Health and Wellbeing Profile of Young Western Australians
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Youth is a period of transition when adolescents mature into self-dependent adults. Young people begin making their own decisions at this stage in life, which can affect both their long and short term health and wellbeing. A combination of personal health behaviour choices, such as use of illicit substances or engaging in risky activities; along with external factors such as parental health, and educational and employment opportunities, can determine the health and behavioural pattern of an individual for their lifetime. Young people who experience strong, healthy familial and community support in their childhood years are those young people who are likely to manage the developmentally appropriate risk-taking years of adolescence in ways that do not compromise their health, including their mental health status. It is therefore important to establish settings and pathways for youth that enable them to achieve their full physiological, psychological and social potentials throughout their life.

This report has compiled a series of key national indicators for young people’s health and wellbeing as they relate to youth in Western Australia. Western Australian data on thirty four ‘health status’ and ‘determinants of health’ indicators, as reported on at the national level in the upcoming ‘Young Australians: Their Health and Wellbeing 2011’ report (AIHW), have been presented within this Profile. The data provided in this report have been collated from various sources including the Australian Bureau of Statistics and the Australian institute of Health and Welfare. The rates and proportions presented in this document are to facilitate readers to gain an overall picture of the health issue(s) and social determinants.

In 2009, with a total population of 473,407, young people between the ages of 10 and 24 years, formed 21.1% of the total Western Australian population. Young people were fairly evenly distributed across the different age ranges; although males out-numbered females slightly at 52% and 48% respectively. Within the Indigenous population, Indigenous youth aged 10 to 24 years formed a larger cohort at nearly 32% of the total Indigenous population, and comprised 5% of the total youth population in Western Australia. Only one fifth of young people overall lived outside the metropolitan area in 2009, although this figure rises to three-fifths for Indigenous youth.

The majority of West Australian youth perform reasonably well across the range of health status and social determinants indicators profiled in this report; albeit overall slightly less well than national averages. In Western Australia, overall death rates, rate of deaths from injury and poisoning, road crashes and
suicide are notably higher than Australia-wide figures. Males in particular are more likely to engage in risk-taking behaviours and have higher rates of deaths from the mentioned causes, as well as higher rates of injury and poisoning related hospitalisations and imprisonment among 18 to 24 year olds. Additional issues of concern for young people in WA also include high rates of Chlamydia, Gonorrhoea and use of Cannabis.

Youth in WA are doing almost as well as youth nationally in achieving at or above the national minimum standards in NAPLAN, gaining social support in a time of crisis, and in continuing education from Year 7/8 to Year 12. Western Australian youth engage in sports and cultural activities in higher proportions than youth nationally, and have notably lower rates of smoking and unemployment.

Indigenous youth however fare much worse across all of the profiles covered in this report. Along with high rates of deaths from all causes, injury and poisoning related hospitalisation and sexually transmitted infections, Indigenous young people also have higher teenage birth rates in comparison to non-Indigenous youth. Considerably higher rates of Indigenous young people’s involvement with the juvenile justice system and the child protection system are of particular cause of concern. Although young Indigenous people rate fairly well in gaining social support and engaging in community participation, there is significant room for improvement in raising NAPLAN scores, high school retention rates and unemployment figures for Indigenous youth.

The cumulative impact of negative results across a range of the health status and social determinants of health profiled throughout this report results, for a small minority of young West Australians, in homelessness. Young people aged 12 to 24 year olds comprised 40% of the total homeless population in Western Australia. Young people with no stable accommodation also experience a lack of the necessary adequate level of parental support and guidance which they still require until they are developmental, socially and economically able to survive happily and independently as adults. The following table provides a summary of the health and wellbeing indicators for West Australian youth as presented in this report.
### Summary of the health and wellbeing profile of young Western Australians

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Proportion of young people</th>
<th>Year</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death rates for young people aged 15–24 years</td>
<td>51 per 100,000</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Proportion of young people aged 16–24 years having high or very high levels of psychological distress as measured by the Kessler 10 (K10) scale</td>
<td>9.6%</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Prevalence of mental health disorders among young people aged 16–24 years</td>
<td>9.2%</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Injury and poisoning death rate for young people aged 10–24 years</td>
<td>30.2 per 100,000</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>Road transport accident death rate for young people aged 10–24 years</td>
<td>9.7 per 100,000</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Assault death rate for young people aged 15–24 years</td>
<td>1.3 per 100,000</td>
<td>2008</td>
<td></td>
</tr>
<tr>
<td>Suicide rate for young people aged 15–24 years</td>
<td>14.5 per 100,000</td>
<td>2008</td>
<td></td>
</tr>
<tr>
<td>Accidental poisoning death rate for young people aged 15–24 years</td>
<td>3.2 per 100,000</td>
<td>2008</td>
<td></td>
</tr>
<tr>
<td>Injury and poisoning hospitalisation rate for young people aged 10–24 years</td>
<td>2,804 per 100,000</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>HIV infection notification rate for young people aged 10–24 years</td>
<td>0.8 per 100,000</td>
<td>2009</td>
<td></td>
</tr>
</tbody>
</table>
| Hepatitis B and C notification rates for young people aged 10–24 years | Hepatitis B: 29.8 per 100,000  
         Hepatitis C: 34.1 per 100,000 | 2008 |
|---------------------------------------------------------------|---------------------------------|------|
| Incidence of notifiable sexually transmissible infections among young people aged 12–24 years | Chlamydia: 1,240.8 per 100,000  
         Gonorrhoea: 156.3 per 100,000 | 2009 |

**Determinants of health**

| Proportion of young people who are overweight or obese | Secondary school children  
         Overweight: 13%  
         Obese: 2.9%  
         18 to 24 year olds  
         Overweight: 28.6%  
         Obese: 12.8% | 2008  
         2007 |
|-------------------------------------------------------|-------------------------------------------------|------|
| Proportion of young people meeting the National Physical Activity Guidelines | Secondary school children  
         Boys: 37.6%  
         Girls: 10.1%  
         18 to 24 year olds  
         25.3% | 2008  
         2007 |
| Proportion of young people meeting Australian dietary guidelines | Secondary school children  
         Fruit  
         Boys: 22.2%  
         Girls: 28.3% | 2008 |
<table>
<thead>
<tr>
<th>Category</th>
<th>Measurement</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables</td>
<td>Boys: 28.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Girls: 23.6%</td>
<td></td>
</tr>
<tr>
<td>Proportion of young people aged 12–24 years who are daily smokers</td>
<td>12 – 17 year olds: 1%</td>
<td>2008</td>
</tr>
<tr>
<td></td>
<td>14 – 19 year olds: 5.7%</td>
<td>2007</td>
</tr>
<tr>
<td></td>
<td>18 – 24 year olds: 16.4%</td>
<td></td>
</tr>
<tr>
<td>Proportion of young people who drink at high-risk levels in the short or long-term</td>
<td>12 – 17 year old current drinkers: 24.3%</td>
<td>2008</td>
</tr>
<tr>
<td></td>
<td>14 – 19 year olds: 4.8%</td>
<td>2007</td>
</tr>
<tr>
<td>Proportion of young people aged 12–24 years who had used an illicit drug within the last 12 months</td>
<td>12 – 17 year olds: 9%</td>
<td>2008</td>
</tr>
<tr>
<td></td>
<td>14 – 19 year olds: 11.8%</td>
<td>2007</td>
</tr>
<tr>
<td>Age-specific birth rate for 15–19 year old women</td>
<td>≤9 year olds: 21.1 per 1,000</td>
<td>2008</td>
</tr>
<tr>
<td>Proportion of parents rating their health as ‘fair’ or ‘poor’</td>
<td>Parents with children aged 10 – 15 years</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td>Fair: 5.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor: 2.2%</td>
<td></td>
</tr>
<tr>
<td>Proportion of parents with a mental health problem</td>
<td>Parents with children aged 10 – 15 years</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td>Mental health problem in the past 12 months: 15.5%</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>18 – 24 year olds:</td>
<td>Year</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>------</td>
</tr>
<tr>
<td>Proportion of young people aged 15–24 years who are able to get support in a time of crisis from persons living outside the household</td>
<td>96.9%</td>
<td>2006</td>
</tr>
<tr>
<td>Community participation rate among young people aged 15–24 years</td>
<td>76.6%</td>
<td>2006</td>
</tr>
<tr>
<td>Participated in sport or recreational physical activity:</td>
<td>99.5%</td>
<td>2006</td>
</tr>
<tr>
<td>Attended cultural or leisure event:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of young people aged 10–17 years who were the subject of a substantiation of a child protection notification received in a given year</td>
<td>2 per 1,000</td>
<td>2008</td>
</tr>
<tr>
<td>10 – 17 year olds:</td>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>Rate of young people aged 10–17 years who are the subject of care and protection orders</td>
<td>6.2 per 1,000</td>
<td>2008</td>
</tr>
<tr>
<td>10 – 14 year olds:</td>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>15 – 17 year olds:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of young people aged 15–24 years who have been the victim of physical or sexual assault</td>
<td>1,780.9 per 100,000</td>
<td>2009</td>
</tr>
<tr>
<td>Assault:</td>
<td>200.5 per 100,000</td>
<td></td>
</tr>
<tr>
<td>Proportion of young people aged 12–24 years who are homeless</td>
<td>1.4%</td>
<td>2006</td>
</tr>
<tr>
<td>Rate of young people aged 10–17 years who are under juvenile justice supervision</td>
<td>9 per 1,000</td>
<td>2007</td>
</tr>
<tr>
<td>10 – 17 year olds:</td>
<td></td>
<td>2008</td>
</tr>
<tr>
<td>Rate of imprisonment for young people aged 18–24 years</td>
<td>371.3 per 100,000</td>
<td>2009</td>
</tr>
<tr>
<td>18 – 24 year olds:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of young people in Years 7 and 9 achieving at or above the national minimum standards for literacy and numeracy</td>
<td>Year 7</td>
<td>2010</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Reading: 94.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing: 92.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numeracy: 94.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading: 89.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing: 86.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numeracy: 92.2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Apparent retention rate from Year 7–8 to Year 12 | Year 7–8 to Year 12: 75% | 2009 |

| Proportion of young people aged 15–24 years who are fully engaged in education or training and/or work | 15 – 19 year olds: 83.1% |
|---|---|---|---|
| 20 – 24 year olds: 78.9% | 2010 |

| Unemployment rate for young people aged 15–24 years | 15 – 19 year olds: 4,756.3 per 100,000 |
|---|---|---|---|
| 20 – 24 year olds: 3,901.4 per 100,000 | 2006 |

| Proportion of young people aged 10–24 years living in jobless families | 10 – 12 year olds: 1.52% |
|---|---|---|---|
| 13 – 14 year olds: 1.56% |
| 15 – 17 year olds: 0.71% |
| 18 – 20 year olds: 0.13% |
| 21 – 24 year olds: 0.06% | 2006 |
Introduction

Young people, as defined by the Australian Institute of Health and Welfare (AIHW) are adolescents and youth aged between 12 and 24 years (2007). This is a critical period of physical and mental development for most young people (AIHW 2007). Even though most young people in Australia have good health, a certain population still experience adverse physical and mental health, and societal conditions. These conditions can hinder the physiological and psychological development of a young person and prevent them from achieving their full potential (World Health Organization [WHO] 2010b).

Health and welfare related adversity in youth not only affects the current health status of the person, but also has the potential to affect their future health and wellbeing. Youth is the period when individuals begin making their own choices and establish various health behaviours. These choices can relate to education, diet, sexual behaviour, alcohol and other drugs, employment and unlawful acts. The World Health Organization estimates that two-thirds of premature adult deaths and one-third of the total disease burden among adults are associated with health conditions and risk factors that initiated in their youth, such as exposure to violence or unprotected sex (WHO 2010b). Therefore promoting protective factors during adolescence and youth can prevent adverse conditions in adulthood. It is necessary to invest in the overall health and wellbeing of young people as they are crucial to a country’s future social and economic infrastructure (WHO 2010b).

The Australian Institute of Health and Welfare (AIHW) in conjunction with the National Youth Information Advisory Group have developed a set of key national indicators on young people’s health and wellbeing. These indicators comprise of issues such as health status, which reports on mortality and morbidity among young people; and determinants of health, which reports on socio-economic status, health behaviour, parental health, justice system, social support and other factors that influence young people’s health (AIHW 2010d). These indicators provide data on a range of health associated factors and are essential in providing a comprehensive image of the state of health and wellbeing of young Australians. These indicators and the respective national data will be presented in the upcoming ‘Young Australians: their health and wellbeing 2011’ report.

The purpose of the following document is to provide Western Australia specific data, where available, on the key national indicators for young people’s health and wellbeing. This report looks at young Western Australians, their population characteristics, health status and the state of factors influencing their health. Information on the current health status of
young people and on factors that impact their health are the primary steps in understanding the concerns, and extent of health and wellbeing related adversities, that exists in this population. Current information on these issues is not only essential for the development of appropriate interventions and policies, but in conjunction with trend data, it can be used to monitor and evaluate the effectiveness of evidence based policies and interventions.
Methodology and data issues

This document reflects the upcoming report by the Australian Institute of Health and Welfare titled ‘Young Australians: their health and wellbeing 2011’, scheduled to be published in May 2011. The AIHW report provides statistical data on the current estimates and trends of 71 key national indicators of young people’s health and wellbeing, covering health status, determinants of health and health system performance. Only a collection of the key national indicators for young people’s health and wellbeing included in the AIHW report, has been presented here. The indicators reported on in this document, falls under the categories of health status and determinants of health. The selection of these key national indicators is based on several factors, including:

• significance of indicators relating to adverse health status, health behaviour and social determinants prevalent among youth
• significance of indicators for issues where it was perceived that a capacity to develop prevention and/or intervention policies and program existed
• data availability.

Initially, 41 indicators were selected based on the first two criteria. The next step in the process was to acquire Western Australia-specific data for each indicator, from sources listed in the ‘Health and wellbeing of young Australians: technical paper on operational definitions and data issues for key national indicators’ (2010d). Indicators, for which state-specific data could not be found from either sources listed in the AIHW technical paper or any other source, were then omitted. Data on 34 of the originally chosen indicators have been presented in this report.

It was endeavoured to include state-specific data from sources that will be used in the AIHW report, in order to make the information in this document comparable to the national data in the upcoming AIHW report. However, even where data came from the same source, due to differences in age categories, time frame and other data categories, information presented in this document will not always be comparable to the AIHW report. In an effort to provide national comparisons, national data from the same source, presented in the same format, have been included wherever the data was available. Other methods of comparison used in this document, where permitted by data availability, include trend data, differences between Indigenous and non-Indigenous population groups, comparisons between genders and differences in country and metropolitan regions. For more methodology and data issues for specific indicators, refer to Appendix A.
Demographic overview

In Western Australia, young people aged 10 to 24 years accounted for approximately 21% of the state’s population in 2009. All three age groups in this subpopulation formed similar percentages of the total WA population; however 20 to 24 year olds formed the biggest proportion at 7.5% (Table 1). The proportion of males and females of this population of 473,407 young people, was 52% and 48% respectively (Rates Calculator Version 9.5.3).

Table 1 Young people as a proportion of the total Western Australian population in 2009

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 14 years</td>
<td>148,307</td>
<td>6.6</td>
</tr>
<tr>
<td>15 – 19 years</td>
<td>156,406</td>
<td>7.0</td>
</tr>
<tr>
<td>20 – 24 years</td>
<td>168,694</td>
<td>7.5</td>
</tr>
<tr>
<td>10 – 24 years</td>
<td>473,407</td>
<td>21.1</td>
</tr>
</tbody>
</table>

Source: Rates Calculator, Version 9.5.3

Even though the number of 10 to 24 year olds has increased in Western Australia over the past 15 years, the proportion of this age group as part of the total WA population has declined slightly, from 22.8% in 1995, to 21.1% in 2009 (Figure 1).

Figure 1 Proportion of 10–24 year olds in the total Western Australian population, from 1995–2009

Source: Rates Calculator, Version 9.5.3
In 2009, 79.1% of 10 to 24 year olds were living in the metropolitan area. Although the number of young people living in the country has increased from 90,049 in 1995 to 99,083 in 2009, the proportion has declined from 22.8% to 20.9% in this period. The highest proportion of 10 to 24 year olds living in the country was in the Southwest region (6.7%), followed by Wheatbelt (2.8%) and Midwest (2.7%) (Table 2). Of all young people living in the country areas, non-Indigenous people accounted for 85.7%, and Indigenous young people accounted for 14.3% of the population.

Table 2 Distribution of 10–24 year olds living in Western Australian country and metropolitan regions in 2009

<table>
<thead>
<tr>
<th>Country &amp; Metro Health regions</th>
<th>Number</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Southern</td>
<td>11,369</td>
<td>2.4</td>
</tr>
<tr>
<td>Southwest</td>
<td>31,725</td>
<td>6.7</td>
</tr>
<tr>
<td>Wheatbelt</td>
<td>13,288</td>
<td>2.8</td>
</tr>
<tr>
<td>Midwest</td>
<td>12,958</td>
<td>2.7</td>
</tr>
<tr>
<td>Pilbara</td>
<td>9,368</td>
<td>2.0</td>
</tr>
<tr>
<td>Kimberly</td>
<td>7,575</td>
<td>1.6</td>
</tr>
<tr>
<td>Goldfields</td>
<td>12,800</td>
<td>2.7</td>
</tr>
<tr>
<td>South Metropolitan Area Health Service</td>
<td>176,960</td>
<td>37.4</td>
</tr>
<tr>
<td>North Metropolitan Area Health Service</td>
<td>197,364</td>
<td>41.7</td>
</tr>
</tbody>
</table>

Source: Rates Calculator, Version 9.5.3

Indigenous young people formed 5% of the 10 to 24 year old subpopulation in WA and 1% of the total State population, in 2009. In comparison to non-Indigenous young people, Indigenous young people formed a bigger proportion of the total Indigenous population in WA, at 31.9%. Unlike non-Indigenous young people, from the three age groups in this sub-population, 10 to 14 year olds formed the largest proportion at 11.8% (Table 3). The proportion of males and females in this subpopulation are 51.4% and 48.5% respectively.

Table 3 Young Indigenous people as a proportion of the total Indigenous population in Western Australia in 2009

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 14 years</td>
<td>8,699</td>
<td>11.8</td>
</tr>
<tr>
<td>15 – 19 years</td>
<td>7,994</td>
<td>10.8</td>
</tr>
<tr>
<td>20 – 24 years</td>
<td>6,866</td>
<td>9.3</td>
</tr>
<tr>
<td>10 – 24 years</td>
<td>23,559</td>
<td>31.9</td>
</tr>
</tbody>
</table>

Source: Rates Calculator, Version 9.5.3

The percentage of young Indigenous people as a proportion of the total Western Australian population has remained quite stable in the past 15 years. The percentage of young Indigenous people as a proportion of the total Indigenous population however, has slightly increased in this period.
Young Indigenous people formed 30.2% of the total Indigenous population in 1995 and increased to 31.9% in 2009 (Figure 2).

Figure 2 Proportion of Indigenous 10–24 year olds in Western Australia, from 1995–2009

![Proportion of Indigenous 10–24 year olds in Western Australia, from 1995–2009](image)

Source: Rates Calculator, Version 9.5.3

Although young Indigenous people formed a small percentage of all 10 to 24 year olds living in the country regions, approximately 60% of Indigenous young people lived in country Western Australia in 2009. Number of Indigenous youth living in the country has risen between 1995 and 2009; however the proportion has decreased from 64.2% to 60.1% in the same period. The highest proportion of Indigenous young people living in the country is in the Kimberley (19.8%), followed by Pilbara (10%) and the Midwest (9.7) (Table 4).

Table 4 Distribution of Indigenous 10–24 year olds living in Western Australian country and metropolitan regions in 2009

<table>
<thead>
<tr>
<th>Country &amp; Metro Health regions</th>
<th>Number</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Southern</td>
<td>696</td>
<td>3.0</td>
</tr>
<tr>
<td>Southwest</td>
<td>1,139</td>
<td>4.8</td>
</tr>
<tr>
<td>Wheatbelt</td>
<td>1,244</td>
<td>5.3</td>
</tr>
<tr>
<td>Midwest</td>
<td>2,293</td>
<td>9.7</td>
</tr>
<tr>
<td>Pilbara</td>
<td>2,339</td>
<td>9.9</td>
</tr>
<tr>
<td>Kimberly</td>
<td>4,667</td>
<td>19.8</td>
</tr>
<tr>
<td>Goldfields</td>
<td>1,796</td>
<td>7.6</td>
</tr>
<tr>
<td>South Metropolitan Area Health Service</td>
<td>5,058</td>
<td>21.5</td>
</tr>
<tr>
<td>North Metropolitan Area Health Service</td>
<td>4,327</td>
<td>18.4</td>
</tr>
</tbody>
</table>

Source: Rates Calculator, Version 9.5.3
Death rates for young people aged 15–24 years

Based on key national indicator: Death rates for young people aged 12–24 years

Mortality rates are a key indicator of the health of a population. Mortality rates by age and sex provides an image of the health of sub-populations. Trends in rates over time reflect the changes in medical and public health interventions, and social and environmental conditions (AIHW 2007). Age, sex and Indigenous status-specific mortality rates, in conjunction with mortality trends and causes of deaths are essential components in developing health related public policies and programmes (AIHW 2007).

• Death rates for young people have slowly decreased in the decade between the years 1999 and 2008, in both Western Australia and nationwide (Figure 3).
• Although death rates for young people have declined from 83.8 to 57.5 per 100,000 15 to 24 year olds in WA, between 1999 and 2008, they remain higher than national figures.
• Males have been constantly over-represented in this age group. Since 1999 in WA, on average, male death rates have been 2.5 times higher than female rates.
• In the past decade, the death rates among 20 to 24 year olds have been consistently higher than rates for 15 to 19 year olds. The difference in rates between the two age groups ranged from 16% to 40% between 1999 and 2009, in WA.

Figure 3 Death rates for young people aged 15–24 years in Western Australia and Australia, from 1999–2008

Source: Deaths, Australia 2009 and Australian Demographic Statistics 2010, Australian Bureau of Statistics (ABS) 2010
• In 2009, there were 166 deaths among people aged 15 to 24 years in Western Australia. More than 76% of these deaths were among males (Figure 4).

• Western Australian rates for 15 to 24 year olds in 2009 were over 20% higher in comparison to national mortality rate, at 51 and 40.5 per 100,000 15 to 24 year olds, respectively.

**Figure 4** Death rates for young people in Western Australia, in 2009

Source: Deaths, Australia 2009 and Australian Demographic Statistics 2010, ABS 2010

• The death rates among young Indigenous people are considerably higher than non-Indigenous people in both WA and nationally (Table 5).

• In comparison to non-Indigenous young people, death rates were 3.7 times higher for Indigenous males, and 4.8 times higher for Indigenous females, between 2005 and 2009 in WA.

**Table 5** Death rates\(^{(a)}\) for young people aged 15–24 years, by Indigenous status, between 2005–2009

<table>
<thead>
<tr>
<th></th>
<th>Western Australia</th>
<th>Australia(^{(b)})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indigenous</td>
<td>Non-Indigenous</td>
</tr>
<tr>
<td><em>Males</em></td>
<td>246.9</td>
<td>66.0</td>
</tr>
<tr>
<td><em>Females</em></td>
<td>126.4</td>
<td>26.4</td>
</tr>
<tr>
<td><em>Persons</em></td>
<td>187.7</td>
<td>46.9</td>
</tr>
</tbody>
</table>

\(^{(a)}\) Rate per 100,000 15–24 year olds

\(^{(b)}\) Data are for NSW, Qld, SA, WA and NT combined, based on State/Territory of usual residence.

Source: Deaths, Australia 2009 & Australian Demographic Statistics 2010, ABS 2010
Proportion of young people aged 16–24 years having high or very high levels of psychological distress as measured by the Kessler 10 (K10) scale

Based on key national indicator: Proportion of young people aged 16–24 years having high or very high levels of psychological distress as measured by the Kessler 10 (K10) scale

Psychological distress in an individual comprises of their psychological states of anxiety, depression and anger, and is used to describe their overall state of psychological wellbeing (AIHW 2007). The Kessler 10 or K10 scale is used to measure non-specific psychological distress among the general population. The scale uses a 10 item questionnaire on feelings of nervousness, anxiety and depression, with responses ranging from ‘none of the time’ to ‘all of the time’ (Andrews & Slade 2001). High or very high levels of psychological distress as measured by the Kessler 10 scale indicate a need for self-help or professional help (Daly & Joyce 2010).

- In 2009, 9.6% of respondents of the Health and Wellbeing Surveillance System, aged 16 to 24 years, scored high or very high levels of psychological distress in WA (Figure 5).

Figure 5 Annual prevalence estimates of high or very high psychological distress among young people aged 16–24 years in metropolitan and country areas of WA, from 2002–2009[^1]

[^1]: Results for 2006 to be viewed with caution due to small sample size surveyed in this year. Source: Health and Wellbeing Surveillance System 2009, Department of Health (DOH) 2010
Prevalence of mental health disorders among young people aged 16–24 years

Based on key national indicator: Prevalence of mental health disorders among young people aged 16–24 years

Mental health is defined as a state of overall mental wellbeing and not merely the absence of mental illness. In a state of positive mental health an individual can cope with everyday stresses of life, be productive and realise their own potential (WHO 2010a). Many mental disorders have their root in childhood. Mental illness in youth can lead to unemployment and poor physical health in adulthood (AIHW 2007). In 2003, mental disorders were the leading cause of burden of disease and injury among young Australians aged 15 to 24 years (Begg et al. 2007).

- An estimated 9.2% of respondents of the Health and Wellbeing Surveillance System, aged 16 to 24 years, in Western Australia were suffering from a current mental health problem in 2009.
- The estimated prevalence of mental health problems in WA was higher in country areas compared to metropolitan areas, in 2009 (Figure 6).

Figure 6 Estimated prevalence of mental health conditions among young people aged 16–24 years in WA metropolitan, country areas and State-wide.

Source: Health and Wellbeing Surveillance System 2009, DOH 2010
Injury and poisoning death rate for young people aged 10–24 years

**Based on key national indicator: Injury and poisoning death rate for young people aged 12–24 years**

Injury and poisoning are the leading cause of death among young people aged 10 to 24 years (Australian Bureau of Statistics [ABS] 2010c). Injury can also leave young people with life-long disability and other health conditions. The types of injury experienced are unique to this age group; with the leading causes of death being intentional self-harm, road transport crashes and ‘accidental poisoning by and exposure to noxious substances’ (ABS 2010c). These injury-related deaths are considered highly preventable and are a priority area for young people (AIHW 2007).

- Deaths from injury and poisoning among young people have been declining in the decade between 1998 and 2007.
- In this period, rates in WA have decreased from 42.6 to 30.2 per 100,000 for 10 to 24 year olds; however, rates in WA remains higher than national figures (Figure 7).

**Figure 7** Rate of death from ‘All external causes of injury and poisoning’ (ICD10 V01-Y98) among young people aged 10–24 years, in Western Australia and Australia, from 1998–2007

Source: General Record of Incidence of Mortality 2008, AIHW 2010
- In 2007, injury and poisoning led to 135 deaths among young Western Australians.
- Over 44% of these deaths were among males aged 20 to 24 years.
- The rates for males were higher than females in all age groups. The biggest difference was in 20 to 24 year olds, where the male to female rate ratio was 4:1 (Figure 8).

**Figure 8** Rate of death from ‘All external causes of injury and poisoning’ (ICD10 V01-Y98) among young people in Western Australia, in 2007

Source: General Record of Incidence of Mortality 2008, AIHW 2010
Road transport accident death rate for young people aged 10–24 years

Based on key national indicator: Road transport accident death rate for young people aged 12–24 years

Road transport crashes are one of the major causes of death among young people in Australia. In 2009, over a quarter of road crash fatalities nationwide were accounted by young people (Department of Infrastructure and Transport 2010). Risky driving behaviour such as speeding, driving while fatigued or under the influence of alcohol and other drugs, and general lack of experience in driving, are preventable causative factors behind high death rates in this age group (Smart et al. 2005).

- In 2008, road crashes were the primary cause of death for young people aged 15 to 24 years in both Western Australia and Australia.
- Although rates have decreased in WA from 18.4 to 13.8 per 100,000 10 to 24 year olds, from 1999 to 2008, they still remain higher than Australia-wide figures (Figure 9).

Figure 9 Rate of death from road transport accident for young people aged 10–24 in Western Australia and Australia, from 1999–2008

Source: Fatal Road Crash Database, Department of Infrastructure and Transport 2010
In 2009, 24% of all road crash fatalities in WA were among people aged 10 to 24 years.

In WA, there were 46 deaths from road transport accidents in 2009, which equates to a rate of 9.7 per 100,000 10 to 24 year olds.

Death rates have been consistently higher for males than females, with the biggest disparity among 20 to 24 year olds, where male rates were 3.5 times higher than female rates (Figure 10).

**Figure 10** Rate of death from road transport accident among young people in Western Australia, in 2009

Source: Fatal Road Crash Database, Department of Infrastructure and Transport 2010
Assault death rate for young people aged 15–24 years

Based on key national indicator: Assault death rate for young people aged 12–24 years

Deaths from assault are a major cause of concern due to its association with domestic violence, drug and alcohol abuse and mental health issues (AIHW 2007).

- In WA, 15.6% of all deaths (equates to 7 deaths) from assault in 2008, were among people aged 15 to 24 years. Nationally, young people were accountable for 12.8% of all assault deaths (equates to 26 deaths).
- In 2008, the rate of assault deaths among young people was 1.3 and 0.9 per 100,000 people aged 15 to 24, in WA and Australia respectively.
- Death rates among females were higher than males in WA. In contrast, rates for males were higher nationally, in 2008 (Figure 11).

Figure 11 Rate of death from assault for young people aged 15–24 years, in Western Australia and Australia, in 2008

Source: Causes of Death, Australia 2008, ABS 2010
Suicide rate for young people aged 15–24 years

Based on key national indicator: Suicide rate for young people aged 15–24 years

Suicide rates for young people have increased in the past three decades, and was the second most common cause of death among 15 to 24 years olds in Australia and Western Australia in 2008 (Beautrais 2000; ABS 2010c). Deaths from suicide are preventable and are strongly associated with risk factors such as mental disorders, childhood and family adversity and social and educational disadvantage (Beautrais 2000; Viilo 2005).

- In 2008 suicide accounted for 25% of all deaths among 15 to 24 year olds in WA, and 21.8% for youth in Australia.
- The rate of death from suicide among young people in 2008, was 14.5 and 9.4 per 100,000 people aged 15 to 24 years in Western Australia and Australia respectively.
- Suicide rates were notably higher among young males both in WA and nationally (Figure 12).

Figure 12 Rate of death from suicide among young people aged 15–24 years, in Western Australia and Australia, in 2008\(^{(a)}\)

\(^{(a)}\) Refer to Appendix A
Source: Causes of Death, Australia 2008, ABS 2010
Accidental poisoning death rate for young people aged 15–24 years

Based on key national indicator: Accidental poisoning death rate for young people aged 12–24 years

Accidental poisoning is the third leading cause of injury related deaths among young people aged 15 to 24 years. Accidental poisoning includes cases involving misuse of various substances and unrecorded suicides (AIHW 2010d). This indicator reflects the extent of accidental poisoning from drug overdose or misuse in this age group.

- In 2008, 11.6% of all accidental poisoning deaths in WA were among 15 to 24 year olds. In comparison, deaths in this age group contributed to 8% of all deaths from accidental poisoning at the national level.
- The death rate from accidental poisoning among young people in Western Australia was 3.2 per 100,000 15 to 24 year olds, while nationally the rate was 1.7 per 100,000 15 to 24 year olds (Figure 13).
- As per other injury related deaths, males are over represented in deaths from accidental poisoning. In WA, male rates were 2.15 times higher than female rates in 2008.

Figure 13 Rate of death from accidental poisoning among young people aged 15–24, in Western Australia and Australia, in 2008

Source: Causes of Death, Australia 2008, ABS 2010
Health status

Injury and poisoning hospitalisation rate for young people aged 10–24 years

Based on key national indicator: Injury and poisoning hospitalisation rate for young people aged 12–24 years

Injury is a major cause of mortality and morbidity in Australia. In 2010 injury accounted for 6.5% of Australia’s burden of disease (AIHW 2010a). Injury is the leading cause of death among young Australians, and can leave young people with permanent disabilities and serious health conditions. This in turn can affect a person’s educational, recreational and employment opportunities, thus shaping their future health, wellbeing and overall quality of life (AIHW 2007). Injury Prevention and Control was selected as a National Health Priority Area due to its high preventability (AIHW 2010e). Hospital separation data for injury and poisoning provides an indication of the incidence of injury and the extent of disease burden. This data is crucial for planning effective prevention strategies.

- Trend data indicates higher rates of injury and poisoning hospitalisation among youth in WA compared to youth nationally (Figure 14).
- In 2008 the rate for 10 to 24 year olds was 2,796 per 100,000 in WA, and 2,355 per 100,000 in Australia.
- Injury rates in Western Australia have been steadily rising since 2002.

Figure 14 Rate of injury and poisoning hospitalisations for 10–24 year olds, in Western Australia and Australia, from 1999–2008

Source: National Hospital Morbidity Database, AIHW 2010 & Western Australian Hospital Morbidity Data System 2010

25
• In 2009 there were 13,275 hospitalisations in WA due to injury and poisoning. This is a rate of 2,804 per 100,000 young people aged 10 to 24 years.

• Injury hospitalisation rates increased with age, and were consistently higher in males than females (Figure 15).

**Figure 15** Injury and poisoning hospitalisation rates for people aged 10–24 years in Western Australia, in 2009

- Trend data indicates that Indigenous hospitalisation rates in WA for injury and poisoning have been considerably higher than non-Indigenous rates for the past decade.

- In 2009, Indigenous hospitalisation rates were 2.3 times higher than non-Indigenous rates, at 6,142 and 2,629 per 100,000 10 to 24 year olds, respectively (Figure 16).

**Figure 16** Rate of injury and poisoning hospitalisation for Indigenous and non-Indigenous 10–24 year olds, in Western Australia, from 1999–2008
HIV infection notification rate for young people aged 10–24 years

Based on key national indicator: HIV infection notification rate for young people aged 12–24 years

HIV infection notification rates have been gradually increasing in Australia in the past decade, and are more prevalent among older age groups. HIV infections among young people are primarily caused by unsafe sexual behaviour and intravenous drug use (AIHW 2007).

- In 2009 the rate of HIV infection among 10 to 24 year olds in Western Australia was 0.8 per 100,000 young people, equating to 4 cases.
- The rate among 20 to 24 year olds in WA, in the same period, was 1.2 per 100,000 20 to 24 year olds.
- HIV infection notification numbers between October 2007 and September 2010 indicate a notable rise in incidence from the 15 to 19 to 20 to 24 year old age group (Figure 17).
- In this period, 10 to 24 year olds accounted for 9.8% of all HIV infection notifications in WA.

**Figure 17** HIV infection notification numbers in Western Australia between 2007–2010

Source: Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia, DOH 2009 & 2010
Hepatitis B and C notification rates for young people aged 10–24 years

Based on key national indicator: Hepatitis A, B and C notification rates for young people aged 12–24 years

Hepatitis B and C are responsible for causing chronic infection, which can lead to cirrhosis of the liver or liver cancer. Hepatitis B is transmitted through sexual contact, blood contact (including injecting drug use) and from mother to baby. Hepatitis C is primarily transmitted through injecting drug use (AIHW 2007; AIHW 2010d). Exposure at a young age increases the chances of developing chronic liver diseases (AIHW 2007).

- In 2008, 29.8 and 25.9 per 100,000 10 to 24 year olds were infected with Hepatitis B in Western Australia and Australia respectively (Figure 18).
- Rates of infection increased with age, with a 3.7 times increase between 10 to 14 year olds and 20 to 24 year olds in WA.

Figure 18 Hepatitis B infection notification rate among 10–24 year olds, in Western Australia and Australia, in 2008

Source: National Notifiable Diseases Surveillance System database, Department of health and Ageing (DHA) 2010 & Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia, DOH 2010
• In 2008 Hepatitis C rates among young people were at 34.1 and 31.9 per 100,000 10 to 24 year olds in Western Australia and Australia respectively (Figure 19).

• Among all young people, the 20 to 24 year old age group had the highest incidence rate both in WA and nationally, at 73.3 and 71 per 100,000 of the sub-population population respectively.

**Figure 19** Hepatitis C infection notification rate among 10–24 year olds, in Western Australia and Australia, in 2008

Source: National Notifiable Diseases Surveillance System database, DHA 2010 & Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia, DOH 2010
**Incidence of notifiable sexually transmissible infections among young people aged 10–24 years**

**Based on key national indicator: Incidence of notifiable sexually transmissible infections among young people aged 12–24 years**

Sexually transmissible diseases are a major public health concern primarily because of their contribution to long-term morbidity. According to the AIHW (2007), young people aged 12 to 24 years were responsible for 50% of all sexually transmissible infection notifications in Australia in 2005. Sexually transmissible infections such as Chlamydia and Gonorrhoea can affect reproductive health, cause upper genital tract infection and infertility among women.

- In 2008, 15.6% of all Chlamydia infection notifications in Australia were contributed by Western Australian youth.
- Notification rate among 10 to 24 year olds, were 50% higher in Western Australia in comparison with national rates, at 1240.5 and 825.7 per 100,000 young people respectively (Figure 20).

**Figure 20** Rate of Chlamydia infection notification among 10–24 year olds in Western Australia and Australia, in 2008

Source: National Notifiable Diseases Surveillance System database, DHA 2010 & Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia, DOH 2010
In 2009, the rate of Chlamydia infection notification among young people in Western Australia was 1,240.8 per 100,000 10 to 24 year olds.

In comparison to non-Indigenous young people, rates of Chlamydia notification were considerably higher among Indigenous young people.

Rate of Chlamydia notification was highest among 15 to 19 year old indigenous females (Table 6).

### Table 6 Rate of Chlamydia infection notification among Indigenous and non-Indigenous 10–24 year olds in Western Australia, in 2009(a)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Indigenous</th>
<th>non-Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 14 years</td>
<td>Males</td>
<td>244.5</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>882.2</td>
</tr>
<tr>
<td></td>
<td>Persons</td>
<td>551.8</td>
</tr>
<tr>
<td>15 – 19 years</td>
<td>Males</td>
<td>4,660.2</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>9,485.7</td>
</tr>
<tr>
<td></td>
<td>Persons</td>
<td>6,992.7</td>
</tr>
<tr>
<td>20 – 24 years</td>
<td>Males</td>
<td>4,045.9</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>5,882.4</td>
</tr>
<tr>
<td></td>
<td>Persons</td>
<td>4,937.4</td>
</tr>
</tbody>
</table>

(a) Rate per 100,000 10-14, 15-19 and 20-24 year old in WA

Source: The Epidemiology of Notifiable STIs and BBVs in Western Australia 2009, DOH 2010

In 2009, among all WA health service regions, Kimberly had the highest rate of Chlamydia notifications for both Indigenous and non-Indigenous young people, at 6,811 and 1,857 per 100,000 10 to 24 year olds, respectively (Figure 21).

### Figure 21 Chlamydia infection notification rate among Indigenous and non-Indigenous 10–24 year olds in WA country and metropolitan regions, in 2009

Source: The Epidemiology of Notifiable STIs and BBVs in Western Australia 2009, DOH 2010
• The rate of notification for Gonococcal infection among young people aged 10 to 24 were also higher in Western Australia in comparison to national rates, at 206.5 and 80.7 per 100,000 young people, respectively.
• The state and national rate difference was highest among 15 to 19 year olds, with a rate ratio of 3:1 (Figure 22).

**Figure 22** Rate of Gonococcal infection notification among 10–24 year olds in Western Australia and Australia in 2008

Source: National Notifiable Diseases Surveillance System database, DHA 2010 & Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia, DOH 2010

• In 2009, the rate of Gonorrhoea notification among young people in WA was 156.3 per 100,000 10 to 24 year olds.
• Rates for Gonorrhoea were considerably higher among Indigenous young people than non-Indigenous people (Table 7).

**Table 7** Rate of Gonorrhoea notifications among Indigenous and non-Indigenous 10–24 year olds in Western Australia, in 2009

<table>
<thead>
<tr>
<th>Age group</th>
<th>Indigenous</th>
<th>non-Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 14 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>200.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Females</td>
<td>739.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Persons</td>
<td>459.8</td>
<td>0.0</td>
</tr>
<tr>
<td>15 – 19 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>3,373.8</td>
<td>31.3</td>
</tr>
<tr>
<td>Females</td>
<td>4,083.7</td>
<td>29.3</td>
</tr>
<tr>
<td>Persons</td>
<td>3,715.3</td>
<td>30.3</td>
</tr>
<tr>
<td>20 – 24 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>3,443.3</td>
<td>76.7</td>
</tr>
<tr>
<td>Females</td>
<td>4,248.4</td>
<td>37.6</td>
</tr>
<tr>
<td>Persons</td>
<td>3,830.5</td>
<td>58.1</td>
</tr>
</tbody>
</table>

(a) Rate per 100,000 10-14, 15-19 and 20-24 year old in WA
Source: The Epidemiology of Notifiable STIs and BBVs in Western Australia 2009, DOH 2010
Among all health service regions in WA, Kimberly had the highest rate of Gonorrhoea infection among Indigenous young people, at 6,428 per 100,000 10 to 24 year olds (Figure 23).

**Figure 23** Gonorrhoea infection notification rate among Indigenous and non-Indigenous 10–24 year olds in WA country and metropolitan regions, in 2009

Source: The Epidemiology of Notifiable STIs and BBVs in Western Australia 2009, DOH 2010
Proportion of young people who are overweight or obese

Based on key national health indicator: Proportion of young people who are overweight or obese

In the decade from the year 1985, prevalence of obesity tripled and overweight doubled among Australian children. Overweight and obesity is considered one of the most common childhood chronic health problems (Baur 2002). Overweight and obesity among young people can lead to short-term adverse health consequences such as psychological ill-health, asthma, endocrine disorders, and give rise to cardiovascular risk-factors (Reilly 2005). Childhood and adolescent obesity can also impact the long-term physiological, mental and socio-economic status of an individual. Overweight and obesity among young people significantly increases the chances of obesity to persist in to adulthood, morbidity, and premature mortality. Obesity in adolescence is also associated with lower educational attainment, social isolation, higher healthcare costs and lost economic productivity (Reilly 2005).

- In 2008, 13% of secondary school children (Year 8, 10 & 11) in the Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) in Western Australia were overweight (Table 8).
- Proportion of obese children in the same period among secondary school children was 2.9%.

Table 8 Proportion of secondary school children in Western Australia, classified as overweight and obese, in 2003 and 2008

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Overweight</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>17.1</td>
<td>11.8</td>
</tr>
<tr>
<td>Girls</td>
<td>19.6</td>
<td>14.1</td>
</tr>
<tr>
<td>All</td>
<td>18.3</td>
<td>13.0</td>
</tr>
<tr>
<td><strong>Obese</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>7.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Girls</td>
<td>3.5</td>
<td>1.8</td>
</tr>
<tr>
<td>All</td>
<td>5.6</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Source: Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) 2008

- According to the 2007-08 National Health Survey, 28.6% of Western Australians aged 18 to 24 were overweight, while 12.8% were obese.
Physical activity is a health protective behaviour and an important factor in the increasingly sedentary modern lifestyle. Physical activity helps maintain good health by reducing the risk factors for cardiovascular diseases, diabetes, falls and fractures, and some cancers. These risk factors include high blood pressure and cholesterol levels (AIHW 2007). Physical inactivity is also strongly associated with overweight and obesity, which is a major risk factor for various diseases (Rennie, Johnson & Jebb 2005). Performing regular physical activity reduces adverse mental health effects such as stress, anxiety and depression (AIHW 2007). The National Physical Activity Guidelines for Australians outline the amount of physical activity that needs to be performed by children and adults to gain and maintain good health (AIHW 2007). For children and adolescents, it is recommended to perform at least 60 minutes of moderate to vigorous activity everyday. While adults are advised to perform at least 30 minutes of moderate physical activity on most days of the week (Department of Health and Ageing [DHA] 1999 & 2004).

- Among secondary school children participating in the 2008 Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) in Western Australia, 37.6% of boys and 10.1% of girls reported performing recommended levels of physical activity in the past week^{(a)}
- In the 2007-08 National Health Survey, 25.3% of young Western Australians aged 18 to 24 years reported performing moderate levels of physical activity, compared to 23.2% in Australia.

^{(a)}Significant difference existed between boys and girls after adjusting for age, SES and school clustering in both primary and secondary school children.
**Proportion of young people meeting Australian dietary guidelines**

*Based on key national health indicator: Proportion of young people aged 12 – 24 meeting Australian dietary guidelines*

Nutritious diet is a major protective factor against diseases such as coronary heart disease, type 2 diabetes, hypertension and many forms of cancer. Unhealthy diets are also strongly associated with overweight and obesity among children and adolescents (Rennie, Johnson & Jebb 2005). One of the key components of a healthy diet is adequate fruit and vegetable consumption. The Dietary Guidelines for Children and Adolescents in Australia recommends daily intake of 4 serves of fruits and 3 serves of vegetables (National Health and Medical Research Council [NHMRC] 2003a). The recommendation for adults is 2 serves of fruits and 5 serves of vegetables daily (NHMRC 2003b).

- Most secondary school children did not reach the recommended daily fruit and vegetable intake in 2008; however, according to the 2008 Western Australian Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) results, there has been an increase in fruit and vegetable consumption among secondary school children (Year 8, 10 & 11) between 2003 and 2008 (Table 9).

**Table 9** Proportion of Secondary school children in Western Australia meeting the recommended daily fruit and vegetable intake in 2003 and 2008

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>22.0</td>
<td>22.2</td>
</tr>
<tr>
<td>Girls</td>
<td>13.5</td>
<td>28.3</td>
</tr>
<tr>
<td><strong>Vegetable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>18.1</td>
<td>28.1</td>
</tr>
<tr>
<td>Girls</td>
<td>18.0</td>
<td>23.6</td>
</tr>
</tbody>
</table>

Source: Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) 2008

- The National Health Survey 2007-08 indicates that 94.9% of young people aged 18 to 24 in Western Australia and 96.2% Australia-wide were not consuming adequate levels of fruits and vegetables.
Proportion of young people aged 12–24 years who are daily smokers

Based on key national indicator: Proportion of young people aged 14–24 who are daily smokers

Tobacco use is the primary risk factor for several diseases including lung and cardiovascular diseases and cancer. The World Health Organization (WHO 2011) estimates that almost half of current tobacco users will die from a tobacco related disease. Tobacco use in adolescence is considered a major predictor of addiction and the continuation of smoking in adulthood. Most adults who currently smoke, made the choice to take up smoking when they were between the ages of 12 and 17 years (AIHW 2009a; Leavy et al. 2010). Most of these adolescents become dependent on nicotine only after smoking daily (Hu, Davies & Kandel 2006). Preventing the commencement of smoking among youth is therefore a major public health concern.

- The proportion of young people aged 12 to 17 years, in the Australian Secondary Students Alcohol and Drug (ASSAD) survey, who smoked in the past week are considered as ‘current smokers’.
- The proportion of these current smokers in Western Australia has declined from 16.9% in 1993 to 4.8% in 2008 (Figure 24).
- Trend data indicates that the proportion of female current smokers has been slightly higher than male current smokers in this period.

Figure 24 Proportion of 12–17 year old current smokers (smoked in the past week) in WA, from 1993–2008

Source: Australian Secondary Students Alcohol and Drug survey 2008
In 2008, 4.8% of 12 to 17 year old students in Western Australia were current smokers; while the national figure for current smokers in this age group was 7.3%.

The proportion of young people who smoked in the week prior to the 2008 ASSAD survey, increased with age (Figure 25); with 17 year old students accounting for the highest proportion of current smokers, both in WA and Australia.

**Figure 25** Proportion of 12–17 year old current smokers in WA and Australia, in 2008

Among 12 to 17 year old current smokers, 19.7% in Western Australia and 26.3% in Australia smoked daily (Figure 26).

A slightly higher proportion of males than females smoked daily, at both the state and national level.

Among all 12 to 17 year old students, the proportion of daily smokers in WA equates to 1%.
In 2007, of all 14 to 19 year olds participating in the National Drug Strategy Household Survey (NDSHS), 5.7% in WA and 7.3% in Australia were daily smokers.

According to the NDSHS, the proportion of 18 to 24 year old daily smokers in WA was 16.4% in 2007; with 18.6% of males and 14.4% of females in this age group, smoking daily.
Determinants of health

Proportion of young people who drink at high-risk levels in the short or long-term

Based on key national indicator: Proportion of young people who drink at high-risk levels in the short or long-term

Excessive alcohol consumption among young people is a major risk factor for their health and wellbeing. Binge drinking, or drinking heavily over a short period of time, affects both mortality and morbidity (AIHW 2007). Short term effects of excessive alcohol consumption include loss of inhibition and decreases cognitive performance. These effects can lead to transport crashes, falls, drowning and assault and thus increase the risk of serious injury and death among young people (AIHW 2007; NHMRC 2009). Long term alcohol abuse can lead to alcohol dependence, mental health conditions, liver diseases and certain cancers. High-risk drinking among young people can affect their wellbeing by causing family and relationship problems and financial difficulties (AIHW 2010d). Young people under the age of 18 years are considered to be ‘at-risk’ drinkers, if they have consumed more than seven standard drinks for males, and five for females, in any one occasion in the past week (Drug and Alcohol Office [DAO] 2010a).

- At-risk alcohol consumption among 12 to 17 year old current drinkers, has significantly increased in Western Australia, from 15.6% in 1993 to 24.3% in 2008 (Figure 27).
- Although the proportion was slightly lower in 2008 compared to 2005, it did not reach statistical significance.
- Trend data indicates that proportion of female at-risk drinkers have been consistently higher than male at-risk drinkers.
According to the Australian Secondary Students Alcohol and Drug (ASSAD) survey, in 2008, 23.6% of Western Australian and 22.6% of Australian school students aged 12 to 17 years consumed alcohol in the past week.

Among these current drinkers, 24.3% in WA and 28.1% Australia-wide were drinking at high-risk levels (Figure 28).

Risky consumption increased with age, with 50.7% of 17 year old male and 61.2% of 17 year old female current drinkers in WA, drinking heavily in 2008.

More females were drinking at high-risk levels than males in all ages at both the state and national level.

### Figure 27 Proportion of 12–17 year old high-risk drinkers in Western Australia from 1993–2008

![Figure 27](image)

Source: Australian Secondary Students Alcohol and Drug survey 2008

### Figure 28 Proportion of 12–17 year old current drinkers, drinking at high-risk levels in Western Australia and Australia in 2008

![Figure 28](image)

Source: Australian Secondary Students Alcohol and Drug survey 2008
According to the National Drug Strategy Household Survey (NDSHS), in 2007 4.8% of survey respondents in WA aged 14 to 19 years, drank at high-risk levels in the long term.\(^{(a)}\)

\(^{(a)}\) For males, the consumption of 43 or more standard drinks per week is considered 'High risk'. For females, the consumption of 29 or more standard drinks per week is considered 'High risk.'
Illicit drugs are associated with various negative health and wellbeing outcomes for young people. Drug abuse is often a cause of mental health problems, including aggressive behaviour and suicidal ideation. Illicit drug use can also lead to overdose and poisoning, acquiring HIV/AIDS or Hepatitis C from injecting drug use, and other long term health conditions such as high blood pressure and respiratory problems (AIHW 2007).

- The proportion of 12 to 17 year old students participating in the 2008 Australian Secondary Students Alcohol and Drug (ASSAD) survey, who had used an illegal substance in the past month, has significantly declined in Western Australia, from 24.2% in 1996 to 9% in 2008 (Figure 29).
- The proportion of students using an illegal substance excluding cannabis has also significantly declined, from 5.9% in 1996 to 4% in 2008.

**Figure 29** Trend in the use of any illicit substance, and any illicit substance excluding cannabis, in the past month, among 12–17 year olds in WA, from 1996–2008

Source: Australian Secondary Students Alcohol and Drug survey 2008
In 2008, 9% of Western Australian students aged 12 to 17 years, participating in the ASSAD survey, had used an illicit substance in the past month, compared to 7.2% of young people nationally (Figure 30).

Trend data indicates slightly lower proportions of females using illicit substances than males.

**Figure 30** Proportion of students aged 12–17 years who had used at least one illicit substance in the past month, in 2008

In 2008, 4% of Western Australian students aged 12 to 17 years, participating in the ASSAD survey, had used an illicit substance excluding cannabis in the past month, compared to 3.1% of young people nationally (Figure 31).

**Figure 31** Proportion of students aged 12–17 years who had used at least one illicit substance excluding cannabis in the past month, in 2008
In 2007, 11.8% of survey respondents aged 14 to 19 years in the National Drug Strategy Household Survey (NDSHS) reported using an illicit drug in the past month.

In 2007, 22.1% of young people aged 14 to 24 years in WA used cannabis, making it the most commonly used drug among young people.

At the same period 5.5% of young people aged 12 to 24 years used ‘any other drugs excluding cannabis’ (AIHW 2008).
Age-specific birth rate for 15–19 year old women

Based on key national indicator: Age-specific birth rate for 15–19 year old women

Pregnancy among young women aged 19 years and under is a cause of concern because of the health risks it poses to both mother and child, and the social circumstances surrounding teenage pregnancy and motherhood. Teenagers are more likely to engage in risky behaviour such as drinking alcohol and smoking while pregnant; which consequently leads to higher risk of miscarriage, perinatal mortality, low birthweight, and other pregnancy and birth related complications (AIHW 2009a). Teenage pregnancy is usually associated with socioeconomic disadvantage, experiencing childhood sexual abuse and poor school performance. Teenage parents are also more likely to experience lone parenthood, interrupted schooling, unemployment, dependency on government assistance and poverty (AIHW 2009a & 2009b). Children of teenage parents are thus more likely to experience emotional, social, economic, health and educational disadvantage, and become teenage parents themselves (AIHW 2009a).

- Birth rate trends, that include both live and still births, indicate that rates for non-Indigenous young women decreased from 20.1 to 16.5 per 1,000 for 15 to 19 year olds, between 1994 and 2007.
- In the same period, birth rates for young Indigenous women decreased considerably, from 166 to 94.3 per 1,000 Indigenous women aged 15 to 19 years (Figure 32).
- In 2008, the birth rate for young women in Western Australia was 21.1 per 1,000 young women aged ≤19; while the birth rate for Indigenous and non-Indigenous young women was 104.2 and 16.6 per 1,000 young women aged ≤19, respectively.
Abortion proportion illustrates the proportion of known pregnancies that are terminated, and is presented as the number of abortion per 100 known pregnancies (abortions and live births).

Data from the Western Australian Abortion Notification System indicates that abortion proportions are significantly higher among young non-Indigenous teenagers in comparison to Indigenous young women.

In 2008, the abortion proportion was 51.9% for all women aged 15 to 19 years; while 57.6% for non-Indigenous and 14.2% for Indigenous young women (Figure 33).

Figure 32 Birth rate (live and still births) for young women aged ≤19 in Western Australia from 1993–2008

![Graph showing birth rate for young women in WA from 1993 to 2008](image)

Source: Perinatal Statistics in WA 2008, 2010

Figure 33 Abortion proportion among young women aged ≤19 in Western Australia from 2002–2008

![Graph showing abortion proportion for young women in WA from 2002 to 2008](image)

Source: Midwives Notification System and Abortion Register 2011
Proportion of parents rating their health as ‘fair’ or ‘poor’

Based on key national indicator: Proportion of parents rating their health as ‘fair’ or ‘poor’

Parents’ health and wellbeing can affect young people who depend on their primary carer for financial and emotional support among other needs. Parental illness or disability can disrupt the extent to which a parent can provide support to the young person. The needs of the young person may not be met and at times they may have to taken on the responsibility of caring for the parent.

- In 2009, 5.7% of respondents with children aged 10 to 15 years, in the Western Australian Health and Wellbeing Surveillance System survey, rated their health as fair; while 2.2% rated their health as poor.

Source: Health and Wellbeing of Children in Western Australia 2009, Department of Health 2010
Proportion of parents with a mental health problem

**Based on key national indicator: Proportion of parents with a mental health problem**

Mental health problems in a parent can adversely affect the health and wellbeing of young people living with them. Genetic inheritance along with financial difficulties and taking on the role of a carer can increase the risk of physical and mental health problems among young people (AIHW 2007). Correct estimations of parents with mental health conditions can facilitate planning policies and programs to provide support for young people.

- In 2009, 15.5% of respondents of the Health and Wellbeing Surveillance System survey in Western Australia, with children aged 10 to 15 years, reported having a mental health problem in the past 12 months, in 2009; while 11.9% reported currently receiving treatment.

Source: Health and Wellbeing of Children in Western Australia 2009, Department of Health 2010
Proportion of young people aged 15–24 years who are able to get support in a time of crisis from persons living outside the household

Based on key national indicator: Proportion of young people aged 18–24 years who are able to get support in a time of crisis from persons living outside the household

Social support plays an important role in the health and wellbeing of young people. Children and young people growing up with rich social networks have more friends, family or neighbours to give them emotional and social support. Strong support networks also increases young people’s access to information and material resources (AIHW 2010d). The protective factors that strong social attachments provide can reduce academic failure, child abuse, teenage pregnancy and adolescent delinquency (Ferguson 2006). The following section looks at the proportion of young people who feel they are able to get support from people living outside the household, as a measure of the social support they receive.

- In 2006, 96.9% of young people in Western Australia aged 18 to 24 participating in the ABS General Social Survey felt they could get support at a time of crisis, compared to 95.3% around Australia (Figure 34).
- More females than males felt they could get support in both WA and Australia.

Figure 34 Proportion of young people aged 18–24 years who are able to get support in a time of crisis from persons living outside the household in 2006

Source: General Social Survey 2006, ABS 2007
In 2008, among young Indigenous people aged 15 to 24 participating in the National Aboriginal and Torres Strait Islander Social Survey, 87.9% in Western Australia felt they could get support in the time of crisis, compared to 88.2% in Australia (Figure 35).

The proportion of Indigenous males was slightly higher in WA compared to nation-wide figures; however proportions for Indigenous females were higher in Australia than in WA.

Figure 35 Proportion of young Indigenous people aged 15–24 years who are able to get support in a time of crisis from persons living outside the household in 2008

Source: National Aboriginal and Torres Strait Islander General Social Survey 2008, ABS 2010
Proportion of young people aged 15–24 years who engage in community participation

Based on key national indicator: Community participation rate among young people aged 18–24 years

Community participation helps enrich the social networks of an individual and thus affects the health and wellbeing of young people. Involvement in sporting and community groups and general leisure activities can promote sense of belonging, develop new skills and build trust and confidence among young people (AIHW 2007). Promoting community participation among young people can enhance their overall physical and mental health in adulthood.

• In Western Australia, 76.6% of the 18 to 24 year old population from the 2006 ABS General Social Survey, participated in sport or recreational physical activity in the past year, compared to 70.6% in Australia (Figure 36).
• A higher proportion of young people from the survey, had attended at least one cultural or leisure event in the past year; with 99.5% in WA and 96.9% Australia-wide (Figure 36).

Figure 36 Proportion of young people aged 18–24 years who engaged in community participation in 2006

Source: General Social Survey 2006, ABS 2007
In 2008, among young Indigenous people aged 15 to 24 years, 91.6% and 93.4%, in Western Australia and Australia respectively, had participated in sporting, social or community activities in the past year.

More females participated in these activities than males in both WA and Australia (Figure 37).

**Figure 37** Proportion of young Indigenous people aged 15–24 years who engaged in community participation in 2008

Source: National Aboriginal and Torres Strait Islander General Social Survey 2008, ABS 2010
Rate of young people aged 10–17 years who were the subject of a substantiation of a child protection notification received in a given year

Based on key national indicator: Rate of young people aged 12–17 years who were the subject of a substantiation of a child protection notification received in a given year

Child protection notifications are substantiated when there are reasons to believe that a child is likely to have been abused (AIHW 2007). Abuse and neglect on young people can cause both short term and long term emotional and physical consequences. Children who are abused or neglected can experience difficulties in cognitive and emotional development. While abuse in childhood increases the rate of substance abuse and antisocial behaviour among adults (Chartier, Walker & Naimark 2007).

- In the year 2008-09, 1,463 protection notifications were substantiated in Western Australia. Among these 32.5% were for children aged 10 to 17 years.
- In 2008-09 the rate of young people who were the subject of a substantiation of a child protection notification in Western Australia, was 2.0 per 1,000 10 to 17 year olds.
- The rate of young Indigenous people, who were the subject of a substantiation of a child protection notification in Western Australia in the same period, was 10.3 per 1,000 10 to 17 year olds.
- The rate for Indigenous children aged 10 to 14 years was seven times higher than non-Indigenous children of the same age group (Figure 38).
Figure 38 Rate of young people in Western Australia years who were the subject of a substantiation of a child protection notification in 2008–2009

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Rate per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 14 years</td>
<td>13.9</td>
</tr>
<tr>
<td>15 - 17 years</td>
<td>3.9</td>
</tr>
<tr>
<td>Other children</td>
<td>2</td>
</tr>
<tr>
<td>All children</td>
<td>2.7</td>
</tr>
</tbody>
</table>

*a) ‘All children’ includes those children whose Indigenous status is unknown
Source: Child Protection Australia 2008-09, AIHW 2010*
Rate of young people aged 10–17 years who are the subject of care and protection orders

Based on key national indicator: Rate of young people aged 12–17 years who are the subject of care and protection orders

Children can be on care and protection orders because of serious concerns of abuse, neglect and lack of parents to provide appropriate care. Children can also come under care and protection orders because the parents are deceased or are unable to care for the child due to reasons other than neglect and abuse. Children being admitted to care and protection orders are often an indication of complex factors in the household such as family violence, parental substance abuse and mental health conditions.

- In the year 2008-09, 3,337 children were on care and protection orders in Western Australia. 38.5% of these children were aged between 10 to 17 years.
- The rate of children on care and protection orders was 6.2 per 1,000 for 10 to 14 year olds and 4.0 per 1,000 for 15 to 17 year old children.

Source: Child Protection Australia 2008-09, AIHW 2010
Physical and sexual assault can produce a complex array of adverse short-term and long-term health and wellbeing outcomes. Childhood maltreatment is associated with physical aggression, sexual violence and delinquency in adulthood (Lee & Hoaken 2007). Physical and sexual abuse is also linked to depression and substance abuse (AIHW 2007). The victimisation data from the Australian Bureau of Statistics report Recorded Crime (ABS 2010e), represents only part of the real victimisation rates, as many people do not report crimes to the police.

- Rates of young people who have been victims of assault or sexual assault have been slowly increasing in Western Australia since 2005 (Figure 39).
- Rates among 15 to 19 and 20 to 24 year olds have been quite similar and comparatively higher than rates for 10 to 14 year olds.
- In 2009, the rate of victims of assault in Western Australia was 1,780.9 per 100,000 young people aged 10 to 24 years. While the rate of victims of sexual assault was 200.5 per 100,000 young people aged 10 to 24 years.

**Figure 39** Victims of assault and sexual assault aged 10–24 in Western Australia, from 2005–2009

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• Among victims of assault, the rate increased considerably from 10 to 14 years, to the 15 to 19 year age group (Figure 40).

Figure 40 Rates of victims of assault in Western Australia in 2009

Source: Recorded Crime – Victims, Australia 2009, ABS 2010

• Among victims of assault, rates for males were higher than females in all age groups (Figure 40); while among sexual assault victims, the rates for females were considerably higher than males in all age groups (Figure 41).

Figure 41 Rates of victims of sexual assault in Western Australia in 2009

Source: Recorded Crime – Victims, Australia 2009, ABS 2010
Homelessness is associated with a range of negative social, physical and mental health outcomes. People who are homeless can find it difficult to obtain and maintain education or employment (AIHW 2009b). Homeless people are also more likely to be substance abusers, have psychiatric disorders and suffer chronic ill-health (AIHW 2009b; Yu et al. 2008). Homeless children have higher rates of anxiety and mood disorders and disruptive behaviour disorders (Yu et al. 2008). Experiencing homelessness as a child also increases the likelihood of being homeless as an adult, and experience poverty and social exclusion (AIHW 2009b).

- In 2006, 13,391 people in Western Australia were categorised as homeless. Young people aged 12 to 24 years comprised 40% of this population (Figure 42).
- In the same period, young people aged 12 to 24 years, accounted for 31% of the homeless population nationwide.
- In Western Australia, young people aged 12 to 18 years accounted for the highest percentage of the State’s total homeless population in 2006.

**Figure 42** Proportion of homeless people, by age, in Western Australia in 2006

Source: Counting the Homeless 2006 – Western Australia, AIHW 2009
The proportion of young people who were homeless in 2006 was 1.4% in WA and 0.9% nationally (Figure 43). More females than males were homeless in the 12 to 18 age group, whereas more males were homeless than females in all other age groups.

**Figure 43** Proportion of homeless young people in WA and Australia, in 2006

Source: Counting the Homeless 2006 – Western Australia, AIHW 2009
A major at-risk group among youth in Australia are young people who come into contact with the juvenile justice system. Risk factors such as physical abuse and childhood neglect stemming from family dysfunction, poor social support and financial hardship are key predictors of youth offense. Young people under the juvenile justice system are at higher risk of injuries, sexually transmissible and bloodborne infections, substance abuse, self-harm and psychological disorders (AIHW 2007).

- In the year 2007-08, 2,047 young Western Australians were under juvenile justice supervision, a rate of 9 per 1,000 10 to 17 year olds.
- The number of young people under the juvenile justice system increased with age, with the number of 17 year olds being 87 times higher than the number of 10 year olds in the 2007-08 period.
- Young Indigenous people are noticeably over represented in the juvenile justice system, and accounted for 63% of the population under supervision in 2007-08 (Figure 44).

**Figure 44** Rate of young people under juvenile justice supervision in Western Australia in 2007–2008

Source: Juvenile Justice in Australia 2007-08, AIHW 2009
Rate of imprisonment for young people aged 18–24 years

Based on key national indicator: Rate of imprisonment for young people aged 18–24 years

Young people in prison generally have poor health conditions. Incarcerated young people have higher rates of substance abuse, smoking and communicable diseases such as Hepatitis B and C (AIHW 2007). Negative health and wellbeing outcomes continue even after release from prison. Substance abuse, road transport crashes and suicide are the major causes of death among young people after release from prison (AIHW 2007).

- 864 young people aged 18 to 24 were incarcerated in Western Australia in 2009.
- The imprisonment rate in this period was 371.3 per 100,000 young people aged 18 to 24 years.
- Among them, male rates were markedly higher than female rates, at 660.6 and 55.7 per 100,000 18 to 24 year old males and females respectively.
- The male to female ratio in 2009 for this age group was 40:3.

Source: Prisoners in Australia 2009, ABS 2009
Determinants of health

Proportion of young people in Years 7 and 9 achieving at or above the national minimum standards for literacy and numeracy

Based on key national indicator: Proportion of young people in Years 7 and 9 achieving at or above the national minimum standards for literacy and numeracy

There is a strong correlation between an individual’s level of education and their health status (AIHW 2007; Turrell et al. 2006). Education directly impacts health status by increasing awareness and knowledge among young people of health risk factors and protective behaviours (AIHW 2007). Competency in literacy and numeracy and overall academic performance in the early years, as well as being essential skills used in everyday life, are a major predictor of students’ retention in high school and further education (AIHW 2010d). The National Assessment Program – Literacy and Numeracy (NAPLAN) tests are conducted each year in Australia to test reading, writing, language conventions and numeracy achievements of year 3, 5, 7, and 9 students (Ministerial Council for Education, Early Childhood Development and Youth Affairs [MCEECDYA] 2010).

- In comparison to Australia, slightly lower proportions of Year 7 and 9 students achieved at or above the minimum national average in the Reading, Writing and Numeracy components of the NAPLAN, in Western Australia in 2010; with the differences ranging from 0.2% to 1.2% (Table 10).

Table 10 Proportion of young people in Years 7 and 9 achieving at or above the national minimum standards for Reading, Writing and Numeracy in 2010

<table>
<thead>
<tr>
<th></th>
<th>Western Australia</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 7</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>94.2%</td>
<td>94.8%</td>
</tr>
<tr>
<td>Writing</td>
<td>92.3%</td>
<td>92.6%</td>
</tr>
<tr>
<td>Numeracy</td>
<td>94.8%</td>
<td>95.0%</td>
</tr>
<tr>
<td></td>
<td>Year 9</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>89.5%</td>
<td>90.7%</td>
</tr>
<tr>
<td>Writing</td>
<td>86.7%</td>
<td>87.2%</td>
</tr>
<tr>
<td>Numeracy</td>
<td>92.2%</td>
<td>93.1%</td>
</tr>
</tbody>
</table>

Source: National Assessment Program, Literacy and Numeracy (NAPLAN) 2010, Australian Curriculum, Assessment and Reporting, Authority (ACARA) 2010
• The 2009 NAPLAN results indicate notably lower proportions of Indigenous year 7 and 9 students achieving at or above the national minimum standards in the Reading, Writing and Numeracy components, in comparison to non-Indigenous students.

• The difference between Indigenous and non-Indigenous results in these categories ranged from 23.7% to 38.6% (Table 11).

**Table 11** Proportion of Indigenous and non-Indigenous young people in Years 7 and 9 in Western Australia, achieving at or above the national minimum standards for Reading, Writing and Numeracy, in 2009

<table>
<thead>
<tr>
<th>Year 7</th>
<th>Indigenous</th>
<th>Non-Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>65.2%</td>
<td>94.3%</td>
</tr>
<tr>
<td>Writing</td>
<td>62.5%</td>
<td>93.5%</td>
</tr>
<tr>
<td>Numeracy</td>
<td>71.7%</td>
<td>95.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 9</th>
<th>Indigenous</th>
<th>Non-Indigenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>56.4%</td>
<td>92.4%</td>
</tr>
<tr>
<td>Writing</td>
<td>50.1%</td>
<td>88.7%</td>
</tr>
<tr>
<td>Numeracy</td>
<td>67.4%</td>
<td>95.5%</td>
</tr>
</tbody>
</table>

Source: National Assessment Program, Literacy and Numeracy (NAPLAN) 2009, Australian Curriculum, Assessment and Reporting, Authority (ACARA) 2010
Determinants of health

Apparent retention rate from Year 7–8 to Year 12

*Based on key national indicator: Apparent retention rate from Year 7–8 to Year 12*

Individuals with higher levels of education are reported to have fewer illnesses, lower rates of mortality from most major causes of death and better mental health than individuals with lower levels of education (Turrell et al. 2006). Higher levels of education increases the chances of acquiring rewarding employment that is associated with better income and job security, which in turn impacts health by reducing injury risks, stress levels, and enabling healthier diet and access to medical care. Research indicates that compared to Year 12 graduates, young people are more likely to be unemployed for extended periods if they do not complete Year 12 (AIHW 2007). Apparent retention rate is a measure of Year 12 attainment and indicates the percentage of students who follow through secondary education from the beginning of secondary school to Year 12 (AIHW 2007).

- Apparent retention rates for Western Australian students have generally been lower than all Australian students combined (Figure 45).
- In the decade between the years 2000 and 2009, the difference between apparent retention rates among Western Australian and Australian students was highest in 2003 at 4.2%.
- In 2009 the Western Australian and Australian apparent retention rates was 75% and 76% respectively.

**Figure 45** Apparent retention rate from Year 7-8 to Year 12 in WA and Australia, from 2000–2009

Source: Schools, Australia 2009, ABS 2010
In 2009, the difference between apparent retention rates for male and female students was similar in both Western Australia and Australia.

In Western Australia, female students have generally had a higher retention rate than male students, and in 2009 this difference was 12.4% (Figure 46).

**Figure 46** Apparent retention rate from Year 7-8 to Year 12, in Western Australia and Australia in 2009

The difference in apparent retention rates is more evident among Indigenous and non-Indigenous student populations, where the rates have been considerably lower for Indigenous students in comparison to all other students in Western Australia.

The difference in retention rates for Indigenous and non-Indigenous students have been slowly decreasing since 2000 (Figure 47).

In 2009 the rate difference was 37.6%, with retention rate for non-Indigenous students at 77.3% and 39.7% for Indigenous students.
Figure 47 Apparent retention rates from Year 7/8 to Year 12, for Indigenous and Non-Indigenous population of WA, from 2000–2009

Source: Schools, Australia 2009, ABS 2010
Proportion of young people aged 15–24 years who are fully engaged in education or training and/or work

Based on key national indicator: Full-time participation rate of young people aged 15–24 years in study or work

Young people are considered to be participating fully when they are engaged in full-time work, full-time study or any combination of full-time and/or part-time work and study (AIHW 2007). Young people who are not fully participating in work or study are more likely to experience financial hardship and social stress. In comparison to other young people, individuals not participating full-time in work or study are also more likely to participate in fewer social activities, have fewer resources available in a time of emergency, experience social exclusion and be victims of crime (Long 2006).

- In 2010, 83.1% of 15 to 19 year olds and 78.9% of 20 to 24 year olds in Western Australia were fully engaged in education or training and/or work (Figure 48).
- Between 2001 and 2010, the highest proportion of young people who were fully engaged in education and/or work was in 2008, at 84.5%.
- Proportion of 15 to 19 year olds who were fully engaged in education or training and/or work has generally been higher than the proportion of 20 to 24 year olds.

Figure 48 Proportion of young people who are fully engaged in education or training and/or work, in Western Australia, from 2001–2010

Source: 2010 Survey of Education and Work, ABS 2010
Unemployment rate for young people aged 15–24 years

Based on key national indicator: Unemployment rate for young people aged 15–24 years

Employment status can have a significant effect on the health of an individual. Secure and rewarding employment can provide young people with self-confidence and financial independence (AIHW 2007). While unemployment, can lead to financial hardship, depression and ill health. Unemployment can change the economic status, health risk behaviours and the social support available to an individual, thus affecting both their physiological and psychological health (Ahs & Westerling 2005). Research indicates that more short-term and long-term unemployed people rate their health as poor, compared to people who are employed (Ahs & Westerling 2005).

- According to the Census of Population and Housing, in 2006, 4,756.3 per 100,000 young people aged 15 to 19 years, and 3901.4 per 100,000 young people aged 20 to 24 years in WA, were unemployed.
- The national figures are higher for both age groups at 6,271.9 per 100,000 young people aged 15 to 19 years, and 5,699.3 per 100,000 young people aged 20 to 24 years.
- In comparison to 20 to 24 year olds, unemployment rates for 15 to 19 year olds were higher both nationally and in WA.
- Nationwide more males were unemployed than females in both age groups (Figure 49); while in WA, female unemployment rates were higher among 15 to 19 year olds.
In 2006, the unemployment rate for young Indigenous males was 7,649.4 per 100,000 15 to 24 year olds; for females this rate was 6,520.4 per 100,000 15 to 24 year old Indigenous females in WA.

The overall unemployment rate for young Indigenous people was 64% higher than the rate for all young people in WA, at 7,093.3 per 100,000 Indigenous people aged 15 to 24 years.
Proportion of young people aged 10–24 years living in jobless families

Based on key national indicator: Proportion of young people aged 12–24 years living in jobless families

Young people living in jobless families can experience adverse social and mental health consequences. Unemployment of the parent(s) can hinder the educational and social development of young people. Families experiencing long-term unemployment are likely to live in low socioeconomic status, experience stress and family conflict, and be socially isolated (AIHW 2007). These factors can negatively affect both the emotional and physical wellbeing of a young person, and their own future employment opportunities.

- In 2006, 1.5% of 10 to 12 year olds and 1.6% of 13 to 14 year olds were living in jobless families in Western Australia (Table 12).
- The proportion of young people living in jobless families decreased with age from 15 years onwards.
- More young people were living in jobless single-parent families than jobless couple parent families.

Table 12 Number and proportion of young people aged 10–24 years, living in single or couple parent jobless families in Western Australia in 2006

<table>
<thead>
<tr>
<th>Age group</th>
<th>Single parent family</th>
<th>Couple parent family</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>10 – 12</td>
<td>1,131</td>
<td>1.32</td>
<td>167</td>
</tr>
<tr>
<td>13 – 14</td>
<td>783</td>
<td>1.35</td>
<td>119</td>
</tr>
<tr>
<td>15 – 17</td>
<td>537</td>
<td>0.61</td>
<td>84</td>
</tr>
<tr>
<td>18 – 20</td>
<td>94</td>
<td>0.11</td>
<td>26</td>
</tr>
<tr>
<td>21 – 24</td>
<td>53</td>
<td>0.04</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: 2006 Census of Population and Housing, ABS 2010
References


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Appendix A – Methodology

Death rates for young people aged 15-24 years

- Figures for deaths among 15 to 25 year olds have been extracted from Deaths, Australia, 2009, from Australian Bureau of Statistics 2010.
- Age specific death rates have been calculated with death numbers from Deaths, Australia, 2009 and population figures from Australian Demographic Statistics 2010 from Australian Bureau of Statistics 2010.

Proportion of young people aged 16–24 years having high or very high levels of psychological distress as measured by the Kessler 10 (K10) scale

- Data for this indicator have been obtained from the Western Australian Health and Wellbeing Surveillance System 2009 survey.
- Please note that data from this source are population estimates only.

Prevalence of mental health disorders among young people aged 16–24 years

- Data for this indicator have been obtained from the Western Australian Health and Wellbeing Surveillance System 2009 survey.
- Please note that data from this source are population estimates only.

Injury and poisoning death rate for young people aged 10-24 years

- Injury and poisoning deaths presented in this report are categorised by ICD-10 code for ‘All external causes of injury and poisoning’ (V01-Y98).
- All rates of deaths from injury and poisoning are from the National and State & Territory, General Record of Incidence of Mortality (GRIM) books 2008, from the Australian Institute of Health and Welfare.

Road transport accident death rate for young people aged 10-24 years

- Numbers of deaths among young people from road transport accident have been derived from the Australian Road Deaths Database from the Federal Department of Infrastructure of Transport.
- Rates for this indicator have been calculated using Rates Calculator Version 9.5.3
Assault death rate for young people aged 15-24 years

- Assault deaths presented in this report are categorised by ICD-10 code for ‘Assault’ (X85-Y09).
- Figures for deaths from assault have been extracted from Causes of Death Australia 2008 – Underlying cause of death, Australia and Western Australia, from Australian Bureau of Statistics 2010.

Suicide rate for young people aged 15-24 years

- Suicide deaths presented in this report are categorised by ICD-10 code for ‘Intentional self-harm’ (X60-X84).
- Figures for deaths from suicide have been extracted from Causes of Death Australia 2008 – Underlying cause of death, Australia and Western Australia, from Australian Bureau of Statistics 2010.
- Care needs to be taken in interpreting figures relating to Suicide, due to limitations of the data outlined below.
- The following information relating to this indicator is from the ‘Explanatory Notes’ for ‘Causes of Death Australia 2008 – Underlying cause of death’, from the Australian Bureau of Statistics. 2010:
  - **Intentional Self-Harm [Suicide] (X60-X84, Y87.0)**

> 72 The number of deaths recorded as Intentional self-harm (Suicide) has decreased over the last 10 years, from 2,492 in 1999 to 2,191 in 2008. This decrease can be partly attributed to the variances in the way the ABS has coded coroner certified deaths over time. See Explanatory notes 48-52. For 2008, the ABS has invested additional effort into coding coroner cases which remained open at the time of processing. This process involved making increased use of police reports, toxicology reports, autopsy reports and coroners findings to assign a more specific cause of death. This will have an influence on the number of deaths due to Suicide, as the majority of open coroner cases are deaths due to external causes. See Technical Note 1: 2008 COD Collection - Process Improvements for further information.

> 73 In addition, the number of deaths attributed to Suicide for 2008 is expected to increase as data is subject to the revisions process.

> 74 Suicide deaths in children are an extremely sensitive issue for families and coroners. The number of child Suicides registered each year is low in relative terms and is likely to be underestimated. For that reason this publication does not include detailed information about Suicides for children aged under 15 years in the commentary or data cubes. There was an average of 10.1 Suicide deaths per year of children under 15 years over the period 1999 to 2008. For boys, the average number of Suicides per year was 6.9, while for girls the average number was 3.2.
For processing of deaths registered from 1 January 2007, revised instructions for ABS coders were developed in order to ensure consistency in the coding of suicide deaths and compliance with the revised notes for coding to the undetermined intent categories. At the time that the ABS ceases processing, each coroners record on the NCIS will have a status of 'open' or 'closed' (See Technical Note 1: 2008 COD Collection - Process Improvements for further information on coroner certified deaths). The NCIS case status impacts on how deaths are coded with regard to suicides. With the introduction of the revisions process for all deaths registered from 1 January 2007, additional information received by the ABS may lead to a more specific cause of death code being assigned. Below is a summary of the suicide coding process used by the ABS.
Accidental poisoning death rate for young people aged 15-24 years

- Accidental poisoning deaths presented in this report are categorised by ICD-10 code for ‘Accidental poisoning by and exposure to noxious substances’ (X40-X49).
- Figures for deaths from accidental poisoning have been extracted from Causes of Death Australia 2008 – Underlying cause of death, Australia and Western Australia, from Australian Bureau of Statistics 2010.

Injury and poisoning hospitalisation rate for young people aged 10-24 years

- Hospital separation data for injury and poisoning presented in this document are all injuries that are classified under ICD-10 code S00-T98.
- Western Australian figures were extracted from the WA Hospital Morbidity Data System on 2nd December 2010 by Hospital Morbidity Data Collections.
- Data from these two sources are considered comparable, as the National Hospital Morbidity Database collects its information from state and territory health data authorities including the WA Hospital Morbidity Data System.
- All rates for this indicator have been calculated by Rates Calculator Version 9.5.3.

HIV infection notification rate for young people aged 10-24 years

- HIV infection notification figures were collected from the ‘Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia’ reports.
- Due to small numbers of notification among this age group, a cumulative figure for the period between 1st October 2007 and 30th September 2010 has been presented.
- Rates for this indicator have been calculated by Rates Calculator Version 9.5.3.

Hepatitis B and C notification rates for young people aged 10-24 years

- National Hepatitis B and C notification numbers were acquired from the National Notifiable Diseases Surveillance System database and include both newly acquired and unspecified infections.
- WA figures were collected from the ‘Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia’ report.
• Data from these sources are considered comparable, as the Communicable Disease Control Directorate in WA provides state-specific data to the National Notifiable Disease Surveillance System.
• Rates for this indicator were calculated by the Rates Calculator Version 9.5.3.

Incidence of notifiable sexually transmissible infections among young people aged 10-24 years

• National figures for both Chlamydia and Gonococcal infection were collected from the National Notifiable Diseases Surveillance System database.
• Numbers of Chlamydia and Gonococcal infection in WA were collected from the ‘Quarterly Surveillance Report of Notifiable STIs and BBVs in Western Australia’ report.
• Data from these sources are considered comparable, as the Communicable Disease Control Directorate in WA provides state-specific data to the National Notifiable Disease Surveillance System.
• Rates for this indicator were calculated by the Rates Calculator Version 9.5.3.

Proportion of young people who are overweight or obese

• Data for this indicator for people aged ≤18 were extracted from the 2008 Western Australian Child and Adolescent Physical Activity and Nutrition Survey.
• The survey was conducted on selected Year levels. ‘Primary school children’ refers to children from Years 3, 5 and 7. ‘Secondary school children’ refers to children from Years 8, 10 and 11.
• Data for 18 to 24 year olds have been acquired from the Western Australian results of the 2007-08 National Health Survey.

Proportion of young people meeting the National Physical Activity Guidelines

• Proportions for this indicator, for people aged ≤18, were obtained from the 2008 Western Australian Child and Adolescent Physical Activity and Nutrition Survey.
• Data for 18 to 24 year olds have been acquired from the Western Australian results of the 2007-08 National Health Survey.
• Note that, the National Physical Activity Guidelines recommend at least 60 minutes of moderate to vigorous physical activity every day for children and adolescents; while at least 30 minutes of moderate intensity of physical activity on most days of the week, for adults.
Proportion of young people meeting Australian Dietary Guidelines

- Proportions for this indicator, for people aged ≤18, were extracted from the 2008 Western Australian Child and Adolescent Physical Activity and Nutrition Survey.
- Data for 18 to 24 year olds have been acquired from the Western Australian results of the 2007-08 National Health Survey.
- Note that, Australian Dietary Guidelines recommend 3 serves of fruits and 4 serves of vegetables per day for adolescents; while 2 serves of fruit and 5 serves of vegetables per day for adults.

Proportion of young people aged 12–24 years who are daily smokers

- National and Western Australian rates for 12 to 17 year olds who are daily smokers were collected from state and national survey reports of the 2008 Australian Secondary Students Alcohol and Drug Survey.
- Proportions for 14 to 24 year olds who are daily smokers were acquired from the State and Territory supplement of the National Drug Strategy Household Survey of 2007.

Proportion of young people who drink at high-risk levels in the short or long-term

- National and Western Australian rates for 12 to 17 year olds who drink at high-risk levels were collected from state and national survey reports of the 2008 Australian Secondary Students Alcohol and Drug Survey.
- Proportions for 14 to 19 year olds who are high-risk drinkers, were collected the State and Territory supplement of the National Drug Strategy Household Survey of 2007.

Proportion of young people aged 12-24 years who had used an illicit drug within the last month

- National and Western Australian rates for 12 to 17 year olds who had used an illicit drug within the last month were collected from state and national survey reports of the 2008 Australian Secondary Students Alcohol and Drug Survey.
- Proportions for 14 to 24 year olds who had used an illicit substance were acquired from the State and Territory supplement of the National Drug Strategy Household Survey of 2007.

Age-specific birth rate for 15–19 year old women

- All birth figures originate from the Western Australian Midwives’ Notification System and were extracted from their annual report titled ‘Perinatal Statistics in Western Australia 2008’ and the Abortion Notification System.
- Live birth rate = \( \frac{\text{Live births among women aged } \leq 19}{\text{All women aged 15-19 years}} \times 1000 \)
• Birth rate = \( \frac{\text{Live and still births among women aged } \leq 19 \text{ x 1000}}{\text{All women aged 15-19 years}} \)

• Pregnancy rate = \( \frac{\text{Live birth + Induced abortion for } \leq 19 \text{ women x 1000}}{\text{All women aged 15-19 years}} \)

• Abortion proportion = \( \frac{\text{Induced abortion for } \leq 19 \text{ women x 100}}{\text{Live birth + Induced abortion for } \leq 19 \text{ women}} \)

• All rates for this indicator have been calculated by the Rates Calculator Version 9.5.3.

Proportion of parents rating their health as ‘fair’ or ‘poor’

• Data for this indicator have been obtained from the Western Australian Health and Wellbeing Surveillance System 2009 survey.

Proportion of parents with a mental health problem

• Data for this indicator have been obtained from the Western Australian Health and Wellbeing Surveillance System 2009 survey.

Proportion of young people aged 15–24 years who are able to get support in a time of crisis from persons living outside the household

• Proportion estimates for this indicator were collected from the national and Western Australian results of the 2006 General Social Survey from the Australian Bureau of Statistics.

• Indigenous status-specific proportion estimates were collected from Australian and Western Australian results of the 2008 National Aboriginal and Torres Strait Islander Social Survey from the Australian Bureau of Statistics.

Community participation rate among young people aged 15–24 years

• Proportion estimates for this indicator were collected from the national and Western Australian results of the 2006 General Social Survey from the Australian Bureau of Statistics.

• Indigenous status-specific proportion estimates were collected from Australian and Western Australian results of the 2008 National Aboriginal and Torres Strait Islander Social Survey from the Australian Bureau of Statistics.

Rate of young people aged 10–17 years who were the subject of a substantiation of a child protection notification received in a given year

• Rates and figures for this indicator were extracted from the 2008-09 ‘Child Protection Australia’ report by the Australian Institute of Health and Welfare.

• Comparative data for this indicator could not be provided, as the legislation, policies and procedure regarding child protection
notification, investigation and substantiation varies in each state and territory.

Rate of young people aged 10–17 years who are the subject of care and protection orders

- Rates and figures for this indicator were extracted from the 2008-09 ‘Child Protection Australia’ report by the Australian Institute of Health and Welfare.
- Comparative data for this indicator could not be provided, as the legislation, policies and procedure regarding child protection notification, investigation and substantiation varies in each state and territory.

Rate of young people aged 10–24 years who have been the victim of physical or sexual assault

- Rates for this indicator were extracted from the 2009 data collection report by the Australian Bureau of Statistics titled ‘Recorded Crime – Victims, Australia’.

Proportion of young people aged 12–24 years who are homeless

- Figures for young homeless people living in Western Australia and Australia were collated from the report ‘Counting the Homeless 2006 – Western Australia’, by the Australian Institute of Health and Welfare.
- Rates for this indicator were calculated using the Rates Calculator Version 9.5.3.

Rate of young people aged 10–17 years who are under juvenile justice supervision

- Numbers for this indicator were extracted from the 2007-08 annual Australian Institute of Health and Welfare report ‘Juvenile Justice in Australia’.
- All rates were calculated by the Rates Calculator Version 9.5.3.

Rate of imprisonment for young people aged 18–24 years

- Data for this indicator were sourced from the Australian Bureau of Statistics 2009 report ‘Prisoners in Australia’.
- Rates for this indicator have been calculated by the Rates Calculator Version 9.5.3.

Proportion of young people in Years 7 and 9 achieving at or above the national minimum standards for literacy and numeracy

- Data for this indicator have been obtained from the ‘National Report: Achievement in Reading, Writing, Language Conventions and
Dates for this indicator were collected from the annual publication by the Australian Bureau of Statistics titled ‘Schools, Australia’ 2009 edition.

**Full-time participation rate of young people aged 15–24 years in study or work**

- Rates for this indicator have been extracted from 2010 results of the Survey of Education and Work by the Australian Bureau of Statistics.

**Unemployment rate for young people aged 15–24 years**

- Western Australian and national data for this indicator was extracted from the 2006 Census of Population and Housing.
- Trend data for this indicator was obtained from Australian Bureau of Statistics publication Australian Social Trends.

**Proportion of young people aged 10–24 years living in jobless families**

- Data for this indicator was extracted from the 2006 Census of Population and Housing.
Delivering a Healthy WA