Are we there yet: indicators of inequality in health

Report to Department of Human Services
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Part 1

Introduction and background
Chapter 1
Why indicators of inequalities in health

1.1 Introduction

Indicators of health inequalities

Health is a resource for living. With good health people are capable of growing, learning, sharing and enjoying life – they can participate fully in society and the economy (Sen 1985). Inequalities (or avoidable and unfair differences) in health provide a fundamental measure of the fairness of a society. Where they exist, inequalities also have substantial costs. Health inequalities diminish economic productivity and create avoidable health care expenditure. Poor and unequal health is also a key feature of social exclusion; creating a damaging spiral impacting on a range of social outcomes such as educational attainment. There are also personal costs and costs to families and children across generations unnecessarily deprived of opportunity.

Specific indicators of health inequality are important because the overall picture of health can mask discrete challenges and points of opportunity. Providing decision makers with a more comprehensive picture is crucial to selecting the strategies to reduce inequality. This is especially important given the broad and complex factors that influence health and health inequalities. Indicators of health inequality are a powerful tool as they enable governments to monitor progress in meeting public commitments. Finally investments aimed at improving overall health can, inadvertently, widen inequalities between groups – indicators are a necessary tool for appraising impact.

1.2 Purpose of this report

This report provides a profile of the unequal distribution of health and some of the key factors known to influence health. The report offers a model for presenting indicators of health inequality and establishes baseline data to enable future tracking of progress to reduce inequality. Preparation of this report entailed rigorous selection of indicators and testing of available data. As a result, findings are included on future data development and presentation.

The report is not intended to be a detailed epidemiologic analysis of the data, rather it is intended to broadly ‘paint a picture’ of inequalities in health in Victoria. A report like this has previously never been prepared for the Victorian Government. For this reason, an explanation of the population groups and indicators chosen for analysis is provided in greater detail below.

Finally, the report identifies and increases understanding of the impact of environmental (including social), physical and economic factors on the health and well-being of populations, especially those populations most at risk of poor outcomes. The findings from this report provide critical information for policy development, highlighting where action (from governments and others) should be considered.
1.3 Background

What are health inequalities

Health inequalities are defined in Box 1.1.

Box 1.1

WHAT ARE HEALTH INEQUALITIES?

Health inequalities are differences in health that are “not only unnecessary and avoidable, but in addition are considered unfair and unjust”


What causes health and health inequalities

The health of populations and of individuals is affected by multiple and complex factors. The Australian Institute of Health and Welfare (AIHW) describes these multi-causal relationships as:

A person’s health and functioning - the length and quality of the person’s life - are seen as the result of the interactions among human biology, lifestyle and environmental (including social) factors, modified by health and other interventions.

AIHW 2008

There is overwhelming evidence that the environments in which people live (social, biological and ecological) have a significant impact on achieving wellbeing and are key factors of health (Stanley 2002). If supportive, these environments give individuals and communities a firm foundation from which to build competence and skills that positively influence learning, behaviour and health throughout the lifespan. However, if these environments are not supportive, life outcomes for people tend to be poorer (Keating & Hertzman 1999).

The World Health Organization (WHO) publication The Social Determinants of Health: The Solid Facts identifies ten important social factors that are amenable to reducing inequalities. The South Australian Government used the WHO model in their report Inequality in South Australia – Key Determinants of Wellbeing 2004 but amended it slightly. The South Australian model is summarised in Table 1.1. It is the unequal distribution of the factors (or ‘determinants’) in Table 1.1 that causes health inequalities.
Table 1.1

**KEY DETERMINANTS OF WELLBEING - SOUTH AUSTRALIA**

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income and socio-economic position</td>
<td>Considered as among the most important individual level factor. Overall wellbeing is directly correlated with this determinant and as a person’s income and socio-economic situation improves so does their health and wellbeing.</td>
</tr>
<tr>
<td>Culture and kinship</td>
<td>Culture, spirituality and kinship have an important influence on health related beliefs and practices and also contributes to the knowledge base of the causes of health and illness and their remedy.</td>
</tr>
<tr>
<td>Education and training</td>
<td>Increasing levels of educational achievement improve health outcomes. In addition, participation in schooling/training acts as a protective factor in reducing risk factors such as homelessness and substance use.</td>
</tr>
<tr>
<td>Employment and working conditions</td>
<td>Unemployment and under-employment are associated with poorer health and decreased life opportunities. Employees with more control over their work situation and reduced work related stressors tend to be healthier than their counterparts.</td>
</tr>
<tr>
<td>Physical environment</td>
<td>The safety, quality and sustainability of our physical environment (clean air, water and food, raw materials for clothing, shelter and industry) play a significant role in determining health and wellbeing for populations.</td>
</tr>
<tr>
<td>Social support networks</td>
<td>Support from family, friends and the community contributes to better health and wellbeing by assisting people to deal with crises and difficulties when they arise, by helping a person maintain a sense of control over their own lives and improving the ability to contribute as a valued member of the community.</td>
</tr>
<tr>
<td>Early life factors</td>
<td>Childhood is the critical stage in human development. Research across fields including neuroscience and economics provides evidence of how childhood and youth influences a range of outcomes, including health outcomes, later in life.</td>
</tr>
<tr>
<td>Individual behaviours and lifestyle factors</td>
<td>Personal behaviours and lifestyle choices can directly influence health in either a positive or negative ways. Many of these behaviours and lifestyle choices are directly influenced by economic and social circumstances.</td>
</tr>
<tr>
<td>Access to effective human services</td>
<td>Access to high quality, universal primary and preventative health care services is directly associated with health and wellbeing. Certain population groups suffer from lack of access to and availability of appropriate primary and preventive services that negatively influences their outcomes.</td>
</tr>
<tr>
<td>Biologic factors and genetic inheritance</td>
<td>Inherited genetic factors, gender, individual body systems and growth/aging play a significant role in determining health and wellbeing. New evidence supports the theory that a person’s genetic factors are amenable to change and are actually shaped by a person’s physical, psychological and social environment and may persist throughout the lifespan.</td>
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There are numerous diagrammatic ‘models’ and ‘frameworks’ that represent these key causes of health and health inequalities. The relationship between these different factors is summarised in Figure 1.1. This diagram indicates that the various factors are inter-related, with complex relationships at work.

It must be stressed, that there is not a definitive relationship between the various factors. For example, a one per cent increase in unemployment does not lead to a specific and easily identified impact upon the progression of a particular disease such as diabetes. Rather, the impact on health, of an increase in unemployment is dependant upon how this increase interacts with other factors.

While this report does not prescribe nor recommend any particular model, the indicators used have been selected to reflect the established significance of the environments in which people live and influential factors identified in the scientific literature.

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Figure 1.1

FRAMEWORK FOR ANALYSING HEALTH AND HEALTH INEQUALITIES


1.4 Selecting indicators

The selection and organisation of indicators for this report has followed a rigorous process, including review of the small number of previously published indicator sets. Some of this work preceded research for this report but has been made available for the selection and presentation of indicators.
Establishing a framework

To present a coherent picture, the indicators have been organised into four related sections that reflect a model of cause, potential change and action impact. The range of indicators that Victoria has chosen for this report includes widely used measures of health status, key factors determining health, measures of disease prevention/health promotion and service level measures. In combination, these indicators provide a comprehensive overview of inequalities in the state.

The first section, ‘headline health outcomes’, provides overall health outcomes that reflect the stated goals and aspirations of the Victorian Government. Changes in indicators in this section will follow from changes in the remaining three sections. The indicators in this section are standard measures of population health. They are referenced from Growing Victoria Together, the objectives of A Fairer Victoria plus strategies specific to the health portfolio.

The remaining three sections reflect the multiple factors that influence health, consolidated into three simple dimensions that also provide a guide for policy. These dimensions are illustrated in Figure 1.2. During 2007, the Department of Human Services conducted a research and consultation process to review evidence of effective approaches to reduce inequalities in health. This process identified three dimensions:

- reduce the disadvantage and discrimination that leads to illness
- promote health for all – ensure disease prevention and health promotion reach all Victorians
- provide quality services, accessible and affordable to those in need.

The indicators selected for this report reflect these dimensions, but also allow an equity analysis to ensure progress towards objectives are shared by all members of the community, particularly those already facing disadvantage.
Criteria for indicators

Having established this framework, a two step process was established to select and test the best indicators. In the first step, VicHealth and the Department of Human Services established an expert advisory group to devise criteria for the selection of indicators. The draft report of the advisory group was then provided to the Allen Consulting Group for testing, review and then compilation of data and analysis.

Numerous indicators are used nationally and internationally to measure and monitor trends in health inequalities. Those chosen for this report enable:

- clear identification of the gaps in health facing some sections of the Victorian community
- a deeper understanding of the causes of differences in health and where to act to reduce inequality, and
- a framework to measure progress towards reducing inequity, while ensuring that actions do not exacerbate inequality.

When assessing potential indicators for the report, the following selection criteria was adopted.

Box 1.2
INDICATOR SELECTION CRITERIA

- They should already be used by the Victorian Government and be consistent with national and international best practice, or be otherwise widely used
- They should be able to be analysed by geography and by sub-population including age gender, Indigenous status, ethnicity and socio-economic status
- They should be able to be expressed in plain language, and make sense to a public and policy audience
- They should be built on robust evidence that supports the link between the indicator and the health outcome
- They should include health outcomes measures, as well as indicators that measure government’s capacity to act effectively.


1.5 Selecting a standard for comparison

Assessing inequalities requires selecting for each item measured a point of comparison. Selecting this point remains a subjective exercise. An argument can be made for using the highest or best point observable. This argument reflects an interpretation of the United Nations’ declared right to the ‘highest attainable standard of health’ (Braverman et al 2003). This approach is rejected in this report because it introduces a further subjective element (the notion of an ‘attainable’ standard requires an assessment of available resources and return on investment).

Instead, the point of comparison used in this report is the Victorian average/median for each indicator. This point of comparison is used because it has the advantage of being both clearly measurable and reflective of a common sense view of fairness.
1.6 Understanding the social gradient in health

It is a well known fact that position on the social ladder affects life expectancy and the prevalence of most diseases. Each step up the social ladder of income, education or occupation improves health status incrementally. This fact is called the ‘social gradient’ and applies across the population. Poor social and economic conditions affect health throughout life with people further down the social ladder running twice the risk of serious illness and premature death compared with their counterparts in the highest level. It is important to note that the social gradient does not apply just to low income populations. Research from the UK, shows that the social gradient runs across society (WHO 2003). This research involved middle class office workers who were studied over a number of years and showed that lower ranking staff experienced significantly more disease and earlier death than higher ranking staff (Donkin 2002).

Adverse health effects accumulate over time for people who are chronically disadvantaged so the longer people live in stressful economic and social conditions the more likely they are to suffer ill health. The attainment of good health is multi-factorial and involves increasing the levels of educational attainment, improving security and employment and improving housing standards. The World Health Organisation states:

Societies that enable all citizens to play a full and useful role in the social, economic and cultural life of their society will be healthier than those where people face insecurity, exclusion and deprivation.

WHO 2003

1.7 Sub-population groups facing greatest inequality

Many Victorians enjoy the best health outcomes observed internationally, with Victoria having one of the world’s highest life expectancy rates. But these successes in health are not shared equally across the whole of the Victorian community.

This report, as the first report of its kind in Victoria, has established a model that is applicable to any population group. The groups chosen for profile in this analysis have been based on those identified in A Fairer Victoria as experiencing the greatest disadvantage. The four groups are Victorians who are:

- Socio-economically disadvantaged
- Indigenous
- Residing in rural and regional areas, and/or
- Of non-English speaking backgrounds (including migrants from a refugee background).

There is a strong case for further exploration of the data for population groups and also geographic areas. Future analysis, for example could look at how these indicators vary by gender or by age groups or by local government area. In addition, future analysis could explore inequalities between other population groups in order to monitor who faces the greatest inequalities and the comparison with international or national benchmarks and Victoria’s nominated health outcomes.
1.8 Sub-population groups included in report

Definitions

Low socio-economic status

In Victoria, as elsewhere, health status improves incrementally with each step up the social ladder of income, education or occupation. This ‘social gradient’ applies across the population and means that people on average incomes also suffer poorer health than those above them.

Socio-economic position can be measured in a variety of ways and each has its advantages and limitations. The two principal methods of defining socio-economic position for the purpose of monitoring progress to reduce inequality are

- by a measure of household income
- by combination of socio-economic factors (generally a combination of income, education and occupation). These are sometimes aggregated into an area-based ranking or compared to an absolute or relative amount (discussed in Box 1.3 below).

Indigenous

Despite cultural strengths such as respect for elders, extended and supportive family networks and a concept of health that incorporates connection with spirit and land, for Indigenous Victorians, entrenched disadvantage across generations has been caused by structural problems and race-based discrimination since colonisation (Carson et al 2007; Victorian Indigenous Youth Affairs Council 2006). These inequalities exist for all Indigenous people in Victoria at all ages and in all settings. Closing this gap will involve not only governments increasing investment in health care infrastructure that ensures Indigenous peoples effective quality care on the basis of need, but will also require strategies that align health goals with other sectors of government such as housing, education and employment (Anderson 2008).

Rural and regional Victoria

On a national level, people living in rural and remote areas live shorter lives and experience higher levels of illness and disease risk factors than those in urban areas (AIHW 2008).

The State of Victoria’s Children Report 2006 and the State of Victoria’s Young People Report 2007 both highlight the differences in outcomes between children and youth living in metro and rural/regional areas. The reports conclude that the health of people living in rural areas of Australia is often poorer than that of people living in major cities and other urban locations. They postulate that these differences could be attributable to a range of factors including poorer access to health services and higher levels of socio-economic disadvantage in rural areas. The state of Victoria’s young people report states:

“This report provides evidence to suggest that young people’s access to, and use of, health and other services in Victoria is an area of some concern. For example young people in rural areas are less likely to report visiting a dentist in the past 12 months. Young people in rural areas also report a range of barriers to their access to sexual health and mental health services. Fears of stigma and a lack of anonymity are important contributory factors to this.”

DEECD 2008
Non-English speaking background, including new arrivals/refugees

Australia has a large proportion of migrants with an estimated 24 per cent of the total population being born overseas (ABS 2007c). Nearly one in seven people currently living in Australia were born in a non-English speaking country (AIHW 2008). Research has shown that migrants coming from a non-English speaking country do not necessarily have poorer health outcomes than Australians who were born in this country. In fact, quite the contrary is true with migrant populations having lower death and hospitalisations rates as well as lower rates of disability and lifestyle-related risk factors (AIHW 2008). However, one group of migrants — refugees — stand out as experiencing significant inequality in health. Refugees face significant personal hardships and often have experienced war and civil unrest, torture and other trauma. Many have also experienced the loss of family members and friends along with dislocation from homeland. Unfortunately, only very limited data exists for refugees in Victoria and this report is unable to accurately separate the refugee population from the broader population of Victorians from a non-English speaking background.

1.9 Demographic characteristics

The demographic characteristics of the four populations of interest for this report are described in Box 1.3.
**Low Socio-Economic Status in Victoria**

**Household Income**

*Definition* – households earning less than $20,000 per annum.

*Justification* – from a household income perspective, low socio-economic status is usually defined as households earning less than 50% of median household income (approximately $26,572 per annum) (ABS 2007). However, most data sets only allow for the splitting of households into broad income groups, e.g. <$20k, $20-40k, $40-60k, $60-80k and $80k+. Therefore, for the purposes of this report, the bottom band (<$20k) was chosen as an approximate (more conservative) measure of low socio-economic status.

**Population statistics**

12% of Victorian households earn less than $20,000 per annum which represents approximately 210,200 households.

19.5% of Victorian households earn less than 50% of the median household income (approximately $26,572 per annum) which represents approximately 350,710 households.

**Area Level Disadvantage**

*Definition* – households in the bottom quintile of area disadvantage measured by the Index of Relative Socio-economic Disadvantage (IRSED)

IRSED is one of four Socio-Economic Indexes For Areas (SEIFA) developed by the Australian Bureau of Statistics using Census information. It is a socio-economic index that summarises a wide range of information about the economic and social resources of people and households within an area. Census variables used to estimate the IRSED include low income, low educational attainment, unemployment, and dwellings without motor vehicles.

A high IRSED score indicates a relative lack of disadvantage. For example, an area may have a high score if there are (among other things) few households with low incomes, few people with no qualifications or in low skilled occupations. A low score indicates relatively greater disadvantage. For example, an area could have a low score if there are (among other things) many households with low income, many people with no qualifications, or many people in low skilled occupations.

*Justification* – disadvantage is often represented by the bottom two IRSED quintiles. For the purposes of this report, however, the bottom quintile was chosen as an approximate (more extreme) measure of low socio-economic status.

**Population statistics**

- On the basis of the 2006 Census, 20% of the Victorian population representing 961,420 people were classified as living in the lowest IRSED quintile.

**Indigenous Victorians**

**Population statistics**

- The latest estimate developed by the ABS following the 2006 Census is that 33,517 Indigenous persons were living in Victorian on 30 June 2006. This Indigenous population represents 0.65% of the total Victorian population.
- Of the Victorian Indigenous population, 50% were living in major cities (Melbourne and Geelong), 35% were living in inner regional locations, and 15% were living in outer regional or remote locations.
- Of note in the ABS estimates was that the median age of the Victorian Indigenous population in 2006 was 21.2 years, compared to a median age of 36.8 years among non-Indigenous Victorians.

**Victorians living in rural (non-metro) areas**

**Population statistics**

- 27% of Victoria’s population live in non-metro areas representing 1,383,233 people.

**Non-English speaking background (including refugees)**

**Population statistics**

- 20.4% of Victorians speak a language other than English at home representing 1,007,436 people.
- There were 34,698 new international migrants in Victoria in 2006-07, of these 1,211 were refugees, with another 2,030 in the ‘special humanitarian’ class.

Source: ABS cat 6523.0; ABS cat. 2033.0.55.001, ABS cat. 3238.0.55.001, ABS census 2006; Department of Planning and Community Development; ABS Cat.4705.0; ABS cat. 3218.0; ABS QuickStats:Victoria; ABS cat. 2068.0; Department of Immigration and Citizenship 2006
Chapter 2

Indicators of inequalities in health

2.1 Introduction

The indicators in this report are organised into four overall sections including

- Headline Health Outcomes
- Strategic indicators for reducing disadvantage and discrimination that leads to illness
- Strategic indicators for promoting health for all – ensure disease prevention and health promotion reach all Victorians, and
- Strategic indicators for providing quality services, accessible and affordable to those in need.

The final technical report consists of these 4 sections with 32 related indicators described in Table 2.1 below.
## Table 2.1
**HEALTH INEQUALITY INDICATORS**

<table>
<thead>
<tr>
<th>Sections</th>
<th>Indicators</th>
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</thead>
</table>
| Headline health outcomes | Life expectancy at birth  
Self-reported health  
High/very high stress levels  
Low birthweight  
Perinatal mortality  
Neonatal mortality  
Child abuse substantiations  
Overweight and obesity  
Cancer  
Diabetes |
| Reduce disadvantage and discrimination that leads to illness | Poverty  
Kindergarten attendance for 4 year olds  
Year 12 or equivalent completion  
Workforce participation  
Unemployment  
Rental affordability  
Food insecurity  
Attendance at community events  
Involvement in local issues and activities |
| Promote health for all - ensure disease prevention and health promotion reach all Victorians | Adequate physical activity levels  
Fruit consumption  
Vegetable consumption  
People who feel valued by society  
Family violence  
Smoking  
Risky alcohol consumption  
Teen births  
Chlamydia prevalence  
Avoidable mortality  
Avoidable hospitalisations  
Child health assessments undertaken at 3.5 years  
Oral health need and utilisation |
2.2 Sourcing the data

The process of sourcing data to report on possible indicators began by locating published reports that included the data that was sought. Where published data was not available specific data was requested from relevant data custodians. For all data sources the following was sought:

- data definitions
- data collection method
- populations (sub-populations) included in collection
- availability of trend data and/or dates data were collected
- frequency of data collection.

The data for the report primarily came from two main sources; sample surveys and administrative datasets/reports. In total there were 21 data sources used in the report, which are listed in Box 2.1.

Box 2.1
DATA SOURCES USED IN THE REPORT

<table>
<thead>
<tr>
<th>Sample surveys</th>
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<tbody>
<tr>
<td>ABS survey of Education and Work</td>
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<tr>
<td>Victorian Population Health Survey (VPHS)</td>
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<tr>
<td>School Entrant Health Questionnaire (census of prep students)</td>
</tr>
<tr>
<td>ABS National Aboriginal and Torres Strait Islander Social Survey</td>
</tr>
<tr>
<td>Administrative datasets or reports</td>
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<tr>
<td>The state of Victoria’s children 2006</td>
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<tr>
<td>The state of Victoria’s young people 2007</td>
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<tr>
<td>Aboriginal Services Plan Key Indicators 2006/2007</td>
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<tr>
<td>Overcoming Indigenous Disadvantage Key Indicators</td>
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<tr>
<td>Consultative Council on Obstetric and Paediatric Mortality and Morbidity Annual Reports</td>
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<tr>
<td>Births in Victoria Annual Reports</td>
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<tr>
<td>Your Hospitals</td>
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<tr>
<td>AIHW Australia’s health 2008</td>
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<td>Report on Government services (ROGS)</td>
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<td>Notifications of Infectious Diseases data, 2007</td>
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<td>CRIS Client Management System</td>
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<td>Monash University Accident Research Centre</td>
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<tr>
<td>Avoidable Mortality in Victoria: Trends between 1997 and 2003</td>
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<tr>
<td>Victorian Family Violence Database: Five year report, 2006</td>
</tr>
<tr>
<td>Growing Victoria Together</td>
</tr>
<tr>
<td>A Fairer Victoria</td>
</tr>
<tr>
<td>Annual report Maternal and Child Heath services</td>
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</tbody>
</table>

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2.3 Key data gaps

During the sourcing phase it became clear that there were numerous gaps in the data and that reporting on a number of indicators for all four sub-population groups would not be possible. The report includes each of the 32 indicators listed in Table 2.1, however, in most cases there is not data to report for one or more of the sub-population groups.

While a plethora of service level data is collected by government departments in Victoria, most of this data is not collected/reported by socio-economic status or non-English speaking background and in many cases is not collected by metro/rural or Indigenous status. We anticipate that policy-makers will recognise this data deficit and take action to improve collections in the future.

Sourcing data for the third dimension (Provide quality services, accessible and affordable to those in need) was especially problematic. It is well recognised that using service level data to measure quality and equity is difficult. In addition, what is reported, while having a high media and public interest, often says very little as indicators of the quality or equity in service systems. Several ‘best practice’ indicators were eliminated due to the lack of consistent data definitions; the lack of consistent data collection for these measures; and overwhelming lack of service level data collected on the sub-populations of interest. The Report on Government Services is addressing this difficulty but has not progressed far enough into solving the issue to inform this project.

Other limitations exist in the data collected — and more importantly not collected — for this report. A summary of these limitations is given in Box 2.2.

Box 2.2

DATA LIMITATIONS

| Lifecourse |
| In many instances it was impossible to collect information for all age groups, however, with the advent of the Victorian Child Health and Wellbeing Survey (VCHWS) and other population based surveys future indicator reports may be able to report on a lifecourse trajectory. |

| Gender |
| Many indicators have significant differences between the sexes. In some cases, these differences are reported and described. The best practice would be for all the population groups to have data divided by gender. This analysis has not been done for this report, however, the DHS Women’s Health and Wellbeing Strategy and work on men’s health should make this ‘gender lens’ data available in the future. A gender specification will need to be included in future surveys and in administrative data sets. |

| Place |
| There is significant variation in indicators by place (Local Government Areas, Regions, suburbs). However, because many of the indicators are sourced from population surveys it is very difficult to report at levels below rural/metro or region because of sample size. There is some progress in Victoria around sampling by local government area (Victorian Population Health Survey, Community Indicators Victoria, Victorian Child Health and Wellbeing Survey) and in future, this report may be able to describe inequality by place. |
Part 2

*Findings and analyses*
Introduction to the findings

Format for report findings

Part II of the technical report includes findings from the data analysis and provides a detailed record of the data collected for each of the chosen indicators. It describes data characteristics including source, type of collection, and age groupings included in the collection. The report also provides a definition of each measure, a rationale for its inclusion, and the calculations used for reporting the indicator. The findings and analyses are presented graphically and include briefly written commentary as well as a discussion regarding any data limitations or qualifications. Where data is missing for any group a note is made in the text and on the graph.
Chapter 3

Headline Health Outcomes

3.1 Life Expectancy

Measure:

Life expectancy at birth for men and women

Rationale

Life expectancy at birth is an important measure of long-term health and wellbeing. In addition, it is correlated with employment and overall economic wellbeing. In Australia the gap between life expectancy of Indigenous and non-Indigenous peoples is marked and is a major policy issue at both the state and national levels. Disparities in life expectancy are influenced by numerous factors including income, education, lifestyle factors (i.e. smoking, excessive alcohol use, poor nutrition and physical activity levels), environmental factors (e.g. access to transport, healthy food and community infrastructure, clean water, adequate sanitation and appropriate housing) and access to quality health care.

Life expectancy at birth is one of the most commonly used indicators of a population’s (or sub-population’s) health.

Results and analyses

Figure 3.1

In Victoria, the Indigenous male and female life expectancy rates are significantly lower than the life expectancy rates for the total population. The life expectancy for Indigenous males is 60 years and 65.1 years for Indigenous females whereas, for the total population for Victoria, males have a life expectancy of 79.8 years and females, 84.3 years.

Male Victorians of a low socio-economic status and those living in rural/regional areas have a marginally lower life expectancy (78.9 and 78.5 years respectively) than the total population for Victoria.

There is less difference between the sub-populations for females. Females of a low socio-economic status and females from rural/regional areas have only a marginally lower life expectancy (84 and 83.4 years respectively) than the average for the total population for Victoria (84.3 years).

The results provided in the figures are for the year 2005. Life expectancy has been increasing over recent years with most sub-populations experiencing an increase in life expectancy from 2001 to 2005. The greatest gains have been experienced by males in the low socio-economic sub-population whose life expectancy has increased from 74.6 years in 2001 to 78.9 years in 2005.
Data characteristics

Table 3.1

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
<th>Rural</th>
</tr>
</thead>
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<td>Admin</td>
<td>Admin</td>
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<td>Admin</td>
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<td>All</td>
<td>All</td>
<td>NA</td>
<td>All</td>
</tr>
</tbody>
</table>

Source: DHS: Victorian Government Health Information; ABS 2004

**Definition**

The average number of years a person can expect to live if the existing mortality patterns continue.

**Qualifying comments**

Low socio-economic status for this indicator is defined as people living in the bottom quintile of area disadvantage measured by the Index of Relative Socio-economic Disadvantage (IRSED). Life expectancy data is usually presented disaggregated by sex.

Life expectancy rates for Indigenous Victorians for 2004 are a combination of life expectancy rates for Indigenous people from Victoria and NSW.
3.2 Self-reported health

**Measure:**

*Poor/fair self-reported health status*

**Rationale**

Self-assessed health is a widely used indicator of health status at the population level and is often used as a reliable predictor of health care utilisation and mortality. For purposes of measuring inequalities, self-reported health gives an indication, on a population or sub-population level of the population's perception of their own health.

**Results and analyses**

The proportion of Indigenous Victorians and Victorians of a low socio-economic status reporting poor or fair health was 31.8 per cent and 26.7 per cent respectively, almost double that reported for the population for Victoria (16.2 per cent). A slightly larger proportion of Victorians from rural/regional areas (17.2 per cent) reported poor or fair health than the population for Victoria. It is interesting to note that the proportion of Victorians of a non-English speaking background reporting poor/fair health (15.8 per cent) was slightly lower than the total for Victoria (16.2 per cent).

The data used for this indicator is consistent with the 2004-2005 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), which found that the proportion of Indigenous Australian who reported excellent or very good health was significantly lower than for the non-Indigenous population. In 2002, 28.2 per cent of Indigenous Victorians reported their health as fair or poor and the proportion of Indigenous Victorians who reported their health as excellent or very good decreased from 49.4 per cent in 1994 to 41.8 per cent in 2002 (DHS 2005). Interestingly, the proportion of males and females who assess their health as excellent or very good was similar between the least and the most disadvantaged quintiles based on IRSED.
Data characteristics

Table 3.2

POOR/FAIR SELF REPORTED HEALTH STATUS BY SUB-POPULATION (2005-07)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
<th>Rural</th>
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<td>Survey</td>
<td>Survey</td>
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<td>Age Group</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
</tr>
</tbody>
</table>


Definition

The number of people reporting their perception of their health status as poor or fair out of the total number of people in each sub-population.

Calculations

Numerator: the number of people reporting poor or fair health in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population

Denominator: the entire sample sub-population multiplied by the weights

Qualifying comments

The definition of low socio-economic status used for this indicator is an annual salary of less than $20 000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26 572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.

Note that the Indigenous data for this measure is from VPHS 2005-2007.
### 3.3 Mental Health

**Measure:**

*Kessler psychological distress scale (K10)*

**Rationale**

Mental health status is an important indicator of overall health and wellbeing for all populations. Mental health ‘problems’ are numerous and have varying degrees of severity. Mental health has been identified as a major health concern in Australia and in Victoria. In 2006, the Council of Australian Governments (COAG) identified mental health as an issue of national importance.

Environmental factors that increase the probability of experiencing a mental health problem include high levels of social disadvantage, unemployment, traumatic experience and separation from families and communities (Cultural diversity plan for Victoria’s Specialist Mental Health Services 2006). Additionally, a diagnosis of mental illness can be stigmatising and often results in further isolation and discrimination for those affected.

**Definition**

Psychological distress is used as a proxy for mental health problems. An individual’s level of psychological distress is determined using the Kessler Psychological Distress Scale (K10). The K10 assigns a score to an individual based on answers to a ten-question survey. Further detail is provided in Box 3.3.
Box 3.3

KESSLER PSYCHOLOGICAL DISTRESS SCALE (K10)

The K10 comprises ten questions about non-specific psychological distress, seeking to measure the level of current anxiety and depressive symptoms a person may have experienced in the previous four weeks. The K10 has been found to be a strong predictor of anxiety and affective disorders, as well as other mental disorders (Andrews et al, 2001).

The ten questions included in the K10 are as follows:

- In the past 4 weeks, about how often did you feel tired out for no good reason?
- In the past 4 weeks, about how often did you feel nervous?
- In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?
- In the past 4 weeks, about how often did you feel hopeless?
- In the past 4 weeks, about how often did you feel restless or fidgety?
- In the past 4 weeks, about how often did you feel so restless you could not sit still?
- In the past 4 weeks, about how often did you feel depressed?
- In the past 4 weeks, about how often did you feel that everything was an effort?
- In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?
- In the past 4 weeks, about how often did you feel worthless?

Respondents are to answer these questions with a number between 1 (None of the time) and 5 (All of the time).

The ten answers are summed to yield scores ranging from 10 to 50. The maximum score of 50 indicates severe distress and the minimum score of 10 indicates no stress. The higher the K10 score, the greater the likelihood that a person may be affected by psychological distress.

A high/very high score is above 30.

Results and analyses

Figure 3.4

HIGH / VERY HIGH KESSLER 10 SCORE BY SUB-POPULATION (2005-07)
Victorians of low socio-economic status reported the highest levels of psychological distress at 24.8 per cent. Indigenous Victorians also reported high and very high psychological distress at 21.4 per cent. For the total population of Victoria, 10.6 per cent reported high and very high psychological distress, with rural/regional Victorians reporting high and very high psychological distress at 10.7 per cent.

Of Victorians of a non-English speaking background, 13.5 per cent reported experiencing high or very high psychological distress. This is consistent with international research that has shown that the rates of mood and anxiety disorders may be higher in migrant communities as a result of the stresses associated with migration, settlement and difficulties with a new language. Findings indicate that these problems can persist for several generations. Children and young people from migrant backgrounds face increased risk of emotional and behavioural problems as a result of difficulty in establishing peer relationships, discrimination and discord between parental expectations and Australian ‘norms’.

**Data characteristics**

Table 3.3

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
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<tr>
<td>Method of collection</td>
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<td>Survey</td>
<td>Survey</td>
<td>Survey</td>
<td>Survey</td>
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<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
</tr>
</tbody>
</table>

Source: VPHS 2005-07

**Calculations**

Numerator: the number of people scoring high or very high stress levels according to the K10 scale in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population

Denominator: the entire sample sub-population multiplied by the weights

**Qualifying comments**

The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
3.4 Birthweight

Measure:

Low birthweight rate (<2500 gms)

Rationale

Birthweight is a widely used indicator of the health of infants. Children born too early, or too small, are at increased risk of long-term poor health outcomes and mortality, of impaired development such as motor and social development and are at increased risk of developmental delays and poor school performance.

Major factors influencing low birthweight include duration of pregnancy, socio-economic disadvantage, smoking, illness during pregnancy, multiple pregnancy, and the age and the nutritional status of the mother.

Results and analyses

Indigenous infants are almost twice as likely to have a low birthweight compared to the total Victorian population. Of all Victorian non-Indigenous births, 6.7 per cent were low birthweight infants compared to 13.2 per cent of Indigenous infants. This means that a higher proportion of Indigenous infants are at increased risk of long-term poor health outcomes and mortality, of impaired development such as motor and social development and are at increased risk of developmental delays and poor school performance.

The proportion of low birthweight babies is lowest for non-English speaking background Victorians at 6 per cent — an increase from 5.7 per cent in 2001.

Compared to 2001, the proportion of low birthweight babies has increased for the Victorian population — from 6.5 per cent in 2001 to 6.7 per cent in 2006.
Data characteristics

Table 3.4

LOW BIRTHWEIGHT BABIES (<2500 GRAMS) BY SUB-POPULATION (2006)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
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<tr>
<td><strong>Method of collection</strong></td>
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<td>Admin</td>
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<td><strong>Age Group</strong></td>
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<td>Newborn</td>
<td>Newborn</td>
<td>Newborn</td>
</tr>
</tbody>
</table>

Source: DHS Perinatal Data Collection Unit, data extract – 2008.

**Definition**

Infants born with a weight less than or equal to 2500 grams.

**Calculations**

Numerator: number of infants born weighing less than 2500 grams in a year.

Denominator: total number of infants born in the sub-population.

**Qualifying comments**

In Victoria low birthweight data is collected/reported only for Indigenous and non-Indigenous populations. Estimates for the Victorian population are based on the results for non-Indigenous Victorians.

The data is not available for the low socio economic status sub-population.
3.5 Perinatal mortality

**Measure:**
*Perinatal mortality rate*

**Rationale**
The perinatal mortality rate is an important indicator of maternal and child health and is indicative of the quality of antenatal care, the effectiveness of obstetric services and the quality of infant care in the hospital and community. The major causes of perinatal mortality include preterm birth, foetal growth restriction, congenital malformations, specific obstetric complications, antepartum haemorrhage and maternal complications (ABS 2007).

**Results and analyses**

In Victoria, perinatal mortality is significantly higher for Indigenous Victorians than for non–Indigenous Victorians. Just over fourteen (14.1) out of every 1000 Indigenous births end in stillbirth or neonatal death compared to 10.1 out of every 1000 live born non–Indigenous births on average. It is important to note that while the Indigenous perinatal mortality rate shows a significant disparity from the total Victorian population, one component, Indigenous neonatal deaths, is nearly three times the non-Indigenous rate as discussed in the next section — section 3.6. Further, the number of non-Indigenous perinatal deaths is very low and as a result, caution must be taken in interpreting the results.

The perinatal mortality rate for Victorians from a non-English speaking background and rural/regional Victorians are 9.3 and 7.5 for every 1000 births respectively. The rural/regional rate is lower than the Victorian average and has declined from 9.8 in 2001. The non-English speaking rate has declined from 10.7 in 2001.
Although Victoria does not collect data on perinatal mortality by income level, a recent analysis using an area-based measure of socio-economic status (IRSED) has shown that children from the most disadvantaged areas of Australia are twice as likely to be stillborn or die within the first 28 days, as those from the least disadvantaged areas (AIHW 2006).

**Data characteristics**

<table>
<thead>
<tr>
<th>Data characteristic</th>
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<th>Indigenous</th>
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<td>&gt;20 weeks gestation to 28 days after birth</td>
<td>&gt;20 weeks gestation to 28 days after birth</td>
</tr>
</tbody>
</table>

Source: DHS Perinatal Data Collection Unit, data extract - 2008.

**Definition**

Perinatal mortality measures the rate of stillbirths (foetal death after 20 weeks gestation or 400 g) and neonatal deaths (death of a live born infant from birth to 28 days).

**Calculations**

Numerator: the sum of the numbers of stillbirths and neonatal deaths with a gestational age of at least 20 weeks, or if gestation is unknown, of birthweight of at least 400 g.

Denominator: the number of total births in the sub-population of a gestational age of at least 20 weeks or if gestation is unknown, of birthweight of at least 400 g.

**Qualifying comments**

In Victoria perinatal mortality data is collected/reported only for Indigenous and non-Indigenous populations. Victorian estimates are based on results for non-Indigenous Victorians. The data is not available for the low socio-economic status sub-population. The number of non-Indigenous perinatal deaths is very low and as a result, caution must be taken in interpreting the results.
3.6 Neonatal mortality

Measure:
Neonatal mortality

Rationale
The neonatal mortality rate is considered a good indicator of both maternal and newborn health and care. Neonatal deaths account for a large proportion of child deaths. It is an important indicator to collect and report in terms of inequalities because there are large differences in the rates between sub-population groups. Globally, neonatal deaths account for 37 per cent of the worldwide total of deaths among children under age five.

In Victoria the leading causes of neonatal mortality are congenital abnormalities and spontaneous preterm delivery.

Results and analyses

Figure 3.7

NEONATAL MORTALITY BY SUB-POPULATION (2006)

In Victoria, neonatal mortality is significantly higher for Indigenous infants than for non-Indigenous infants. For live born Indigenous infants, 12.3 out of every 1000 die within 28 days of birth compared to 3.4 out of every 1000 live born non–Indigenous infants. The number of non-Indigenous neonatal deaths is very low and as a result, caution must be taken in interpreting the results.

The rate for non-English speaking background Victorians and rural/regional Victorians is 2.8 and 2.7 respectively — very close to the total Victorian average. These rates have declined from 3.1 and 3.5 respectively in 2001.

In Victoria, in the two years 2004 and 2005, there were 970 infants born to Indigenous women. When terminations of pregnancy for maternal psychosocial indicators are excluded, the neonatal mortality rate was 2.7 times higher than the rate for non-Indigenous neonates.
Data characteristics

Table 3.6
NEONATAL MORTALITY BY SUB-POPULATION (2006)

<table>
<thead>
<tr>
<th>Data characteristic</th>
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<td>Birth to 28 days after birth</td>
<td>Birth to 28 days after birth</td>
</tr>
</tbody>
</table>

Source: DHS Perinatal Data Collection Unit, data extract – 2008.

Definition
Neonatal mortality measures neonatal deaths (death of a live born infant from birth to 28 days).

Calculations
Numerator: the number of live born infants who die before 28 days.

Denominator: the number of live born infants in each sub-population.

Qualifying comments
In Victoria, neonatal mortality data is collected/reported only for Indigenous and non-Indigenous populations. The data is not available for low socio-economic status, non-English speaking backgrounds, or rural/regional sub-populations. The number of non-Indigenous neonatal deaths is very low and as a result, caution must be taken in interpreting the results.
3.7 **Child abuse**

**Measure:**

*Child abuse substantiation rate*

**Rationale**

Children who are exposed to unsafe, abusive environments are at risk of short and long-term adverse consequences. These consequences manifest themselves as long-term poverty and disadvantage, shortened life spans, poor physical and mental health, educational issues such as leaving school early and/or poor performance, and homelessness (UNICEF 2007). Child maltreatment takes many forms including neglect, physical violence (including homicide), emotional/psychological abuse and sexual abuse. The risk factors known to contribute to child maltreatment include poor parental mental health, low socio-economic status leading to economic disadvantage, substance abuse and family disruption.

**Results and analyses**

![Figure 3.8](image)

**CHILD ABUSE SUBSTANTIATIONS BY SUB-POPULATION (2006)**

In Victoria (2006), there was a significant difference between the proportion of non-Indigenous Victorian children who experienced substantiated child abuse and the proportion of Indigenous Victorian children who experienced substantiated child abuse. In 2006, 81.1 out of 1000 Indigenous children were the victims of substantiated child abuse – an increase from 77.1 per 1000 in 2001. In 2006, 7.8 out of 1000 Victorian children in the population were the victim of substantiated child abuse — a decrease from 2001 levels – 8.5 of every 1000. The number of child abuse substantiations is higher for the rural/regional sub-population — 12.1 child abuse substantiations in 2006 for every 1000 children.
The number of child protection notifications more than doubled in Australia from 1999–2000 to 2004–05 (from 107,134 to 252,831). The number of substantiations also increased over the same period, although not by the same extent (from 24,732 to 46,154) (Australian Institute of Health and Welfare 2006). These trends may reflect some increases in the incidence of child abuse and neglect in the community or inadequate parenting causing harm to a child; however, they might be a reflection of a heightened awareness of child protection issues and policy decisions, including mandatory reporting (Australian Institute of Health and Welfare 2006).


**Data characteristics**

<table>
<thead>
<tr>
<th><strong>Table 3.7</strong></th>
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<tr>
<td><strong>CHILD ABUSE SUBSTANTIATIONS BY SUB-PopULATION (2006)</strong></td>
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<table>
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<td>0-14 years</td>
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<td>0-14 years</td>
</tr>
</tbody>
</table>

Source: DHS CRIS Client Management System, data extract -2008

**Definition**

Reports to the Victorian Government Department of Human Services relating to concern about a child are termed child protection notifications. All notifications are assessed by the child protection services and either referred to appropriate support services (such as family support) or if appropriate, sent for child protection investigation or closed. A child protection notification is ‘substantiated’ where it is concluded that the child has been, is being, or is likely to be, abused, neglected or otherwise harmed (Australian Institute of Health and Welfare 2006).

**Calculations**

Numerator: number of child abuse notifications that are ‘substantiated’ by age group.

Denominator: total number of children in the age group.

**Qualifying comments**

Data is not available for the low socio-economic sub-population or for Victorian’s with non-English speaking backgrounds.
3.8 Diabetes

**Measure:**
*Self reported diabetes prevalence*

**Rationale**
Diabetes is a national health priority and its prevalence is an important indicator of the wellbeing of the population. It is also important in terms of inequalities in health with some sub-populations experiencing higher rates.

Diabetes is a chronic disease that usually manifests itself as one of two distinct categories (Type 1 and Type 2). Diabetes is the leading cause of blindness and end-stage renal disease in adults and is a risk factor for heart disease, stroke and numerous infectious diseases. Nerve damage from diabetes is the leading cause of lower extremity amputation.

**Results and analyses**

*Figure 3.9*

**SELF-REPORTED LIFE-TIME PREVALENCE OF DOCTOR-DIAGNOSED DIABETES (EXCL. GESTATIONAL DIABETES) BY SUB-PopULATION (2005-07)**

Five per cent of Victorians report having doctor-diagnosed diabetes. Victorians with low socio-economic status report the highest incidence of diabetes (7.4 per cent), followed by Victorians of non-English speaking background (6.8 per cent) and Victorians living in regional/rural areas (5.3 per cent). Data estimates for the Indigenous Victorian population has a relative standard error between 25-50 per cent, which makes it unreliable as a population estimate from the sample surveyed and therefore is not reported.

These results do not necessarily reflect the prevalence of diabetes across these population groups but may also reflect access to medical assistance. Diabetes experts in Australia suggest that nearly half of all cases of diabetes are undiagnosed.
Data characteristics

Table 3.8

SELF-REPORTED LIFE-TIME PREVALENCE OF DOCTOR-DIAGNOSED DIABETES (EXCL. GESTATIONAL DIABETES) BY SUB-POPULATION (2005-07)

<table>
<thead>
<tr>
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<tbody>
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<td>Survey</td>
</tr>
<tr>
<td>Age Group</td>
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<td>18 years of age and over</td>
<td>NA</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
</tr>
</tbody>
</table>

Source: VPHS 2005-07

Definition

Self-reported life-time prevalence of doctor-diagnosed diabetes by sub-population measures the perceived incidence of diabetes.

Calculations

Numerator: the number of people reporting doctor-diagnosed diabetes in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying comments

The results given here are self reports of doctor diagnosed diabetes, national experts suggest that nearly half of all diabetes is undiagnosed. Therefore these findings are to be considered low estimates of the actual prevalence of diabetes in Victoria.

The definition of low socio-economic status used for this indicator is an annual salary of less than $20 000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26 572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.

The number of Indigenous Victorians reporting diabetes was very low. Data estimates for the Indigenous Victorian population has a relative standard error between 25-50 per cent, which makes it unreliable as a population estimate from the sample surveyed and therefore it is not reported. The Australian Institute of Health and Welfare (AIHW 2008) reports rates of diabetes prevalence as three times higher amongst Indigenous people (11 per cent) compared with non-Indigenous people (3 per cent). Doctor diagnosed diabetes may be low in Victoria due to gaps in access to GP services.

These results do not necessarily reflect the prevalence of diabetes across these population groups but may also reflect access to doctors and diagnostic equipment.
3.9 Overweight and obesity

Measure:
Overweight and obesity prevalence in adults

Rationale

Being overweight or obese are major contributors to chronic disease such as diabetes, cardiovascular diseases and musculoskeletal problems such as arthritis and chronic back pain (WHO 2000). Evidence suggests that the health burdens of overweight and obesity are already large in Australia and increasing each year with children who are overweight or obese having a much higher probability their condition will continue into adulthood.

Research shows that overweight and obesity prevalence is high across the social gradient and that inequalities are beginning to become more apparent over time. In Victoria, a significantly higher proportion of females living in the lowest IRSED quintile (most disadvantaged) were overweight or obese compared to those in higher socio-economic areas of the state (DHS 2005). In children, the Longitudinal Study of Australian Children found that pre-schoolers from culturally and linguistically diverse populations are 1.5 times more likely to be obese than the population of pre-schoolers (State of Victoria’s Children 2006).

Results and analyses

![Figure 3.10](Image)

Nearly half (48.2 per cent) of all Victorians are overweight or obese. Indigenous Victorians are the sub-population with the highest rate of being overweight or obese at 58.5 per cent, followed by Victorians in rural/regional areas at 53.2 per cent. Of Victorians of a non-English speaking background, 43.8 per cent are overweight or obese. Victorians of a low socio-economic status have the lowest prevalence of being overweight or obese at 41.1 per cent.
Data characteristics

Table 3.9
OVERWEIGHT/OBESE (BMI 25+) BODY MASS INDEX BY SUB-POPULATION (2005-07)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
<th>Rural</th>
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</thead>
<tbody>
<tr>
<td>Method of collection</td>
<td>Survey</td>
<td>Survey</td>
<td>Survey</td>
<td>Survey</td>
<td>Survey</td>
</tr>
<tr>
<td>Age Group</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
</tr>
</tbody>
</table>


Definition
Being overweight or obese is defined as having a body mass index (BMI) over 25. BMI is a formula that accounts for both a person’s height and their weight:

BMI = weight (kg)/height (m) squared (m2).

Calculations
Numerator: the number of people reporting a body mass index over 25 in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying comments
The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum). Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.

BMI estimates were calculated by using respondents’ self-reported height and weight estimates. The prevalence of obesity is known to be underestimated in data from self reported surveys, compared with data from measurement surveys. The true prevalence of obesity, therefore, is likely to be underestimated.
3.10 Cancer prevalence

**Measure:**
*Self-reported cancer prevalence in adults*

**Rationale**
The National Health Priority Areas in Victoria include cancer prevention as one of its seven priority areas.

In 2001 cancer was the cause of nearly 20 per cent of the total disease burden in Victoria. While cancer was the leading cause of the total burden of disease in Australia in 2003 there is a trend toward earlier diagnosis and treatment with resultant declines in mortality for many cancers.

Risk factors for cancer include:
- Overweight and obesity
- Behavioural: tobacco use (lung); poor diet (10 per cent of cancers due to inadequate consumption of vegetables and fruit); physical inactivity (colorectal)
- Psychosocial: Low relative position in social hierarchy; low perceived control; isolation; lack of social support; loss of meaning or purpose; stress from living in poverty and disadvantage
- Health services: Inadequate access to or use of cancer screening services

**Results and analyses**

![Figure 3.11](image_url)

**SELF-REPORTED LIFE-TIME PREVALENCE OF DOCTOR-DIAGNOSED CANCER BY SUB-POPULATION (2005-07)**
For the total Victorian population, 6.5 per cent report doctor-diagnosed cancer. The sub-population reporting the highest rate of doctor-diagnosed cancer are those Victorians of a low socio-economic status. Of this sub-population, 7 per cent report doctor-diagnosed cancer. This compares to 6.6 per cent of rural/regional Victorians. The sub-population with the lowest self-reported cancer rate are Victorians from a non-English speaking background with 4.1 per cent reporting cancer.

These results may not necessarily reflect the prevalence of cancer across these population groups but may reflect access to doctors and diagnosis equipment. Some Victorians undoubtedly have undiagnosed cancer, which would not be represented in these figures.

Data estimates for the Indigenous Victorian population has a relative standard error between 25-50 per cent, which makes it unreliable as a population estimate from the sample surveyed and therefore it is not reported. A recent Australian study found Indigenous Australians are more likely to die of cancer than non-Indigenous Australians. The study found estimates of cancer are under-reported, controversial, inconsistent and questionable (Newman et al 2008).

Data characteristics

Table 3.10

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
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<td>Survey</td>
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<tr>
<td>Age Group</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
<td>NA</td>
<td>18 years of age and over</td>
<td>18 years of age and over</td>
</tr>
</tbody>
</table>

Source: VPHS 2005-07

Definition

Self-reported life-time prevalence of doctor-diagnosed cancer by sub-population measures the perceived incidence of cancer.

Calculations

Numerator: the number of people reporting doctor-diagnosed cancer in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.
Qualifying comments

The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum). Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
Chapter 4

Dimension one: Reduce disadvantage and discrimination that leads to illness

Income

4.1 Poverty

Measure:
Poverty rate by sub-population (2003-04)

Rationale

Socio-economic characteristics are a key influence on health and wellbeing (AIHW 2008). In Australia low socio-economic status is an important contributor to differences in health levels. Research has shown that those of low socio-economic status are more likely to suffer lower health levels and are more likely to be subject to a number of health conditions including reduced life expectancy, premature mortality and increased disease incidence and prevalence (AIHW 2008).

Poverty and deprivation also impact on child and youth wellbeing in a number of ways. Firstly, the economic situation of the family or young person determines the economic resources available to purchase social services, housing and peer activities. Secondly, poverty impacts on children and young people indirectly through the strain it places on parents and the family’s lifestyle (Bradshaw et al 2006). Both have an effect on health.

The analysis of poverty presented below was sourced from the State of Victoria’s Young People Report 2007 and draws on a customised National Centre for Social and Economic Modelling (NATSEM) analysis of Confidentialised Unit Record File (CURF) data from the ABS Survey of Income and Housing Costs (2003–04). It analyses relative income poverty, where poverty is defined as a household income less than half the median OECD equivalised household disposable income of all Australians.
Results and analyses

Figure 4.1

POVERTY RATE BY SUB-POPULATION (2003-04)

For the Victorian population, 10.9 per cent are classified as experiencing poverty in 2003–04, where poverty is defined as a household income less than half the median OECD equivalised household disposable income of all Australians. For the rural/regional sub-population, 12.4 per cent are classified as experiencing poverty. There has been an increase in the proportion of people living poverty in Victoria in recent years. In 2001–02, 10.7 per cent of the Victorian population were found to be living in poverty.

Data characteristics

Table 4.1

POVERTY RATE BY SUB-POPULATION (2003-04)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Indigenous</th>
<th>NESB</th>
<th>Rural</th>
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</thead>
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<td>Age Group</td>
<td>Adult</td>
<td>NA</td>
<td>NA</td>
<td>Adult</td>
</tr>
</tbody>
</table>

Source: State of Victoria’s Young People Report 2007 - DEECD

Definition

The proportion of the sub-population living in poverty where poverty is defined as a household income less than half the median OECD equivalised household disposable income of all Australians which is equivalent to $26,572.
Calculations
Numerator: number of people in poverty.
Denominator: total number of people in sub-population.

Qualifying comments
Data is not available for Indigenous Victorians and Victorian with non-English speaking backgrounds. This is an absolute measure of poverty and therefore all Victorians living in poverty are recognised as being of low socio-economic status.
Education

4.2 Attendance at kindergarten by 4 year olds

Measure:
Attendance at kindergarten by 4 year olds

Rationale

It is now widely understood that the foundations for learning are developed early in life and that attendance at a quality preschool program has major long-term benefits. Participation in a quality early education program contributes to positive child development, cognitive development and early school success. The benefits of early childhood education are even more pronounced for children from disadvantaged backgrounds (AIHW 2005).

Results and analyses

Figure 4.2
ATTENDANCE AT KINDERGARTEN BY 4 YEAR OLDS BY SUB-PopULATION (2006-2007)

A very high proportion of Victorian 4 year olds attend kindergarten. The sub-population with the lowest attendance rate is Indigenous Victorians. For the Victorian population, 96.8 per cent attend kindergarten, for rural/regional Victorians, 92.8 per cent attend kindergarten and for Indigenous Victorians, only 66 per cent of 4 year olds attend kindergarten.
### Data characteristics

#### Table 4.2

**ATTENDANCE AT KINDERGARTEN BY 4 YEAR OLDS BY SUB-POPULATION (LATEST AVAILABLE)**

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
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<th>Indigenous</th>
<th>NESB</th>
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<td><strong>Age Group</strong></td>
<td>4 years</td>
<td>NA</td>
<td>4 years</td>
<td>NA</td>
<td>4 years</td>
</tr>
</tbody>
</table>

**Source:** Report on Government Services 2008; State of Victoria’s Children report 2006, Aboriginal Services Plan Key Indicators 2006/07.

**Definition**

Children using state government funded and/or provided preschool services in the year before full time school.

**Calculations**

Numerator: number of 4 year old children attending kindergarten.

Denominator: total number of 4 year olds in sub-population.

**Qualifying comments**

Data is not available for children living in low socio economic status households or who come from a non-English speaking background.
4.3 Year 12 or equivalent completion

Rationale
Young people with low levels of education and skills face a challenging environment. By participating in education beyond the compulsory years, young people not only build a strong foundation for their future in terms of literacy, maths and science they also gain critical social knowledge and skills. On the other hand, early school leavers face a higher risk in the labour market, which persists over time. Research has shown that young people with low levels of school attainment face great difficulty transitioning from school to work and experience higher levels of unemployment and socio-economic disadvantage long term.

Results and analyses

For the total Victorian population, 68 per cent completed Year 12 in 2006. Of Victorians from rural/regional areas, 67 per cent completed Year 12 and of Victorians of a low socio-economic status, 58 per cent completed Year 12.

The number of students completing Year 12 has decreased since 2001. In 2001, 72 per cent of the Victorian population completed Year 12, 79 per cent of rural/regional Victorians completed Year 12 and 64 per cent of low socio-economic Victorians completed Year 12.
Data characteristics

Table 4.3

YEAR 12 OR EQUIVALENT COMPLETION BY SUB-POPULATION (2006)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
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</thead>
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<tr>
<td>Data source</td>
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<td>Survey</td>
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<td>Age Group</td>
<td>Year 12</td>
<td>Year 12</td>
<td>NA</td>
<td>NA</td>
<td>Year 12</td>
</tr>
</tbody>
</table>

Source: Steering Committee for the Review of Government Service Provision 2008

Definition
Number of students who meet the requirements of a year 12 certificate or equivalent expressed as a percentage of the potential year 12 population.

Calculations
Numerator: number of students who meet the requirements of a year 12 certificate or equivalent.

Denominator: potential year 12 population in sub-population.

Qualifying comments
Data is not available for Indigenous Victorians and Victorians from a non-English speaking backgrounds.
Workforce participation

4.4 Unemployment

Measure:
Unemployment rate by sub-population (2006)

Rationale
Unemployment is related to health levels because unemployed people have higher mortality and a greater incidence of illness and disability than those who are employed. Rather than being due to selection effects (that unhealthy people are unemployed due to their health levels), research has shown that the lack of work will lead to poor health outcomes. Unemployment lessens an individual’s ability to buy health-related goods and services and in addition, unemployment has significant psychological and social impacts (AIHW 2008).

Results and analyses

Figure 4.4
UNEMPLOYMENT RATE BY SUB-POPULATION (2006)

The unemployment rate for the total population in Victoria was 5.4 per cent in 2006. For non-English speaking Victorians the unemployment rate was 8.1 per cent, for rural/regional Victorians the unemployment rate was 5.6 per cent. The highest level of unemployment was experienced by Indigenous Victorians — 15.8 per cent of Indigenous people in the labour market were unemployed in 2006.

Unemployment has fallen since 2001 for all sub-populations. For the total Victorian population, unemployment fell from 6 per cent to 5.4 per cent. The smallest decrease in unemployment was experienced by Victorians of a non-English speaking background. For this sub-population unemployment only fell from 8.3 per cent in 2001 to 8.1 per cent in 2006. For Indigenous and rural/regional Victorians, unemployment fell from 18 to 15.8 per cent and from 6.1 to 5.6 per cent respectively.
**Data characteristics**

Table 4.4

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Indigenous</th>
<th>NESB</th>
<th>Rural</th>
</tr>
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<td>Admin</td>
<td>Admin</td>
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<tr>
<td>Age Group</td>
<td>Adult</td>
<td>Adult</td>
<td>Adult</td>
<td>Adult</td>
</tr>
</tbody>
</table>

Source: ABS 2006, ABS 2001

**Definition**

Number of people unemployed expressed as a percentage of the number of people in the labour force for each sub-population.

**Calculations**

Numerator: number of people unemployed

Denominator: total number of people in the labour force in each sub-population

**Qualifying comments**

Data is not available for Victorians of a low socio-economic status.
4.5 Workforce participation

**Measure:**

*Workforce participation*

**Rationale**

Secure and satisfactory employment offers financial independence, a sense of control, self-confidence and social contact (Stanwick et al 2006). People who lack job security or who are unemployed consistently report the lowest levels of self-rated health and subjective wellbeing (Cummins et al 2006).

**Results and analyses**

Figure 4.5

**WORKFORCE PARTICIPATION BY SUB-POPULATION (2006)**

For the total Victorian population, the workforce participation rate in 2006 was 60.4 per cent. This exceeded the workforce participation rate for all sub-populations with 43.8 per cent for non-English speaking Victorians, 58.5 per cent for rural/regional Victorians and 53.4 per cent for Indigenous Victorians.

With the exception of Indigenous Victorians, workforce participation has fallen for all other sub-populations. For the total Victorian population, workforce participation fell from 63.4 per cent in 2001 to 60.4 per cent in 2006. For non-English speaking Victorians, workforce participation fell from 50.8 per cent in 2001 to 43.8 per cent in 2006 and for rural/regional Victorians, workforce participation fell from 61.5 per cent in 2001 to 58.5 per cent in 2006.
Data characteristics

Table 4.5

WORKFORCE PARTICIPATION BY SUB-POPULATION (2006)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
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<td>15 years and over</td>
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<td>15 years and over</td>
</tr>
</tbody>
</table>

Source: ABS 2006, ABS 2001

Definition

Number of persons participating in the labour force (employed or currently seeking employment) expressed as a percentage of the number of people aged 15 and over within each group.

Calculations

Numerator: number of persons participating in the labour force (employed or currently seeking employment).

Denominator: total number of people in sub-population.

Qualifying comments

Data not available for Victorians of a low socio-economic status.
Necessities

4.6 Rental Affordability

Measure:
Rental affordability - new private rental lettings which are affordable for lower income households

Rationale

Although the link is complex, rental affordability rates can impact on health in several ways. Families that are struggling to pay rent may have to make a trade off and choose to live in areas and dwellings less satisfactory than they otherwise would have liked. This may lead to physical features of the dwelling having an impact on health such as damp, cold, mould or heat of dwellings, or because overcrowding encourages poor hygiene and increases risks of sharing infections. Other health issues stem from the insecurity of debt, poor housing and affordability having effects on mental health (Robinson & Adams 2008). In such instances low socio-economic status, fear of losing the dwelling, an inability to move due to financial constraints and a bad image of the neighbourhood contribute to anxiety and depression in individuals (Bonnefoy 2004).

Results and analyses

Figure 4.6

For all categories, rental affordability has been falling over time. Affordable rental lettings for metro Melbourne and Victoria have been falling particularly since 2006. Regional Victoria has significantly more affordable rental housing for low-income households than metro Victoria, with 58.1 per cent of rental lettings compared to 8.9 per cent in March 2008. For Victoria as a whole, 20.8 per cent of rental lettings were affordable for lower income households in March 2008.
Data characteristics

Table 4.6

RENTAL AFFORDABILITY BY SUB-POPULATION (2007) - NEW PRIVATE RENTAL LETTINGS WHICH ARE AFFORDABLE FOR LOWER INCOME HOUSEHOLDS

<table>
<thead>
<tr>
<th>Data characteristic</th>
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<td>of Housing 2007,</td>
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<td>of Housing 2007,</td>
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<td></td>
<td>Rental report</td>
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<tr>
<td>Age Group</td>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: DHS Office of Housing 2007

Definition

Number of suitably sized dwellings which are affordable to households who are dependent on a Centrelink income, assuming receipt of Commonwealth Rental Assistance and based on a ‘30 per cent of income’ affordability threshold as a proportion of total private rental suitably sized dwellings on the rental market.

Calculations

Numerator: number of suitably sized dwellings which are affordable to households who are dependent on a Centrelink income, assuming receipt of Commonwealth Rental Assistance and based on a 30 per cent of income affordability threshold.

Denominator: number of private rental suitably sized dwellings in sub-population’s location.

Qualifying comments

Data is not available for Victorians of a low socio-economic status, Indigenous or non-English speaking background Victorians. However, it is known that there is an over-representation of overseas-born residents in private rental low income households (AHURI 2007). Indigenous Australians also have much higher rates of private rental and lower rates of home ownership than non-Indigenous Australians (SCGRSP 2007).
4.7 Food Security

Measure:
The proportion of people who responded that in the last 12 months they had run out of food and couldn’t afford to buy more

Rationale
Food insecurity is described as ‘irregular access to nutritionally adequate culturally acceptable safe foods through local non-emergency services’ (VicHeath 2005) and is associated with lower health levels. The inability to access nutritious food in adequate quantities is cause for short-term health issues such as constant hunger, anxiety related to food shortage and a lack of energy. In the longer term, food insecurity can lead to becoming overweight or obese, particularly in women (Mancino et al. 2004). While it seems paradoxical that food insecurity is linked to unhealthy weight, these health issues arise because foods of poorer quality with high fat, salt and/or sugar content are selected as they are perceived to be cheaper (VicHealth 2005).

Results and analyses

Figure 4.7

FOOD INSECURITY BY SUB-POPULATION (2005-07)

For the Victorian population, very few people experience food insecurity. The exception to this are low socio-economic Victorians, a significant proportion of whom experience food insecurity. When asked, in the last 12 months were there any time you ran out of food and couldn’t afford to buy more, 5.1 per cent of the Victorian population reported ‘yes’ while 22.3 per cent of low socio-economic Victorians reported ‘yes’. Non-English speaking Victorians and rural/regional Victorians reported slightly more food insecurity than the general population — 5.4 per cent and 5.8 per cent respectively.
**Data characteristics**

**Table 4.7**

FOOD INSECURITY BY SUB-POPULATION (2005-07) - ANSWERED YES TO: IN THE LAST 12 MONTHS WERE THERE ANY TIMES YOU RAN OUT OF FOOD AND COULDN'T AFFORD TO BUY MORE?

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
<th>Low SES</th>
<th>Indigenous</th>
<th>NESB</th>
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<td>Method of collection</td>
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<td>Survey</td>
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<tr>
<td>Age Group</td>
<td>Adult</td>
<td>Adult</td>
<td>NA</td>
<td>Adult</td>
<td>Adult</td>
</tr>
</tbody>
</table>

Source: VPHS 2007

**Definition**

The proportion of the sub-population who answered ‘yes’ to the question ‘In the last 12 months were there any times you ran out of food and couldn’t afford to buy more?’

**Calculations**

Numerator: the number of people who answered ‘yes’ to the questions ‘In the last 12 months were there any times you ran out of food and couldn’t afford to buy more?’ in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

**Qualifying comments**

Data is not available for Indigenous Victorians.

The definition of low socio-economic status used for this indicator is an annual salary of less than $20 000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26 572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
Community participation

4.8 Attendance at a community event

Measure:
Attendance at a community event by sub-population

Rationale
People build community networks through participation in community activities. Community networks have also been shown to positively influence a number of health outcomes. In particular, participation in civic activities can improve behavioural and developmental scores, and enhance social and emotional development (Runyan 1998).

Engaging people in community networks also involves a range of benefits for the community. These include:

- generating positive attitudes such as a sense of belonging, acceptance of diversity, and feeling safe in local areas
- modelling and instilling positive norms and behaviours which have been shown to reduce crime, violence and community disharmony (Pope 2006).

Results and analyses

Figure 4.8
NON-ATTENDANCE AT COMMUNITY EVENT BY SUB-PopULATION (2005-07)

Almost half the total Victorian population (48.1 per cent) answered ‘no’ to the question ‘Have you attended a local community event in the past six months?’ The sub-population with the highest reported rate of attending local community events were rural/regional Victorians. The sub-population with the lowest reported community event attendance rate were Victorians of a non-English speaking background (59.5 per cent), followed by Victorians of a low socio-economic status (52.9 per cent).
**Data characteristics**

Table 4.8

**ATTENDANCE AT COMMUNITY EVENT BY SUB-POPULATION (2005-07) — ANSWERED ‘NO’ TO: HAVE YOU ATTENDED A LOCAL COMMUNITY EVENT IN THE PAST 6 MONTHS?**

<table>
<thead>
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<th>Data characteristic</th>
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</table>

Source: VPHS 2007

**Definition**

The proportion of each sub-population reporting ‘no’ to the question ‘Have you attended a local community event in the past six months?’.

**Calculations**

Numerator: the number of people reporting ‘no’ to the question ‘Have you attended a local community event in the past six months?’ in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

**Qualifying comments**

Data is not available for Indigenous Victorians.

The definition of low socio-economic status used for this indicator is an annual salary of less than $20 000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26 572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
4.9 Involvement in local issues and activities

Measure:
Low sense of community

Rationale
The capacity for communities to create change, to be part of improving their own life and community circumstances is a recognised influence on both individual and population health. Successful engagement can directly change circumstances – advocacy to build a pedestrian overpass to prevent accidents is one simple example. There is also evidence to suggest that empowerment and a sense of control over one’s life generated through action can have positive health impacts.

Results and analyses

Figure 4.9
LOW SENSE OF COMMUNITY (2006)

For the total Victorian population, 10 per cent rated ‘poor’ or ‘very poor’ to the proposition that ‘It’s an active community, people do things and get involved in local issues and activities’. Rural/regional Victorians had a higher perception of their local community’s activities — only 8 per cent rated ‘poor’ or ‘very poor’ to the proposition. Non-English speaking background Victorians had the lowest opinion of community activity, 13 per cent rated ‘poor’ or ‘very poor’ to the proposition that it’s an active community.
Data characteristics

Table 4.9

LOW SENSE OF COMMUNITY (2006) — RATED 'POOR' OR 'VERY POOR' TO THE PROPOSITION THAT: IT'S AN ACTIVE COMMUNITY, PEOPLE DO THINGS AND GET INVOLVED IN LOCAL ISSUES AND ACTIVITIES

<table>
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Source: Department of Planning and Community Development (DPCD) 2006

Definition

A measurement of people’s self-perception of their own community activity, measured by the proportion of people rating ‘poor’ or ‘very poor’ to the proposition that ‘it’s an active community, people do things and get involved in local issues and activities’.

Calculations

Numerator: number of people rating ‘poor’ or ‘very poor’ to the proposition that ‘it’s an active community, people do things and get involved in local issues and activities’.

Denominator: total number of people in sub-population.

Qualifying comments

Data is not available for Victorians of a low socio-economic status and Indigenous Victorians.
Chapter 5

Dimension two: Promote health for all – ensure disease prevention and health promotion reach all Victorians

Promoting physical activity and active communities

5.1 Number of people undertaking adequate physical activity

Measure:
Less than satisfactory physical activity levels – measured in both sufficient time and sessions

Rationale
The relationship between moderate levels of physical activity and improved health and wellbeing is well established. Research has shown that physical activity is one of the major modifiable risk factors in reducing morbidity and mortality from chronic diseases. There is evidence, which has shown the association between physical inactivity and a range of adverse health outcomes and risk factors such as high cholesterol, hypertension and obesity (Bauman and Owen, 1999).

Results and analyses

Figure 5.1
LESS THAN SATISFACTORY PHYSICAL ACTIVITY LEVELS BY SUB-POPULATION (2005-07)

Non-English speaking Victorians and Victorians of a low socio-economic status are more likely to have less than satisfactory physical activity levels compared to the total Victorian population. For these sub-populations, 41.5 per cent and 40.5 per cent don’t do enough exercise, respectively. For the total population in Victoria, 33.9 per cent do less than a satisfactory amount of physical activity.
Data estimates for the Indigenous Victorian population has a relative standard error between 25-50 per cent, which makes it unreliable as a population estimate from the sample surveyed and therefore it is not reported.

Data characteristics

Table 5.1

LESS THAN SATISFACTORY PHYSICAL ACTIVITY LEVELS BY SUB-POPULATION (2005-07)

<table>
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<th>Data characteristic</th>
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Definition
The proportion of each sub-population with less than satisfactory physical activity levels.

Calculations
Numerator: the number of people reporting less than satisfactory physical activity levels in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying comments
Data estimates for the Indigenous Victorian population has a relative standard error between 25-50 per cent, which makes it unreliable as a population estimate from the sample surveyed and therefore it is not reported.

The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum). Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
Promoting accessible and nutritious food

5.2 Fruit and vegetable consumption

Measure:

- Proportion of people who eat less than 5 serves of vegetables per day
- Proportion of people who eat less than 2 serves of fruit per day

Rationale

It is widely recognised that intake of adequate fruit and vegetables is strongly linked to the prevention of chronic diseases including coronary heart disease, hypertension, stroke and Type 2 diabetes (NHMRC, 2003b). In 2003 inadequate intake of fruits and vegetables was estimated to be responsible for 2.1 per cent of the total burden of disease (AIHW 2008). The National Health Survey (NHS) found that 86 per cent of people 12 years and older consumed less than the recommended five serves of vegetables per day and 46 per cent consumed less than the recommended two serves of fruit per day. The NHS also found that people from higher socio-economic areas had healthier diets than those from the lower socio-economic areas and that people in low SES areas had a consistently lower intake of fruits and vegetables than people in more affluent areas (AIHW 2008).

Results and analyses

Figure 5.2

LESS THAN 5 SERVES VEGETABLES PER DAY BY SUB-POPULATION (2005-07)
Most Victorians (90.5 per cent) don’t eat the recommended serves of vegetables and 53.3 per cent don’t eat the recommended serves of fruit. Victorians of a low socio economic status have the lowest consumption of fruit and vegetables with 92.8 per cent not eating enough vegetables and 61.8 per cent not eating enough fruit. Non-English speaking Victorians report a low vegetable intake (91.7 not meeting the recommended serves) but a higher fruit intake (44.3 per cent not meeting the recommended serves). For Indigenous Victorians, 86.5 per cent eat less than 5 serves of vegetables per day and 56.8 per cent eat less than 2 serves of fruit per day. For rural/regional Victorians, 88.4 per cent eat less than 5 serves of vegetables per day and 55.9 per cent eat less than 2 serves of fruit per day.

**Data characteristics**

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Source: VPHS 2005-07

**Definition**

The proportion of people eating less than five serves of vegetables per day.

The proportion of people eating less than two serves of fruit per day.
Calculations

Numerator: the number of people reporting eating less than five serves of vegetables per day in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Numerator: the number of people reporting eating less than two serves of fruit per day in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying Comments

The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
Promoting mental health and wellbeing

5.3 People who feel valued by society

Measure:
Not feeling valued by society

Rationale

Social support is an important factor that contributes to the health and wellbeing of individuals. People who feel valued by society may experience positive influences on health as a consequence of this. A broad social network may increase a person’s resources and knowledge, allowing them to gain access to quality health services. Social support may also have positive psychological or emotional effects, helping people to better cope with stress and illness (AIHW 2008). Research suggests that people without social support have higher rates of morbidity and mortality than people with social networks (AIHW 2008).

Results and analyses

Almost half of the total Victorian population did not respond ‘yes definitely’ to the question, ‘Do you feel valued by society?’. Victorians of a low socio economic status felt the least valued with 56.8 per cent not reporting ‘yes definitely’. Non-English speaking Victorians felt the most valued with 41.5 per cent not responding ‘yes definitely’. Of rural/regional Victorians, 49.5 per cent did not respond ‘yes definitely’.

Figure 5.4
NOT FEELING VALUED BY SOCIETY BY SUB-POPULATION (2005-07)
Data characteristics

Table 5.3

<table>
<thead>
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<td>NA</td>
<td>Adult</td>
<td>Adult</td>
</tr>
</tbody>
</table>

Source: VPHS 2005

Definition

The proportion of the sub-population that did not report ‘yes definitely’ to the question, ‘do you feel valued by society?’.

Calculations

Numerator: the number of people that did not report ‘yes definitely’ to the question ‘do you feel valued by society?’ in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying comments

Data is not available for Indigenous Victorians.

The definition of low socio-economic status used for this indicator is an annual salary of less than $20 000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26 572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
5.4 Family violence

Measure:
*Family violence incidents recorded by police*

Rationale

Family violence victims experience numerous negative health related consequences. Women who suffer family violence experience acute injury, somatic complaints, obstetric complaints and mental health issues such as depression and substance abuse in the short term (Fraser 2003). In the long term, women have experienced increases in gynaecological, central nervous system and chronic stress-related problems. Children that experience or witness family violence exhibit more behavioural and emotional problems when compared with children that do not experience family violence (Laing 2000). In the longer term, children who witness or are affected by family violence may display violent behaviour in their future relationships or may continue to be victim to violent partners.

Results and analyses

Figure 5.5

FAMILY VIOLENCE INCIDENTS RECORDED BY POLICE BY SUB-POPULATION (2003-04)

In 2003-04 police recorded family violence incidents in 0.66 per cent of the Victorian population. This is lower than for the rural/regional population where police recorded family violence incidents in 0.74 per cent of the rural/regional population. The number of family violence incidents increased in the years from 1999-2000 to 2003-04. In 1999-2000, the police recorded family violence incidents in 0.49 per cent of the Victorian population and 0.57 per cent of the rural/regional Victorian population.
**Data characteristics**

Table 5.4

<table>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Victorian Family Violence Database 2006

**Definition**

The proportion of family violence incidents reported by the Police.

**Calculations**

Numerator: the number of family violence incidents reported by the Police

Denominator: total number of people in sub-population

**Qualifying comments**

Data is not available for Victorians of a low socio-economic status, Indigenous Victorians and Victorians of a non-English speaking background.

There is a high level of under-reporting of family violence incidents across Australia and in Victoria. In 1996, the ABS Personal Safety Survey found that only 36 per cent of women reported violence by a previous partner to police. This increased to 60 per cent by 2005 but still demonstrates an under-reporting of family violence incidents (ABS Cat. 4906.0).
Reducing tobacco-related harm

5.5 Current smokers

Measure: Smoking status

Rationale
Despite having one of the lowest smoking rates in the world, tobacco remains the leading cause of preventable deaths and hospitalisation in Australia. Around 90 per cent of adult smokers start smoking in their teenage years and the younger smokers begin, the less likely they are to quit (Khuder 1999).

Although the prevalence of cigarette smoking has reduced substantially in the last two decades, the numbers of Australians smoking are still significant — approximately 180,000 Australian teenagers smoke daily (AIHW 2005). There has also been a concerning increase in tobacco use in adolescent girls in recent years (ADCA 2003).

Smoking has both immediate and longer-term effects on a person’s health. Smoking-related respiratory problems can be observed within weeks of a child or young person starting to smoke (VicHealth Centre for Tobacco Control 2001). The adverse long-term health effects of smoking are well documented and include an increased risk of developing:

- respiratory problems
- emphysema
- coronary disease
- numerous cancers including lung, throat, mouth, bladder, kidney, cervical & stomach
- peripheral vascular disease due to decreased blood flow.

Results and analyses

Figure 5.6
SMOKING STATUS (‘CURRENT SMOKER’) BY SUB-POPULATION (2005-07)
Indigenous Victorians and Victorians of a low socio-economic status are most likely to smoke compared to the total Victorian population. The least likely to smoke are Victorians of a non-English speaking background. Of the population for Victoria, 19.9 per cent are currently smoking. Of Indigenous Victorians, 34 per cent are currently smoking. Of Victorians of a low socio-economic status, 32.7 per cent currently smoke. Victorians of a non-English speaking background are the least likely to smoke — 18.6 per cent currently smoke.

Data characteristics

Table 5.5

<table>
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<th>Data characteristic</th>
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</tbody>
</table>

Source: VPHS 2005-07

Definition

The proportion of the sub-population currently smoking.

Calculations

Numerator: the number of people reporting current smoking in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying Comments

The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
Reducing alcohol related harm

5.6 Weekly risky drinking levels

Measure:
Risky/high risk drinkers at short term risk of harm

Rationale
The use of alcohol by Australians aged 15 and over has decreased by around 24 per cent in the last twenty years (UNICEF 2007). Despite this, many young people drink at risky levels for acute harm and alcohol is a leading cause of death and injury for young Australians (15 to 24 year olds). For example, around 80 per cent of all the alcohol consumed by 14 to 17 year olds is drunk at risky levels for acute harm.

Teenage drinking is predictive of problematic use in later years, which is a risk factor for a number of chronic health conditions (Chikritzhs 2004). Earlier initiation of alcohol use, and more frequent alcohol use in adolescence is related to alcohol problems later in life (Fergusson 1994).

Results and analyses

Figure 5.7
RISKY/HIGH RISK DRINKERS AT SHORT TERM RISK OF HARM BY SUB-POPULATION (2005-07) — BASED ON WEEKLY CONSUMPTION

Risky/high risk drinkers at short term risk of harm constitute 10.1 per cent of the total Victorian population. The most risky/high risk drinkers are rural/regional Victorians with 11.7 per cent of the sub-population at short term risk of harm. Of low socio economic Victorians, 7.4 per cent are risky/high risk drinkers.

The number of Victorians from non-English speaking backgrounds reporting drinking at risky/high risk levels was very low. Data estimates for these Victorians had a relative standard error between 25-50 per cent, which makes it unreliable as a population estimate from the sample surveyed and therefore it is not reported.
Data characteristics

Table 5.6
RISKY/HIGH RISK DRINKERS AT SHORT TERM RISK OF HARM BY SUB-POPULATION (2005-07) - BASED ON WEEKLY CONSUMPTION

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</table>

Source: VPHS 2007

Definition

The number of risky/high risk drinks at short term risk of harm as a proportion of the total sub-population.

For males risky drinking is seven to 10 standard drinks on any one day, high risk is eleven or more standard drinks on any one day. For females risky drinking is five to six standard drinks on any one day, high risk is seven or more standard drinks on any one day.

Calculations

Numerator: the number of people reporting risky/high risk drinking at short term risk of harm in a given sub-population multiplied by the weights to obtain estimates for the wider Victorian population.

Denominator: the entire sample sub-population multiplied by the weights.

Qualifying comments

Data estimates for Victorian’s of a non-English speaking background has a relative standard error between 25-50 per cent which makes it unreliable as a population estimate from the sample surveyed and therefore it is not reported.

Data for Indigenous Victorians is not available.

The definition of low socio-economic status used for this indicator is an annual salary of less than $20,000. From a household income perspective, low socio-economic status is usually defined as households earning less than 50 per cent of median household income (approximately $26,572 per annum) Thus, the figures presented are conservative estimates and the number of Victorians facing inequality is likely to be higher.
Creating safe environments to prevent unintentional injury

Rationale

Injury is the most frequent cause of death for children aged one to 14 years in Australia and the second most common reason for admission to hospital. The lifetime risk of injury is very high with most people sustaining a significant injury at some time during their lives. Most of the unintentional injury deaths in Australia are caused through transport accidents, drowning and falls, while most hospitalisations are due to falls, cutting, choking, dog bites, transport accidents, poisoning and burns or scalds.

There is a disproportionately high risk of injury leading to death or hospitalisation among children from low socio-economic backgrounds and Indigenous children compared with other Australian children. Also at greater risk are children of single parents, those whose mothers are young or poorly educated, children who are part of large families or families in which there is parental drug or alcohol abuse and children in poor housing (AIHW 2005).

Detailed data is not currently available for this measure by sub-population groups in Victoria. However, the Monash University Accident Research Centre (MUARC) is preparing analysis on this topic and will be publishing results in the near future. Their report will be available on the MUARC website: www.monash.edu.au/muarc.
Promoting sexual and reproductive health

5.7 Chlamydia prevalence

**Measure:**

*Notified cases of Chlamydia by sub-population (2007)*

**Rationale**

In Australia, Chlamydia has become a significant health issue. Notification rates by doctors to DHS have increased from 47.4 per 100 000 to 203 per 100 000 between 1997 and 2005 with the highest rates amongst women (Pavlin 2006). Important considerations exist related to timing of first sexual intercourse and future health and wellbeing. These considerations include:

- the growing gap between age at first sexual encounter and age at marriage
- increased sexual activity before marriage
- increased number of sexual partners.

The issues outlined above increase a person’s risk of contracting a sexually transmitted infection (including Chlamydia) and carry with them both acute and long-term health implications.

**Results and analyses**

Figure 5.8

**NOTIFIED CASES OF CHLAMYDIA BY SUB-POPULATION (2007)**
The rate of Chlamydia cases for the total Victorian population is higher than for the Indigenous Victorian population. In 2007, there were 220 notified cases of Chlamydia for every 100,000 people in Victoria. For the Indigenous sub-population there were 191.3 notified cases of Chlamydia for every 100,000 Indigenous Victorians.

The number of notified cases of Chlamydia has more than doubled since 2001. For the population for Victoria there were 86 notified cases of Chlamydia in 2001 compared to 220 in 2007.

**Data characteristics**

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Source: DHS Notifications of Infectious Diseases data, 2007

**Definition**

The rate of notified cases of Chlamydia for every 100,000 people.

**Calculations**

Numerator: number of notified cases of Chlamydia.

Denominator: 100,000 people in sub-population
Qualifying comments

Presently, it is not possible to report Chlamydia rates by the sub-populations of interest except for the population for Victoria and Indigenous Victorians. However, it is important to keep this issue as a component of the report on inequalities in health.

The fact that Chlamydia notifications have increased in recent years does not necessarily mean that the rate of Chlamydia cases has increased as the increase may be due to more notifications, rather than increases in the prevalence.
5.8 Adolescent birth

**Measure:**
*Births to adolescent women aged less than 20 years*

**Rationale**
Giving birth as a teenager is associated with poor outcomes for both mother and baby. Teenage mothers have their education disrupted at a critical time and have significantly lower participation in post-compulsory education, employment and training. Low labour force participation, coupled with low school attainment prior to motherhood, means that by age 30, teenage mothers are significantly more likely to live in poverty and are less likely to have a partner and be employed (UK Department of Health 2007). Further, teenage mothers experience poorer mental health and wellbeing after the birth of their child, compared with women over twenty.

Poorer health and development outcomes for children born to teenage mothers compared with mothers aged 20 or over, controlling for other factors, include:

- **poorer health outcomes** — higher rates of infant mortality, higher risk of pre-term birth and low birthweight and higher rates of accidents and falls in infancy. In addition, more likelihood of developing emotional disturbances and behavioural problems, in part due to higher levels of poor emotional health among teenage mothers

- **poorer socio-economic outcomes** — much more likely to live in poverty and less likely to graduate from high school, and more likely to engage in early sexual activity and become teenage parents themselves (evidence summarised in Schorr & Marchand 2007; UK Department of Health 2007).

**Results and analyses**
The percentage of women less than 20 years of age giving birth shows a consistent pattern with young Indigenous women more likely to give birth whilst a teenager compared to other sub-population groups. The rural/regional areas also have higher than average proportions of young women giving birth.

For the total births in Victorian, 2.8 per cent were to females under twenty year of age. The highest proportion of teen births is in the Indigenous sub-population with 18 per cent. The second highest proportion of teens giving birth is in the rural/regional sub-population with 5 per cent. The sub-population with the lowest rate of teen birth in 2006 is Victorians of a non-English speaking background with 1.9 per cent.

**Data characteristics**

**Table 5.8**

<table>
<thead>
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<th>Data characteristic</th>
<th>Victoria</th>
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Source: DHS Perinatal Data Collection Unit, data extract - 2008

**Definition**

Number of females under 20 years of age who gave birth as a proportion of all births.

**Calculations**

Numerator: number of females under 20 years of age who gave birth.

Denominator: total number of births.

**Qualifying comments**

Data is not available for Victorians from households of a low socio-economic status.
Chapter 6

Dimension three: Provide quality services, accessible and affordable to those in need

6.1 Avoidable mortality for men and women

**Measure:**
Avoidable mortality

**Rationale**
Avoidable mortality is a population-based method of counting untimely and unnecessary (avoidable) deaths from selected conditions for which effective public health and medical interventions are available. Avoidable mortality is an indicator that can suggest shortcomings in the healthcare system (DHS 2005). Over a period of 22 years there have been 237,199 avoidable deaths in Victoria. Further analysis has indicated that avoidable mortality rates were higher in rural/regional areas compared with metropolitan areas for the period 1997-2001 (DHS 2005).

**Results and analyses**

**Figure 6.1**

**AVOIDABLE MORTALITY (MALES) BY SUB-POPULATION (2003)**

![Avoidable Mortality Chart](chart.png)
The avoidable mortality rate for males is significantly higher than for females across all sub-populations.

When comparing sub-populations, the avoidable mortality rate is highest for rural/regional Victorians (233.3) and Victorians of a low socio-economic status (230.6) than for the population for Victoria (201.5) for males. Sub-population data for females tells a similar story with avoidable mortality for the same sub-populations at 125.2, 112.4, and 109.8 respectively.

Avoidable mortality rates in 2003 have fallen for all sub-populations for both sexes since 1997.

Data characteristics

Table 6.1

<table>
<thead>
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Source: DHS analysis Avoidable mortality in Victoria: Trends between 1997 and 2003
Definition
A population-based method of counting untimely and unnecessary (avoidable) deaths from selected conditions for which effective public health and medical interventions are available.

Calculations
Numerator: number of untimely and unnecessary (avoidable) deaths from selected conditions for which effective public health and medical interventions are available directly standardised to Victoria’s population in 2001.
Denominator: number of people in each sub-population.

Qualifying comments
Data is not available for Indigenous Victorians, and Victorians of a non-English speaking background.
6.2 Ambulatory Sensitive Conditions (avoidable hospitalisation)

**Measure:**

*Ambulatory Care Sensitive Conditions - avoidable hospitalisations*

**Rationale**

The avoidable hospitalisation rate is an indicator of access to preventative and early intervention management. In many instances timely ambulatory care will reduce the risk of hospitalisation by controlling a condition earlier. Avoidable hospitalisation is an indicator of health outcomes for evaluating the adequacy of and access to primary care (DHS 2005). Better access to primary health care increases the use of ambulatory care and as such, prevents unnecessary hospitalisations and improves the health status of the population. Previous analyses have identified significant differentials and inequalities in access to the primary health care systems in Victoria (DHS 2005). Different avoidable hospitalisation rates between different groups of Victorians will expose inequitable access to primary health care.

**Results and analyses**

Figure 6.3

**AMBULATORY CARE SENSITIVE CONDITIONS — AVOIDABLE HOSPITALISATIONS — BY SUB-PopULATION (2005-06)**

The rate of avoidable hospitalisations for Indigenous Victorians is significantly higher than for the population for Victoria. The rate of avoidable hospitalisations for Indigenous Victorians in 2005-06 was 185.6 for every 1000 Indigenous Victorians compared to 50.2 for every 1000 Victorians of low socio economic status, and 44.5 for every 1000 rural/regional Victorians. For the population of Victoria, 41.5 out of 1000 Victorians had avoidable hospitalisations.
Data characteristics

Table 6.2
AMBULATORY CARE SENSITIVE CONDITIONS - AVOIDABLE HOSPITALISATIONS — BY SUB-POPULATION (2005-06)

<table>
<thead>
<tr>
<th>Data characteristic</th>
<th>Victoria</th>
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<th>NESB</th>
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<td>All</td>
<td>All</td>
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</tbody>
</table>

Source: DHS analysis AIHW 2008

Definition
Ambulatory Care Sensitive Conditions are those for which hospitalisation is thought to be avoidable with the application of preventive care and early disease management, usually delivered in the ambulatory setting.

Calculations
Numerator: Annual number of ACSC hospitalisations
Denominator: number of people in sub-population

Qualifying comments
Data is not available for Victorians with non-English speaking backgrounds.
6.3 Emergency and elective treatment

Rationale

Medical experts set standards for treating people within a reasonable time. These treatment standards are based on best practice principles and the latest scientific and medical evidence. For individual patients, the time they wait to be seen in an emergency department or for elective treatment will vary according to their relative clinical need as judged by their treating clinicians. The Government sets targets for treating patients in time in consultation with hospital staff and clinical groups. The purpose of these targets is to drive performance and improve achievement of these standards. Data on hospitals’ ability to meet these targets would provide insight into demand for these services and the extent to which current services and facilities are meeting this demand and thereby the extent to which Victorian health demands are being met.

Data is not currently available for this measure but would be a desirable area to consider in the future.
6.4 Proportion of child health assessments undertaken at 3.5 years

**Measure:**
The proportion of child health assessments undertaken at 3.5 years by the Victorian Maternal and Child Health Service

**Rationale**
In Victoria there is a strong relationship between attendance at the 3.5-year-old Maternal and Child Health Service (MCHS) check and immunisation coverage. The MCHS aims to provide ‘a comprehensive and focussed approach for the promotion, prevention, early detection and intervention of physical, social and emotional factors affecting young children’ (DHS, 2004a). The service provides information and support related to health, wellbeing and family or environmental factors that affect children.

**Results and analyses**

![Figure 6.4](image)

For the total population of Victoria in 2006-07, 57.8 per cent of children aged 3.5 years have a child health assessment. This is far higher than the average for Indigenous Victorian children. Only 37.4 per cent of Indigenous Victorian children had a child health assessment at age 3.5 years. The sub-population with the highest rate of child health assessments is the rural/regional sub-population of whom, 60.4 per cent had a child health assessment.

There have been significant gains in this indicator in the last 7 years. In 2001-02, only 49 per cent of Victorian children had a child health assessment and only 55.5 per cent of rural/regional Victorian children had a child health assessment.
Data characteristics

Table 6.3

PROPORTION OF CHILD HEALTH ASSESSMENTS UNDERTAKEN AT 3.5 YEARS BY SUB-POPULATION (2006-07)

<table>
<thead>
<tr>
<th>Data characteristic</th>
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</table>


Definition

The proportion of children who attend a 3.5-year age and stages visit with the Victorian Maternal and Child Health Service.

Calculations

Numerator: the number of children attending their 3.5 year age and stages visit

Denominator: total number of 3.5 year olds

Qualifying comments

For purposes of this indicator rural/regional has been defined in 2001/2002 as DHS regions Barwon S/W, Gippsland, Grampians, Hume, Loddon Mallee. In 2006/2007 rural/regional has been defined as DHS regions Barwon South Western, Gippsland, Grampians, Hume and Loddon Mallee.

This information is not available for the low socio economic and non-English speaking background sub-populations.
6.5 Children’s oral health

**Measure:**

*Parental concern about their child’s oral health at school entry*

*Children’s access to dental services*

**Rationale**

The impact of oral health on children’s health and wellbeing is significant. Over the past 10 years in Victoria dental cavities have decreased for children 5-10 years of age. However, children living in non-metropolitan areas of the state, children in the lowest socio-economic quartile and Indigenous children do not enjoy the benefit of improved oral health when compared to the overall population of that age group. Specifically, in the Indigenous population there is a high rate of untreated dental decay.

**Results and analyses**

Figure 6.5

**PARENTAL CONCERN ABOUT THEIR CHILD’S ORAL HEALTH AT SCHOOL ENTRY**
**BY SUB-POPULATION (1998-2004)**
This data indicates that at school entry (approximately 5 years of age) Indigenous parents have more concern about their child’s oral health (28.9 per cent) than non-Indigenous parents (18.5 per cent). However, Indigenous parents were less likely to report that their child had seen a dentist in the last one to two years (46.8 per cent) than their non-Indigenous counterparts (57.2 per cent).

**Data characteristics**

Table 6.4

<table>
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Source: School Entrant Health Questionnaire, Department of Education and Early Childhood Development 1998-2004

**Definition**

The percentage of parents who responded ‘yes’ to the questions ‘Have you any concerns about your child’s teeth?’ and ‘Has your child been to the dentist in the last 1-2 years?’.

**Calculations**

Numerator: number of parents responding yes to the above questions.

Denominator: total number of children participating in the census.
Qualifying comments

Data for low socio-economic status, non-English speaking background and rural/regional has been collected but not yet analysed. In future years this data could be made available to report.
Chapter 7

Key Findings

7.1 Addressing inequalities in health for key sub-population groups

Inequalities in health have been an established and observable feature of the health profile of Australia as well as many other countries. Nevertheless, with the data in this report Victoria can begin to point to some success in improving health outcomes for all populations.

Closing the gap

Where possible, this report analysed data for the population groups identified in *A Fairer Victoria* as those experiencing the greatest disadvantage — socio-economically disadvantaged, Indigenous, residing in rural and regional areas and those of non-English speaking backgrounds. The data in this report demonstrates that each of these groups experience, to differing degrees, poorer health than the average Victorian. We know that health inequalities are inextricably tied to social inequalities. Where there is high unemployment, low income status or less educational attainment there is reduced health and wellbeing. Most of the data in this report also illustrates that there is a ‘social gradient’ at work. This means that at each step up the social ladder health and wellbeing improves. These findings point to potential policy actions that could begin to ‘close the gap’ between population groups in Victoria.

Positive signs

Life expectancy and avoidable mortality are two examples of improvement in the overall health and wellbeing for all sub-populations. However, it must be noted that, at the same time as life expectancy and avoidable mortality has been improving for disadvantaged populations, it has also been improving for the general population. Thus, closing the gap between the various population groups remains an important policy direction.

Populations at greatest risk for poor health outcomes

It is clear from this analysis that low income Victorians and Indigenous Victorians face the greatest health burden. Not only do these two populations face greater burden of disease they also experience poorer preventions outcomes (such as rates of smoking and reduced consumption of healthy foods), and lower levels of service access and/or use. For nearly every indicator, the data in this report clearly illustrates the inequality in health and wellbeing experienced by Indigenous Victorians. Closing this gap is not just an issue for remote communities in Australia and Victoria – it is an issue for the whole Victorian community.

7.2 Measuring inequalities in health – indicators and health data

The purpose of this report is to establish a baseline from which to monitor profiles of the unequal distribution of health in Victoria. In the context of using indicators to measure children’s health UNICEF states:
What is to be gained by measuring and comparing child well-being in different countries? The answer lies in the maxim ‘to improve something, first measure it’.

UNICEF 2007

By measuring progress against indicators of health and wellbeing for disadvantaged populations Victoria can establish and strive for goals and provide a mechanism for identifying which objectives are being met and which are not. Measures therefore serve two purposes – they help define objectives and they allow policymakers to identify progress towards the achievement of those objectives.

It is envisaged that this report will provide the impetus for work across the Victorian government and more specifically, within the DHS to encourage more rigorous data collection and monitoring which will insure the capacity to identify equity impacts and outcomes over time. The report clearly highlights the lack of data associated with many of the indicators for the most disadvantaged Victorians.

It is essential that the comprehensive set of indicators selected have certain critical elements. These elements are described below with recommendations for improving the Department’s capacity to monitor health outcomes for disadvantaged populations.

A coherent mix of indicators

The selection of indicators for this report was guided by an over-arching policy framework that drew a link between cause, sensitivity to change and potential for action. The indicators have been organised into four sections that reflect this framework:

- Headline Health Outcomes
- Dimension one: Reduce disadvantage and discrimination that leads to illness
- Dimension two: Promote health for all – ensure disease prevention and health promotion reach all Victoria
- Dimension three: Provide quality services, accessible and affordable

Finding valid indicators with sufficient data for all four sections of the report was a challenge. Many of the indicators do not have data for all four sub-populations and therefore tell only a partial story.

Indicators that adequately describe health service utilisation and equity is a key data gap that needs to be addressed in the future.

Recommendation:

Further data development is needed if this framework is to be used effectively as a baseline for monitoring the profile of disadvantage in Victoria. Box 7.1 outlines recommended actions to be taken.
Box 7.1

**INDICATOR DEVELOPMENT**

- New indicators are needed in several sections in order to adequately address the framework. Indicators are required for the following areas:
  - Creating safe environments to prevent unintentional injury (Dimension two)
  - Emergency and elective treatment (Dimension three)
  - Addressing service quality, access and affordability (Dimension three).
- A better indicator for Family Violence should be identified (Dimension two).
- Teen fertility rate should replace the current teen birth indicator (% of births to women less than 20 years of age) (Dimension two).
- Where possible, extend the age groups represented in the indicators to reflect the life span by using data from the Victorian Child Health and Wellbeing survey and the Victorian Adolescent Health and Wellbeing survey.
- Where possible, encourage collection and analysis of gender within administrative data sets and surveys.
- Review ‘indicator suite’ every two years and make modifications as necessary.

**Comparability of indicators**

Once the indicator ‘suite’ is refined to more appropriately address the components of the framework a substantial amount of work will be required to allow valid comparisons between population groups and potentially, jurisdictions. This step will require inter-agency cooperation and a shared commitment to improving data systems.

**Recommendation**

In order to effectively monitor disparities in health between population groups, common data definitions are required. The international literature tells us that using indicators that are consistent and comparable between groups and jurisdictions is essential if governments are to define objectives then effectively identify progress towards the achievement of those objectives. Box 7.2 outlines data standards that will assist in allowing valid comparison between population groups and jurisdictions.

Box 7.2

**DATA STANDARDS**

- Agree upon and implement a standard definition for sub-populations (NESB, Indigenous, low socio-economic and rural residency) between government departments.
- Utilise common indicators across departments.
- Utilise national data definitions where they exist.
- Collect and analyse data using common age grouping across departments.
**Data collection systems**

The new monitoring system created to report on inequalities in health is a relatively simple system, which draws data from numerous databases across government. Formal mechanisms for sharing, analysing and reporting on the selected indicators will need to be created and agreed between the ‘host’ agency and the agencies that supply data to the system ‘custodians’.

**Recommendation**

The indicator data for this initial report currently resides in Excel spreadsheets that have been designed to allow for updates. The ‘host’ agency has the option of utilising these spreadsheets or downloading the data into a database of their choice for long term maintenance.

Box 7.3 outlines the recommendations for data collection and storage.

**Box 7.3**

**DATA COLLECTION AND STORAGE**

- Determine which government agency is responsible for ‘hosting’ the monitoring system.
- Implement standard ‘data sharing agreements’ with data ‘custodians’ that allow for release of data associated with the indicators in the monitoring system.
- Create a database (or use the existing Excel spreadsheets) that consolidates the indicators for this report. Update the database as new data becomes available.
- Revise current administrative databases across government to allow for routine collection of information such as socio-economic status, Indigenous status, and Non-English speaking background status using common definitions outlined in Box 7.2.
- Utilise new and routine surveys to provide data that do not exist in current administrative collections – consider over-sampling of sub-population groups if necessary.
- Ensure that the database is available for query within Victorian government.

**Establishing a ‘picture of change’**

This report has been developed as a baseline document for reporting on inequalities in health in Victoria. In order to monitor trends over time, track investments and identify areas most in need, an on-going process must be established. Tracking valid indicators of inequalities in health is a useful tool for policymakers and allows Victoria to build on good practice that already exists.

**Recommendation**

Box 7.4 describes the actions necessary for establishing on-going monitoring and analysis capacity for measuring inequalities in health.
Box 7.4

ROUTINE MONITORING, ANALYSIS AND REPORTING

- Ensure that the monitoring system is updated as new data becomes available from ‘custodians’
- Ensure that the ‘host’ agency provides analysis which pulls the data together and reports on the ‘picture of change’ every 2-3 years.
- Allow access to the database within the Government sector and consider allowing controlled access outside government.
- Assure that the information from the monitoring system is being used across government to drive policy for disadvantaged populations.
- Maintain strong links between the indicators in the monitoring system and the broader aspirations of government (A Fairer Victoria and Growing Victoria Together).

7.3 Moving from understanding to action

This report has not specifically investigated the important policy question of what action needs to be taken to reduce the existing inequalities in health and improve overall health. The aim of reducing inequalities in health already appears integral to Victorian health and human services programs. This is evident from investments in Victoria’s acute health system, prevention programs such as tobacco control and broader action to address social disadvantage.

Nevertheless, the results from this report demonstrate that there remain avoidable, unfair but not inevitable differences in health between groups in Victoria. Action, informed by the results presented here, will need to continue if reductions in excessive inequalities are to be achieved.
Appendix A

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