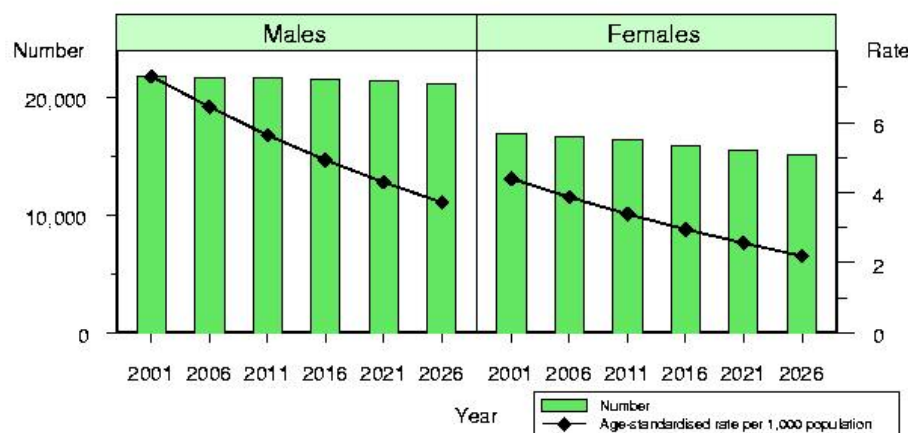


Trends in cardiovascular disease

The age-adjusted incidence rate for cardiovascular disease will halve, but the number of new cases will decline only slightly

The incidence of cardiovascular disease is predicted to decrease only slightly between 2001 and 2026, from 38,672 cases to 36,250 cases: an overall decrease of just over 6 per cent. Around 80 per cent of new cases are for coronary heart disease (18,895, or 52 per cent of cases in 2026) and stroke (9,175, or 25 per cent of cases in 2026).

Cardiovascular disease: Incident cases and age-adjusted rates, NSW 2001 to 2026



Source: Population data from Transport and Population Data Centre, NSW Department of Infrastructure, Planning and Natural Resources available online at www.planning.nsw.gov.au/tpdc/pop-projections.html. Incidence and prevalence data from Centre for Burden of Disease and Cost-effectiveness, School of Population Health, University of Queensland.

The age-adjusted incidence of cardiovascular diseases is predicted to almost halve, from 5.7 per 1,000 in 2001 to 2.9 per 1,000 in 2026. The decline is predicted to be slightly higher for coronary heart disease (53 per cent decline) than for stroke (50 per cent decline).

The age-adjusted prevalence rate for cardiovascular disease will halve, but the number of people living with these diseases will increase slightly

The prevalence of cardiovascular disease is predicted to increase slightly between 2001 and 2026, from 399,592 to 409,637 cases: an overall increase of 2.5 per cent. The main reason for this increase is a predicted 13 per cent increase in the prevalence of stroke in males (from 45,711 to 51,679 cases) and a 3 per cent increase in the prevalence of coronary heart disease in males (from 150,032 to 154,502 cases). The prevalence of both stroke and coronary heart disease is predicted to decline in females over this same period (by around 3 per cent and 10 per cent respectively).

The age-adjusted prevalence rate for all cardiovascular diseases is predicted to almost halve, from 59.0 per 1,000 in 2001 to 33.4 per 1,000 in 2026. Coronary heart disease rates are predicted to decline from 35.7 to 19.3 per 1,000 and the rates of stroke are expected to decline from 15.4 to 8.9 per 1,000.

The predicted decline in deaths from cardiovascular disease relates to reductions in risk factors, especially smoking, as well as better treatment and management

Around 58 per cent of the decline in death rates from cardiovascular diseases is assumed to be due to a drop in incidence, associated largely with a decline in smoking prevalence, and 42 per cent due to a reduction in case-fatality associated with better treatment and management of disease and increased survival.

The methods used to project incidence and prevalence of cardiovascular disease in this publication provide a basis for direct comparison with other diseases and cover the planning period 2001-2026. The National Heart foundation and Access Economics have also produced projections for cardiovascular disease for the whole of Australia in the report *The shifting burden of cardiovascular disease in Australia*. Canberra: Access Economics, 2005. These projections include less severe disease and therefore the number of cases predicted are greater.

Trends in diabetes

Both the age-adjusted incidence rate, and the number of new cases, of diabetes will increase dramatically

The incidence of non-insulin dependent diabetes is predicted to increase by 127 per cent between 2001 and 2026, from 29,722 to 67,441 cases. The increase in incidence will be higher in males (160 per cent) than in females (98 per cent) over this period.

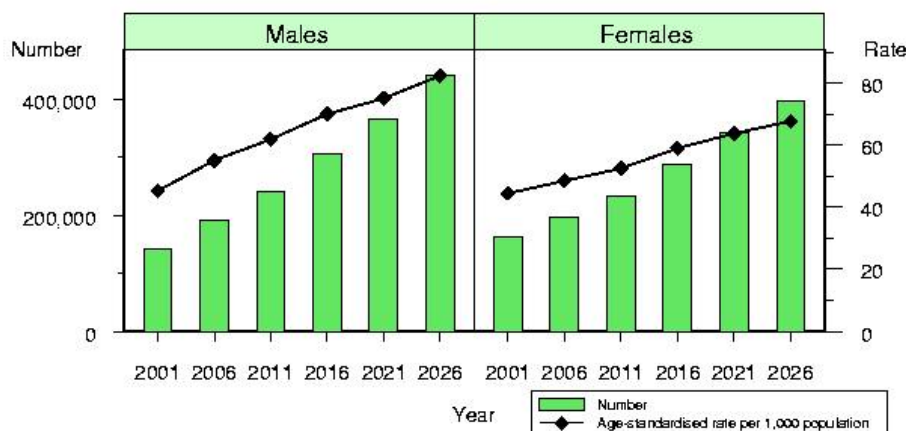
The age-adjusted incidence of non-insulin dependent diabetes is predicted to increase by 42 per cent (61 per cent for males and 27 per cent for females) from 4.4 per 1,000 in 2001 to 6.3 per 1,000 in 2026.

The number of people with diabetes will more than double

The prevalence of non-insulin dependent diabetes is predicted to more than double (176 per cent) between 2001 and 2026, from 303,734 to 838,457 cases. The increase over this period is predicted to be higher for males (214 per cent) than for females (144 per cent), with the male rate eclipsing the female rate in 2016. In 2026, the prevalence among males is expected to be 440,692 cases and the prevalence among females is expected to be 397,765 cases.

The age-adjusted prevalence rate for non-insulin dependent diabetes is also predicted to increase, by 66 per cent from 45.2 per 1,000 in 2001 to 75.1 per 1,000 in 2026. The predicted increase in the age-adjusted prevalence rate is higher for males (82 per cent) than for females (52 per cent).

Non-insulin dependent diabetes: Prevalent cases and age-adjusted rates, NSW 2001 to 2026



Source: Population data from Transport and Population Data Centre, NSW Department of Infrastructure, Planning and Natural Resources available online at www.planning.nsw.gov.au/tpdc/pop-projections.html. Incidence and prevalence data from Centre for Burden of Disease and Cost-effectiveness, School of Population Health, University of Queensland.

The 2 main factors driving the predicted increase in diabetes are increasing levels of overweight and obesity, and improved survival from cardiovascular disease

The 2 main factors driving the projected increase in incidence and prevalence of non-insulin dependent diabetes in the model were a predicted continuing increase in the prevalence of overweight and obesity in the population (increasing incidence) and a reduced case-fatality rate for non-insulin dependent diabetes associated with an improved survival from cardiovascular disease (increasing prevalence). Diabetes is an independent risk factor for cardiovascular disease.

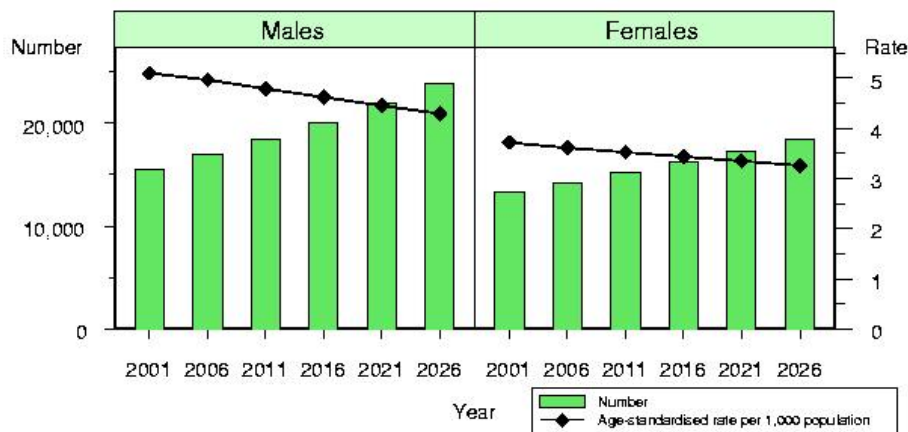
Trends in cancer

The number of new cases of cancer will double, despite a slight drop in the age-adjusted incidence rate

The incidence of all cancers is predicted to increase by 47 per cent from 28,825 cases in 2001 to 42,425 cases in 2026. The increased incidence will be higher in males (54 per cent) than in females (39 per cent) over this period. The increased incidence is caused by an ageing population.

The age-adjusted incidence of all cancers, and selected high volume cancers (lung cancer, prostate cancer, breast cancer, colorectal cancer and melanoma) will slightly decrease between 2001 and 2026.

All cancers: Incident cases and age-standardised rates, NSW 2001 to 2026



Source: Population data from Transport and Population Data Centre, NSW Department of Infrastructure, Planning and Natural Resources available online at www.planning.nsw.gov.au/tpdc/pop-projections.html. Incidence and prevalence data from Centre for Burden of Disease and Cost-effectiveness, School of Population Health, University of Queensland.

New cases of lung cancer, prostate cancer, breast cancer, colorectal cancer and melanoma will all increase

There is predicted to be a large increase in the number of cases of lung cancer (57 per cent) from 3,005 cases in 2001 to 4,708 cases in 2026. The increase in lung cancer cases will be higher for females (80 per cent) than males (44 per cent) over this period.

A large increase in the number of cases of prostate cancer (66 per cent) is predicted, from 3,740 cases in 2001 to 6,188 cases in 2026.

The number of cases of breast cancer is expected to increase by 34 per cent from 3,920 cases in 2001 to 5,266 cases in 2026.

The number of cases of colorectal cancer is expected to increase by 40 per cent from 4,191 cases in 2001 to 5,854 cases in 2026. Over this period, there will be a higher increase in cases for males (49 per cent) than for females (29 per cent).

The number of cases of melanoma is expected to increase by 44 per cent from 2,998 cases in 2001 to 4,326 cases in 2026. Over this period, there will be a higher increase in cases in males (56 per cent) than in females (30 per cent).

Different factors influence the incidence projections for different cancers

Smoking prevalence among males has declined since the post-war period, while smoking rates increased among females from the late-1970s to mid-1980s. Although smoking rates are now declining in women, it is expected that due to disease latency lung cancer incidence will continue to increase slightly to 2026.

For colorectal cancers, population trends in fat intake, obesity, fruit and vegetable intake, non-soluble fibre intake and physical activity will affect future incidence rates. In the shorter term, population-based bowel cancer screening programs (which have not yet been implemented in NSW) will detect existing (prevalent) cases as well as new cases, with the effect of increasing incidence through early detection.

For breast cancer, trends in genetic screening, follow-up and treatment and population trends in age at first child or nulliparity in women will affect future trends in incidence.

For prostate cancer, the causal factors are unclear and the effect of family history is not modifiable. For melanoma, sun exposure behaviours in adults and children will affect future projections of incidence.

The methods used to project incidence of cancer in this publication provide a basis for direct comparison with other diseases and cover the planning period 2001-2026. The Cancer Institute of NSW have produced shorter-term projections (2003-2011) by both Health Area and local government area in the report *Cancer in New South Wales Incidence and mortality, 2003*. Sydney: Cancer Institute NSW, 2005. The Cancer Institute projections are reviewed each year with the release of new incidence data. The figures and projections provided by the Cancer Institute are to be used in NSW for the specific purpose of planning cancer services in the short term.

The methods used in this report were undertaken by the Centre for Burden of Disease and Cost-effectiveness, University of Queensland. These methods incorporate an all-disease cause approach which adjusts future estimates of disease incidence and prevalence by the trend in disease-specific mortality as well as other causes of mortality. Where the disease-specific mortality trend is declining, the resulting incidence may be less than expected compared with methods involving a linear projection of past incidence into the future. This may explain in part the lower projections of numbers of cases of cancer using the University of Queensland model compared with the Cancer Institute NSW model for cancer incidence projections.

Trends in chronic obstructive pulmonary disease

The number of people with chronic obstructive pulmonary disease (COPD) will decline by around one-quarter

The prevalence of chronic obstructive pulmonary disease (COPD) is predicted to decline by 24 per cent between 2001 and 2026, from 120,648 cases in 2001 to 92,113 cases in 2026. The prevalence among males is expected to decline by 37 per cent but the prevalence among females is expected to increase by 7 per cent over this period.

The age-adjusted prevalence of COPD is predicted to decrease by 55 per cent from 18.0 per 1,000 in 2001 to 8.1 per 1,000 in 2026. The predicted decrease in the age-adjusted prevalence of COPD is higher for males (64 per cent) than females (37 per cent).

The major factor influencing the projected prevalence of COPD is an expected continuing decline in smoking

COPD is a term used to refer to several different but related diseases. Chronic bronchitis and emphysema are the 2 main diseases included in this group. Cigarette smoking is the most common risk factor, while exposure to pollution and infections have also been identified as risk factors.

The prevalence among males will decline more steeply than among females due to a sustained decline in smoking prevalence among males since the post-war period. Conversely, mortality rates from COPD among females have been increasing over the last 20 years, as a delayed effect of an increase in the proportion of female smokers from the late-1970s to mid-1980s.

Trends in injury and poisoning

Hospitalisations for injury and poisoning will almost double

Hospitalisations for injury and poisoning are predicted to increase by 94 per cent from 135,322 cases in 2001 to 262,050 cases in 2026. Over this period, the number of male cases is expected to increase by 96 per cent and the number of female cases is expected to increase by 90 per cent.

The age-adjusted incidence rate for injury and poisoning is predicted to increase from 20.5 per 1,000 in 2001 to 29.7 per 1,000 in 2026.

The increasing number of hospitalisations due to injury will be largely driven by increasing admissions for falls because of population ageing

The major causes of injury and poisoning include falls, suicide, poisoning, road traffic crashes, complications from medical care, interpersonal violence, and fire and burns. Non-demographic factors that will affect the future incidence of injury—such as alcohol use in the future, and the built environment of the future—are difficult to predict with any certainty.

Trends in mental disorders

The number of people with mental disorders will increase by almost 10 percent, but the age-adjusted prevalence of mental disorders will decline slightly

The prevalence of mental disorders is predicted to increase by 9 per cent between 2001 and 2026, from 1,199,417 cases to 1,303,685 cases. Over this period, the increase in mental disorders will be higher for females (15 per cent) than males (3 per cent).

The age-adjusted prevalence rates of mental disorders is predicted to decline from 182.7 per 1,000 in 2001 to 164.9 per 1,000 in 2026. The predicted decrease in the age-adjusted prevalence rate is higher for males (15 per cent) than females (4 per cent) over this period.

One of the major factors influencing the projections is the predicted reduction in the incidence and prevalence of alcohol-related disorders

The mental disorders included in these projections include alcohol dependence (13 per cent), harmful alcohol use (15 per cent), any anxiety disorder (33 per cent), major depression (11 per cent) and cannabis dependence (6 per cent).

In NSW between 1989 and 2002, the age-adjusted rate of death attributable to alcohol declined by 21 per cent, from 29 to 23 deaths per 100,000 persons. The rate of decline was greater for males (25 per cent) than females (13 per cent) over this period.

Anxiety disorders are also major factors contributing to the projections

There is some evidence from the 2004 New South Wales Population Health Surveys that the prevalence of these conditions may be increasing. In NSW in 2004, 13.2 per cent of adults reported a

high level of psychological distress (11.7 per cent for males and 14.6 per cent for females). In 1997 the prevalence was 11.1 per cent (9.2 per cent in males and 13.0 per cent in females).

Trends in chronic musculoskeletal disorders

The number of people with chronic musculoskeletal disorders will almost double

The prevalence of chronic musculoskeletal disorders in NSW is predicted to increase by 79 per cent between 2001 and 2026, from 221,405 cases to 397,105 cases. Over this period, the increase in chronic musculoskeletal disorders will be higher in males (95 per cent) than females (67 per cent).

The age-adjusted prevalence rate for chronic musculoskeletal disorders is predicted to remain stable over this period, at 32.8 per 1,000 in 2001 and 33.1 per 1,000 in 2026.

The increase in chronic musculoskeletal disorders will be driven by population ageing

The musculoskeletal disorders included in these projections are chronic back pain, occupational overuse syndrome, osteoarthritis, and rheumatoid arthritis. Of these conditions, 82 per cent were osteoarthritis and 16 per cent were rheumatoid arthritis.

No disease trends were applied to the data used for these projections, as there was a lack of evidence of trends for these conditions both within Australia and overseas. The increase in prevalence is therefore solely based on the ageing of the population.

Trends in vision disorders

The number of people with vision disorders will almost double

The prevalence of vision disorders in NSW is predicted to increase by 93 per cent between 2001 and 2026, from 131,638 cases, to 254,002 cases. Over this period, the increase in prevalence will be higher for males (109 per cent) than for females (81 per cent).

The age-adjusted prevalence rate for vision disorders is predicted to remain stable over this period, at 19.4 per 1,000 in 2001 and 19.8 per 1,000 in 2026.

The increase in vision disorders will be driven by population ageing

The vision disorders included in these projections are glaucoma, macula degeneration, cataract, refraction errors and 'other vision loss'. Of these conditions, 51 per cent were refraction errors, 13 per cent were macula degeneration, 6 per cent were cataracts, and 6 per cent were glaucoma.

No disease trends were applied to the data used for these projections, as there was a lack of evidence of trends for these conditions both within Australia and overseas. The increase in prevalence is therefore solely based on the ageing of the population.

Trends in hearing loss

The number of people with hearing loss will almost double

The prevalence of hearing loss in NSW is predicted to increase by 87 per cent between 2001 and 2026 from 315,011 cases to 588,714 cases. Over this period, the increase will be higher for males (92 per cent) than for females (76 per cent).

The age-adjusted prevalence rate for hearing loss is predicted to slightly increase over this period by 3 per cent from 46.5 per 1,000 in 2001 to 48.1 per 1,000 in 2026.

The increase in hearing loss will be driven by population ageing

No disease trends were applied to the data used for these projections, as there was a lack of evidence of trends for these conditions both within Australia and overseas. The increase in the number of prevalent cases is therefore solely based on the ageing of the population.

Trends in dementia

The numbers of new cases of dementia, and people living with dementia, will more than double

The incidence of dementia in NSW is predicted to increase by 107 per cent between 2001 and 2026 from 10,176 cases to 21,101 cases. Over this period, the number of male cases is expected to increase by 126 per cent and the number of female cases is expected to increase by 96 per cent. There is no predicted change in the age-adjusted incidence rate for dementia over the period; it will remain at 1.5 per 1,000 population.

The prevalence of dementia in NSW is predicted to increase by 103 per cent between 2001 and 2026 from 58,893 cases in 2001 to 119,471 cases in 2026. Over this period, the number of male cases is expected to increase by 123 per cent and the number of female cases is expected to increase by 90 per cent. The age-adjusted prevalence rate for dementia is predicted to remain at a similar rate over this period at 8.6 per 1,000 in 2001 and 8.8 per 1,000 in 2026.

The increase in dementia will be driven by population ageing

No disease trends were applied to the data used for these projections, as there was a lack of evidence of trends for these conditions both within Australia and overseas. Also, it was assumed that the case-fatality rate, which affects the prevalence rate, was unlikely to change much over time, as there are no effective lifesaving interventions for dementia. The increase in prevalence is therefore based solely on the ageing of the population.

References

1. Vos T, Goss J, Begg S, Mann N. *Australian Burden of disease and injury study: Projected health care costs report*. Unpublished report prepared by the University of Queensland and the Australian Institute of Health and Welfare for the Australian Government Department of Health and Ageing.