Australian Government
Australian Institute of Health and Welfare

Australian Burden of Disease Study 2018: Interactive data on risk factor burden among Aboriginal and Torres Strait Islander people

Web report | Last updated: **10 Mar 2022** | Topic: Burden of disease |

Citation

AIHW

Australian Institute of Health and Welfare (2022) Australian Burden of Disease Study 2018: Interactive data on risk factor burden among Aboriginal and Torres Strait Islander people, AIHW, Australian Government, accessed 03 March 2022.

Last updated 25/02/2022 v11.0
© Australian Institute of Health and Welfare 2022 CC BY

About

Burden of disease is a measure of the years of healthy life lost from living with, or dying from disease and injury. A portion of this burden is preventable, being due to modifiable risk factors. This report provides information on the deaths and burden of disease due to risk factors included in the Australian Burden of Disease Study 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people.

There is also another interactive data set to explore: disease burden.

Cat. no: BOD 36

- Frequently asked questions
- Data

Findings from this report:

- Combined risk factors accounted for 66% of the gap in burden between Indigenous and non-Indigenous Australians in 2018
- The attributable burden rate for Indigenous Australians in 2018 was 3.5 times that for non-Indigenous Australians
- 49% of disease burden among Indigenous Australians in 2018 was due to risk factors included in the ABDS
- The age-standardised rate of burden due to tobacco use in Indigenous Australians fell by 10% between 2003 and 2018

Last updated 24/02/2022 v3.0
© Australian Institute of Health and Welfare 2022 CC BY

Summary

The disease burden due to risk factors is known as attributable burden. It is the amount by which disease burden would be reduced if exposure to the risk factor had been avoided or reduced to the lowest possible level. Deaths can also be attributed to risk factors using the same methods.

The Australian Burden of Disease Study 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people, published in 2022, estimated the disease burden and deaths due to 39 risk factor components or exposures (such as cannabis use) that combine into 19 individual risk factors (such as illicit drug use). The risk factors are categorised into 4 groups: behavioural, dietary, metabolic/biomedical and environmental. Risk factors included in this interactive web report are listed below.

This interactive report provides dynamic data displays of attributable burden and attributable deaths among Aboriginal and Torres Strait Islander people in Australia as part of the Australian Burden of Disease Study 2018.

The available estimates for Indigenous Australians include:

- Non-fatal, fatal and total attributable burden estimates by age, sex and linked disease for 2018, and for most risk factors for 2003 and 2011
- Attributable deaths estimates by sex for 2003, 2011 and 2018
- Estimates of the gap in attributable burden and deaths between Indigenous and non-Indigenous Australians for 2003, 2011 and 2018.

Risk factor estimates for a particular disease cannot simply be added together as they are estimated independently, with some risk factors being on the same causal pathway. For example, physical inactivity and high blood plasma glucose are both risk factors for coronary heart disease, but physical inactivity increases the risk of high blood plasma glucose. The 'joint effect' estimate is calculated in a way that takes the inter-relationships between risk factors into account. Further information on estimating attributable burden and the data and methods used in the Australian Burden of Disease Study 2018 can be found in the Australian Burden of Disease Study 2018: methods and supplementary material report. Further information on how to interpret specific measures in the visualisations is shown when hovering over the information icons on available pages.

Data visualisations displaying estimates of disease burden are available in the interactive web report: Interactive data on disease burden.

Risk factors included in the Australian Burden of Disease Study 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people

Behavioural risks

- Alcohol use
- Child abuse & neglect
- Illicit drug use
  - Opioid use
  - Amphetamine use
  - Cocaine use
  - Cannabis use
  - Other illicit drug use
  - Unsafe injecting practices
- Intimate partner violence
- Physical inactivity
- Tobacco use
- Unsafe sex

Metabolic/Biomedical risks

- High blood plasma glucose (including diabetes)
- High blood pressure
- High cholesterol
- Impaired kidney function (including chronic kidney disease)
- Iron deficiency
- Low bone mineral density
- Low birthweight & short gestation
- Overweight (including obesity)

Dietary risks

- Diet high in processed meat
- Diet high in red meat

- Diet high in sodium
- Diet high in sugar sweetened beverages
- Diet low in fish & seafood
- Diet low in fruit
- Diet low in legumes
- Diet low in milk
- Diet low in nuts and seeds
- Diet low in polyunsaturated fat
- Diet low in vegetables
- Diet low in whole grains & high fibre cereals

Environmental risks

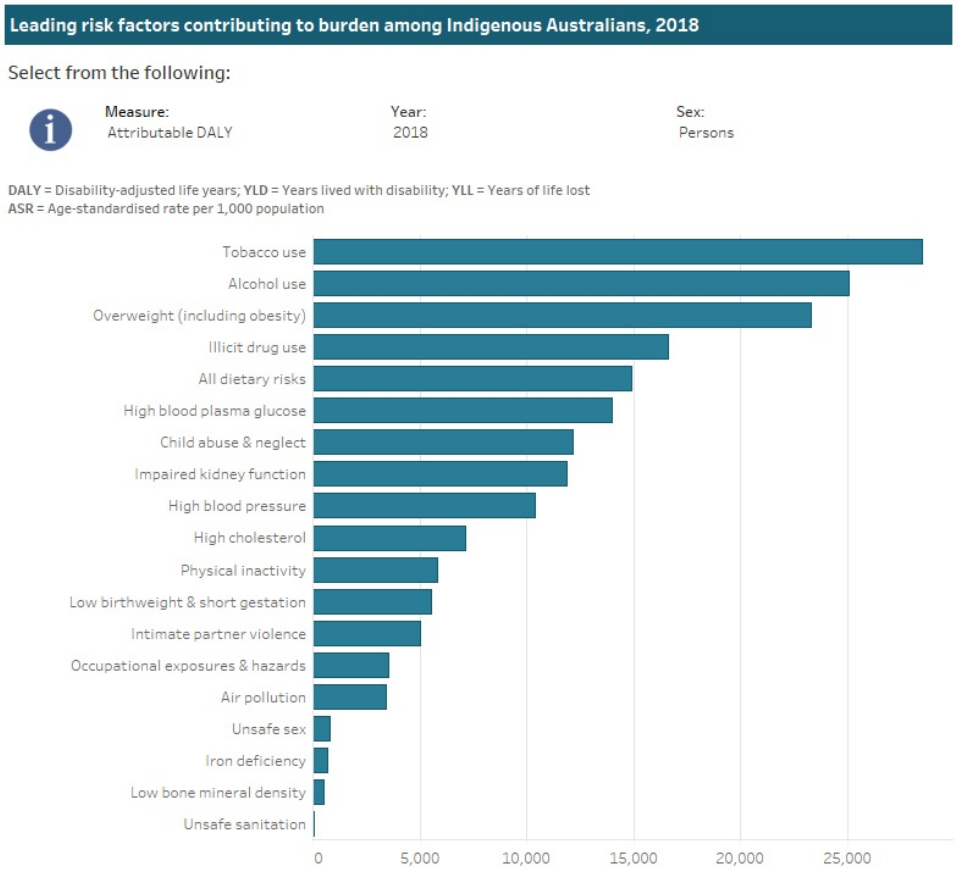
- Air pollution
- Occupational exposures & hazards
- Unsafe sanitation

Leading risk factors

Around 49% of the burden of disease among Indigenous Australians in 2018 could have been prevented by reducing exposure to all the modifiable risk factors included in the Australian Burden of Disease Study 2018 (19 risk factors examined). This estimate has taken into account the complex pathways and interactions between diseases and risk factors.

The leading five risk factors contributing to total burden among Indigenous Australians were: tobacco use, alcohol use, overweight (including obesity), illicit drug use and dietary risks.

Tobacco use contributed the greatest amount of fatal burden and deaths among Indigenous Australians, while alcohol use contributed the most non-fatal burden.
This interactive data visualisation shows the leading risk factors by attributable burden among Indigenous Australians. The main section shows a horizontal bar graph which can be customised to report data according to sex, year and measure of attributable burden.



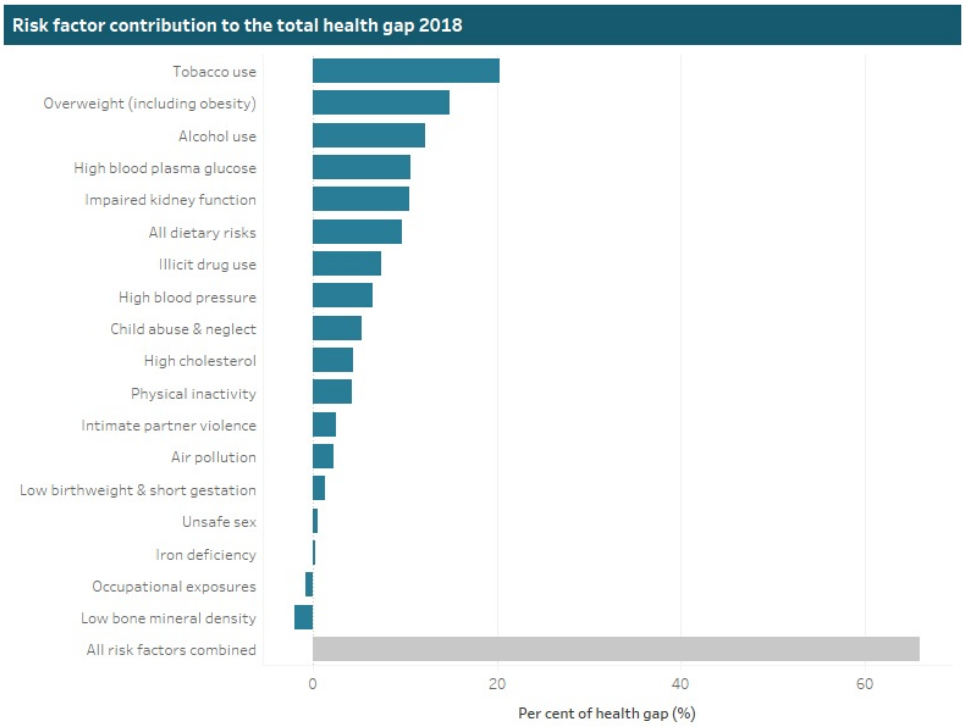
Notes:
1. Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
2. The risk factors high blood plasma glucose, air pollution, unsafe sanitation and low birthweight & short gestation were not estimated for all reference years.
3. The burden attributable to intimate partner violence is estimated for females only.

Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Health gap by risk factors

After adjustment for the joint effect of multiple risk factors, Indigenous Australians experienced rates of burden attributable to the risk factors included in the study at 3.5 times the rate of non-Indigenous Australians in 2018.

The leading five risk factors contributing to the gap between Indigenous and non-Indigenous populations were: tobacco use, overweight including obesity, alcohol use, high blood plasma glucose and impaired kidney function.
This interactive data visualisation shows a horizontal bar graph which presents the contribution of each risk factor to the total health gap between Indigenous and non-Indigenous Australiansin 2018.



Notes:
1. Data presented, represents the contribution of each risk factor to the total health gap as measured by the DALY rate difference between Indigenous and non-Indigenous Australians. The risk factors included in the study represent only a subset of all possible risk factors that may contribute to disease burden, and as such these statistics do not represent a measure of the contribution of all risk factors to the overall health gap between Indigenous and non-Indigenous Australians.
2. The burden attributable to intimate partner violence is estimated for females only.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Changes in leading risk factors over time

Comparisons of attributable burden over time are provided only for those risk factors that were included in both the 2003 and 2018 estimates for Indigenous Australians. The risk factors not measured for 2003 were air pollution, high blood plasma glucose, unsafe sanitation, and low birthweight & short gestation.
It is important to consider differences between the 2003 and 2018 population size and structure when interpreting changes in burden attributable to risk factors over time. This is taken into account by looking at age-standardised rates (ASR) of burden.

Risk factors measured in both 2003 and 2018 contributed 41% of the total burden (number of DALY) among Indigenous Australians in 2003 compared with 45% in 2018, indicating an increase in the proportion of burden attributable to these risk factors. However, there are differences when looking at individual risk factors over time.

Tobacco use, overweight (including obesity), alcohol use and dietary risks were among the leading 5 risk factors for Indigenous Australians in both 2003 and 2018. High blood pressure decreased from the 5th greatest contributor to attributable burden in 2003 to 9th in 2018, while illicit drug use increased from 7th highest in 2003 to 4th highest in 2018.

Alcohol use caused the most burden of the risk factors examined in 2003, responsible for 10.4% of the total burden, and was responsible for 10.5% of the total burden in 2018. However, the contribution of alcohol use fell to 2nd as the burden attributable to tobacco use increased. The burden attributable to tobacco use rose from 10% in 2003 to 11.9% in 2018, largely the result of increased numbers of deaths from cancers related to tobacco use (linked cancers).

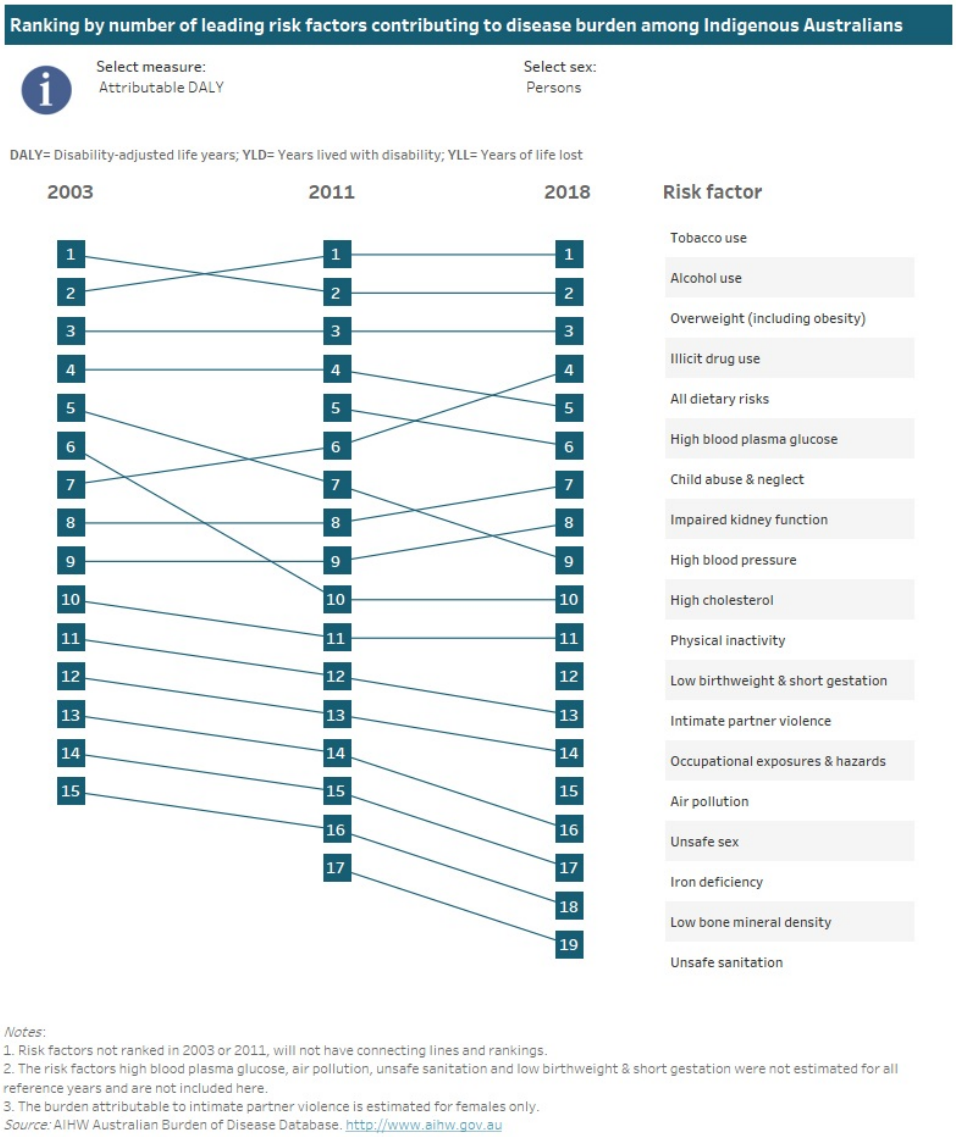
When looking at non-fatal burden (number of YLD), alcohol use, overweight (including obesity), child abuse & neglect, tobacco use and illicit drug use were the leading 5 risk factors among Indigenous Australians in both 2003 and 2018. Child abuse & neglect ranked 2nd in 2003 and 3rd in 2018, while overweight ranked 3rd in 2003 and 2nd in 2018.

When looking at the fatal burden (number of YLL) attributable to risk factors, tobacco use, overweight (including obesity), alcohol use and dietary risks were among the leading 5 risk factors in both 2003 and 2018. High blood pressure ranked 5th in 2003 and 7th in 2018, while illicit drug use ranked 9th in 2003 and 5th in 2018.

In terms of age-standardised rates of burden attributable to risk factors, there was a decrease of 10% between 2003 and 2018 in the joint effect of risk factors measured at both points. The rates for most individual risk factors also decreased over time, with the exception of alcohol use (which was stable at around 37 DALY per 1,000 people) and illicit drug use (which increased from 13 to 23 DALY per 1,000 people).

Tab 1: This interactive data visualisation shows the ranking of risk factors by amount of attributable burden among Indigenous Australians. The main section shows these rankings by year which can be customised to report data according to sex and measure of attributable burden.

Tab 2: This interactive data visualisation shows the ranking of risk factors by rate of attributable burden among Indigenous Australians. The main section shows these rankings by year which can be customised to report data according to sex and measure of attributable burden.



Notes:
1. Risk factors not ranked in 2003 or 2011, will not have connecting lines and rankings.
2. The risk factors high blood plasma glucose, air pollution, unsafe sanitation and low birthweight & short gestation were not estimated for all reference years and are not included here.
3. The burden attributable to intimate partner violence is estimated for females only.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v17.0

© Australian Institute of Health and Welfare 2022

Tobacco use

On this page

- How much burden was attributable to tobacco use?
- How did burden attributable to tobacco use vary by age and sex?
- How has disease burden attributable to tobacco use changed over time?

In 2018, 11.9% of the total disease burden among Indigenous Australians was due to tobacco use. It was the leading risk factor contributing to total disease burden, deaths and fatal burden, and the 4th leading contributor to non-fatal burden.

These estimates reflect the amount of disease burden that could have been avoided if Indigenous Australians had not used tobacco or been exposed to second hand smoke in their lifetime.

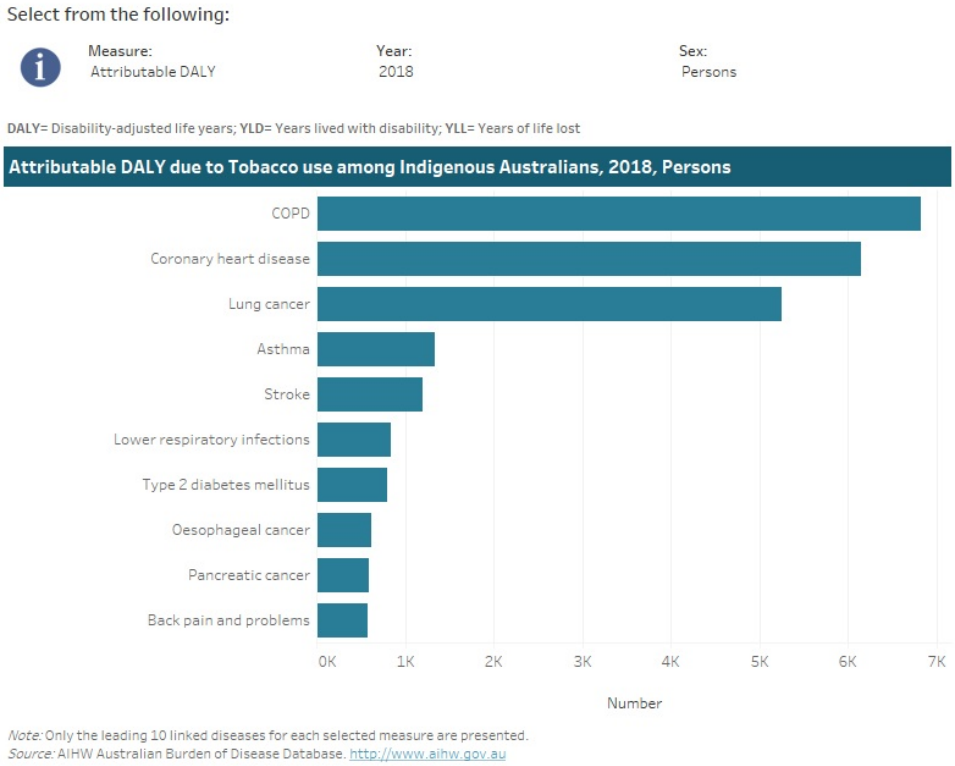
Tobacco use was causally linked to the burden of 41 individual diseases including: 19 types of cancer; 7 cardiovascular diseases; chronic obstructive pulmonary disease (COPD); and asthma (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to tobacco use?

In 2018 among Indigenous Australians, tobacco use was responsible for 89% of the total disease burden due to lung cancer, 88% of the burden due to laryngeal cancer and 83% of the burden due to COPD.

Tobacco use contributed the most to fatal burden among Indigenous Australians, with 835 deaths (23% of all deaths) in 2018.

Note that the following visualisation displays the top 10 linked diseases due to tobacco use by the selected measure.
This interactive data visualisation shows the burden attributable to tobacco use by linked disease among Indigenous Australians. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to tobacco use.

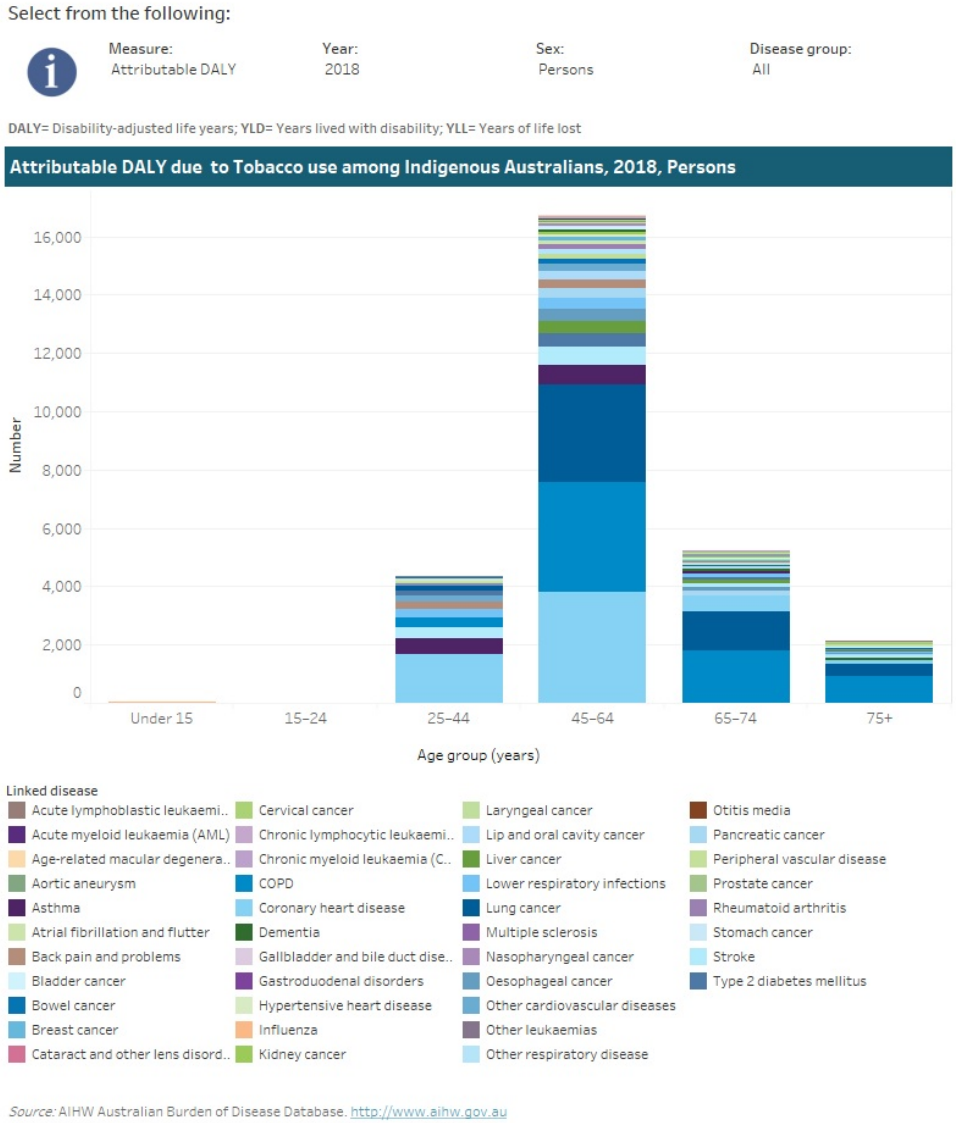


Note: Only the leading 10 linked diseases for each selected measure are presented.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to tobacco use vary by age and sex?

Tobacco use contributed to total disease burden across all age groups, including infants and young children exposed to second hand smoke. Most of the tobacco use attributable burden among Indigenous Australians occurred among those aged 45 and over, with almost 60% of the burden being in people aged 45–64. In 2018, the largest number of deaths attributed to tobacco use (402) occurred in the 45–64 age group.

Indigenous males experienced a greater amount of burden attributable to tobacco use compared with Indigenous females.
This interactive data visualisation shows the amount of burden attributable to tobacco use among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to tobacco use.



How has disease burden attributable to tobacco use changed over time?

The age-standardised rate of total burden attributable to tobacco use (from all linked diseases) among Indigenous Australians decreased by 11% between 2003 and 2018 (from 65.8 to 58.8 DALY per 1,000 population). The rate of deaths associated with tobacco use decreased by 17% between 2003 and 2018 (from 2.7 to 2.2 deaths per 1,000).

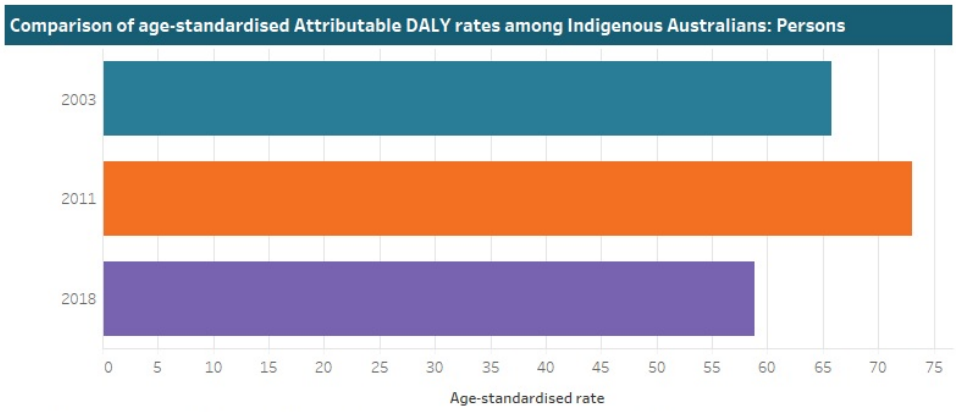
This interactive data visualisation shows the rate of burden attributable to tobacco use among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to tobacco use.

Select from the following:

Measure:	Sex:	Start year:	End year:
Attributable DALY	Persons	2003	2018

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost

10.6% decrease
in the Attributable DALY rate in Persons between 2003 and 2018 due to Tobacco use



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v16.0

© Australian Institute of Health and Welfare 2022

Alcohol use

On this page

- How much burden was attributable to alcohol use?
- How did burden attributable to alcohol use vary by age and sex?
- How has disease burden due to alcohol use changed over time?

In 2018, 10.5% of the total disease burden among Indigenous Australians was due to alcohol use, making it the 2nd leading risk factor contributing to total disease burden.

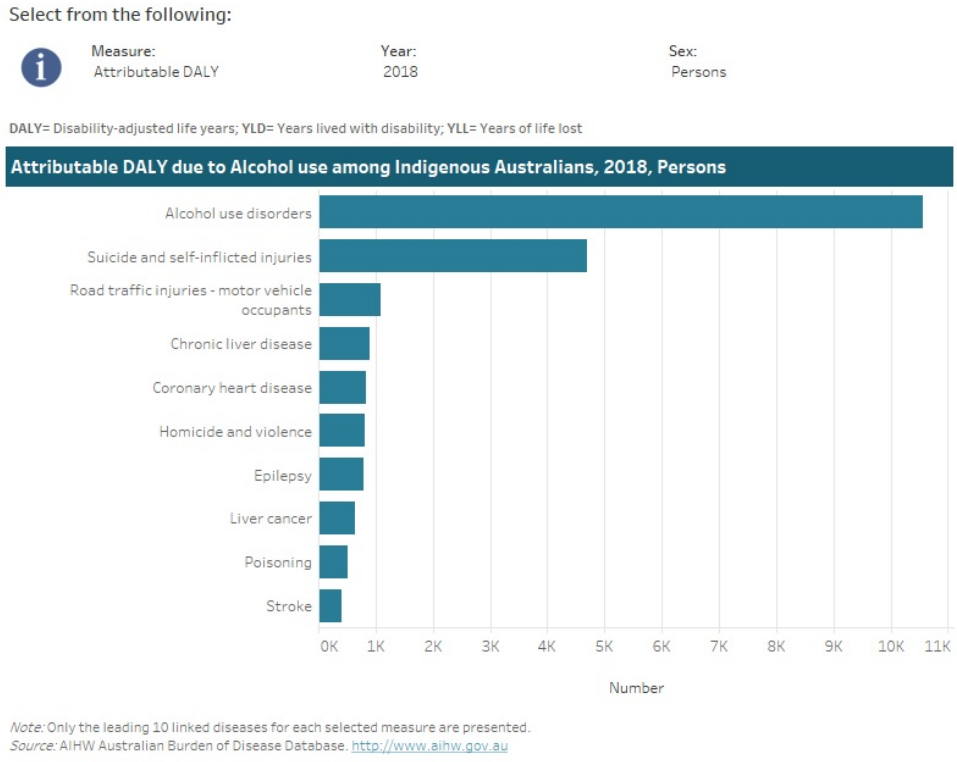
These estimates reflect the amount of disease burden that could have been avoided if all Indigenous Australians had not consumed alcohol.

Alcohol use contributed to the burden of 30 diseases and injuries including alcohol use disorders, 8 types of cancer, chronic liver disease and 12 types of injury— predominantly road traffic injuries and suicide & self-inflicted injuries (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to alcohol use?

In 2018 among Indigenous Australians, alcohol use was responsible for the entire burden due to alcohol use disorders and 39% of the burden due to liver cancer.

Note that the following visualisation displays the top 10 linked diseases due to alcohol use.
This interactive data visualisation shows the burden attributable to alcohol use among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to alcohol use.

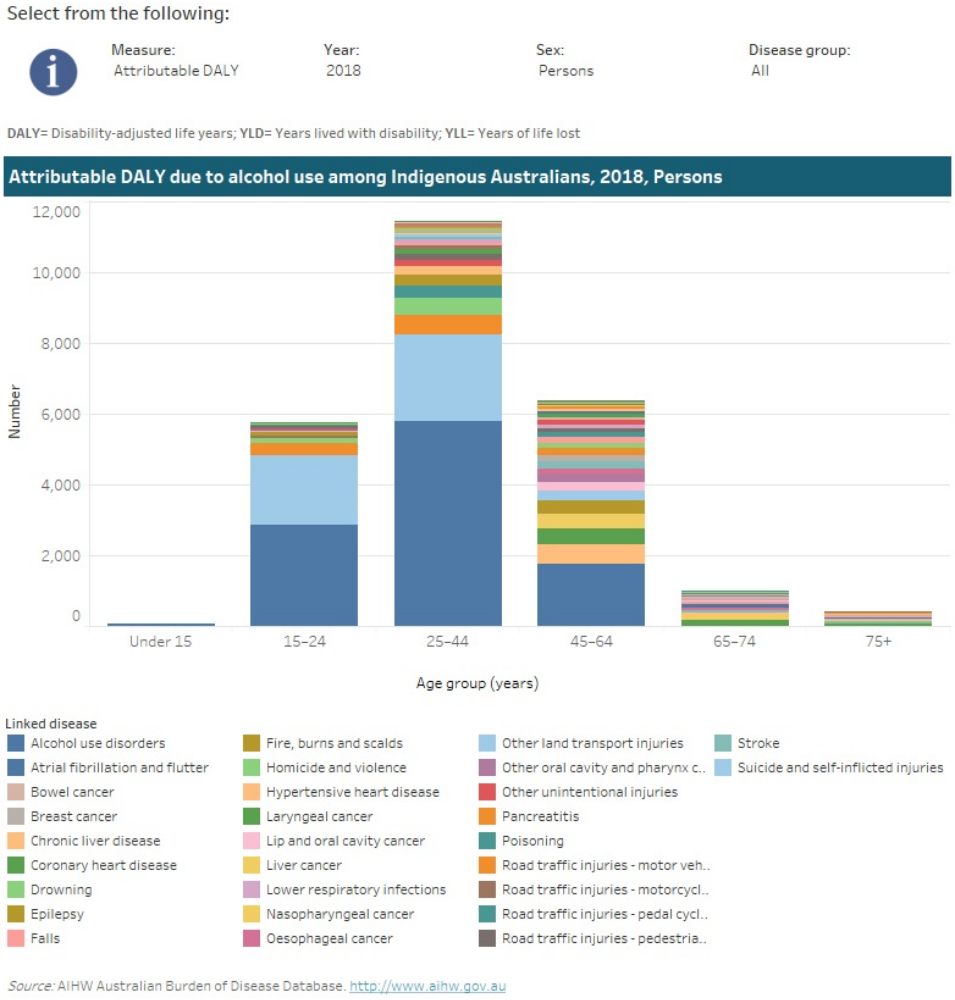


Note: Only the leading 10 linked diseases for each selected measure are presented.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to alcohol use vary by age and sex?

Indigenous males experienced a greater amount of total burden due to alcohol use than Indigenous females in all age groups in 2018. Alcohol use attributable burden peaked among Indigenous Australians aged between 25 and 44, primarily due to alcohol use disorders and suicide & self-inflicted injuries.

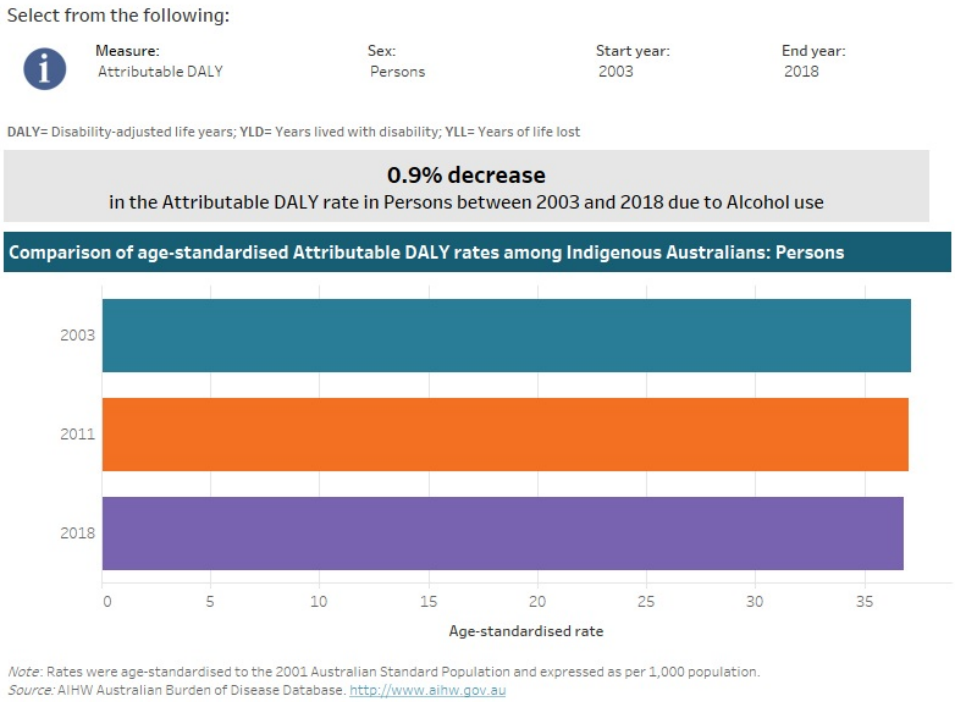
A large amount of the burden attributable to alcohol use was due to alcohol use disorders. Among Indigenous Australians aged between 25 and 44, 50% of the attributable burden (DALY) and 90% of the attributable non-fatal burden (YLD) was due to alcohol use disorders.
This interactive data visualisation shows the amount of burden attributable to alcohol use among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to alcohol use.



How has disease burden due to alcohol use changed over time?

The age-standardised rate of total burden due to alcohol use (from all linked diseases) among Indigenous Australians remained relatively stable between 2003 and 2018 (37.1 DALY and 36.8 DALY per 1,000 population, respectively).

This interactive data visualisation shows the rate of burden attributable to alcohol use among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to alcohol use.



Last updated 24/02/2022 v9.0

© Australian Institute of Health and Welfare 2022 CC BY

Overweight (including obesity)

On this page

- How much burden was attributable to overweight (including obesity)?
- How did burden attributable to overweight (including obesity) vary by age and sex?
- How has disease burden due to overweight (including obesity) changed over time?

In 2018, 9.7% of the total disease burden in Australia was due to overweight (including obesity), making it the 3rd leading risk factor contributing to total disease burden among Indigenous Australians—after tobacco use and alcohol use.

These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians had a body mass index of 20–25.

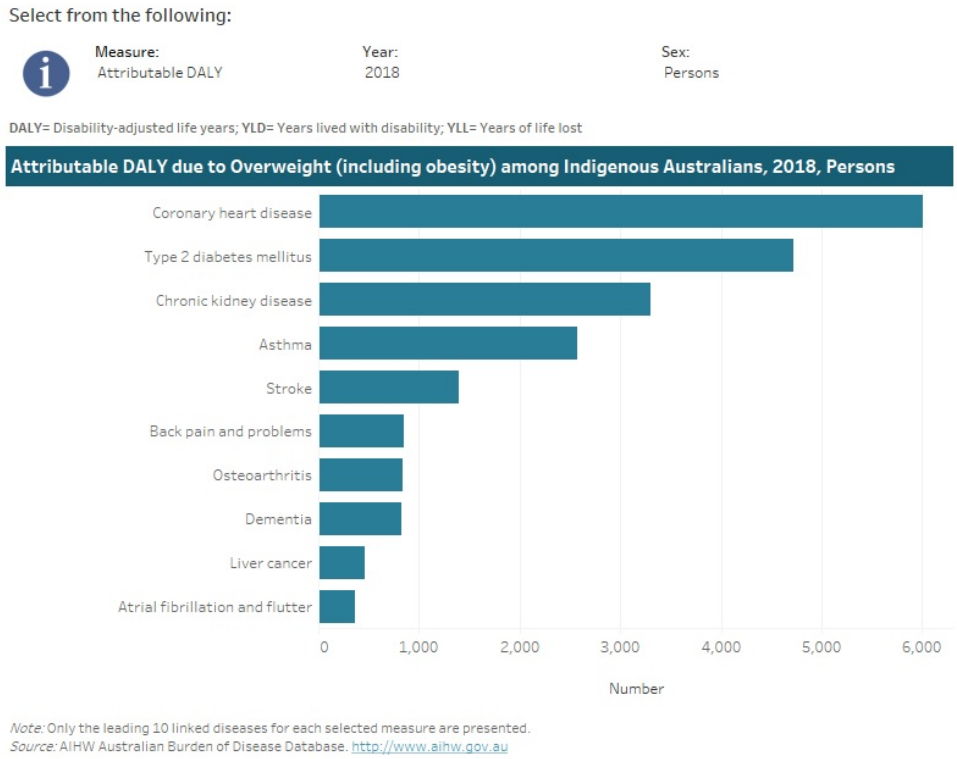
Overweight (including obesity) contributed to the burden of 30 diseases including: 17 types of cancer, 4 cardiovascular diseases, 3 musculoskeletal conditions, type 2 diabetes, dementia, asthma and chronic kidney disease (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to overweight (including obesity)?

In 2018 among Indigenous Australians, overweight (including obesity) was responsible for over 68% of the total disease burden due to type 2 diabetes, 65% of the burden due to hypertensive heart disease, 61% of the burden due to uterine cancer, 55% of the burden due to chronic kidney disease, and 52% of the burden due to gallbladder and bile duct disease.

Overweight (including obesity) was the second leading contributor to fatal burden among Indigenous Australians, with 530 deaths (15% of all deaths) in 2018.

Note that the following visualisation displays the top 10 linked diseases due to overweight (including obesity) by the selected measure. This interactive data visualisation shows the burden attributable to overweight (including obesity) among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to overweight (including obesity).



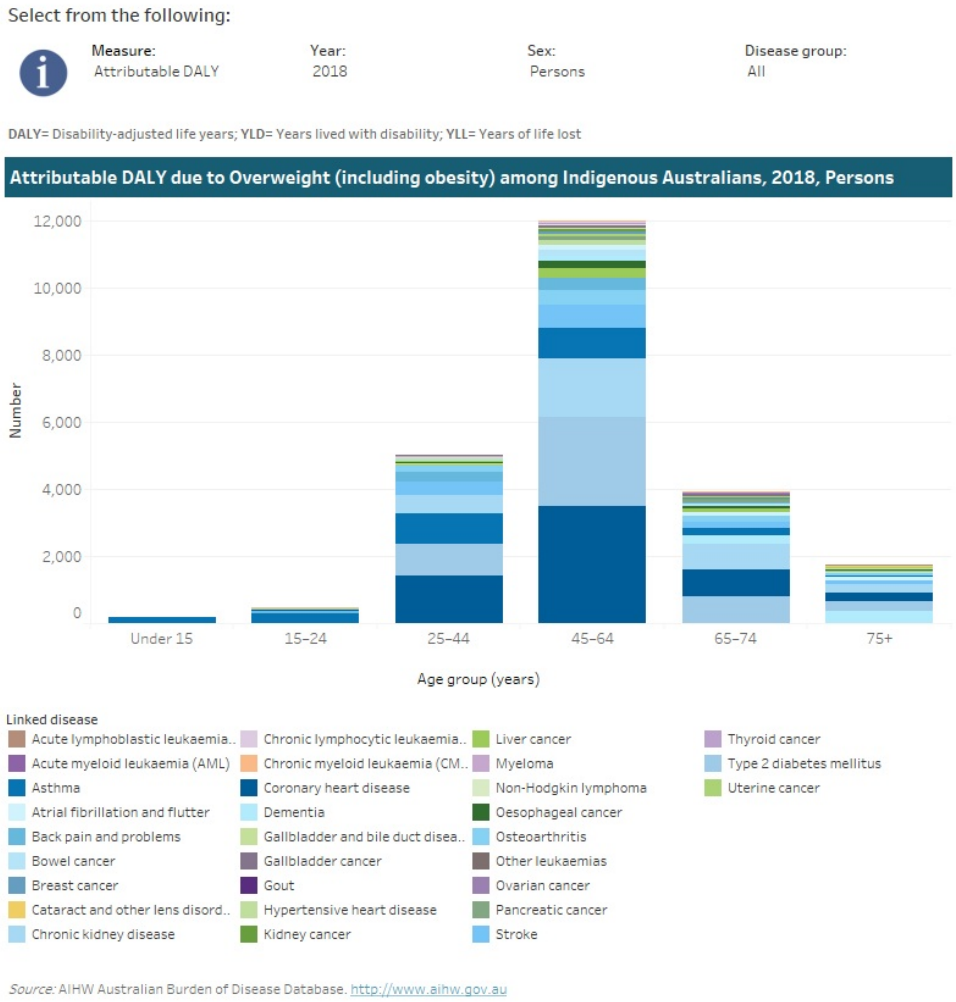
Note: Only the leading 10 linked diseases for each selected measure are presented.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to overweight (including obesity) vary by age and sex?

Overweight (including obesity) contributed to disease burden across all age groups, however asthma was the only disease linked to overweight (including obesity) in children aged under 15.

In Indigenous males aged between 25 and 74, the most burden due to overweight (including obesity) was from coronary heart disease, for Indigenous females this varied by age group between coronary heart disease, type 2 diabetes, chronic kidney disease, and asthma.

This interactive data visualisation shows the amount of burden attributable to overweight (including obesity) among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to overweight (including obesity).



How has disease burden due to overweight (including obesity) changed over time?

The age-standardised rate of total burden due to overweight (including obesity) (from all linked diseases) among Indigenous Australians decreased by just over 10% between 2003 and 2018 (from 52.5 to 47.0 DALY per 1,000 population). The rate of deaths associated with overweight (including obesity) decreased by 32% between 2003 and 2018 (from 2.1 to 1.4 deaths per 1,000).

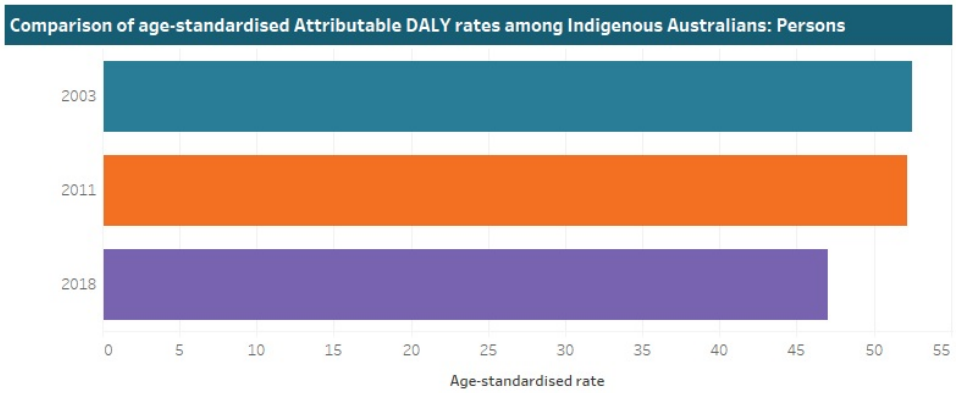
This interactive data visualisation shows the rate of burden attributable to overweight (including obesity) among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to overweight (including obesity).

Select from the following:

Measure:	Sex:	Start year:	End year:
Attributable DALY	Persons	2003	2018

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost

10.4% decrease
in the Attributable DALY rate in Persons between 2003 and 2018 due to Overweight (including obesity)



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v13.0
© Australian Institute of Health and Welfare 2022

Illicit drug use

On this page

- Individual drug use types
- How much burden was attributable to illicit drug use?
- How did burden attributable to illicit drug use vary by age and sex?
- How has disease burden due to illicit drug use changed over time?

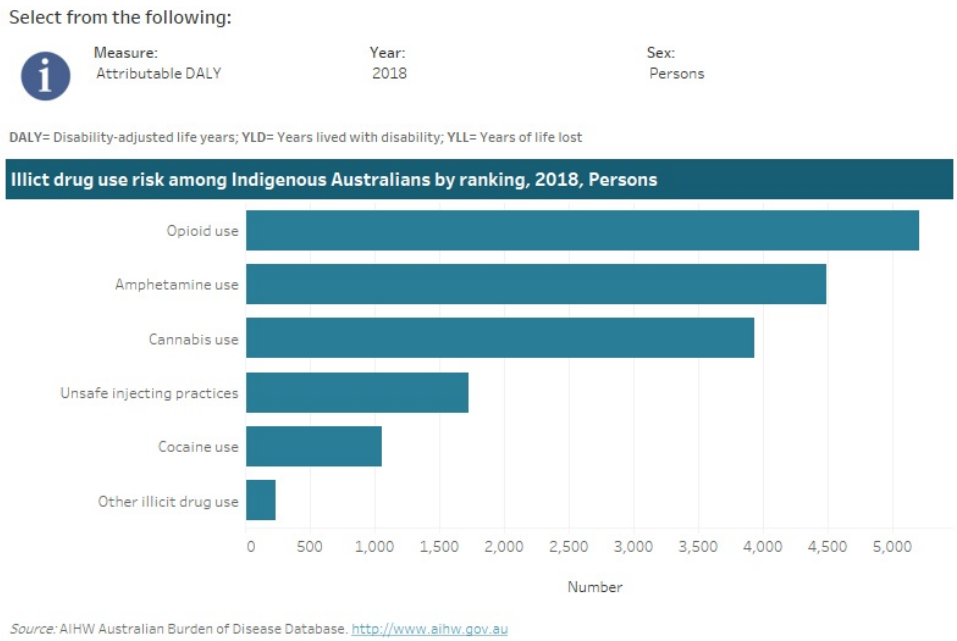
In 2018, 6.9% of the total disease burden among Indigenous Australians was due to illicit drug use. Illicit drug use includes burden from opioids, amphetamines, cocaine and cannabis and other illicit drug use, as well as unsafe injecting practices. Illicit drug use was the 4th leading risk factor contributing to total disease burden.

These estimates reflect the amount of disease burden that could have been avoided if all Indigenous Australians had not used illicit drugs.

Illicit drug use contributed to burden for 15 diseases and injuries; 4 types of injuries, 3 infections, liver cancer, chronic liver disease and 4 types of mental and substance use disorders (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1). The linked diseases differed by type of illicit drug.

Individual drug use types

Of the individual drug use types, opioid use was the leading illicit drug use risk, contributing to 2.2% of the total burden among Indigenous Australians in 2018. This was followed by amphetamine use (1.9% of total burden in 2018) and cannabis use (1.6%).
This interactive data visualisation shows the burden attributable to illicit drug use among Indigenous Australians by type of illicit drug. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden due to a particular type of illicit drug.



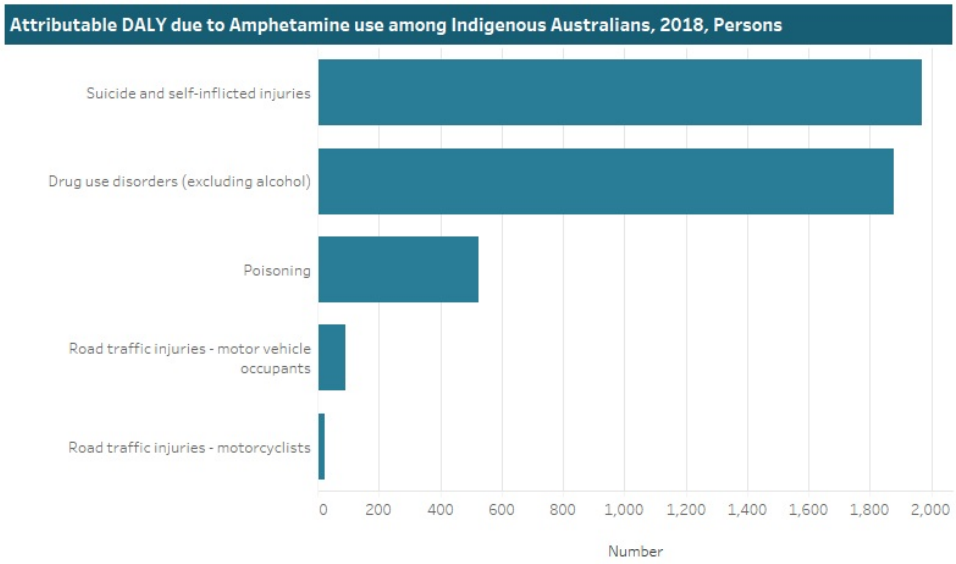
How much burden was attributable to illicit drug use?

In 2018 among Indigenous Australians, illicit drug use was responsible for almost all burden due to drug use disorders (excluding alcohol) (99%), 86% of poisoning, 34% of suicide and self-inflicted injuries, and 27% of chronic liver disease and liver cancer.
This interactive data visualisation shows the burden attributable to illicit drug use among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex, type of illicit drug and measure of attributable burden. Each bar represents the attributable burden of the disease linked to illicit drug use.

Select from the following:

Measure:	Year:	Sex:	Type of drug use:
Attributable DALY	2018	Persons	Amphetamine use

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost



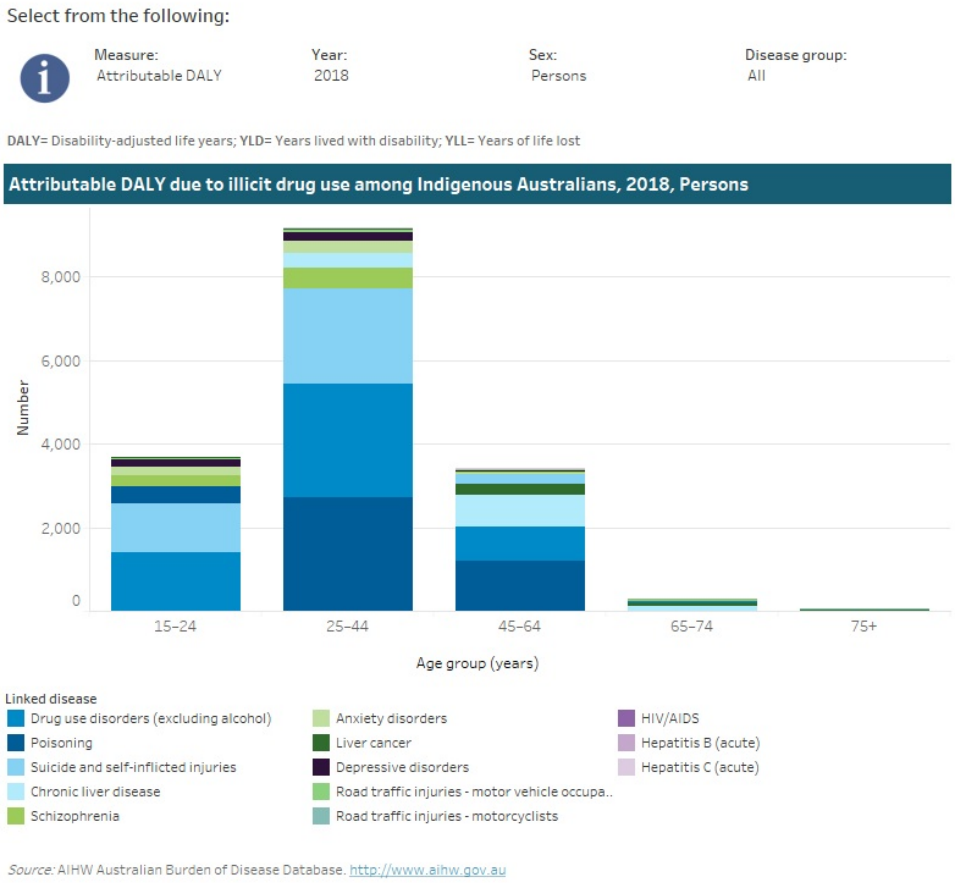
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to illicit drug use vary by age and sex?

The burden due to illicit drug use was estimated in Indigenous Australians aged 15 and over. Disease burden due to illicit drug use was highest among Indigenous Australians aged between 25–34, after which, burden gradually decreased with increasing age.

Indigenous males experienced more than twice the total burden from illicit drug use than Indigenous females. Drug use disorders (excluding alcohol) were the largest contributor to the illicit drug use attributable burden in Indigenous Australians aged between 15 and 64. Poisoning and suicide & self-inflicted injuries were also large contributors to the attributable burden in both Indigenous males and Indigenous females of the same age groups.

This interactive data visualisation shows the amount of burden attributable to illicit drug use among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group, type of illicit drug and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to illicit drug use.

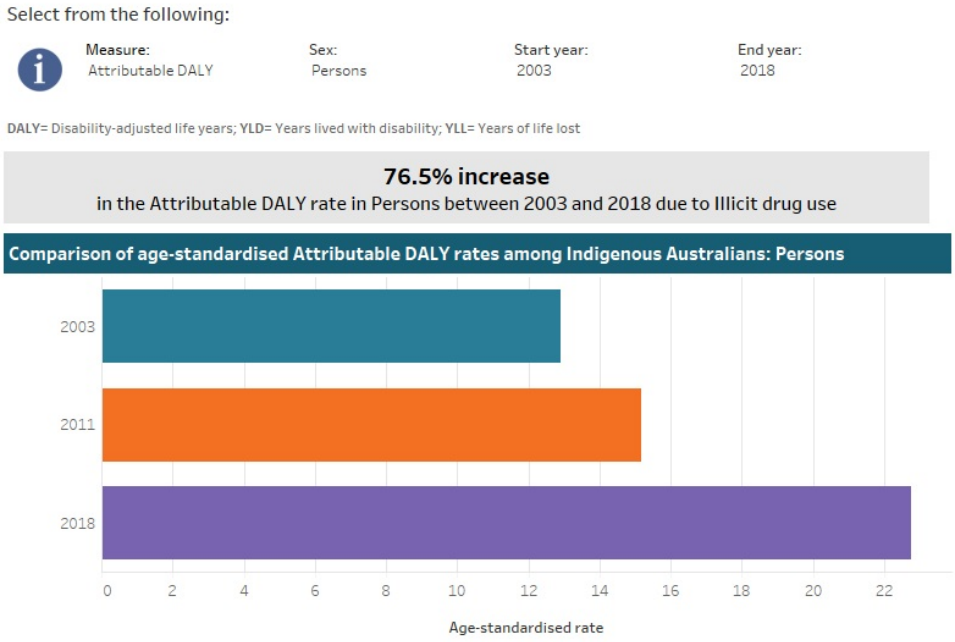


Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How has disease burden due to illicit drug use changed over time?

The age-standardised rate of total burden attributable to illicit drug use among Indigenous Australians increased by 76.5% between 2003 and 2018 (from 12.9 to 22.8 DALY per 1,000 population).

This interactive data visualisation shows the rate of burden attributable to illicit drug use among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to illicit drug use.



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v14.0
© Australian Institute of Health and Welfare 2022

Dietary risk factors

On this page

- Individual dietary risks
- How much disease burden does each dietary risk factor cause?
- How did burden attributable to dietary risks vary by age and sex?
- How has disease burden due to dietary risk factors changed over time?

In total, 12 dietary risk factors were included in the Australian Burden of Disease Study 2018. Each dietary risk was assessed independently and included dietary components where adequate amounts in the diet are required to prevent disease, as well diets where excessive consumption contributes to disease development. Information on the recommended dietary intake as part of Australian Dietary Guidelines can be found at the Eat for Health website.

All dietary risks combined

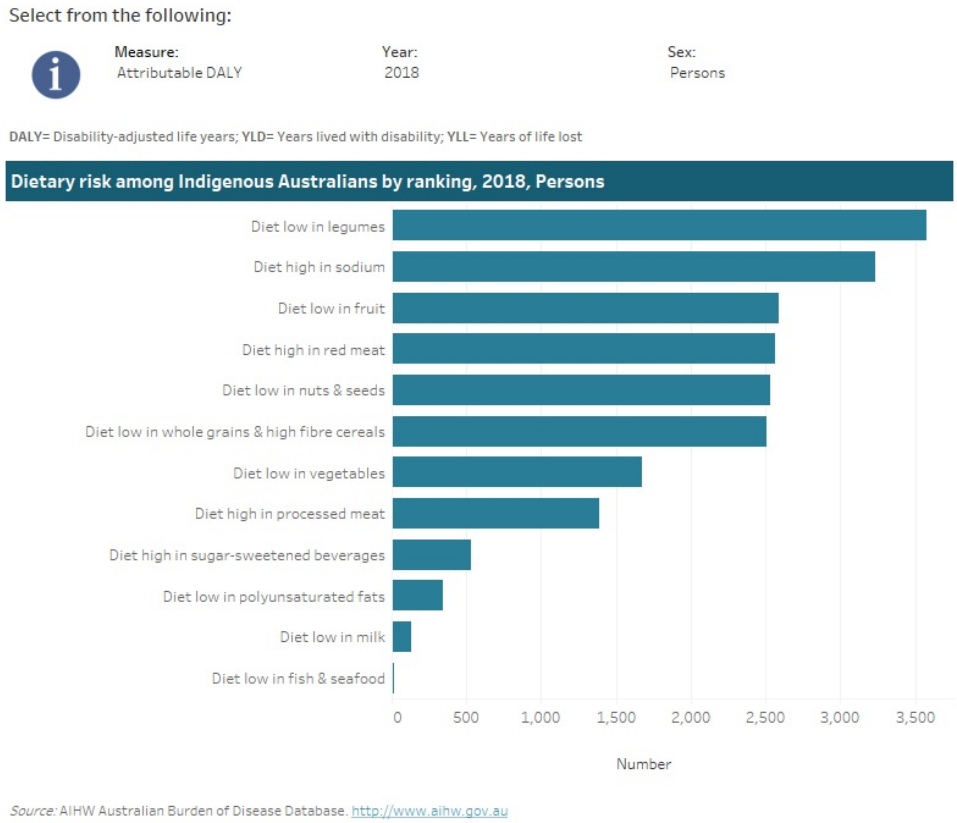
All dietary risks were responsible for 6.2% of burden of disease among Indigenous Australians in 2018, making it the 5th leading risk factor contributing to total disease burden.

Due to the complex relationships and interactions between risk factors, the individual dietary risks cannot be summed together. To overcome this issue a combined dietary estimate was calculated, referred to as 'all dietary risks'. These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians ate a healthy diet (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

Individual dietary risks

The dietary risks included were a diet low in: fruit, vegetables, milk, nuts & seeds, whole grains & high fibre cereals, legumes, polyunsaturated fat and fish & seafood, as well as a diet high in: sodium, sugar sweetened beverages, red meat and processed meat.

Diet low in legumes was the leading dietary risk, contributing to 1.5% of the total burden among Indigenous Australians in 2018. This was followed by diet high in sodium (1.3% of total burden in 2018).
This interactive data visualisation shows the burden attributable to dietary risks among Indigenous Australians by type of dietary risk. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden due to a particular type of dietary risk.

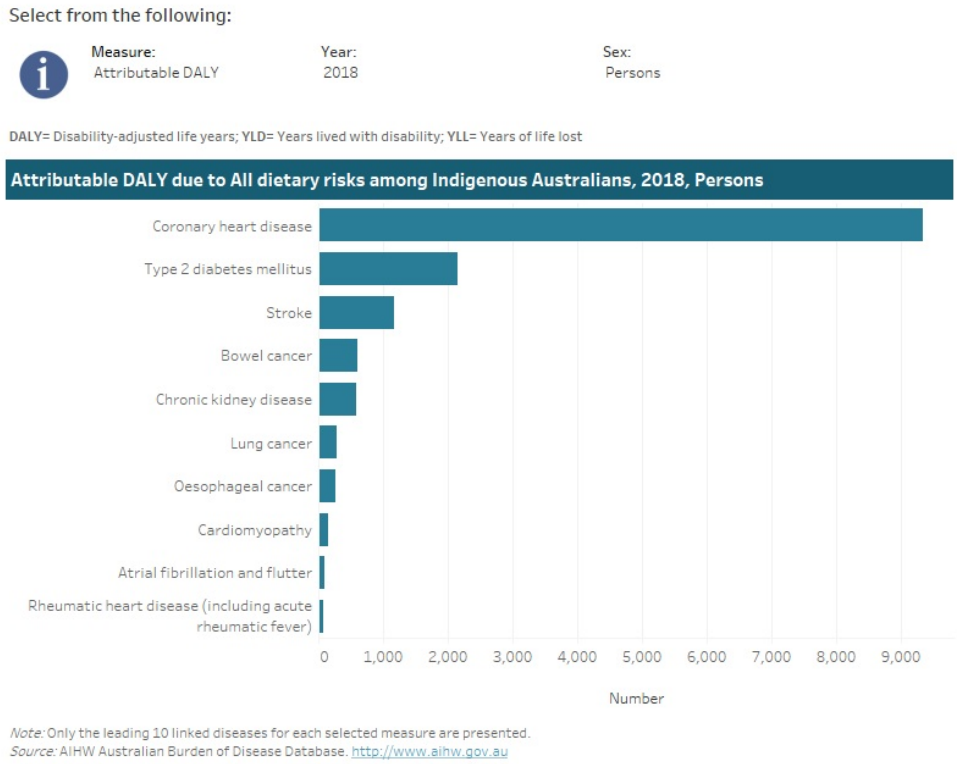


Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How much disease burden does each dietary risk factor cause?

In 2018 among Indigenous Australians, all dietary risks combined contributed 67% of coronary heart disease total burden, 37% of stroke burden, 32% of bowel cancer burden, and 31% of type 2 diabetes burden.

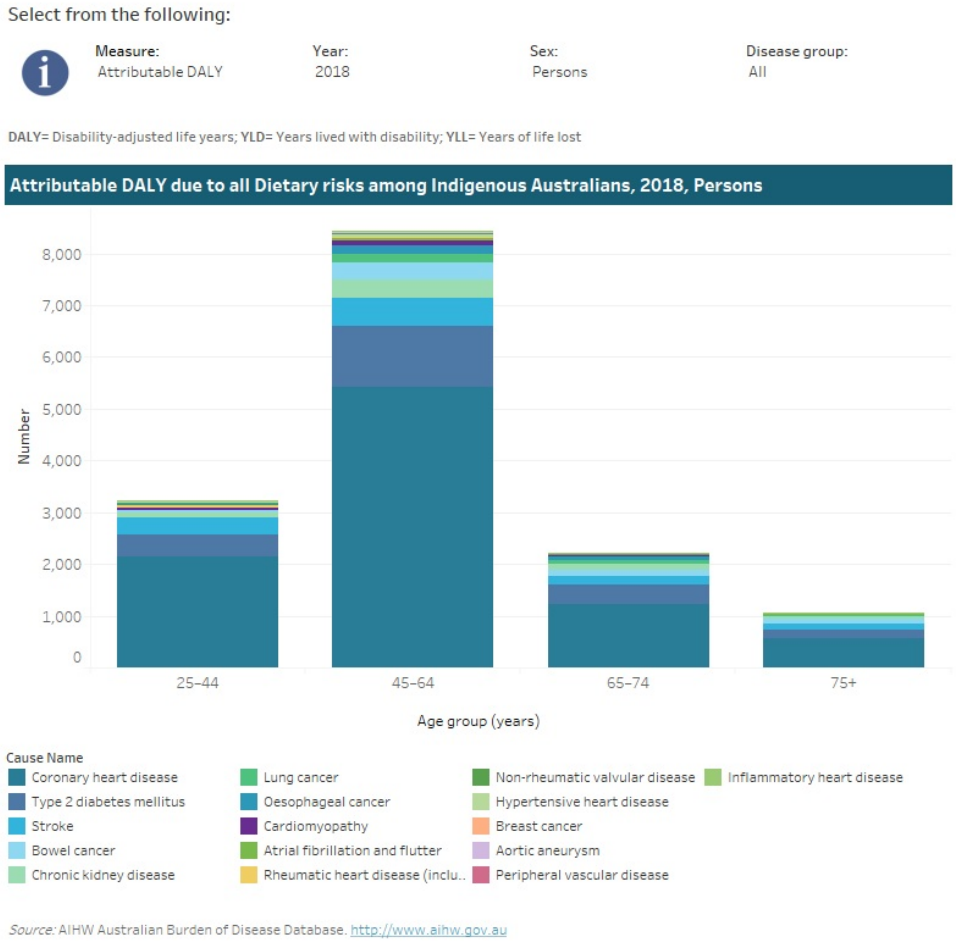
The combination of dietary risks were linked to 16 diseases. Note that the following visualisation displays the top 10 linked diseases due to dietary risks by selected measure (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).
This interactive data visualisation shows the burden attributable to dietary risks among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex, type of dietary risk and measure of attributable burden. Each bar represents the attributable burden of the disease linked to the type of dietary risk.



How did burden attributable to dietary risks vary by age and sex?

Total burden due to all dietary risks among Indigenous Australians increased with age from age 25, peaking among those aged 45–54, and gradually decreasing up until those aged 75 and over. The total burden due to all dietary risks was lowest among those aged 75 and over.

Males experienced a greater amount of disease burden due to all dietary risks than females in all ages.
This interactive data visualisation shows the amount of burden attributable to dietary risks among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to dietary risks.



How has disease burden due to dietary risk factors changed over time?

The age-standardised rate of total burden due to all dietary risks (from all linked diseases) among Indigenous Australians decreased by 39% between 2003 and 2018 (from 49.4 DALY to 30.2 DALY per 1,000 population).

This interactive data visualisation shows the rate of burden attributable to dietary risks among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to dietary risks.

Last updated 24/02/2022 v16.0
© Australian Institute of Health and Welfare 2022

High blood plasma glucose

On this page

- How much burden was attributable to high blood plasma glucose?
- How did burden attributable to high blood plasma glucose vary by age and sex?

In 2018, 5.8% of the total disease burden among Indigenous Australians was due to high blood plasma glucose (including intermediate hyperglycaemia and diabetes). High blood plasma glucose was the 6th leading risk factor contributing to total disease burden.

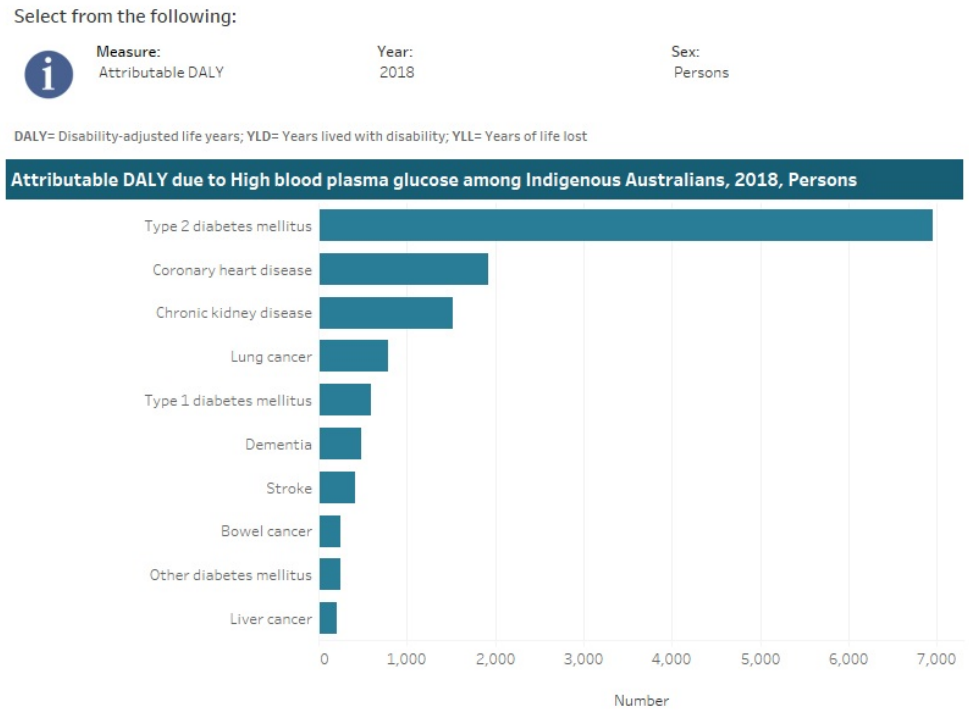
These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians did not have high blood plasma glucose levels (including diabetes and intermediate hyperglycaemia).

High blood plasma glucose was linked to 17 diseases including type 1 diabetes, type 2 diabetes and other diabetes, 7 cancer types, 3 cardiovascular diseases, chronic kidney disease and dementia (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to high blood plasma glucose?

In 2018 among Indigenous Australians, high blood plasma glucose was responsible for the entire burden of each type of diabetes, 38% of peripheral vascular disease burden, 25% of chronic kidney disease burden, and 15% of dementia burden.

Note that the following visualisation displays the top 10 linked diseases due to high blood plasma glucose by the selected measure.
This interactive data visualisation shows the burden attributable to high blood plasma glucose among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to high blood plasma glucose.



Note: Only the leading 10 linked diseases for each selected measure are presented.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to high blood plasma glucose vary by age and sex?

High blood plasma glucose contributed to disease burden among Indigenous Australians across all age groups.

Total burden due to high blood plasma glucose among Indigenous Australians highest for those aged between 25 and 74, peaking among those aged 45–64. Males and females experience a similar amount of disease burden from high blood plasma glucose.

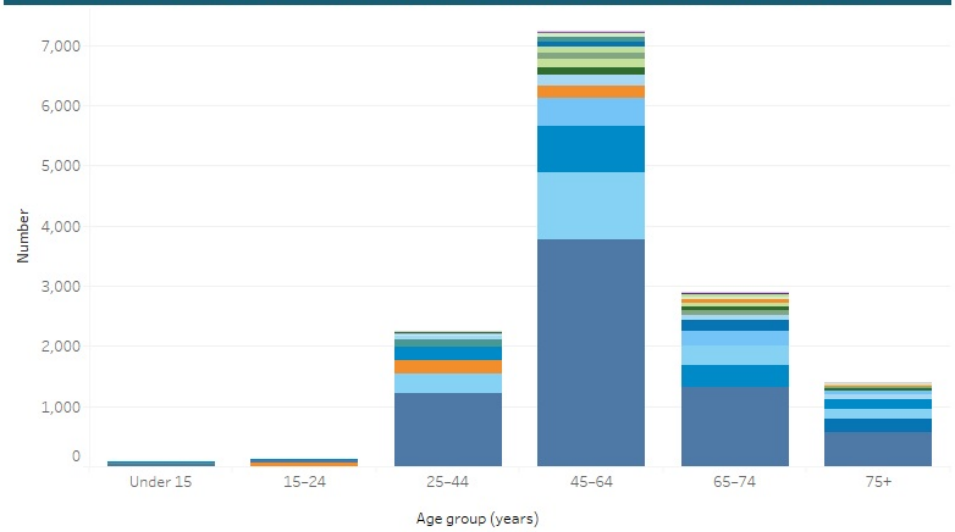
Of the diseases linked to high blood plasma glucose, type 2 diabetes contributed the most burden from high blood plasma glucose.
This interactive data visualisation shows the amount of burden attributable to high blood plasma glucose among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to high blood plasma glucose.

Select from the following:

Measure:	Year:	Sex:	Disease group:
Attributable DALY	2018	Persons	All

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost

Attributable DALY due to all high blood plasma glucose among Indigenous Australians, 2018, Persons



Linked disease

- Type 2 diabetes mellitus
- Coronary heart disease
- Chronic kidney disease
- Lung cancer
- Type 1 diabetes mellitus
- Dementia
- Stroke
- Bowel cancer
- Other diabetes mellitus
- Liver cancer
- Pancreatic cancer
- Breast cancer
- Peripheral vascular disease
- Bladder cancer
- Ovarian cancer
- Cataract and other lens disorders
- Glaucoma

Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v11.0

© Australian Institute of Health and Welfare 2022

Child abuse and neglect

On this page

- How much burden was attributable to child abuse and neglect?
- How did burden attributable to child abuse and neglect vary by age and sex?
- How has disease burden due to child abuse and neglect changed over time?

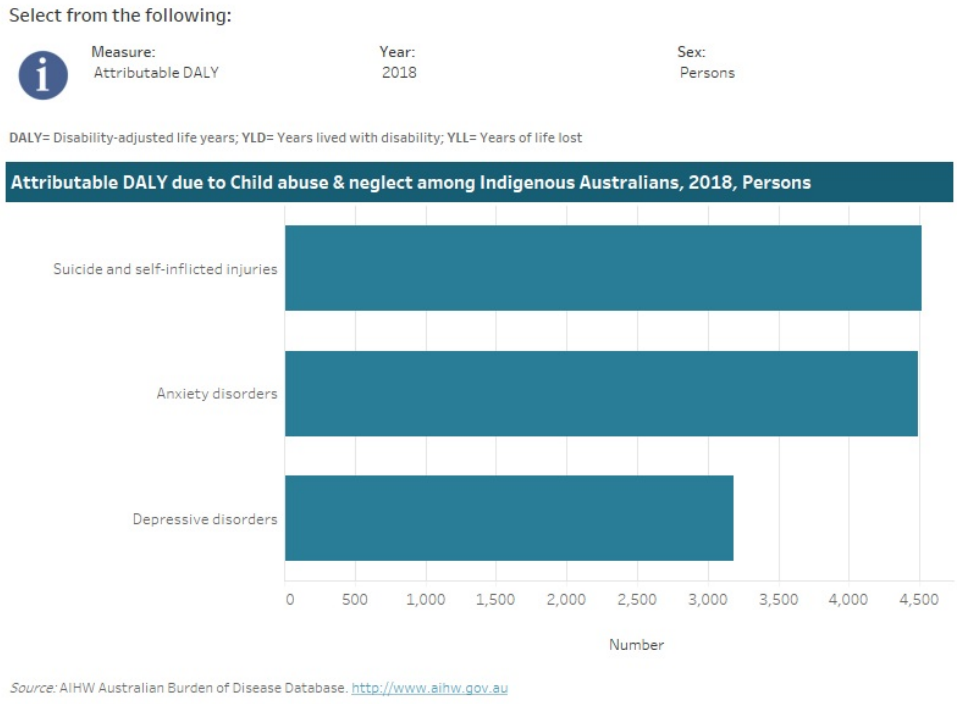
In 2018, 5.1% of the total disease burden among Indigenous Australians was due to child abuse & neglect, making it the 7th leading risk factor contributing to total disease burden.

These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians were not exposed to child abuse & neglect.

This estimate attributes the mental health and injury outcomes experienced at all ages attributable to exposure during childhood. Child abuse & neglect were causally linked to anxiety disorders, depressive disorders and suicide & self-inflicted injuries (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to child abuse and neglect?

In 2018 among Indigenous Australians, child abuse & neglect was responsible for 41% of the total disease burden due to suicide & self-inflicted injuries, 35% of anxiety disorders burden, and 31% of depressive disorders burden.
This interactive data visualisation shows the burden attributable to child abuse among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to child abuse.



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to child abuse and neglect vary by age and sex?

Burden due to child abuse & neglect estimates the mental health and injury outcomes experienced at all ages attributable to exposure during childhood.

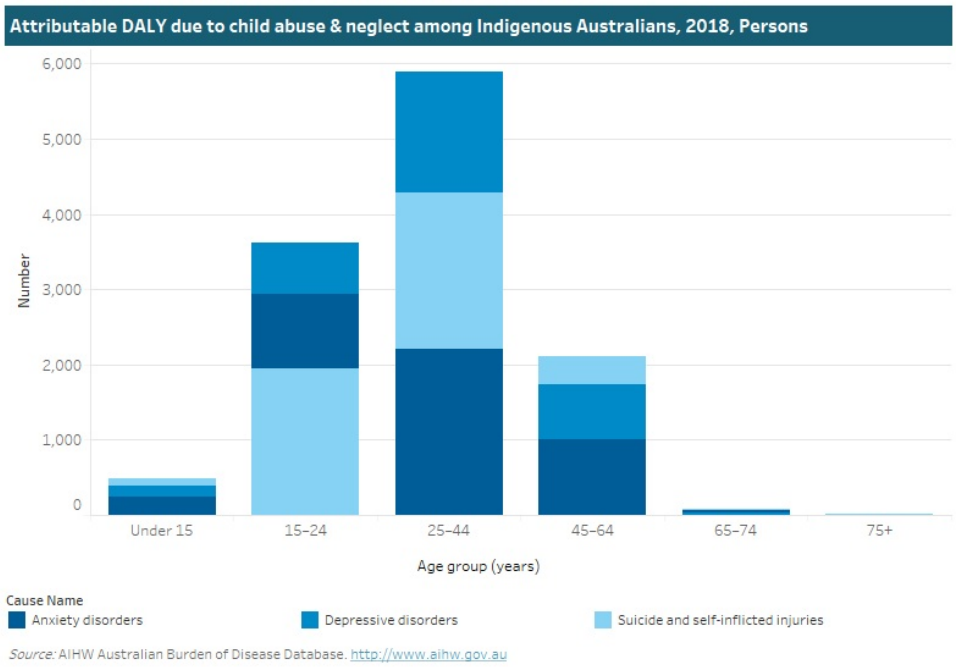
The majority of the total burden due to child abuse & neglect among Indigenous Australians was experienced in those aged between 15 and 64 years, peaking in those aged 25–44 years.

Of the total burden due to child abuse & neglect, most was from suicide & self-inflicted injuries in Indigenous males and anxiety disorders in Indigenous females.
This interactive data visualisation shows the amount of burden attributable to child abuse among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to child abuse.

Select from the following:

Measure: Attributable DALY | Year: 2018 | Sex: Persons

DALY= Disability-adjusted life years; YLD= Years lived with disability; YLL= Years of life lost



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How has disease burden due to child abuse and neglect changed over time?

The age-standardised rate of total burden due to child abuse & neglect (from all linked diseases) among Indigenous Australians increased by 23% between 2003 and 2018 (from 12.7 to 15.6 DALY per 1,000 population). This increase was only due to changes in the linked disease burden. The same exposure to child abuse & neglect was applied for all 3 years due to lack of suitable data.

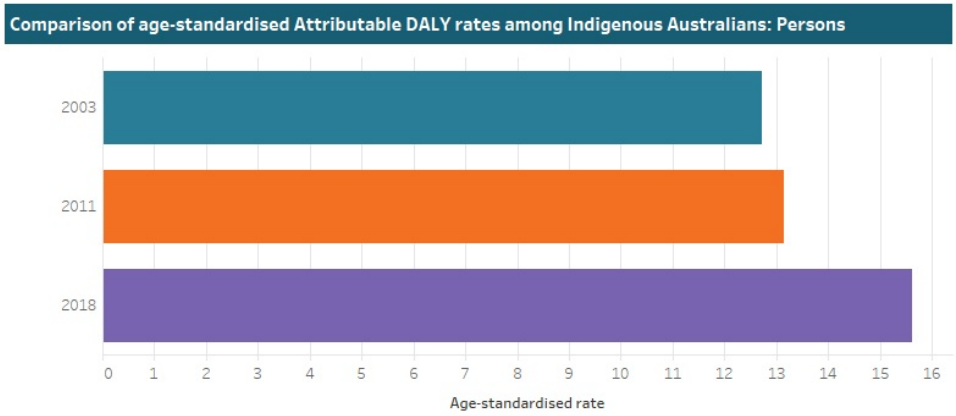
This interactive data visualisation shows the rate of burden attributable to child abuse and neglect among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to child abuse.

Select from the following:

Measure: Attributable DALY | Sex: Persons | Start year: 2003 | End year: 2018

DALY= Disability-adjusted life years; YLD= Years lived with disability; YLL= Years of life lost

22.7% increase
in the Attributable DALY rate in Persons between 2003 and 2018 due to Child abuse & neglect



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v12.0

© Australian Institute of Health and Welfare 2022

Impaired kidney function

On this page

- How much burden was attributable to impaired kidney function?
- How did burden attributable to impaired kidney function vary by age and sex?
- How has disease burden due to impaired kidney function changed over time?

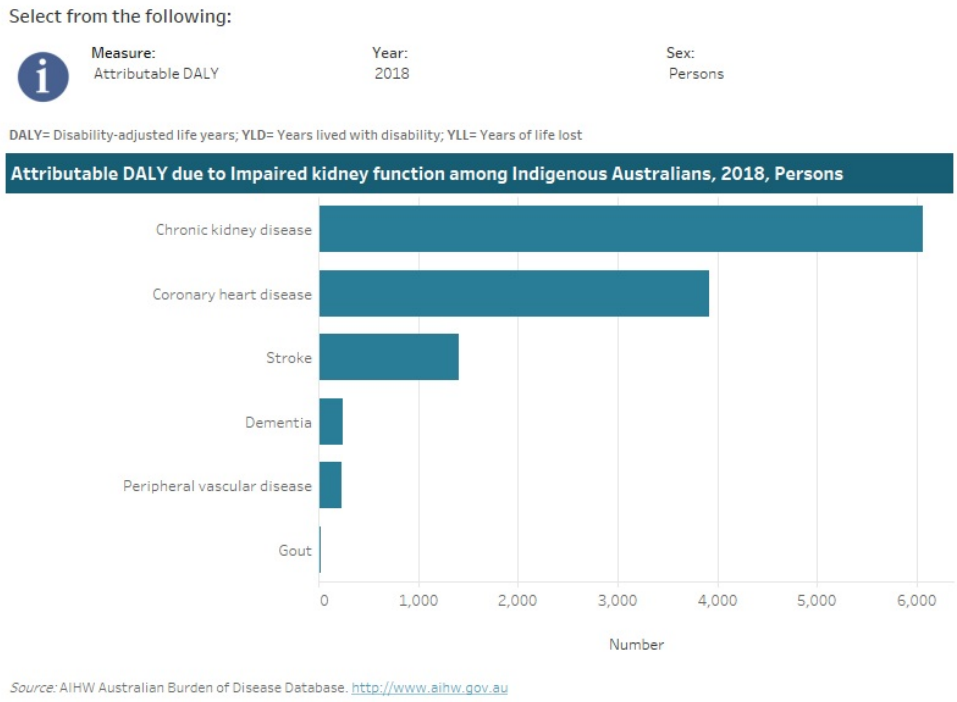
In 2018, 5.0% of the total disease burden among Indigenous Australians was due to impaired kidney function (including chronic kidney disease), making it the 8th leading risk factor contributing to total disease burden.

These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians did not have impaired kidney function.

Impaired kidney function was causally linked to 6 diseases—chronic kidney disease, coronary heart disease, dementia, stroke, gout and peripheral vascular disease (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to impaired kidney function?

In 2018 among Indigenous Australians, impaired kidney function was responsible for the entire burden of chronic kidney disease, 69% of peripheral vascular disease burden, 45% of stroke burden, 28% of coronary heart disease, 19% of gout burden, and 7% of dementia burden. This interactive data visualisation shows the burden attributable to impaired kidney function among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to impaired kidney function.

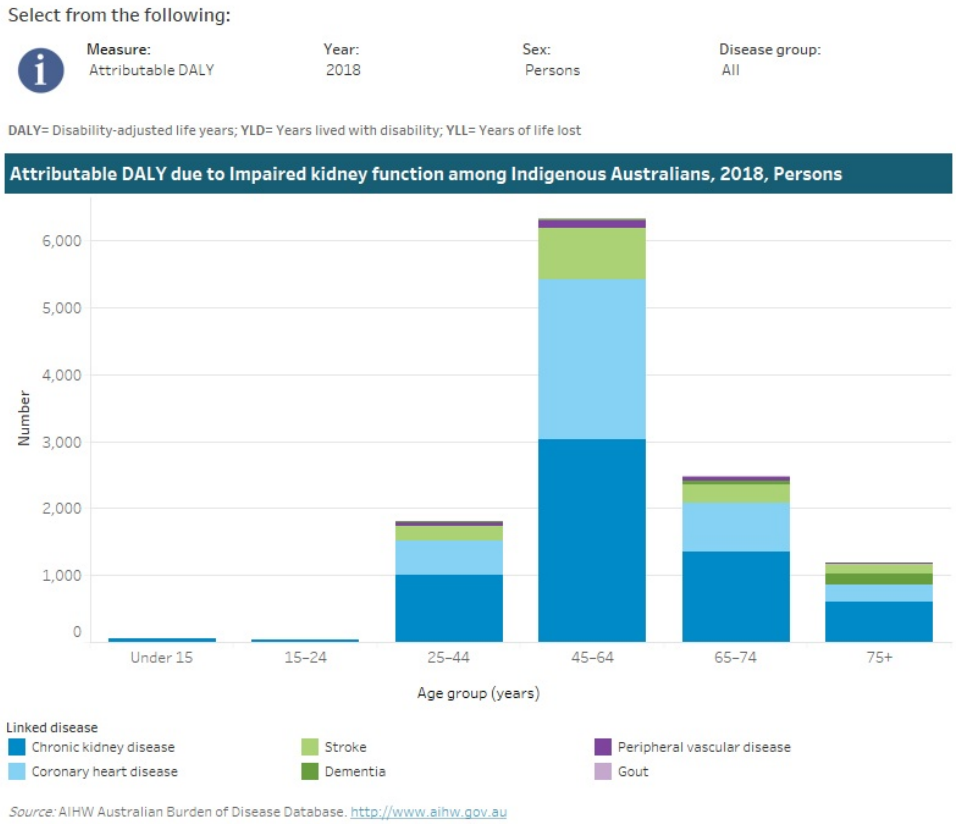


Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to impaired kidney function vary by age and sex?

The majority of the total burden due to impaired kidney function among Indigenous Australians occurred among those aged between 45 and 74. Across all age groups the most burden due to impaired kidney function was from chronic kidney disease and coronary heart disease. This was similar for both Indigenous males and Indigenous females.

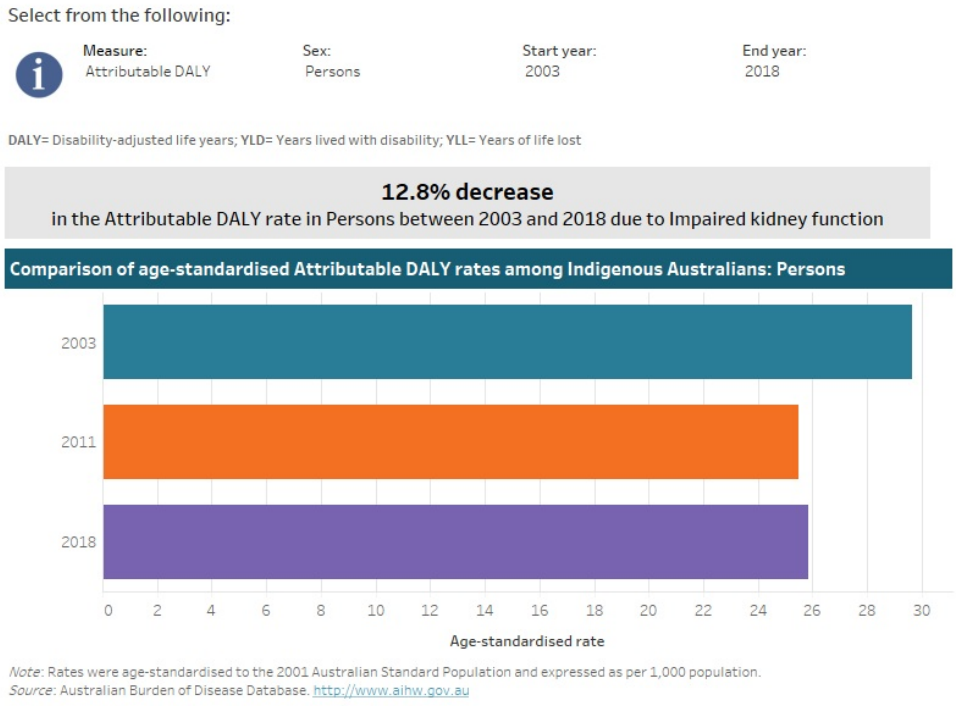
This interactive data visualisation shows the amount of burden attributable to impaired kidney function among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to impaired kidney function.



How has disease burden due to impaired kidney function changed over time?

Between 2003 and 2018, the age-standardised DALY rate attributable to impaired kidney function among Indigenous Australians decreased by 13% (from 29.6 to 25.9 DALY per 1,000 population).

This interactive data visualisation shows the rate of burden attributable to impaired kidney function among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to impaired kidney function.



Last updated 24/02/2022 v14.0

© Australian Institute of Health and Welfare 2022

High blood pressure

On this page

- How much burden was attributable to high blood pressure?
- How did burden attributable to high blood pressure vary by age and sex?
- How has disease burden due to high blood pressure changed over time?

In 2018, 4.3% of the total burden among Indigenous Australians was due to high blood pressure. High blood pressure was the 9th leading risk factor contributing to total disease burden.

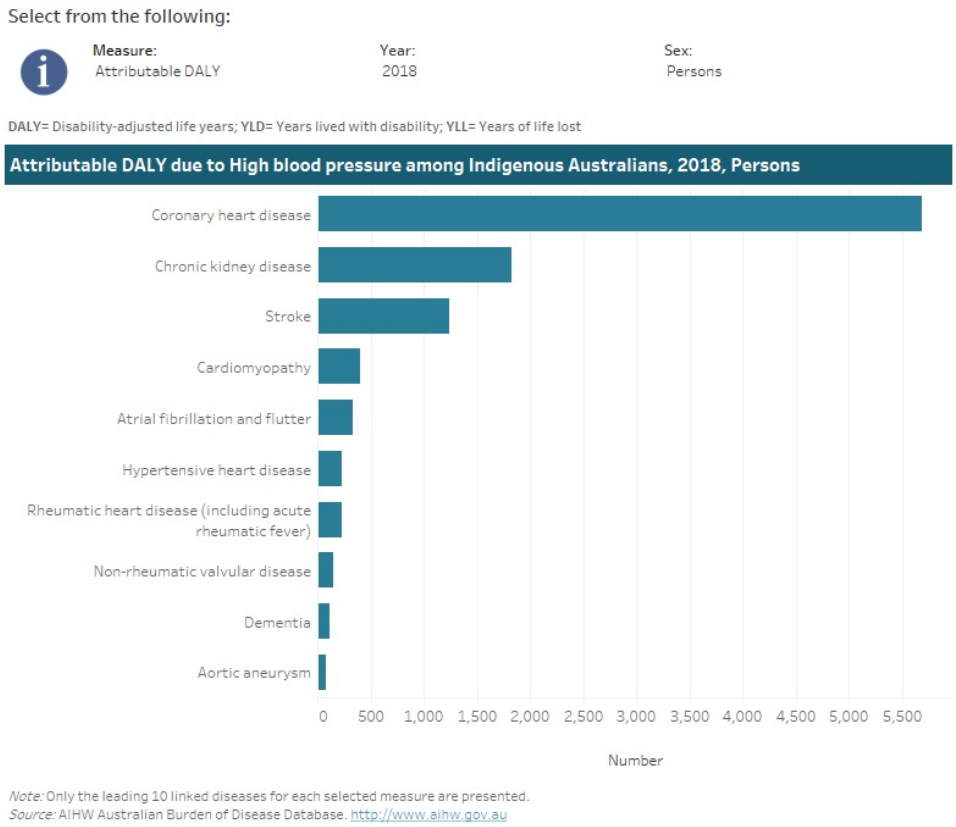
These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians did not have high blood pressure.

High blood pressure was causally linked to 12 diseases including 10 cardiovascular diseases, chronic kidney disease and dementia (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to high blood pressure?

In 2018 among Indigenous Australians, high blood pressure contributed 62% of hypertensive heart disease, 41% of coronary heart disease, 39% of stroke, 32% of atrial fibrillation & flutter and 30% of chronic kidney disease total burden.

Note that the following visualisation displays the top 10 linked diseases due to high blood pressure by the selected measure.
This interactive data visualisation shows the burden attributable to high blood pressure among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to high blood pressure.

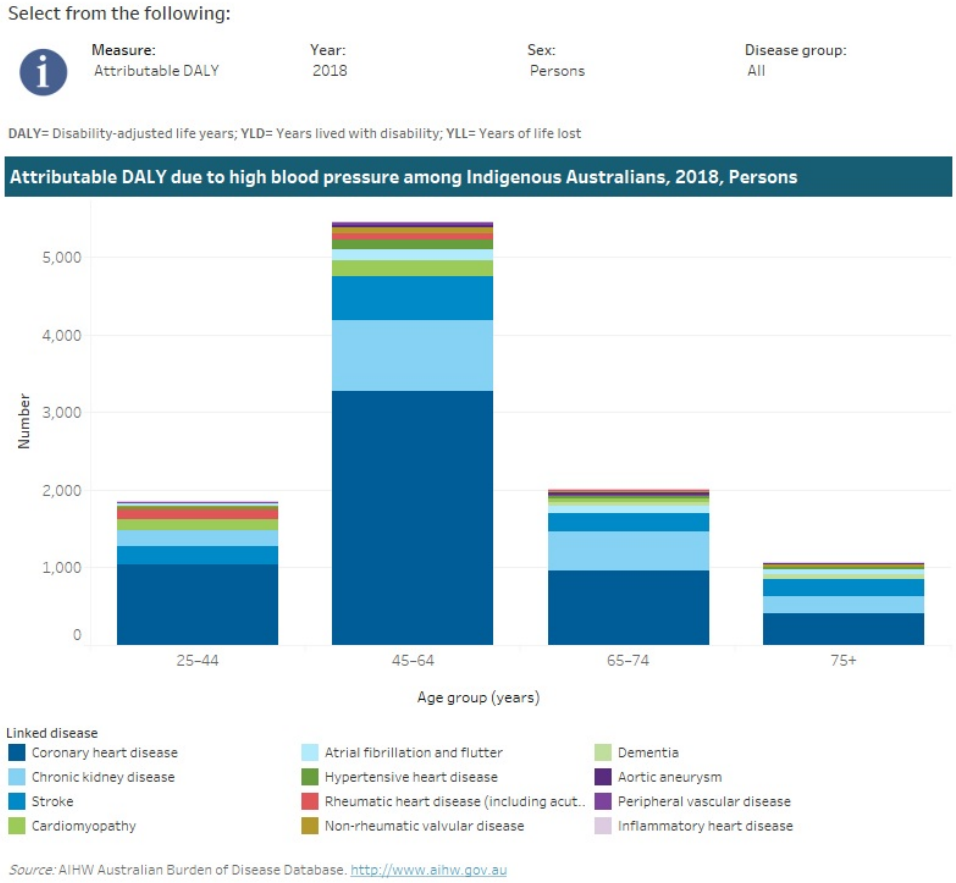


Note: Only the leading 10 linked diseases for each selected measure are presented.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to high blood pressure vary by age and sex?

The burden from high blood pressure was estimated in Indigenous adults aged 25 and over. Total burden due to high blood pressure was highest among those aged 45–64.

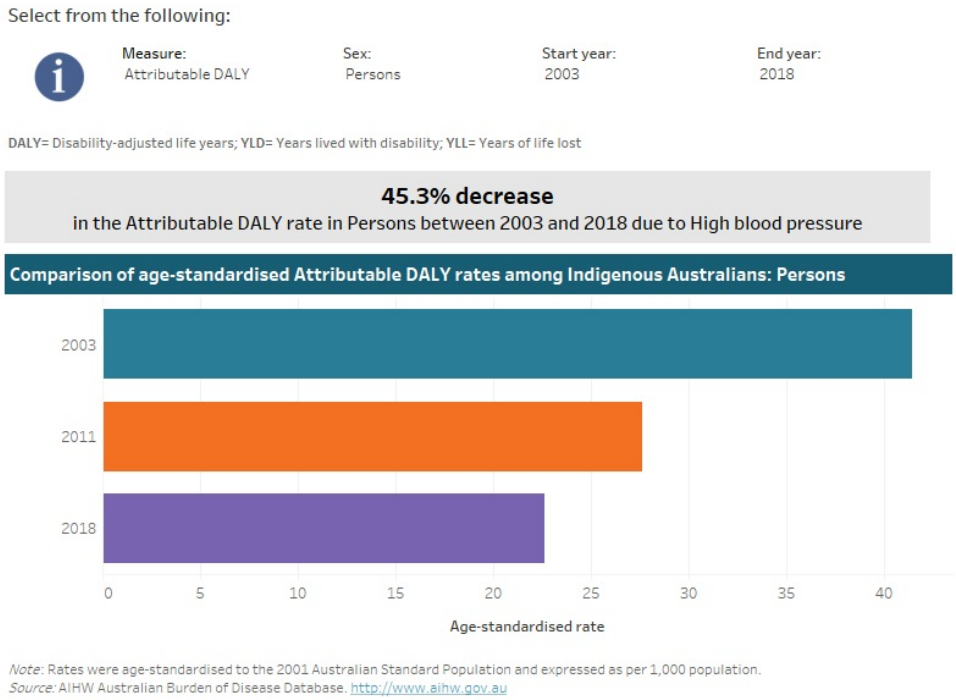
Indigenous males experienced a greater amount of disease burden from high blood pressure than Indigenous females in all ages up to age 75 and over. Of the diseases linked to high blood pressure, coronary heart disease contributed the most burden from high blood pressure among Indigenous Australians.
This interactive data visualisation shows the amount of burden attributable to high blood pressure among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to high blood pressure.



How has disease burden due to high blood pressure changed over time?

Among Indigenous Australians the age-standardised rate of total burden due to high blood pressure (from all linked diseases) decreased by 45% (from 41.4 to 22.6 DALY per 1,000 population) between 2003 and 2018.

This interactive data visualisation shows the rate of burden attributable to high blood pressure among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to high blood pressure.



Last updated 24/02/2022 v15.0
© Australian Institute of Health and Welfare 2022

High cholesterol

On this page

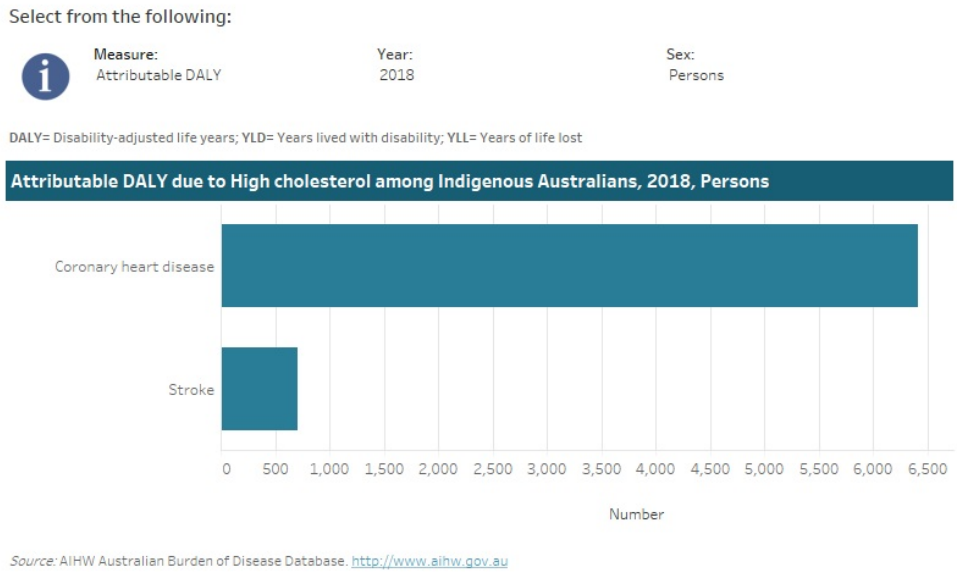
- How much burden was attributable to high cholesterol?
- How did burden attributable to high cholesterol vary by age and sex?
- How has disease burden due to high cholesterol changed over time?

In 2018, 3.0% of the total disease burden among Indigenous Australians was due to high cholesterol, contributing to coronary heart disease and stroke burden (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1). High cholesterol was the 10th leading risk factor contributing to total disease burden.

These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians did not have high cholesterol.

How much burden was attributable to high cholesterol?

In 2018 among Indigenous Australians, high cholesterol contributed 46% of coronary heart disease total burden and 23% stroke burden. This interactive data visualisation shows the burden attributable to high cholesterol among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to high cholesterol.



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to high cholesterol vary by age and sex?

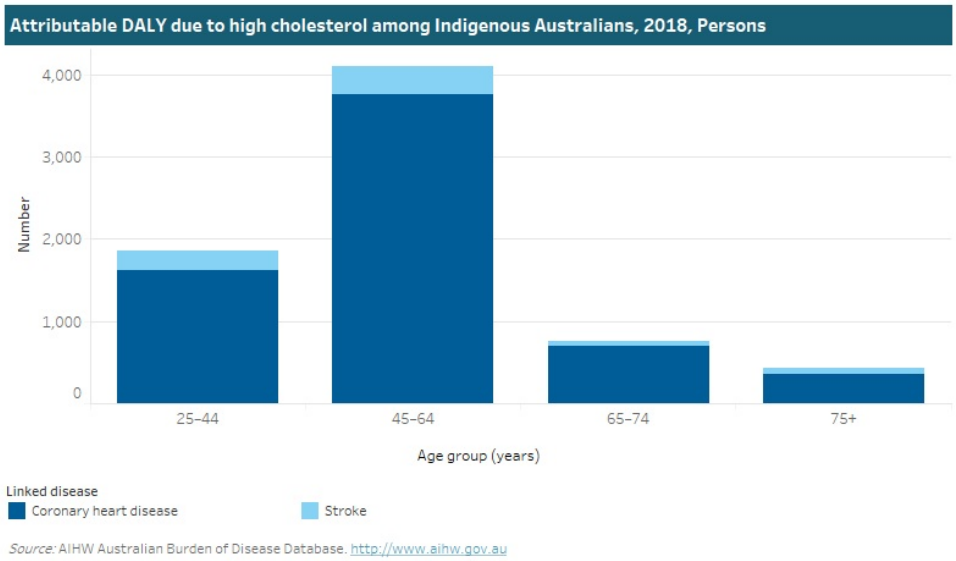
Burden due to high cholesterol was estimated for Indigenous Australians aged 25 and over. Total burden due to high cholesterol increased peaked at age 45–64 years. Between ages 25–44 years, Indigenous males experienced around twice as much disease burden due to high cholesterol compared with Indigenous females.

In both Indigenous males and Indigenous females, the most burden due to high cholesterol was from coronary heart disease.
This interactive data visualisation shows the amount of burden attributable to high cholesterol among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to high cholesterol.

Select from the following:

Measure: Attributable DALY | Year: 2018 | Sex: Persons

DALY= Disability-adjusted life years; YLD= Years lived with disability; YLL= Years of life lost



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How has disease burden due to high cholesterol changed over time?

The age-standardised rate of total burden due to high cholesterol (from all linked diseases) among Indigenous Australians between 2003 and 2018 decreased by 50% (from 27.9 to 13.9 DALY per 1,000 population). This increase was only due to changes in the linked disease burden. The same exposure to high cholesterol was applied for all 3 years due to lack of suitable data.

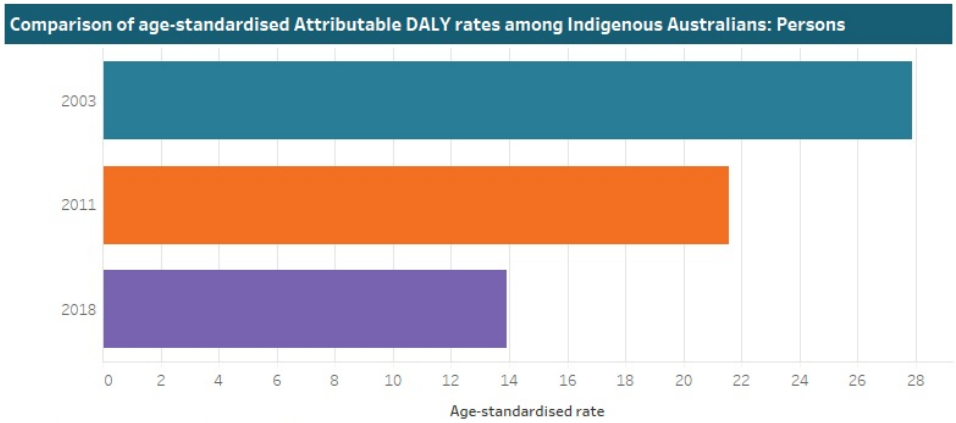
This interactive data visualisation shows the rate of burden attributable to high cholesterol among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to high cholesterol.

Select from the following:

Measure: Attributable DALY | Sex: Persons | Start year: 2003 | End year: 2018

DALY= Disability-adjusted life years; YLD= Years lived with disability; YLL= Years of life lost

50.0% decrease
in the Attributable DALY rate in Persons between 2003 and 2018 due to High cholesterol



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v14.0
© Australian Institute of Health and Welfare 2022 CC BY

Physical inactivity

On this page

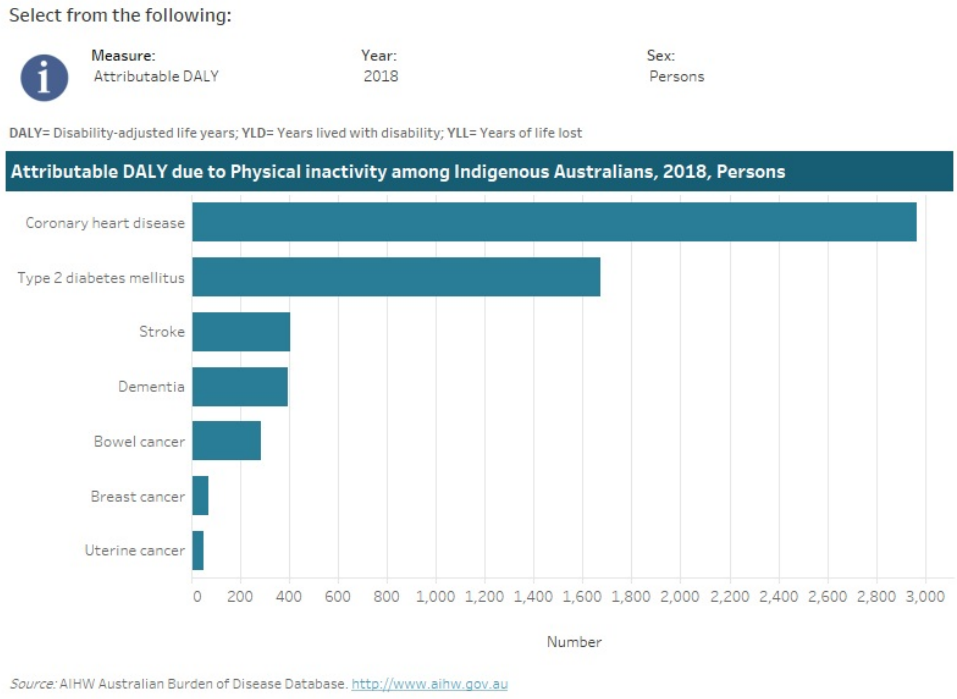
- How much burden was attributable to physical inactivity?
- How did burden attributable to physical inactivity vary by age and sex?
- How has disease burden due to physical inactivity changed over time?

In 2018, physical inactivity accounted for 2.4% of the total disease burden among Indigenous Australians.
These estimates reflect the amount of disease burden that could have been avoided if all Indigenous Australians were sufficiently physically active (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

Physical inactivity was causally linked to the burden from type 2 diabetes, bowel cancer, dementia, coronary heart disease and stroke, as well as uterine and breast cancer in females.

How much burden was attributable to physical inactivity?

In 2018 among Indigenous Australians, physical inactivity was responsible for 24% of the total disease burden due to type 2 diabetes, 21% of coronary heart disease burden, 16% of uterine cancer burden, 15% due to bowel cancer, 13% of stroke burden, 12% of dementia burden and 5% of breast cancer.
This interactive data visualisation shows the burden attributable to physical inactivity among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to physical inactivity.



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to physical inactivity vary by age and sex?

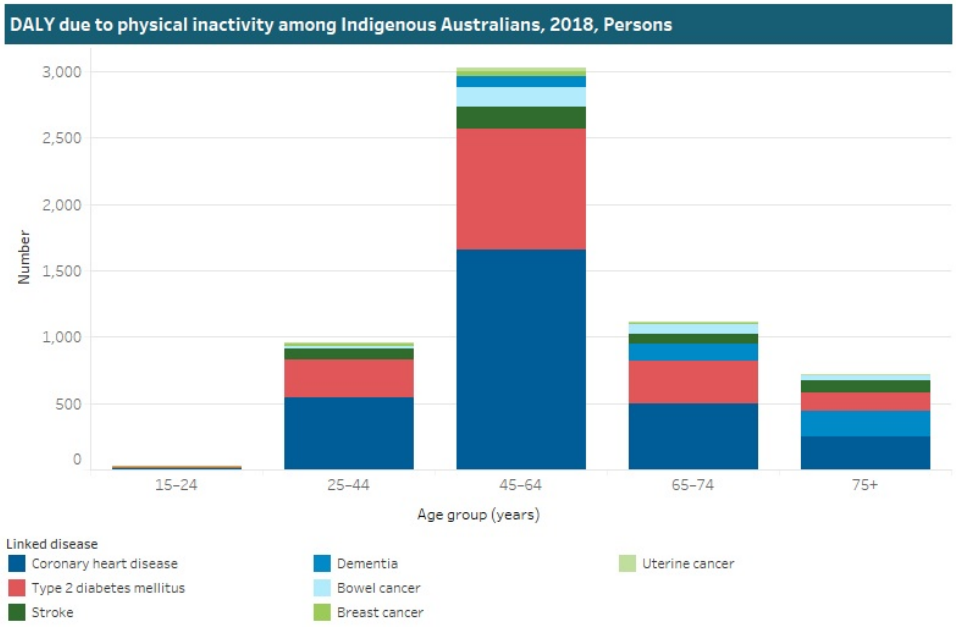
Disease burden due to physical inactivity was measured among Indigenous Australians aged 15 and over. Total burden due to physical inactivity among Indigenous Australians was low in people aged 15–34 and increased with age, peaking in ages 65–84.

In Indigenous males of all ages, the most burden due to physical inactivity was from coronary heart disease. This was similar for Indigenous females aged 15–84, with dementia causing the most burden among those aged 85 and over.
This interactive data visualisation shows the amount of burden attributable to physical inactivity among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to physical inactivity.

Select from the following:

Measure: Attributable DALY | Year: 2018 | Sex: Persons | Disease group: All

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How has disease burden due to physical inactivity changed over time?

The age-standardised rate of total burden attributable to physical inactivity (from all linked diseases) among Indigenous Australians decreased by 46% between 2003 and 2018 (from 24.5 to 13.3 DALY per 1,000 population).

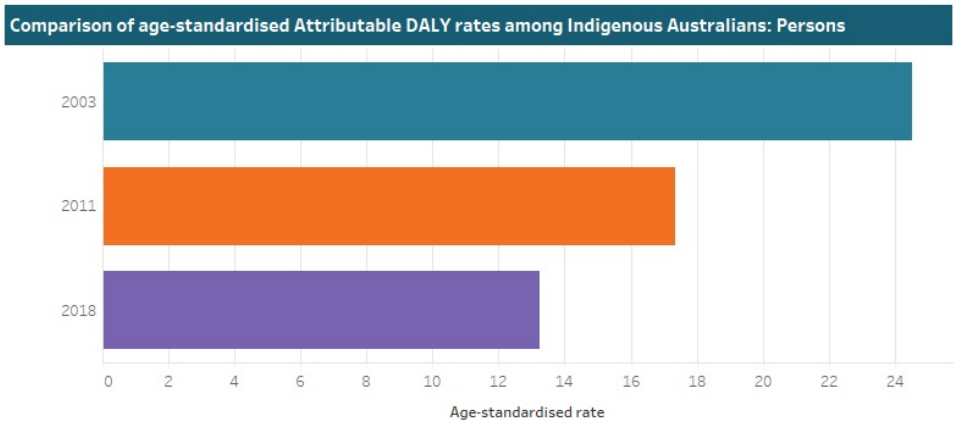
This interactive data visualisation shows the rate of burden attributable to physical inactivity among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to physical inactivity.

Select from the following:

Measure: Attributable DALY | Sex: Persons | Start year: 2003 | End year: 2018

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost

45.9% decrease
in the Attributable DALY rate in Persons between 2003 and 2018 due to Physical inactivity



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v10.0

© Australian Institute of Health and Welfare 2022

Intimate partner violence

On this page

- How much burden was attributable to intimate partner violence?
- How did burden attributable to intimate partner violence vary by age?
- How has disease burden due to intimate partner violence changed over time?

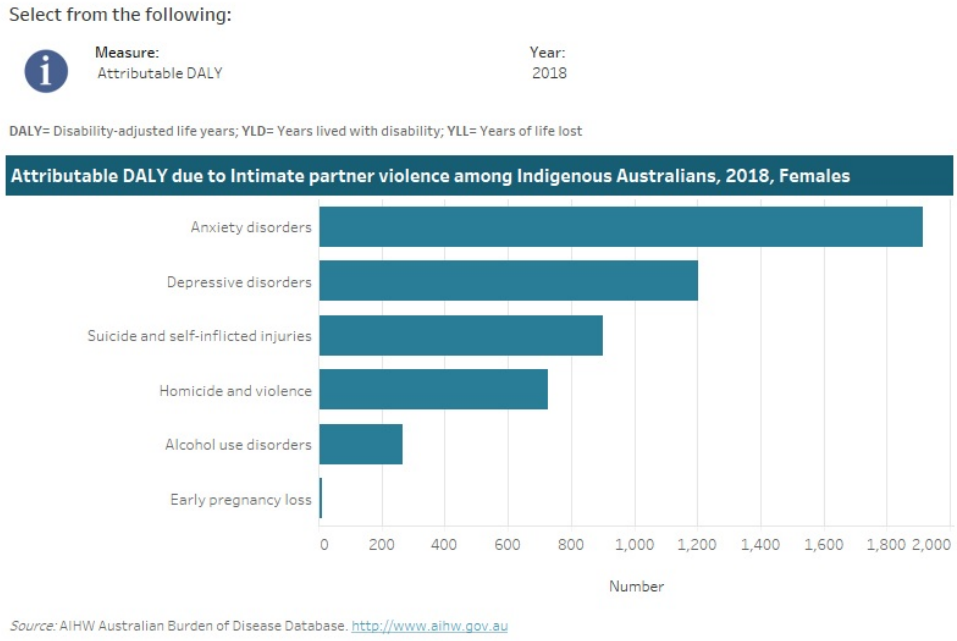
In 2018, intimate partner violence contributed to 2.1% of the total disease burden among Indigenous Australian women.

These estimates reflect the amount of disease burden that could have been avoided if all Indigenous women aged 15 and over in Australia were not exposed to intimate partner violence, which for this study included emotional, physical and sexual intimate partner violence by a cohabiting current or previous intimate partner.

Intimate partner violence was causally linked to homicide & violence, suicide & self-inflicted injuries, alcohol use disorders, depression, anxiety and early pregnancy loss (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1). The impact of this risk factor was estimated only in women as sufficient evidence in the literature to identify the causally linked diseases and the amount of increased risk (relative risk) is not currently available for men (AIHW unpublished; Ayre et al. 2016; GBD 2019 Risk Factor Collaborators 2020).

How much burden was attributable to intimate partner violence?

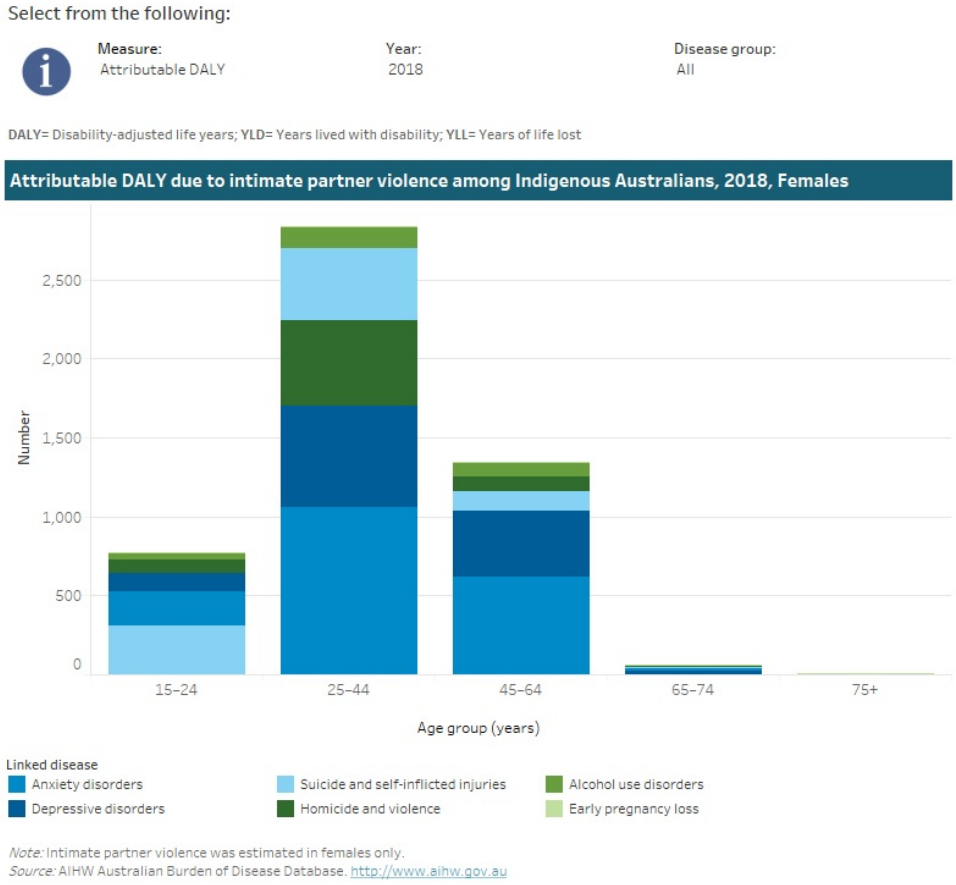
In 2018 among Indigenous women, intimate partner violence contributed 62% of homicide & violence total burden, 32% of suicide & self-inflicted injuries burden, 28% of early pregnancy loss burden, 26% of anxiety disorders burden, 20% of depressive disorders burden and 10% of alcohol use burden in Indigenous females.
This interactive data visualisation shows the burden attributable to intimate partner violence among Indigenous Australian women by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year and measure of attributable burden. Each bar represents the attributable burden of the disease linked to intimate partner violence.



How did burden attributable to intimate partner violence vary by age?

In 2018, burden from intimate partner violence was estimated in Indigenous women aged 15 and over.

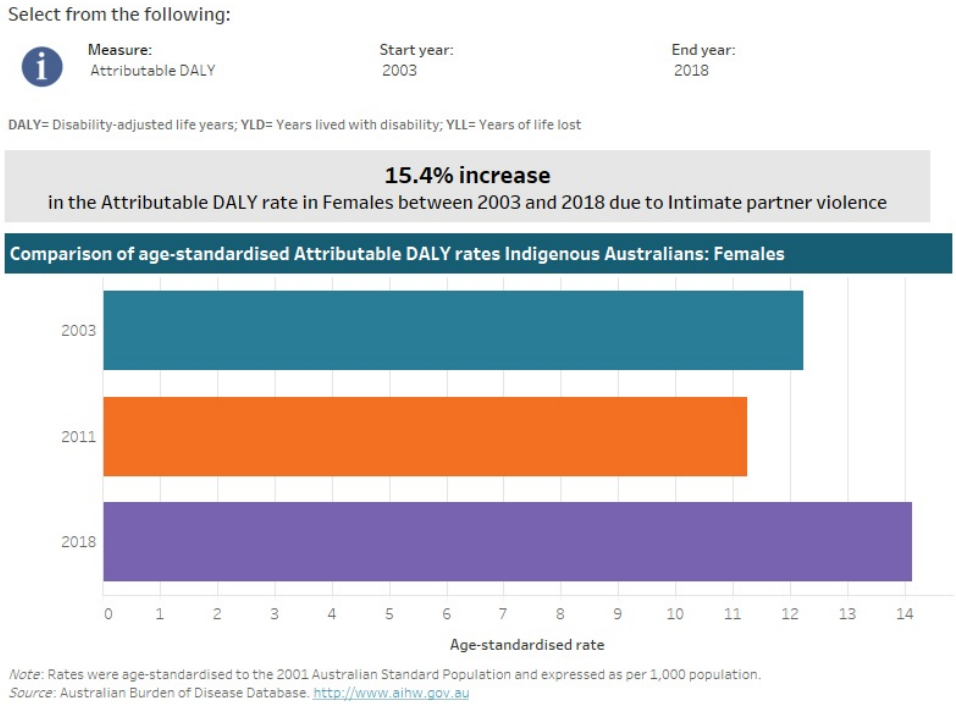
Total burden due to intimate partner violence was highest for Indigenous women between ages 25–34 years. The most burden due to intimate partner violence in this age group was from anxiety disorders, suicide & self-inflicted injuries and anxiety disorders.
This interactive data visualisation shows the amount of burden attributable to intimate partner violence among Indigenous Australian women by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to intimate partner violence.



How has disease burden due to intimate partner violence changed over time?

There was a 15% decrease in the age-standardised rate of total burden among Indigenous women due to intimate partner violence among Indigenous women between 2003 and 2018 (from 12.2 to 14.1 DALY per 1,000 population).

This interactive data visualisation shows the rate of burden attributable to intimate partner violence among Indigenous women by year. The main section shows a horizontal bar graph which can be customised to report data according to year and measure of attributable burden. Each bar represents the attributable burden within a particular year due to intimate partner violence.



References

AIHW unpublished. Health outcomes of violence: A review of data sources and evidence. Report to the Australian Government Department of Social Services.

Ayre J, Lum On M, Webster K & Moon L 2016. Examination of the burden of disease of intimate partner violence against women: Final report, 2011. Sydney: Australian National Research Organisation for Women's Safety.

GBD 2019 Risk Factors Collaborators 2020. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet 396:1223–49.

Last updated 24/02/2022 v10.0
© Australian Institute of Health and Welfare 2022

Occupational exposures and hazards

On this page

- How much burden was attributable to occupational exposures and hazards?
- How did burden attributable to occupational exposures and hazards vary by age and sex?
- How has disease burden due to occupational risks changed over time?

In 2018, 1.5% of the total burden among Indigenous Australians was due to occupational exposures & hazards.

These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians were not exposed to occupational exposures & hazards including injuries, loud noise, carcinogens, particulate matter, gas and fumes, asthmagens and ergonomic factors.

In 2018, occupational exposures & hazards was linked to 26 diseases and injuries including 11 types of cancer, 8 types of injury, hearing loss, back pain & problems, asthma, chronic obstructive pulmonary disease (COPD), silicosis, asbestosis and other pneumoconiosis (see Table 1 below and ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

Table 1: Type of occupational exposures and hazards and corresponding linked diseases as estimated in the Australian Burden of Disease Study 2018

Occupational exposure or hazard	Linked disease
Injury	Drowning, falls, fire, burns and scalds, homicide and violence, road traffic injuries—motor vehicle occupants, road traffic injuries—motorcyclists, other unintentional injuries, other land transport injuries
Benzene or formaldehyde	Acute myeloid leukaemia, chronic myeloid leukaemia, chronic lymphocytic leukaemia, acute lymphoblastic leukaemia, other leukaemias, nasopharyngeal cancer
Noise	Hearing loss
Arsenic, beryllium, cadmium chromium, diesel engine exhaust, polycyclic aromatic hydrocarbons, nickel, second-hand smoke, silica	Lung cancer
Sulfuric acid	Laryngeal cancer
Trichloroethylene	Kidney cancer
Particulate matter, gas and fumes	COPD
Asbestos	Laryngeal cancer, lung cancer, ovarian cancer mesothelioma
Asbestos, silicone and particulate matter	Silicosis, asbestosis and other pneumoconiosis
Asthmagens	Asthma
Ergonomic factors	Back pain & problems

How much burden was attributable to occupational exposures and hazards?

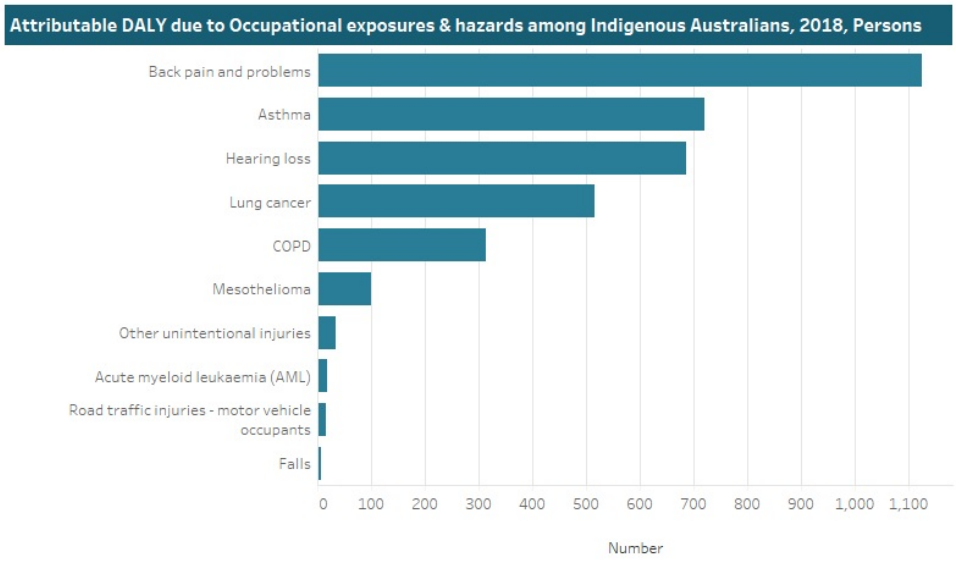
In 2018 among Indigenous Australians, occupational exposures & hazards were responsible for the entire burden from silicosis, asbestosis and other pneumoconiosis, 49% of mesothelioma burden, 16% of burden from back pain & problems, 15% of hearing loss burden, 9% of asthma and lung cancer burden.

Note that the following visualisation displays only the top 10 linked diseases due to occupational exposures & hazards among Indigenous Australians.
This interactive data visualisation shows the burden attributable to occupational exposures and hazards among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to occupational exposures and hazards.

Select from the following:

Measure:	Year:	Sex:
Attributable DALY	2018	Persons

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost



Note: Only the leading 10 linked diseases for each selected measure are presented.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to occupational exposures and hazards vary by age and sex?

Burden due to occupational exposures & hazards was estimated among Indigenous Australians aged 15 and over. Total burden among Indigenous Australians increased with age, peaking at ages 45–64 years, then gradually declining with the least amount of burden experienced among those aged 75 and over.

In people aged 15–64 years, the most burden due to occupational exposures & hazards was from back pain & problems, asthma and hearing loss. In ages 65 and over, the most burden due to occupational exposures & hazards was from lung cancer and mesothelioma.

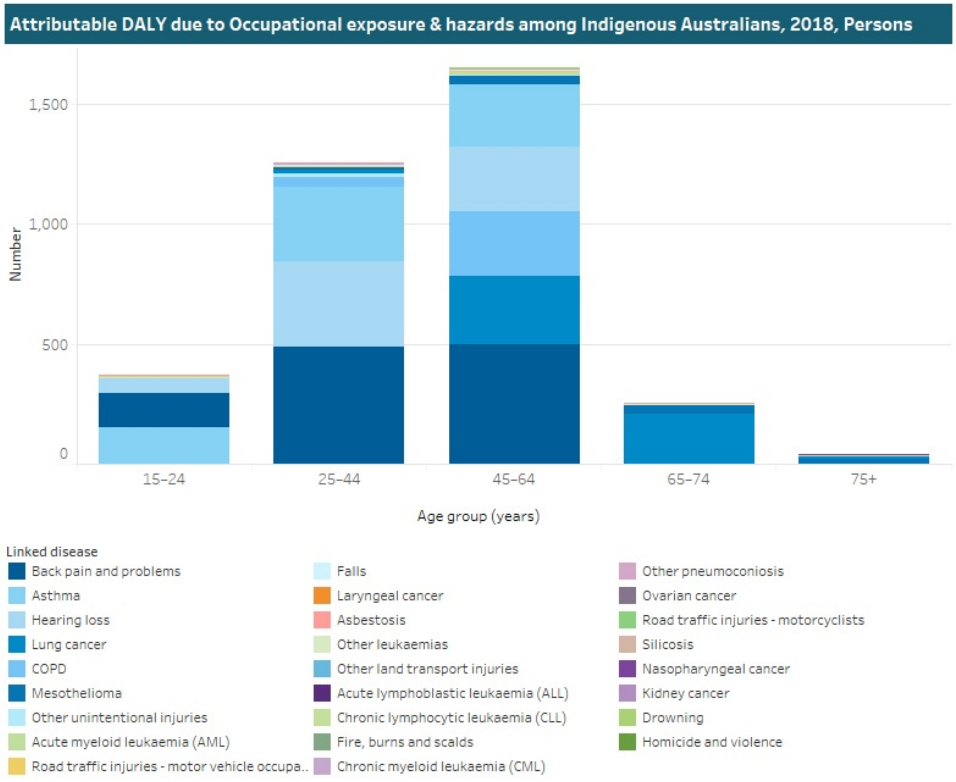
Across all ages, Indigenous males experienced a higher amount of total burden due to occupational exposures & hazards compared with Indigenous females.

This interactive data visualisation shows the amount of burden attributable to occupational exposures and hazards among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to occupational exposures and hazards.

Select from the following:

Measure: Attributable DALY | Year: 2018 | Sex: Persons | Disease group: All

DALY= Disability-adjusted life years; YLD= Years lived with disability; YLL= Years of life lost



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How has disease burden due to occupational risks changed over time?

The age-standardised rate of total burden due to occupational exposures & hazards (from all linked diseases) among Indigenous Australians decreased by 7.2% between 2003 and 2018 (from 6.2 to 5.8 DALY per 1,000 population).

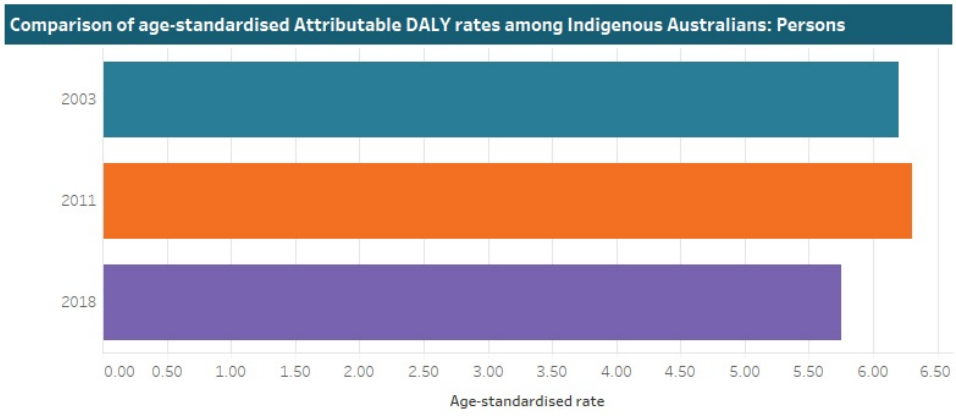
This interactive data visualisation shows the rate of burden attributable to occupational exposures and hazards among Indigenous Australians by year. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to occupational exposures and hazards.

Select from the following:

Measure: Attributable DALY | Sex: Persons | Start year: 2003 | End year: 2018

DALY= Disability-adjusted life years; YLD= Years lived with disability; YLL= Years of life lost

7.2% decrease
in the Attributable DALY rate in Persons between 2003 and 2018 due to Occupational exposures & hazards



Note: Rates were age-standardised to the 2001 Australian Standard Population and expressed as per 1,000 population.
Source: Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v12.0

© Australian Institute of Health and Welfare 2022 CC BY

Air pollution

On this page

- How much burden was attributable to air pollution?
- How did burden attributable to air pollution vary by age and sex?

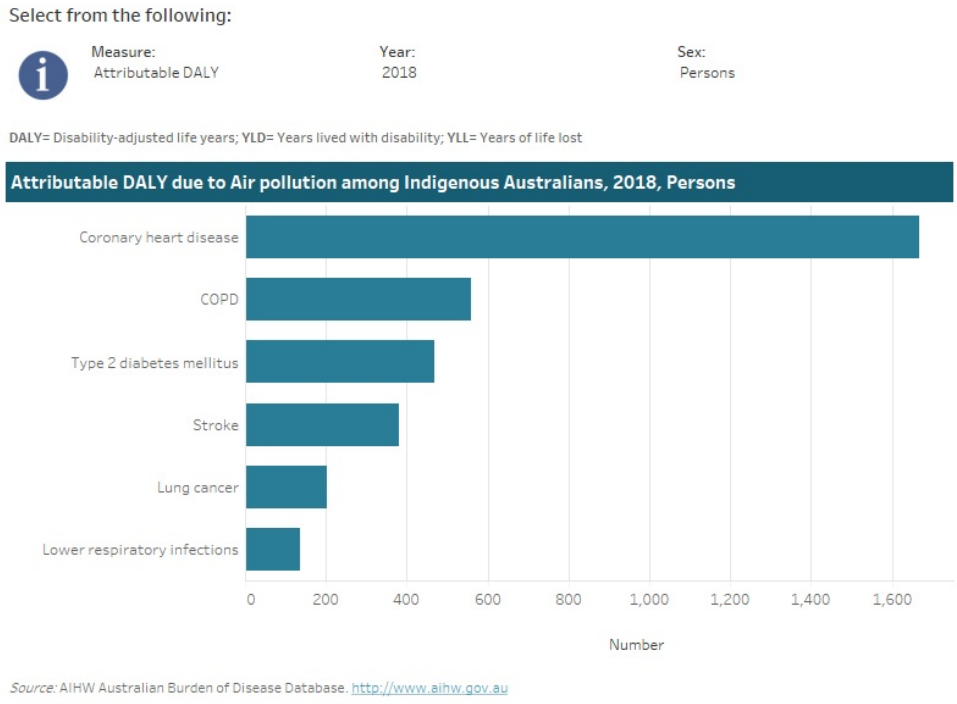
In 2018, 1.4% of the total disease burden among Indigenous Australians was due to air pollution.

These estimates reflect the amount of burden that could have been avoided if all Indigenous Australians were not exposed to particulate matter 2.5μg/m3 (PM2.5).

Air pollution was causally linked to 6 diseases—coronary heart disease, chronic obstructive pulmonary disease (COPD), stroke, lung cancer, type 2 diabetes and lower respiratory infections (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

How much burden was attributable to air pollution?

In 2018 among Indigenous Australians, air pollution was responsible for 12% of stroke total burden and coronary heart disease burden, 7% of COPD burden and type 2 diabetes burden, 6% of lower respiratory infections burden and 3% of lung cancer burden.
This interactive data visualisation shows the burden attributable to air pollution among Indigenous Australians by linked disease. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to air pollution.



Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How did burden attributable to air pollution vary by age and sex?

The majority of the total burden due to air pollution among Indigenous Australians occurred in Indigenous Australians aged between 45–64. Among these age groups, the most burden due to air pollution was from coronary heart disease followed by COPD. For Indigenous Australians aged 25–44, most burden was also from coronary heart disease followed by stroke—while for those aged under 15, most burden was from lower respiratory infections.

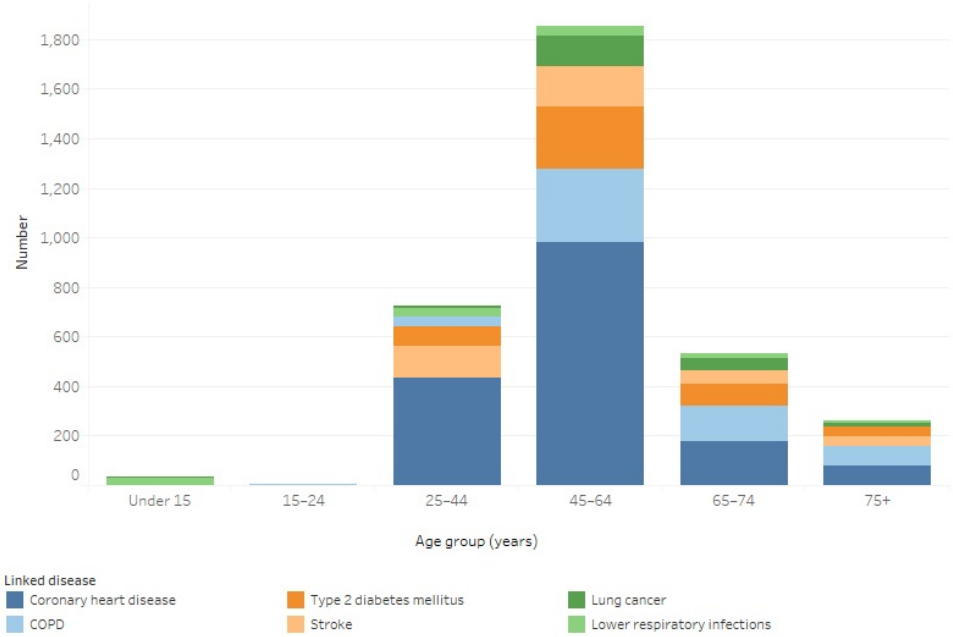
Indigenous males experienced more burden due to air pollution compared with Indigenous females for most age groups.
This interactive data visualisation shows the amount of burden attributable to air pollution among Indigenous Australians by age group and linked disease. The main section shows a stacked bar graph which can be customised to report data according to year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to air pollution.

Select from the following:

Measure:	Year:	Sex:	Disease group:
Attributable DALY	2018	Persons	All

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost

Attributable DALY due to Air pollution among Indigenous Australians, 2018, Persons



Linked disease

- Coronary heart disease
- COPD
- Type 2 diabetes mellitus
- Stroke
- Lung cancer
- Lower respiratory infections

Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v14.0

© Australian Institute of Health and Welfare 2022 CC BY

All other risk factors

The risk factors presented in this section either contributed less than 1% of the total burden, or where the majority of the burden was experienced in a particular age group, among Indigenous Australians in 2018, or the majority of burden applied to a specific age group. This includes: low birthweight & short gestation, low bone mineral density, iron deficiency, unsafe sex, unsafe sanitation (see ABDS 2018 Risk factor estimates for Indigenous Australians data table S1).

Changes over time due to low bone mineral density and iron deficiency are due to changes in the linked disease burden as the same estimate of exposure to the risk factor or population attributable fraction is used for each year.

Use the interactive graphs on each tab to explore the burden due to each risk factor by:

- sex by linked disease (number and percent of linked disease)
- age and sex by linked disease (number and percent of linked disease)
- changes over time by sex (number and age-standardised rate).

Tab 1: This interactive data visualisation shows attributable burden among Indigenous Australians by linked disease due to either iron deficiency, low bone mineral density and unsafe sex. The main section shows a horizontal bar graph which can be customised to report data according to risk factor, year, sex and measure of attributable burden. Each bar represents the attributable burden of the disease linked to the risk factor.

Tab 2: This interactive data visualisation shows the amount of attributable burden among Indigenous Australians by age group and linked disease due to either iron deficiency, low bone mineral density and unsafe sex. The main section shows a stacked bar graph which can be customised to report data according to risk factor, year, sex, disease group and measure of attributable burden. Each bar represents the attributable burden within a particular age group. Each bar is also split into separate components with each colour representing a disease linked to the risk factor.

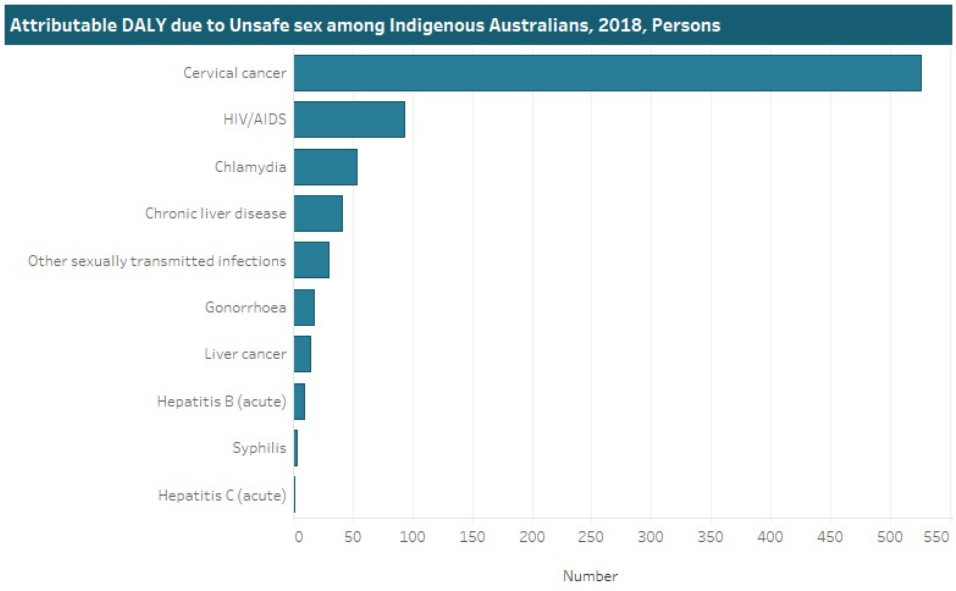
Tab 3: This interactive data visualisation shows the rate of attributable burden among Indigenous Australians by year due to unsafe sex. The main section shows a horizontal bar graph which can be customised to report data according to year, sex and measure of attributable burden. Each bar represents the attributable burden within a particular year due to tobacco use.

Tab 4: This interactive data visualisation shows the contribution the selected risk factor had on the gap in health outcomes, or total burden (DALY), between the Indigenous and non-Indigenous population. It is possible to view data for to either low birthweight and short gestation, iron deficiency, low bone mineral density and unsafe sex. There are two sections, the first is key text which reports the risk factors contribution to the gap in disease burden, by year. The second section is a column graph which can be customised using the filter to report age-standardised DALY rates by year and Indigenous status, or DALY rate rate differences and rate ratios by year.

Select from the following:

Risk factor:	Measure:	Sex:	Year:
Unsafe sex	Attributable DALY	Persons	2018

DALY= Disability-adjusted life years; **YLD**= Years lived with disability; **YLL**= Years of life lost



Note: Low birthweight & short gestations estimates are only available for 2018. Unsafe sanitation estimates are only available for 2011 and 2018.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v12.0

© Australian Institute of Health and Welfare 2022

Diseases and associated risk factors

Use the interactive graph below to explore a disease or injury to find out their associated risk factors and the impact on burden among Indigenous Australians in 2018.

The disease groups or diseases shown are limited to those contributing a significant amount of burden among Indigenous Australians and have risk factors that were investigated in the Australian Burden of Disease Study 2018.

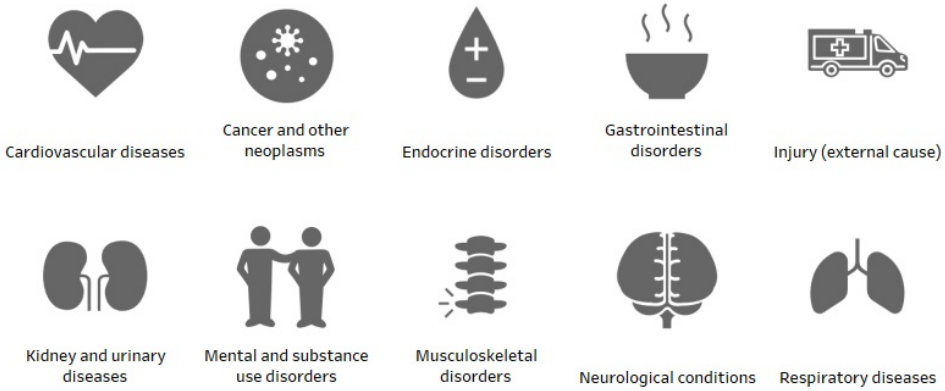
By selecting a disease group and a specific disease or injury, the risk factors that contribute to the development of the disease or injury, the proportion of disease burden each risk factor contributes and the number of total burden among Indigenous Australians in 2018 (DALY) are displayed. Note that it is not appropriate to sum the proportion of disease burden contributed by each risk factor displayed as the calculations were produced independently.

Note that attributable burden estimates by risk factor here may differ to the estimates provided in the risk factor-specific visualisations provided elsewhere. This is due to a proportional scaling applied to each risk factor's estimates to account for the relative impact of the joint effect calculation and mediation occurring between interrelated risk factors.

Further information on the combined impact of associated risk factors for a specific disease or injury are shown when hovering over the disease or injury.
This interactive data visualisation shows the contribution of individual risk factors to the burden of a specific disease or injury among Indigenous Australians. The first section allows you to select the disease group of interest. The second section allows you to select the disease of interest. The main section shows four horizontal bar graphs depicting the amount and proportion of the disease burden attributable to associated risk factors for males and females. The graphs can be customised to report data according to the measure of attributable burden.

Impact of Risk Factors on Disease Burden among Indigenous Australians 2018

1. Select a disease group



2. Select a disease to explore its related risk factor(s)

Related risk factor(s)

Select measure:
Attributable DALY

DALY = Disability-adjusted life years
YLD = Years lived with disability
YLL = Years of life lost

Proportion of None None due to risk factors by sex, 2018

Amount of None attributable None by sex and risk factor, 2018

Notes:
1. All forms of diabetes and chronic kidney disease are considered entirely attributable to the risk factors **high blood plasma glucose** and **impaired kidney function**, respectively.
2. The burden attributable to intimate partner violence attributable was estimated for females only.
3. Deaths in these tables refer to deaths that have been modelled for cause of death. That is, the number of deaths presented here may not align with other reporting of causes of death. Also due to rounding, the visualisation may show 0 deaths and some YLL suggesting that, due to modelling, the number of deaths has been rounded to 0.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Last updated 24/02/2022 v3.0
© Australian Institute of Health and Welfare 2022 CC BY

Gap in health outcomes

Gap in health outcomes for burden attributable to risk factors

This section presents the contribution of each risk factor to the total health gap as measured by the age-standardised DALY rates, rate ratios and rate difference between Indigenous and non-Indigenous Australians. Using age-standardised rates takes into account the differences in the sizes and age distributions of the 2 populations.

Due to the interactions between risk factors, it is not possible to simply sum the impact of each risk factor (see 'Chapter 5 Contribution of risk factors to burden' in ABDS 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people). Estimates of the combined impact of risk factors, taking interactions between them into account, are presented on this page as the 'joint effect'. Further, the risk factors included in the study represent only a subset of all possible risk factors that may contribute to disease burden. As such these statistics do not represent a measure of the contribution of all risk factors to the overall health gap between Indigenous and non-Indigenous Australians.

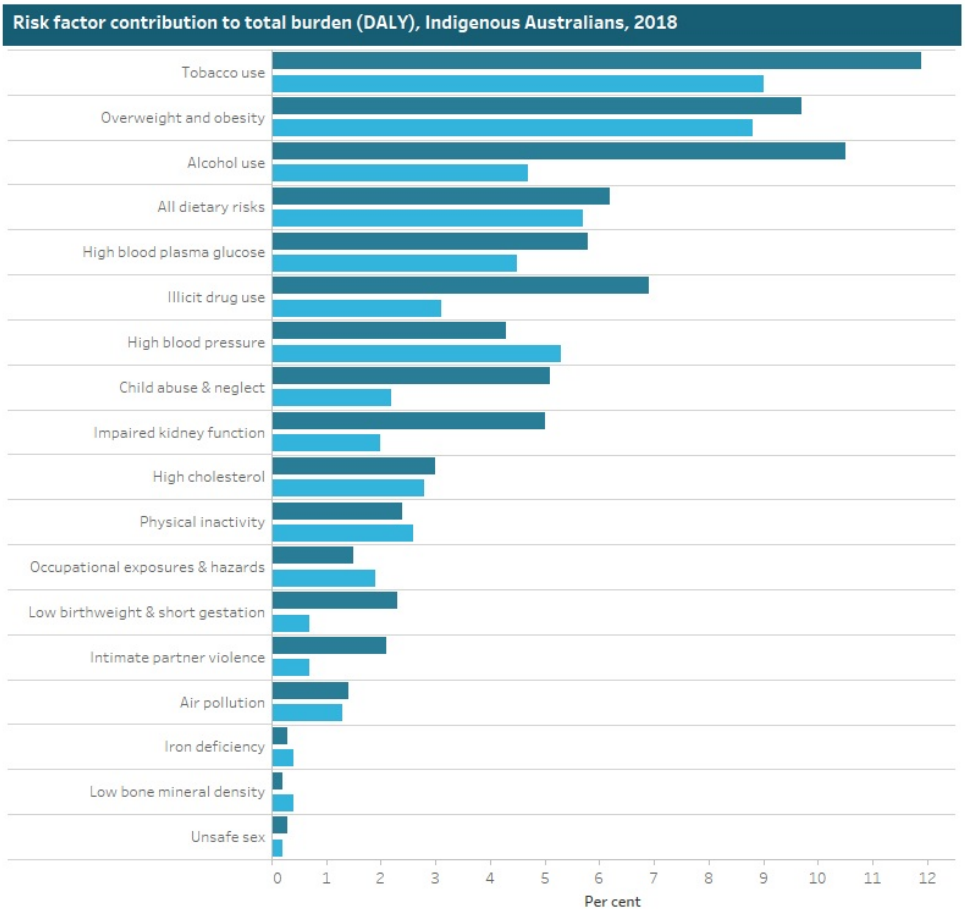
In 2018, tobacco use, overweight (including obesity) and alcohol use were among the top 3 contributors to the total burden (DALY) for Indigenous and non-Indigenous Australians. High blood plasma glucose and impaired kidney function contributed more to the total burden for Indigenous Australians, while high blood pressure and occupational exposures & hazards contributed more for non-Indigenous Australians.

Use the interactive graph below to explore the contribution risk factors made to the total burden (DALY) for Indigenous and non-Indigenous Australians.
This interactive data visualisation shows the contribution of each risk factor to total burden by Indigenous status. The main section shows horizontal bar graphs which can be customised to report the contribution by year.

Select from the following:

Year:
2018

Indigenous status
Indigenous
Non-Indigenous



Notes:
1. The risk factors high blood plasma glucose, air pollution and low birthweight & short gestation were not estimated for all reference years.
2. Estimates for unsafe sanitation are not available for the non-Indigenous population, this data has been excluded.
3. Estimates for intimate partner violence are for females only.

Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

How has disease burden due to attributable risk factors changed over time?

Between 2003 and 2018, the age-standardised rate of disease burden attributed to several key risk factors, including high blood pressure, high cholesterol, impaired kidney function, physical inactivity, overweight (including obesity) and tobacco use, declined for both Indigenous and non-Indigenous Australians.

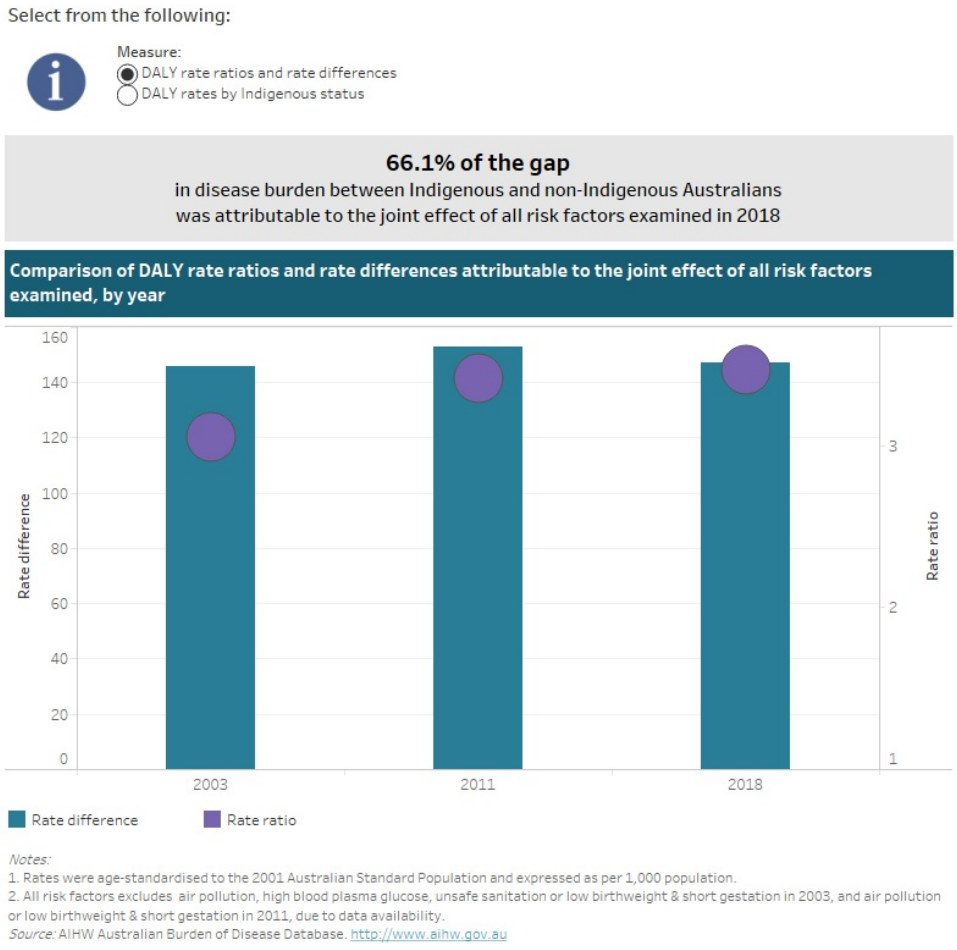
Between 2003 and 2018, there was a narrowing in the health gap (decrease in both the DALY rate ratio and rate difference) for physical inactivity, occupational exposures & hazards, and low bone mineral density—indicating declines observed for the Indigenous population were greater than for the non-Indigenous population.

Use the interactive graph below to compare the contribution of risk factors to the gap in total burden (DALY) between Indigenous and non-Indigenous Australians by year and risk factor.

For more information on changes in the risk factors contributing to the gap see Chapters 7 in the ABDS 2018: impact and causes of illness and death in Aboriginal and Torres Strait Islander people report.

Tab 1: This interactive data visualisation shows the contribution risk factors had on the gap in health outcomes, or total burden (DALY), between Indigenous and non-Indigenous Australians. There are two sections, the first is key text which reports the risk factor contribution to the gap in disease burden in 2018. The second section is a column graph which can be customised using the filter to report age-standardised DALY rates by year and Indigenous status, or DALY rate differences and rate ratios by year.

Tab 2: This interactive data visualisation shows the DALY rate differences and ratio ratios of each risk factor. The main section shows horizontal bar graphs which can be customised using the filter to report age-standardised DALY rates by year and Indigenous status, or DALY rate differences and rate ratios by year.



Last updated 24/02/2022 v21.0

© Australian Institute of Health and Welfare 2022

Drivers of change in risk factor attributable burden

This webpage presents analyses undertaken using data from the Australian Burden of Disease Study 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people to explore the different drivers of change over time in burden of disease attributable to 5 selected risk factors: tobacco use, alcohol use, overweight and obesity, high blood pressure and dietary risk factors.

The disease burden attributed to a selected risk factor is referred to as 'attributable burden' and is measured in terms of Disability Adjusted Life Years (or DALY). It reflects the reduction in fatal burden (measured by years of life lost (YLL)) and non-fatal burden (measured by years lived with disability (YLD)) that would have occurred if exposure to the risk factor had been avoided or reduced to its lowest level. For more information on how attributable burden is calculated, see Australian Burden of Disease Study 2018: methods and supplementary material.

Between 2003 and 2018, there was a 59% increase among Indigenous Australians in the total number of DALY attributable to all risk factors included in the Australian Burden of Disease Study (for those that were measured in both 2003 and 2018). Note this is different to changes in the age-standardised rate of attributable DALY per 1,000 population (which decreased by 10%, from 217.0 DALY per 1,000 in 2003 to 195.3 DALY per 1,000 in 2018).

The main factors contributing to the increase in the total number of attributable DALY were population growth, population ageing, changes to exposure to the risk factor in the population, and changes in the amount of burden for diseases linked to each risk factor. These 4 factors and the method used to estimate the contribution of each to changes in attributable burden, are explained further in the box below.

Key results from these analyses for the 5 selected risk factors can be found in the data visualisations below and in the ABDS 2018 Drivers of change in risk factor attributable burden data table.

What factors contribute to changes over time?

Four factors contributing to changes in attributable burden among Indigenous Australians over time were included in these analyses:

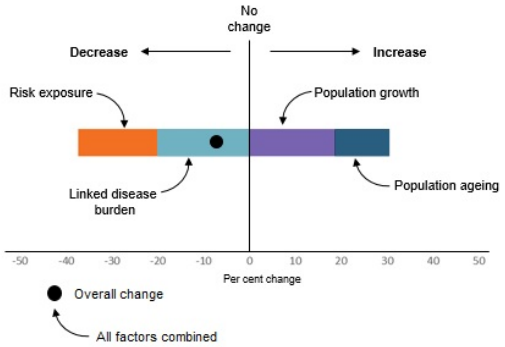
- population growth—the size of the Aboriginal and Torres Strait Islander population is increasing over time
- population ageing—the age structure of the Aboriginal and Torres Strait Islander population is changing, with the proportion of older people increasing over time
- risk factor exposure—changes in the prevalence of the risk factor among Aboriginal and Torres Strait Islander population
- changes in linked disease burden— changes in the overall burden for those diseases or injuries that are linked to the selected risk factor. These may be influenced by changes in diagnosis, treatment or health intervention (resulting in changes in disease prevalence or severity), as well as changes in other risk factors. For example, increases in overweight and obesity may have some impact on coronary heart disease burden, which is also linked to tobacco use. See Table S1 in the ABDS 2018 Drivers of change in risk factor attributable burden data table for a list of all linked diseases for the 5 risk factors included in this analysis.

These factors were selected as they are the main drivers of trends in attributable burden examined in global burden of disease studies and are measurable with available data. In this analysis, the contribution of each of the 4 factors to the change in fatal, non-fatal and total attributable burden between 2003 and 2018 were estimated using methods developed by Das Gupta (Das Gupta 1993). This method considers the size of each factor and the interactions between them.

Each factor may cause burden to rise (indicated by a positive factor of change) or fall (a negative factor of change) over time. The sum of the effect of all factors represents the overall change in burden between 2003 and 2018. This is expressed as the amount of change (DALY) or as a percentage of the change due to the factor. Although 2011 data are also available, 2003 and 2018 were chosen as the comparison time points to enable the longest possible time series.

How to interpret the drivers of change over time analyses and charts

The figure below is provided to help readers interpret the analyses and charts presented in this web release. Each factor included in the drivers of change over time analyses (population growth, population ageing, risk exposure and linked disease burden) may cause the attributable burden from a risk factor to rise (indicated by a positive percent change) or fall (a negative percentage change) over time. The sum of the effect of all factors represents the overall change in attributable burden between 2003 and 2018.



Put simply, these analyses show that if the overall attributable burden due to a risk factor is increasing (i.e. getting worse), we can see which factors are most responsible for this increase and target policy and program responses accordingly. Secondly, it also gives us additional information on those risk factors for which burden is decreasing (i.e. getting better) and whether there are still factors (e.g. increasing exposure or linked disease burden) which could be targeted and result in further improvements in the attributable burden for that risk factor.

Tobacco use

The total burden attributable to tobacco use among Indigenous Australians increased 71% between 2018 and 2003. This is calculated from the change in the attributable burden (DALY) between 2003 (16,638 DALY, representing 10% of total burden) and 2018 (28,514 DALY, representing 11.9% of total burden). For the purposes of this decomposition analysis, the burden attributable to exposure to second-hand smoke was not able to be included. Therefore the analysis below considers only the burden attributable to direct use of tobacco, that is, current and past smoking. For direct tobacco use, the attributable burden increased by 66% between 2003 and 2018.

The change in the direct tobacco use burden between 2003 and 2018 varied by sex, with a 58% increase in the number of attributable DALY for Indigenous males and a 76% increase in Indigenous females. The main drivers of this change were increases in population size, ageing and exposure to tobacco use and decreases in the linked disease burden.

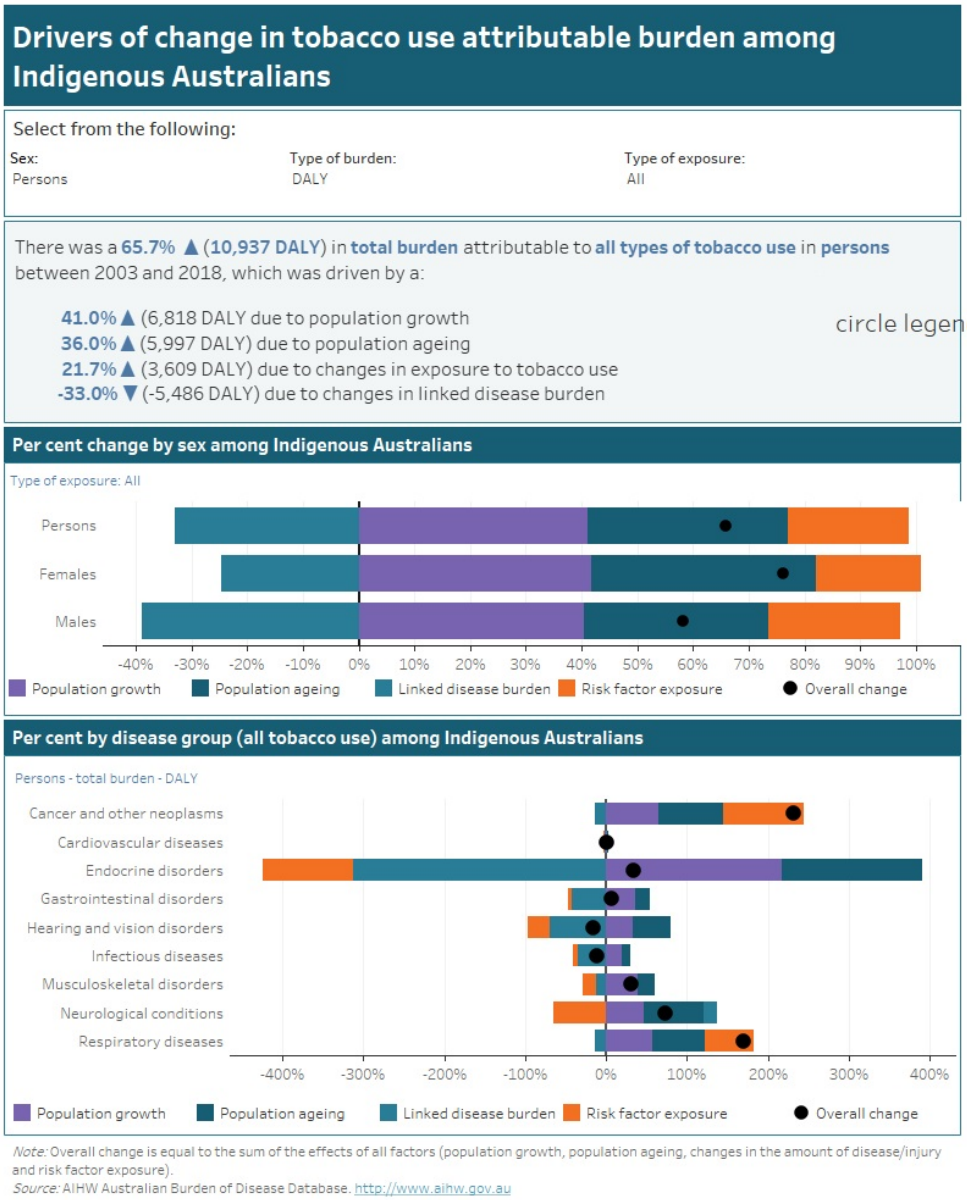
To further understand the changes over time in burden attributed to tobacco use, the changes were broken down for the main linked disease groups. There was an increase in burden attributable due to tobacco use for cancer and other neoplasms, endocrine disorders, musculoskeletal diseases, neurological conditions and respiratory diseases. The attributable burden for hearing and vision disorders and infectious diseases decreased, and the attributable burden for gastrointestinal disorders and cardiovascular diseases did not change substantially.

For a full list of linked diseases by tobacco exposure type see Table S1 in the ABDS 2018 Drivers of change in risk factor attributable burden for Indigenous Australians data table.

The change in burden over time shows a very different pattern between current and past tobacco use. For example, changes in exposure to current tobacco use decreased attributable burden in both males and females, while changes in exposure to past tobacco use contributed to a large rise in attributable burden in both males and females.

Use the interactive text and graph below to explore the different drivers of change in burden attributable to tobacco use among Indigenous Australians between 2003 and 2018. Estimates are displayed by sex, type of burden (DALY, YLD or YLL) and type of exposure to tobacco. For more interactive data on the burden due to this risk factor and changes in the age-standardised rates of attributable burden over time, see Tobacco use.

This interactive data visualisation describes drivers of change in tobacco use attributable burden between 2003 and 2018 due to population growth, population ageing, linked disease burden and risk factor exposure among Indigenous Australians. There are 3 sections which can be customised to report data according to type of burden, sex and type of tobacco use. The first section is a text box which reports the percentage and amount of change in attributable burden due to each driver of change for the selected tobacco use type, sex and type of burden. The second section is a stacked horizontal bar chart which reports the percentage change in attributable burden by sex and driver of change for the selected tobacco use type and type of burden. Markers are superimposed on the bar chart to show the overall percentage change. The third section is a stacked horizontal bar chart which reports the percentage change in attributable burden for all types of tobacco use by disease group and driver of change for the selected sex and type of burden. Markers are superimposed on the bar chart to show overall percentage changes.



Note: Overall change is equal to the sum of the effects of all factors (population growth, population ageing, changes in the amount of disease/injury and risk factor exposure).
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

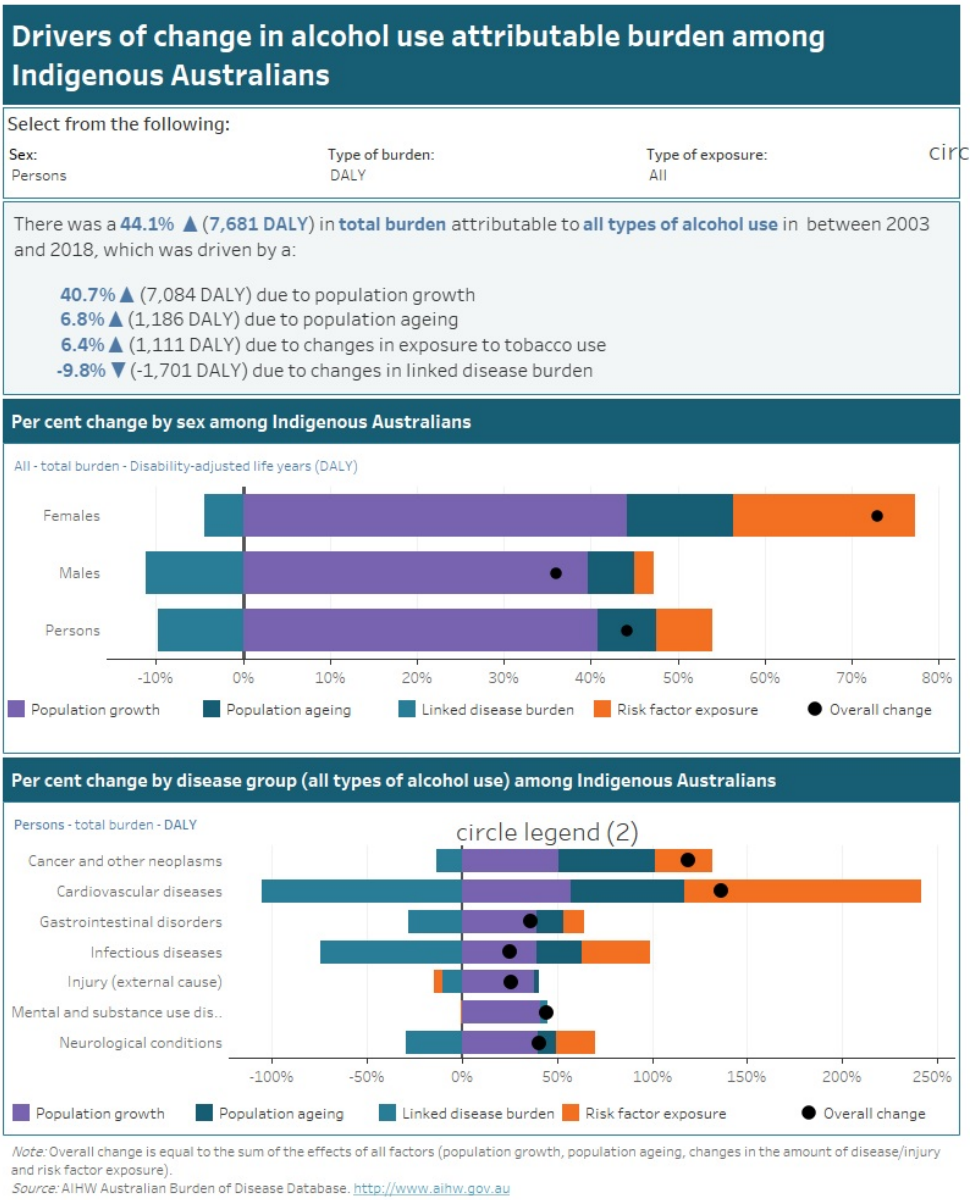
Alcohol use

The overall burden attributable to alcohol use increased 44% between 2003 and 2018. This increase is calculated from the change in the attributable burden (DALY) between 2003 (17,404 DALY, representing 10.4% of total burden) and 2018 (25,085 DALY, representing 10.5% of total DALY). The main drivers of this change were increases in population size.

To further understand the changes over time in burden attributed to alcohol use, the changes due to different types of exposures were broken down. The overall burden due to alcohol use was estimated from exposure to current alcohol use, former alcohol use and alcohol dependence. The changes were also broken down for the main linked disease groups. There was an increase in burden attributable to alcohol use for all linked disease groups.

For a full list of linked diseases by type of alcohol exposure see Table S1 in the ABDS 2018 Drivers of change in risk factor attributable burden for Indigenous Australians data table. Use the interactive text and graph below to explore the different drivers of change in burden attributable to alcohol use in Australia between 2003 and 2018. Estimates are displayed by sex, burden type (DALY, YLD or YLL) and type of exposure to alcohol.

For more interactive data on the burden due to this risk factor and changes in the age-standardised rates of attributable burden over time, see Alcohol use.
This interactive data visualisation describes drivers of change in alcohol use attributable burden between 2003 and 2018 due to population growth, population ageing, linked disease burden and risk factor exposure among Indigenous Australians. There are 3 sections which can be customised to report data according to type of burden, sex and type of alcohol use. The first section is a text box which reports the percentage and amount of change in attributable burden due to each driver of change for the selected alcohol use type, sex and type of burden. The second section is a stacked horizontal bar chart which reports the percentage change in attributable burden by sex and driver of change for the selected alcohol use type and type of burden. Markers are superimposed on the bar chart to show the overall percentage change. The third section is a stacked horizontal bar chart which reports the percentage change in attributable burden for all types of alcohol use by disease group and driver of change for the selected sex and type of burden. Markers are superimposed on the bar chart to show overall percentage changes.



Note: Overall change is equal to the sum of the effects of all factors (population growth, population ageing, changes in the amount of disease/injury and risk factor exposure).
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Overweight (including obesity)

The overall burden attributable to overweight (including obesity) rose 73% between 2003 and 2018. This increase is calculated from the change in the attributable burden (DALY) between 2003 (13,494 DALY, representing 8.1% of total burden) and 2018 (23,338 DALY, representing 9.7% of total burden). The main drivers of this change were increases in population size, ageing and exposure to overweight, and decreases in the linked disease burden.

To further understand the changes over time in burden attributed to overweight (including obesity), the changes were broken down for the main linked disease groups. There was an increase in burden attributable to overweight (including obesity) for all linked disease groups. For a list of all specific diseases linked to overweight (including obesity) see Table S1 in the ABDS 2018 Drivers of change in risk factor attributable burden for Indigenous Australians data table.

Use the interactive text and graphs to explore the different drivers of change in burden attributable to overweight (including obesity) among Indigenous Australia between 2003 and 2018. Estimates are displayed by sex, burden type (DALY, YLD or YLL) and linked disease group.

For more interactive data on the burden due to this risk factor and changes in the age-standardised rates of attributable burden over time, see Overweight (including obesity).
This interactive data visualisation describes drivers of change in overweight (including obesity) attributable burden between 2003 and 2018 due to population growth, population ageing, linked disease burden and risk factor exposure among Indigenous Australians. There are 3 sections which can be customised to report data according to type of burden and sex. The first section is a text box which reports the percentage and amount of change in attributable burden due to each driver of change for the selected sex and type of burden. The second section is a stacked horizontal bar chart which reports the percentage change in attributable burden by sex and driver of change for the selected type of burden. Markers are superimposed on the bar chart to show the overall percentage change. The third section is a stacked horizontal bar chart which reports the percentage change in attributable burden by disease group and driver of change for the selected sex and type of burden. Markers are superimposed on the bar chart to show overall percentage changes.

Notes:
1. Overall change is equal to the sum of the effects of all factors (population growth, population ageing, changes in the amount of disease/injury and risk factor exposure).
2. Data for fatal burden related to musculoskeletal disorders has been excluded due to small numbers.
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

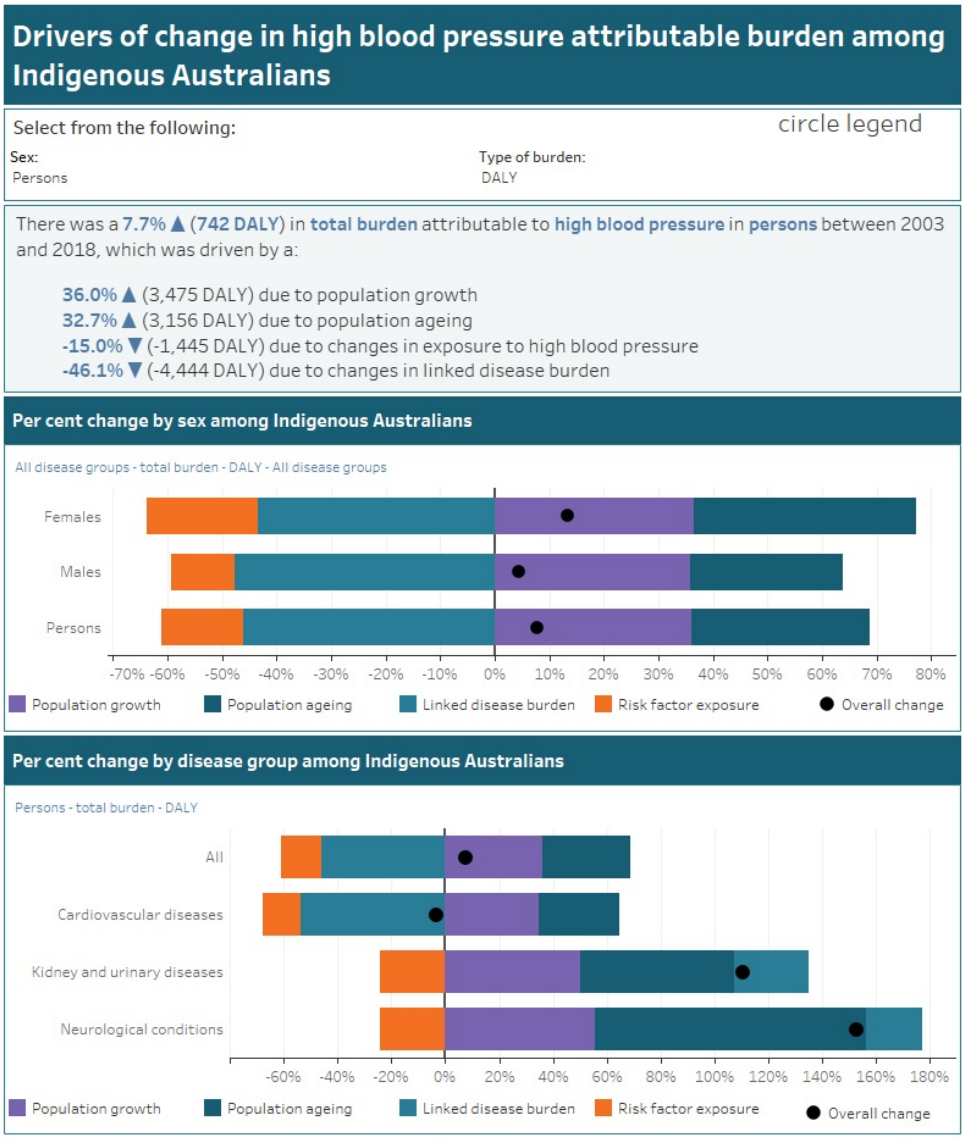
High blood pressure

The overall burden attributable to high blood pressure rose 8% between 2003 and 2018. This increase is calculated from the change in the attributable burden (DALY) between 2003 (9,639 DALY, representing 5.8% of total burden) and 2018 (10,382 DALY, representing 4.3% of total burden). The main drivers of this change were increases in population growth and ageing and decreases in linked disease burden.

To further understand the changes over time in burden attributed to high blood pressure, the changes were broken down for the main linked disease groups. There was an increase in attributable burden for neurological conditions and kidney and urinary diseases and a small decrease in the attributable burden for cardiovascular diseases. For a list of all specific diseases linked to high blood pressure see Table S1 in the ABDS 2018 Drivers of change in risk factor attributable burden for Indigenous Australians data table.

Use the interactive text and graphs to explore the different drivers of change in burden attributable to high blood pressure among Indigenous Australians between 2003 and 2018. Estimates are displayed by sex and burden type (DALY, YLD or YLL).

For more interactive data on the burden due to this risk factor and changes in the age-standardised rates of attributable burden over time, see High blood pressure.
This interactive data visualisation describes drivers of change in high blood pressure attributable burden between 2003 and 2018 due to population growth, population ageing, linked disease burden and risk factor exposure among Indigenous Australians. There are 3 sections which can be customised to report data according to type of burden and sex. The first section is a text box which reports the percentage and amount of change in attributable burden due to each driver of change for the selected sex and type of burden. The second section is a stacked horizontal bar chart which reports the percentage change in attributable burden by sex and driver of change for the selected type of burden. Markers are superimposed on the bar chart to show the overall percentage change. The third section is a stacked horizontal bar chart which reports the percentage change in attributable burden by disease group and driver of change for the selected sex and type of burden. Markers are superimposed on the bar chart to show overall percentage changes.



Note: Overall change is equal to the sum of the effects of all factors (population growth, population ageing, changes in the amount of disease/injury and risk factor exposure).
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Dietary risk factors

The overall burden attributable to all dietary risks increased by 15% between 2003 and 2018. This increase is calculated from the change in the attributable burden (DALY) between 2003 (13,028 DALY, representing 7.8% of total burden) and 2018 (14,940 DALY, representing 6.2% of total DALY). The change was largely a combination of increases due to population growth and ageing, and a reduction in the amount of burden due to diseases linked to the dietary risk factors.

To better understand the changes over time in burden attributed to dietary risk factors, the changes were broken down for each individual dietary risk factor, which each have their own linked diseases (some of which overlap and some are different). For example, diet high in sugar-sweetened beverages has 2 linked diseases (type 2 diabetes and coronary heart disease), which differ to the 3 linked diseases for diet low in vegetables (oesophageal cancer, coronary heart disease and stroke). Coronary heart disease is linked to all dietary risk factors except for diet low in milk. For a full list of linked diseases by dietary risk see Table S1 in the ABDS 2018 Drivers of change in risk factor attributable burden for Indigenous Australians data table.

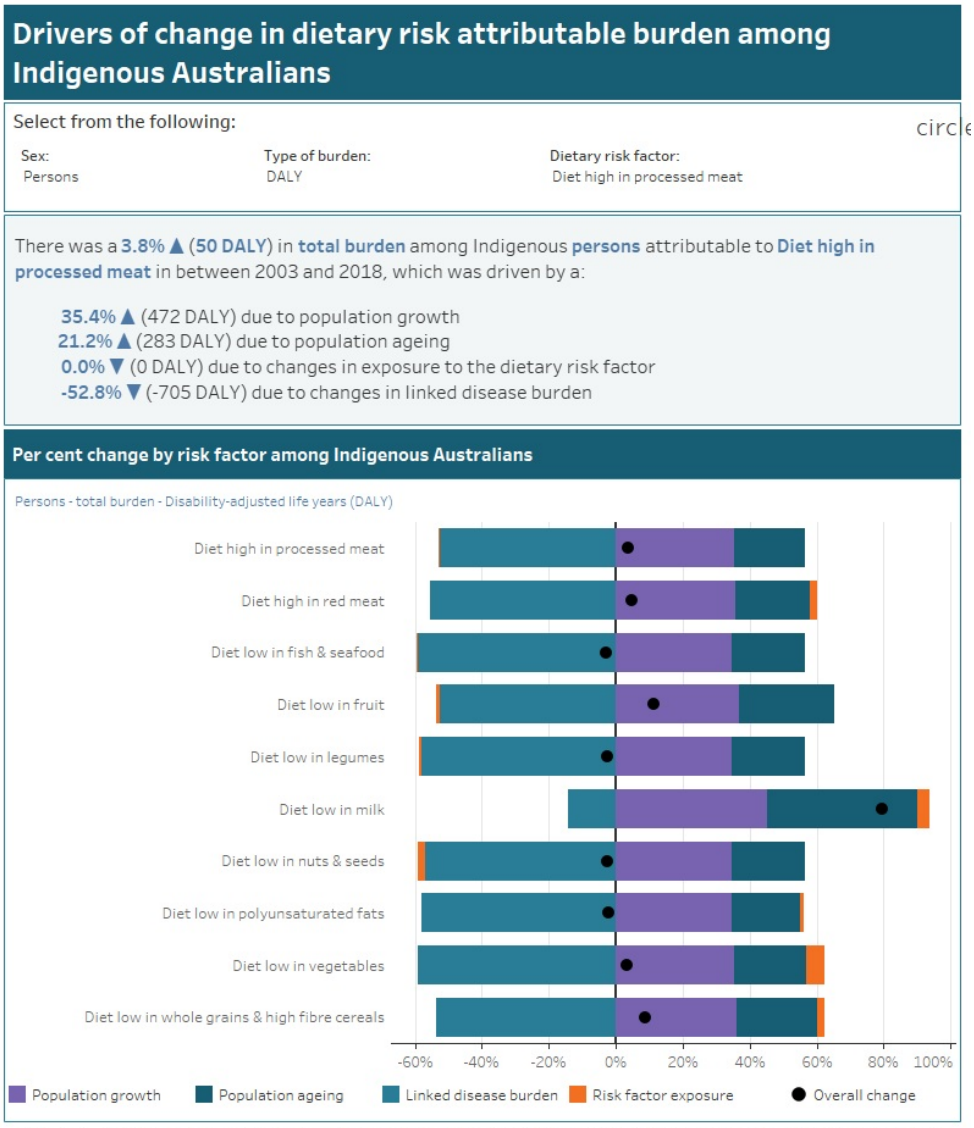
The change in attributable burden over time varied by individual dietary risk factor. For example, burden attributed to a diet low in nuts and seeds fell 2% and burden due to a diet high in processed meat rose 4%.

Use the interactive text and graph below to explore the different drivers of change in burden attributable to dietary risk factors among Indigenous Australians between 2003 and 2018. Estimates are displayed by sex, burden type (DALY, YLD or YLL) and individual dietary risk factor.

Diet high in sodium is not presented here as there is insufficient data available for the analysis required to inform trends in exposure to this risk factor.

For more interactive data on the burden due to this risk factor and changes in the age-standardised rates of attributable burden over time, see Dietary risk factors.

This interactive data visualisation describes drivers of change in dietary risk attributable burden between 2003 and 2018 due to population growth, population ageing, linked disease burden and risk factor exposure among Indigenous Australians. There are 3 sections which can be customised to report data according to type of burden, sex and type of dietary risk. The first section is a text box which reports the percentage and amount of change in attributable burden due to each driver of change for the selected dietary risk type, sex and type of burden. The second section is a stacked horizontal bar chart which reports the percentage change in attributable burden by dietary risk and driver of change for the selected sex and type of burden. Markers are superimposed on the bar chart to show overall percentage changes.



Note: Overall change is equal to the sum of the effects of all factors (population growth, population ageing, changes in the amount of disease/injury and risk factor exposure).
Source: AIHW Australian Burden of Disease Database. http://www.aihw.gov.au

Frequently asked questions

How are the estimates of drivers of change over time calculated?

The Das Gupta method was used to decompose the changes in burden attributable to each risk factor into 4 additive components (Das Gupta 1993). Using a series of scenarios this method calculates the effect of each factor on the changes over time by assuming that all other factors, except the factor under consideration, remain the same at both time points.

The change in overall attributable burden is decomposed into changes due to:

- population growth—in the Aboriginal and Torres Strait Islander population size is increasing over time
- population ageing— the age structure of the Aboriginal and Torres Strait Islander population is changing, with the proportion of older people increasing over time
- risk factor exposure—changes in the prevalence of exposure to the risk factor among Aboriginal and Torres Strait Islander population
- changes in linked disease burden— changes in the overall burden for those diseases or injuries that are linked to the selected risk factor. This may be influenced by changes in diagnosis, treatment or health intervention (resulting in changes in disease prevalence or severity), as well as changes in other risk factors. For example, increases in overweight and obesity may have some impact on coronary heart disease burden which is also linked to tobacco use.

Attributable burden is estimated as the product of these 4 factors using the formula when examining burden by **type of exposure** to the risk factor:

$$B_t = \sum_{i=1}^{n}\sum_{j=1}^{m} P_t \times S_{jt} \times R_{ijt} \times F_{ijt}$$

where

B_t is the amount of burden (DALY, YLL or YLD) attributable to a particular risk factor at time point *t*.

i is a type of exposure to the risk factor such as current tobacco use

n is all types of exposure included in the estimate for the risk factor

j is an age and sex group

m is all age and sex groups included (males and females aged 0 to 100+)

t is a time point

P_t is the total population size at time *t*

S_{ijt} is the share of the population in age and sex group *i* at the time *t*

R_{ijt} is the rate burden of diseases linked to exposure *i* in the age and sex group *j* at the time *t*.

F_{ijt} is the population attributable fraction of diseases linked to exposure *i* in age and sex group *j* at the time *t*.

Σ is the sum of all of the types of exposures *i* and all of the age and sex groups *j*

Attributable burden is estimated as the product of these 4 factors using the formula when examining burden by **linked disease group**:

$$B_t = \sum_{k=1}^{o}\sum_{j=1}^{m} P_t \times S_{jt} \times R_{kjt} \times F_{kjt}$$

where

B_t is the amount of burden (DALY, YLL or YLD) attributable to a particular risk factor at time point *t*.

k is a disease group of the burden linked to the risk factor

o is all disease groups of diseases linked to the risk factor

j is an age and sex group

m is an age and sex groups included (males and females aged 0 to 100+)

t is a time point

P_t is the total population size at time *t*

S_{ijt} is the share of the population in age and sex group *i* at the time *t*

R_{ijt} is the rate burden of disease group *k* linked to the risk factor in the age and sex group *j* at the time *t*.

F_{ijt} is the population attributable fraction for disease group *k* in age and sex group *j* at the time *t*.

Σ is the sum of all of the disease groups *k* and all of the age and sex groups *j*

The effect of each of the 4 factors—population size, population ageing, linked disease burden and risk factor exposure—using this method on the change in attributable burden between 2003 and 2018 is calculated as:

$$E_A = (B_{03} - B_{18})\left(\frac{P_{03}S_{03}R_{03}F_{03} + P_{18}S_{18}R_{18}F_{18}}{5} + \frac{\begin{array}{c}P_{03}S_{03}R_{03}F_{18} + P_{03}S_{03}R_{18}F_{03} + P_{03}S_{18}R_{03}F_{03} + P_{18}S_{03}R_{03}F_{03} + \\ P_{18}S_{18}R_{18}F_{03} + P_{18}S_{18}R_{03}F_{18} + P_{18}S_{03}R_{18}F_{18} + P_{03}S_{18}R_{18}F_{18}\end{array}}{20} + \frac{\begin{array}{c}P_{03}S_{03}R_{18}F_{18} + P_{03}S_{18}R_{03}F_{18} + P_{03}S_{18}R_{18}F_{03} + P_{18}S_{18}R_{03}F_{03} + \\ P_{18}S_{03}R_{18}F_{03} + P_{18}S_{03}R_{03}F_{18}\end{array}}{30}\right)$$

where

E_A is the effect of factor *A* (population size, population ageing, linked disease burden and risk factor exposure)

B is the amount of burden (DALY) attributable to the risk factor in 2003 (B_{03}) in 2018 (B_{18})

P is the population size in 2003 (P_{03}) or in 2018 (P_{18})

S is the population age structure in 2003 (S_{03}) or in 2018 (S_{18})

R is the rate burden of diseases linked to risk factor in 2003 (R_{03}) or in 2018 (R_{18})

F is the population attributable fraction of diseases linked to exposure in 2003 (F_{03}) or in 2018 (F_{18})

The estimates were calculated using a statistical program developed by Dr Jinjing Li from the University of Canberra (Li 2017).

What are the limitations of the methods used in this analysis?

Only factors that could be easily measured (population ageing, population growth, changes in disease/injury and changes in risk factor exposure) were included in these analyses. However, these are considered to be among the most important drivers of change in attributable burden over time. It is not possible to include other factors in the analyses such as socioeconomic status that may also have an impact on changes in attributable burden over time as they are not able to be quantified.

How do these estimates of drivers of change compare to age-standardised rates?

Both age-standardised rates (which use a 'standard' population to produce rates that can be compared independent of the age structure of the study population(s)) and the drivers of change estimates presented here are methods used to compare rates over time, while taking into account the differing age structures (population ageing) of the population over time.

The percent change in age-standardised rates of attributable burden over time is somewhat comparable to the measure of percent change due to the amount of linked disease burden in the drivers of change estimates. However, the advantage of the drivers of change estimates is that they provide an indication of the proportionate impact of each of the specified factors, not just the change in age standardised population rates. A disadvantage of age-standardised rates is that they are only useful for the purposes of comparison with other standardised rates which have used the same reference population. Once standardised, the rates no longer reflect the actual rate observed in the population.

References

Das Gupta P 1993. Standardization and decomposition of rates: a user's manual. U.S. Bureau of the Census, Current Population Reports, Series P23-186. Washington, DC: U.S. Government Printing Office.

Li J 2017. Rate decomposition for aggregate data using Das Gupta's method. The Stata Journal 17(2): 490–502. https://doi.org/10.1177%2F1536867X1701700213

Zhai T, Goss J, Li J 2017. Main drivers of health expenditure growth in China: a decomposition analysis. BMC Health Services Research 17(1): 185. https://doi.org/10.1186/s12913-017-2119-1

Acknowledgments

The authors would like to acknowledge John Goss and Jinjing Li from the University of Canberra for providing us with an analytical tool and advice to be able to break down results over time, using the method developed by Prithwis Das Gupta.

Last updated 25/02/2022 v16.0
© Australian Institute of Health and Welfare 2022

Quality information

Estimates of disease burden due to selected risk factors in the Australian Burden of Disease Study 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people were produced using the best possible data available in the scope and time frame of the study.

To provide information on the quality of estimates, a quality index was developed to rate estimates based on the relevance and quality of source data, and methods used to transform data into a form required for this analysis. In general, the higher the rating, the more relevant and accurate the estimate.

For each risk factor, it was only possible to rate the quality of the data used to estimate the direct population attributable fraction (PAF) or the exposure data used to calculate the PAF. Other inputs (such as relative risks) were included in these calculations, however it was not feasible in the scope of this project to determine the quality of these inputs. For more information on the inputs used to estimate risk factors refer to the Australian Burden of Disease Study 2018: methods and supplementary material.

Use the interactive tool to explore the quality information for risk factor exposure estimates for the Aboriginal and Torres Strait Islander population for each risk factor for the year 2018 at the national level.
This interactive data visualisation reports on the quality information regarding the attributable burden estimates for each risk factor, which can be selected by the user. For each risk factor, there are two scores – one for data and one for methods. Each score is a whole number out of 5. There is a description of the data and methods used to obtain the attributable burden estimate. There is also a table describing the criteria used for all risk factors to assign data and method scores.

Visualisation not available for printing

Last updated 24/02/2022 v6.0
© Australian Institute of Health and Welfare 2022 CC BY

Using and understanding the data - FAQs

Using and understanding the data - frequently asked questions

How were risk factors selected in Australian Burden of Disease Study 2018?

Risk factors were included in the Australian Burden of Disease Study 2018 if burden attributable to the risk factor was estimated in global burden of disease studies or previous Australian studies, or is of substantial national health policy interest.

To be included, the risk factor had to be modifiable, meaning that it could be prevented or modified through intervention and have sufficient evidence of a causal association between risk factor exposure and disease.

Estimates of risk factor exposure data needed to be available at the Australian or Indigenous Australian population level or which could be applied to the Australian or Indigenous Australian population. The diseases linked to the risk factor needed to occur in Australia and estimates of the additional risk of developing or dying from the disease for each risk factor was also required.

As a result, the Australian Burden of Disease Study 2018 identified 39 risk factor components or exposures (such as cannabis and cocaine use) that combine into 19 individual risk factors (such as illicit drug use) for Indigenous Australians.

What is a 'linked disease' and how were these selected?

A 'linked disease' is a condition in the Australian Burden of Disease Study 2018 disease list with a known risk factor. In other words, the disease or injury is 'linked' to the risk factor. For example, tobacco use is a risk factor for the linked disease lung cancer.

Linked diseases were included if the link was biologically plausible and if there was currently sufficient evidence of a causal link. The linked diseases were spread across 15 disease groups. Some risk factors had only a single linked disease, while others had association with multiple diseases across disease groups.

Further information on the methods used to select linked disease is in the ABDS 2018: methods and supplementary material report.

What is attributable burden and how is it calculated?

Attributable burden is the disease burden ascribed to a particular risk factor. It is the reduction in burden that would have occurred if exposure to the risk factor had been avoided or had been reduced to its lowest level. It is estimated by applying a population attributable fraction to the estimated disease burden for that linked disease.

The population attributable fractions (PAF) is the proportion of a particular disease that could have been avoided if the population had never been exposed to a risk factor. The calculation of PAFs requires as inputs the relative risk (the increased risk of developing or dying from the disease if exposed to the risk factor) and the prevalence of exposure to the risk factor in the population. PAFs can also be calculated directly from comprehensive data sources such as registries.

Further information on estimating PAFs and the data and methods used in the Australian Burden of Disease Study 2018 can be found in the Australian Burden of Disease Study 2018: methods and supplementary material report.

What does the 'percent of linked' burden (DALY/YLD/YLL) mean?

The 'percent of linked' burden refers to the proportion of disease burden in the disease linked to the risk factor which could have been avoided if there was no exposure, or minimal exposure to the risk factor. For example, 90% of the lung cancer burden among Aboriginal and Torres Strait Islander people was attributable to tobacco use; that is, this amount of lung cancer burden could have been avoided among the Indigenous population if there was no exposure to tobacco.

When can risk factor estimates be added together?

Risk factors in the Australian Burden of Disease Study 2018 were analysed independently. As such, it is not possible to add or combine the separate estimates for different risk factors without further analysis, due to complex pathways and interactions between them. For example, if the diabetes burden attributable to a diet high in sugar-sweetened beverages and to overweight (including obesity) were added together, the result would be greater than the total burden of type 2 diabetes in Australia. This is because these risk factors are found along the same causal pathway—high intake of sugar-sweetened beverages increases the risk of overweight (including obesity), which in turn increases the risk of type 2 diabetes.

However, additional analyses were undertaken for all risk factors combined, and all dietary risks in the Australian Burden of Disease Study 2018. The Diseases and associated risk factors visualisation shows the relative contribution of each risk factor accounting for the joint effect and mediation between individual risk factors. This visualisation therefore shows the relative impact of each risk factor where the sum of individual risk factor contributions to disease burden can be summed to equal the attributable burden for specific disease causes.

Further information on the methods used to estimate the burden attributable to a combination of risk factors is found in the ABDS 2018: methods and supplementary material report.

Why did the attributable burden due to the risk factor change over time?

Changes over time may be due to changes in exposure to the risk factor or change in the burden from linked diseases. Changes in burden from linked diseases may be influenced by other risk factors and changes to treatment or health intervention. The other inputs used to calculate the burden attributable to this risk factor (such as relative risk or the size of the association between the risk factor and the linked disease) were the same in each year.

Why were current guidelines for risk factors not used to determine the exposure not associated with increased risk?

The level of exposure to risk factors that was not associated with increased risk of disease (also known as the theoretical minimum risk exposure distribution, or TMRED) are different to the guidelines because they are for different purposes.

Guidelines reflect the levels of risk that are acceptable by weighing up the risks and benefits associated with exposure to a risk factor and the distribution of exposure to the risk factor in the population.

TMRED reflect the level of exposure where there is absolutely no risk of disease. The risk factor is limited in definition to high or low exposure only and is specific for the outcomes listed in the study.

Can Australia aim to prevent all attributable burden?

In this study current exposure is compared against a theoretical minimum risk exposure distribution (TMRED).

The TMRED is defined for each risk factor as the theoretical minimum exposure for which there is no increased risk of the linked disease. The estimates reflect how much burden can be prevented if exposure in the population was at the theoretical minimum. This amount of exposure to the risk factor may not be achievable, feasible or economically viable; for example, no overweight (including obesity) in the Indigenous population.

Why is attributable burden higher for some risk factors than others?

The attributable burden is a combination of:

- exposure to the risk factor in the population
- the size of the association between the risk factor and the linked disease
- the number of linked diseases and
- the amount of burden caused from each linked disease.

Why is the risk factor list and the linked diseases different to the Australian Burden of Disease Study 2011?

The lists of risk factors and linked diseases changes between successive burden of disease studies as more research evidence becomes available. This study used the most recently available evidence at the time of analysis and was largely based on the methods used in the GBD 2019 and AIHW review of the literature.

Why do some risk factors include past or life time exposure?

For some risk factors (alcohol, tobacco, illicit drug use, unsafe sex and cancer due to occupational exposure) past exposure is modelled from current exposure to take into account the effect of past exposure on current burden, that is, the lag between exposure and long term outcomes. The methods used for these estimates have been developed internationally.

Some risk factors have impacts that occur over the life course as exposure is linked to long term outcomes.

Where to get more information on data and methods used in the Indigenous burden of disease study?

More information on the ABDS 2018: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people study can be found in the following reports:

- Australian Burden of Disease Study 2018: Methods and supplementary material (BOD 26)
- Australian Burden of Disease Study 2018: key findings for Aboriginal and Torres Strait Islander people (BOD 28)
- Australian Burden of Disease Study 2018: Interactive data on disease burden among Aboriginal and Torres Strait Islander people (BOD 31)
- Australian Burden of Disease Study 2018: impact and causes of illness and death in Aboriginal and Torres Strait Islander people (BOD 32)
- Australian Burden of Disease Study 2018: impact and causes of illness and death in Aboriginal and Torres Strait Islander people — Summary (BOD 33)

For further information or for customised data requests please contact the AIHW Indigenous Burden of Disease team: indigenousbod@aihw.gov.au

---

Last updated 24/02/2022 v11.0

© Australian Institute of Health and Welfare 2022 CC BY

Technical notes

Abbreviations

ABDS	Australian Burden of Disease Study
AIHW	Australian Institute of Health and Welfare
ASR	age-standardised rate
COPD	chronic obstructive pulmonary disease
DALY	disability-adjusted life years
PAF	population attributable fraction
TMRED	theoretical minimum risk exposure distribution
YLD	years lived with disability
YLL	years of life lost

Glossary

age-standardised rate: A rate that takes into account the age structure of the population.

attributable burden: The disease burden attributed to a particular risk factor. It is the reduction in fatal and non-fatal burden that would have occurred if exposure to the risk factor had been avoided (or more precisely had been at its theoretical minimum).

burden of disease (and injury): The quantified impact of a disease or injury on a population, using the disability-adjusted life year (DALY) measure. Referred to as the 'burden' of the disease or injury in this report.

condition (health condition): A broad term that can be applied to any health problem, including symptoms, diseases and certain risk factors, such as high blood cholesterol and obesity. Often used synonymously with disorder or problem.

DALY (disability-adjusted life years): Measure (in years) of healthy life lost, either through premature death defined as dying before the expected life span at the age of death (YLL) or, equivalently, through living with ill health due to illness or injury (YLD).

disability: In burden of disease analysis, any departure from an ideal health state.

disease: A broad term that can be applied to any health problem, including symptoms, diseases, injuries and certain risk factors, such as high blood cholesterol and obesity. Often used synonymously with condition, disorder or problem.

external cause: The environmental event, circumstance or condition as the cause of injury, poisoning and other adverse effect. METeOR identifier: 514295.

fatal burden: The burden from dying 'prematurely' as measured by years of life lost. Often used synonymously with YLL, and also referred to as 'life lost'.

linked disease: A disease or condition on the causal pathway of the risk factor, which is therefore more likely to develop if exposed to the risk.

non-fatal burden: The burden from living with ill health as measured by years lived with disability. Often used synonymously with YLD.

population attributable fraction (PAF): The proportion (fraction) of a disease, illness, disability or death in a population that can be attributed to a particular risk factor or combination of risk factors.

rate: A rate is one number (the numerator) divided by another number (the denominator). The numerator is commonly the number of events in a specified time. The denominator is the population 'at risk' of the event. Rates (crude, age-specific and age-standardised) are generally multiplied by a number such as 1,000 to create whole numbers.

risk factor: Any factor that represents a greater risk of a health condition or health event. For example, smoking, alcohol use, high body mass.

YLD (years lived with disability): A measure of the years of what could have been a healthy life but were instead spent in states of less than full health. YLD represent non-fatal burden.

YLL (years of life lost): Years of life lost due to premature death, defined as dying before the global ideal life span at the age of death. YLL represent fatal burden.

© Australian Institute of Health and Welfare 2022 CC BY

Data

Last updated 24/02/2022 v1.0

© Australian Institute of Health and Welfare 2022 CC BY

Related material

Latest related reports

- Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2018 |
  Publication | 24 Nov 2021
- Australian Burden of Disease Study 2018: Interactive data on risk factor burden |
  Web report | 24 Nov 2021
- Australian Burden of Disease Study 2018: Interactive data on disease burden |
  Web report | 24 Nov 2021
- Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2018 - Summary report |
  Publication | 24 Nov 2021
- Australian Burden of Disease Study: Methods and supplementary material 2018 |
  Web report | 24 Nov 2021
- Australian Burden of Disease Study 2018: key findings for Aboriginal and Torres Strait Islander people |
  Web report | 07 Oct 2021
- Australian Burden of Disease Study 2018 – Key findings |
  Web report | 18 Aug 2021

Related topics

- Indigenous Australians
- Risk factors

Last updated 24/02/2022 v1.0
© Australian Institute of Health and Welfare 2022 CC BY