

Overweight and obesity

Web report | Last updated: 17 Jun 2024 | Topic: [Overweight & obesity](#)

About

Overweight or obesity is the second leading risk factor (after tobacco use) for many preventable chronic conditions, such as heart disease, some cancers and type 2 diabetes. More Australians in disadvantaged areas are living with overweight or obesity. Over the last decade, the proportion of adults living with obesity has also increased. This web report provides an overview of the prevalence of Australians living with overweight or obesity.

Cat. no: PHE 251

Findings from this report:

- [One in four \(26%\) children and adolescents aged 2–17 were overweight or obese in 2022](#)
 - [2 in 3 \(66%\) adults were overweight or obese in 2022 – 34% were overweight but not obese and 32% were obese](#)
 - [Australia had the 10th highest proportion of overweight or obese people aged 15+ among 21 OECD member countries in 2022](#)
 - [63% of men and 72% of women in 2022 had a waist circumference that indicated a high risk of metabolic complications](#)
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Summary

Overweight and obesity is an [Australia's health](#) topic

- Diet | 17 Jun 2024
- Physical activity | 17 Jun 2024
- Biomedical risk factors | 02 Jul 2024

On this page:

- [How common is overweight and obesity?](#)
- [How does overweight or obesity change over time?](#)
- [Aboriginal and Torres Strait Islander \(First Nations\) people](#)
- [How does overweight and obesity vary by population groups?](#)
- [How does Australia compare internationally?](#)
- [What are the health impacts of overweight and obesity?](#)
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Page highlights

[How common is overweight and obesity?](#)

In 2022:

- 26% of children and adolescents aged 2–17 were living with overweight or obesity.
- 66% of adults aged 18 and over were living with overweight or obesity.

[How does overweight and obesity change over time?](#)

- The proportion of children and adolescents aged 5–17 living with overweight or obesity increased to 28% in 2022 from 25% in 2017–18. This follows from a steady increase since 1995 (20%),
- The proportion of adults aged 18 and over living with overweight or obesity has remained stable at 66% in 2022, compared with 67% in 2017–18. Looking over a longer time period, this proportion has increased from 56% in 1995, mainly driven by an increase in people living with obesity (from 19% in 1995 to 32% in 2022).

[How does overweight or obesity vary by populations groups?](#)

- In 2018–19, 74% of Aboriginal and Torres Strait Islander (First Nations) adults aged 18 and over and 38% of First Nations children and adolescents aged 2–17 were living with overweight or obesity.

In 2022, after adjusting for age:

- more adults in *Inner regional* (68%) and *Outer regional and Remote* areas (70%) were living with overweight or obesity compared with those living in *Major cities* (64%).
- more adults in the lowest socioeconomic areas were living with overweight or obesity (68%) compared with those living in the highest socioeconomic areas (60%).

[How does Australia compare internationally?](#)

- Australia ranked 10th out of 21 OECD countries for the proportion of people aged 15 and over who were living with overweight or obesity, in 2022.
- The proportion of Australians living with overweight or obesity is greater than the OECD average of 59%.

[What are the health impacts of overweight or obesity?](#)

In 2018:

- overweight (including obesity) was the second leading risk factor (after tobacco use) contributing to ill health and death.
- overweight (including obesity) was linked to 30 diseases, including cancer, cardiovascular diseases, musculoskeletal conditions and type 2 diabetes.

Strategies for overweight or obesity

- The National Preventive Health Strategy 2021–2030 and the National Obesity Strategy 2022–2032 are frameworks for action to prevent, reduce and treat overweight or obesity in Australia, with measurable targets to reduce the prevalence of overweight and obesity.
- Current monitoring of the targets shows that since 2017–18, the prevalence of obesity in adults aged 18 and over, and overweight or obesity in children aged 2–17, have remained stable.

How common is overweight and obesity?

Overweight or obesity refers to excess body weight. It is a risk factor for many chronic conditions and is associated with higher rates of death (AIHW 2019). At a population level, overweight or obesity is generally measured using Body Mass Index (BMI) or waist circumference.

For more information on how to measure overweight or obesity, please see [Measuring overweight or obesity](#) and [Causes of overweight or obesity](#).

Children and adolescents

In 2022, based on measured height and weight data from the Australian Bureau of Statistics (ABS) 2022 National Health Survey, of children and adolescents aged 2–17:

- one in 4 (26%) were living with overweight or obesity. This is approximately 1.3 million children and adolescents.
- 18% were living with overweight but not obesity.
- 8.1% were living with obesity (ABS 2023d).

The proportion living with overweight or obesity was similar for boys and girls across most age groups, except for the youngest age group, where more girls aged 2–4 (24%) were living with overweight or obesity than boys (14%) (ABS 2023d) (Figure 1).

Adults

In 2022, based on measured data from the ABS 2022 NHS, of adults aged 18 and over:

- 66% were living with overweight or obesity, approximately 13 million adults
- 34% were living with overweight but not obesity
- 32% were living with obesity
- 13% were living with severe obesity, which is defined in this report as having a BMI of 35 or more (ABS 2023c; AIHW analysis of ABS 2023a).

For the measures of overweight or obesity, and overweight but not obese, men had higher rates than women, in 2022:

- 71% of men and 61% of women were living with overweight or obesity.
- 39% of men and 30% of women were living with overweight but not obesity (ABS 2023c).

Similar proportions of men (33%) and women (31%) were living with obesity (ABS 2023c).

Overweight or obesity is distributed differently among men and women, as shown in the [BMI calculator](#).

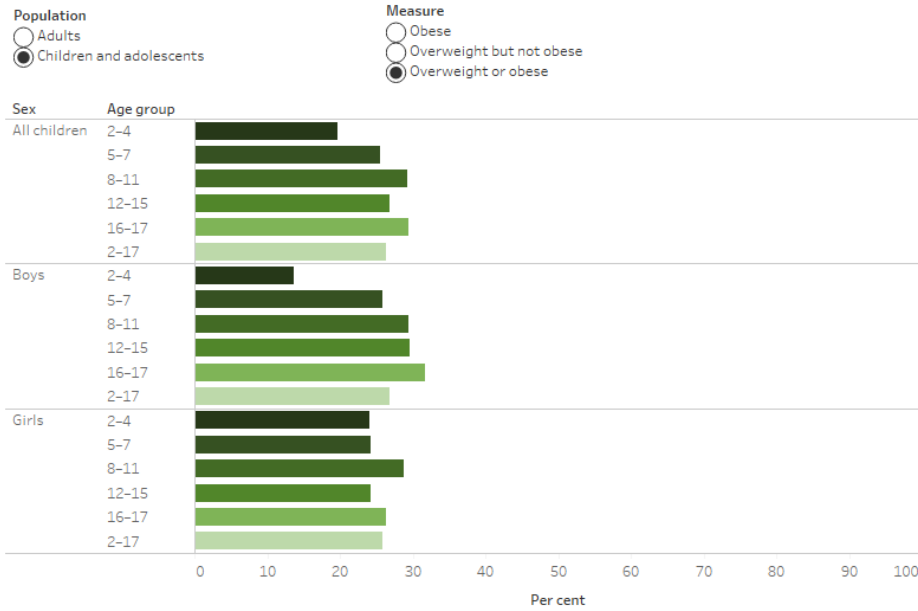
In 2022, the proportion of adults living with overweight or obesity generally increased with age. This is seen in both men and women:

- for men, the proportion increased steadily from 42% of those aged 18–24 to a peak of 81% in those aged 65–74.
- for women, the proportion increased from 41% of those aged 18–24 to a peak of over 70% in those aged 55–64 and 65–74 (ABS 2023c) (Figure 1).

Obesity is also more common in older age groups. In 2022, 15% of men and 16% of women aged 18–24 years were living with obesity, compared with 41% of men and 37% of women aged 65–74 (ABS 2023c) (Figure 1).

Figure 1: Proportion of children and adolescents aged 2–17 and adults aged 18 and over, living with overweight and obesity, by age group and sex, 2022

Data show similar rates of overweight/obesity across age groups for boys and girls, but it generally rises with age in adults and declines at age 75+.



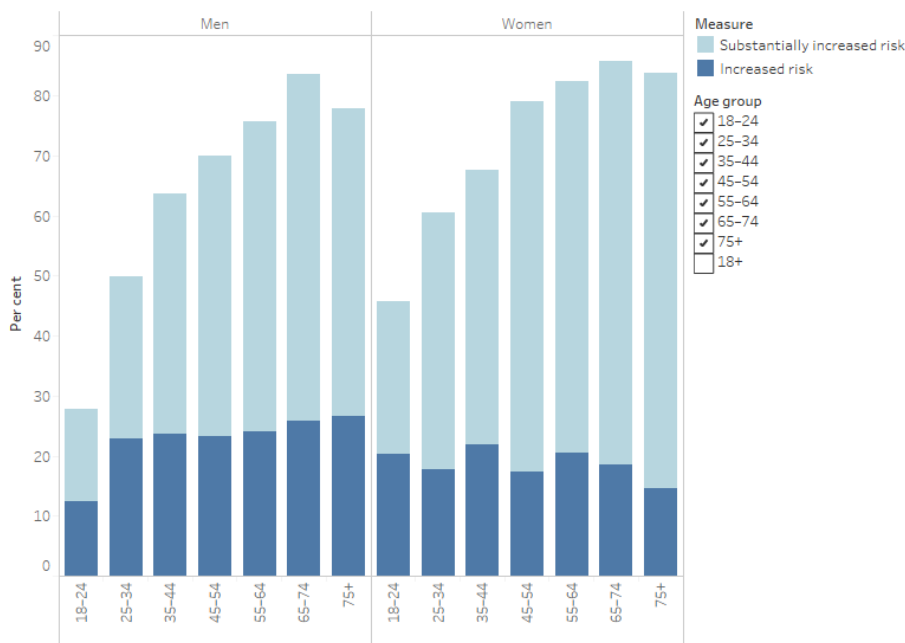
Percentage has a margin of error greater than 10 percentage points which should be considered when using this information.
 Source: ABS 2023c, ABS 2023d. See Data Tables S2 and S10 for data and footnotes
<http://www.aihw.gov.au>

Waist circumference

In 2022, based on measured waist circumference from the ABS 2022 NHS, 63% of men and 72% of women aged 18 and over had a waist circumference that indicated an increased or substantially increased risk of metabolic complications. This is an increase from 2017-18 (60% of men and 66% of women). The proportion of adults with a waist circumference that indicates a substantially increased risk of metabolic complications was significantly higher in women than men across almost all age groups (ABS 2023c) (Figure 2).

Figure 2: Proportion of adults aged 18 and over with a waist circumference indicating increased risk of metabolic complications, by age group and sex, 2022

Data show that the proportion of adults with a substantially increased risk tend to increase with age, up until about age 65-74 for men and women.



Source: ABS 2023c. See Data Table S3 for data and footnotes.
<http://www.aihw.gov.au>

How does overweight and obesity change over time?

Children and adolescents

The proportion of children and adolescents aged 5–17 living with overweight or obesity increased between 1995 and 2007–08 (from 20% to 25%), then remained relatively stable from 2007–08 to 2017–18, before increasing to 28% in 2022 (AIHW analysis of ABS 2013a; ABS 2009b, 2013b, 2015b, 2018, 2023d) (Figure 3). This increase between 2017–18 to 2022 was driven by the increase in the proportion living with overweight (but not obesity), which increased from 17% in 2017–18 to 20% in 2022 (ABS 2018, 2023d) (Figure 3).

For children aged 2–17, the proportion living with overweight or obesity have not changed significantly between 2017–18 (25%) and 2022 (26%) (ABS 2018, 2023d).

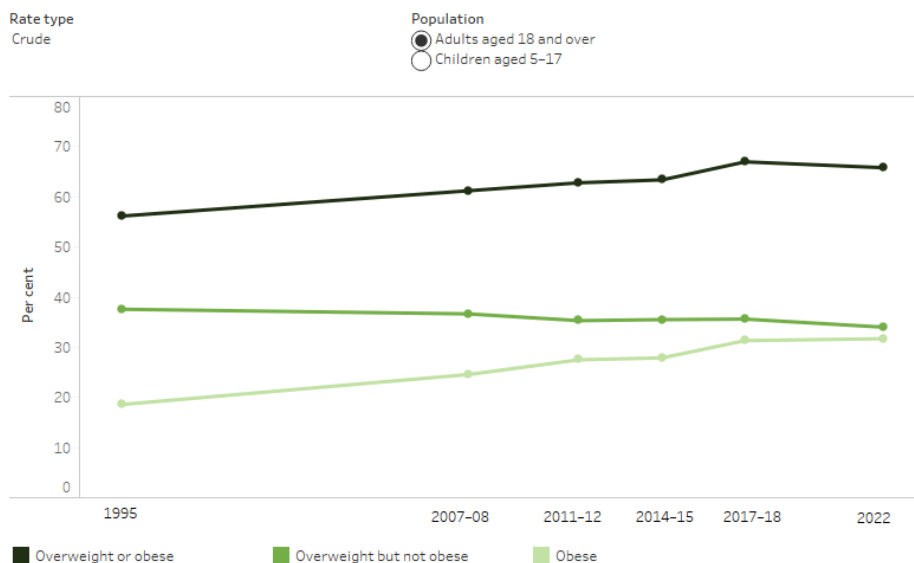
Adults

The proportion of adults aged 18 and over living with overweight or obesity has remained stable at 66% in 2022, compared with 67% in 2017–18. However, this proportion has increased steadily from 56% in 1995 (Figure 3) (ABS 2019c, 2023b; AIHW analysis of ABS 2009a, 2013a, 2014a, 2016).

The increase in the proportion living with overweight or obesity was largely driven by an increase in those living with obesity, which increased to 32% in 2022, from 19% in 1995 (Figure 3) (ABS 2019c, 2023b; AIHW analysis of ABS 2009a, 2013a, 2014a, 2016).

Figure 3: Proportion of overweight or obesity in children and adolescents aged 5–17, and adults aged 18 and over, 1995 to 2022

Data show that in children and adolescents and adults the prevalence of overweight/obesity has generally increased from 1995 to 2022.



Notes:

1. Age-standardised rates use the 2001 Australian population to account for differences in the age structure across population groups.
2. Age-standardised rates are only for adults aged 18 and over.

Source: AIHW analysis of ABS 2009a, 2013a, 2014a, 2016; ABS 2009b, 2013b, 2015b, 2018, 2019c, 2023b and 2023d. See Data Tables S4 and S11 for data and footnotes.

<http://www.aihw.gov.au>

The distribution of BMI in adults shifted towards higher BMIs from 2011–12 to 2022, due to an increase in obesity in the population over time (ABS 2013b, AIHW analysis of ABS 2023a) (Figure 4).

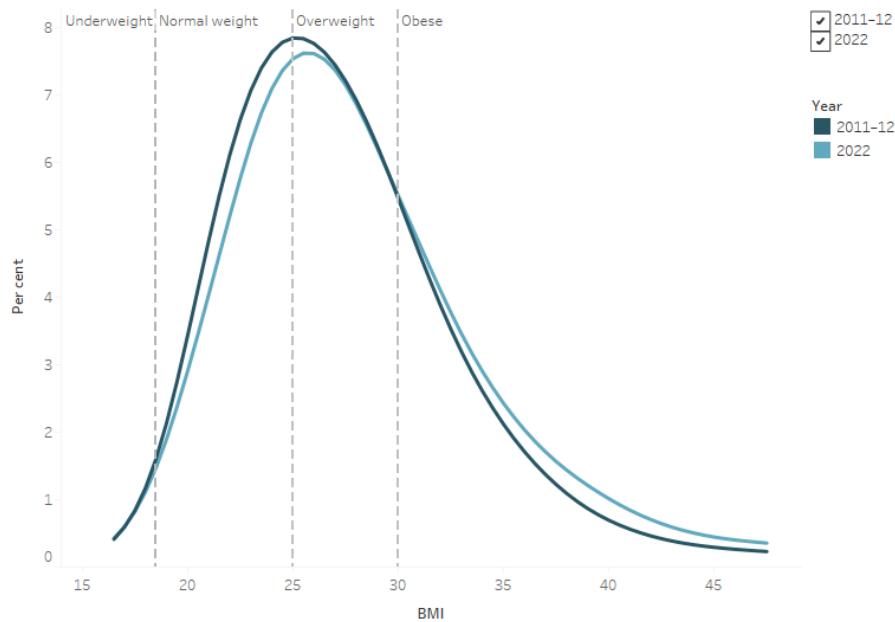
Changes in prevalence of overweight or obesity in birth cohorts over time is currently being explored using the latest data. This will be available in a forthcoming report.

To learn more on birth cohort analyses from current published reports, see:

- [Overweight and obesity in Australia: a birth cohort analysis](#)
- [Overweight and obesity in Australia: an updated birth cohort analysis](#)

Figure 4: Distribution of BMI among persons aged 18 and over, 2011–12 and 2022

Data show that compared with 2011–12, the 2022 smoothed BMI distribution has shifted right slightly indicating an increase in obesity over time.



Source: ABS2012a, AIHW analysis of ABS 2023a. See Data Table S15 for data and footnotes.
<http://www.aihw.gov.au>

Aboriginal and Torres Strait Islander (First Nations) people

Children and adolescents

Among Aboriginal and Torres Strait Islander (First Nations) children and adolescents aged 2–17, 38% were living with overweight or obesity, according to the latest data from the 2018–19 ABS National Aboriginal and Torres Strait Islander Health Survey (ABS 2019e). This is an increase from the 31% estimated from the previous Australian Aboriginal and Torres Strait Islander Health Survey in 2012–13 (AIHW analysis of ABS 2015a). It was also higher than the 24% of non-Indigenous children and adolescents estimated from the National Health Survey in 2017–18 (AIHW analysis of ABS 2019b).

In 2018–19, the proportion of First Nations boys living with overweight or obesity increased with increasing age from 21% of those aged 2–4 years to 33% of those aged 5–9 and 45% of those aged 10–14. For girls, there were no significant differences in the proportion living with overweight or obesity across age groups (AIHW analysis of ABS 2019a) (Figure 5).

For more information see [Overweight and obesity among Australian children and adolescents](#) and the [Overweight and obesity measure - external site opens in new window](#) from the [Aboriginal and Torres Strait Islander Health Performance Framework - external site opens in new window](#).

Adults

Based on the latest available data from 2018–19, of First Nations people aged 18 and over:

- 74% were living with overweight or obesity, increasing from 69% in 2012–13.
- 45% were living with obesity, increasing from 40% in 2012–13 (ABS 2014b, 2019d).

After adjusting for differences in the age structure of First Nations and non-Indigenous populations, in 2018–19, First Nations adults were 1.2 times as likely to be living with overweight or obesity as non-Indigenous adults (77% compared with 66%), and 1.5 times as likely to be living with obesity (47% compared with 31%) (ABS 2019d).

When comparing between First Nations men and women, there were no statistically significant differences between the proportion living with overweight or obesity, and the proportion living with overweight alone. However, slightly more First Nations women were living with obesity (48%) than First Nations men (43%) (ABS 2019d).

In 2018–19, the proportion of overweight or obesity generally increased with increasing age. This was seen in both First Nations men and women (Figure 5):

- for First Nations men, the proportion increased from 56% at 18–24, to 72% at 25–34 and 81% at 35–44. It peaked at 84% for those aged 55 years and over.
- for First Nations women, the proportion increased from 60% at 18–24, to 73% at 25–34. It peaked at 83% for those aged 45–54 years (ABS 2019d).

For obesity alone, the proportion also increased with increasing age. The proportion of First Nations adults living with obesity was lowest for those aged 18–24 at 32% and highest for those aged 45 and over (51%) (ABS 2019d) (Figure 5).

Figure 5: Proportion of First Nations children and adolescents aged 2–17 and adults aged 18 and over living with overweight or obesity, by age group and sex, 2018–19

Data show by age overweight/obesity rises for boys yet is similar for girls. In men and women, it is lower in 18–24 years (59%) than 55+ years (82%).

How does overweight and obesity vary by population groups?

Obesity is unfairly distributed, with some Australians at higher risk. Economic and social barriers and the remoteness areas that people live in can limit the availability of and access to healthy living (Commonwealth of Australia 2022).

Remoteness areas

In 2022, based on measured data from the ABS 2022 NHS and after adjusting for age, a greater proportion of Australians aged 18 and over in *Inner regional* (68%) and *Outer regional and Remote* (70%) areas were living with overweight or obesity compared with those in *Major cities* (64%). This variation was not seen in children and adolescents aged 2–17 (AIHW analysis of ABS 2023a) (Figure 6).

Socioeconomic areas

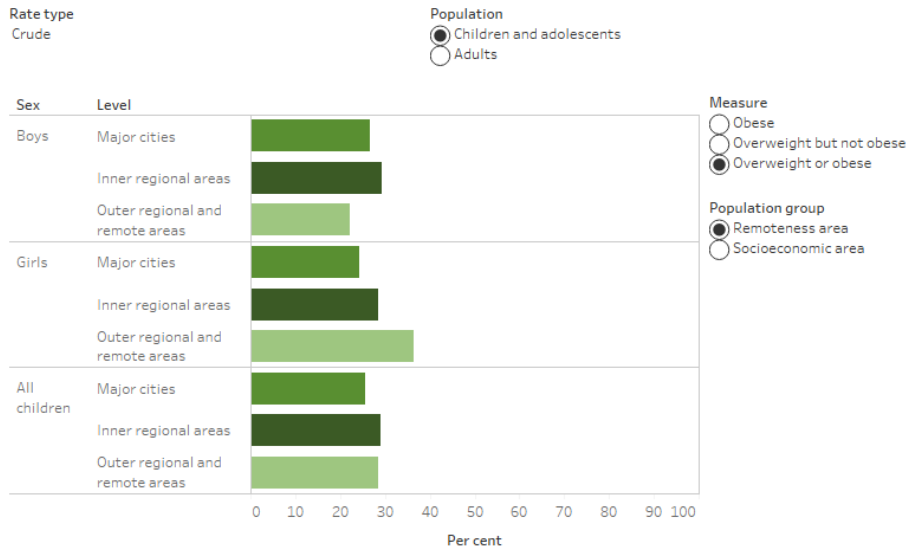
In 2022, based on measured data from the ABS 2022 NHS and the proportion of Australians living with overweight or obesity varied by socioeconomic area.

Children and adolescents aged 2–17 in the lowest socioeconomic areas were more likely to be living with overweight or obesity (34%) than those in the highest socioeconomic areas (21%) (Figure 6). The proportion of those living with obesity in this age group was also higher for those in the lowest socioeconomic areas (15%) compared with the highest socioeconomic areas (4.9%) (Figure 6) (AIHW analysis of ABS 2023a).

After adjusting for age in adults aged 18 and over, a greater proportion in the lowest socioeconomic area (68%) were living with overweight or obesity, compared with those in the highest socioeconomic areas (60%). The prevalence of obesity was the underlying reason for this difference by socioeconomic areas, with a greater proportion of both men (36%) and women (38%) in the lowest socioeconomic areas living with obesity, compared with those in the highest socioeconomic areas (25% and 23%, respectively) (Figure 6) (AIHW analysis of ABS 2023a).

Figure 6: Proportion of children and adolescents aged 2–17 and adults aged 18 and over living with overweight and obesity, by population groups, 2022

Overweight/obesity in 2–17 years was similar by remoteness, in adults, it rose outside *Major cities*. At all ages, it rose in disadvantaged areas.



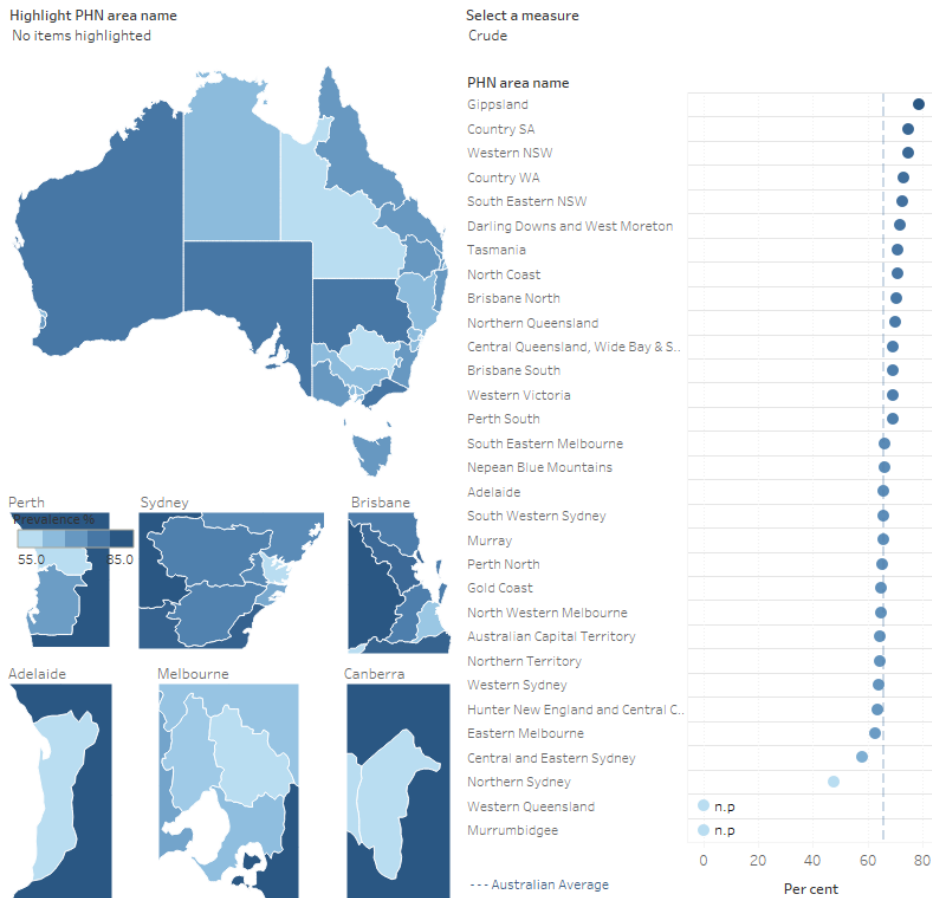
Notes:
 1. Age-standardised rates use the 2001 Australian population to account for differences in the age structure across population groups.
 2. Age-standardised rates are only for adults aged 18 and over.
 Source: AIHW analysis of ABS 2023a. See Data Ttables S6 and S12 for data and footnotes.
<http://www.aihw.gov.au>

Primary Health Networks (PHN)

In 2022, after adjusting for age, the Western New South Wales PHN area had the highest prevalence of overweight or obesity, with 4 in 5 adults (79%) living with overweight or obesity. The Northern Sydney area had the lowest prevalence, with just under half of adults living with overweight or obesity (46%) (AIHW analysis of ABS 2023a) (Figure 7).

Figure 7: Age-standardised proportion of adults living with overweight and obesity, by remoteness area, 2017-18

After adjusting for age, Western NSW (79%) had the highest rates of overweight/obesity and Northern Sydney the lowest (46%).



† Interpret with caution — The 2022 National Health Survey excluded very remote areas.
 # Proportion has a margin of error greater than 10 percentage points which should be considered when using this information.
 n.p.: not published
 Note: Rates have been age-standardised to the 2001 Australian standard population.
 Source: AIHW analysis of 2023a. See Data Table S9 for data and footnotes.
<https://www.aihw.gov.au>

How does Australia compare internationally?

International comparisons of the prevalence of overweight or obesity can be made for member countries of the Organisation for Economic Co-Operation and Development (OECD 2023). Comparisons for measured body weight are based on data from 2022 or the latest available year (OECD 2023).

Australia ranked 10th out of 21 countries with available data for the proportion of people aged 15 and over who were living with overweight or obesity (64%) – this was greater than the OECD average of 59%.

When comparing the proportion of men and women living with obesity across OECD countries, Australia ranked equal fourth for the proportion of men living with obesity (32%) with Mexico, behind New Zealand (33%), Hungary (36%) and the United States (44%). The proportion of obesity in women in Australia was ninth highest out of 22 countries (30%) – higher than the OECD average of 26% for women (Figure 8).

Figure 8: Proportion of overweight or obesity in persons aged 15 years and over, OECD countries, 2022 or nearest year

Australia had the 10th highest rates of overweight/obesity (64%), and 7th highest for obesity (31%). OECD averages were 59% and 25% respectively.

Notes:

1. Self-reported overweight and obesity data have been omitted due to concerns about reliability of estimates.
2. Results are for 2022 or the nearest available year of data, for countries with available data. All data are sourced from the [OECD Health Statistics 2023 - external site opens in new window](#) website.
3. The 'OECD average' for each indicator has been calculated by the AIHW from the latest year of data available for each of the 37 OECD member countries with available data for that indicator. It was not possible to calculate confidence intervals to indicate variability around estimates from the published data available.
4. Variation between indicator results for each country may occur due to differences in data collection, the data quality and the years of data available. For more information on indicator methodology and country-specific data sources used, please see [OECD Health Statistics 2023 Sources and methods - external site opens in new window](#).

Australia is among a number of OECD member countries in which the prevalence of overweight or obesity has increased over recent decades driven by the increased proportion of people living with obesity (OECD 2023) (Figure 9).

Figure 9: Proportion of overweight or obesity in persons aged 15 years and over, OECD countries, 2010 to 2022

Data show that Korea and Japan have the lowest rate of overweight/obesity over time. From the latest data, Mexico had the highest at 74% in 2020.

Notes:

1. Unconnected markers represent countries for which data were available for only 1 of the years presented
2. Data are sourced from the [OECD Health Statistics 2023 - external site opens in new window](#) website. Results are presented for years of available data for each country, between 2010 and 2022.
3. Results are based on overweight and obesity classifications based on measured height and weight only (self-reported data have been excluded due to concerns about reliability).
4. Variation in results between countries may occur due to differences in data collection and data quality. For more information on indicator methodology and country-specific data sources used, please see [OECD Health Statistics 2023 Sources and methods - external site opens in new window](#).

For more information, see [Measures of health and health care for Australia and similar countries](#).

What are the health impacts of overweight and obesity?

Burden of disease is a measure of the years of healthy life lost from living with ill health or dying prematurely from disease and injury. A portion of this burden is due to modifiable risk factors. Burden of disease analysis estimates the contribution of these risk factors to this burden.

Overweight (including obesity) is the second leading risk factor (after tobacco use) contributing to ill health and death, responsible for 8.4% of the total disease burden in Australia, in 2018 (AIHW 2021). Overweight (including obesity) is linked to 30 diseases, including 17 types of cancers, 4 cardiovascular diseases, 3 musculoskeletal conditions, type 2 diabetes, dementia, asthma and chronic kidney disease.

In 2018, overweight (including obesity) was responsible for:

- 55% of type 2 diabetes disease burden
- 51% of hypertensive heart disease burden
- 49% of uterine cancer burden
- 43% of gout burden
- 42% of chronic kidney disease burden (AIHW 2021).

Overweight (including obesity) contributed to around 16,400 deaths (10% of all deaths) (AIHW 2021).

The total disease burden attributable to overweight (including obesity) in 2018 was 2.2 times greater in the lowest socioeconomic area compared with the highest socioeconomic area (AIHW 2021).

For more information on the burden of disease associated with overweight or obesity, see [Australian Burden of Disease Study 2018: Interactive data on risk factor burden](#).

Strategies for monitoring overweight and obesity

The [National Obesity Strategy 2022–2032 - external site opens in new window](#) is a framework for action to prevent, reduce and treat overweight or obesity in Australia. It recognises that the root causes of overweight and obesity are complex and embedded in the way we live (Commonwealth of Australia 2022), and to address the issue, requires changes to systems, environments and commercial determinants that affect Australians' opportunities to live healthy lives.

Australia's [National Preventive Health Strategy \(NPHS\) 2021–2030 - external site opens in new window](#) aims to improve the health and wellbeing of all Australians at all stages of life, through a whole-of-government approach to prevention that addresses the wider determinants of health, reduces health inequities and decreases the overall burden of disease. The NPHS strongly emphasises that preventive action must focus on the wider determinants of health to address the increasing complexity of health issues and the interconnected causes of poor health and wellbeing (Department of Health and Aged Care 2021).

The NPHS 2021–2030 and the National Obesity Strategy 2022–2032 share the following 2 overweight and obesity targets:

- Halt the rise and reverse the trend in the prevalence of obesity in adults by 2030 – the proportion of adults aged 18 and over living with obesity has remained stable at 32% in 2022, compared with 31% from 2017–18 (ABS 2019c, 2023c; Commonwealth of Australia 2022; Department of Health and Aged Care 2021).
- Reduce overweight or obesity in children and adolescents aged 2–17 years by at least 5% by 2030 – the proportion of children and adolescents aged 2–17 living with overweight or obesity have not changed significantly between 2017–18 (25%) and 2022 (26%) (ABS 2018, 2023d; Commonwealth of Australia 2022; Department of Health and Aged Care 2021).

Current progress against the baseline from 2017–18 has shown a stable trend in overweight or obesity. However, further monitoring is required for determining whether Australia will meet these targets.

For more information, see [Health promotion and health protection](#).

Where do I go for more information?

For more information on overweight and obesity, see:

- [Reducing the burden due to overweight \(including obesity\) and physical inactivity](#)
- [The relationship between health risk factors and the neighbourhood environment](#)
- [Overweight and obesity in Australia: a birth cohort analysis](#)
- [Overweight and obesity in Australia: an updated birth cohort analysis](#)
- [Overweight and obesity among Australian children and adolescents](#).

Visit [Overweight and obesity](#) to see more on this topic.

References

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ABS (2009b) [Table 12: Health risk factors: Children aged 5 to 17 years \[data set\], National Health Survey: Summary of Results, 2007–2008 \(Reissue\), ABS website, accessed 5 April 2023. - external site opens in new window](#)

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ABS (2014b), [Table 8: Body Mass Index by age, Indigenous status and sex, 2012–13 – Australia \[data set\], Australian Aboriginal and Torres Strait Islander Health Survey: Updated Results, 2012–13 - external site opens in new window](#), ABS website, accessed 19 October 2020.

ABS (2015a) [Microdata: Australian Aboriginal and Torres Strait Islander Health Survey – Risk Factors and Selected Health Conditions, 2012–13, - external site opens in new window](#) AIHW analysis of detailed microdata, accessed 29 April 2024.

ABS (2015b) [Table 16: Children's Body Mass Index, waist circumference, height and weight – Australia \[data set\], National Health Survey: First Results, 2014–15 - external site opens in new window](#), ABS website, accessed 29 April 2024.

ABS (2016) [Microdata: National Health Survey, 2014–15 - external site opens in new window](#), AIHW analysis of detailed microdata, accessed 8 October 2020.

ABS (2018) [Table 16: Children's Body Mass Index, waist circumference, height and weight – Australia \[data set\], Children's risk factors - external site opens in new window](#) ABS website, accessed 29 April 2024.

ABS (2019a) *Microdata: National Aboriginal and Torres Strait Islander Health, Australia, 2018–19* - external site opens in new window, AIHW analysis of detailed microdata, accessed 29 April 2024.

ABS (2019b) *Microdata: National Health Survey, 2017–18* - external site opens in new window, AIHW analysis of detailed microdata, accessed 8 April 2023.

ABS (2019c) *National Health Survey, 2017-18, Customised data report*, ABS website, accessed 8 April 2023.

ABS (2019d) *Table 18.3: Health risk factors - diet, body mass, blood pressure, physical activity* [data set], *National Aboriginal and Torres Strait Islander Health Survey, 2018* - external site opens in new window¹⁹, ABS website, accessed 29 April 2024.

ABS (2019e) *Table 19.3 Body Mass Index (BMI), by age and sex, Aboriginal and Torres Strait Islander children aged 2–17 years, 2018–19, Proportion of persons* [data set], *National Aboriginal and Torres Strait Islander Health Survey, 2018* - external site opens in new window¹⁹, ABS website, accessed 29 April 2024.

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ABS (2023c) *Table 8.3: Body Mass Index, waist circumference, height and weight, by age and sex* [data set], *National Health Survey 2022* - external site opens in new window, ABS website, accessed 29 April 2024.

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Measuring overweight and obesity

On this page:

- [Body Mass Index](#)
- [Waist circumference](#)

Body Mass Index

Body Mass Index (BMI) is an internationally recognised standard for classifying overweight and obesity in adults. BMI is calculated by dividing a person's weight in kilograms by the square of their height in metres.

BMI does not necessarily reflect body fat distribution or describe the same degree of fatness in different individuals. However, at a population level, BMI is a practical and useful measure for identifying overweight or obesity. Figure 1 can be used to calculate your BMI.

Figure 1: BMI calculator and distribution, persons aged 18 and over, by sex, 2022

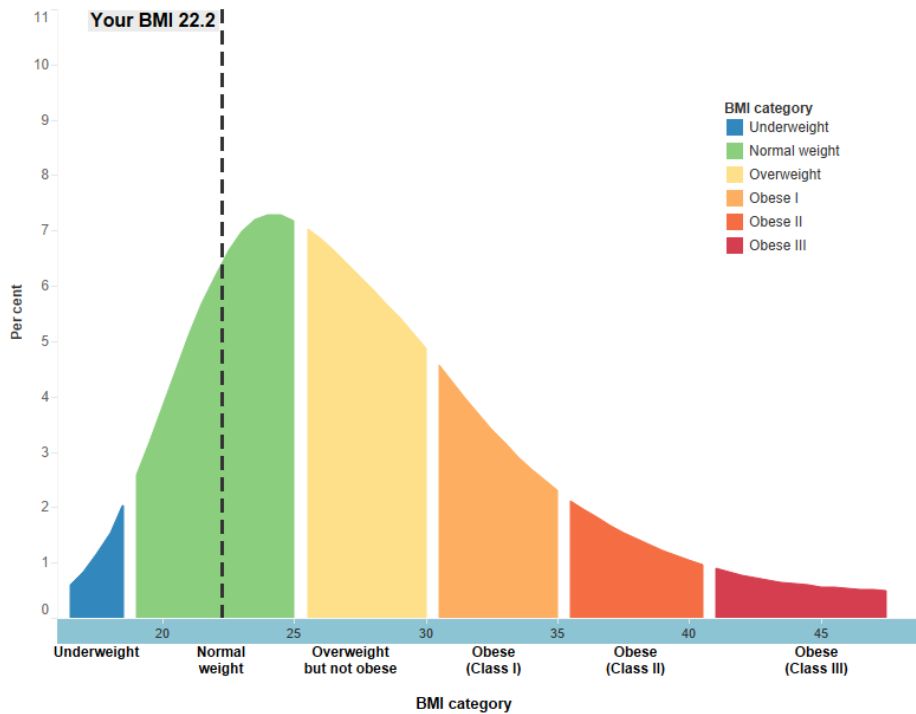
This figure calculates your BMI based on sex, height and weight. In 2022, normal weight was highest in women (36%) and overweight only (39%) in men.

Enter your height and weight to calculate your BMI

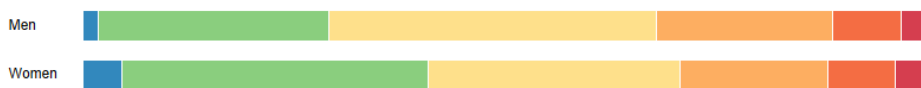
Female
 Male
 Weight (kg) 50 (110 lbs)
 Height (cm) 150 (4 ft 11 in)

Your BMI:
22.2
 Normal

Distribution of BMI, females aged 18 and over, 2022



Distribution of BMI, persons aged 18 and over, by sex, 2022



Note: Distribution of BMI has been smoothed including minimum and maximum values which are based on aggregates of 16.5 or less and 47.5 or more.

Sources: AIHW analysis of ABS 2023a. See Data Tables S1 and S14.

<https://www.aihw.gov.au/>

Table 1: BMI classification in adults

| BMI (kg/m ²) | Classification |
|--------------------------|--------------------------|
| Less than 18.5 | Underweight |
| 18.5 to less than 25 | Normal weight |
| 25 or more | Overweight or obese |
| 25 to less than 30 | Overweight but not obese |
| 30 or more | Obese |
| 30 to less than 35 | Obese class I |
| 35 to less than 40 | Obese class II |
| 40 or more | Obese class III |

Source: WHO 2000.

Height and body composition are continually changing for children and adolescents as they grow. Different BMI cut-off points based on age and sex are used when assessing their BMI at a population level (Cole, et al. 2000).

Waist circumference

Waist circumference is an alternative way to assess the risk of developing obesity-related chronic diseases. A higher waist measurement is associated with an increased risk of chronic disease. The threshold at which waist circumference indicates an increased risk of developing disease are dependent on gender and ethnicity (NHMRC 2013). The threshold may also be less accurate in some situations such as pregnancy and medical conditions where there is distension of the abdomen (Heart and Foundation 2023). The risk levels presented below are for Caucasian men and women.

Table 2: Waist circumference associated with increased risk of metabolic complications

| Sex | Increased risk | Substantially increased risk |
|-------|----------------|------------------------------|
| men | 94cm | 102cm |
| women | 80cm | 88cm |

Source: NHMRC 2013.

For information on how to correctly measure your waist, visit the [National Heart Foundation website](#), - external site opens in new window

References

Cole T, Bellizzi M, Flegal K and Dietz W (2000) '[Establishing a standard definition for child overweight and obesity worldwide: international survey](#)' - external site opens in new window, *British Medical Journal*, 320(1240-1243), doi:10.1136/bmj.320.7244.1240.

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Causes of overweight and obesity

On this page:

- [Food and nutrition](#)
- [Physical activity](#)
- [Obesogenic environments](#)

The root causes of overweight and obesity are varied and complex. Overweight and obesity mainly occurs when there is a sustained energy imbalance, where too much energy is consumed through food and drink, and not enough is expended through physical activity. However, many other factors also influence overweight and obesity, including:

- Genetics/physiology (for example, metabolism, appetite, satiety and body fat distribution)
- Health inequalities (for example, area of remoteness, socioeconomic disadvantage, ethnic/cultural groups)
- Environmental factors (for example, availability of fast-food outlets, portion sizes, home and neighbourhood environments)
- Commercial determinants (for example, media and advertising, retail environments).

Healthy eating and physical activity are important for a healthy, active life. Maintaining your weight means balancing the energy going into your body and the energy being used for growth and repair, for physical activity, and to keep your bodily functions working.

Food and nutrition

The total amount of food that your body needs depends on your age, sex, body size, level of physical activity and whether you are pregnant or breastfeeding. Children and adolescents need enough nutritious food to grow and develop normally. Older people need to eat nutritious foods to help maintain a healthy weight.

The body converts the protein, fat and carbohydrate in food to energy. Excess energy intake, even a small amount over a long period, will cause weight gain. Visit eatforhealth.gov.au - [external site opens in new window](#) to calculate your individual energy requirements.

The [Australian Guide to Healthy Eating](#) - [external site opens in new window](#) is a food selection guide that visually represents the proportion of the five food groups recommended for consumption each day. Following these recommendations and limiting the number of energy-dense, nutrient-poor discretionary foods and drinks is the best way to maintain a healthy weight.

For more information, see [Diet](#).

Physical activity

The human body expends energy in 3 ways:

- Basal metabolism (the energy used to keep the body functioning at rest, such as breathing and blood circulation)
- Thermic processes (the energy taken to digest and absorb food)
- Physical activity (the energy used to move around).

Physical activity is the component a person has the most control over. Being physically active throughout life helps to promote health and wellbeing and prevent chronic disease. Not expending enough energy can contribute to weight gain and overweight or obesity (AIHW 2018b).

Too much sedentary behaviour (sitting or lying down, except when sleeping) can also contribute to overweight and obesity (AIHW 2018b). [Australia's Physical Activity and Sedentary Behaviour Guidelines](#) - [external site opens in new window](#) recommend the type, duration, intensity and frequency of physical activity, and practices for sedentary behaviour, for people during different life stages.

For more information, see [Physical activity](#).


Obesogenic environments

The term 'obesogenic environment' is used to describe an environment that promotes obesity (Swinburn, et al. 1999). Schools, workplaces, homes and neighbourhoods, the media, availability of convenience foods, and portion sizes can all influence a person's body weight. See [A picture of overweight and obesity in Australia](#) for more information on obesogenic environments.

References

AIHW (2018) *Physical activity across the life stages*. AIHW, Australian Government, accessed 5 April 2024.

Swinburn B, Egger G and Raza F (1999) '[Dissecting obesogenic environments: the development and application of a framework for identifying and prioritizing environmental interventions for obesity - external site opens in new window](#)', *Preventive Medicine*, 29(563570, doi:10.1006/pmed.1999.0585.

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Technical notes

On this page:

- [Australian Bureau of Statistics data](#)
- [Primary Health Networks](#)
- [Remoteness areas](#)
- [Socioeconomic areas](#)
- [Methods](#)

Australian Bureau of Statistics data

This report uses data from the following surveys conducted by the Australian Bureau of Statistics (ABS):

- 2022 National Health Survey (NHS)
- 2018–19 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)
- 2017–18 NHS
- 2014–15 NHS
- 2012–13 Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS)
- 2011–12 Australian Health Survey (AHS)
- 2007–08 NHS
- 1995 National Nutrition Survey (NNS).

These data sources were chosen because they provide nationally representative measured height and weight data. Please note, the most recent 2020–21 NHS was conducted during the COVID-19 pandemic. To ensure the safety of interviewers and respondents, there were no face-to-face interviews, and no measured height and weight data was collected. Only self-reported height and weight data was collected but these data usually underestimate the measured height and weight. For this reason, the 2020–21 NHS was not used to report on trends on overweight or obesity. For more information, please refer to the ABS release on [Self-reported height and weight - external site opens in new window](#) and the [ABS National Health Survey: First results methodology, - external site opens in new window](#)

Information about the surveys, including data quality statements, is available on the [ABS website - external site opens in new window](#).

The scope of these surveys was restricted to residents of private dwellings, and excluded residents of non-private dwellings such as hospitals, nursing homes, hotels, motels, boarding schools, and prisons.

The 2022 NHS, 2017–18 NHS, 2014–15 NHS, 2011–12 AHS, 2007–08 NHS and 1995 NNS excluded people living in *Very remote* areas of Australia and discrete First Nations communities.

The 2018–19 NATSIHS and 2012–13 AATSIHS only collected information from people who identified as Aboriginal or Torres Strait Islander. These surveys included people living in non-remote and remote areas, including discrete First Nations communities.

All of these surveys (except the 2007–08 NHS) included measured height and weight data for people aged 2 and over. The 2007–08 NHS included these data for people aged 5 and over.

Each survey included the collection of measured height and weight by trained interviewers. The tools used for measuring height and weight varied over time, and in particular this changed the maximum weight that could be measured. For example, the 1995 NNS used scales that could weigh a maximum weight of 140 kg. However, the 2007–08 NHS used scales that could weigh a maximum weight of 150 kg, and the 2017–18 NHS used scales that could weigh a maximum weight of 200 kg.

The response rates for physical measures varied between surveys with decreasing response rates over time. The ABS imputed BMI for those people for whom BMI was not measured in the 2014–15 NHS, 2017–18 NHS and ABS 2022 NHS, and the 2018–19 NATSIHS. In this method, participants with a missing response were given the response of similar participants.

A very similar imputation method was used for the 2017–18 NHS and the 2018–19 NATSIHS, but this method was different for adults and children. For adults, the similarity of participants was based on age group, sex, part of state, self-perceived body mass, level of exercise, whether or not a participant had high cholesterol as a long-term health condition, and self-reported BMI category (calculated from self-reported height and weight) (ABS 2018, 2019). For 2–14-year-olds, the similarity was based on age group, sex, self-reported BMI and part of state, while for 15–17-year-olds, level of exercise and self-perceived body mass (only if a person answered for themselves) were also used.

The imputation method for the 2014–15 NHS was similar to the 2017–18 NHS and 2018–19 NATSIHS, except it did not use self-reported BMI (ABS 2015).

There was no imputation of BMI in the 1995 NNS, 2007–08 NHS, 2011–12 AHS and 2012–13 AATSIHS and participants without a measured BMI were excluded from analysis.

Primary Health Networks

This report includes the proportion of adults aged 18 years and over who were classified as overweight or obese, by Primary Health Network (PHN). PHNs are local organisations that connect health services across a specific geographic area, with the boundaries defined by the Australian Government Department of Health.

Proportions have been age standardised to the 2001 Australian population to account for differences in the age structure of the population in different areas. Results are presented in Table S9 as both crude and age-standardised rates.

The quality of estimates from the NHS can vary across PHN areas, as the survey was not specifically designed to produce estimates at this level of geography. Table S9 includes 95% confidence intervals, as an indication of the reliability of the proportions.

Proportions that have a margin of error that is 10 percentage points or greater have been indicated and these should be used with caution due to the wide confidence interval.

Data for the Northern Territory should be interpreted with caution as the 2022 NHS excluded *Very Remote* areas.

Remoteness areas

This report uses the remoteness areas from the 2021 Australian Statistical Geography Standard (ABS 2023a). The national health surveys exclude *Very Remote Australia* so these are not included in results in this publication.

Due to low sample size, *Remote Australia* has been combined with *Outer Regional Australia* for results presented by remoteness areas.

Socioeconomic areas

Information on socioeconomic areas in this report is based on Socio-Economic Indexes for Areas (SEIFA) 2021, a product developed by the ABS that ranks areas in Australia according to relative socioeconomic advantage and disadvantage. The indexes are based on information from the five-yearly Census. Each index is a summary of a different subset of Census variables and focuses on a different aspect of socioeconomic advantage and disadvantage (ABS 2023b).

This report uses the Index of Relative Socio-economic Disadvantage (IRSD) from 2021, based on the Statistical Area Level 1 (SA1) that each household was within. Areas were ranked and put into 5 equally sized groups based on the IRSD score of these SA1s; these form the socioeconomic areas used in this report. The 20% of areas living with the greatest overall level of disadvantage are described as living in the lowest socioeconomic areas. The 20% of areas at the other end of the scale – those living in areas with the least overall level of disadvantage – are described as living in the highest socioeconomic areas.

Methods

Prevalence

Crude and age-standardised prevalence estimates are presented as percentages in this report. Crude prevalence, as a percentage, is defined as the number of people with a particular characteristic, divided by the number of people in the population of interest, multiplied by 100.

In calculating crude prevalence estimates, those people for whom BMI was not available were excluded from the denominator. For the 2014–15 NHS, 2017–18 NHS, 2022 NHS and the 2018–19 NATSIHS, imputed data were used for those people for whom BMI had not been measured.

All prevalence estimates in this report are weighted estimates that use person weights allocated to each survey participant by the ABS.

The jack-knife weight replication method was used to derive the standard error (SE) for each estimate, using replicate weights provided by the ABS.

The statistical significance of any difference in prevalence (percentage) estimates between people across time or population groups (e.g. between age groups, socioeconomic quintile, or sex) was assessed using z scores or 95% confidence intervals.

Age-standardised estimates

Age-standardised prevalence estimates are presented to remove the influence of age when comparing populations with different age structures. This is necessary because rates of overweight and obesity vary (usually increasing) with age.

The age-standardised proportions in this report have been directly age-standardised to the 2001 Australian standard population.

Measuring overweight and obesity

For children and adolescents, age- and sex-specific half-year BMI cut-off points were used to classify overweight and obesity (Cole et al. 2000).

For adults:

- overweight and obesity was classified as a BMI of 25.00 kg/m² or more
- obesity was classified as a BMI of 30.00 kg/m² or more (WHO 2000).

Relative standard error, margin of error and confidence intervals

The relative standard error (RSE) of an estimate is a measure of the error likely to have occurred due to sampling. The RSEs of the estimates were calculated using the standard errors (SEs):

$$\text{RSE}\% = \frac{\text{SE}(\text{estimate})}{\text{estimate}} \times 100$$

The margin of error (MoE) at the 95% confidence level for each estimate was calculated using 1.96 as the critical value:

$$\text{MoE} = 1.96 \times \text{SE}(\text{estimate})$$

The MoE was then used to calculate the 95% confidence interval (CI) around each estimate:

$$95\% \text{ CI} = \text{estimate} \pm \text{MoE}(\text{estimate})$$

The 95% CI is a range of values determined by the variability in data, within which there is a 95% chance that the confidence interval will contain the true value of the population quantity being estimated.

Significance testing

Variation or difference in observed values or rates may be due to a number of causes including, among other things, actual differences in the study's populations and sampling error. A statistical test of significance indicates how incompatible the observed data are with a specified statistical model. To assess whether differences between estimates are incompatible with a null hypothesis that the survey estimates are normally distributed and that there is no difference between the groups being compared, 95% CIs were used.

A difference between estimates was considered statistically significant if the 95% CIs around the estimates did not overlap. Where there was an overlap between 95% CIs, a 95% CI for the difference between estimates was calculated. To do this, the SE of the difference was approximated by:

$$\text{SE} = \sqrt{\text{SE}(\text{estimate}_1)^2 + \text{SE}(\text{estimate}_2)^2}$$

The 95% CI for the difference between estimates was then calculated as:

$$95\% \text{ CI} = (\text{estimate}_1 - \text{estimate}_2) \pm (1.96 \times \text{SE}(\text{estimate}_1 - \text{estimate}_2))$$

If the 95% CI for the difference between estimates included 0, then the difference was not statistically significant. If it excluded 0, then the difference was considered to be statistically significant.

References

ABS (2015) *National Health Survey: First Results, 2014-15, Appendix 2: Physical measurements in the 2014-15 - external site opens in new window*, ABS website, accessed 5 April 2024.

ABS (2018) *National Health Survey: First Results methodology, 2017-18 - external site opens in new window*, ABS website, accessed 2 May 2024.

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Notes

Amendments

03 December 2024 – The organizational name for the OECD was incorrectly labelled as Organisation for European Co-operation and Development where it should be Organisation for Economic Co-Operation and Development.

08 August 2024 – Change made on the [Summary](#) page to Figure 1 (bar graph) to correct a typo for the proportion of adults aged 25–34 who are living with overweight or obesity.

Sensitivities:

Numbers have been changed for one bar in Figure 1.

26 June 2024 – Changes were made to the 2017–18 and 2022 proportions of adults aged 18 and over living with overweight and obesity, and proportion living with obesity. The change was made on the [Summary](#) page, in the **How does overweight and obesity change over time?** section of the Page highlights box and in the corresponding content in the main body of the web page. The change was to move from reporting age-standardised rates to crude rates.

Sensitivities:

Numbers have changed slightly between reporting age-standardised and crude rates; however, this change does not affect the trend comparisons.
