diet (targeting a deficit of 2000-4000 kJ/day), a low energy diet (4200-5000 kJ/day deficit), or a very low energy diet (3300 kJ/day deficit)[35]. Alongside dietary adjustments, regular physical activity is essential for boosting energy expenditure and managing obesity-related health complications.

Anti-obesity medications

AOMs have been shown to be a safe and effective adjunct therapy to lifestyle interventions for the management of obesity. AOMs can also support the maintenance of better health and wellbeing, following a very low energy diet or help to prevent relapse, regardless of the initial weight loss method used[35]. Details of new AOMs are discussed in the next section.

Metabolic bariatric surgery

Metabolic bariatric surgery is a well-established, safe, and effective treatment for obesity[35]. It is suitable for individuals with Class 3 obesity (BMI≥40) or Class 2 obesity (BMI ≥ 35) and at least one obesity-related health complication or BMI ≥ 30 and poorly controlled type 2 diabetes. As a result of significant and, in general, sustainable reduced adiposity as a result of weight loss, it has been shown to significantly improve or reverse obesity-related risks and complications, particularly for type 2 diabetes[74]. Metabolic bariatric surgery has been shown to be cost-effective for individuals with a BMI over 35, compared with non-surgical treatments, and cost-saving for those with higher BMIs or complications like type 2 diabetes[75].

In Australia, the two most common bariatric procedures are sleeve gastrectomy and gastric bypass, with sustainable average total body weight loss ranging from 20% to 30%[36,76]. Clinical criteria for recommending these procedures primarily focuses on BMI and the presence of obesity-related health complications[36].

"Most newer-generation AOMs work by addressing the symptoms people living with obesity describe. Some also reduce the reward component of calorie dense, high sugar, high fat foods, therefore, may promote change in food preferences, and may delay gastric emptying so that people living with obesity feel fuller for longer".

Dr Georgia Rigas, NSW clinician

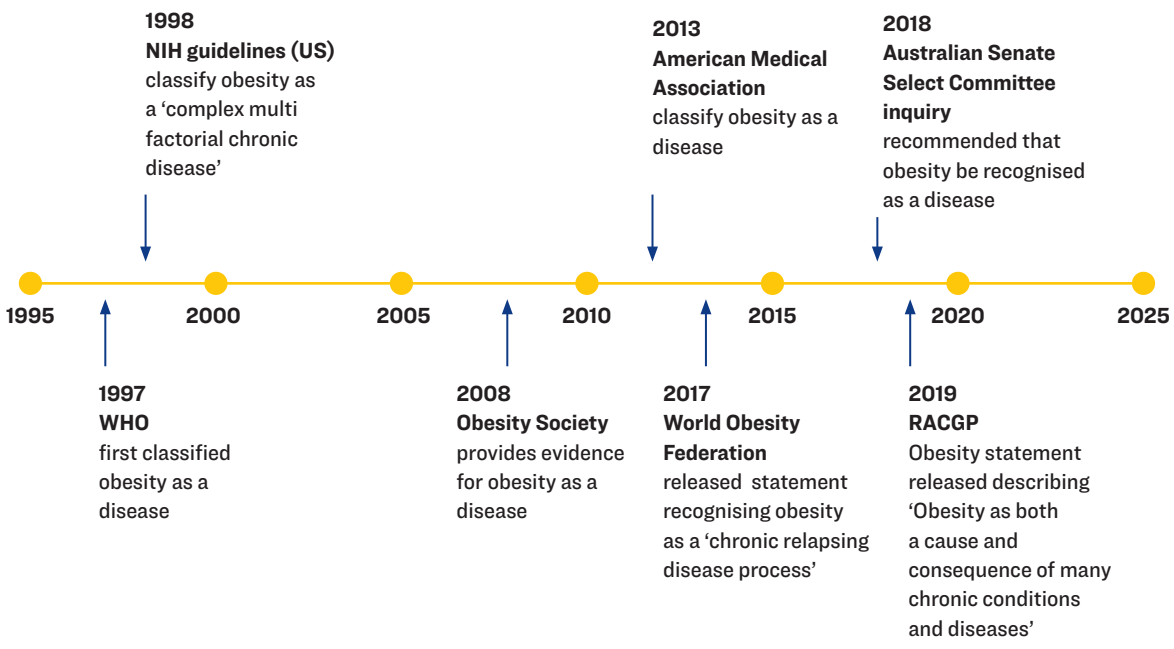
Obesity as a disease

Obesity involves long-term, often lifetime, management, characterised by periods of relapse and remission[77]. The classification of obesity as a disease has been the subject of debate globally since this was declared by the WHO, in 1997[21]. The WHO publication (Obesity: preventing and managing the global epidemic) specifically called out obesity as a 'complex', 'serious' and 'chronic condition' and promoted the need for strategies for both prevention and management at individual and societal levels[21]. Nearly three decades later, while numerous bodies including the National Institutes of Health (NIH)[78], the Obesity Society[79], the American Medical Association (AMA)[80], World Obesity Federation[77], the Australian Senate Select Committee Inquiry into the Obesity Epidemic in Australia[81], and the Royal Australian College of Physicians (RACP)[4] acknowledge this classification (Figure 12), this classification remains ambiguous.

These international movements aim to improve healthcare access by reframing the narrative around obesity, better recognising its serious health and wellbeing effects, and emphasising the need for appropriate treatment and support from the healthcare system[82]. By shifting away from viewing obesity as solely a matter of personal responsibility, these efforts highlight obesity as a chronic condition with significant risk factors that need to be addressed. This approach facilitates better health insurance coverage, increased research funding, and improved access to necessary medical treatments.

In Australia, the terminology used to describe obesity remains vague, with numerous national bodies issuing position statements in recent years. In a 2013 Australian Government response to the report: *Weighing it up: Obesity in Australia*[83], and again in 2018 the Australian Senate Select Committee Inquiry[81] advocated for obesity to be officially recognised as a disease. A recent survey, the Awareness, Care, and Treatment in Obesity Management – an international observation (ACTION-IO) involving Australian General Practitioners and Specialist Clinicians – found that 98% of clinicians regarded obesity as a chronic disease; however, among people living with obesity, only 76% agreed[84].

Figure 12.
Timeline of position statements and actions relating to the classification of obesity



Source: World Health Organization, 1999. Obesity: Preventing and Managing the Global Epidemic. WHO Technical Report Series 894, Geneva: World Health Organization.

The medical treatment of overweight and obesity in Australia necessitates a multifaceted approach, beginning with the recognition of obesity as a chronic condition that demands systematic and sustained intervention. Effective management combines lifestyle intervention, medication, and, when appropriate, surgical interventions, all underpinned by a coordinated, multidisciplinary care model. Enhancing healthcare provider training and actively combating weight stigma are critical to improving the efficacy and accessibility of these interventions.

Harnessing the potential of innovative anti-obesity medications

Key takeaways

- Clinicians are seeking system-wide and personalised approaches when treating patients with obesity. Precision medicine approaches may be commonplace in the years to come with greater understanding of the heterogenous nature of obesity and how different people respond to different approaches.
- New generation anti-obesity medications, including GLP-1 dual and triple agonists, have the potential to revolutionise obesity treatment, showing promise in providing substantial weight loss and improving obesity-related health complications.
- First generation anti-obesity medications, as an adjunct to lifestyle modification, have shown results in mean weight loss of up to 10% of bodyweight over extended periods, with clinically meaningful health gains.
- The successful integration of new anti-obesity medications into obesity management requires robust support systems to monitor efficacy, manage potential side effects, and ensure patient adherence to treatment regimens.

Novel and emerging medicines for obesity

In the evolving landscape of AOMs, novel classes have been introduced that are both effective and have favourable safety profiles. Notably, the GLP-1 receptor agonist (GLP-1 RA) class is among these recent advancements. GLP-1 RA simulate the function of the natural hormone GLP-1, which helps regulate blood glucose by enhancing insulin secretion, slowing gastric emptying, and promoting a feeling of fullness, thus reducing food intake[85].

Liraglutide 3 mg was one of the first GLP-1 RAs available, recognised for its efficacy in achieving weight loss[86]. It was followed by semaglutide 2.4 mg, which demonstrated greater efficacy, achieving an average weight loss of 15.8%, compared to 6.4% with liraglutide[87]. More recently, in November 2023, the U.S. FDA approved tirzepatide for chronic weight management. Tirzepatide, which simultaneously acts on GLP-1 and GIP receptors, demonstrated improved blood glucose control and greater potential for weight loss compared to traditional GLP-1 RAs alone[88]. Body weight was reduced by up to 20% in a dose dependent manner, compared to placebo, when used in combination with a reduced-calorie diet and increased physical activity[12]. Ongoing research is exploring the benefits for patients with obesity-related health complications, including hypertension, dyslipidaemia, obstructive sleep apnoea, metabolic dysfunction-associated steatotic liver disease (MASLD), and cardiovascular disease[12].

Research is underway on AOMs that target additional hormone receptors, such as glucagon and amylin[86]. Combinations of these with GLP-1 and GIP could offer dual or triple mechanisms of action, potentially providing unique benefits for weight loss and improving health and wellbeing. Clinical trials are currently assessing the potential of therapies such as cagrisema (GLP-1/amylin RA) and triple agonist retatrutide (GLP-1/GIP/glucagon RA), for example. A rapidly growing pipeline includes novel therapies anticipated to launch in the coming years[86].

There are also several GLP-1 RA therapies under development in oral formulations, such as orforglipron and danuglipron[89,90]. Outside of the incretins, a monoclonal antibody blockade of activin type II receptor (ActRII) signalling is being investigated for obesity management and in early clinical trials (bimagrumab)[91,92].

There is an ongoing debate about the optimal duration of treatment with new AOMs, with proponents advocating for indefinite use to maintain benefits to health and wellbeing and prevent rebound weight gain[93]. Clinicians suggested that ongoing treatment for obesity may be appropriate, as occurs for other diseases, and that there is evidence of long-term safety across the drug class[94,95]. This highlights the need for further research and robust multidisciplinary care models for sustainable, system-wide support.

Anti-obesity medications in Australia

In Australia, the Therapeutic Goods Administration (TGA) has registered five medicines for obesity management: phentermine, orlistat, naltrexone-bupropion, and GLP-1 RAs liraglutide 3 mg and semaglutide 2.4 mg. The mechanisms of action, dosing, and expenses of each are detailed in the table below.

Table 1.
Anti-obesity medications registered by the TGA

	Phentermine	Orlistat	Liraglutide	Naltrexone	Semaglutide
Registered by TGA	1991	2000	2015	2018	2022
Formulation	Oral (capsule)	Oral (tablet)	Subcutaneous (injection)	Oral (tablet)	Subcutaneous (injection)
Frequency	Once daily	Three times a day, with meals	Starting dose 0.6 mg daily, escalating by 0.6 mg per week over five weeks to 3 mg once daily	Starting dose one 8 mg naltrexone–90 mg bupropion tablet daily, escalating by one tablet per week over four weeks to two tablets twice daily (16 mg naltrexone–180 mg bupropion twice a day)	Starting dose 0.25 mg weekly, escalating every four weeks to 2.4 mg weekly over 16 weeks
MOA for weight loss	Reduces appetite by stimulating neural release of noradrenaline, serotonin and dopamine	Reduces absorption of dietary fat by inhibiting gastric and pancreatic lipases	Reduces appetite by stimulating GLP-1 RAs in several brain areas	Reduces appetite by stimulating activity of POMC neurons in the hypothalamus	Reduces appetite by stimulating GLP-1 RAs in several brain areas
Adverse effects	Dry mouth, insomnia, palpitations, tachycardia, hypertension, anxiety, dizziness, constipation	Steatorrhea, oily spotting, faecal urgency	Nausea, diarrhoea, constipation, vomiting, headache, dyspepsia, cholelithiasis	Nausea, constipation, headache, vomiting, dizziness, insomnia, dry mouth, diarrhoea, hypertension	Same as liraglutide
Mean placebo-subtracted weight loss	7.4kg over 36 weeks	4% at 52 weeks	4-6% at 56 weeks	5% at 56 weeks	12-14% at 68 weeks
Proportion of clinical trial participants with 5% and 10% weight loss at 1 year	N/A	73% and 41% (vs. 45% and 21% placebo)	63% and 33% (vs. 27% and 11% placebo)	48% and 25% (vs. 16% and 7% placebo)	86% and 69% (vs. 32% and 12% placebo)

Tirzepatide is currently under review from the TGA at time of publishing for a weight management indication (August 2024).

Sources: Roomy, M. A. *et al.* Therapeutic advances in obesity management: an overview of the therapeutic interventions. Front. Endocrinol. 15, 1364503 (2024).

Incorporating new anti-obesity medications into clinical practice

Recent developments in AOMs, such as dual and triple agonists, are expected to enable clinicians to offer a greater variety of effective adjunct therapies with (primarily) different mechanisms of action. This will assist in navigating the management of people living with obesity with complex needs and different responses to treatments.

Treatment may be targeted at intervention for weight management, particularly for people at risk of, or in the early stages of developing health complications, and across the disease continuum to more severe stages of obesity. New AOMs may also support the maintenance of health benefits following metabolic bariatric surgery[96,97].

Weight management for people at risk of or developing complications

Historically, obesity management has focused on treating patients who have already developed obesity or related health complications, typically people with a BMI of 30 kg/m² or higher. The potential of new AOMs to be used at lower BMIs (e.g., starting at 27 kg/m² in patients with specific weight-related complications or 30 kg/m² regardless of complications) enables intervention at an earlier stage of disease.

> "Having new AOMs is potentially a lot of use, but you need the support systems in place to be able to regularly monitor and keep track of these patients."
>
> **Endocrinologist, NSW**

The United States clinical guidelines now recommend varying degrees of weight loss depending on the complication being targeted (Table 2). For example, weight reduction of 5% or more can lead to significant improvements in adiposity-related complications. However, certain obesity-related conditions, such as metabolic dysfunction-associated dysfunction steatotic liver disease (MASLD), osteoarthritis, obstructive sleep apnoea, type 2 diabetes and heart failure may require greater weight loss to achieve clinically meaningful benefits.

Table 2.
Weight loss goals to achieve clinically meaningful outcomes for overweight – and obesity– related health complications

Complications	Weight loss goal	Clinical goals
Metabolic syndrome	10%	Prevention of type 2 diabetes
Prediabetes	10%	Prevention of type 2 diabetes
Type 2 diabetes	≥5-15%	Reduction in A1C Reduction in number and/or doses of glucose-lowering medicines
Dyslipidemia	≥5-15%	Lower triglycerides Raise HDL-c Lower non-HDL-c
Hypertension	≥5-15%	Lower systolic and diastolic BP Reductions in number and/or doses of antihypertensive medicines
Non-alcoholic fatty liver disease **• MASLD** **• MAFLD**	≥5% 10-40%	Reduction in intrahepatocellular lipid Reduction in inflammation and fibrosis
Polycystic ovary syndrome	≥5-15%	Ovulation Regularisation of menses
Female infertility	≥10%	Ovulation Pregnancy and live birth
Obstructive sleep apnea	≥7-11%	Improved symptomatology Decreased apnea-hypopnea index
Asthma	≥7-8%	Improvement in forced expiratory volume at 1 second Improved symptomatology
Osteoarthritis	≥10% ≥5-10% + exercise	Improved symptomatology Increased function

Source: Garvey, W. T., *et al.* American Association of Clinical Endocrinologists and American College of Endocrinology Comprehensive Clinical Practice Guidelines for Medical Care of Patients with Obesity. Endocrine Practice, 22(Supplement 3), 1–203 (2016).

Patient testimonials from use of new anti-obesity medications

A recent publication of an exit interview for patients who had been enrolled in a clinical trial involving a novel dual GIP and GLP-1 RA (tirzepatide) provided insights from patients on their experiences with the AOM. This study highlighted patient perspectives on how new AOMs can potentially support people living with overweight and obesity. The patient commentary focused on the impact of these types of AOMs on their quality of life and possible effects on their ability to undertake daily activities. While the self-reported qualitative findings from this study should be interpreted with caution, they do help to provide a unique viewpoint from the patient's perspective.

Patients were asked to report on whether they had experienced weight loss and a reduction in appetite, and how well they were now able to conduct daily activities and exercise. The responses showed how, for these trial participants, AOMs such as dual and triple agonists resulted in weight loss, reduced their appetite and increased their ability to exercise. Quotes from trial participants are provided below.

"My outlook on life was even better. When you feel like you're losing weight, you're noticing it in your clothes, and it just inspires you to do more."

"I lost weight and I was happy about that… Because I wasn't able to lose any weight at all before the trial… before the trial, I didn't have any hope. Felt like I was just a big old person that couldn't lose any weight… While I was on it, I was losing the weight and I was happy."

"I felt like doing more things. And that's great because, you know, you feel like living… I had more energy to go outside and work in the garden and do my exercise, and actually do more stuff around the house"

"My cravings weren't so strong and I could, I could overcome that… A lot of binge eating before the shot. After the shot, I was able to control it better."

Source: Matza LS, Stewart KD, Landó LF, Patel H, Boye KS. Exit Interviews Examining the Patient Experience in Clinical Trials of Tirzepatide for Treatment of Type 2 Diabetes. Patient. 2022 May;15(3):367-377. doi: 10.1007/s40271-022-00578-8. Epub 2022 May 6. PMID: 35513765; PMCID: PMC9095514. *https://pubmed.ncbi.nlm.nih.gov/35513765/*

Personalised medicine and the future targeted use of new AOMs

Individualised prescribing approaches could revolutionise the future management of overweight and obesity and change the way that treatments are selected to improve responses and outcomes in specific patients. The heterogeneous nature of obesity, which encompasses a range of drivers and causes, is a complex disease that requires diverse treatment approaches[98]. Being able to take a closer look at an individual to identify potential indicators or biomarkers, which may relate to unique biological, genetic, and environmental factors contributing to an individual's disease, could enhance treatment outcomes. By identifying these characteristics, healthcare providers can develop more specific treatment plans that optimise diet, exercise, and even choice of new AOM, based on a person's specific profile.

The emergence of individualised prescribing or 'precision medicine' in obesity management reflects a broader trend in healthcare, moving away from one-size-fits-all approaches towards more nuanced, patient-centred care. This approach has potential to enhance adherence to care recommendations and avoid unnecessary expenditure on therapies that are ineffective. Further research from randomised clinical trials is required to advance this concept and translate it into clinical practice. A holistic approach that accounts for a patient's preferences, comorbidities/complications, and contraindications, while promoting overall health and wellness, is recommended[99].

New AOMs like GLP-1 dual and triple agonists are reshaping obesity treatment by enabling substantial weight loss and through health improvements, overcoming the limitations of traditional AOMs which often fail to achieve significant weight loss. Effective use of these agents requires robust systems for monitoring efficacy, managing side effects, and ensuring treatment adherence. It is still early days to understand the safety and efficacy of long-term use and more data is required to make recommendations regarding this. As understanding of the heterogeneous nature of obesity and individual responses to treatments improves, personalised and precision medicine approaches are likely to become more prevalent in the future.

Gaps in workforce, service provision, and access

Key takeaways

- Access to specialist treatment for overweight and obesity is limited in Australia. Data indicates a shortage of treatment centres, extended wait times for bariatric surgery and associated multidisciplinary support, and uneven service provision across regions.
- GPs, crucial in managing overweight and obesity as the first entry point to the healthcare system, often lack the necessary resources and training to effectively manage this condition. GPs require adequate resources, training, and support to identify at-risk patients, engage in effective conversations about weight management, and design multidisciplinary care plans.
- There is a need for specialised multidisciplinary support for people living with severe and complicated obesity who cannot be solely managed in primary care.
- Medicines for obesity management are registered by the Therapeutic Goods Administration but are not covered by the Pharmaceutical Benefits Scheme.
- The high cost of obesity treatments, including new AOMs and bariatric surgery, imposes a significant financial burden on individuals, especially those from lower socioeconomic backgrounds. This exacerbates health disparities as those most in need are often the least able to afford these treatments.

Service capability and capacity

While GPs manage the care of the majority of people living with overweight and obesity, people living with more severe obesity and health complications often require secondary or tertiary care[100]. Access to specialised treatment for obesity remains limited across Australia. There are only 16 specialised obesity services scattered across major cities, which are under-resourced and overburdened with strict entry criteria focused on people living with severe obesity, long wait times, and a notable lack of staffing. Fewer than half of these services have a multidisciplinary team, only 53% include an exercise physiologist or physiotherapist, 53% have a bariatric surgeon available, and 33% offer medication resources[101].

The treatment landscape is further complicated by a significant lack of coordination and clear referral pathways across primary, secondary, and tertiary care levels, which challenges the provision of seamless, effective care as patients navigate through different healthcare tiers[102].

Moreover, the capacity of the Australian healthcare system to meet the demand for bariatric surgery is currently insufficient. Only 5% of eligible patients can pursue surgery, highlighting a significant gap in healthcare provision[103]. Accessibility within the public hospital system is particularly strained, with over 90% of procedures performed in the private sector due to limited public hospitals resources[2]. To better manage access, some public hospitals have introduced the EOSS system and also elevated the BMI eligibility criteria, in an attempt to control patient demand which exceeds public hospital capacity[104,105].

In 2019, the National Bariatric Surgery Registry reported that, although 24 public hospitals performed bariatric surgeries, only six handled a significant volume (>75 cases per year)[106]. The wait times for bariatric surgery in the public setting are extensive, exceeding one year in Western Australia, Queensland, and New South Wales, and up to five years in Victoria[107–110].

There is notable inequity in patient access to bariatric surgery associated with socioeconomic status. A 2012 study revealed that individuals in households earning $70,000 or more were five times more likely to receive bariatric surgery compared to those earning less than $20,000. This disparity is partly due to the affordability of private health insurance, as the majority of procedures are performed in the private sector. The study suggested that these procedures are largely available to those who can afford private health insurance and associated out-of-pocket costs, while those in lower-income brackets face considerable barriers to access[111].

Building capability among healthcare professionals in obesity management

Clinicians contributing to this White Paper stated that healthcare professionals managing people living with obesity require substantial resources, training, and support to effectively identify at-risk patients, engage in meaningful conversations about weight management, and develop multidisciplinary care plans. Healthcare professionals receive limited training in obesity management during their undergraduate and postgraduate education[84]. Only 22% of GPs reported receiving formal training on managing obesity in Australia, which may contribute to their hesitance to discuss weight with patients. There are no formal qualifications for obesity specialists in Australia, and most GPs' efforts to upskill in this area have been largely self-directed. This deficiency, combined with time constraints during patient visits, leads to obesity often being deprioritised in favour of other health issues[112].

A retrospective analysis of primary care data from Melbourne between 2011 and 2013 revealed significant gaps in obesity management at the primary care level: only 22.2% of adults had their BMI recorded, and 4.3% had a recorded waist circumference[113]. For every 100 patient visits to GPs, less than one patient was specifically managed for obesity, indicating that this may not be a frequently addressed concern in general practice settings. This data highlights a critical need for enhanced training and resources in general practice settings.

Out-of-pocket costs

Individuals seeking obesity treatment often incur substantial personal expenses. As stated previously, approximately 90% of bariatric surgeries are conducted in private hospitals, requiring patients to hold private health insurance to subsidise the costs and yet still face out-of-pocket costs of approximately AUD $5,500[114–116].

AOMs are not currently listed on the Pharmaceutical Benefits Scheme (PBS) in Australia[117]. Lack of PBS coverage restricts access to these treatments due to significant financial barriers for many patients. Currently, semaglutide 1.0 mg (Ozempic) is listed on the PBS for the treatment of type 2 diabetes[118,119]. Semaglutide 2.4 mg (Wegovy) has been registered by the TGA for obesity treatment; however, it is not listed on the PBS for this use, which means that although it will be available in Australia, patients do not have subsidised access and may only purchase through the private market.

This situation has sparked considerable controversy in the media and on social media platforms regarding who deserves access to these medications, given historically semaglutide 1.0 mg (Ozempic) has been indicated primarily for type 2 diabetes management, and supply issues are expected for the duration of 2024[120]. Despite semaglutide 1.0 mg (Ozempic) not currently being approved for weight loss in Australia, reports suggest that it is frequently prescribed off-label for this purpose, raising ethical and regulatory questions[121].

The financial burden of accessing new AOMs and other treatments disproportionately affects lower-income individuals. Considering that rates of overweight and obesity are higher in areas of socioeconomic disadvantage, high out-of-pocket costs further exacerbate issues in accessing appropriate treatments.

"In an environment where only the socioeconomically advantaged have access to [surgical procedures for obesity], funding for effective weight loss medications must be considered."

"An equity lens applied to new medications as they come onto the market would ensure Aboriginal and Torres Strait Islander people and other vulnerable groups are able to access more effective treatments they would not otherwise be able to afford."

National Aboriginal Community Controlled Health Organisation (NACCHO)

Source: National Aboriginal Community Controlled Health Organisation. Inquiry into Diabetes: Submission to the Standing Committee on Health, Aged Care & Sport. (2023).

Summary of gaps in access to appropriate care

The following gaps have been identified in delivering person-centred care for people living with obesity:

- Limited access to services under GP-led multidisciplinary care plans*, such as dietitians, psychologists, endocrinologists, and exercise physiologists, with training and experience in obesity management.
- A lack of training to address the entire spectrum from overweight to obesity and severe obesity, ensuring comprehensive and effective management tailored to the needs of each individual.
- Patients are typically only referred to specialists if they are living with advanced stages of obesity, and there is a shortage of specialist treatment centres, primarily located in major capital cities[101].
- Public hospital wait times for bariatric surgery, currently exceed one year in Western Australia and Queensland, and up to five years in Victoria[10–13]. A NSW-based specialist clinician contributing to this White Paper indicated that wait times can be as long as two years, not counting the time spent on waiting lists for initial obesity services, which in some cases can also exceed five years. As a result, over 90% of bariatric surgery procedures are conducted in private hospitals[14]†.
- A lack of broad strategies to manage the care of people living with severe obesity, with clinicians noting that only around one in four people may be suitable for bariatric surgery [4].
- A lack of access to new anti-obesity medications, which are widely acknowledged as a significant advancement in the treatment options available for overweight and obesity, and related complications[38,39,41,122–124]≠.

Australia faces notable challenges in managing obesity due to workforce gaps, limited service provision, and restricted access. Long wait times and high costs for specialised treatments like bariatric surgery disproportionately impact lower socioeconomic groups. GPs often lack training and resources to manage obesity effectively. The absence of public funding for approved AOMs and the substantial out-of-pocket expenses for treatments pose further barriers to access.

*Across the Australian population its reported as little as 46% have private health cover, and while some of the uninsured patients do pay out-of-pocket for private bariatric procedures, the vast majority of the 54% of Australians without insurance rely solely on public hospital services[20].

†Severe obesity is a very complicated condition and while bariatric surgery is a very important management strategy, only around 1 in 4 of their patients could access surgery, due to a range of factors. These include anaesthetic/surgical unsuitability (e.g. cardio-respiratory illness and smoking status) through to patient preferences, especially if they experience anxiety and other mental health issues or have had poor prior experiences.

≠These new anti-obesity medications have been approved in Australia and internationally for the treatment of diabetes and obesity, but are not yet listed on the Pharmaceutical Benefits Scheme (PBS) for the treatment of overweight and obesity.

Concluding statements

Addressing the complex challenges of obesity demands an urgent, multifaceted approach that integrates policy reform, healthcare infrastructure investment, and enhanced clinical guidelines and models of care. Australia, like many other countries, has struggled to address a significant and growing disease burden associated with overweight and obesity. We face particular challenges in addressing rural and remote populations and inequities in health outcomes and access to care for First Nations peoples and people living with socioeconomic disadvantage communities.

Continued focus on the prevention of overweight and obesity is essential; however, we cannot forget about the millions of Australians currently living with overweight and obesity for whom lifestyle interventions alone have not been effective. The advent of effective treatment options offers an opportunity to encourage people living with overweight and obesity, which is affecting their health and quality of life, to seek assistance. Recognising obesity as a heterogenous, chronic condition with wide ranging causes, and shifting the narrative away from blaming a person's lack of motivation or willpower, will enable people living with overweight and obesity to receive appropriate care.

Key populations disproportionately affected by overweight and obesity in Australia currently include First Nations peoples and communities with socioeconomic disadvantage and people living in outer metro, regional, rural and remote areas. Broader issues relating to out-of-pocket costs for treatments for overweight and obesity, and poor access to publicly funded healthcare exacerbate these impacts.

Consultation with communities is required on an ongoing basis to support initiatives targeted at addressing overweight and obesity, and to optimise their effectiveness in areas of greatest need. Co-design of programs with First Nations peoples is essential to ensure reduced disparity and improve health outcomes.

A concerted effort across all stakeholders is necessary to achieve equitable access to obesity management and improve outcomes for people affected by this complex health issue. By addressing stigma and promoting evidence-based care, Australia can pave the way towards a healthier future for all.

It is time to reframe the narrative of overweight and obesity with the building blocks of prevention, appropriate access to effective medical management and system-wide lifestyle interventions for all communities, to curb the public health challenge of obesity in Australia.

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Abbreviations

A1C	Glycated Haemoglobin
ABS	Australian Bureau of Statistics
ACSQHC	Australian Commission on Safety and Quality in Health Care
ActRII	Activation type II receptor
AIHW	Australian Institute of Health and Welfare
AMA	The American Medical Association
ANZOS	Australian and New Zealand Obesity Society
AOM	Anti-Obesity Medication
ARC	Australian Research Council
BMI	Body Mass Index
BP	Blood Pressure
CKD	Chronic Kidney Disease
CPRD	Clinical Practice Research Database (UK)
DEXA	Dual-energy X-ray Absorptiometry
Diabetes Inquiry	2024 Parliamentary Inquiry into The State of Diabetes Mellitus in Australia
DPP	Diabetes Prevention Program
GDP	Gross Domestic Product
GIP	Glucose-dependent Insulinotropic Polypeptide
GLP-1	Glucagon-like Peptide-1
GP	General Practitioner
HCP	Health care professional
HDL	High Density Lipoprotein
Look AHEAD	Action for Health in Diabetes
MBS	Medicare Benefits Schedule
MRFF	Medical Research Future Fund
MI	Myocardial Infarction
NACCHO	National Aboriginal Community Controlled Health Organisation
NDIS	National Disability Insurance Scheme
NHMRC	National Health and Medical Research Council
NICE	National Institute for Health, and Care Excellence
NIH	National Institute of Health
NSW	New South Wales
Obesity Strategy	Australia's National Obesity Strategy 2022-2032
OECD	Organisation for Economic Co-operation and Development
ORC	Obesity-related health complication
PBAC	Pharmaceutical Benefits Advisory Committee
PBS	Pharmaceutical Benefits Scheme
PIP	Practice Incentives Program
RACGP	Royal Australian College of General Practitioners
T2DM	Type 2 Diabetes Mellitus
TGA	Therapeutic Goods Administration
UK	United Kingdom
WA	Western Australia
WHO	World Health Organisation

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