

Population Health in Perspective

in Western Australia



foreword

Western Australians enjoy one of the highest standards of health in the world. While our temperate climate, good quality food and water, and high standard of living all contribute to this, so too does our excellent health system.

However, health care is not cheap and, like all health care systems around the world, we have finite resources with which to achieve a healthy population. The ageing of the population, together with increasing costs due to new technologies and pharmaceuticals, continue to place a strain on our hospitals and other health services.

The State Government spends over \$2.5 billion on health every year. Most of the health budget is spent on diagnosis and treatment (82%), and 8% is spent on continuing care, leaving 10% for prevention and promotion, or public health (now becoming known as population health).

Early intervention to prevent people getting sick can significantly reduce the burden of disease in our community, and many health promotion programs save the health system much more than they cost to run. For example, it is estimated that the reduction in smoking prevalence in WA since 1970 has saved approximately \$1.23 billion in direct hospital costs.

The *Population Health Division* aims to protect and promote people's health through a range of strategies that often involve partnerships with external groups and organisations. Epidemiological analysis helps to prioritise and evaluate this work.

This report provides a concise overview of the activities of the Population Health Division, and details how our health has changed over the last century, our current health issues, and our health challenges for the future.

I encourage everyone with an interest in health to read this report and recognise the important role we can all play in improving our own health and that of the community as a whole.



Michael Jackson
Executive Director
Population Health Division



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contents

Who we are	2	Our health priorities	13
Our population	2	Cardiovascular disease	13
Our families	3	Cancer	14
Our health history	4	Injury and poisoning	16
Life expectancy	4	Mental health	18
Deaths	4	Diabetes	19
Our health today	5	Asthma	20
The role of population health	5	Arthritis and musculoskeletal conditions	21
Influences on our health	6	Communicable diseases	22
Our environment	6	Our health into the future	24
Our genetics	7		
Our legislation	8		
Our socioeconomic position	8		
Our early childhood years	8		
Our healthy lifestyle choices	9		

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who we are



Western Australia (WA) covers a massive 2.5 million square kilometres, yet around 70% of the population live in the Perth metropolitan area. Consequently, country areas are sparsely populated having, on average, only one person for every five square kilometres.

The population of WA has grown steadily in recent years and currently stands at around two million. It has been estimated that by 2051 the population will reach approximately 2.9 million.

WA has a diverse population. Approximately a third of the population were born overseas, coming from over thirty different countries. Aboriginal people* account for 3.5% of the total population.

The vast distances, significant travelling times, low population density, and diversity of people living in regional areas of WA, present a unique challenge to those working in the health sector, and require innovative and flexible programs and initiatives.

Our population

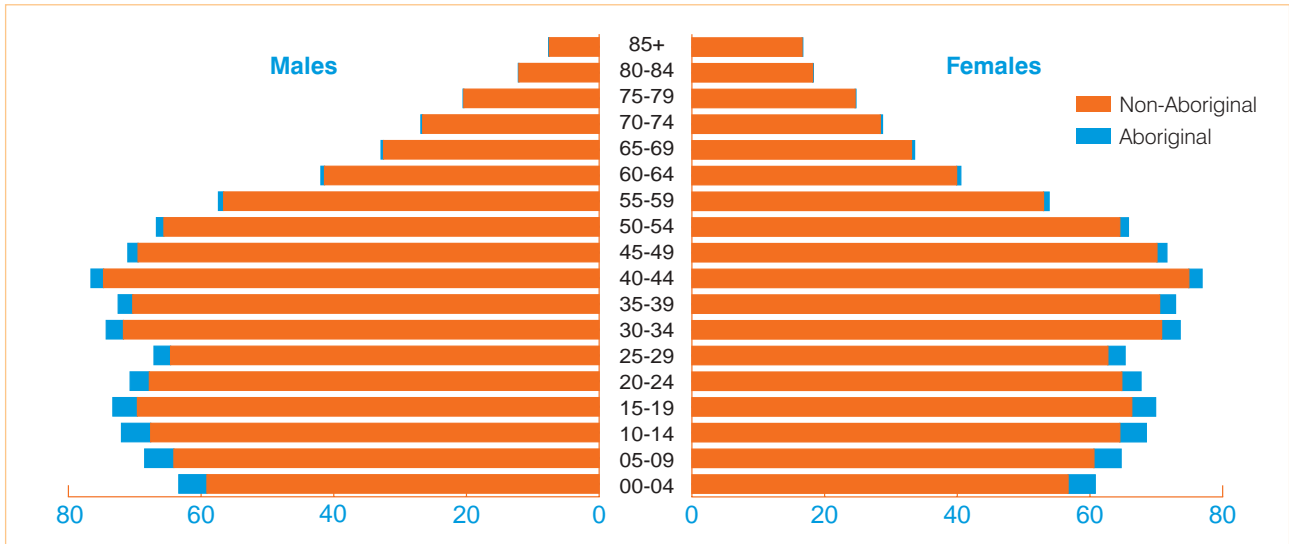
WA has an ageing population and this is predicted to continue for some years to come. Nearly 220,000 seniors (aged 65 years and over) live in WA, forming 11% of the population. However, this figure is expected to double over the next fifty years. Senior women outnumber senior men, and by 85 years this has increased to a two fold difference.

The ageing of the population is mainly due to decreasing fertility rates. The current birth rate of thirteen babies for every 1,000 people in WA is a third of that reported at the turn of the century.

Did you know..

The average age of new mothers in WA is 30 years. Among Aboriginal people the average age of new mothers is around 24 years.

Population pyramid (thousands of people by age group) for WA



Our families

Western Australian families come in many shapes and sizes and children are growing up in families that are very different from the 'standard family' of the past.

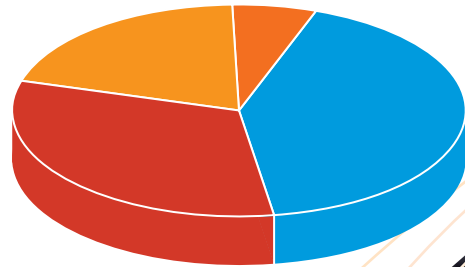
Compared to twenty years ago, a child in WA is less likely to have brothers and sisters and more likely to be growing up in a single parent home. However, there are still more children in traditional families.

Of all family types, couples without children are projected to grow the fastest in WA, with lone person households also projected to increase rapidly.

Did you know...

People who never marry are twice as likely to die earlier than their married counterparts.

Living arrangements in WA



- Living with family 42%
- Living with partner 32%
- Living alone 20%
- Other arrangements 6%

our health history



Over the last century, the health of Western Australians has improved dramatically through public interventions affecting water quality, sanitation and overcrowding in households. Through these changes, the major health conditions affecting the community have shifted from a range of communicable diseases and injuries to chronic 'lifestyle' diseases.



Life expectancy

How long a person can expect to live is a common measure of the health status of a community. The life expectancy of Western Australians has steadily improved over the past century. In 1911, a boy born in WA could expect to live for around 54 years, while a girl could expect to live for 60

years. Today, the life expectancy of West Australians has increased by approximately 23 years, to 77 and 83 years respectively. Although the life expectancy of Aboriginal people in WA has also increased, it has done so at a slower rate, and is still sixteen years less than the non-Aboriginal population.

Deaths

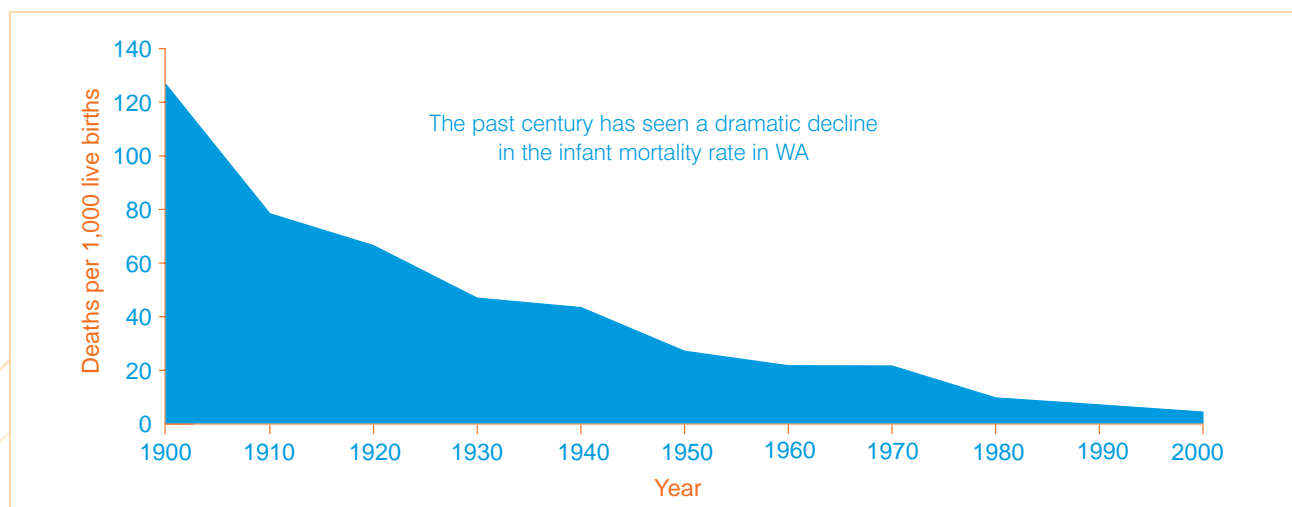
The improvement in life expectancy in WA is largely due to a marked reduction in mortality rates over the last hundred years. In 1900, the main causes of death were diarrhoea, pneumonia, tuberculosis, cancer and other infectious diseases, many resulting in high infant mortality rates. By the middle of the twentieth century, chronic diseases such as cancer and cardiovascular disease (CVD) had overtaken infectious diseases as the leading causes of death. Nowadays, circulatory system diseases, accidents, self-harm, assault, cancers, respiratory diseases and endocrine / metabolic diseases account for the greatest number of deaths in WA.

Although the death rate has also fallen among Aboriginal people, it is still about double that of non-Aboriginal people. The main causes of death are similar for Aboriginal people, although they tend to die from these causes at younger ages.

Infant mortality

Infant mortality has fallen dramatically in WA over the past century. However, despite significant improvements in recent years, infant mortality among Aboriginal people is nearly four times that of the general population.

Infant mortality rate (per 1,000 live births) in WA



our health today



Today, the majority of Western Australians enjoy a high standard of health, which is among the best in the world. WA has one of the highest life expectancies in the world, and around two-thirds of Western Australians report their health as either very good or excellent. As would be expected, younger people report better health than older people.

Despite the improvement in health status over the past decades, further health gains can be made. Avoidable diseases and injuries still occur and some sectors of our community experience more illness than others.

The role of population health

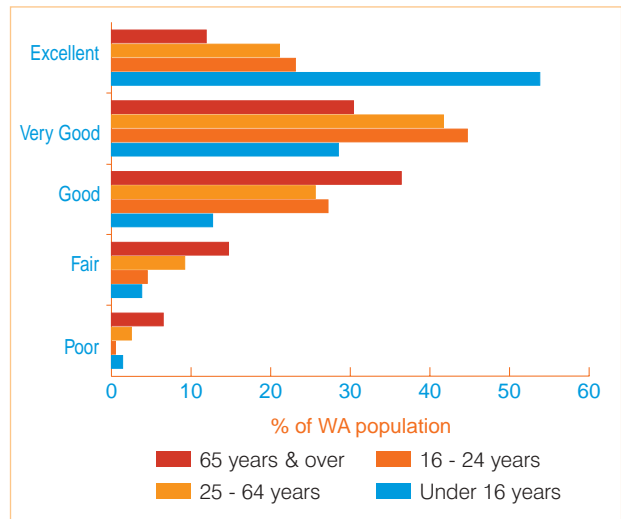
While the health system as a whole meets the diverse health needs of the community, population health activities differ from the provision of clinical services. Population health is characterised by planning and intervention for better health in populations (or sub-populations) rather than focussing on the health of individuals. The core business of population health is disease minimisation through health protection activities such as immunization, health promotion and the provision of preventative health services, such as screening programs and community based services.

Did you know...

Migrants often have a better standard of health because they have to meet certain health criteria to enter the country and are generally young. However, eventually they take on the health profile of the host community.

Nationally, seven chronic conditions are seen as health priorities because of their high level of disease burden and potential for health gains and improved outcomes. These are

How Western Australians report their health status by age



cardiovascular disease, cancer, injury, mental health, diabetes mellitus, asthma, and arthritis and musculoskeletal conditions. Population health has a significant role to play in addressing these diseases, as many can be reduced by changes in lifestyle factors. The impact of these conditions on Western Australians is discussed in more detail later.

Another important role for population health is the collection and maintenance of health data from a variety of sources, including, population surveys, registry data and administrative data. These data assist in setting priorities, appropriate targeting of programs, and evaluating their effectiveness.

Leading causes of disease burden, Western Australia

Males		Females	
1	Ischaemic heart disease	1	Ischaemic heart disease
2	Lung cancer	2	Alzheimer and other dementias
3	Suicide and self-inflicted injuries	3	Depression
4	Chronic obstructive pulmonary disease	4	Stroke
5	Stroke	5	Breast cancer
6	Road traffic accidents	6	Diabetes mellitus
7	Diabetes mellitus	7	Asthma
8	Depression	8	Osteoarthritis
9	Hearing loss	9	Lung cancer
10	Alzheimer and other dementias	10	Chronic obstructive pulmonary disease

influences on our health



Our health status is the result of complex interactions between a variety of factors, including the environment, genetic make up and lifestyle behaviours. The importance of these factors and the role played by the Department of Health is discussed below.

Our environment

Maintaining a safe environment is important in ensuring the health of the community. Environmental Health is specifically concerned with the physical, chemical, biological and social conditions which have an impact on human health, such as water and food safety, waste management, vector borne disease, sustainable development and disaster management.

Examples of the diverse range of substances monitored by the Department include:

- Pathogens in air, food and water, including salmonella, Legionella and mosquito-borne diseases
- Algal blooms and plant toxins
- Metals such as lead, cadmium and aluminium
- Pesticides
- Industrial chemicals and pollutants, including phthalates, PCBs and dioxins
- Radiation from nuclear and medical sources.

Chemicals

A wide range of chemical substances used in homes, commercial premises, factories and farms can cause harm to people and the environment if used incorrectly. The risks of these substances need to be established and monitored, and people need to be educated about their correct use.

Air

Measures to keep our air healthy include regulations on the maintenance of evaporative air conditioning units and cooling towers, and reducing smoke emissions from domestic households.

Did you know ...

It is a legal requirement of the Food Standards Code that all food manufacturers, distributors and importers have a food recall plan to reduce the risk of food poisoning outbreaks.

Food, meat and dairy safety

Chemical residues and microbes in food can lead to outbreaks of disease. Routine inspections are carried out in settings such as farms, abattoirs, smallgoods manufacturers, restaurants, hospitals and catering venues to ensure that food is produced, served and stored properly to minimise the risk of food borne disease. Food safety plans and guidelines also contribute to a safe food industry.

Water

Drinking water in WA is of a very high standard, complying with both national and international standards. Wastewater management prevents contamination of our land and water sources. Activities include assessing the wastewater management systems proposed for town planning and land redevelopment schemes, and monitoring the operation of existing sewage and wastewater disposal and re-use facilities. Sampling, tracking and responding to algal blooms and sewage overflows are other important responsibilities undertaken to keep our water sources safe.





Mosquitoes

Mosquito-borne diseases can cause protracted ill health. Ross River virus and Murray Valley encephalitis are two

notable diseases that occur near water sources suitable for mosquito breeding.

The Department of Health works with local governments to control mosquito breeding and exposure in high-risk areas through a range of activities.



Did you know...

Flocks of sentinel chickens are kept in some northern WA towns to provide an early warning system for Murray Valley encephalitis.

Aboriginal communities

Environmental health in Aboriginal communities is an important priority, and the Department contracts key local governments and Aboriginal environmental health workers to provide services in remote Aboriginal communities. Last year environmental health staff helped to collect data from 300 Aboriginal communities for the Environmental Health Needs Survey.

Our genetics

The genes we inherit are a strong determinant of health. Knowledge about population genetics gives people who are at risk of hereditary diseases, such as cancer, cystic fibrosis, thalassemia and spina bifida, choices about prevention or early intervention.

Did you know...

Genes are responsible for about 30% of the differences in life expectancy; the rest is a result of modifiable factors.

For example, approximately 5% to 10% of breast, ovarian and bowel cancers are caused by genetic factors. These cancers are described as 'familial' because

they occur more frequently in families who have inherited the defect. Genetic testing identifies those most likely to develop cancer, allowing strategies for early detection and prevention in high-risk groups.

Birth defects occur in about 5% of births in WA, but early intervention strategies are successful in reducing their effects. All babies born in WA are screened for a number of metabolic

Did you know...

WA has a familial cancer registry, which helps in the early identification of cancer cases.

disorders in the first few days of life, which prevents permanent disabilities in approximately 25 babies each year. The recent introduction of tandem mass spectrometry will increase the number of genetic disorders detected by screening.

The Department of Health plays an important role in minimising the negative impact of genetic diseases by promoting affordable and accessible genetic services, developing professionals' knowledge of genetic technologies and their social impacts, and monitoring the integration of genetic advances into health programs and policies.

Our legislation

A range of strategies are in place to protect and promote the health of Western Australians. Health legislation and regulations ensure that there are monitoring, testing and response processes in place to reduce the risk of harm from dangerous substances, such as poisons, radiation, pesticides, dangerous environments such as unsafe food and tobacco smoke, and infectious diseases. The legislation also requires the reporting of a range of conditions and illnesses. Much of this work is undertaken in partnership with local governments.

Examples of health legislation in WA include the *Health Act 1911*, *Poisons Act 1964*, *Blood Donation Act 1985*, the *Health (Skin Penetration Procedure) Regulations 1998*, the *Human Reproductive Technology Act 1991* and the *Health (Smoking in Enclosed Public Places) Regulations 2003*.

Our socioeconomic position

Our life opportunities and our health are significantly influenced by our socioeconomic position (SEP), which can be loosely defined as a person's relative social and economic position in society. Research on socioeconomic health inequalities has consistently shown that people from higher socioeconomic backgrounds experience better health, less chronic disease and are less likely to die at an early age. Furthermore, recent research has demonstrated that many of these differences have increased over the past fifteen years.

Even within socioeconomic strata there are relative differences. Social inequalities within different levels of SEP have also been found to be associated with ill-health in industrialized countries. The psychological experience of inequality has a profound effect on our lives. If we can better understand the link between social inequalities and health, we can also reduce their effects. This important area is being given greater emphasis in planning and policy.

Did you know...

Males and females who live in areas defined as advantaged live four years and two years longer respectively than those from disadvantaged areas.

Our early childhood years

Our health in later life is the result of cumulative exposure to a range of social conditions and risk factors starting before birth and in early childhood. Development of health and wellbeing begins before birth, continues throughout life and is influenced by both genetics and the environment, including neighbourhood quality.

Did you know ...

Health inequalities involve more than material factors - psychosocial factors play a major role in our health outcomes.

The social and physical environment which babies and young children experience shapes the way that networks and patterns in the brain are developed.

Good nutrition before and after birth, and nurturing and responsive care in the first years of life improve outcomes for children's learning and behaviour, and for physical and mental health throughout life. For example, exclusive breast feeding for at least six months has been shown to improve emotional wellbeing and reduce the risk of obesity, Type 2 diabetes and asthma. These can be further exacerbated by lifestyle factors during childhood, such as poor diet and lack of physical activity, and can impact on adult emotional and psychosocial functioning.

Healthy early childhood development can be promoted through supporting responsive parenting, good nutrition and physical activity, and reducing family stress by addressing factors such as social disadvantage, poor housing, social isolation, and family violence. This provides multiple benefits, in the short-term and the long-term, for children, their families and the broader society.





Our healthy lifestyle choices

Significant health gains can be made by addressing lifestyle issues, such as smoking, physical inactivity, excess weight and poor diet, all of which are preventable risk factors for cardiovascular disease (CVD), Type 2 diabetes and some cancers.

Did you know ...

Every year over 110,000 years of life are lost prematurely from avoidable risk factors.

There are many positive steps that Western Australians can do to improve their health, and more and more people are adopting healthy habits. The Department of Health coordinates a

wide range of campaigns and programs aimed to encourage and support these behaviours. Its Healthy Lifestyles Framework aims to make healthy lifestyle choices easier by working with key partners, including other government agencies, health providers, and community groups.

Did you know ...

That \$100,000 will buy:

740,000 needles and syringes, preventing 740,000 possible exposures to hepatitis C.

4,760 years of life saved through smoking and health education programs.

1,250 women screened for breast cancer.

373 visits by Aboriginal environmental health workers to Kimberley communities.

333 quit smoking courses.

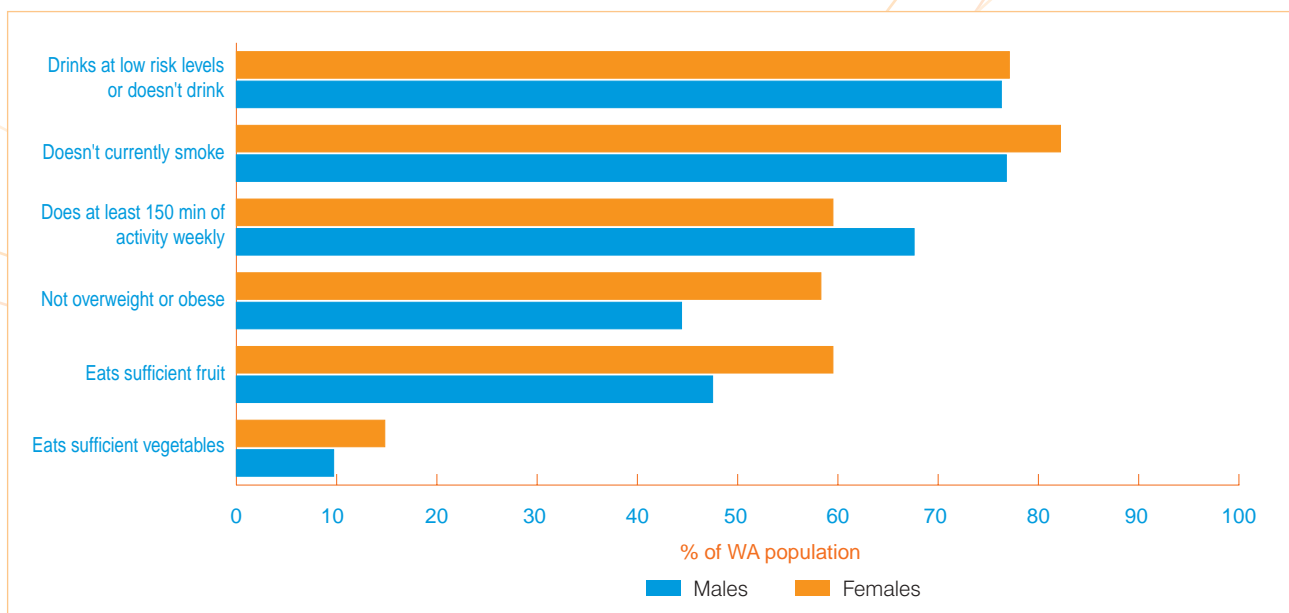
14 hip replacements.

10 coronary artery bypasses.

1.25 heart transplants including six months of post operative treatment.

0.8 liver transplants including six months of post operative treatment.

Proportion of Western Australians making healthy lifestyle choices



influences on our health (cont.)

Smoking

Tobacco smoking is the principal cause of preventable deaths and disease in WA. It is associated with at least thirty diseases, including various cancers and CVD, as well as asthma in children. If Western Australians did not smoke, more than 1,500 deaths and nearly 13,000 hospital admissions per year could be avoided.

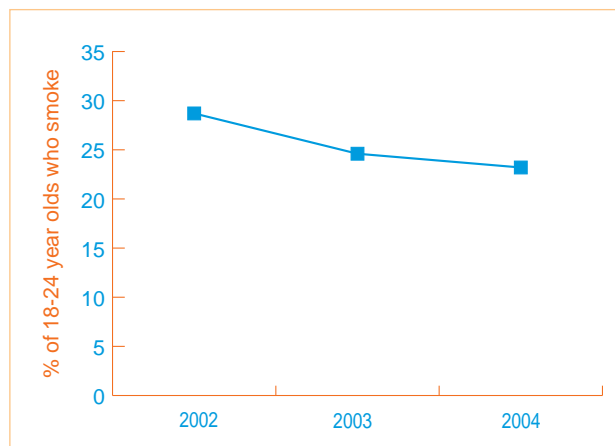


Did you know...

The Young Adults Quit Campaign targets 18 to 24 year olds. It aims to raise awareness of how easy it is for social smokers to become addicted smokers. The prevalence of smokers in this age group has fallen each year since 2002.

Smoking is an addictive habit. Three quarters of adults who smoke began smoking when they were adolescents, and around a third first tried cigarettes before the age of nine. Children whose parents smoke are also more likely to become regular smokers themselves.

Prevalence of smoking among 18 to 24 year old Western Australians by year



QuitWA, incorporating the Quit Campaign, and other tobacco control organisations and initiatives, aims to reduce smoking among Western Australians. Over the last twenty years, the prevalence of smoking in WA has decreased from 32% to around 19%. This represents about half a million successful quitters and has saved over 10,000 lives. It has been estimated that every \$1 spent on public health programs to reduce tobacco consumption returns a saving of around \$2.

Despite the overall reduction in smoking prevalence, some sub-populations still have a high proportion of smokers. For example, Aboriginal adults (48%), blue collar workers (37%), men aged between 20 and 30 years (32%), and women aged between 25 and 29 years (27%).

Physical activity



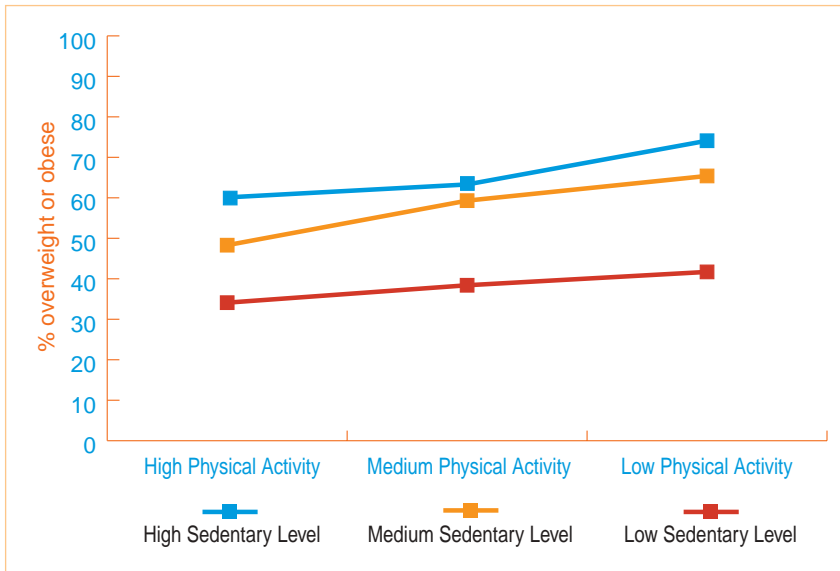
Around thirty minutes of moderate-intensity physical activity on most days of the week is enough to reap a range of health benefits. Not only does physical activity assist in achieving and maintaining a sense of well being and a healthy body weight, it reduces the risk of CVD, colon and breast cancer, Type 2 diabetes, and osteoporosis. Exercise can also help lower blood pressure, improve mental health, reduce stress and reduce the risk of falls in the elderly.

The Find Thirty campaign aims to increase the proportion of Western Australians who are sufficiently active for good health. A key part of this campaign provides simple suggestions of how to incorporate thirty minutes of moderate-intensity physical activity throughout the day.

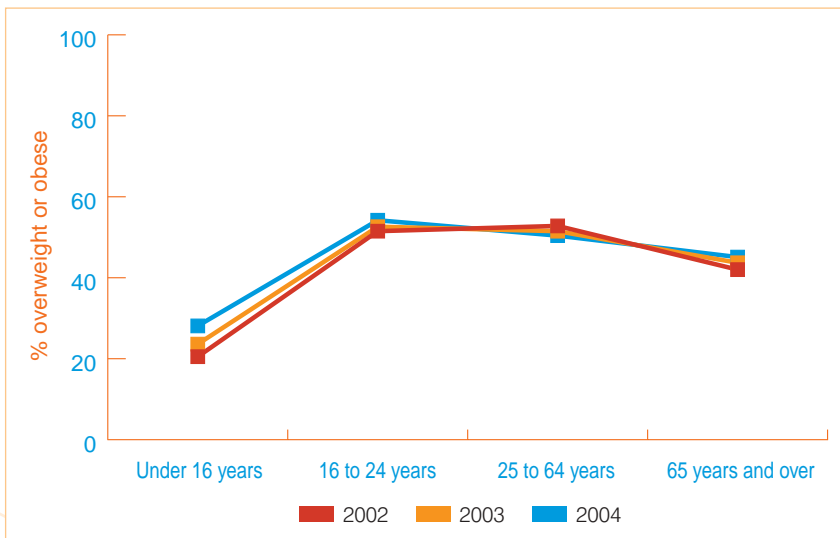
In WA, 65% of males and 59% of females aged 18 to 64 years meet the Active Australia recommended guidelines for physical activity (150 minutes of leisure-time physical activity per week). The proportions meeting the guidelines are highest in those aged 18 to 24 years (males 79%; females 71%) and decrease with age.

However, in WA, people are spending increasing amounts of time in sedentary leisure time pursuits, such as watching television or using a computer. The trade off with weight is shown in the figure. To maximize the effects of physical activity, it is wise to limit the amount of sedentary activities undertaken.

Proportion of Western Australians aged 16 years and over who are overweight or obese, by sedentary behaviour and physical activity levels during leisure time



Proportion of Western Australians reporting being overweight or obese, by age group and year



Healthy weight

Being overweight increases the risk of conditions such as heart disease, Type 2 diabetes, and some cancers. Half of all Western Australians, and 63% of Aboriginal people are overweight or obese, and this is increasing.

Those at greatest risk of being overweight or obese include women, older adults, and people with low education levels.



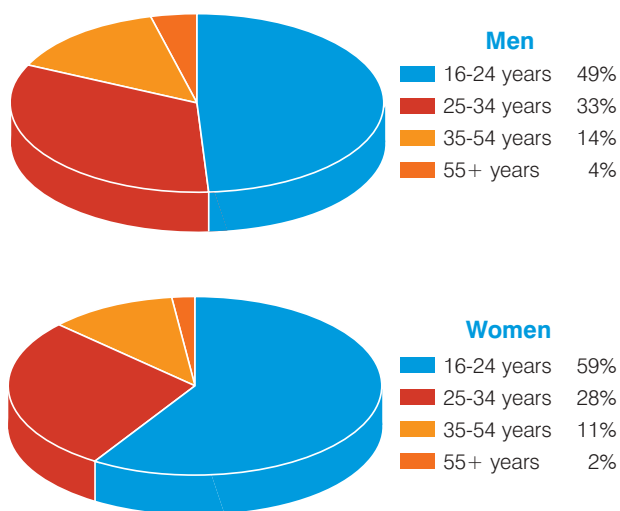
influences on our health (cont.)

Alcohol in moderation

Research indicates that regularly drinking small amounts of alcohol can have mild health benefits for middle-aged and older people. Most Western Australians drink at low risk levels, but about one in five drink alcohol above the recommended levels of four standard drinks a day for men and two for women, which is associated with short and long-term harm. The proportion of those drinking at risky or high-risk levels is highest among those younger than 35 years of age.

Alcohol use contributes to around 15% of all injury and poisoning deaths and hospital admissions in WA. *Enough is Enough* is an alcohol education program run by the WA Drug and Alcohol Office, which aims to reduce public drunkenness and provides support for safer drinking environments.

Proportion of Western Australians who drink at high risk levels by sex and age group



Healthy diet

Eating a healthy diet assists in maintaining a healthy body weight, blood pressure and cholesterol levels. These in turn reduce the risk of conditions such as CVD, Type 2 diabetes and a range of cancers.

Did you know...
If Western Australians followed recommended dietary guidelines, we could reduce mortality by 18% and hospital costs by nearly 5%.

Western Australian adults eat on average 2.6 serves of vegetables per day, half the recommended five serves for good health, and 1.6 serves of fruit, 20% less than the recommended two serves.

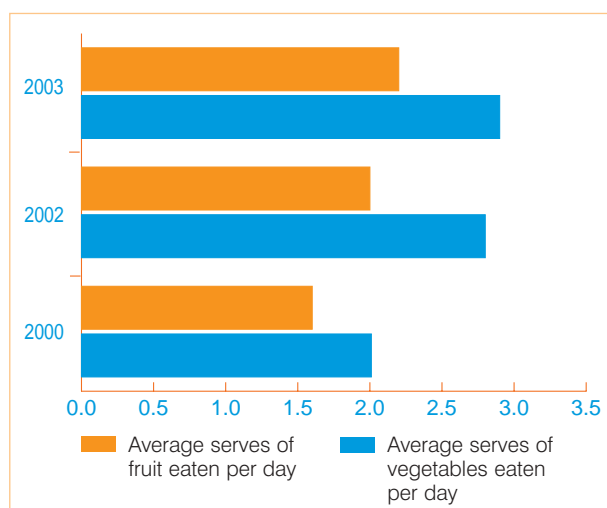
Did you know...
A healthy diet includes a variety of foods from the following food groups every day:

- Bread, cereals, rice, pasta, noodles
- Vegetables (5 serves)
- Fruit (2 serves)
- Milk, yoghurt, cheese
- Meat, fish, poultry, eggs, nuts, legumes.

The Go for 2&5 campaign encourages people to increase their consumption of fruit and vegetables, and evidence suggests that people are responding positively to this message.



Average number of serves of fruit and vegetables eaten by adult Western Australians, by year



our health priorities

Cardiovascular disease

Cardiovascular disease (CVD) is generally used to describe diseases of the heart and blood vessels, and includes diseases such as coronary heart disease and stroke. CVD is the second major cause of disease burden in WA.

Mortality rates from CVD have steadily fallen over the last fifty years, primarily due to the reduction of some risk factors and major advances in pharmaceuticals and surgery.

Did you know...

Heart disease is around 2.5 times more prevalent among Aboriginal people than in the general population.

Impact

Despite the significant reductions in CVD mortality, it still accounts for 36% of all deaths in WA (or about 11 deaths a day). The cost of hospitalisations for CVD is around \$140 million per year.

Coronary heart disease (which includes heart attack and angina) is the leading cause of death in both men and women in WA.

Because of the high level of disability and death associated with stroke, it too is of serious concern. While the vast majority (93%) of fatal strokes occur in people aged 65 years and over, 25% of hospital admissions due to stroke occur in those younger than 65 years.

Reducing the risks

Two of the major risk factors for CVD are high blood pressure and high blood cholesterol. Regular medical examinations, and treatment if necessary, can help people with these conditions to reduce their risk. For example, a 10% decrease in total blood cholesterol levels may reduce the incidence of coronary heart disease by as much as 30%.

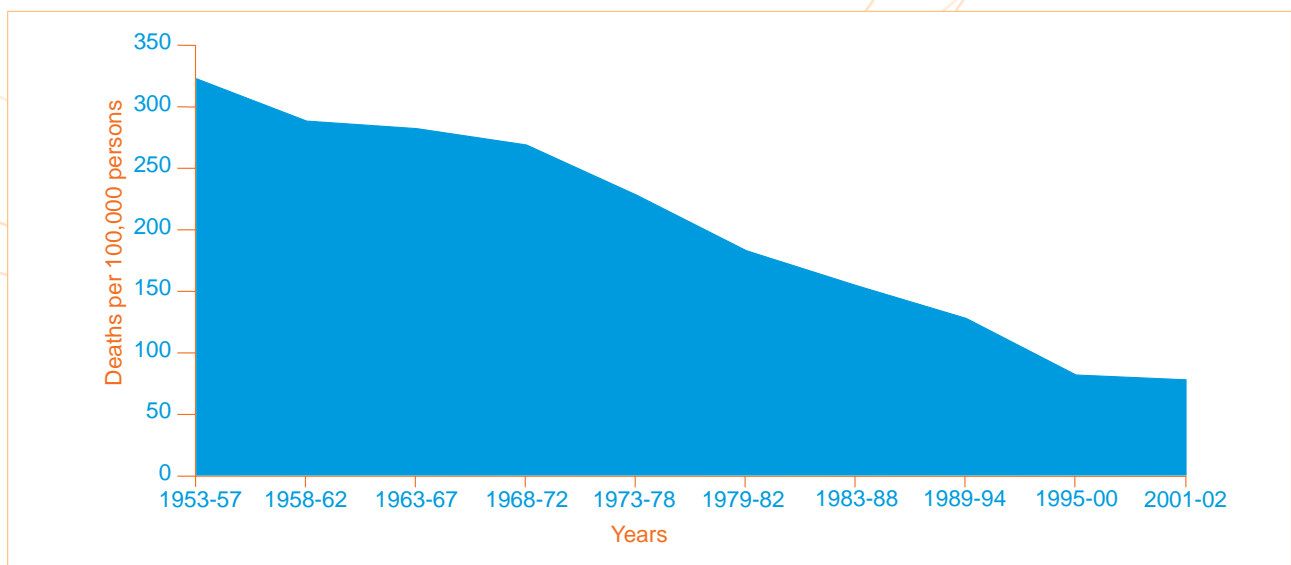
Other risk factors for CVD include having diabetes, being male, being over fifty years of age (or younger for Aboriginal people), and having unhealthy lifestyle behaviours.

Did you know...

Moderate reductions in blood pressure can reduce deaths from CVD by 25%.



Cardiovascular disease deaths per 100,000 Western Australians



our health priorities (cont.)

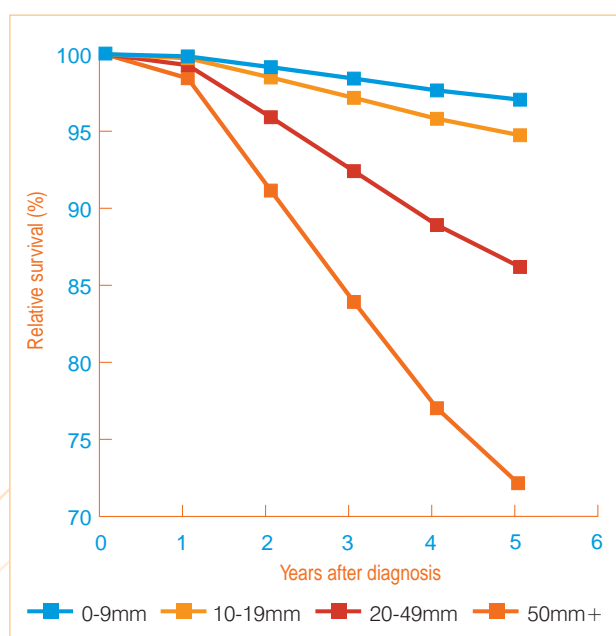


Cancer

Cancer is a diverse range of diseases in which abnormal cells grow rapidly and spread throughout the body in an uncontrolled manner. Cancers as a whole are the leading cause of disease burden in WA.

The most common cancers in males are prostate, melanoma, colorectal and lung, whereas in women the most common are breast, colorectal, melanoma and lung cancers.

Breast cancer survival times by size of tumour at diagnosis



Impact

Cancer is the second leading cause of death in WA, accounting for 30% of all deaths. Cancer-related hospital admissions cost nearly \$140 million annually. Although about 8,500 new cases of cancer are recorded each year, cancer survival rates are improving.

Reducing the risks

More than half of all cancers are preventable. While there are various causes, leading a healthy lifestyle by eating a diet high in fibre and low in fat, getting enough physical activity, not smoking, drinking alcohol in moderation, and avoiding sun exposure can significantly reduce the risk of many cancers.

While prevention is obviously better than cure, early detection of most cancers can improve treatment options and subsequent survival rates.

Breast cancer is the most common cause of cancer-related deaths in WA women, with one in 11 developing breast cancer at some time in their lives. Women who are diagnosed with breast cancer when their tumours are less than one centimetre in diameter, have a 97% chance of a five-year survival compared to 72% for those with tumour sizes greater than five centimetres.

BreastScreen WA provides a free mammography screening service for women aged over forty years. In addition to its six metropolitan screening services, mobile units visit the outer metropolitan areas and around a hundred country towns every two years.

Did you know...

A new initiative, The Indigenous Women's Reference Group, aims to increase awareness in Aboriginal communities of the need for regular cervical and breast cancer screening.

This service includes complete assessment of abnormalities up to the point of diagnosis, referral to appropriate services where treatment is needed, and follow up with health specialists to ensure that women receive appropriate treatment. Another major component of breast cancer prevention is ongoing community education and regular up skilling of health professionals statewide.

Although approximately thirty women in WA die of cervical cancer each year, regular two-yearly Pap smears can prevent up to 90% of the most common type of cervical cancer through early detection of pre-cancerous changes and treatment.

The *WA Cervical Cancer Prevention Program (WACCPP)* reminds women to attend for Pap smears, promotes cervical cancer screening and provides screening history data to laboratories to assist in the diagnosis of cervical abnormalities.

There is increasing evidence that bowel cancers could be reduced by a faecal occult blood screening program. In addition, informal screening for skin cancers and prostate cancers is undertaken every day by GPs, and survival rates for men with prostate cancer have increased from 58% in the 1980s to 94% in recent years.



Did you know...

- 18,000 Pap smear results are received every month, and
- 1,000 follow-up and reminder letters are generated each week by the WACCPP.



our health priorities (cont.)

Injury and poisoning

Although the majority of injuries are preventable, injury and poisoning is a major cause of disease burden in WA. The leading causes of injury vary with age as shown in the figure.

The numbers of intentional (or violence-related) injuries and hospitalisations for accidental poisoning from pharmaceutical drugs are of concern.

Impact

Every year about a quarter of all Western Australians (nearly half a million people) sustain an injury requiring medical treatment. Twenty seven per cent of WA males reported such an injury, compared to only 19% of WA females.

Did you know...

If people were not seriously injured enough to be hospitalised they attended the following health services:

- 65%** Primary health care service
- 37%** Outpatients / emergency department
- 44%** Allied health services
- 2%** Dental service
- 2%** Mental health service.

Injury and poisoning accounts for 7% of all deaths in WA (or about 14 deaths per week), and hospital costs of an estimated \$120 million per year. They are also responsible for around 30% of all emergency department attendances at public metropolitan hospitals. In many cases, alcohol is a contributing factor.

Despite a reduction in the number of deaths and hospitalisations due to road crashes in

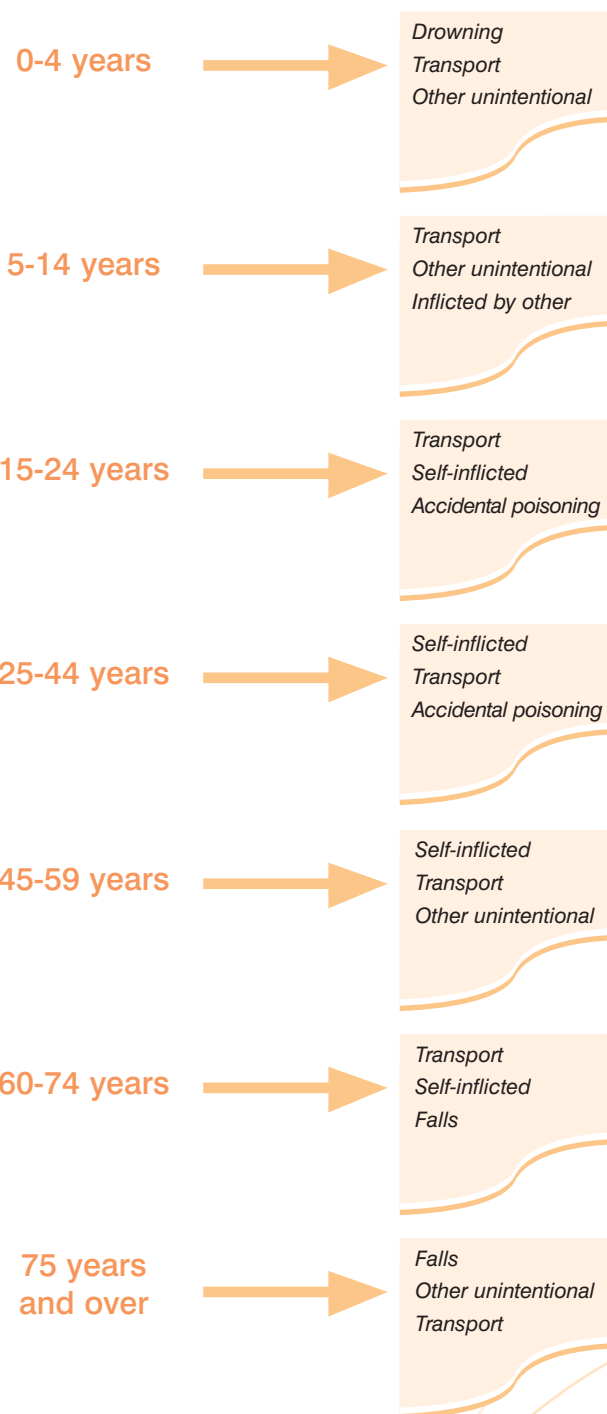
WA, there are still, on average, three deaths and 85 hospital admissions every week. Males, especially those aged between 15 and 24 years, are most at risk.

Did you know ...

Over 30 people are admitted to hospital each week for hip fractures.

Every fall prevented saves the health system an average of \$6,500

Leading causes of injury deaths by age groups - WA





Reducing the risk

The elderly, young people, males, Aboriginal people, and rural residents are at greater risk of injury. In WA, the risk of dying from an injury is estimated to be almost four times higher for Aboriginal people than non-Aboriginal people, and 1.5 times higher for people living in rural areas compared to Perth metropolitan residents.

Falls among the elderly can cause serious injuries such as hip fractures, and can lead to reduced confidence and quality of life due to a fear of falling again. *The Stay on Your Feet WA* program aims to prevent falls in older people and promote positive ageing.

There are many simple ways in which individuals can minimise their risk, and regulations to control such things as blood alcohol levels for driving a vehicle, mandatory pool fencing, and the wearing of seat belts, further reduces the risk of injuries.

Did you know...

- In WA, drowning is responsible for about one death per fortnight. Although 70% of these deaths occur in people over the age of four years, drowning is the leading cause of death among children aged 0 to 4 years, and the Department funds the program *Keep Watch*.
- Pharmaceutical drugs are involved in about two out of three hospital admissions for accidental poisoning and 90% of admissions for self-inflicted poisoning.
- In WA, suicide is the leading cause of injury death. There are around four suicides per week. Of these, over three quarters are males.





Mental health

Happy people generally enjoy better health, better relationships, and are more likely to live longer. Happiness results from pursuing meaningful personal goals and sustaining satisfying relationships. Mental health is the third leading cause of disease burden in WA.

Did you know...

People who report high or very high levels of psychological distress are six times more likely to have thoughts of committing suicide or trying to commit suicide.

Impact

Each year around 19% of Western Australians experience some sort of mental health problem, with the prevalence highest among those aged 18 to 24 years and decreasing with age.

The most common mental health conditions in WA are substance use disorders, depression, and a range of anxiety disorders.

Almost twice as many women (10%) as men (6%) report having a current mental health problem. Of these, two-thirds of both men and women report being diagnosed with depression. People suffering depression or other mental health problems may have a greater risk of suicide or self-harm.

Approximately 5% of Western Australians report having thoughts of committing suicide, and the rate is highest among those aged 16 to 24 years. Many suicide attempts go undetected, with less than a third resulting in hospitalisation.

The incidence of dementia, a mental health condition associated with ageing, is predicted to rise by 60% by 2020. Over half of this increase will be among those aged over 85 years, due to the ageing population.

Did you know...

Older people (aged 65 years and over) who felt lonely on most days were eight times more likely to report high or very high psychological distress, and three times more likely to have been diagnosed with a mental health condition in the past year.

Reducing the risk

Many factors contribute to mental health status. Lifestyle strategies such

as getting enough exercise and sleep, good nutrition, and coping positively with everyday stresses are important in maintaining good mental health. Having family and social supports networks in place are also valuable, particularly in times of crisis or severe stress.

Population health measures to maintain mental health include education, preventative programs, counselling, and community based mental health support services such as the *Building Solid Families Program*. This program delivers a comprehensive information, counselling and support service for Aboriginal people, particularly those affected by family separation, mental health problems, or who are at risk of self-harm.

Did you know ...

A moderately optimistic person can expect to live about twelve years longer than a moderately pessimistic person.

Diabetes

Diabetes is a major cause of disease burden in WA. Over the last decade, there has been a dramatic increase in the prevalence of diabetes. This rise is partly due to the ageing population and its changing ethnic composition, however lifestyle factors also play a major role.

Impact

Diabetes is a major health concern because of the seriousness of its associated conditions, which affect almost every system in the body. For example, complications of diabetes include kidney failure, heart and blood vessel disease, blindness, and foot ulcers.

Diabetes accounts for around five deaths each week in WA, and hospitalisations cost an estimated \$20 million per year.

About 5% of adult non-Aboriginal Western Australians reported that they had been diagnosed with diabetes. However, it has been estimated that only about half of the people who have diabetes have been diagnosed. The estimated prevalence of diabetes among Aboriginal people is two to three times higher than the diagnosed prevalence in the non-Aboriginal population.

Reducing the risks

Some ethnic groups, including Aboriginal people, are at greater risk of diabetes than the rest of the community.

Although Type 1 (insulin dependent) diabetes cannot be prevented at present, over 80% of Type 2 diabetes cases are preventable. A number of factors, such as eating a healthy diet, getting enough physical activity and maintaining a healthy weight are all important in preventing or delaying the onset of Type 2 diabetes.

What is diabetes?

Diabetes mellitus is a condition where the body cannot maintain normal blood glucose levels.

Type 1 diabetes accounts for 10-15% of people with diabetes. It usually starts in childhood or early adulthood and requires insulin therapy.

Type 2 diabetes is one of the most common chronic diseases among adults. It accounts for 85-90% of people with diabetes.

Gestational diabetes occurs in 4-6% of pregnancies.

For people who already have diabetes, early diagnosis is important to ensure that the condition is well managed and the risk of complications is minimised. Raising awareness about undiagnosed diabetes among health professionals and improving screening and detection skills are important in increasing rates of early detection.

Under the WA *Diabetes Strategy*, the Department of Health works with key partners to educate people about diabetes prevention and helps people with diabetes to manage their condition.

Did you know...

People who exercise regularly have a 30% to 60% lower risk of developing diabetes than those who don't.

our health priorities (cont.)



Asthma

Asthma is an inflammatory disorder of the airways in which the small airways are hypersensitive to a wide range of stimuli, causing wheezing and breathing difficulties. Compared to other countries, the prevalence of asthma in Australia is high, and it results in a high level of disease burden among the Western Australian population.

Impact

Asthma prevalence in WA is estimated at over 11%, and has been slowly climbing across all age groups.

While asthma is treatable, it is responsible for a considerable amount of ill health and suffering. It is a major cause of school absenteeism, emergency department attendances by children, and accounts for around 3% of all GP visits. In WA, asthma is responsible for around one death per fortnight, while hospital admissions cost an estimated \$6 million per year.

Did you know ...

Agents that may provoke an asthma attack include:

- Colds and flu
- Exercise
- Inhaled allergens (e.g. pollens, dust mites)
- Tobacco smoke
- Changes in temperature and weather
- Certain drugs
- Chemical irritants.

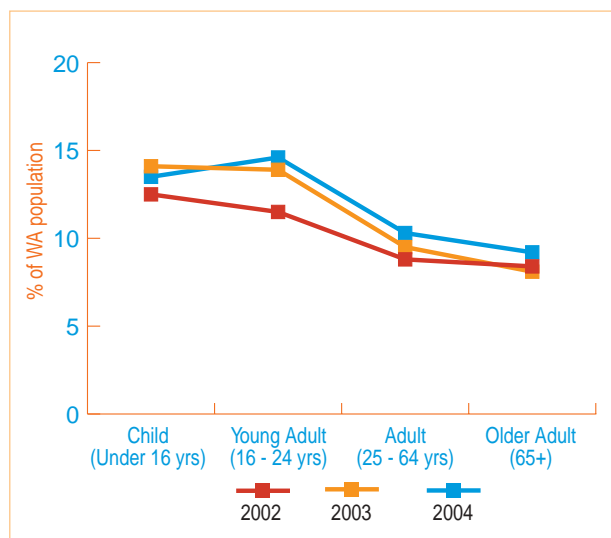
Reducing the risk

Recommendations for the primary prevention of asthma include exclusive breastfeeding for at least the first six months of life, reducing the level of house dust mites, and avoidance of maternal smoking during pregnancy and infancy. Other protective factors include having more than four older siblings, having a major respiratory infection during the first two years of life, and living in village communities.

There is increasing evidence of a link between asthma and obesity. Obese people are two to three times more likely than people of normal weight to experience wheeze and other symptoms of asthma and to be diagnosed with asthma.

With the right treatment and good self-management, asthma can usually be controlled. Asthma management includes taking medication as directed, monitoring the condition, staying active and healthy, learning what triggers an asthma attack and avoiding triggers whenever possible, having a written asthma plan, and visiting the doctor regularly.

Proportion of Western Australians who reported symptoms of, or treatment for, asthma within the previous year, by year



Arthritis and musculoskeletal conditions

Most musculoskeletal conditions, such as arthritis and osteoporosis, substantially reduce the quality of life, and can cause chronic disability.

Arthritis causes inflammation of the joints with associated stiffness, swelling, pain and deformity. There are over a hundred different types of arthritis, but the two most common are osteoarthritis and rheumatoid arthritis. Osteoporosis is characterised by low bone mass caused by progressive deterioration of the bone tissue.

Impact

Musculoskeletal conditions have a major impact on the health system, due to their chronic and painful nature.

Arthritis is a major cause of disability burden in WA, with around a fifth of the WA population, or nearly 400,000 people, reporting that they currently suffer from the disease. It is more common in females than males and more common in older people. Over half the population aged 65 years and above reported having arthritis, compared with 16% of those younger than 65 years.

Did you know...

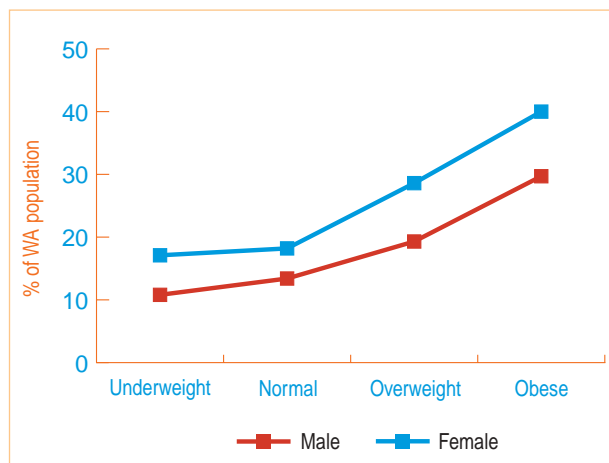
Over 100 hip and knee replacements are performed in WA each week. These cost nearly \$80 million per year.

Did you know...

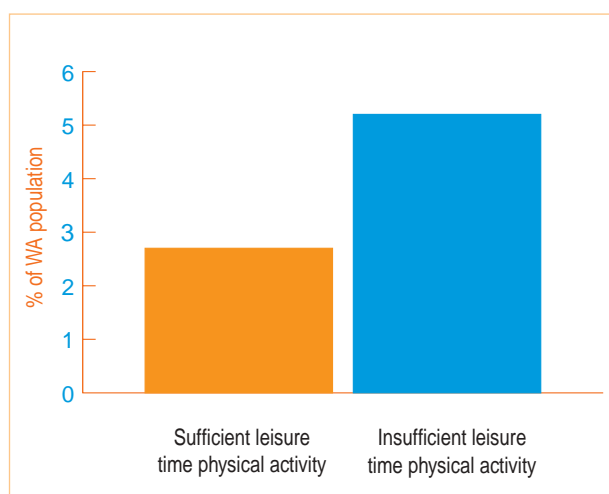
More women have osteoporosis because they have smaller bones and reach maximum bone mineral density earlier than men. Women also experience a rapid decline in oestrogen after menopause resulting in a decline in bone mass.

The self-reported prevalence of osteoporosis in WA is about 4.5%, however, the true prevalence is likely to be much higher as many people are not aware that they have the disease until they seek treatment for fractures. Osteoporosis is also associated with age, with nearly 17% of people aged 65 years and over reporting the disease, compared to 2.5% of those younger than 65 years. Women are six times more likely to have osteoporosis than men.

Proportion of Western Australians with arthritis by weight



Proportion of Western Australians with osteoporosis by exercise level



Reducing the risk

Potentially modifiable risk factors for osteoarthritis include injury, obesity and occupational overuse, while potentially modifiable risk factors for osteoporosis are an inadequate intake of calcium and Vitamin D (which is required for calcium absorption) during childhood, a sedentary lifestyle, and smoking.

Regular, moderate exercise and maintaining a good diet helps to prevent musculoskeletal conditions. Once established, early diagnosis and appropriate treatment is essential to delay progression of musculoskeletal conditions. Available treatments include: medication to relieve pain, increase mobility and limit inflammation; physiotherapy; and orthopaedic surgery.



Communicable diseases

Despite significant reductions in morbidity and mortality from communicable diseases over the last century, new patterns of disease can appear from our changing social and physical environment.

Examples of ongoing and new threats include increasing rates of genital chlamydia, sustained high rates of campylobacter gastroenteritis, periodic epidemics of Ross River virus infection and whooping cough, and the emergence of new diseases such as HIV and Severe Acute Respiratory Syndrome (SARS). Continued vigilance and research are necessary to characterise risk factors and identify effective control strategies. Communicable disease control is a crucial function in ensuring a healthy population.

Impact

Each year there are approximately 13,000 communicable disease notifications in WA. In addition, infectious diseases account for about \$35 million a year in hospital costs, and about six deaths per week.

There are over sixty notifiable infectious diseases in WA, including food and water-borne diseases (e.g. *Salmonella* infection), vaccine preventable diseases (e.g. mumps), mosquito-borne diseases (e.g. Ross River virus disease), zoonotic diseases (e.g. Q fever), sexually transmissible infections (STIs) (e.g. gonorrhoea), blood-borne viruses (e.g. hepatitis B), and other diseases such as Legionella infection and meningococcal disease.

Around a third of notifications are for gastrointestinal infections, and over a third are due to STIs. Some high incidence diseases, such as campylobacter gastroenteritis (about 2,000 cases a year) cause significant morbidity, but have lower community recognition compared to low incidence conditions which may cause more severe illness, such as meningococcal disease (about 50 notifications a year).

The rates of gastrointestinal infections and STIs are very high in Aboriginal people, particularly among those living in remote regions of WA. Notification rates for STIs are 33 times higher in Aboriginal people, compared to non-Aboriginal people. HIV notification rates have increased in Aboriginal people in recent years, and now exceed those in the non-Aboriginal population, with the majority of cases being acquired heterosexually.

Reducing the risk

Over the last century, the incidence and impact of communicable diseases have been reduced significantly by improvements in hygiene, the introduction of antibiotics and mass immunisation programs.

Currently in WA, around 90% of children aged 12 to 15 months are fully vaccinated, making vaccine preventable childhood diseases uncommon. For example, there has been no transmission of measles or rubella in WA since 2000, except for a few cases linked directly to imported cases in persons who were infected overseas.

Did you know...

Vaccination against childhood diseases saves 4 to 6 times the amount spent on the vaccination program. For example, by investing \$53 million in subsidised measles vaccines, Australia has saved \$8.5 billion in direct health care costs.

Influenza and pneumonia are significant causes of morbidity and mortality, especially among people with chronic diseases, children, the elderly and Aboriginal people. In WA, around 80% of people aged 65 years and over are vaccinated against influenza annually; one of the highest levels of coverage in the world for this cohort.

WA has one of the world's lowest rates of tuberculosis (TB) notification, with nearly all new cases being diagnosed in persons born overseas. Given our proximity to a region with very high rates of TB, the increasing frequency of drug resistant disease overseas, and continuing immigration from high TB incidence countries, continued surveillance, targeted screening, contact tracing and specialist management of newly diagnosed TB cases is very important.

Hepatitis C is one of the most frequently notified diseases in WA, and around 90% of cases are associated with injecting drug use. The Department coordinates community and health worker education and a range of initiatives to facilitate access to and promote the use of clean injecting equipment. Needle and syringe programs are a key public health strategy in reducing the transmission of blood-borne viruses. Only 5% of HIV cases notified in WA since 1983 have been attributed to injecting drug use, which is much lower than the proportions reported in the USA and European countries.

There is currently a national and international increase in STI diagnoses. Genital chlamydia is now the most commonly notified bacterial disease in Western Australia. This is a serious infection which can lead to infertility in women and, less commonly, in men. Screening, contact tracing and appropriate treatment are vital measures in controlling this infection, which occurs mostly in young people aged 15 to 24 years.

Safe sexual practices reduce the risk of contracting STIs and unplanned pregnancy. Some sub-populations, including Aboriginal people, people in prisons and remand institutions, sex workers, and injecting drug users, have an increased risk of contracting STIs and blood-borne viruses (BBVs).

Reducing the transmission of STIs and BBVs is a high priority for the Department. Current activities include the establishment of regional sexual health teams in the Kimberley, Pilbara and Goldfields, the development of a *WA Indigenous Sexual Health Strategy*, and the provision of professional development for teachers in the use of the *Growing and Developing Healthy Relationships Curriculum Support Materials* for relationship and sexual health education in schools.

Did you know...

Every HIV infection prevented saves up to \$250,000 in treatment costs.

Over the last decade, \$141m was spent on needle and syringe programs across Australia, saving between \$2.4b and \$7.9b in treatment costs for HIV and hepatitis C

our health into the future



The excellent health that Western Australians enjoy cannot be taken for granted. Continued effort is required in order to anticipate and plan for new challenges.

Responding to change

Research suggests that patterns of health in WA will continue to change. With increases in life expectancy and an ageing population there will be a shift from cardiovascular diseases to mental health and neurological disorders such as dementia. This will have an impact on the number and type of health services required.

Did you know...

If rates continue unabated, at least 65% of adult Australians will be overweight or obese by 2020.

Ensuring equity

Evidence suggests that the gap between the most and least healthy Western Australians continues to exist, particularly for Aboriginal people and people of lower socioeconomic position. Concerted and effective population health efforts to target this gap need to continue and be carefully monitored.

Risk factors, protective factors and early life experiences affect people's long-term health and disease outcomes. In particular, more is becoming known of how experiences in early childhood and even in utero can affect health outcomes and health behaviours in later life. For example, sedentary lifestyles and poor dietary habits have led to an epidemic of obesity and related illnesses such as Type 2 diabetes and arthritis. Intervening at one point only is not enough for sustained improvement in health outcomes, so population health activities need to be targeted to each life stage.

Focus on all life stages

Risk factors, protective factors and early life experiences affect people's long-term health and disease outcomes. In particular, more is becoming known of how experiences in early childhood and even in utero can affect health outcomes and health behaviours in later life. For example, sedentary lifestyles and poor dietary habits have led to an epidemic of obesity and related illnesses such as Type 2 diabetes and arthritis. Intervening at one point only is not enough for sustained improvement in health outcomes, so population health activities need to be targeted to each life stage.

Emerging diseases

Biological changes and the wide-ranging movement of people and goods over the planet mean that infectious disease control continues to be a priority. Infectious agents such as SARS, avian influenza, Australian Bat Lyssavirus, and new antibiotic-resistant strains of existing organisms require vigilant and coordinated control strategies. The possibility of deliberate release of biological agents into the community is another risk that needs to be managed.

Did you know...

Dementia will become the major cause of disease burden for WA women by 2016 and the second major cause for WA men.

Continuity of care

Treatment pathways for chronic and complex diseases provide opportunities for population health programs to help patients understand their disease and make behaviour changes, such as improving their diet, increasing their exercise and undertaking recommended screening. There is evidence that effective self-management can reduce complications from chronic diseases, which results in better health outcomes and reduced pressure on the health system.

New technologies

New technologies are continually emerging in the health field, especially in the areas of genetics and reproductive technology. For example, genetic technologies have enabled scientists and health care providers to perform tests on our genes, which can lead to great benefits such as early disease detection and new treatments for chronic diseases. The government and the Western Australian population require expert evaluation and advice on issues such as genetic privacy, improved disease screening, gene patenting and stem cell research, so that informed decisions can be made about how these advances are used.

Policy and research

The maintenance and improvement of our data registries is important so that population health interventions can be continually monitored and evaluated. Research on new or innovative practices, which might improve programs, is also required. Ensuring the State's regulations are up to date and relevant is another important part of protecting the health of Western Australians into the future.

sources

Useful websites

Asthma Research Online:
www.asthma-research.org.au/information/

Australian Bureau of Statistics: <http://www.abs.gov.au/>

Australian Institute for Health and Welfare:
<http://www.aihw.gov.au/>

Commonwealth Department of Health and Ageing:
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/Home>

Department of Health, Western Australia:
<http://www.health.wa.gov.au/>

HealthInsite: <http://www.healthinsite.gov.au/index.cfm>

International Diabetes Institute:
<http://www.diabetes.com.au/home.htm>

National Health and Medical Research Centre:
<http://www7.health.gov.au/nhmrc/>

National Heart Foundation Australia:
<http://www.heartfoundation.com.au/>

Public Health Association of Australia:
<http://www.phaa.net.au/>

Useful reports

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Other useful material

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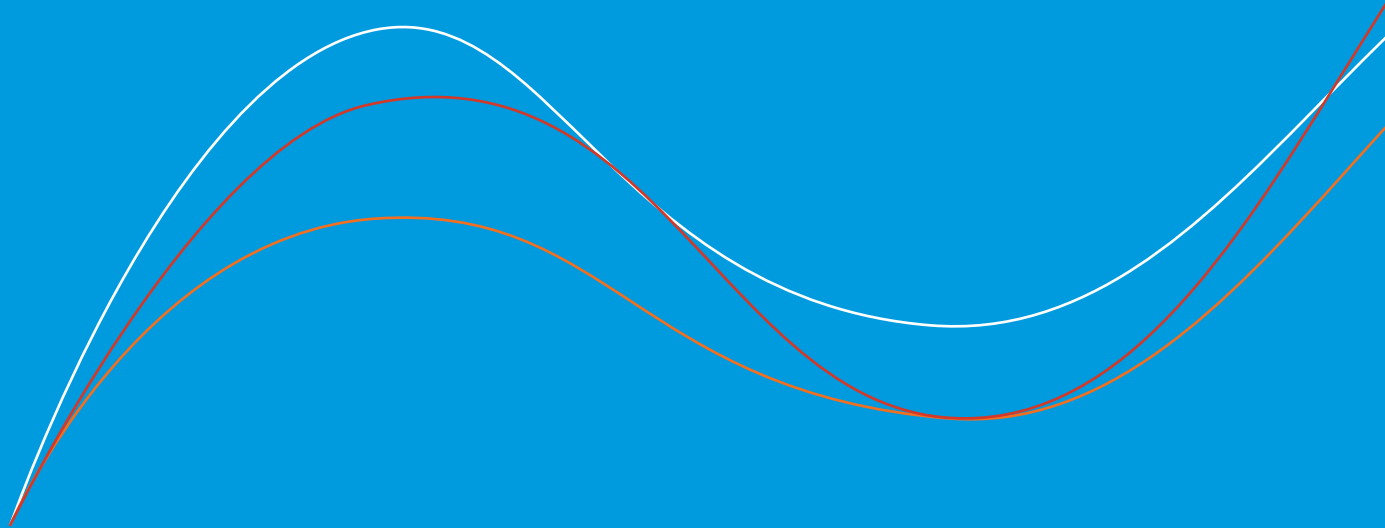
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Government of Western Australia