

# **Indicators of Australia's welfare**

**Development and discussion**

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is *better health and wellbeing for Australians through better health and welfare statistics and information.*

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# **Indicators of Australia's welfare**

**Development and discussion**

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Australian Institute of Health and Welfare  
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# Abbreviations

ABS	Australian Bureau of Statistics
AIC	Australian Institute of Criminology
AIFS	Australian Institute of Family Studies
AIHW	Australian Institute of Health and Welfare
BMI	Body Mass Index
CDEP	Community Development Employment Projects
CIHI	Canadian Institute of Health Information
CRA	Commonwealth Rent Assistance
CSHA	Commonwealth-State Housing Agreement
DALY	Disability-Adjusted Life Year
DEST	Department of Education, Science and Training
DHAC	former Department of Health and Aged Care
FaCS	Department of Family and Community Services (Commonwealth)
GDP	Gross domestic product
GSS	ABS General Social Survey
HREOC	Human Rights and Equal Opportunity Commission
ICD	International Classification of Diseases
ICF	International Classification of Functioning, Disability and Health
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
NHMRC	National Health and Medical Research Council
NHPC	National Health Performance Committee
NHS	ABS National Health Survey
OECD	Organisation for Economic Co-operation and Development
SAAP	Supported Accommodation Assistance Program
SCRSSP	Steering Committee for the Review of Commonwealth/State Service Provision
SMHWB	ABS National Survey of Mental Health and Wellbeing
UN	United Nations
WHO	World Health Organization

# Symbols

b	billion
\$	Australian dollars, unless another country is specified
%	per cent
'000	thousands
ppm	parts per million
µg	micro grams
µm	micro metres
n.p.	when used in a table, means not published by the data source
n.a.	when used in a table, means not available
. .	when used in a table, means not applicable
—	when used in a table, means nil or rounded to zero (including null cells)
*	when used in front of a numerical value in a table, means the value is subject to sampling variability too high for most practical purposes and/or the relative standard error of the value is 25% to 50%
**	when used in front of a numerical value in a table, means the value is subject to sampling variability too high for most practical purposes and/or the relative standard error is more than 50%

# 1 Introduction

Initial work on a framework for welfare indicators was published in the AIHW biennial report *Australia's Welfare 2001* (AIHW 2001a). Chapter 2 in *Australia's Welfare 2003* has advanced this work, strengthening the conceptual framework and presenting a set of broad summary indicators of the welfare of Australia's population (AIHW 2003a). Its focus is on assembling indicators and data from authoritative Australian literature and statistical publications. The chief purpose of the chapter is to provide a context for the other chapters of the report that focus on specific aspects of welfare service provision. The chapter will be a regular feature of the biennial report.

This working paper presents the background research on which Chapter 2 in *Australia's Welfare 2003* was based. It contains the material presented in Chapter 2 and, in addition, provides more detailed information on the development of the conceptual framework and indicators, and includes some additional indicators and data.

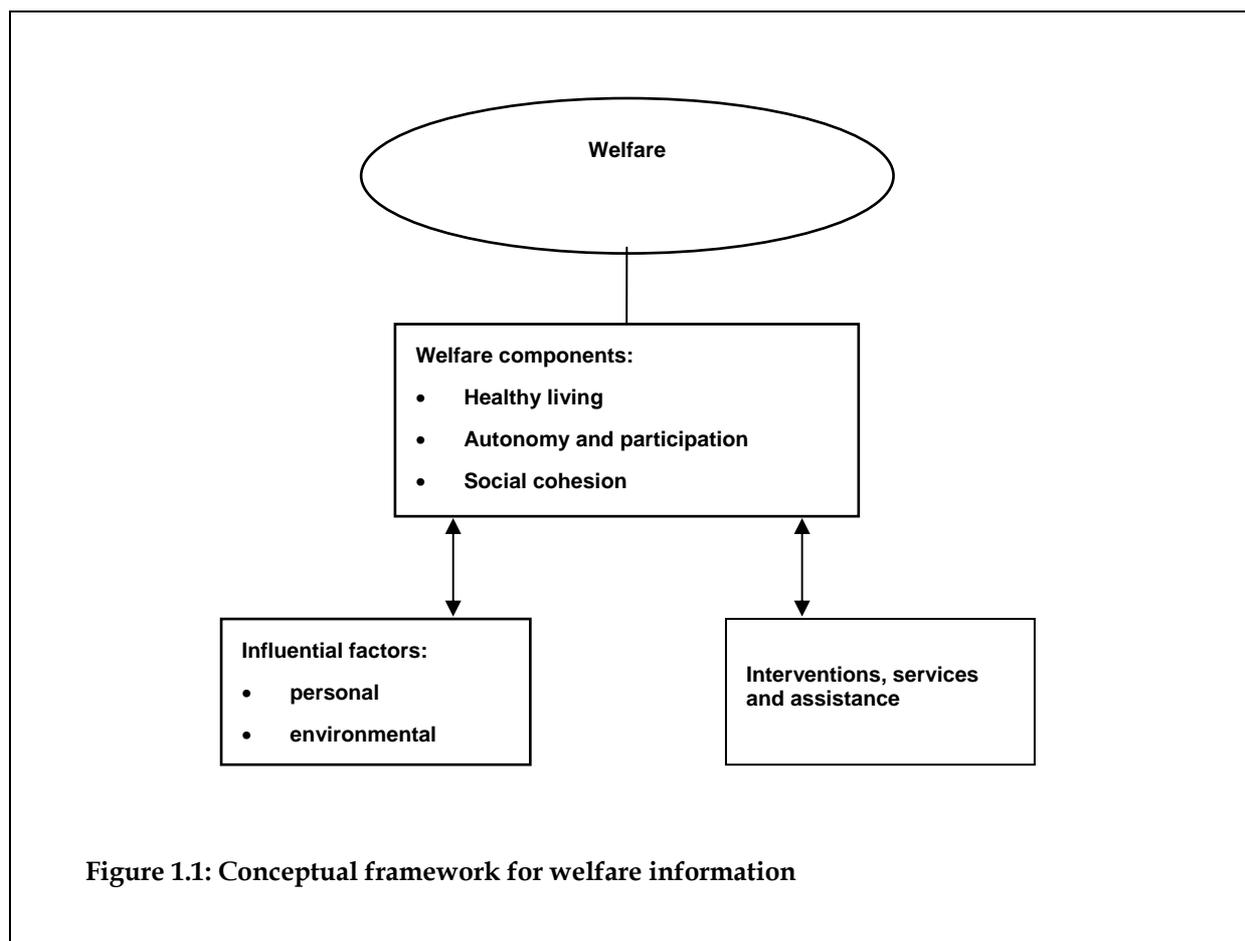
## 1.1 Conceptual framework

An overall conceptual framework for welfare information is depicted in Figure 1.1. The framework was first presented in *Australia's Welfare 2001* (AIHW 2001a), and was developed following a review of relevant frameworks.

In Figure 1.1 'Welfare' is placed at the top of the diagram and may be considered as a concept, a goal, or a vision of individual and societal wellbeing. In practice, it proves hard to define in specific and universally agreed terms. In certain contexts or policy areas, it may nevertheless be quite feasible to agree on definitions and operational goals. The three boxes in the diagram represent more concrete and measurable aspects of welfare and the 'welfare system' in human society (see also AIHW 2001a:371-84).

The 'welfare components' reflect the welfare of Australian society and in particular, in the context of this chapter, the measurable aspects of welfare status. The 'interventions' represent the whole system of formal services, financial assistance and unpaid assistance that contributes to human welfare. The 'influential factors' encapsulate features of the physical and social environment, or of individual people, that are considered to have important additional influences on wellbeing (AIHW 2001a:382).

Thus constructed, this framework strongly resembles the widely recognised pressure-state-response (PSR) framework, originally developed for environmental performance assessment (OECD 1993). Pressures are exerted on the state of the system, thereby eliciting a response that changes the state and feeds back in turn to lessen pressures. The OECD adapted the PSR framework in its development of a structured grouping of social indicators, and major health frameworks in use in Australia also reflect the PSR conceptualisation. For example, in *Australia's Health*, the AIHW biennial health report, health and wellbeing are visualised as a 'state' affected both by 'determinants' of health (environmental and individual) and by health service interventions of various kinds (AIHW 2000:4).



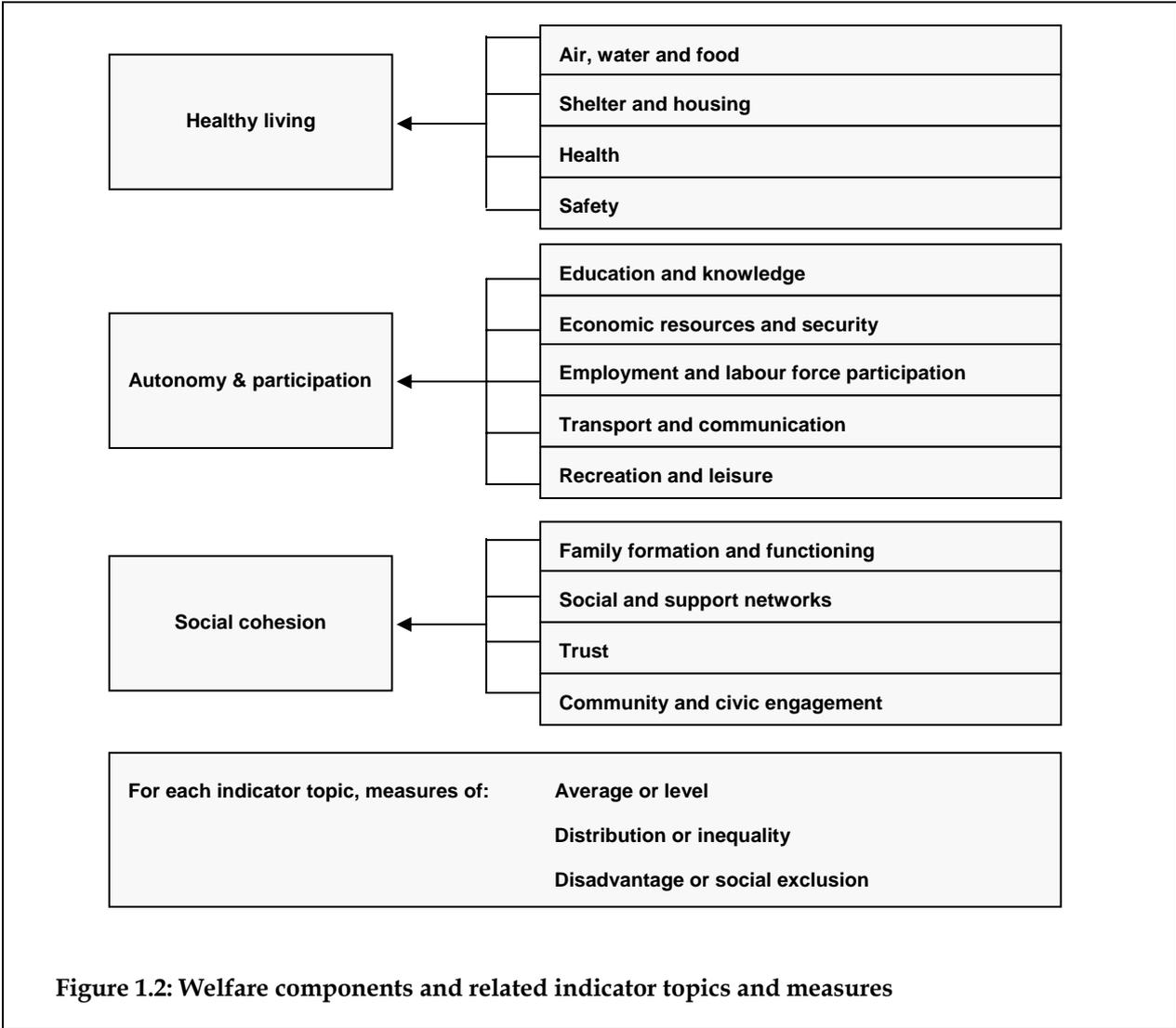
**Figure 1.1: Conceptual framework for welfare information**

This report focuses principally on the ‘state’, or welfare components: healthy living; autonomy and participation; and social cohesion. Figure 1.2 sets out 13 indicator topics that relate to these major components. The welfare components and related topics are specified on the basis that they are generally accepted to be crucial to human welfare and also might feasibly be the subject of data definition and collection.

The three components and their related indicator topics draw on and are broadly consistent with a range of sources discussed in *Australia’s Welfare 2001* (AIHW 2001a), in particular:

- frameworks for health and welfare indicators and information including the OECD social indicators framework, the Canadian ‘roadmap’, the *Australia’s Health* framework, the National Health Performance Framework, and the International Classification of Functioning, Disability and Health (AIHW 2002a; CIHI 2000; NHPC 2001; OECD 1999; WHO 2001);
- literature on human needs and the essentials for human wellbeing (e.g. Allardt 1975; Berger-Schmitt & Noll 2000; Doyal & Gough 1991); and
- work on indicators relevant to welfare and wellbeing by a range of Australian authors, notably the Australian Bureau of Statistics’ *Australian Social Trends* series and *Measuring Australia’s Progress* (ABS 2002a, 2003a).

While models and frameworks for measuring human welfare differ, reflecting an unavoidable element of judgment in deciding which components to include and which to leave out, there is a notable level of commonality in terms of themes and content. The



frameworks presented here capture this common agreement and use it to underpin the development of a set of practical and relevant statistical indicators. The welfare components in Figures 1.1 and 1.2 are thus the embodiments of the welfare concept and reflect what is considered purposeful and possible to attempt to measure:

- ‘Healthy living’ is a major component of welfare because, at the most basic level, health and the sustenance of life itself are prerequisites for many other aspects of welfare. Basic needs, such as food, water, shelter and safety from harm, are essential ingredients in the maintenance of life and health.
- ‘Autonomy and participation’ reflect the fact that people value the freedom and capability to act as autonomous beings, and also to participate in society. Acquiring education and knowledge is fundamental to achieving autonomy and the capacity to contribute to the wider society. Participation in the workforce is the chief means of acquiring economic resources, which are facilitators of autonomy and the medium for acquiring the necessities and many pleasures of life. Transport and communication are key enablers and indicators of participation. Recreation and leisure are recognised as key

contributors to human wellbeing; this area, like the others, involves a duality of autonomous choices and social participation.

- ‘Social cohesion’ represents a third main area of human welfare. A cohesive society is one that promotes wellbeing, via a large range of mutually supportive interactions, at the individual, group and social level. This is a relatively new area for statistical measurement but one whose importance is increasingly recognised.

The first component relates to basic needs and organic integrity. The second component relates to self-realisation and social belonging, as experienced by the individual. Third is the wellbeing of the social environment, in terms of the supports and interconnections as they affect people (AIHW 2001a; Allardt 1975).

The framework in Figure 1.2 depicts the interconnected, valued components of human welfare and needs that can be measured statistically. It does not assert a theoretical model of cause and effect, nor does it explicitly recognise the interconnectedness of many aspects of social advantage and disadvantage (for instance, education, income, health). While particular studies may seek to explore relations among the various elements (and name some as ‘cause’ and some as ‘effect’), Figure 1.2 simply illustrates the nature and scope of a field of measurement.

The predecessor of the figure (in AIHW 2001a) did not relate each indicator topic to just one major component, but left the interconnections non-specific, recognising that many of the indicator topics relate to more than one of the three components; for example, recreation and leisure contribute to healthy living and may also contribute to social cohesion. The mapping used here is considered potentially more useful, as it may later enable summary statements to be made about the three components as well as the individual topics.

In general, indicator topics are framed in a positive way to reflect their relationship to the idea of welfare. Thus, while individual indicators may be negatively constructed, they are constructed within a broader, positive, welfare-related ‘concept’ (e.g. ‘crime rate’ may be an indicator within the topic ‘safety and security’).

## **Constructing measures of the welfare components**

The 13 indicator topics define the broad *subject areas* on which the indicators in this paper focus, and three broad types of measures are suggested (Figure 1.2):

- measures of average or level (for instance, average incomes);
- measures of distribution or inequality (for instance, income distribution across age groups, population groups, or geographic regions); and
- measures of disadvantage or social exclusion (for instance, poverty and indicators of income-related disadvantage).

Combining these measurement concepts with the indicator topics in the figure synthesises the key ideas from the national and international literature, providing an overall framework for the content and the form of welfare indicators.

Indicators may be reported in many ways, including reporting against defined standards or agreed benchmarks. In contrast, the approach used for this chapter generally lends itself to more relative analyses – over time, or among different population groups.

## Distribution and inequality

When reporting indicators of welfare it is relevant to look at the spread, or distribution, of the entity being measured. For instance, it may be of interest to describe the distribution across:

- the population as a whole, for example, the distribution of income across income deciles, or the use of indices of inequality such as the gini coefficient, which compares the distribution of a specific variable with a uniform distribution that represents equality;
- other indicator topics, for example, the distribution of income across different education groups, or the distribution of health across income groups;
- personal factors, for example, the distribution of life expectancy between males and females, or between Indigenous and non-Indigenous Australians, or the distribution of unemployment across different age groups;
- environmental factors, for example, the distribution of health across geographic regions.<sup>1</sup>

Thus, four possible types of inequality may be of interest for any welfare component or indicator topic. This type of analysis may be driven by an interest in equity as a social goal, or by a more general search for explanation (for instance, in investigating the relationship between educational attainment and socioeconomic status).

## Disadvantage and social exclusion

As well as the average level and distribution of welfare components, there is often an interest in finding out more about groups at the extremes of the distribution, in particular those most disadvantaged. Sen (1981:157) makes the point thus: 'the problem of poverty assessment is quite distinct from the issue of assessment of inequality and requires paying particular attention to the category of the poor'. The literature on 'social exclusion' has evolved from a recognition of the multidimensional nature of poverty and disadvantage, that is, the awareness that disadvantages such as lack of education, unemployment, lack of income and poor health may be highly interrelated and may impact selectively on subgroups of the population (e.g. Abrahamson 1998; de Haan 1999).

## 1.2 Measurement issues

Measurement methods vary with purpose and context, and there is an extensive literature on the theory of statistical measurement. While no overview can be sensibly attempted here, several points are worth making in the present context.

Indicators may be measured against standards or benchmarks. This is often the case for service performance indicators, where goals or targets have been set for, e.g. the quantity or quality of services to be provided. In this report, however a more relative approach seems appropriate – statistics are compared among different population groups, over time or sometimes between Australia and other countries. For a given indicator it is not always clear

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1 *Social Indicators for Regional Australia* (Bray 2000) examines a broad range of social measures, including health, labour force, income, and housing measures, to provide an insight into the relative outcomes for communities in different parts of Australia.

what the 'ideal' level might be. The overall aim is simply to provide a picture of the current state of welfare in Australia.

Data on which indicators are based may be obtained in a variety of ways, including self-reported data gathered in social surveys, professional assessments using a variety of methods, and a wide range of data collected in administrative systems (e.g. to satisfy reporting requirements for service providers). Understanding the method of measurement and collection is usually crucial to accurate interpretation of the resulting statistics.

Indicators may be simple or composite. 'Simple' or disaggregated indicators relate to a single entity that can be clearly defined and measured in a fairly straightforward way. For example, life expectancy. Composite (or summary) indicators attempt to capture higher-level concepts in a single figure, often by combining several indicators (Doyal & Gough 1991:166-7). The dangers of composite indicators include the inadvisability of trading off one basic need against another, and possible challenges to the validity of the implicit or explicit weightings used in combining the component measures to produce a single composite indicator. Composite indicators such as 'quality of life' often incorporate different types of measures (by combining so-called 'objective' and 'subjective' data) and bring in yet another contentious measurement issue, namely the perspective of the measurer. Travers & Richardson (1993:49) identify 'three contentious points' in the construction of composite indices: 'the selection of which factors to take into account; how to aggregate these; and the assumed relation between the level of each factor and the contribution made by an increment in it'. This report tends to focus on simple indicators, although the distinction between simple and composite indicators is not always sharp.

### 1.3 Choice of indicators

The choice of a small number of indicators from a wide range of possibilities can be a difficult process. Choices may be influenced by local practice, local values and policies, and by the availability of relevant data. 'While the basic individual needs for physical health and autonomy are universal, many goods and services required to satisfy those needs are culturally variable' (Doyal & Gough 1991:155). A list of possible indicators for each of the indicator topics was put forward in *Australia's Welfare 2001*. Following consultation with experts in relevant fields some of the proposed indicators have been dropped and new ones have been added. This report includes some discussion of indicators that have been considered but not included, as well as information and data for the indicators we have selected as 'indicators of welfare'.

Checklists of the desirable qualities of indicators, and caveats on their use, are common adjuncts to sets of statistical indicators. They are used to help determine whether particular indicators are suitable for given applications. A list of criteria relevant to the indicators of welfare presented in this report is given in Table 1.1. For each criterion, a plain English definition is given together with guidance on how to apply the criterion to assess a particular indicator.

Lists of indicator criteria used in different projects tend to have a great deal in common, and the same criteria come up again and again. One commonly used criterion not included in Table 1.1 is 'unambiguous'. An unambiguous indicator is one for which it is possible to clearly interpret any given change in the indicator as 'good' or 'bad'. In the context of our purpose – i.e. painting a broad picture of welfare in Australia – it is not always necessary to

be able to say whether a change in a particular direction for a certain indicator is 'good' or 'bad'. Some indicators are important because they reflect key aspects of the context in which welfare services and assistance are provided, and in which welfare policy is developed and implemented. For example, although it may be difficult to interpret a decrease in fertility rate as unambiguously 'good' or 'bad', it is important information that is likely to have a bearing on a range of other issues. For some indicators, positive and negative directions of movement are clearer. For instance there would generally be agreement that a reduction in the crime rate is desirable.

In developing the list it was not anticipated that each criterion would be met for every indicator – rather, the criteria provide guidance in selecting indicators, and understanding any limitations of the indicators chosen that might have implications for interpreting the indicator.

The process of choosing indicators began using a 'working table' which was essentially a matrix of the indicator topics and the three types of measures in Figure 1.2 (see AIHW 2001a: 398–406). Identifying possible indicators involved the following:

- Major international indicator sets and related literature were reviewed and indicators, or indicator topics, were mapped into the table framework. This part of the process was designed not only to take advantage of international work but also to promote international comparability.
- Major Australian reports relating to the indicator topics were sought, particularly where goal statements were made or indicators sets had been developed.
- Statistical syntheses (in particular, the ABS *Australian Social Trends* series and the AIHW biennial health and welfare reports) were searched, to fill what appeared to be gaps in the international indicator sets and, particularly, to balance a tendency for the international indicators to be focused on negative aspects of the 'state' of wellbeing.
- Relevant Australian data sources were then identified for the suggested indicators. Major national data sets, including ABS social data collections, were reviewed and included in the working table under the relevant indicator topic. Emphasis was placed on sources that would provide national time-series data. This process was designed to promote national comparability, quality and availability (including availability over time). The process not only identified significant data sources that could be used to shed light on the components, indicator topics, and measures suggested, but also flagged possible data gaps.

Following from this initial exercise, expert input was sought to refine the set of indicators reported for each indicator topic.

**Table 1.1: Criteria for assessing potential indicators of welfare**

Criterion	Definition	Test / how to apply the criterion
Valid	The indicator measures the phenomenon it claims to measure—it relates closely to the phenomenon or to an essential aspect/element of the phenomenon.	How is the indicator related to the phenomenon? (brief text explanation/justification) How can a specified change in the indicator be interpreted from a policy perspective?
Relevant	Reflecting important social issues	Is the indicator of interest to policy makers? Is it viewed as an important indicator by experts in the field?
Applicable across population groups	The indicator is meaningful for the general population, and for the sub-population groups to which the topic is relevant.	Propose a hypothetical change in the indicator; consider how the change could be interpreted <ul style="list-style-type: none"> <li>• Australia-wide</li> <li>• In various states/territories</li> <li>• In different sub-populations (e.g. Indigenous communities)</li> </ul>
Reliable	The indicator is not likely to be influenced by variation in definitions or data collection methods in such a way that comparability over time or between sub-populations is compromised.	Do different methods of measurement exist (e.g. in different jurisdictions)? If so, do these different methods produce comparable results? Are the same definitions always used for the components that make up the indicator (e.g. numerator, denominator)?
Sensitive	When there is a significant change in the phenomenon of interest this will be reflected in a significant change in the indicator	Specify a hypothetical policy-significant change in the phenomenon. Would this change be reflected in a measurable change in the indicator?  (The hypothetical change in the phenomenon could be described in words, but the corresponding change in the indicator should be stated in terms of the units of the indicator.)
Robust	A change in the indicator can be clearly interpreted to reflect a corresponding change in the phenomenon; the indicator is not liable to unpredictable or inexplicable fluctuations.	Specify a hypothetical change in the indicator. Could we be sure that this change reflects a change in the phenomenon of interest, or could it have been caused by something else (e.g. another factor, or a measurement issue)?
Readily understood	The meaning and intent of the indicator is clear; accompanied by appropriate explanation/guidance, it can be readily understood by a general audience.	If a short (one paragraph) explanation is provided to support interpretation of the indicator, would a general reader be able to understand what a specified change in the indicator means in terms of what it says about the welfare sub-component?
Supported by data that are currently available and/or feasible to collect	Consistent time series data are available, or could feasibly be collected to support the indicator, such that the data can reasonably be compared over time to show up trends in the phenomenon.	Are consistent/comparable time series data available far enough back and at regular enough intervals to track significant trends over time? If not, could such data feasibly be collected in future, and is this likely to happen?

## 1.4 Working paper outline

This working paper:

- defines indicators within each indicator topic;
- presents the most relevant available data for each indicator;
- presents data on distribution across population groups, particularly as defined on the basis of age, sex and Indigenous status; and
- presents some measures of disadvantage or social exclusion.

Where appropriate, there is discussion of indicators that have been considered but not included for various reasons. Few data on trends are presented here or in Chapter 2 of *Australia's Welfare 2003*. However, it is anticipated that the work presented here will provide a basis for trend analysis in subsequent editions of *Australia's Welfare*.

## 2 Healthy living

This first component of welfare is focused around the basic needs for shelter, food and water, a clean environment, and safety from harm, which are all fundamental to human health.

Overall, the health of the Australian population is good. Based on key indicators such as life expectancy, Australia compares very well internationally. Australians have seen substantial improvements in many aspects of health over the past century and in more recent time frames.

As a population, our health is supported by generally high levels of nutrition, ready access to good quality water, and low levels of air pollution. Most Australians are adequately housed and the majority of us feel relatively safe in our communities. However, while the overall picture is positive, there are areas of concern. For instance, rates of obesity are high and rising, and many people consume less than the recommended amounts of fresh fruit and vegetables.

Certain population groups experience disadvantage across multiple areas. In particular, compared with other Australians, Indigenous Australians have much poorer health, higher rates of injury-related deaths, are less likely to own their own home and more likely to be homeless. Similar constellations of disadvantage are experienced by Australians of low socioeconomic status.

This section paints a picture of healthy living in Australia, showing its distribution among some key population groups, and where there are pockets of disadvantage.

### 2.1 Air, water and food

Air, water and food are an integral part of the 'healthy living' component of welfare. Ready access to nutritious and safe supplies of food and potable water is one of the basic requirements of human life, and, along with air quality, is fundamental to the current and future health of the individual. The indicators presented below represent key issues in the monitoring of air and water quality, and nutrition, in Australia.

#### Key issues, concepts and frameworks

##### Air

The National Environment Protection Council (NEPC)<sup>2</sup> implemented the National Environment Protection (Ambient Air Quality) Measure in 1998, which sets environmental standards for ambient air quality that allow for 'the adequate protection of human health and wellbeing' (NEPC 1998). These standards, which are to be met by 2008, are legally binding on

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2 The NEPC has since merged with the Australian and New Zealand Environment and Conservation Council (environment protection components) and Heritage Minister's Meetings to form the Environment Protection and Heritage Council (EPHC).

each level of government and relate to a set of six non-carcinogenic pollutants: carbon monoxide, nitrogen dioxide, phytochemical oxidants (as ozone), sulfur dioxide, lead, and particles as PM10 (particulate matter with a diameter less than 10 µm). Each jurisdiction has developed a monitoring plan to measure performance against these standards.

In addition, indicators of air quality were included in the core set of environmental indicators endorsed in 1999 by the Australian and New Zealand Environment and Conservation Council (ANZECC). The Commonwealth, some states, territories and local governments use this set of environmental indicators as a template for their respective State of the Environment reporting. Air quality indicators include six 'criteria' pollutants recommended by the Air Quality NEPM (National Environment Protection Measure). These indicators were tested in the *Atmosphere* theme report as part of the 2001 State of the Environment report series (Manins et al. 2001).

## **Water**

The ANZECC-endorsed core set of environmental indicators also covers indicators relating to human settlements. Included in this group are 13 water indicators dealing with water supply, demand and quality, the treatment and disposal of water, recycling and reclamation of water, and pricing, economic and water management issues (Newton et al. 1998). Some of these are reported in the 2001 State of the Environment report but data gaps hinder more complete coverage of indicator areas, such as recycling of storm water (Newton et al. 2001).

## **Food**

Eat Well Australia, the National Public Health Nutrition Strategy (SIGNAL 2001a,b) and the National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (SIGNAL 2001c), represent the Commonwealth Government's policy response to nutritional issues. These strategies stress the importance of maintaining a safe and nutritious food supply in Australia, and highlight the present inequities in distribution across sub-populations, particularly Aboriginal and Torres Strait Islander people, people experiencing socioeconomic disadvantage, and mothers and infants. Nutrition is recognised as being fundamental to health and well being and to the prevention of disease and disability. Nutrition is also central to the management of overweight and obesity, a public health issue of increasing concern in developed countries. Overweight and obesity are identified as underlying risk factors for major non-communicable chronic diseases such as Type 2 diabetes, cardiovascular disease and some cancers. In a global context, these non-communicable diseases presently contribute to 60% of world mortality and 43% of the global burden of disease (SIGNAL 2001a).

## **Air, water and food indicators**

### **Urban air quality**

Australian cities generally have better air quality than most other cities worldwide (Manins et al. 2001). Nonetheless, some urban, regional and rural areas experience potentially dangerous levels of air pollutants, which can have serious consequences for population health and mortality. Studies in Sydney and Brisbane have shown that the number of respiratory deaths not due to cancer is linked to increases in the concentration of particulates and ozone in the atmosphere (Morgan 2000; Simpson et al. 1997, 2000) and, in Melbourne, to

nitrogen dioxide and ozone (EPAV 2000). Other research has also found a relationship between air pollution and respiratory illness and mortality (Dockery & Pope 1994; Dockery et al. 1993; Lewis et al. 1998; Ostro 1993).

The *2001 State of the Environment Report: Atmosphere* (Manins et al. 2001) provides data on the six criteria pollutants identified in the ANZECC-endorsed core set of environmental indicators. Two of these – particles as PM10 and ozone – will be considered here.

Particles emanate directly from motor vehicle emissions and domestic fuel use. Ozone is a secondary pollutant, formed in part by emissions from motor vehicles, domestic and commercial heating, and industrial activities. Particles (as PM10) and ozone are measured in terms of the number of days per year in selected urban areas when the average concentration exceeded the Air NEPM standard level (see NEPC 1998). These standards are based on NHMRC guidelines. For particles as PM10 the maximum concentration is 50µg/m<sup>3</sup> over an averaging period of 24 hours, where the maximum allowable exceedence is 5 days per year. For ozone, two standards have been defined: (1) a maximum concentration of 0.10ppm over an averaging period of 1 hour, with a maximum allowable exceedence of 1 day per year, and (2) a maximum concentration of 0.08ppm over an averaging period of 4 hours, with a maximum allowable exceedence of 1 day per year. Only the former ozone measure will be discussed here.

The annual number of days on which the concentration of particles as PM10 exceeded the NEPM standard level of 50µg/m<sup>3</sup> fluctuated over the period 1990–99, with most major capital cities reporting a downward trend towards the end of the decade (Table 2.1). The one exception was Adelaide, although the 1998 and 1999 results were most likely the result of anomalous increased fuel burns, possibly from bushfires. All major capital cities experienced at least one year when PM10 concentrations of greater than 50µg/m<sup>3</sup> were recorded on 5 or more days.

**Table 2.1: Number of days per year when concentrations of PM10 and ozone exceeded the Air NEPM standard level in selected cities, 1990–99**

	Year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Number of days when concentration of PM10 exceeded 50 µg/m<sup>3</sup> (over 24 hours)<sup>(a)</sup></b>										
Sydney	1	12	5	3	12	6	2	2	1	1
Melbourne	n.a.	n.a.	n.a.	5	2	1	1	1	5	1
Brisbane	3	6	1	6	16	1	6	1	1	1
Perth	n.a.	n.a.	n.a.	n.a.	7	3	1	1	3	1
Adelaide	5	6	4	5	6	3	1	1	6	6
<b>Number of days when concentration of ozone exceeded 0.10 ppm (over one hour)<sup>(b)</sup></b>										
Sydney	5	4	7	8	13	0	1	14	13	n.a.
Melbourne	7	2	1	8	3	2	1	6	1	1
Brisbane	0	2	1	1	1	1	5	3	1	1
Perth	0	2	2	2	2	0	4	2	2	2
Adelaide	0	0	0	0	0	0	0	0	0	0

(a) The maximum allowable is 5 days per year, to be achieved by 2008.

(b) The maximum allowable is 1 day per year, to be achieved by 2008.

Source: Manins et al. 2001.

Ozone concentrations exceeding 0.10ppm over 1 hour were much more frequent in Sydney between 1990–99 than in any of the other major capital cities. There was no obvious trend of increase or decrease in ozone pollution for Sydney or Melbourne over this period.

### **Access to potable water**

Water is a critical resource in a country as dry and climatically variable as Australia. While immense amounts of water are used for agriculture and industry, the concentration of Australia's population in cities and towns also demands large supplies of potable water. In rural and remote areas of Australia, where water is much more scarce and its quality more variable, the issue is at least as important.

The National Health and Medical Research Council, in conjunction with the Agricultural and Resource Management Council of Australia and New Zealand, developed the Australian Drinking Water Guidelines as a framework for identifying acceptable water quality in Australia (NHMRC & ARMCANZ 1996). The Guidelines define potable water as 'safe to use and aesthetically pleasing...clear, colourless, and well aerated, with no unpalatable taste or odour...and no suspended matter, harmful chemical substances or pathogenic micro-organisms'. Measurable characteristics cover the physical, microbiological, chemical and radiological composition of drinking water.

A survey of water supply to Indigenous communities in 1999 found that water in 58 of the 169 communities tested, with a combined population of 25,322 people, failed water quality testing in the 12 months prior to the survey (ABS 2000a).

No national data are currently available on access to potable water.<sup>3</sup>

### **Food security**

Food security can be defined as the 'ability of individuals, households and communities to acquire appropriate and nutritious food on a regular and reliable basis, and using socially acceptable means' (Rychetnik et al. 2003:1). Food security is the product of social and economic systems that determine the food supply in a community, as well as the resources and ability of individuals, households and communities to access that food.

Recent work on food security encompasses both dimensions – food supply and access to food (Rychetnik et al. 2003). Nationally, Australia is considered to be food secure, however, a number of sub-populations within Australia are not (Rychetnik et al. 2003; SIGNAL 2001a).

Currently, limited data are available to assess the extent and nature of food insecurity in Australia (Marks et al. 2001; SIGNAL 2001a) although indicators of food security are being developed (Rychetnik et al. 2003; SIGNAL 2001a). The 1995 Australian National Nutrition Survey included a question related to food insecurity: survey participants were asked to answer yes or no to the question: *In the last 12 months were there any times that you ran out of food and you couldn't afford to buy more?* Only 5% of adults answered yes to the question (Rutishauser et al. 2001). A limited analysis of the 1995 data has been published (Rutishauser et al. 2001) and currently represents the best indicator of food security in Australia (Marks et al. 2001; SIGNAL 2001a).

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<sup>3</sup> *Measuring Australia's Progress* assesses water quality in Australia in terms of water management practices (i.e. proportion of water used exceeding 70% of sustainable limits) rather than fitness for human consumption (ABS 2002a).

**Table 2.2: People aged 19 years and over reporting food insecurity<sup>(a)</sup>, by sex, age, and equivalent income deciles, 1995 (per cent)**

	Age group		Labour force status		Deciles of equivalent income	
	19–44	45+	Employed	Not employed <sup>(b)</sup>	Lower 3	Upper 3
Males	6.5	1.9	3.3	13.2	10.5	2.8
Females	8.4	2.7	4.9	10.3	10.7	4.3
Total	5.2 <sup>(c)</sup>		4.0	11.3	10.6	3.5

(a) Food insecurity was based on a positive response to the question 'In the last 12 months, were there any times that you ran out of food and couldn't afford to buy more?'

(b) Includes persons unemployed and not in the labour force.

(c) Percentage of all respondents aged 19 and over.

Source: Rutishauser et al. (2001), based on analysis of the 1995 ABS National Nutrition Survey.

Food insecurity was more common for people aged 19–44 years, with a higher proportion of males and females in this age group experiencing food insecurity compared with those aged 45 years and over (Table 2.2). Food insecurity was more common among females than males in both age groups.

Food insecurity is generally associated with indices of disadvantage (Rutishauser et al. 2001). For example, the risk of food insecurity was 2–4 times higher for non-employed people than for employed people. Similarly, people in the lower 3 equivalent income deciles had a greater chance of experiencing food insecurity than those in the top 3 deciles.

## Food safety

Australia is considered to have one of the safest, least contaminated and best safeguarded food supplies in the world (Lester 1994). The food supply is nationally monitored on a regular basis for agricultural and other chemical residues, and microbiological contaminants. The main data collections currently used are the Australian Total Diet Survey conducted by Food Standards Australia New Zealand (FSANZ) and the National Residue Survey conducted by the Commonwealth Department of Agriculture, Fisheries and Forestry Australia. FSANZ confirmed in 2002 that the overall Australian food supply was safe with respect to pesticide residues, contaminants and other substances (FSANZ 2002a). However, the potential risks associated with the genetic modification of food species is emerging as an issue of concern (SIGNAL 2001a). The Commonwealth Department of Health and Ageing is responsible for monitoring this issue.

There has been an increase in the number of foodborne illnesses reported in Australia in the last 10 years. Furthermore, it is estimated that around 7 million Australians get sick from eating contaminated food each year (FSANZ 2002b). Notifications of selected gastrointestinal diseases, some of which are caused by food pathogens, are collected each year by the National Notifiable Diseases Surveillance System (NNDSS). The NNDSS is administered through the Commonwealth Department of Health and Ageing and collates data on communicable diseases notifiable under the state and territory public health legislation and under the auspices of the Communicable Diseases Network Australia New Zealand (CDNANZ).

**Table 2.3: Notification rates (per 100,000 population) of selected gastrointestinal diseases associated with food pathogens by state/territory, Australia, 2002**

	State/Territory								Australia
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	
Campylobacteriosis	n.a.	104.1	103.6	113.2	165.0	128.1	112.9	102.2	75.0
Listeriosis	0.2	0.3	0.5	0.7	0.1	0.4	0.0	0.0	0.3
Salmonellosis	31.9	25.9	71.5	37.9	34.1	34.9	29.3	164.0	40.0

Source: NNDSS 2003.

In 2002, campylobacteriosis was the most commonly reported gastrointestinal disease associated with food consumption, at a national rate of 75 notifications per 100,000 population (Table 2.3). The highest rate of campylobacteriosis was in South Australia (165 per 100,000).

The notification rate of salmonellosis was lower at 40 per 100,000 population. The variation in notification rates between different states and territories was marked, ranging from 25.9 in Victoria to 164 in the Northern Territory. Listeriosis was even less common, at a notification rate of just 0.3 per 100,000 nationally.

## Food and nutrient intake

Good nutrition is essential for good health, for all life stages. A poor diet may result in developmental problems in infants and children, and in adults an increased risk of developing a 'lifestyle' disease or condition, such as Type 2 diabetes, hypertension, heart disease, stroke and cancer (SIGNAL 2001a).

Three indicators of food and nutrient intake are presented below: fruit and vegetable consumption, total fat and saturated fat as a percentage of energy intake, and folate intake. These indicators relate to the priority areas set by EatWell Australia (SIGNAL 2001a,b) and the Australian Food and Nutrition Monitoring Unit, who have made recommendations on the use of indicators based on short dietary questions.

While some data are available on nutrient intake in Indigenous populations (e.g. the 2001 National Health Survey: Aboriginal and Torres Strait Islander Results), these data are not always comparable with non-Indigenous data or are not collected at all. For these reasons, a comparison of nutrient intake between Indigenous and non-Indigenous populations will not be attempted here.

## Reported usual daily intake of fruit and vegetables

Recent evidence suggests that regular fruit and vegetable consumption provides significant protection from cardiovascular disease, Type 2 diabetes, some cancers, and eye diseases such as cataract and macular degeneration (Dreosti 2003). Furthermore, the consumption of less than five serves of fruit and vegetables a day was estimated to contribute to 2.7% of the total disease burden in Australia in 1996, compared with smoking which contributes 10% (AIHW: Mathers et al. 1999).

**Table 2.4: Reported usual daily intake of fruit and vegetables, by age, 2001 (per cent)**

Self-reported usual daily intake						
Age group	2 or more serves of fruit a day			4 or more serves of vegetables a day		
	Males	Females	Persons	Males	Females	Persons
12–14	56.7	54.8	55.7	22.2	24.2	23.2
15–24	42.1	50.6	46.2	21.1	23.2	22.2
25–34	40.0	50.6	45.3	21.8	27.6	24.8
35–44	43.1	53.3	48.3	24.7	33.3	29.0
45–54	46.6	60.8	53.8	29.6	36.8	33.2
55–64	53.1	70.7	61.8	32.0	42.7	37.3
65–74	60.4	69.1	64.9	34.5	40.0	36.8
75+	83.1	68.4	65.7	36.1	38.6	37.6
<b>All ages</b>	<b>47.1</b>	<b>58.1</b>	<b>52.7</b>	<b>26.4</b>	<b>32.8</b>	<b>29.7</b>

Source: ABS 2002b.

Fruit and vegetable intake for the average Australian is generally not substantial enough for optimal health and, for some groups, remains far too low (SIGNAL 2001a). The EatWell Australia campaign and National Health Performance Committee (NHPC) are aiming to increase both the proportion of the population who consume fruit and vegetables every day and the proportion of the population consuming fruit and vegetables at or above the recommended level of 2 serves of fruit and 5 serves of vegetables a day. These recommendations were recently endorsed in the updated *Dietary Guidelines for Australian Adults* (NHMRC 2003) and are included as indicators of 'Health behaviour' in the NHPC framework (NHPC 2001).

Overall, 53% of people in 2001 reported eating at least two serves of fruit a day (Table 2.4). More females met the recommended daily intake than males, although males aged 12–14 and, in particular, 75+ years were more likely than females of the same age to eat at least two serves of fruit a day. Usual daily fruit intake generally increased with age, but proportionally more teenagers under 14 years than people aged 15–54 ate two serves of fruit. Women aged 55–64 were the group most likely to eat the recommended two or more serves of fruit per day – 71% did so.

In 2001, around 30% of Australians aged 12 years and over reported their usual daily intake of vegetables as being 4–5 or more serves.<sup>4</sup> The proportion who reported usually consuming the recommended daily intake increased with age, from around 22% for those aged 15–24, to more than 33% in the over-45s. In all age groups females were more likely than males to report a usual daily intake of at least 4–5 serves of vegetables a day.

### Fat intake

High levels of 'total fat' are associated with several serious diseases and health conditions, including breast and intestinal cancer, obesity, and coronary heart disease. Dietary fat can be measured directly as fat intake, or using a substitute indicator, such as the usual use of whole or full fat milk.

4 Data in the National Health Survey are presented as 4–5 serves and cannot be broken down further.

**Table 2.5: Reported mean contribution of total and saturated fat to daily energy intake, by age, 1995 (per cent)**

	Age group					
	12–15	16–18	19–24	25–44	45–64	65+
<b>Males</b>						
Total fat	33.5	32.9	32.9	32.8	31.9	31.6
Saturated fat	14.6	13.7	13.3	13.1	12.3	12.0
<b>Females</b>						
Total fat	33.1	32.1	32.8	33.0	32.0	32.1
Saturated fat	13.9	13.5	13.1	13.1	12.2	12.4
<b>Persons</b>						
Total fat	33.3	32.5	32.8	32.9	32.0	31.8
Saturated fat	14.3	13.6	13.2	13.1	12.2	12.2

Source: ABS 1998a.

Here we present data on the percentage contribution of total fat and saturated fat to overall energy intake. The Australian Guide to Healthy Eating (Commonwealth Department of Health and Family Services 1998) recommends total fat intake at 35% and saturated fat intake at 10% of all energy intake for children 5–14 years, and total fat intake at  $\leq 30\%$  and saturated fat intake at  $\leq 10\%$  of all energy intake for adults and adolescents over the age of 14 years.

The mean contribution of total fat to Australians' energy intake was around 32–33% in 1995, for all sex and age groups (Table 2.5). This percentage contribution is slightly higher than the intake recommended for adults and adolescents, and slightly lower than that recommended for children aged 12 to 14 years. The percentage contribution of saturated fat as energy intake was also slightly higher than the recommended level, with the highest percentages reported by children aged 12–15 years.

### Folate intake

Folate intake is essential for women's health, particularly during child-bearing years. Nutrition during pregnancy influences development of the foetus and birth weight, and can have longer term effects on the child's health. Indigenous women are especially vulnerable to poor nutrition during pregnancy and have a higher prevalence of low birth weight babies (SIGNAL 2001a). Folate has received considerable attention in the last 5–10 years since a recommended intake of 400 $\mu\text{g}/\text{day}$  was found to reduce the risk of neural tube defect (Bower 1996; Bower et al. 1997) and possibly cleft palate, Down Syndrome, low birth weight and congenital heart disease.

Survey data for 2001 indicate that most women do not deliberately consume folate-enriched foods, drinks or supplements; only 11% of Australian women between the ages of 18 and 49 years reported doing so (Table 2.6). The proportion of women aged 30–34 years using such foods in 2001 was more than double than that for women aged under 24 years and over 40 years, but these proportions were still low.

**Table 2.6: Australian women aged 18–49 who reported deliberately using foods, beverages or supplements containing folate, by age, 2001 (per cent)**

	Age group						Total
	18–24	25–29	30–34	35–39	40–44	45–49	
Consumed foods or drinks or vitamins/minerals containing folate	7.2	14.1	19.1	11.9	8.8	8.1	11.4
Did not consume	92.8	85.9	80.9	88.1	91.2	91.9	88.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Note:* These data refer to consumption 2 weeks prior to interview.

*Source:* ABS 2002b.

## Nutritional status

Nutritional status can be measured using anthropometric, biochemical and functional indicators but one method regularly used to infer nutritional status is healthy weight.

Healthy weight is recognised as a key health indicator, prompted by the rapid rise in the prevalence of overweight and obesity among Australians, and the current epidemic of overweight and obesity in most developed countries (AIHW 2001b, 2002a,b, 2003b; WHO 2000a). The World Health Organization has identified this rise in the prevalence of obesity as a major public health issue (WHO 2000a). Obesity ranks alongside smoking as the most important preventable cause of ill health in Australia and is associated with poor psychosocial functioning and mental wellbeing (Karlsson et al. 2003; SIGNAL 2001a). Being overweight can lead to serious health problems, such as cardiovascular disease, Type 2 diabetes and stroke, and is correlated with increased mortality.

While a range of causes, including inherited characteristics, psychological factors, physical exercise, and lifestyle contribute to a person becoming overweight or obese, healthy eating is seen as playing an important role in its prevention and management (SIGNAL 2001a). Obesity is, then, an indicator of 'disadvantage' when considering nutritional status.

Unlike overweight and obesity, underweight is not a common problem in Australia. However, some groups are still vulnerable, such as children (especially Indigenous children) and women aged 18–24 years.

The most widely used population indicator of healthy/unhealthy weight is Body Mass Index (BMI). BMI is an index of weight relative to height:

$$\text{BMI} = \text{Weight (kg)} / \text{Height}^2 \text{ (m)}$$

In areas where diet and nutrition are known to be poor (e.g. in some developing countries) BMI is used as an index of nutritional wellbeing (for example, a measure of chronic energy deficiency). In developed countries, BMI is more generally used to monitor the prevalence of overweight and obesity.

**Table 2.7: Rates of 'normal' or healthy weight in Australian adults,<sup>(a)(b)</sup> by sex and age, 1989–90, 1995 and 2001 (per cent)**

	Age group							Total
	18–24	25–34	35–44	45–54	55–64	65–74	75+	
<b>Males</b>								
1989–90	66.5	56.8	48.4	42.7	43.5	46.8	58.1	51.2
1995	58.0	45.3	41.8	34.6	33.6	43.1	53.2	43.1
2001	57.4	44.6	35.1	31.3	29.5	34.5	44.6	39.0
<b>Females</b>								
1989–90	67.1	67.3	62.6	53.5	49.6	50.0	50.5	58.7
1995	58.4	58.6	55.8	46.5	41.1	45.7	44.4	51.3
2001	57.6	55.4	51.2	44.2	35.8	37.2	43.3	47.7
<b>Persons</b>								
1989–90	66.7	62.1	55.4	48.0	46.5	48.6	53.3	54.9
1995	58.2	51.9	48.8	40.5	37.3	44.5	47.7	47.1
2001	57.4	50.1	43.2	37.8	32.6	35.8	43.8	43.4

(a) Data based on BMI (body mass index) derived from self-reported height and weight measurements. BMI is calculated as Weight (kg)/Height<sup>2</sup>(m). Obesity is measured as >30 BMI according to NHMRC recommendations.

(b) Data are age-standardised against Australian population estimates as at 2001.

Source: ABS 2002b.

## Prevalence of healthy weight

In 2001, less than half of all Australians (43%) were of a weight considered to be 'normal' or healthy<sup>5</sup> (Table 2.7). Females were more likely to report healthy weight than males – 48% compared with 39%, respectively.

The prevalence of healthy weight tended to decline with age. Younger adults were more likely to report healthy weight in 2001 – just over half of the population between the ages of 18 and 34 years did so – but in all older age groups less than 50% of people reported healthy weight. The prevalence of healthy weight was lowest among people aged 55–64 years, only 33% of whom reported healthy weight. A marked decline in the prevalence of healthy weight occurred much earlier in males (between 25–34 years) than in females (45–54 years).

A significant decline in healthy weight has occurred between the early 1990s and 2001. This decline is evident among both males and females, but is slightly more marked for men.

While the decline affected all age groups, the greatest decline occurred among people aged 55–64 years.

## Prevalence of obesity

In 2001, the prevalence of obesity among Australians aged 18 years and over was 15% (Table 2.8). Males and females generally had similar prevalence rates, but there was some marked variation in specific age groups. For example, men aged 35–44 years had a higher prevalence

5 These data, and data on obesity and underweight, are based on self-reported height and weight measurements and are therefore potentially underestimates of the level of obesity. Previous assessment of this methodology against estimates based on actual measurements indicated that people tend to overestimate their height and underestimate their weight leading to underestimated BMI (ABS 1997a).

**Table 2.8: Rates of obesity in Australian adults,(a)(b) by sex and age, 1989–90, 1995 and 2001 (per cent)**

	Age group							Total
	18–24	25–34	35–44	45–54	55–64	65–74	74+	
<b>Males</b>								
1989–90	3.7	6.7	10.1	11.4	10.5	9.4	4.2	8.4
1995	5.2	10.7	11.4	15.4	15.3	10.5	4.7	11.2
2001	8.0	12.0	17.9	18.9	17.8	14.6	8.9	14.7
<b>Females</b>								
1989–90	3.8	7.0	9.2	13.8	13.2	11.2	7.2	9.5
1995	4.5	8.9	10.9	14.6	16.1	13.5	6.9	11.0
2001	7.1	13.5	9.3	19.0	21.8	20.1	10.5	15.4
<b>Persons</b>								
1989–90	3.7	6.9	9.7	12.5	11.8	10.4	6.1	9.0
1995	4.9	9.8	11.2	15.0	15.7	12.1	6.0	11.1
2001	7.6	12.8	16.1	19.0	19.7	17.4	9.9	15.1

(a) Data based on BMI (body mass index) derived from self-reported height and weight measurements. BMI is calculated as Weight (kg)/Height<sup>2</sup>(m). Obesity is measured as >30 BMI according to NHMRC recommendations.

(b) Data are age-standardised against Australian population estimates as at 2001.

Source: ABS 2002b.

rate of obesity (18%) compared with females of the same age (9%), while in the 65–74 age group females had a higher rate (20%) than males (15%).

Between 1989–90 and 2001 the prevalence of obesity rose from 9% to 15%. For males aged 18–24 and 75+, and females aged 25–34, the prevalence of obesity doubled over this period. Obesity is also becoming a considerable problem for Australia’s children. In 1985, its prevalence among 7–15 year olds was 1.4% for boys and 1.2% for girls; by 1995, this had risen to 4.7% of boys and 5.5% of girls (Magarey et al. 2001).<sup>6</sup>

### Prevalence of underweight

Underweight is not considered a major problem in Australia, with only 3% of the population in 2001 underweight, down from 4% in 1989–90 (Table 2.9). However, some population sub-groups show potentially problematic prevalence rates. Females were generally more likely to be underweight than males, particularly in younger age groups – 11% of women aged 18–24 were underweight, compared with 3% of men. Women aged over 74 years were also more likely to be underweight than were their male counterparts – 6%, compared with 2%.

## 2.2 Shelter and housing

Shelter is recognised as a basic human need. Housing satisfies not only people’s need for shelter, but also their need for security and privacy. Homes can be places where people build and maintain relationships with friends and family, and pursue recreational activities. Having a fixed place of residence also provides an important basis for engaging in more

6 Data for the 1985 and 1995 prevalence estimates came from the 1985 Australian Health and Fitness Survey and National Nutrition Survey, respectively. (See Magarey et al. 2001 for methodology.)

**Table 2.9: Rates of underweight in Australian adults,<sup>(a)(b)</sup> by sex and age, 1990, 1995 and 2001 (per cent)**

	Age group							Total
	18–24	25–34	35–44	45–54	55–64	65–74	74+	
<b>Males</b>								
1989–90	3.9	1.5	1.0	0.8	1.1	1.6	4.6	1.8
1995	3.9	1.1	0.8	0.7	0.8	1.1	3.0	1.4
2001	2.6	0.6	1.0	0.8	0.8	0.6	1.6	1.1
<b>Females</b>								
1989–90	12.9	7.6	4.5	3.1	3.0	5.3	9.0	6.1
1995	11.1	4.8	3.5	2.1	2.2	3.2	7.0	4.5
2001	11.3	4.8	3.9	1.7	1.7	2.1	5.8	4.3
<b>Total</b>								
1989–90	8.3	4.5	2.7	1.9	2.0	3.6	7.4	4.0
1995	7.5	3.0	2.2	1.4	1.5	2.2	5.4	3.0
2001	6.8	2.7	2.5	1.3	1.2	1.4	4.1	2.7

(a) Data based on BMI (body mass index) derived from self-reported height and weight measurements. BMI is calculated as Weight (kg)/Height<sup>2</sup>(m). Obesity is measured as >30 BMI according to NHMRC recommendations.

(b) Data are age-standardised against Australian population estimates as at 2001.

Source: ABS 2002b.

formal interactions, such as getting a job, joining a club, or accessing certain government benefits (ABS 2001a).

The physical condition, location, size, and other attributes of a dwelling, relative to the needs of its occupants, are all factors that affect quality of life. There is a strong correlation between inadequate housing and poor health status, poverty, and generally low living standards (AIHW 1997, 2003a). Addressing a person's housing needs is seen as an important part of supporting social and economic participation (Reference Group on Welfare Reform 2000:15). Providing housing assistance to those in need is a key element of governments' social policy and welfare frameworks.

## Key issues, concepts and frameworks

A broad range of concepts is used in describing and assessing people's housing circumstances, capturing both financial and non-financial housing issues. Commonly used concepts include tenure type, affordability, accessibility, appropriateness, suitability, quality/condition, and amenity/location. Many of these concepts are discussed further below.

International-level frameworks and indicator sets for housing have not been developed to the extent that they have been for some of the other indicator topics addressed in this information paper (e.g. health), perhaps because of the particularly culture-specific nature of many of the issues involved. However, the World Health Organization (1998) has identified several features of the housing environment that directly or indirectly impact on people's health, including aspects of the structure of the shelter, the provision of adequate water supplies, proper sanitation and waste disposal, and overcrowding (WHO 1998).

In Australia, the 1999 Commonwealth–State Housing Agreement (CSHA) is a multilateral agreement between the Commonwealth, states and territories, and is accompanied by bilateral agreements between the Commonwealth and each state and territory. The stated aim of the CSHA is ‘to provide access to appropriate, affordable and secure housing assistance for those who most need it, for the duration of their need’.

A national performance indicator framework was developed under the 1999–2003 CSHA, encompassing effectiveness and efficiency. Effectiveness indicators are divided into three groups: appropriateness, access and quality. Appropriateness is measured using indicators of affordability, satisfaction with amenity/location of dwelling, and match of dwelling to household size. The three access indicators measure targeting to people on very low incomes, targeting to people with special needs, and allocation processes that ensure priority access for those in greatest need. Quality is indicated by customer satisfaction measures. A new 2003 CSHA has recently been negotiated; it is designed to provide strategic directions and funding certainty for the provision of housing assistance for the next 5 years.

Under the Australian Housing Ministers’ Ten Year Statement of New Directions for Indigenous Housing, the governments of Australia have developed the multimeasure approach to quantifying Indigenous housing need. This framework includes eight indicators: affordability, overcrowding, stock condition, homelessness, services, appropriateness, emerging need and security of tenure.

The performance indicator frameworks for public housing, community housing, and state and territory owned and managed Indigenous housing in the *Report on Government Services* are based on the framework developed for the CSHA, and appropriateness, access, and quality indicators are reported for all three programs (SCRCSSP 2003).

The performance indicator framework for Commonwealth Rent Assistance (which is not a CSHA program) is structured differently, reflecting different program objectives and delivery methods, with effectiveness broken into outcomes, access, and appropriateness.

Nationally agreed indicators relevant to homelessness are used in the *Report on Government Services* to monitor the performance of Supported Accommodation Assistance Program services. These cover the areas of client outcomes (homeless people achieving independence), quality (satisfactory standards), access (equity of access), and appropriateness (match of service with expressed needs) (SCRCSSP 2003).

In *Measuring Wellbeing*, the ABS presents a framework for assessing housing circumstances that consists of three main elements – housing demand, housing supply and housing outcomes. Examples of measures of housing outcomes given in the framework are housing stock utilisation rates, homelessness, home ownership rates, housing affordability, suitability/adequacy of dwelling, satisfaction with dwelling, and satisfaction with neighbourhood conditions (ABS 2001a).

The ‘housing affordability index’ and the ‘home loan affordability index’ are two quarterly indexes produced by industry groups with the aim of monitoring trends in housing affordability over time (ABS 2001a).

As changes in levels of housing demand can impact on the wider economy, some economic indicators measuring changes in housing industry activity are used as indicators of national economic performance (ABS 2001a).

## Shelter and housing indicators

In this section, housing tenure, housing affordability, and homelessness are used as indicators of some key aspects of the housing circumstances of Australians. However, it is acknowledged that housing accessibility, suitability and adequacy are also of great importance from a welfare perspective, and these are also briefly discussed. Poor quality and condition of dwellings and inadequate supply of housing are particularly significant issues in some Indigenous communities (ABS 2000b).

Some of the indicators below are broken down by Indigenous status, as it is widely acknowledged that standards of housing provision for Indigenous Australians are often unacceptable (AIHW 1999:154). Also, looking at measures broken down by household types can help to identify those particularly vulnerable to certain types of housing problem.

### Housing tenure

Home ownership is an aspiration for many Australians, and is widely seen as the preferred form of tenure. Home ownership is a policy goal that has long been pursued by Australian governments. The family home is commonly the largest asset that a household will own, and one that provides a key economic resource for maintaining economic wellbeing (ABS 2001a).

Australia has high levels of home ownership by international standards (ABS 2001b). Home ownership is widely considered to bring with it a range of benefits, including greater security of tenure, greater freedom to make dwelling modifications, and control over a substantial financial asset, which can be used to support the acquisition of other goods and services. However, there are trade-offs too. Home ownership can be associated with burdensome financial commitment, and reduced flexibility in terms of being able to move house (ABS 2001a).

**Table 2.10: Tenure type and composition of households, 2000–01**

	Owner without a mortgage	Owner with a mortgage	Public renter <sup>(a)</sup>	Private renter	Total <sup>(b)</sup>
<b>Number ('000)</b>	2,797	2,351	363	1,536	7,315
<b>Per cent</b>	38.2	32.1	5.0	21.0	100.0
<b>Household composition—per cent of each tenure type</b>					
Couple only	34.5	20.9	9.3	15.5	24.3
Couple with dependent children only	12.5	41.5	11.2	17.1	22.8
Other couple, one family households	15.0	12.6	*5.4	5.2	11.3
One parent with dependent children	2.7	6.1	23.7	14.3	7.4
Other family households	5.8	4.0	8.8	6.6	5.5
Lone person	28.4	12.1	39.6	30.3	24.6
Group households	1.2	2.8	*2.1	11.0	4.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Renting from a state or territory housing authority.

(b) Includes other renters and other tenure type.

Source: ABS 2003b.

**Table 2.11: Type of tenure for occupied family and lone person private dwellings, 2001**

Tenure type	Indigenous		Non-Indigenous		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Fully owned	14,712	12.8	2,732,152	42.9	2,746,864	42.4
Being purchased	22,419	19.4	1,799,445	28.3	1,821,864	28.1
Being rented	70,648	61.2	1,562,920	24.5	1,633,568	25.2
Other tenure type	3,399	2.9	140,158	2.2	143,557	2.2
Not stated	4,181	3.6	132,210	2.1	136,391	2.1
<b>Total</b>	<b>115,359</b>	<b>100.0</b>	<b>6,366,885</b>	<b>100.0</b>	<b>6,482,244</b>	<b>100.0</b>

Source: AIHW 2003a (unpublished tables from 2001 ABS Census for Report 2 of the National Indigenous Information Implementation Committee).

Other tenure types, such as social housing and some private rental arrangements, can also provide households with security of tenure and a sense of physical and psychological security (see Section 5.2 in AIHW 2003a for definition of terms and further discussion). Many Indigenous people living in remote communities share land ownership and live in properties administered by Indigenous housing organisations; such arrangements can provide security of tenure and other benefits associated with home ownership (ABS 2003a).

In 2000–01, 70% of households owned their home, either with (32%) or without (38%) a mortgage (Table 2.10). Couple only and lone person households accounted for 35% and 28%, respectively, of households that owned their home outright. Couples with dependent children accounted for 42% of households with a mortgage. Lone person households were the dominant group in both public renter (40%) and private renter (30%) households.

These differences partly reflect age effects – for instance, a large proportion of couple only households are likely to be older couples, and home ownership rates increase with age. Lone persons owning a home are often older people whose partners have died.

Data from the 2001 Census show that, compared with non-Indigenous households, a much smaller proportion of Indigenous households owned or were buying their home (32%, compared with 71% for non-Indigenous households), and a much larger proportion were renting (61%, compared with 25%) (Table 2.11).

## Housing affordability

Affordability measures housing costs relative to a household's ability to meet those costs. Housing costs can be divided into 'entry costs' (e.g. bonds, deposits) and 'ongoing costs' (e.g. loan/mortgage repayments, rental payments, rates) (ABS 2001a). The prevalence of households experiencing housing affordability problems is related to limitations in the supply of low cost housing (ABS 2002a).

There is no single agreed measure of housing affordability. However, it is generally accepted that affordability measures should use cut-off points or benchmarks to identify 'low income households', and only low-income households should be considered at risk of having unaffordable housing (AIHW: Karmel 1998:30).

There are different approaches to measuring affordability. Two major approaches are:

- Fixed ratio measures – based on a fixed proportion of gross income above which housing costs are considered unaffordable.
- Living standard measures – focus on the ability to meet non-housing expenses, after housing costs have been paid (with reference to before- and after-housing poverty lines).

Different measures give different results, both in terms of the overall proportion of households considered to have unaffordable housing, and which households (e.g. in terms of household composition) are identified as having unaffordable housing (AIHW: Karmel 1998).

Indicators of affordability are reported for all four housing assistance program areas covered in the *Report on Government Services* (SCRCSSP 2003). For public housing, community housing, and state and territory owned and managed Indigenous housing, affordability is measured as the rent charged to tenants as a proportion of the market rent for each dwelling, adjusted for Commonwealth Rent Assistance (CRA). This represents a third major approach to measuring affordability that is more program-based. In addition, for community housing, affordability is also measured as the proportion of household income remaining after paying rent. For CRA, the affordability indicator provides information on the proportion of recipients who spend more than 30% and more than 50% of their income on rent, with and without CRA.

Here we present data for a commonly used measure of housing affordability – households in the lowest two income quintiles that spend more than 30% of their gross income on housing costs (Affordable Housing National Research Consortium 2001). Data on households in the lowest two income quintiles that spend more than 50% of their gross income on housing costs provide an indication of more severe affordability problems. Data in Table 2.12 are from the ABS Australian Housing Survey 1999, which collected information from persons in private dwellings throughout Australia and currently provides the only available detailed national data on financial and non-financial housing status across tenure types.

In 1999, 742,800 households in the lowest two income quintiles spent more than 30% of their gross income on housing costs, including 289,800 that spent more than 50% of their gross income on housing costs (Table 2.12). That is, 10% of all households were experiencing housing affordability problems, and 4% more severe housing affordability problems (as defined above). Private renter households were most likely to have affordability problems – 28% had affordability problems.

In *Measuring Australia's Progress*, the ABS reported that the proportion of households experiencing housing affordability problems (defined as households in the lowest two income quintiles paying more than 30% of their disposable income<sup>7</sup> in housing costs) remained relatively stable between 1994–95 and 1997–98 (ABS 2002a). However, real housing costs in Australia increased by 17 per cent over the period 1988 to 1999 (AIHW 2003a; Burke & Ralston 2003).

In recognition of the significant effect that government taxes, benefits and other activities have on affordability, particularly in relation to first home purchasers, the Commonwealth Government commissioned an Inquiry into First Home Ownership, to include an evaluation of the affordability and availability of housing for first home buyers. A discussion draft released in December 2003 stated that, while fluctuations in housing prices and affordability are inherent features of housing markets, the increase in prices since the mid-1990s has been bigger and more widespread than in previous cycles, and affordability measures have consequently fallen to relatively low levels (Productivity Commission 2003).

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7 Disposable income is defined as gross income less direct tax and Medicare levy.

**Table 2.12: Households in the two lowest gross weekly income quintiles: households that spent more than 30% and more than 50% of their gross income on housing costs,<sup>(a)</sup> by tenure type, 1999**

Tenure type	More than 30%		More than 50%	
	Number ('000)	Per cent <sup>(b)</sup>	Number ('000)	Per cent <sup>(b)</sup>
Owner without a mortgage	102.9	3.7	45.5	1.6
Owner with a mortgage	183.7	8.1	80.1	3.6
Renter—State/Territory housing authority <sup>(c)</sup>	28.3	7.7	*6.0	*1.6
Renter—private landlord	404.9	27.7	152.5	10.4
<b>All tenure types<sup>(d)</sup></b>	<b>742.8</b>	<b>10.3</b>	<b>289.8</b>	<b>4.0</b>

(a) Housing costs include secured/unsecured mortgage or loan repayments (principal and interest) where the purpose of the loan is to buy or build, add to or alter the dwelling; rental payments; water and general council rates; land tax rates; body corporate or strata title payments; and expenditure on repairs and maintenance for the dwelling.

(b) Per cent of all households.

(c) These ABS data for public renter households differ from administrative data. Administrative data show that 99% of rebated public renter households were paying 25% or less of their assessable income in housing costs in 2001. It is policy in most jurisdictions that rebated public renter households should not pay over 25% of their assessable income in housing costs—see AIHW 2003a: Section 5.3.

(d) Includes other renters.

Source: ABS 2000c:34.

## Homelessness

The rate of homelessness within a society can be viewed as an indicator of housing deprivation. Defining homelessness is challenging, as homelessness is a complex phenomenon encompassing more than the absence of adequate shelter. In 2000, the Supported Accommodation and Assistance Program (SAAP) National Coordination and Development Committee agreed on a definition of homelessness that recognises three different levels of homelessness (FaCS 2001):

- 'sleeping rough', for those people without shelter (primary homelessness);
- 'stop gap accommodation', for those in crisis but temporarily sheltered (secondary homelessness); and
- 'marginal accommodation', for those in insecure accommodation (tertiary homelessness).

The definition is preceded by the following preamble:

Homelessness is one extreme of a spectrum of disadvantage in terms of access to safe, affordable and secure housing. Homelessness has an implication of lack of options or choice. A person is homeless if he or she has inadequate access to safe and secure housing. Inadequate housing:

- damages, or is likely to damage, the person's health; or
- threatens the person's safety; or
- fails to provide access to:
  - adequate personal amenities;
  - the economic and social support that a home normally affords.

This definition is now quite widely accepted, although there remains some debate, particularly regarding whether the category 'tertiary homelessness' should be seen as homelessness rather than marginal housing. (See Section 9.2 of AIHW 2003a for a detailed discussion of definitional issues.)

It is important to note that concepts of homelessness used in Australia tend to be based on western cultural constructs, and may not be appropriate to certain groups within Australian society. **In particular, Indigenous people may have very different ideas of what homelessness means** (Commonwealth Advisory Committee on Homelessness 2001). **For many Indigenous people, homelessness has a spiritual as well as a physical dimension. Indigenous Australians may not see themselves as homeless even when they have no secure accommodation, as long as they retain good connections to their home place and community.**

Estimating the number of people who are homeless is difficult (see AIHW 1999 and 2001a for discussion of enumeration issues). In the late 1990s, two projects aimed to produce accurate estimates of rates of homelessness. Chamberlain produced an estimate of 105,300 homeless people on census night 1996, based on census data (ABS: Chamberlain 1999), whereas the Consilium Group (1998) estimated a figure of 53,000 on 30 June 1997, based on national projections from data collected in New South Wales and Victoria.

Possible explanations for the large difference between these two estimates include the different data collection methods used, and the different points in time to which the data relate. Per capita rates of homelessness are known to be substantially higher in Queensland, the Northern Territory and Western Australia than in Victoria and New South Wales, and the Consilium approach did not account for these regional differences. Also, the Consilium Group did not specifically enumerate people staying temporarily with friends and relatives without their own usual address, while Chamberlain did enumerate this group (AIHW 2001a).

Chamberlain's estimate tends to be the more generally accepted of the two estimates. Of the 105,300 people identified as homeless on census night 1996, nearly half were staying with friends or relatives (Table 2.13). Between 60% and 70% reported that they had been homeless for 6 months or more. Rates of homelessness varied considerably across Australia, from between 40 and 50 homeless people per 10,000 population in New South Wales, Victoria, South Australia, Tasmania and the Australian Capital Territory, to over 70 per 10,000 population in Queensland and Western Australia, and 523 per 10,000 population in the Northern Territory (ABS: Chamberlain 1999).

Estimates of the number of people experiencing homelessness based on 2001 Census data have recently been released (ABS: Chamberlain & MacKenzie 2003). On Census night 2001 it was estimated that 99,900 people were homeless (Table 2.13). The decrease in the numbers between 1996 and 2001 is partly due to a change in the Census counting rules in Indigenous communities that resulted in a decline in the estimated number of people with no conventional accommodation.

Inadequate supply of affordable housing is one important cause of homelessness. However, people's reasons for being homeless can also relate to a wide variety of personal and societal factors, including domestic violence, relationship or family breakdown, substance abuse, and discrimination (AIHW 2001a). Financial difficulties associated with homelessness are not limited to issues of housing affordability, but can include financial management problems, such as gambling. Thus, the rate of homelessness is not solely a measure of housing deprivation; it may also be viewed as an indicator of poor social cohesion (ABS 2002a).

It is important to recognise that there is a temporal dimension to homelessness, with experiences ranging from brief, one-off episodes to long-term transience. Therefore, point-in-time estimates cannot fully capture the extent of homelessness. Data on access to support services for homeless people can complement point-in-time estimates.

**Table 2.13: The whereabouts of homeless people on Census night 1996 and 2001**

	1996		2001	
	No.	Per cent	No.	Per cent
Boarding house	23,299	22	22,877	23
SAAP accommodation <sup>(a)</sup>	12,926	12	14,251	14
Friends/relatives	48,500	46	48,614	49
No conventional accommodation <sup>(b)</sup>	20,579	20	14,158	14
<b>Total number</b>	<b>105,300</b>	<b>100</b>	<b>99,900</b>	<b>100.0</b>

(a) Provided under the Supported Accommodation Assistance Program.

(b) Includes improvised dwellings and sleepers out.

Source: ABS: Chamberlain 1999; ABS: Chamberlain & MacKenzie 2003.

The Supported Accommodation and Assistance Program (SAAP) is the main national support program assisting people who are homeless or at risk of homelessness. Over the 2002–03 financial year, SAAP agencies provided support to 97,600 clients (57 per 10,000 population aged 10 or over), and an estimated 53,800 accompanying children (AIHW 2003c). Housing or accommodation was provided in 75% of all SAAP support periods.

Of all SAAP clients in 2002–03, 58% were female and 42% were male (Table 2.14). However, there were, on average, more support periods per client for males than females, so females accounted for under 52% of all support periods (AIHW 2003c). Almost 2% of all Australian 18–19 year old women had been supported by a SAAP agency in 2002–03.

The main reasons that people presented at SAAP agencies differed according to age and gender. Young women (aged 25 or under) cited relationship or family breakdown (22%) and domestic violence (12%) as their main reasons for seeking SAAP assistance, while young men cited the unavailability of their usual accommodation (17%) and relationship or family breakdown (17%). The overwhelming main reason for women over 25 presenting at SAAP agencies was domestic violence (44%) whereas men over 25 cited financial difficulty (15%) and the unavailability of their usual accommodation (15%).

Indigenous Australians were over-represented among SAAP clients, accounting for 18% of all SAAP clients – 21% of female clients and 13% of male clients – but only 2% of the total Australian population aged 10 and over (Table 2.14). Rates per 10,000 population were an order of magnitude higher for Indigenous Australians than for other groups. People born overseas were under-represented among SAAP clients.

**Indigenous homelessness is a chronic problem in many parts of Australia, and is related to poverty, health deficits and discrimination. Indigenous SAAP clients make particularly high use of family violence refuge services. Racism affects access by Indigenous people to the private rental market, limiting the housing options available to them (Commonwealth Advisory Committee on Homelessness 2001).**

There is a level of unmet demand for SAAP services. In two survey periods, a week in December 2001 and a week in May 2002, an average of 570 adults made a new request for immediate accommodation at SAAP agencies each day. Of these, an average of 315 (or 55%) were turned away each day, in most cases because there was no accommodation available. While these figures appear high, the potential clients turned away represent about 4% of the total daily demand by adults for SAAP accommodation – an average of about 8,000 clients were accommodated each day. As well, approximately 200 children accompanying adults requiring immediate accommodation were turned away each day (AIHW 2003d).

**Table 2.14: SAAP clients, by Indigenous status, country of birth, English proficiency, and sex, 2002–03**

	SAAP clients					Total Australian population aged 10+
	Male	Female	Total	Rate	Total	
	%	%	%	/10,000 pop	No.	
Indigenous Australians	12.5	21.4	17.7	525	16,500	1.9
Australian-born non-Indigenous people	74.3	63.6	68.1	53	63,500	72.1
People born overseas, English proficiency group 1	5.4	3.9	4.5	25	4,200	10.1
People born overseas, English proficiency group 2–4	7.8	11.1	9.7	34	9,100	15.9
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>..</i>	<i>..</i>	<i>100.0</i>
Total %	42.1	57.9	100.0	..	..	..
<b>Total number</b>	<b>39,200</b>	<b>54,000</b>	<b>..</b>	<b>56</b>	<b>93,200</b>	<b>..</b>

*Notes*

1. Number excluded due to errors and omissions (weighted): 4,370 clients.
2. For derivation of cultural and linguistic diversity, see the counting rules in AIHW 2003c: Appendix1, Section A1.4. English proficiency groups are based on country of birth—see AIHW 2003c: Glossary.
3. 'Australian population aged 10+' refers to the estimated resident population aged 10 years and over at 30 June 2001. The figures for Indigenous Australians are from experimental estimates based on the 1996 census produced by the ABS. The number of 'Australian-born non-Indigenous people' is derived from the Australian-born population minus the number of Indigenous Australians.
4. Figures have been weighted to adjust for agency non-participation and client non-consent.

Source: AIHW 2003c: Table 4.4.

## Other measures of housing outcomes

Indicators of housing outcomes essentially relate to the relationship between the characteristics and needs households, and the characteristics of available dwellings (ABS 2001a). Individual and community wellbeing can be enhanced by reducing any mismatch between housing demand and supply, in terms of adequacy, affordability and suitability. Below, some other potential measures of housing outcomes are briefly discussed.

### Accessibility

Income levels and housing costs have major effects on a household's ability to secure and maintain good quality housing suitable to its needs. The level of supply of low cost rental housing, relative to demand from low-income households, affects accessibility to rental housing. House prices and interest rates affect levels of accessibility to home purchase.

However, other non-financial factors can also affect housing access. Such factors include discrimination against certain groups within the community (e.g. unemployed people, people with disabilities) by landlords and their agents in renting properties, and by financial institutions in approving home loans (ABS 2001a).

In the *Report on Government Services*, access indicators for public housing, state and territory owned and managed Indigenous housing, and community housing are as follows:

- (i) proportion of new public housing tenancies allocated to 'low income' households.
- (ii) proportion of new public housing tenancies allocated to 'special needs' households.
- (iii) proportion of new public housing tenancies allocated to 'greatest need' (priority allocation) households.

## **Suitability and overcrowding**

Suitability refers to the match between a household's needs and the extent to which their dwelling meets those needs. Relevant factors may include access arrangements for people with mobility limitations, and outdoor space for children to play (ABS 2001a). Suitability is judged largely in relation to community norms.

Overcrowding is an aspect of suitability often used as an indicator of housing outcomes. 'Match of dwelling to household size' is used as an indicator for public, community and state and territory owned and managed Indigenous housing in the *Report on Government Services* (SCRCSSP 2003). This indicator incorporates the CSHA proxy occupancy standard, which is a measure of appropriateness of housing related to the household size and composition (AIHW 2003e).

The ABS uses an occupancy standard developed in Canada that takes into account household composition (e.g. the age and sex of children), as well as the number of people, in determining the appropriate number of bedrooms. Using this standard, the prevalence of overcrowding decreased during the 1990s. In 1998-99, 5% of all households lived in dwellings with fewer bedrooms than their expected requirements, compared with 7% in 1984 (ABS 2002a).

Overcrowding remains a key health issue for some Aboriginal and Torres Strait Islander peoples, although it is important to recognise that preferred household size and the concept of overcrowding is, to some extent, culturally determined (Bridge et al. 2003). In 2001, 15% of households with Indigenous persons(s) were considered to be living in dwellings requiring at least one additional bedroom, compared to 4% of other households (ABS & AIHW 2003).

## **Adequacy**

The concept of housing adequacy can encompass a wide range of dwelling characteristics, including structural quality, state of repair, the presence or absence of amenities such as heating, bathrooms and sewerage facilities, and characteristics of the neighborhood, such as proximity to public transport (ABS 2001a). Thus it is difficult to capture adequacy in a single indicator. Like suitability, adequacy is defined largely in relation to community norms.

In Australia, housing conditions tend to be poorest in remote area communities, where building and maintenance costs are often higher than in other areas (ABS 2002a). Indigenous Australians, particularly those living in remote communities, are widely regarded as having the poorest housing circumstances. Data from the 2001 Community Housing and Infrastructure Needs Survey, conducted by the ABS on behalf of the Aboriginal and Torres Strait Islander Commission, revealed that 10% of the dwellings in the discrete Indigenous communities covered by the survey were temporary dwellings (e.g. caravans, 'humpies' and other makeshift shelters). Of the 15,228 permanent dwellings managed by Indigenous Housing Organisations in the communities, 31% needed major repair or replacement; this figure was down from 33% in 1999.

Data on housing condition, including need for repair and presence of basic amenities, were also collected in the 1999 ABS Australian Housing Survey (ABS 2000c). Approximately one in five (19%) of respondents reported major structural problems in their home (AIHW 2001a).

## 2.3 Health

The World Health Organization (WHO) defines health very broadly, as ‘a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity’ (WHO 1946). Here we take a somewhat narrower view of health, as one sub-component of welfare, acknowledging the important links between health and other aspects of welfare.

Health can affect participation in many aspects of life, such as education, employment and recreation. Mental health, in particular, may have major impacts on a person’s social and support networks, and relationships with family and friends (see, for example, Goldberg et al. 2003).

### Key issues, concepts and frameworks

As the health budget is a major area of national expenditure in most countries there is a great deal of interest in understanding and ‘measuring’ health, both in Australia and internationally.

The AIHW’s biennial health report, *Australia’s Health*, presents a conceptual framework for health. Health, functioning and wellbeing are visualised as a ‘state’ affected both by ‘determinants’ of health (environmental and individual) and by health interventions of various kinds (AIHW 2002a:4). This framework informed, and is consistent with, the conceptual framework for welfare information presented in Figure 1.1. A wide range of indicators of the health status of Australians is included in the Institute’s biennial health reports (e.g. AIHW 2002a). The reports also include information on determinants of health, the health of specific population groups (e.g. older people, overseas-born people, and people living in rural and remote areas), health resources and use of services, and health monitoring and information development activities.

The National Health Performance Framework is a reporting framework within which to appraise the performance of Australia’s health system. It was developed in 2000 with reference to a wide range of frameworks for national reporting, including the AIHW’s conceptual framework for health. The Framework consists of three tiers: health status and outcomes, determinants of health, and health system performance. Health status and health determinants are recognised as integral to the assessment of health system performance. Indeed, improvement of the population’s health status is the primary goal of the health system. The ‘health status and outcomes’ tier of the framework encompasses four components: health conditions, human function, life expectancy and wellbeing, and death. Indicators for each of these components are reported biennially (NHPC 2002).

Goals and targets for improving health and reducing health inequalities in Australia were first set in 1988, in response to the Global Strategy for Health for All by the year 2000, adopted by the World Health Assembly in 1981. The goals and targets process was replaced by the National Health Priority Areas initiative in 1996 – a collaborative effort involving Commonwealth, state and territory governments, seeking to raise public awareness and focus policy on areas known to contribute significantly to the burden of disease in Australia. There are seven priority areas: arthritis and musculoskeletal conditions, asthma, cancer control, cardiovascular health, diabetes mellitus, injury prevention and control, and mental health. These areas were chosen because, collectively, they account for almost 80% of the total burden of disease and injury in Australia and they are areas in which significant gains

can be achieved. The National Health Priority Areas are monitored using a series of indicators.

Australian Health Trends 2001 (AIHW: de Looper & Bhatia 2001) is a health indicators report that provides trend data on various aspects of the health of Australians, building on an earlier edition published in 1995. Time series data are presented for more than 80 indicators, and population groups examined include Aboriginal and Torres Strait Islander people, people born overseas, mothers and babies, children and youth, and older Australians.

The ABS reports health data regularly in a range of publications. In *Measuring Australia's Progress* (ABS 2002a) life expectancy is identified as the headline indicator for health, and proportions of people surviving to ages 50 and 70, infant mortality rate, and burden of disease measures are reported as supplementary health indicators. Trend data for a range of health indicators are also presented in national and state summary tables in the *Australian Social Trends* series (e.g. ABS 2002c, 2003a), as well as analytical articles focusing on various aspects of health status.

Frameworks and indicator sets have been developed in many countries for national reporting on health. For example, the Canadian Health Information Framework was developed as part of the Canadian Roadmap Initiative aimed at modernising Canada's health information system (CIHI 2000, 2002). A set of indicators has been developed within the framework and data are reported regularly. The Canadian framework was used as a key reference for the development of Australia's National Health Performance Framework.

In the USA, the Centers for Disease Control launched *Healthy People 2010: Objectives for Improving Health* in 2000, with the broad goals of increasing the quality and years of healthy life, and eliminating health disparities. Ten 'leading health indicators' have been selected from among the 467 objectives of Healthy People 2010, and these are intended to provide a gauge of the nation's wellbeing (CDC 2003).

International organisations, such as the WHO and OECD, compile and report a range of health statistics as a basis for international comparison of health status and health system performance (OECD 2001; WHO 2002a,b).

## Health indicators

In this section we present indicators of health status. Several of these are consistent with indicators reported for the 'health status and outcomes' tier of the National Health Performance Framework (NHPC 2002). Some indicators of important determinants of health are presented in other sections – notably obesity (in Air, water and food) and participation in physical activity (in Recreation and leisure) – and data on injury mortality are presented in the section on Safety, below.

Also, where reliable data are available, indicators are presented by Indigenous status. In May 2000 the House of Representatives Standing Committee on Family and Community Affairs released a report acknowledging the continuing poor health of Aboriginal and Torres Strait Islander peoples, and recommending the establishment of baseline measures against which improvement in the health of Indigenous Australians might be measured. While data quality issues around the identification of Aboriginal and Torres Strait Islander people remain in many data collections, considerable progress has been made towards nationally consistent and comprehensive coverage. However, it is anticipated that it will be several years before coverage is sufficient for accurate benchmarks to be established for future monitoring of health outcomes for Indigenous peoples (ABS 2002c:87).

## Life expectancy

Life expectancy is one of the most common and well-established measures of health (ABS 2002a; AIHW 2002a; AIHW: de Looper and Bhatia 2001; NHPC 2002; OECD 2001). The population and mortality data used to calculate life expectancy have been regularly collected in Australia for over a century, providing a relatively long time series to examine changes in the nation's health as indicated by life expectancy.

Life expectancy is 'the average number of additional years a person of a given age and sex might expect to live if the age-specific death rates of the given period continued throughout his/her lifetime' (ABS 2002d:106). Life expectancy at birth provides a single indicator of the prevailing level of mortality in the population for a given period (ABS 1997b:57) and is commonly used for comparing the health status of populations. However, it is possible to calculate life expectancy at any age. The OECD publication *Health at a glance* reports life expectancy at age 65 as a broad, mortality-based indicator of the health of older people (OECD 2001). Life expectancies at birth in Australia are among the highest in the world and have increased significantly over the past 100 years, by almost 21 years for males and 23 years for females (AIHW 2002a:10; OECD 2001). Taking the period as a whole, the main contributors to this increase have been better nutrition and living conditions, widespread immunisation and improved medical treatment, and, more recently, an understanding of the effects of lifestyle and socioeconomic factors on health (AIHW 2000:340).

Females have higher life expectancies than males, at birth and at age 65 (Table 2.15); this is so for both the Indigenous population and the total population.

The Indigenous population has substantially lower life expectancy than the total Australian population – around 20 years less for both males and females (Table 2.15). This difference is related to much higher death rates, for both males and females, across all age groups (ABS & AIHW 2003:185).

The data on life expectancy for Indigenous Australians must be treated with caution as they are based on experimental demographic life tables which take into account the under-registering of Indigenous deaths (ABS 2002d:26). Some proportion of Indigenous deaths are not registered as 'Indigenous' – the estimated coverage of Indigenous death registrations across Australia in 2001 was just 55%. The figures in Table 2.15 include data for NSW and Victoria, where estimated coverage of Indigenous death registrations was 45% and 41%, respectively.

**Table 2.15: Life expectancy at birth and at age 65, 1999–2001<sup>(a)</sup>**

	Life expectancy at birth		Life expectancy at age 65	
	Males	Females	Males	Females
Indigenous Australians <sup>(a)</sup>	56.3	62.8	8.0	9.9
All Australians	77.0	82.4	17.2	20.7

(a) Data on life expectancy for Indigenous Australians are based on experimental life tables that include large adjustments for under-coverage of Indigenous deaths and exclude data for Tasmania and the Australian Capital Territory. These figures have a high level of uncertainty associated with them and should therefore be treated with caution.

Source: ABS 2002d:36, 88.

**Table 2.16: Life expectancy, by quintile of socioeconomic disadvantage,<sup>(a)</sup> 1995–97 (years)**

	Quintile of socioeconomic disadvantage				
	1st (lowest disadvantage)	2nd	3rd	4th	5th (highest disadvantage)
<b>Life expectancy at birth</b>					
Males	77.8	76.0	75.3	75.2	74.1
Females	82.4	81.5	81.2	81.2	80.5
<b>Life expectancy at age 65 years</b>					
Male	17.1	16.2	16.1	16.0	15.7
Female	20.3	19.7	19.8	19.8	19.5

(a) The measure of socioeconomic status used here—the Index of Relative Socioeconomic Disadvantage—categorises Statistical Local Areas based on a range of attributes including levels of income, educational attainment, and unemployment. People are classified according to the average socioeconomic disadvantage of their area of usual residence.

Source: AIHW: Mathers et al. 1999:39.

Life expectancy varies with socioeconomic status—people in more disadvantaged groups tend to have shorter life expectancies. In Table 2.16, the measure of socioeconomic status used classifies areas based on a range of attributes including levels of income, educational attainment, and unemployment. People are then classified according to the average socioeconomic disadvantage of their area of usual residence (AIHW: Mathers et al. 1999:23). Compared with life expectancies for people in the fifth quintile (i.e. highest disadvantage), life expectancy at birth was nearly 4 years longer for males and 2 years longer for females in the first quintile (i.e. lowest disadvantage) (Table 2.16).

### Infant mortality and low birth weight

Infant mortality is the number of deaths of children under one year of age in a calendar year per 1,000 live births in the same calendar year. This measure is commonly viewed as an indicator of the general health and wellbeing of a population; it is widely used to monitor the health of populations over time, and to compare health status between populations (ABS 2002c:91; AIHW 2002a:21). A low infant mortality rate is a major contributor to increased life expectancy.

In 2001 the infant mortality rate for the Australian population as a whole was 5.3 deaths per 1,000 live births—5.9 for boys and 4.6 for girls (ABS 2002d). Over the past two decades, the infant mortality rate for boys has been, on average, 27% higher than for girls (ABS 2002c:92). Around two-thirds of infant deaths occur in the neonatal period (the first 28 days after birth).

Overall, infant mortality in Australia has declined significantly during the 20th century, from 103 infant deaths per 1,000 live births in 1900, to 5.3 per 1,000 in 2001 (ABS 2002d:27, 36). The most significant decline was in the first half of the century, and has been attributed to improvements in public sanitation, health education and, later, the development of vaccines and antibiotics. Further declines in the second half of the century are attributed to advances in medical technology, and public education campaigns about the importance of immunisation and, more recently, the significance of infant sleeping position in the prevention of Sudden Infant Death Syndrome (ABS 2002d:27).

However, Australia's infant mortality rate is relatively high compared with other industrialised countries, ranking nineteenth among OECD countries in 1999—Iceland had the lowest rate, with 2.4 infant deaths per 1,000 live births (OECD 2001:17).

**Table 2.17: Average infant mortality, by Indigenous status, 1999–2001**

	Total deaths	Rate per 1,000 live births
Indigenous Australians	296	14.2
Other Australians	1,236	4.8

*Note:* This table excludes 27 infants for whom Indigenous status was unknown or missing. Numbers include total deaths for the 3-year period.

*Source:* AIHW Mortality Database.

High death rates among Aboriginal and Torres Strait Islander infants contribute to Australia's relatively high overall infant mortality rate. For the period 1999–2001, the average rate for Indigenous infants was three times the rate for other Australian infants (14.2 infant deaths per 1,000 live births, compared with 4.8 for other Australians) (Table 2.17).

Indigenous infant mortality declined substantially in the 1970s, largely due to improvements in community infrastructure and health programs that focused on maternal and child health in Indigenous communities. Nonetheless, rates of infant mortality remain markedly higher in the Indigenous population than the population as a whole. It should be noted that, as estimated Indigenous births coverage (around 95% in 2001) is higher than deaths coverage, the Indigenous infant mortality rates presented in Table 2.17 are likely to be conservative estimates (ABS 2002d:23).

At an international level, the OECD reports that infant mortality rates are related to a number of social and economic factors, including national average income levels, income distribution across society, and the availability of and access to health services (OECD 2001:16).

Low birthweight is an important indicator of infant health (AIHW 2002a:174, 206). Low birthweight is commonly defined as weight less than 2,500 grams. Low-birthweight babies have a greater risk of dying, stay longer in hospital after birth, and are more likely to have health and developmental problems later in life. Unlike infant mortality, rates of low-birthweight babies have not declined in recent years. In 1999, 6.6% of all babies born were low birthweight, an increase from 6.3% in 1991. Rates are much higher in the Indigenous population than in the general population – 13.0% of babies born to Indigenous mothers in 1999 were low birthweight.

### **Expected years of life lived with disability**

There is increasing public and policy awareness of the importance of capturing the non-fatal consequences of disease and injury, and indicators of functioning and disability are now widely recognised as a key component of national health status measurement (AIHW 2001a:391–2; NHPC 2002:18). The indicator 'expected years of life lived with disability' provides an estimate of the average number of years, at birth, that a person can expect to spend with various levels of disability.

Under the framework of the World Health Organization's International Classification of Functioning, Disability and Health (ICF), a person's functioning and disability is conceived as a dynamic interaction between health conditions and environmental and personal factors (WHO 2001:6). Disability is the umbrella term used to cover any or all of: an impairment of body structure or function, a limitation in activities, or a restriction in participation (AIHW 2003f).

**Table 2.18: Expected years of life with disability and with severe core activity limitation, 1998**

	Males		Females	
	Number of years	% of total life expectancy	Number of years	% of total life expectancy
Expected years of life:				
With disability (all severity levels) <sup>(a)</sup>	18.4	24	18.2	22
With severe core activity limitation <sup>(b)</sup>	5.2	7	7.6	9
Free of disability	57.5	76	63.3	78
<b>Total life expectancy at birth (1998)</b>	<b>75.9</b>	<b>100</b>	<b>81.5</b>	<b>100</b>

(a) Disability is defined as the presence of one or more of 17 limitations, restrictions or impairments that had lasted, or were likely to last, for at least 6 months, and which restricted everyday activities.

(b) Severe or profound core activity limitation is a subset of all disability and is defined as sometimes or always needing personal assistance or supervision with a core activity (self-care, mobility or verbal communication).

Source: AIHW: de Looper & Bhatia 2001:21.

The estimates in Table 2.18 have been derived by applying age-specific prevalence rates of disability to Australian life tables. Thus, the measure combines information on the prevalence and duration of disability. It is closely related to the concept of Healthy Life Expectancy (HALE), which is a health summary measure that estimates the equivalent number of years in full health that a newborn child can expect to live (See Box 2.1).

The data in Table 2.18 are based on the 1998 ABS Survey of Disability, Ageing and Carers, which is the most recent national population survey of disability from which data are available. The survey defined 'disability' as the presence of one or more of 17 limitations, restrictions or impairments that had lasted, or were likely to last, for at least 6 months, and which restricted everyday activities. In addition, the survey data provide estimates of the number of people who had a severe or profound core activity restriction, meaning that they sometimes or always needed personal assistance or supervision with a core activity (self-care, mobility or verbal communication). Due to the limitations of the survey data, it is not possible to present a breakdown of this indicator by Indigenous status.

Based on 1998 data, both females and males in Australia can expect, on average, to experience 18 years lived with disability – that is, 22% of total life expectancy for women and 24% of total life expectancy for men (Table 2.18). Of those 18 years, the expected years of life lived with severe core activity restriction was 8 for women (9% of total life expectancy) and 5 for men (7% of total life expectancy).

## Mental health

Mental health is one of the seven National Health Priority Areas. While mental illness is not a major direct cause of death, it is a major cause of chronic disability (AIHW: Mathers et al. 1999). Mental health problems and disorders cover a range of cognitive, emotional and behavioural disorders that affect people's lives. Depression is the most common mental disorder reported in Australia, and is the major focus of the mental health priority area.

There are strong links between mental health and many of the other areas of welfare covered in this chapter. A wide range of issues can cause or contribute to mental health problems – for example, oppression, racism, environmental circumstances, economic factors, stress, trauma, grief, psychological processes, and poor physical health (DHAC & AIHW 1999). In turn, mental health problems can interfere with the lives and productivity of people at

### **Box 2.1: Health expectancy and health gap measures**

*Over recent decades, health summary measures that combine information on mortality and non-fatal health outcomes have increasingly been used as indicators of population health status. The range of uses for such health summary measures includes quantifying health inequalities and ensuring that non-fatal health outcomes receive appropriate policy attention. There are two broad classes of summary measure: health gap measures and health expectancies.*

*An example of a health gap measure is the Disability-Adjusted Life Year (DALY), which was developed to provide a common metric for fatal and non-fatal health outcomes – one DALY is one lost year of ‘healthy’ life (AIHW: Mathers et al. 1999). At population level, DALYs can be used to measure the gap between current health status and an ideal in which everyone lives into old age free of disease (NHPC 2001).*

*DALYs are obtained by adding potential years of life lost due to premature death (relative to average life expectancy for a person of that age) and years of ‘healthy’ life lost due to being in states of poor health or disability (AIHW: Mathers et al. 1999). ‘Disability’ is defined as any departure from full health, and includes both short- and long-term disability.*

*DALYs are commonly calculated separately for particular disease and injury categories. Years of ‘healthy’ life lost are calculated for a given condition by estimating the number of new cases that occur in a specified time and, for each new case, multiplying the average duration of the condition (to remission or death) by a severity weight. The severity weights are not intended to represent the lived experience of any disability or health state, or imply any societal value of the person in a particular disability or health state. Rather, they aim to quantify societal preferences for health states in relation to the societal ‘ideal’ of good health. The mortality and disability components of DALYs can be looked at separately. For example, non-fatal burden of disease (years of life lived with disability) can be determined for specific disease groups (NHPC 2002:17).*

*Health expectancies estimate the average time that a person can expect to live in a defined state of health. Health expectancy measures start with total life expectancy and subtract either all years spent in health states less than full health (as in disability free life expectancy), or a proportion of all years spent in health states less than full health to give an estimate of equivalent years in good health.*

*An example of this second type of health expectancy measure is ‘healthy life expectancy’ (HALE), previously referred to as ‘disability adjusted life expectancy’ (DALE). HALE measures the equivalent number of years in full health that a newborn child can expect to live, based on current mortality rates and prevalence distributions of health states in the population. As for DALYs, the calculation of HALE involves assigning weights to different health states. HALE can be compared with life expectancy estimated from mortality alone (WHO 2000b:27). It is the basic indicator of population health levels used by WHO and published each year in the World Health Report (WHO 2002b).*

*There are concerns around the acceptability of health summary measures such as the DALY and HALE, particularly from some groups in the community, with regard to both the underlying concepts and the specific severity weights assigned. There is ongoing discussion about how well the weights reflect the views of both people affected by disability and the community more broadly. The technical application of such measures will be subject to further debate within Australia (NHPC 2001).*

school, in the workplace and at home, and can impact on family and social relationships. At a population level, the direct and indirect costs of mental health problems are significant.

Measuring the prevalence of mental disorders in the community is complex. However, some self-report data are available from population surveys conducted by the ABS – the 1997 National Survey of Mental Health and Wellbeing (SMHWB) and the more recent National Health Survey (NHS) 2001. Both surveys used the Kessler 10 (K10) Scale, which asked survey respondents about psychological distress experienced during the 4 weeks prior to interview. The K10 seeks to measure the levels of current anxiety and depressive symptoms, based on questions about negative emotional states.

In 2001, an estimated 508,700 people, or 3.6% of the adult population, experienced ‘very high’ levels of psychological distress – 2.7% of men and 4.4% of women (Table 2.19). A very high level of psychological distress, as measured using the K10, may indicate a need for professional help. The highest rates for females were recorded in the 18–24 and 45–54 age groups, and for males in the 45–64 age group. Other survey data have also shown that a variety of mental health problems are relatively common among children and adolescents (Sawyer et al. 2000).

Based on results from the 1997 SMHWB, an estimated 2.2% of the adult population experienced ‘very high’ levels of psychological distress – a lower percentage than that found in the 2001 NHS (ABS 2003c). The age-standardised prevalence of very high level psychological distress increased from 1.9% in 1997 to 2.7% in 2001 for males, and from 2.4% in 1997 to 4.4% in 2001 for females. The increase was greatest for people aged 18–24 and females aged 35 years and over.

A number of factors may have contributed to this increase, including actual increased prevalence of psychological distress, changes in survey methods, heightened awareness of the symptoms of psychological distress, and/or improved identification and treatment of associated conditions (ABS 2003c).

**Table 2.19: Number and proportion of the adult population with very high levels of psychological distress, by age and sex, Australia 2001**

Age	Males		Females		Persons	
	No. ('000)	Per cent	No. ('000)	Per cent	No. ('000)	Per cent
18–24	24.9	2.7	46.9	5.4	71.7	4.0
25–34	29.2	2.1	65.2	4.6	94.4	3.4
35–44	35.5	2.5	62.5	4.2	98.0	3.4
45–54	47.7	3.7	73.1	5.5	120.8	4.6
55–64	32.3	3.6	31.9	3.6	64.2	3.6
65–74	*12.0	*1.9	22.7	3.4	34.7	2.7
75 and over	*7.5	*1.9	17.3	3.0	24.8	2.5
<b>All ages</b>	<b>189.1</b>	<b>2.7</b>	<b>319.5</b>	<b>4.4</b>	<b>508.7</b>	<b>3.6</b>

Source: ABS 2002b.

## Causes of death

Causes of death data are used as key health indicators in international and national comparative analyses (ABS 2002c; AIHW 2002a; AIHW: de Looper and Bhatia 2001; NHPC 2002; WHO 2002b). One of the four components of the 'health status and outcomes' tier of the National Health Performance Framework is 'deaths', and 'leading causes of death' was published as an indicator for this component in 2002 (NHPC 2002).

The number of deaths attributable to a particular cause is often reported as a percentage of all deaths, enabling 'leading causes of death' to be identified. In 2000, ischaemic heart disease (mostly heart attacks) was the leading cause of death, accounting for 21% of all deaths for both males and females, followed by cerebrovascular disease (stroke), accounting for 7% of male deaths and 12% of female deaths (AIHW 2002a:32). The third top cause was lung cancer for males (7%), and breast cancer for females (4%). The ranking of causes of death varies by age. For example, injury and poisoning was the top cause of death for males aged 1 to 44 years, and for females aged 1 to 24 years in 2000 (AIHW 2002a:37).

Age-standardised death rates for almost all leading causes of death have decreased over the past decade. An exception to this trend is diabetes mellitus, for which rates have remained relatively unchanged (ABS 2002a:5).

No cause of death indicators are presented here. Rather, broad indicators, such as life expectancy, are considered more useful in contributing to an overall picture of the welfare of Australians. Information on mortality for specific cause categories is more relevant in contexts such as setting public health priorities, and examining the success of particular health interventions.

## Self-assessed health status

Self-assessed health is a measure of an individual's perception of their own health. It provides a simple, direct, and global way of capturing perceptions of health, and it allows for expression of the respondent's own values and preferences (Idler & Benyamini 1997).

However, as the measure depends on an individual's own awareness and expectations, it may be influenced by factors such as access to health services and information (ABS 2002b).

There are some question marks about the reliability and cross-cultural robustness of self-assessed health measures (see e.g. Crossley & Kennedy 2002; Cunningham et al. 1997).

Despite these issues, self-assessed health is included here because it is recognised that individuals' perceptions of their own health, together with externally observed measures, contribute to a more comprehensive, wider ranging assessment of health. Also, self-assessed health has been shown to be a powerful, independent predictor of individual's morbidity, survival, future health care use, and declines in functioning (Idler & Benyamini 1997).

Table 2.20 shows the percentage of people who reported their general health as 'fair' or 'poor' in the 2001 National Health Survey. Overall, rates were very similar for males and females, although there was some variation within age groups. The biggest difference between males and females was for people aged 55–64 years. In this age group 32% of males reported fair or poor health, compared with only 25% of females. There was a steady increase with age in the proportion of the population reporting fair or poor health – from 9% for people aged 15–24 to 39% among people aged 75 and over.

**Table 2.20: Self-assessed health status:<sup>(a)</sup> percentage of persons reporting fair or poor health, by age and sex, Australia 2001**

	Age group							All ages
	15–24	25–34	35–44	45–54	55–64	65–74	75+	
Males	8.2	10.7	13.9	18.5	31.8	31.4	37.9	18.3
Females	10.4	11.2	12.5	20.2	24.7	28.4	39.3	17.8
Persons	9.2	10.9	13.1	19.4	28.2	29.8	38.7	18.1

(a) Data are from the National Health Survey 2001, and refer to respondents' general assessment of their own health against a five-point scale from excellent to poor.

Source: ABS 2002b:22.

In interpreting these data it is important to note that some people in poorer health were not included in the survey, for example, people living in institutions such as hospitals and nursing homes (AIHW 2002a:13).

The 2002 General Social Survey (GSS) also collected data on self-assessed health. Compared with the 2001 National Health Survey, lower proportions of people in the GSS reported fair or poor health – 16% of all people aged 18 years or over. Proportions of people reporting fair or poor health were lower in all age groups under 65 (ABS 2003d).

Self-reported health status varies with socioeconomic status. In 1995, 22% of people aged 15 or over living in the most disadvantaged areas reported their health as fair or poor, compared with just 12% in the least disadvantaged areas (ABS 1999a:63). According to 2002 GSS data, 35% of people aged 18 or over in the lowest quintile of household income reported fair or poor health, compared with just 6% of people in the highest quintile (ABS 2003d).

### Full immunisation status at two years of age

Immunisation is an effective way of providing individual protection against diseases. At the population level, broad coverage of immunisation prevents the spread of infection, enabling diseases to be eliminated (AIHW 2002a:152). Childhood vaccination over the past 50 years in Australia has had a major impact on levels of morbidity and mortality associated with many diseases.

In 1997 the Commonwealth government initiated the Immunise Australia campaign, which aimed, among other goals, to achieve 90% immunisation coverage of children aged two years for a range of specified diseases. In 2001, 85% of children aged two years were fully immunised (AIHW 2002a:153).

## 2.4 Safety

Safety – actual and perceived – is an important aspect of individual and community wellbeing, affecting both physical and mental health. Safety indicators are frequently expressed in national and international indicator sets as 'negatives' – crime and injury, for instance – that is, effectively as statistics on system breakdown. The effects of these negative events are experienced not only by the victims of crime or of accidental injury and their families, friends and communities, but also by those working to rescue and treat the victims, apprehend perpetrators of crime, or ameliorate the effects of traumatic injury. There are, accordingly, human and economic costs to society. Less directly, individuals and society at

large experience the effects in terms of perceptions of danger or, more positively, feelings of safety and security.

The indicators presented below follow this pattern of focussing chiefly on system breakdown. They cover accidental death and injury, whether arising in the course of work, road transport or for other reasons, and a range of indicators focussing on crime. 'Feelings of safety' is the only neutral or positive indicator.

Crime is associated, in ways not fully understood, with other indicators of disadvantage – e.g. low income, unemployment and low levels of education (ABS 2002a:243). Rates of both crime and accidental death and injury vary with age and sex. Males, generally younger males, are particularly vulnerable on these indicators.

## **Safety indicators**

### **Feelings of safety**

Based on data from the 2002 ABS National Crime and Safety Survey, an estimated 80% of people said that they felt safe or very safe at home alone during the day, and 69% felt this way after dark (ABS 2003e). Results varied with age, sex and location. Females were less likely to feel safe than were males, particularly after dark – 61% of females felt safe or very safe at home alone after dark compared to 78% of males (Table 2.21). People in capital cities felt less safe after dark (67% did so) than those in other areas (73%). Data on feelings of safety collected in the 2002 ABS General Social Survey showed similar patterns, but higher proportions of people in all groups reported feeling safe or very safe at home after dark – overall, 82% of people aged 18 years or over felt this way (ABS 2003d).

Data from a large household survey on crime and safety in New South Wales provide further insights into feelings of safety in that state (ABS 2001c). Respondents were asked to nominate perceived 'crime or public nuisance problems' in their neighbourhood. The main perceived problem was 'housebreaking/burglaries/theft from homes', with 18% of people identifying this as the main problem, and 37% perceiving it as one of several problems but not necessarily the main one. Next was 'dangerous/noisy driving' perceived to be the main problem by 9% of people, and mentioned by 31% of people. Assaults were low in the list, with sexual assault perceived as the main problem by 0.2% and other assaults by 0.4%. An estimated 45% of people did not think there were any crime or public nuisance problems in their neighbourhood.

### **Crime**

Statistics on crime emanate from a range of sources in Australia. Crime and safety surveys carried out from time to time yield estimates of crimes occurring in the community, based on household interviews. Some of these crimes are not reported to the police, and hence do not appear in police statistics. In turn, only a subset of crimes reported to the police result in court hearings and findings, and hence appear in court statistics. Thus, while court statistics provide an important indication of the operations of the justice system, as well as an indication of the seriousness of the crimes that are brought to court, they represent a relatively small component of all crime in Australian society. While each data source has its potential biases and limitations, data on crimes reported to the police are most frequently used in international indicator sets. Below, both data from the 2002 ABS Survey of Crime and Safety, and data on crimes reported to the police are presented.

**Table 2.21: Feelings of safety at home alone during the day and after dark, by sex and age, 2002**

	Very safe	Safe	Neither safe nor unsafe	Unsafe	Very unsafe	Never home alone during the day	Total <sup>(a)</sup>
<b>Feelings of safety at home during the day</b>							
<b>Sex</b>							
Male	41.2	40.5	8.7	1.5	2.0	5.6	100
Female	31.5	46.3	13.2	3.1	2.0	3.6	100
<b>Age</b>							
15–19	42.3	40.4	9.2	2.3	1.5	3.9	100
20–24	40.9	40.0	10.8	1.5	1.4	5.2	100
25–34	42.7	40.1	9.4	1.8	1.7	4.3	100
35–44	39.5	42.6	9.2	1.7	2.2	4.6	100
45–54	36.2	43.7	10.6	2.4	2.1	4.7	100
55–64	30.5	45.9	13.5	3.2	2.1	4.5	100
65 and over	23.1	49.9	14.9	3.7	2.4	5.2	100
<b>Total</b>	<b>36.3</b>	<b>43.4</b>	<b>11.0</b>	<b>2.3</b>	<b>2.0</b>	<b>4.6</b>	<b>100</b>
<b>Feelings of safety at home alone after dark</b>							
<b>Sex</b>							
Male	32.8	44.8	12.5	3.6	2.1	3.8	100
Female	17.2	43.7	20.0	10.2	3.1	5.5	100
<b>Age</b>							
15–19	25.9	42.1	16.9	7.9	2.5	4.2	100
20–24	26.8	41.6	17.3	8.0	2.6	3.5	100
25–34	28.0	42.6	16.7	7.4	2.5	2.6	100
35–44	27.4	45.2	15.1	5.9	2.4	3.7	100
45–54	26.7	46.1	14.9	6.2	2.7	3.2	100
55–64	22.0	44.7	16.9	7.3	2.8	5.9	100
65 and over	16.4	44.8	17.9	7.2	2.9	10.1	100
<b>Total</b>	<b>24.9</b>	<b>44.2</b>	<b>16.3</b>	<b>6.9</b>	<b>2.6</b>	<b>4.7</b>	<b>100</b>

(a) Includes persons who did not state their feelings of safety.

Source: ABS 2003e: Tables 18, 19.

Of the 7,479,200 households in Australia in April 2002, it is estimated that, in the 12 months prior to the survey (ABS 2003e):

- 4.7% were victims of at least one break-in to their home, garage or shed;
- 3.4% found signs of at least one attempted break-in; and
- 1.8% had at least one motor vehicle stolen.

Of the 15,215,100 people aged 15 years and over in April 2002, it was estimated that, in the 12 months prior to the same survey:

- 4.7% were victims of at least one assault;
- 0.6% were victims of at least one robbery; and
- 0.2% of people aged 18 years and over were victims of at least one sexual assault.

Australian data on crimes reported to the police, and the victims thereof, are compiled annually and are used here as an important indication of the effects of serious crime on people in Australia. However, not all crimes committed are reported to the police and, to the extent that this is so, police data understate the complete picture.

According to police records, assault was the type of personal crime that affected the greatest number of individuals in 2002 – 159,548 people, or a rate of 809.7 victims per 100,000 population (Table 2.22). The age groups between 15 and 34 years were the most affected, for both males and females, but rates for males in all age groups were generally higher than for females. The male victim rate for murder (2.0 per 100,000) exceeded the female rate (1.2), and did so in every age group. Female victim rates exceeded male rates in the sexual assault category: 144.5 females per 100,000 were victims of sexual assault, compared to only 33.1 males per 100,000. As with crime generally, it was those in the younger age groups most affected; it is disturbing that the second highest rate for sexual assault was recorded for females in the 10–14 age range. Victim rates for property crimes tend to be higher than for personal crimes. The victim rate for unlawful entry with intent in 2002 was 2,001 per 100,000 persons, the rate for motor vehicle theft was 575 per 100,000, and the rate for ‘other theft’ was 3,448 per 100,000 (ABS 2003f).

Comparison of the two data sources – crimes reported to the police and crime victimisation as reported in household surveys – provides an indication of the complexity of understanding crime data. Sexual assaults reported to the police may represent only a fraction of those actually occurring – perhaps 20% of ‘most recent incidents’ in 2002 (ABS 2003f). Assault victims reported 31% of incidents, while victims of property crime were much more likely to report it (95% for household victims of motor vehicle theft and 75% for household victims of break-in).

Trends in crime are not discussed in this publication (see ABS 2001d, 2003e,f and AIC 2002).

**Table 2.22: Victims of crime,<sup>(a)(b)</sup> by sex, age, and offence category, 2002 (rate per 100,000 persons)**

Age	Murder		Driving causing death		Assault		Sexual assault		Robbery	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
0–9	1.0	0.3	0.2	np	144.1	93.6	86.7	194.0	4.4	0.5
10–14	np	np	0.6	0.5	714.9	479.7	90.1	461.7	126.8	19.4
15–19	2.4	0.6	3.4	1.5	1,793.0	1,330.3	64.1	499.1	526.6	120.7
20–24	3.2	2.0	4.0	0.9	1,934.8	1,418.1	30.7	209.6	336.9	119.9
25–34	2.7	2.3	1.3	0.6	1,651.4	1,160.8	19.6	124.0	153.3	65.3
35–44	2.8	1.6	1.1	0.3	1,064.9	764.9	13.9	65.0	82.3	49.2
45–54	1.9	1.2	1.0	0.5	655.4	400.9	4.9	27.5	61.6	42.0
55–64	1.3	1.0	0.3	np	352.7	169.3	2.8	11.1	39.6	34.4
65 and over	1.0	0.4	1.0	0.5	124.9	57.3	1.1	5.8	20.3	27.0
<i>Total<sup>(c)</sup></i>	2.0	1.2	1.3	0.5	929.4	640.7	33.1	144.5	124.8	49.1
<b>Persons</b>										
Persons, all ages <sup>(c)</sup>	1.6		1.0		809.7		90.6		88.9	
Total number <sup>(c)</sup>	318		204		159,548		17,850		17,517	

(a) Refers to individual person victims only and therefore does not include organisations as victims.

(b) The offence of manslaughter is not included due to small numbers.

(c) Includes victims for whom age and/or sex was not specified.

Source: ABS 2003f.

## Injury

'Injury and poisoning' is the leading cause of death for younger people—for males aged 1–44 years and females aged 1–24 years (AIHW 2002a:36–37). Injury prevention is one of the National Health Priority Areas, in recognition of the significant personal costs of injury as well as the costs to the Australian health and economic system. Rates of death and hospitalisation related to injury and poisoning vary markedly by age, sex and other factors such as Indigenous status and geographic location.

In 2000, there were 8,098 deaths in Australia attributed to injuries and poisoning, a rate of 42.3 per 100,000 population (see Table 2.23). Suicide and transport-related deaths were the most prevalent (12.4 and 10.5 per 100,000, respectively). Overall, the male death rate (58.0) was considerably higher than the female rate (26.8). Relatively high death rates were experienced by males in several categories: suicide (19.6, with rates highest for men aged 20 to 44); falls among men aged 65 years and over (41.8); poisoning in men aged 20–44 years; and transport-related deaths (15.4, with very high rates in the 15–29 age group). In contrast, the only female categories with a death rate over 10 per 100,000 were transport-related deaths among 15–19 year olds (11.9) and falls among women aged 65 years and over (55.2 deaths).

Suicide represents a significant component of injury and poisoning deaths and was responsible for 2,366 deaths in 2000—1,860 male deaths and 503 female deaths (Table 2.23). While suicide is often treated in health statistics as a category of 'injuries and poisoning', it can also be used as a mental health indicator. Also, suicide has been proposed as an indicator reflecting the level of social detachment in a population, and hence the level of strain on social cohesion (see section 4.2).

As well as age and sex differentials in injury death rates, there are also socioeconomic differentials (AIHW 2002a:187):

Males in the lowest socioeconomic quintile died at 1.7 times the rate of males in the highest socioeconomic quintile in the period 1995–97... For females in the same socioeconomic groups the differences were less marked.

Injuries significantly affect the health and wellbeing of Indigenous Australians. Injuries (accidents, assaults and intentional self-harm) accounted for 15% of Indigenous deaths in 2000, compared with 6% in the overall population (AIHW 2002a:230). Injuries and poisoning were the top reasons for hospitalisation of Indigenous males in 1998–99, accounting for 13% of male Indigenous hospital separations (excluding dialysis separations) (AIHW 2002a:201). Rates of death and hospitalisation due to assault are markedly higher for Indigenous males and females than for their non-Indigenous counterparts (ABS & AIHW 2003:176–77). In 2000–01, Indigenous females were 28.3 times more likely than non-Indigenous females to have 'assault' coded as the first reported external cause of injury in their hospital record.

**Table 2.23: Injury and poisoning deaths, by age, sex, and type of injury, 2000 (number and crude rate per 100,000 population)**

Age	Transport		Poisoning		Falls		Suicide		Homicide		All injuries/poisoning	
	No.	/100,000	No.	/100,000	No.	/100,000	No.	/100,000	No.	/100,000	No.	/100,000
<b>Males</b>												
0-4	20	3.05	2	0.30	2	0.30	0	0.00	8	1.22	104	15.86
5-14	62	4.50	4	0.29	3	0.22	7	0.51	7	0.51	111	8.06
15-19	195	28.77	22	3.25	5	0.74	89	13.13	16	2.36	358	52.82
20-29	366	26.57	208	15.10	26	1.89	410	29.76	44	3.19	1,159	84.14
30-44	353	16.22	257	11.81	36	1.65	685	31.47	67	3.08	1,588	72.96
45-64	274	12.50	61	2.78	71	3.24	438	19.98	48	2.19	1,067	48.66
65+	189	18.04	21	2.00	438	41.81	234	22.33	14	1.34	1,128	107.66
<i>Total males</i>	<i>1,459</i>	<i>15.35</i>	<i>575</i>	<i>6.05</i>	<i>581</i>	<i>6.11</i>	<i>1,863</i>	<i>19.61</i>	<i>204</i>	<i>2.15</i>	<i>5,515</i>	<i>58.04</i>
<b>Females</b>												
0-4	20	3.21	3	0.48	3	0.48	0	0.00	5	0.80	66	10.59
5-14	27	2.06	3	0.23	4	0.31	1	0.08	6	0.46	51	3.89
15-19	77	11.86	14	2.16	1	0.15	41	6.31	9	1.39	146	22.48
20-29	103	7.56	56	4.11	4	0.29	91	6.68	29	2.13	309	22.67
30-44	101	4.58	95	4.31	8	0.36	181	8.21	40	1.82	461	20.92
45-64	103	4.75	57	2.63	27	1.25	118	5.44	17	0.78	385	17.76
65+	125	9.39	19	1.43	735	55.20	71	5.33	10	0.75	1,162	87.26
<i>Total females</i>	<i>556</i>	<i>5.76</i>	<i>247</i>	<i>2.56</i>	<i>782</i>	<i>8.11</i>	<i>503</i>	<i>5.21</i>	<i>116</i>	<i>1.21</i>	<i>2,580</i>	<i>26.75</i>
<b>Persons</b>												
0-4	40	3.13	5	0.39	5	0.39	0	0.00	13	1.02	170	13.29
5-14	89	3.31	7	0.26	7	0.26	8	0.30	13	0.48	162	6.03
15-19	272	20.49	36	2.71	6	0.45	130	9.80	25	1.88	504	37.98
20-29	469	17.11	264	9.63	30	1.09	501	18.28	73	2.66	1,468	53.57
30-44	454	10.36	352	8.04	44	1.00	866	19.77	107	2.44	2,049	46.78
45-64	377	8.65	118	2.71	98	2.25	556	12.75	65	1.49	1,452	33.30
65+	314	13.20	40	1.68	1,173	49.30	305	12.82	24	1.01	2,290	96.25
<b>Total</b>	<b>2,015</b>	<b>10.52</b>	<b>822</b>	<b>4.29</b>	<b>1,363</b>	<b>7.12</b>	<b>2,366</b>	<b>12.36</b>	<b>320</b>	<b>1.68</b>	<sup>(a)</sup> <b>8,095</b>	<b>42.28</b>

Note: The 5 topics reported here do not include all injury deaths. Some categories such as burns, fire and scalds are not reported in the table but are included within the total injuries/poisoning category.

(a) Cases where sex was not reported (3) are not included in the table; the total of all injury/poisoning deaths was in fact 8,098.

Source: AIHW National Injury Surveillance Unit analysis of ABS mortality unit record data collection, 1979-2001 (unpublished data).

Injury death rates have been subject to considerable change over recent years (Table 2.24, Figure 2.1). Age-standardised transport-related death rates fell between 1990 and 2000 (from 16.7 to 10.6 deaths per 100,000), continuing a longer-term trend of decline since the early 1970s (AIHW 2002a:58). Suicide rates for males in 2000 (19.8) exceeded transport-related death rates (15.6), although suicide rates for both males and females have declined from peaks in 1997. The female age-standardised death rate due to falls has been rising since 1993. Death rates from poisoning appear to have risen in recent years for both males and females, but the changes between 1998 and 1999 need to be interpreted with some caution because of coding system changes noted in the table footnotes.

Longer term trends in injury and poisoning death rates since 1921 have been uniformly downwards for males. For females there was a peak of 46 injury and poisoning deaths per 100,000 in 1972, after which rates have decreased steadily (AIHW 2002a:369).

**Table 2.24: Injury and poisoning deaths, by sex and type of injury, 1990–2000 (per 100,000 population, age-standardised)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Males</b>											
Transport	24.43	21.35	19.52	18.95	17.94	18.38	18.21	15.87	15.42	15.69	15.57
Poisoning	1.82	1.74	1.97	2.67	2.35	2.59	2.82	2.50	5.00	8.67	6.20
Falls	7.37	6.38	6.55	5.87	6.17	5.94	6.49	5.90	6.23	6.59	6.30
Suicide	20.73	21.74	21.08	19.35	20.72	20.87	21.32	23.45	23.14	21.50	19.83
Homicide	2.86	2.51	2.33	2.42	2.47	2.32	2.47	2.41	2.24	2.25	2.14
<i>Total females</i>	<i>68.37</i>	<i>64.82</i>	<i>62.00</i>	<i>59.11</i>	<i>58.91</i>	<i>58.77</i>	<i>61.17</i>	<i>59.78</i>	<i>61.35</i>	<i>63.27</i>	<i>58.44</i>
<b>Females</b>											
Transport	9.15	8.03	8.00	6.85	6.97	7.41	6.15	6.23	5.71	5.90	5.72
Poisoning	0.76	0.66	0.75	1.17	1.24	1.08	1.00	1.35	1.58	3.04	2.57
Falls	5.23	4.52	4.42	3.62	4.35	4.11	4.27	4.50	4.45	4.52	4.96
Suicide	4.92	5.86	5.32	4.35	4.67	5.38	4.91	6.09	5.56	5.24	5.32
Homicide	1.71	1.70	1.41	1.31	1.37	1.44	1.13	1.23	1.11	1.03	1.24
<i>Total males</i>	<i>25.74</i>	<i>24.93</i>	<i>23.87</i>	<i>20.49</i>	<i>21.26</i>	<i>22.60</i>	<i>20.55</i>	<i>22.32</i>	<i>21.70</i>	<i>22.82</i>	<i>22.97</i>
<b>Persons</b>											
Transport	16.67	14.62	13.69	12.83	12.37	12.80	12.10	11.01	10.54	10.73	10.60
Poisoning	1.29	1.2	1.35	1.92	1.8	1.84	1.9	1.93	3.29	5.86	4.39
Falls	6.17	5.38	5.38	4.59	5.19	4.95	5.30	5.17	5.27	5.45	5.63
Suicide	12.69	13.65	13.08	11.71	12.57	13.00	12.98	14.64	14.27	13.36	12.26
Homicide	2.29	2.09	1.87	1.86	1.92	1.88	1.80	1.81	1.69	1.65	1.69
<b>All injuries/poisoning</b>	<b>46.66</b>	<b>44.56</b>	<b>42.60</b>	<b>39.40</b>	<b>39.73</b>	<b>40.36</b>	<b>40.51</b>	<b>40.75</b>	<b>41.27</b>	<b>42.73</b>	<b>40.46</b>

*Notes*

- Changes observed between 1998 and 1999 are likely to be due, at least in part, to the transition from ICD-9 to ICD-10. Apparent changes in rates during the transition period should be interpreted with special caution particularly with respect to poisoning, falls and homicide categories.

Transport: (ICD-9 E800–E848) (ICD-10 V01 to V99)

Poisoning: (ICD-9 E850–E858, E860–E869) (ICD-10 X40–X49)

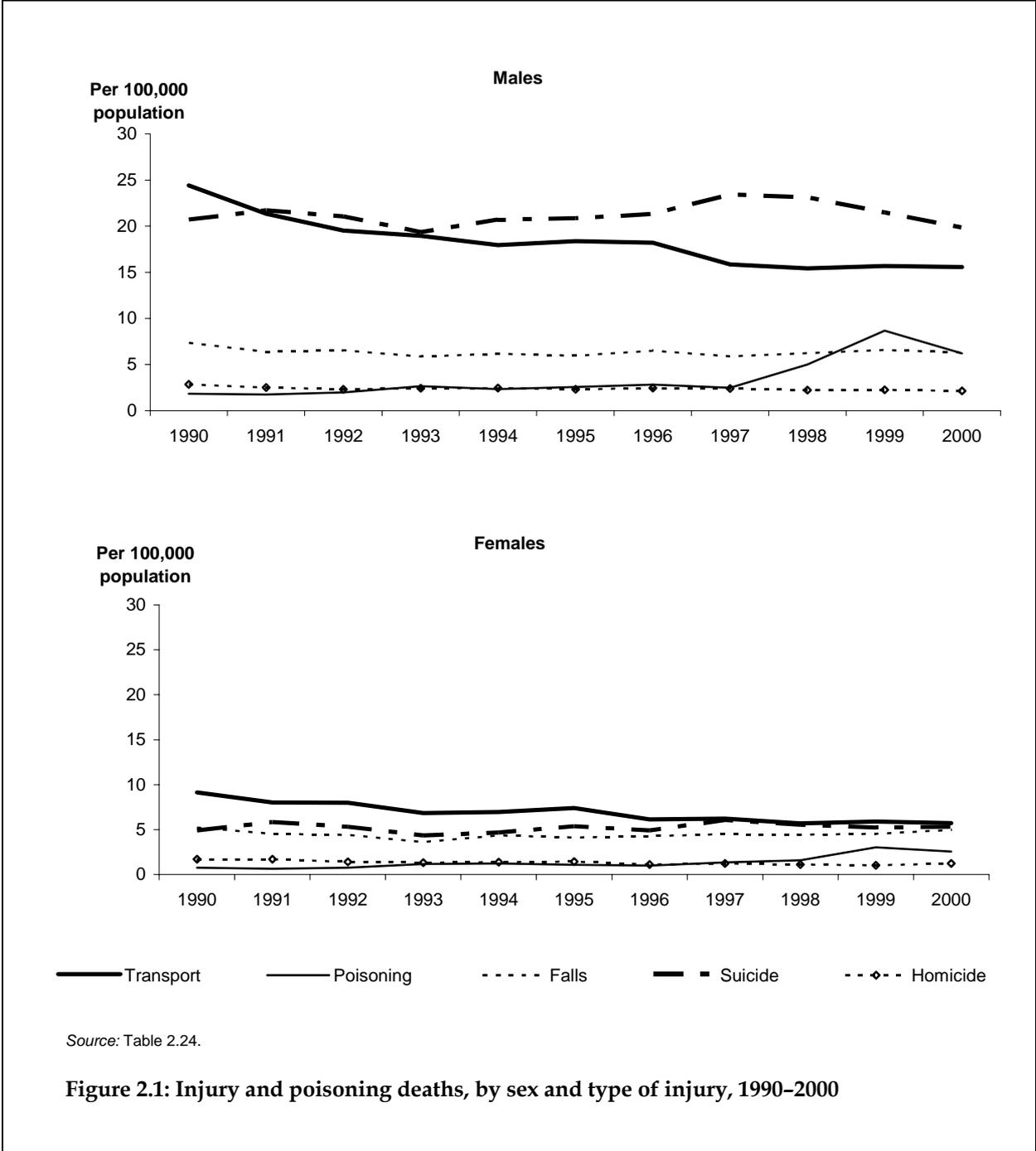
Suicide: (ICD-9 E950–E959) (ICD-10 X60–X84)

Falls: (ICD-9 E880–E888) (ICD-10 W00–W19; ICD-10 revised for comparability with ICD-9 E880–E888 W00–W19; or X59 and any Multiple Cause code S02, S12, S32, S42, S52, S62, S72, S82, S92, T02, or T14.2)

Homicide: (ICD-9 E960–E978, E990–E999) (ICD-10 X85 to Y09)

- The 5 topics reported here do not include all injury deaths. Some categories such as burns, fire and scalds are not in the table but are included within the total injuries/poisoning category.

Source: AIHW National Injury Surveillance Unit analysis of ABS mortality unit record data collection, 1979–2001 (unpublished data).



**Road deaths and injuries**

The Australian Transport Safety Bureau maintains a Monthly Fatality Crash Database, containing data from police and transport authorities in each state and territory. According to this data source there were 1,736 fatalities in 2001 (a rate of 9 per 100,000 population) – 73% of the fatalities were for males.

Over the 5-year period 1996 to 2001 there was an average annual decrease in road fatalities of about 2.5% in the number of road fatalities, or 3.6% in the per capita fatality rate. Most of this decrease occurred between 1996 and 1997, after which the road toll remained fairly constant. There had been a steady fall from the mid-1980s up to 1997.

Trends in the number of road fatalities over the 5-year period 1996 to 2001 were different for different road user groups: passenger and pedestrian fatalities showed the largest average annual decrease (4%), driver fatalities showed a smaller average annual decrease (2%), and motorcyclist fatalities increased by an average 2% annually.

### **Work-related deaths and injuries**

In 2000–01 there were 206 workplace fatalities for which compensation payments were made; this figure has fallen since 1996–97, when there were 279 such deaths (DEWR 2002).

According to ABS survey data, collected in a special supplement to the ABS monthly labour force survey, during the year ending September 2000 there were 477,800 people who experienced a work-related injury or illness, or almost 5% of people who had worked at some time during that period (ABS 2001e). Twice as many males as females experienced work-related injuries, with 28% of males being in the age group 35–44 years and 24% aged 25–34 years.

# 3 Autonomy and participation

Autonomy – the opportunity to make and implement choices in life and to develop the capacities to do so – is fundamental to human wellbeing. A dual need is the need to belong to and participate in human society.

This chapter presents information on important facilitators of autonomy and participation, such as education and knowledge, employment, transport and communication. Economic resources are a key indicator of autonomy and wellbeing in Australian society, indicating the resources available to people to acquire the basic necessities and to choose to spend on more discretionary goods and services. No picture of wellbeing can be complete without information on participation in recreation and leisure activities – activities that, again, reflect the duality of freedom to make autonomous choices and the sense of belonging that is fostered by participation.

## 3.1 Education and knowledge

Education and knowledge are vital ingredients in enhancing an individual's autonomy and empowerment, and in building society's collective capability (OECD 2002a:40). Learning is the 'lifetime process of obtaining knowledge, attitudes, skills and socially valued qualities of character and behaviour' (ABS 2001a). Learning is often promoted by a process or program of education, involving the communication or transfer of knowledge or skills from one individual to another, in formal institutions, such as schools and universities, or in less formal environments (ABS 2001a; MCEETYA 2000a).

Education is a process that both involves and promotes participation. Successful education can equip an individual for enhanced participatory roles in society, including in employment and in the economy generally, in social and cultural life, and in civic and democratic processes. While education tends to be especially important during youth, it is, and is increasingly recognised as, a lifelong process.

### Key issues, concepts and frameworks

Several education frameworks and indicator sets have been developed in Australia and internationally. Many of these focus on the performance of education systems.

The ABS has developed a framework for education and training statistics that is a multi-level structure, providing information at the individual, organisational, and systemic level (ABS 2003g). In the past, statistics on education and training have mainly been organised according to sector (schools, vocational education and training, higher education, and adult community education). This framework allows a more integrated view of learning activities, within and across sectors, from a provider or participant perspective. Future applications for the framework include identification of data gaps and statistical comparability issues, and its use as a structure on which to base a data dictionary that would provide a set of core definitions and data items to enable the consistent collection and reporting of data (ABS 2003g).

In 1989, Australia adopted a set of 10 National Goals for Schooling in Australia, as a basis for cooperation and collaboration between schools, states and territories and the Commonwealth, and to assist in the development of specific objectives and strategies. The goals were reviewed and updated between 1996 and 1999, with a new goal on reading literacy and numeracy being added. In 1997, the National Literacy and Numeracy Plan was implemented to support delivery of this new goal. Under the plan, achievement in Years 3, 5 and 7 students is assessed against national literacy and numeracy benchmarks (DEST 2002; MCEETYA 2000b).

The *National Report on Schooling in Australia*, published yearly by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), reports on progress towards the achievement of the National Goals for Schooling in Australia, and provides indicators and trend data on various aspects of education. Population groups examined include Indigenous students, students with language backgrounds other than English, and students with disabilities (MCEETYA 2000a).

The *Report on Government Services 2003* presents a conceptual framework within which effectiveness and efficiency performance indicators for school education are reported. The 10 effectiveness indicators identified in the framework are based on the achievement of the National Goals for Schooling in Australia. Nationally comparable data are reported for four of these indicators: literacy, numeracy, science, and 'participation, retention, completion, and destination'. The framework uses the performance indicators to measure education and knowledge among special needs groups, including Indigenous students, students from language backgrounds other than English, students with disabilities, geographically remote students, and students from families of low socioeconomic status. Further development of performance measures to provide nationally comparable data is planned (SCRCSSP 2003).

The OECD publication *Education at a Glance* reports an array of internationally comparable education indicators. The 2002 edition covers education and learning outcomes, the financial and human resources invested in education, access to education, participation and progression, and learning environment and organisation of schools (OECD 2002a).

The Program for International Student Assessment (PISA) is an OECD initiative established to monitor student performance regularly within an internationally agreed framework. The vehicle for this is a survey that assesses the knowledge and skills of 15 year-old students in three domains: reading literacy, mathematical literacy and scientific literacy. Assessments began in 2000 and are scheduled to be conducted every three years. Although all three domains are tested in each assessment, the major focus for 2000 was reading. Mathematical literacy will be the focus in 2003 and scientific literacy in 2006. In 2000, reading literacy assessments focused on how well students (i) retrieve specified information, (ii) interpret what they read, and (iii) reflect on and evaluate texts, drawing from existing knowledge (OECD 2000a, 2002a).

## **Education and knowledge indicators**

### **Participation in education**

Two commonly used indications of participation in recognised education and training are participation rate and apparent retention rate.

## Participation rate

Participation rate is a measure of the proportion of the population actively engaged in education or training. Participation rate can be calculated as the proportion of the population, within specified age groups, engaged in full-time study and/or part-time study (ABS 2002e; SCRCSSP 2003). It can be measured for students enrolled in primary schools, secondary schools, higher education institutions such as universities, and Technical and Further Education (TAFE) institutes.

Measures of participation rate can be influenced by jurisdictional differences in, for example, year and age/grade structures, types of post-compulsory education and training available (e.g. work-based training), and the extent of enrolment in part time study (ABS 2001a; SCRCSSP 2003).

Table 3.1 presents data from the 2002 ABS Survey of Education and Work. It shows that participation in study leading to a qualification was highest for the 15–19 age group (75%) and lowest for the 25–64 age group (7%). Participation rates were slightly higher for females than males within each of the age groups and overall. The overall rate of participation in study leading to a qualification for people aged 15–64 in 2001 was similar to that in 1991 (17%) (ABS 2002e).

Of all students in 2001 aged 15–64, 62% were enrolled in full-time study. Part-time participation was greater in the 25–64 age group (77% of students) than in either the 15–19 or 20–24 year age groups (10% and 34%, respectively) (ABS 2002e).

Data from the 2001 Census indicate that the Indigenous population had lower participation rates in education than did the general population in the age groups 15–34 years. However, in the older age groups, Indigenous rates were higher than for the total Australian population. This may reflect disadvantage at younger ages – that is, people at older ages may be ‘catching up’ on the education they missed out on earlier in their lives. Of Indigenous students who stated the type of institution they were attending, the greatest proportion of those aged over 19 were attending a Technical or Further Education institution. The overall participation rate for Indigenous people aged 15–64 was slightly higher than for the population as a whole; this is related to the younger age profile of the Indigenous population compared with the population as a whole, and the higher participation rates among younger age groups (ABS 2002e).

**Table 3.1: Proportion of the population aged 15–64 participating in education and training (full-time or part-time)<sup>(a)</sup>, by age and sex, 2002 (per cent)**

	Males	Females	Persons
<b>Study leading to a qualification<sup>(b)</sup></b>			
15–19	74.5	75.9	75.2
20–24	36.0	38.6	37.3
25–64	6.5	7.7	7.1
<i>Total aged 15–64</i>	<i>16.8</i>	<i>17.8</i>	<i>17.3</i>
<b>Study not leading to a qualification<sup>(c)</sup></b>			
<i>Total aged 15–64</i>	<i>0.7</i>	<i>1.1</i>	<i>0.9</i>

(a) Based on numbers of ‘persons enrolled’, defined in the 2002 ABS Survey of Education and Work to include persons enrolled for a course of study in the survey month, and persons who attended at any time during the previous calendar year, at an educational institution.

(b) Includes people enrolled in a bachelor degree and above, diploma, certificate, or school.

(c) Includes people enrolled in a non-recognised course of study.

Source: ABS 2002f and 2002 Estimated Resident Population data.

**Table 3.2: Proportion of the population aged 15–64 participating in education (full-time or part-time):(a) population subgroups by age, 2001 (per cent)**

	Age group						
	15–19	20–24	25–34	35–44	45–54	55–64	15–64
Indigenous Australians <sup>(b)</sup>	52.1	18.6	15.3	13.7	10.7	8.2	20.8
Language other than English spoken at home <sup>(b)</sup>	85.5	51.6	19.0	11.1	6.4	3.7	22.5
All Australians <sup>(c)</sup>	76.0	35.7	16.2	11.5	8.0	5.4	20.2

(a) Data in this table are from the 2001 Census of Population and Housing; as the scope, timing and methods for this collection differ from the Survey of Education and Work, resulting estimates of participation rates may differ.

(b) A proportion of Indigenous people also indicated they spoke a language other than English at home, therefore these two categories are not mutually exclusive.

(c) Includes Indigenous status not stated, and Language spoken at home not stated, inadequately described and non-verbal so described.

Source: ABS 2002e.

Education is considered to be a key factor in improving outcomes for Indigenous Australians in areas such as health and socioeconomic status. Government policies that have been developed to improve participation rates among Indigenous Australians include the provision of culturally appropriate teacher training (ABS 2002c).

Over recent years, the number of Indigenous students in most education sectors has increased steadily. This may be partly attributable to an increase in the number of people identifying themselves as Aboriginal or Torres Strait Islander Australians (ABS 2002a). The greatest increase in Indigenous participation over the late 1990s was in the Vocational Education and Training sector, where the proportion of Indigenous students increased from 3.1% in 1996 to 3.7% in 2000. Over the same period, the proportion of Indigenous students in the higher education sector remained essentially unchanged (ABS 2002c).

Table 3.2 also presents education participation data for people who reported that they spoke a language other than English at home. Participation rates were higher among this group than for the general population in the age groups between 15 and 34 years, but lower in the older age groups.

Other significant sub-populations that may have lower participation rates than the general population include those with low socioeconomic status, those from rural or remote locations, and people with disabilities (ABS 2002e; SCRCSSP 2003). Barriers that often prevent these sub-populations from participating include financial difficulties, health problems, limited access, and discriminatory attitudes.

### Apparent retention rate

Completion of secondary school is important in equipping children with skills and providing opportunities to enable them to pursue further education or find employment. The apparent retention rate is the percentage of full-time students of a given cohort group who continue from a specified year level to a higher year level (SCRCSSP 2003). The term 'apparent' reflects that no adjustments are made for migration into or out of Australia, or movements of students between jurisdictions. Part-time students and students repeating year levels are excluded from apparent retention rates.

Apparent retention rates are influenced, especially in the final years of schooling, by a wide range of factors, including student perceptions of the benefits of schooling, availability of employment and further educational alternatives, socioeconomic status, and population movements (ABS 2002e; SCRCSSP 2003).

**Table 3.3: Year 12 apparent retention rates, by sex and Indigenous status, 2002 (per cent)**

	Males	Females	Indigenous	All Australians
Retention to Year 12 as % of cohort entering Year 7/8 <sup>(a)</sup>	69.8	80.7	38.0	75.1

(a) Year 7/8 is used as the base year because the first year of secondary school is Year 7 in NSW, Vic, Tas and the ACT, and Year 8 in Qld, SA, WA and the NT.

Source: ABS 2003h.

The 'apparent retention rate' is the number of full time school students in a designated level/year of education expressed as a percentage of their cohort group in a specified lower level/year. To calculate the Year 7 to Year 12 apparent retention rate, the total number of full time students in Year 12 is expressed as a percentage of the number of the full time students in Year 7 five years before (ABS 2002e). Data used to calculate apparent retention rates are collected by school authorities and provided to the ABS for national compilation and processing.

In 2002, 75% of Australians who had entered Year 7/8 stayed at school until Year 12 (Table 3.3). Retention rates for Indigenous students were around half those for all Australians. Apparent retention rates for females have been higher than the equivalent rates for males since the mid-1970s, and have been around 10 percentage points higher since the early 1990s (ABS 2002e), giving rise to concerns about male outcomes in education.

During the 1980s through until 1992, Year 7/8 to Year 12 apparent retention rates increased rapidly, from 49% in 1986 to a peak of 77% in 1992. Since 1994, the rate has remained stable at around 72%. The Year 10 to Year 12 apparent retention rate has followed similar trends over time, from 52% in 1986, up to 79% in 1992, then trending back down to 75% in 2001 (ABS 2002e).

### **Educational attainment**

Measures of educational attainment in the population provide an indication of the Australia's stock of knowledge and skills derived from formal education (ABS 2002e). This measure can also indicate the success or otherwise of government initiatives to improve educational outcomes, and the ability of the population, or particular population groups, to meet the expectations of industry and the labour market (ABS 2001a).

Educational attainment can be indicated by the highest level of formal education completed. A commonly used measure is the proportion of the population in a given age range that has completed education to or above a specified level, such as secondary school, bachelor degree, etc.

In 2002, 20% of people aged 25–64 reported a bachelor degree or above as their highest education qualification attained, 26% a certificate or diploma and 15% Year 12 completion (Table 3.4). A relatively high proportion of people aged 55–64 reported that their highest qualification was Year 10 or below (47%, compared with 19% of those aged 25–34 years). There was a clear age effect— with each older age group, the proportion of people with Year 10 or below as their highest educational attainment increased. In 2001, 12% (1,489,300) of people aged 15–64 had not completed Year 10 and did not have a non-school qualification (ABS 2002f:63).

The proportion of people aged 15–64 years with higher education qualifications (bachelor degree or above) has increased substantially, from 10% in 1992 to 18% in 2002 (ABS 2002f).

**Table 3.4: Level of highest educational attainment, by age, 2002 (per cent)<sup>(a)</sup>**

Age group	Bachelor degree or above <sup>(b)</sup>	Certificate or diploma <sup>(c)</sup>	Year 12	Year 11	Year 10 or below
25–34	24.8	26.3	21.6	7.5	19.0
35–44	21.2	26.6	14.9	8.6	27.8
45–54	19.9	26.4	12.9	6.5	33.3
55–64	13.2	25.1	9.1	3.6	47.4
<b>Total 25–64</b>	<b>20.4</b>	<b>26.2</b>	<b>15.2</b>	<b>6.9</b>	<b>30.2</b>

(a) Percentage of the population within each age group.

(b) Includes Bachelor degree, Graduate diploma or Graduate certificate, and Postgraduate degree.

(c) Includes Certificate I, II, III or IV, Certificate not further defined, Diploma and Advanced diploma.

Source: ABS 2002f.

Levels of educational attainment among Indigenous Australians have been slowly increasing, but remain well below those of non-Indigenous Australians. The proportion of Indigenous Australians aged 25–64 years with a vocational or higher education qualification increased from 10% to 14% between 1991 and 1996, while the proportion with a bachelor degree or above increased from 1% to 3% over the same period (ABS 2002a).

The proportion of the population with a tertiary education is comparatively high in Australia. According to OECD data for 2001, the proportion of Australians aged 25–64 years with at least tertiary-level education was 27% for men and 31% for women, compared with the OECD country mean of 24% and 22%, respectively (OECD 2002a). However, only 59% of the Australian population aged 25–64 had at least upper secondary, which was below the OECD country mean of 64%.

## Literacy

Literacy and numeracy are essential skills needed for functioning in work and everyday life. Competence in reading, writing and mathematics provides an important basis for interacting with the world, pursuing further education in and beyond school, and gaining future employment. Literacy and numeracy rates vary with social and demographic factors, such as sex, location, cultural and family background, and individual characteristics (ABS 2002c).

Literacy is commonly used as an umbrella term, to include English literacy, numeracy, and science literacy. Two broad types of literacy measures are population literacy, and literacy among school children.

### Literacy among school children

Performance levels among school children in reading literacy, mathematical literacy and scientific literacy, based on the proportion of students who reach defined minimum levels of competence, are used as indicators in international and national comparative analyses.

As part of monitoring national goals for schooling in Australia, achievements for Years 3, 5, and 7 students are assessed against nationally agreed reading and numeracy benchmarks based on the nationally agreed minimum acceptable standards (DEST 2002; MCEETYA 2000b). Student performance against the benchmarks is assessed through programs conducted by educational authorities in all states and territories. National data are derived from aggregate student achievement data reported by states and territories (DEST 2002). Since the introduction of the National Literacy and Numeracy Plan, teaching has focused on the development of students' English literacy and numeracy performance and there has been

an improvement in students' English literacy and numeracy levels (ABS 2002c; DEST 2002; MCEETYA 2000a,b).

Results for Year 3 and Year 5 students were published in 2000 (MCEETYA 2000b). Of Year 3 students, 93% of those participating in the testing achieved the national reading and numeracy benchmarks; for Year 5 students, 87% attained the reading benchmark and almost 90% the numeracy benchmark (Table 3.5). Females were more likely than males to achieve the reading benchmarks but there was no sex difference in the achievement of numeracy benchmarks.

Student reading and numeracy levels vary considerably across population groups, particularly by Indigenous status, language background, and socioeconomic status (ABS 2002c; OECD 2000a; SCRCSSP 2003). Compared with Australian students as a whole, levels of attainment of reading and numeracy benchmarks were slightly lower for students from non-English speaking backgrounds, and substantially lower for Indigenous students (Table 3.5). The benchmarks are, by definition, national standards and do not make adjustments for language, culture or other possible influences on these outcomes.

Reading, scientific, and mathematical literacy rates among 15 year olds are regularly assessed under the Programme for International Student Assessment (PISA), an initiative of the OECD. The Australian Council for Educational Research is responsible for the program in Australia (ABS 2002e; OECD 2000a, 2002a).

Literacy rates in the three domains for 15-year old Australian students are high by international standards. Only Finland scored significantly higher than Australia on the total reading literacy measure. Only Japan in mathematical literacy, and only Japan and the Republic of Korea in scientific literacy, achieved significantly higher scores than Australia (OECD 2000a, 2002a). Females achieved higher reading literacy scores than males, however there was no significant gender difference in mathematical or scientific literacy (OECD 2000a).

**Table 3.5: Year 3 and Year 5 students achieving national educational benchmarks, by sex and Indigenous status, 2000 (per cent)<sup>(a)</sup>**

	National reading benchmark		National numeracy benchmark	
	Year 3	Year 5	Year 3	Year 5
Males	90.9	85.2	92.7	89.4
Females	94.3	89.6	92.8	89.8
<b>Persons</b>	<b>92.5</b>	<b>87.4</b>	<b>92.7</b>	<b>89.6</b>
Indigenous Australians <sup>(b)</sup>	76.9	62.0	73.7	62.8
Non-English-speaking background <sup>(b)(c)</sup>	90.8	84.9	90.3	87.1

(a) The data in this table represent students who have achieved the benchmark as a percentage of the students participating in the state and territory testing, including students who were formally exempted (these students are reported as below the benchmark). Students who were absent or withdrawn by parents/caregivers from the testing, and students attending a school not participating in the testing, are not included in the data (MCEETYA 2000b). The proportion of such students ranged from 2.4% of Year 5 students in Queensland to 20% of Year 3 students in the Northern Territory.

(b) Methods used to identify Indigenous and non-English-speaking background students varied between jurisdictions. There is likely to be some overlap between these two groups.

(c) Non-English-speaking background students are defined as a student either born in a non-English-speaking country, or born in Australia with one or both parents born in a non-English-speaking country, or an Indigenous student for whom English is not the first language (MCEETYA 2000a).

Source: ABS 2002e.

Around 500 Indigenous students participated in PISA. The performance of Indigenous students was lower than that of non-Indigenous students in all three literacy domains. However, 40% of Indigenous students achieved 'proficiency level 3' or above, indicating that they had more than adequate reading skills for full participation in society as adults (OECD 2000a).

Students from a language background other than English performed at a lower level in reading and scientific literacy than English language background students; however, their performance in mathematics literacy was not significantly lower. It should be noted, however, that both the mathematical and scientific literacy assessments required students to read passages of text, so these components effectively measured reading as well as mathematics and science skills (ABS 2002e; OECD 2000a).

## **Population literacy**

The ABS identifies three aspects of literacy (ABS 1997c):

Prose literacy – the ability to understand and use information from various kinds of prose texts, including newspaper and magazine articles;

Document literacy – the ability to locate and use information contained in materials such as charts, graphs and maps;

Quantitative literacy – the ability to perform arithmetic operations using numbers contained in printed texts or documents.

The 1996 ABS Survey of Aspects of Literacy was designed to measure and analyse the relationship between literacy skills and a range of socio-demographic factors, such as English as first language, age, sex, and Indigenous status. In the survey, literacy is measured using a five point scale for each of the three aspects of literacy. Those at Level 1 are deemed to have very poor skills and are likely to experience considerable difficulties in using many printed materials; those at Level 5 are deemed to have very good skills (ABS 2001a).

The proportion of the population with prose literacy at Level 3 or above is used as an indicator of the proportion who are capable of coping with general printed materials found in everyday life. People at Level 3 would not be able to use all printed material with a high level of proficiency, but they would be able to use 'longer, more complex' printed material, make inferences, and compare and contrast information (ABS 1997c). In 1996, 53% of people aged 15–74 years were at Level 3 or above for prose literacy (Table 3.6). Rates were highest in the 20–24 year age group (64% at Level 3 or above) and lowest among people aged over 55 years (35% for those aged 55–64 and 24% for those aged 65–74). In all age groups below 45 years females had higher prose literacy levels than males, while males had higher levels than females in the older age groups.

Greater proportions of Indigenous people had low literacy levels compared with the general population. Some 41% had prose literacy at Level 1, compared with 20% for the general population.<sup>8</sup> People for whom English was not their first language were also more likely to have lower levels of prose literacy – 48% were at Level 1 (ABS 1997c). People with Level 1 prose literacy could be expected to experience considerable difficulty using many of the

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8 Estimates for the Indigenous population have relatively high standard errors, due to the small number of people in the sample who identified themselves as Indigenous. Also, because certain remote and sparsely settled areas were excluded from the survey, the results should not be used as an indicator of the literacy skill levels of the total Indigenous population (ABS 1997c).

**Table 3.6: Percentage of population with prose literacy at Level 3 or above, by age and sex, 1996**

Age group	Males	Females	Persons
15–19	50.8	59.2	54.9
20–24	56.5	70.6	63.5
25–34	58.6	63.3	61.0
35–44	59.0	65.5	62.3
45–54	51.6	51.7	51.6
55–64	36.8	32.2	34.5
65–74	25.3	23.4	24.3
<b>Total</b>	<b>51.0</b>	<b>54.6</b>	<b>52.8</b>

Source: ABS 2002e.

printed materials encountered in daily life. Australia came 10th out of 22 countries (20 OECD, 2 non-OECD) tested between 1994 and 1998 for their level of adult prose literacy (OECD 2000b).

## 3.2 Economic resources and security

Material standard of living is largely determined by people’s command over economic resources. Economic security refers to the extent to which people have a reliable source of income and/or accumulated wealth (e.g. property, superannuation) to buffer their material standard of living into the future.

While economic resources and security are recognised as centrally important to wellbeing, and this topic has generated a great deal of literature, general national or international agreement on measurement has not emerged. This is an immensely complex topic and, in the limited space available here, it is not possible to attempt to reflect all the relevant issues and considerations, or the breadth of opinions on approaches to definition and measurement. However, some of the main strands of thinking in these areas are briefly outlined below. The aim in this section, as for the other indicator topics, has been to select a small number of indicators that have previously been published in authoritative Australian sources.

### Key issues, concepts and frameworks

In the OECD’s *Society at a Glance*, several indicators that relate to economic resources and security are reported. These include national income, jobless households, old age income, child poverty, and benefit reciprocity. The OECD also produces working papers on issues related to economic wellbeing in OECD countries, which contain data analyses and discussions of concepts, methods and measurement issues (see e.g. OECD 1998, 2000c).

Under the United Nations Millennium Declaration in September 2000, 189 nations committed themselves to ‘making the right to development a reality for everyone and to freeing the entire human race from want’ (UNSD 2002). To help track progress against this overarching objective, eight goals, and 18 related targets were defined, and 48 relevant indicators were identified and are reported on annually by the UN Secretary-General. Goal number 1 is to eradicate extreme poverty and hunger. The target for the poverty aspect of this goal is ‘to halve, between 1990 and 2015, the proportion of people whose income is less

than one dollar a day'. Three indicators are reported for this target: Proportion of population below \$1 per day; Poverty gap ratio; and Share of poorest quintile in national consumption (UNSD 2002).

The United Nations Statistical Commission created an Expert Group on Poverty Statistics (the Rio Group) in 1997. This group continues to meet annually, and participants from a broad range of countries share expertise and discuss conceptual, methodological and statistical issues relevant to defining, measuring, and monitoring poverty. An Expert Group on Household Income Statistics (the Canberra Group) was established in 1996, and has developed a set of guidelines aimed at helping countries to produce harmonised and internationally comparable statistics on income distribution.

In Australia, there are several frameworks and indicator sets that relate to measuring economic resources and security. The ABS publication *Measuring Wellbeing* describes the conceptual models and frameworks used to structure economic statistics collected at the national level in Australia (ABS 2001a). A framework for measuring economic wellbeing at household level, known as the Income, Consumption and Wealth Framework (ICW), was published by the ABS in 1995 (ABS 1995a). It presents an ideal set of information about economic resources that might be used to describe the distribution of economic wellbeing among households.

The ABS collects and publishes a wide range of data relating to economic resources and security. This includes indicators relating to the national balance sheet of assets and liabilities, consumption and investment, prices, the labour force, incomes, expenditure, and housing finance.

Many widely used economic summary measures relate to the economic status of nations. Examples are per capita gross domestic product (GDP) and the consumer price index (ABS 2003a). While these national-level economic measures generally have some relationship to the economic wellbeing of individuals within a society, they do not clearly indicate the economic factors that more directly impact on people's quality of life, and they do not show how economic resources are distributed among groups within the society.

In response to the recognition that GDP growth does not correlate well with changes in social welfare or national wellbeing, the Genuine Progress Indicator (GPI) has been developed to provide more comprehensive measure of changes in sustainable social wellbeing (Hamilton 1998). The GPI incorporates impacts that derive from changes in the natural environment and in social conditions, and impacts due to both changes in flows and changes in stocks. The components that make up the GPI (all measured in monetary terms) include personal consumption, a measure of income distribution, the value of household and community work, costs of unemployment, underemployment and overwork, and costs of crime.

## **Economic resources and security indicators**

Data relevant to economic resources and security commonly relate to the household or income unit level, rather than the level of the individual. This is because people who live together typically share, or pool, some or all of their economic resources. Most of the indicators presented in this section focus on households.

Levels of economic resources and security typically vary over the life cycle, changing with different life stages, as an individual moves into the labour force, rears children, accumulates assets, ages, and retires. For this reason, some of the indicators below are broken down by

household type and age of the household reference person. Because the data relate to households rather than individuals, they are not presented broken down by sex. Also, there is limited availability of data to support a breakdown of indicators by Indigenous status.

## Income and income distribution

Income-based measures are most commonly used, in Australia and internationally, to measure and describe the economic wellbeing of households (ABS 2001a).

There is no one definition of income. The definition and measurement of income vary with the components included, for instance cash income, benefits in cash or kind, the imputed value of housing, and unpaid time of household members (Travers & Richardson 1993). Income measures used include gross income, private income, disposable income, discretionary income, after-housing income, and final or social income (Greenwell et al. 2001:12). The notion of final or social income takes account of services provided by government and community organisations as well as cash income and benefits (see also discussion of the 'social wage' and the impact of health, education and social security policies in AIHW 1993:9). The choice of measure used depends on purpose and the availability of relevant and reliable data.

Equivalent disposable income is used here as a basis for the indicators of income level and distribution. Disposable income is gross income less direct tax and Medicare levy (it is sometimes referred to as 'net income' – ABS 2001f). This measure is adjusted for differences in household composition and size using an equivalence scale, to better reflect the average level of economic wellbeing of members of the household.

Disposable income is related to people's capacity to purchase goods and services. It is the measure of income most often used as an indicator of material living standards because it is practicable to collect. It should be noted, however, that measures of disposable income do not take account of indirect taxes paid, government services received, or non-market activities (e.g. unpaid household work) that contribute to material living standards. Based on data from the ABS Time Use Survey, unpaid work (including both household work and volunteer and community work) was valued at around \$250 billion nationally in 1997. The ratio of the total value of unpaid work to GDP was estimated at between 43% and 48% (depending on the method used to value unpaid work) (ABS 2001g).

In 2000–01, median household equivalent disposable income for Australia was \$414 per week (Table 3.7). Median income for households in the highest income quintile was nearly double this figure, and that of households in the lowest quintile was less than half the overall median income.

**Table 3.7: Households: weekly disposable income by quintile, 2000–01 (dollars)**

	Equivalent weekly disposable income quintile <sup>(a)(b)</sup>					All households
	Lowest	Second	Third	Fourth	Highest	
Median income (\$)	202	292	413	550	802	414
Mean income (\$)	180	295	413	555	903	469

(a) The modified OECD equivalence scale has been used to facilitate comparisons of income levels across different household types. Equivalence scales are sets of ratios that show the relative income levels required for households of different size and composition to maintain a similar standard of living. Data in this table have been standardised to the income requirements of a single person household.

(b) Quintiles have been calculated by ranking persons on the basis of equivalent weekly disposable household income and allocating an equal number of persons to each quintile. Due to differences in household sizes this will not give equal numbers of households for each quintile.

Source: ABS 2003b.

Mean weekly equivalent disposable income across all households (\$469) was higher than median income, reflecting the effect on this measure of the very high incomes of a small proportion of households at the top of the income distribution. Income is distributed asymmetrically in Australia, as in most countries, with a relatively small number of people in very high income households, and a large number of people in low income households.

Income distribution may be examined across the population as a whole, and/or among groups within society defined on the basis of, for instance, education or employment status, household type, geographical location, or personal factors (e.g. sex, Indigenous status) (AIHW 2001a:385).

Here we focus on measures of income distribution across the population as a whole. A number of methods can be used to indicate the degree of income inequality within a society. Some methods compare household incomes at the bottom of the income distribution with those at the top, some look at the share of total income received by households in high and low income groups, and some use summary measures such as Gini coefficients (see footnote (d) to Table 3.8). Different methods give different results, in terms of the extent of income inequality (ABS 2002a).

Measures of inequality can also vary depending on the measures of income used – particularly depending on the extent to which the measure of income takes into account government taxes and transfer payments. Governments are active in the re-distribution of economic resources within the community, particularly from the rich to the poor, via government taxes, transfers and expenditures (e.g. on health and community services). The effects on income inequality of the income-tax and cash-transfer systems can be significant (e.g. Harding 1998).

In 2000–01, households in the top two income deciles accounted for 39% of all income received, while households in the second and third deciles from the bottom of the income distribution accounted for 11%<sup>9</sup> (Table 3.8).

The ratio of equivalent household income marking the top of the 80th income percentile, to that marking the top of the 20th income percentile, is one of many indicators of income distribution – a higher value for this ratio indicates greater income inequality. In 2000–01 this ratio was 2.63, up slightly from 2.56 in 1994–95 (Table 3.8). Trends in several income distribution indicators have led the ABS to suggest a possible rise in income inequality over the second half of the 1990s (Table 3.8; ABS 2003b:10).

ABS estimates based on Census data indicate that, in 2001, the mean equivalised gross household income for Indigenous persons was \$364 per week, or 62% of that for non-Indigenous persons (\$585 per week) (ABS 2003i). For Indigenous persons, income levels generally declined with increasing geographic remoteness, although the average equivalised income in outer regional areas was slightly lower than that in remote areas. The ABS found that average equivalised gross household income for Indigenous persons had risen by about 11% since 1996, compared with 13% for non-Indigenous persons.

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9 Deciles 2 and 3 are used rather than the bottom quintile (deciles 1 and 2) for looking at the income share of low income households because income data for the bottom decile are considered unreliable.

**Table 3.8: Selected income distribution indicators, equivalised disposable household income**

		1994–95	1995–96	1996–97	1997–98	1999–2000	2000–01
<b>Ratios of incomes of households at top of selected income percentiles</b>							
P90/P10	ratio	3.77	3.74	3.66	3.77	3.89	3.97
P80/P20	ratio	2.56	2.58	2.54	2.56	2.64	2.63
P80/P50	ratio	1.55	1.57	1.56	1.56	1.57	1.56
P20/P50	ratio	0.61	0.61	0.61	0.61	0.59	0.59
<b>Percentage share of total income received by persons with:</b>							
Low income <sup>(a)</sup>	%	10.8	10.9	11.0	10.8	10.5	10.5
Middle income <sup>(b)</sup>	%	17.7	17.7	17.8	17.6	17.6	17.7
High income <sup>(c)</sup>	%	37.8	37.3	37.1	37.9	38.4	38.5
<b>Gini coefficient<sup>(d)</sup></b>	no.	0.302	0.296	0.292	0.303	0.310	0.311

(a) Persons in the second and third income deciles.

(b) Persons in the middle income quintile.

(c) Persons in the highest income quintile.

(d) The Gini coefficient is a single statistic that lies between 0 and 1 and summarises the degree of inequality, with values closer to 0 representing a lesser degree of inequality, and values closer to 1 representing greater inequality.

Source: ABS 2003b:10.

## Income disadvantage

Data on low-income households as a proportion of all households are presented here, as a measure of income disadvantage. A measure that has commonly been used in Australia and internationally is the proportion of households whose equivalent disposable income is below 50% of the median for all households (ABS 1998b; OECD 2002b). In the context of the 'autonomy and participation' component of welfare, this relative measure of income disadvantage can be interpreted as reflecting people's ability to afford to participate in the ordinary life of society, rather than simply afford the bare essentials of life.

**Table 3.9: Income disadvantage: households with equivalent weekly disposable income below 40%, 50% and 60% of the median for all households, and people and children living in those households, 2000–01**

	Households	Children aged <15 living in low-income households	All persons living in low-income households
<b>Below 40% median equivalent weekly disposable income</b>			
Number ('000)	420.9	223.4	989.7
Per cent	5.8	5.7	5.2
<b>Below 50% median equivalent weekly disposable income</b>			
Number ('000)	984.8	471.9	2,062.1
Per cent	13.5	12.1	10.9
<b>Below 60% median equivalent weekly disposable income</b>			
Number ('000)	1,826.0	859.3	3,883.4
Per cent	25.0	22.1	20.6

Note: See Table 3.7 footnote (a) for explanation of 'equivalence'.

Source: 2000–01 ABS Survey of Income and Housing Costs (unpublished data).

In 2000–01, over two million Australians were living in households with equivalent weekly disposable income below 50% of the median for all households (Table 3.9). Using this measure, 14% of households and 11% of people across Australia were living in income disadvantage.

This measure may be sensitive to small changes in social security benefits, and thus unstable, because half median income is close to the value of some government benefits (e.g. the Age Pension) (ABS 2002a:96). Therefore, the proportions of households whose equivalent disposable income is below 40% and below 60% of the median for all households are also tabulated:

- 989,700 people were living in households with equivalent weekly disposable income below 40% of the median, that is, 6% of households and 5% of people across Australia; and
- 3,883,400 people were living in households with equivalent weekly disposable income below 60% of the median, that is, 25% of households and 21% of people across Australia.

Compared with people of all ages, a greater percentage of children were living in income-disadvantaged households – 12%, or 471,900 children aged less than 15 years, using the measure of below 50% of median equivalent disposable weekly income. The OECD has used this measure as an indicator of rates of child poverty (for children aged under 18 years). In the mid-1990s, Australia ranked 9th lowest among 16 OECD countries on this indicator; the lowest rates of child poverty were found in the Nordic countries and Belgium (OECD 2002b:53).

It is important to note that some of the most economically disadvantaged groups in Australian society, in particular people who are homeless and not staying in private dwellings at the time of the survey, may not be captured in the household-based survey used to produce these data.

The Supported Accommodation Assistance Program (SAAP) National Data Collection provides information on main source of income for clients before and after receiving support from a SAAP agency. In 8% of SAAP support periods in 2001–02 (approximately 8,400 support periods), clients were reported as having no source of income and not awaiting a government payment (AIHW 2003c). This group of clients may include people not eligible to receive government financial assistance, such as illegal immigrants and those on temporary visas, as well as people who have had their unemployment benefits cut off as a penalty for breaching the terms of their benefits.

In recent decades there has been considerable debate about the definition of poverty in Australia and about appropriate estimation methods (Box 3.1; AIHW 2001a:392). A current Senate Committee Inquiry is renewing this debate and, by September 2003, had attracted more than 250 submissions. Estimation has received much coverage in submissions. The Social Policy Research Centre recognises the problem, and concludes:

Poverty research now faces a severe credibility crisis, as its principal tools are widely perceived to no longer be capable of providing an accurate and objective basis for monitoring poverty trends and differences (Saunders 2003).

### **Box 3.1: Poverty – definitional and measurement issues**

*In this section, data on low-income households are presented as an indicator of income disadvantage, rather than of 'poverty' as such. While the concept of poverty is important, and there is extensive literature on the subject, there remains considerable disagreement among authoritative sources about approaches to definition and measurement. Some of the reasons for this are briefly reflected here.*

*The ABS has defined people living in poverty as 'those with limited means whose consumption of goods and services is well below community norms' (ABS 2002a:40). However, broader definitions, that conceptualise poverty as more than a lack of what is necessary for material wellbeing, and inter-linked with disadvantage in diverse areas of life, are common in poverty literature (e.g. Sen 1992; Townsend 1979; UNDP 1997). This broader conceptualisation of poverty has led to the development of an extensive literature on social exclusion (e.g. Berger-Schmitt 2000; Whiteford 2001).*

*The material in this box outlines key aspects of the debate around defining and measuring poverty conceptualised in the narrower sense, i.e. as related to material wellbeing. In this context, some researchers have distinguished between two separate concepts of poverty: (i) a way of life that is below a defined minimum standard; and (ii) the level of resources less than that necessary to achieve a minimum standard of life (see Brownlee 1990). The latter concept can be measured using resource indicators (e.g. income). For the former, approaches that directly measure standard of living are more appropriate (see section on Financial stress and hardship, below).*

*Focusing on resource measures of poverty, a broad distinction can be drawn between the concepts of 'absolute' and 'relative' poverty. Absolute poverty refers to subsistence below minimum, socially acceptable living conditions, usually established based on nutritional requirements and other essential goods; relative poverty compares the lowest segments of a population with upper segments (Lok-Dessallien 2000). In Australia, most poverty studies use relative measures. The justification for this approach is that a person should be considered to be in poverty if they do not have the opportunity to participate in the ordinary life of society (Nolan 2001, cited in Greenwell et al. 2001:18). However, some researchers are critical of the use of relative poverty measures, claiming that these measures confuse the distinct concepts of poverty and income distribution (Tsumori et al. 2002).*

*Poverty measures based on cash income are most commonly used (although some argue in favour of expenditure-based measures – see e.g. ABS 2001a). Income-based measures usually involve the setting of a 'poverty line' – an income threshold below which households are considered to be 'in poverty'. Australia does not have an official poverty line. However, the Henderson Poverty Line (HPL) has been used in many Australian studies since it was adopted by the Commission of Inquiry into Poverty in the early 1970s. The HPL provides a measure of relative poverty, originally set at the level of the basic wage plus child endowment for a working man with a dependent wife and two children (Brownlee 1990). It has been updated since to adjust for increases in the National Accounts estimate of household disposable income per person. A line set at 50% of median equivalent household income (MEI) is commonly used in European studies and international comparisons (ABS 1998b). The HPL is substantially higher than 50% of MEI in Australia.*

*If an income-based poverty line is used, further choices must be made regarding the definition of income (e.g. gross, disposable, discretionary), calculation of the income benchmark below which people can be considered to be 'in poverty' (i.e. whether mean or median income, and what percentage should be used as the benchmark), and the units used to calculate and report poverty levels (e.g. household, income unit, individual). There are also different methods of constructing equivalence scales, used to adjust for household or income unit size and composition (see Greenwell et al. 2001:26–32).*

*Different approaches to defining and measuring poverty can produce quite different results, in terms of the extent of poverty within a population, and in terms of the distribution of poverty among different groups within the population (see e.g. ABS 1998b).*

## Financial stress and hardship

Measures of income alone do not give the full picture of economic wellbeing. People's overall economic status can be conceptualised as reflecting the dynamic balance between income (receipt of economic resources), consumption (using up of economic resources), and wealth (ownership of economic resources) (ABS 2001a). Thus, measures other than purely income-based measures may better reflect the extent to which households are constrained in their activities because of a shortage of money (Bray 2001).

There is a considerable international literature on approaches to measuring living standards directly, rather than using income as a proxy measure. Brownlee (1990) presents a detailed review of work conducted in Britain, Scandinavia, the United States and Australia in the 1960s, '70s and '80s. Approaches have included: broadening the definition of resources to include, for example, the value of public social services and income in kind, as well as cash income; the development of measures of deprivation in way of life (e.g. in areas such as diet, household facilities, health, conditions of work); and the use of both objective and subjective measures of deprivation.

The Scandinavian concept of 'level of living' was used as a basis for three large surveys in Sweden in 1968, 1974 and 1981. The concept focuses on the individual's command over resources, defined broadly to include, for example, health and education, as well as financial resources. The Australian Standard of Living Study was conducted in 1987 by Richardson and Travers. Based on the Scandinavian level of living approach, its main emphasis was on the measurement of material living conditions. The study measured living standards using cash income, other economic resources indicators (e.g. ability to come up with \$1,500 within a week), and other way of life indicators (e.g. leisure time pursuits) (Brownlee 1990).

Here, a measure of financial stress is presented as a non-income-based indicator of poor economic outcomes. It is based on data from the 1998-99 ABS Household Expenditure Survey, which included questions asking households about whether, prior to the survey, they had been unable to do a range of specified activities because of a shortage of money. This question was asked in respect of 13 specified activities, which included taking holidays away from home, paying bills, and being able to afford meals.

Across the income spectrum, 44% of households responded negatively to at least one of the 13 items. However, summarising responses to these 13 items into a single meaningful indicator of financial stress is challenging, particularly as there are no established methods for measuring financial stress using this type of approach. Some of the items, on their own, may not necessarily identify households in financial stress, and there is no basis for an objective ranking of the items in order of importance, or severity of the financial stress indicated.

The ABS, therefore, created a summary measure of financial stress based on the number of items to which a household gave a negative response (ABS: McColl et al. 2001). Households were considered to be experiencing financial stress if they responded negatively to two or more items. A negative response to two to four items was taken to indicate moderate stress, and five or more items high stress.

Overall, 34% (2,406,000) of households experienced some level of financial stress, and 13% high levels (Table 3.10). The majority of households experiencing high levels of financial stress were in the bottom two income quintiles. It is interesting to note that some households in the two highest income quintiles reported moderate or high levels of financial stress.

**Table 3.10: Households: Level of financial stress<sup>(a)</sup> by income quintile, 1998–99**

	Income quintile					All households	
	Lowest	Second	Third	Fourth	Highest	%	No. ('000)
	% of all households						
<b>High</b>	5.3	4.1	1.9	0.9	0.3	12.6	897
<b>Moderate</b>	5.5	5.6	4.7	3.7	1.6	21.2	1,509
<b>No/low stress</b>	9.2	10.2	13.3	15.4	18.1	66.2	4,717
<b>Total</b>	20.0	20.0	20.0	20.0	20.0	100.0	7,123

(a) The level of financial stress of a household was determined according to the number of financial stress questions to which it responded negatively (i.e. the number of areas in which the household reported being constrained due to lack of money, based on the 13 questions asked in the survey): No/low stress—one or no questions answered negatively; Moderate stress—two to four questions answered negatively; High stress: five or more questions answered negatively.

Source: ABS: McColl et al. 2001.

**Table 3.11: Households: Level of financial stress<sup>(a)</sup> by selected life cycle groups, 1998–99 (per cent)**

Selected life cycle group	High	Moderate	No/low stress	All households	
				Per cent	No. ('000)
Lone person aged under 35 years	21.0	21.8	57.2	100.0	327
Couple with dependent children only	13.7	24.5	61.9	100.0	1,697
One parent with dependent children only	40.8	31.5	27.6	100.0	382
Couple, reference person aged 65 years or over <sup>(b)</sup>	4.2	15.3	80.6	100.0	594
Lone person, aged 65 years or over	7.3	17.4	75.3	100.0	622
<b>All households<sup>(c)</sup></b>	<b>12.6</b>	<b>21.2</b>	<b>66.2</b>	<b>100.0</b>	<b>7,123</b>
All households ('000)	897	1,509	4,717		7,123

(a) The level of financial stress of a household was determined according to the number of financial stress questions to which it responded negatively (i.e. the number of areas in which the household reported being constrained due to lack of money, based on the 13 questions asked in the survey): No stress—one or no questions answered negatively; Moderate stress—two to four questions answered negatively; High stress: five or more questions answered negatively.

(b) The reference person is normally the higher income recipient of the couple or, when income is the same, the older person.

(c) Includes other life-cycle groups.

Source: ABS: McColl et al. 2001.

Single parents with dependent children were the group that most often experienced financial stress—41% of these households reported high levels of stress (Table 3.11). Single people aged under 35 were the group next most likely to experience financial stress.

An alternative summary presentation of the data can be achieved by grouping the 13 items into different broad types of financial stress. A factor analysis of responses to the items revealed that they grouped into three broad types of deprivation: missing out (e.g. being unable to afford holidays away from home, or having to buy second hand clothing), cashflow problems (e.g. being unable to pay bills or having to borrow money from family or friends), and hardship (e.g. being unable to afford heating and meals, or needing assistance from community organisations) (Bray 2001).

Table 3.12 presents data on households experiencing these three broad types of deprivation. The figures in each column reflect households that responded negatively to two or more questions grouped within each of the three broad types of deprivation (see table footnotes for further information). Using this approach, 22% of all households were identified as

**Table 3.12: Proportion of households experiencing financial stress, 1998–99 (per cent)**

	Multiple missing out <sup>(a)</sup>	Multiple cash flow problems <sup>(b)</sup>	Multiple hardship <sup>(c)</sup>
Number of households	1,552,000	656,400	222,700
Per cent of all households	21.8	9.2	3.1

(a) 'Missing out' comprised questions about: whether households could afford to have family and friends over once a month for a meal; a special meal once a week; new clothing rather than second-hand; hobby or leisure activities; a holiday away from home once a year; and nights out once a fortnight.

(b) 'Cashflow problems' comprised questions about an experience in the previous year of: being unable to afford to pay motor vehicle registration or insurance bills on time; being unable to afford to pay gas, electricity or telephone bills on time; and having had to seek financial assistance from families and friends.

(c) 'Hardship' comprised questions relating to whether, due to a lack of money in the previous year, the household had: gone without a meal; gone without heating; sought help from community organizations; or needed to pawn or sell something.

*Note:* These three categories of financial stress are not mutually exclusive; thus the figures cannot be summed to give the total number or percentage of houses experiencing financial stress.

*Source:* Bray 2001.

'missing out', 9% were experiencing cash flow problems, and 3% were experiencing hardship. (The categories are not mutually exclusive – a household may experience more than one of these three broad types of deprivation.)

It is important to note that, for some households, negative responses to some of the questions may reflect spending priorities or choices regarding allocation of limited finances. For example, for some households paying bills on time may not be a high priority, so negative responses to questions grouped under 'cash flow problems' may reflect this, rather than financial stress. Similarly, young people were found to more often report cash flow problems, and less often report 'missing out', possibly reflecting financial priorities associated with life cycle stage.

The 2002 ABS General Social Survey collected data on financial stress as indicated by inability to raise \$2,000 in a week for something important, cash flow problems (e.g. inability to pay electricity, gas or telephone bills on time), and dissaving actions (e.g. reduction of home loan repayments) (ABS 2003d).

## Wealth and wealth distribution

The indicators presented above relate mostly to households' current access to economic resources. However, economic security into the future is also an important issue. Economic security can be affected by: job security, providing a dependable source of income over time; wealth accumulation, to provide a buffer during times of reduced income (e.g. in retirement); and the availability of a welfare 'safety net', in terms of financial assistance and services provided by government and community organisations to those in need.

Some data on reliance on government pensions and allowances are presented below (Table 3.15). Rates of unemployment and issues relating to employment security are discussed in the following section.

Looking at household wealth – or 'net worth', defined as the sum of the household's assets minus the sum of its liabilities – can shed some light on levels of economic security for households. ABS: Northwood et al. (2002) have produced some experimental estimates for the period 1994 to 2000, using a wealth modelling approach (Table 3.15). In 2000, median household net worth was greatest for households composed of a couple with dependent students aged 15–24 (\$392,100), and lowest for lone-parent households with dependent children aged 0–14 (\$16,400) (Table 3.13). Some of the differences between the household

types are likely to reflect differences in age and life-cycle stage. For example, couples with dependents aged 15–24 are likely to be older on average than those with younger dependents, and are therefore likely to have had more years in the workforce during which to build up assets.

In 2000, median household net worth was estimated to be \$5,600 in the lowest wealth decile and \$23,200 in the second decile, compared with \$518,900 and \$982,400, respectively, for the ninth and tenth wealth deciles (ABS: Northwood et al. 2002).

The net worth of the household sector (in current prices) grew by more than 45% between 1994 and 2000 (Table 3.14). Over that period, dwelling assets remained the biggest component of household sector assets. This reflects the fact that, for many Australian households, the family home is the greatest asset. The section on shelter and housing (under 'Healthy living', above) presents an indicator on rates of home ownership.

Saving is that part of a household's disposable income that is not spent on final consumption of goods and services. Savings can increase a household's assets, or reduce its liabilities. Saving for retirement is an issue of growing public policy concern. Superannuation assets increased significantly from 16% of total assets in 1994 to 21% in 2000 (Table 3.14). This reflects growth in the percentage of employees with superannuation – in 2000, 91% of employees aged 15–64 had superannuation, compared with just 55% in 1988 (ABS 2002c). While total assets and savings for retirement have grown, liabilities have also grown significantly, increasing as a proportion of total assets from 13% in 1996 to 21% in 2000.

The longitudinal survey on Household, Income and Labour Dynamics of Australia (HILDA), funded by FaCS, is collecting a range of information on topics such as assets, borrowing, and saving, at household and personal level, and these data may in future provide a basis for further indicators of savings, assets, liabilities, and retirement income.

**Table 3.13: Median household net worth by household type, 2000**

<b>Household type</b>	<b>Median household net worth (\$'000)</b>
Couple only	243.9
Couple with dependents aged 0–14	153.5
Couple with dependents aged 15–24	392.1
Couple with dependents aged 0–14 & 15–24	277.4
Lone person	111.0
Lone parent with dependents aged 0–14	16.4
Lone parent with dependents aged 15–24	100.2
Other households	202.1

Source: ABS: Northwood et al. 2002.

**Table 3.14: Selected assets and liabilities of the household sector, 1994 and 2000**

	30 June 1994		30 June 2000	
	\$ billion	% of total assets	\$ billion	% of total assets
Total assets <sup>(a)</sup>	1,714	100	2,630	100
Dwellings <sup>(b)</sup>	816	48	1,197	46
Business assets	103	6	124	5
Currency and deposits <sup>(c)</sup>	180	10	243	9
Shares and other equity	109	6	210	8
Superannuation	281	16	543	21
Total liabilities	231	13	478	18
<b>Net worth<sup>(d)</sup></b>	<b>1,483</b>	<b>87</b>	<b>2,151</b>	<b>82</b>

(a) Includes consumer durables.

(b) This estimate of dwellings includes owner-occupied and rental dwellings, and the land upon which they stand.

(c) Includes loans and placements receivable.

(d) Household net worth is defined as the sum of the household's assets minus the sum of its liabilities.

Source: ABS: Northwood et al. 2002: Experimental wealth estimates—total assets after adjustments for non-profit institutions serving households and persons in non-private dwellings.

### Income support recipients

The number of people receiving government pensions and allowances is sometimes used as an indicator of income disadvantage. While not all low-income people are income support recipients, and not all income support recipients are low income (e.g. part-rate Age Pension can be received with moderate income), numbers of people whose main source of income is an income support payment can serve as an indicator of the low-income population. However, there can be problems with the interpretation of such an indicator – changes may reflect changes in policy (i.e. affecting who gets income support) rather than changes in numbers of low-income people.

The OECD uses 'proportion of the population in receipt of social benefits' as a measure of the magnitude of a country's social protection system, rather than as a measure of the low income population (OECD 2002b). Thus this indicator may also be relevant to the concept economic security.

In 1999–00, over 2 million households reported government pensions or allowances as their principal source of income – that is, 29% of all households (Table 3.15). Over half of all single parent households reported government pensions or allowances as their principal source of income.

There was little difference by age of reference person in the proportion of households reporting government pensions or allowances as their principal source of income up to age 54 years. Beyond this age group, the percentage increased with increasing age of the reference person. Three-quarters of households with a reference person aged 65 or over reported pensions or allowances as their principal source of income.

**Table 3.15: Households whose principal source of income is government pensions or allowances, by household type and age of reference person, 1999–00 (as a percentage of all households)**

Household type	Age of reference person						All households
	15–24	25–34	35–44	45–54	55–64	65 and over	
Couple with dependent children only	26.8	12.9	7.1	8.4	22.0	—	10.0
<i>All couple households</i>	9.3	9.7	7.3	9.3	22.7	66.4	19.9
Single parent	84.0	59.0	49.7	33.2	15.9	73.9	51.2
Single person	19.6	15.9	16.6	28.2	53.3	78.7	46.7
All household types	17.9	15.3	14.6	15.1	32.9	72.6	29.1
<b>Total number</b>	<b>59,173</b>	<b>203,828</b>	<b>240,319</b>	<b>219,432</b>	<b>321,854</b>	<b>1,050,476</b>	<b>2,095,082</b>

Source: ABS Survey of Income and Housing Costs 1999–00.

### 3.3 Employment and labour force participation

Employment and paid work provide the financial means by which people obtain the goods and services they do not produce themselves. Paid work, in Australian society, is therefore a major source of material wellbeing, the means by which people not only obtain the basic necessities to sustain life but also finance many social and recreational activities. Ideally, employment also provides opportunities for personal development and positive social interaction. Security of employment and the quality of working conditions underpin the success of employment in providing these various sources of individual wellbeing.

Employment is not only a key indicator of individual wellbeing, but is also intricately related to other aspects and experiences of a person's life, notably education, health and economic resources. Participation in employment is an important aspect of adult participation in society. Employment is, in all these ways, an integral aspect of autonomy and social participation.

#### Key issues, concepts and frameworks

The International Labour Organization (ILO) is a UN agency founded in 1919. The ILO formulates international labour standards concerning issues such as freedom of association, collective bargaining, abolition of forced labour, and equality of opportunity and treatment. It also sets standards relating to employment and labour force data, and guidelines on methods for collection of such data in population censuses and surveys. The ILO publishes reports on a range of labour-related issues, including labour statistics.

In Australia, national statistics on employment have been published for many years by the ABS, conforming to international standards relating to data items and definitions, chiefly those of the ILO. Together, these data provide information on:

- the extent to which people participate in the labour force, and the characteristics of those who do and do not;
- of those participating in the labour force, how many are employed, how many unemployed, and the characteristics of both groups;

- the most disadvantaged among unemployed people, for instance those who are long-term unemployed;
- for those who are employed, the basis of employment (full- or part-time, permanent or 'casual') and working hours; and
- labour force underutilisation, providing an indication of those who would like to work more, whether or not they are counted as being in the labour force.

Key terms, definitions and sources are given in Box 3.2.

**Box 3.2: Definitions of key terms for employment and labour force statistics**

*The terms below are used to describe labour force status within the population at a point in time, based on people's reported activities during a short reference period which, in the case of the ABS Labour Force Survey, is a specified one-week period.*

**Employed persons** are those who are aged 15 years or more who, during the reference week of the Labour Force Survey, worked for one hour or more for pay, profit, commission, or payment in kind in a job or business or on a farm; or worked without pay in a family business or on a farm; or were employees who had a job from which they were temporarily absent (e.g. because they were sick or on holiday). Also included are employers, own account workers or contributing family workers who had a job, business or farm, but were not at work.

**Unemployed persons** are those aged 15 years and over who were not employed during the reference week, but who had actively looked for work and were currently available for work (or who were waiting to start a new job within four weeks from the end of the reference week but could have started earlier if the job had been available). The unemployment rate for any group is defined as the number of unemployed persons expressed as a percentage of the labour force.

**Long-term unemployment** is defined as unemployment for a period of 52 weeks or more.

**The labour force** comprises people who are employed or unemployed. This represents the economically active population, which is the labour supply available for the production of goods and services. Labour force participation rate measures the proportion of the population belonging to the labour force and is expressed as a percentage of the civilian population aged 15 and over. Where a population subgroup is being considered, the number participating and the population of the particular subgroup are used in the calculation.

People in '**time-related underemployment**' comprise those who are: willing to work additional hours, available to work additional hours, and worked less than a threshold of 35 hours in the reference week. This definition includes part-time workers who want to work more hours and full-time workers who worked part time during the reference week for reasons imposed by the economic environment (e.g. temporary slowdowns in orders or shortages of materials).

**Extended labour force underutilisation** rate includes, in the numerator, the unemployed, the underemployed (as defined above), and two other groups with 'marginal attachment' to the labour force: people actively looking for work, not available to start in the reference week but able to start work within four weeks; and 'discouraged jobseekers', i.e. those who wanted to work and could start within four weeks, but were not actively seeking work because they believed they could not find a job for a series of specified reasons. The denominator of this measure is the labour force augmented by these two groups of people marginally attached to the labour force.

**Employees without leave entitlements** are those who were not entitled to either paid holiday leave or sick leave in their main job. This is considered to be a related but more precise concept than the concept of 'casual' employment.

Sources: ABS 2001a, 2001h, 2002c.

## Employment indicators

A range of indicators related to the key concepts defined in Box 3.2 are commonly used to summarise employment levels and conditions in a population. These are presented below, for the Australian population as a whole and for some population sub-groups. Some trend data are also presented.

### Employment and labour force participation

The labour force participation rate in 2002 was 64% for the population aged 15 years or more – 72% for men and 55% for women (Table 3.16). The overall participation rate was fairly steady over the decade to 2002. There was a slight fall for men and a rise for women over the period, so that the gap between male and female participation rates narrowed from 22 percentage points in 1992 to 17 percentage points in 2002 (ABS 2003a). These differences between male and female participation rates need to be borne in mind when considering differences in employment rates.

In 2002, an average of 6.6% of the labour force was unemployed – 6.9% for males and 6.3% for females (Table 3.16; ABS 2003a). Unemployment indicators have generally shown improvements over recent years:

- The overall unemployment rate decreased from 10.7% in 1993 to 6.4% in 2001 and 6.6% in 2002. Male and female unemployment rates followed similar trends, but female rates were lower than male rates throughout.
- Long-term unemployment fell from 3.6% (of the labour force) in 1993 to 1.3% in 2002.
- Underemployment (the extended labour force underutilisation rate) decreased from 16% in 1994 to 12% in 2000, then increased to 13% in 2002.

**Table 3.16: Employment indicators, 2002**

	Total ('000)	Total %	Males %	Females %
<b>Employment and labour force participation</b>				
Labour force (LF) size and participation rate	9,889	63.7	72.4	55.3
Employed (number and % of total population)	9,232	47.3	n.a.	n.a.
Unemployed (number and % of LF)	656.8	6.6	6.9	6.3
Long-term unemployed (% of LF)	n.a.	1.3	n.a.	n.a.
Extended labour force underutilisation rate	n.a.	13.0	n.a.	n.a.
<b>Employment basis and conditions</b>				
Part-time workers (% of total employed)	n.a.	27.9	14.4	45.2
Employees without leave entitlements (% of all employees)	n.a.	27.3	23.5	31.6
Average hours worked (full-time workers)	40.8 hours	..	..	..
Full-time workers working 50+ hours per week (% of full-time employees)	n.a.	24.3	n.a.	n.a.

#### Notes

1. Reference periods are annual averages for the year ending 30 June, except for: employees without leave entitlements (August), labour force underutilisation (September).
2. See Box 3.2 for definitions of indicators in this table.

Source: ABS 2003a.

## **Employment basis and conditions**

Part-time workers accounted for 28% of all people employed in 2002 – 14% of employed males and 45% of employed females (Table 3.16). For both sexes these proportions rose slowly but steadily from 1992, when they were 10% and 41%, respectively (ABS 2003a).

The proportion of male full-time workers without leave entitlements rose markedly over the decade. In 2002, 24% of males and 32% of females employed full-time had no leave entitlements; a decade before, in 1992, these figures were 16% for males and 31% for females (ABS 2003a).

Full-time workers worked an average of 40.8 hours per week in 2002; there was no noticeable trend over the decade since 1992, when the average was 40.6 hours. However, 24% of full-time workers worked 50 or more hours per week in 2002, representing an increase from 22% in 1992, although there was a peak of 26% in 2000.

## **Age, sex and marital status differentials**

There are marked differences in labour force experience depending on age, sex and, for women, marital status. The data in Tables 3.17 and 3.18 reflect labour force patterns in June 2002.

The labour force experience of people of 'middle working ages' (i.e. 25 to 54 years) was characterised by high rates of labour force participation (over 80%) and unemployment rates at or below the national average of 6.3%. However, within this broad group, labour force participation rates were lower for females and unemployment rates declined at older ages for both males and females.

Over the age of 55 years, labour force participation rates decreased markedly with each older group – 62% for people aged 55–59, 37% for people aged 60–64 years, and 6.6% for people aged 65 and over. For those aged 60–64 years the unemployment rate was 3.0% – lower than for any other age group.

The age group 15–19 years is characterised by relatively low labour force participation rates and high unemployment rates. It should be noted, however, that the unemployment figures for this age group include people studying at school or tertiary institutions who are also looking for work. In the age group 20–24 years, labour force participation rates are as high as those in the 'middle working ages' group, but unemployment rates are also relatively high at 10%.

Employment patterns of young people aged 15–24 years have changed in recent decades. With increases in educational participation, many are combining part-time work with full-time study. In 1995, 72% of young people were in the labour force, with 55% of these working full-time; in 1975, 68% were in the labour force but 81% of these worked full-time (ABS 1996a:97).

In all age groups over 20, unemployment rates were lower for married males and females than for the overall sex and age group.

**Table 3.17: Civilian labour force participation rate by age, sex and marital status, June 2002 (per cent)**

Age	Males	Females		Total	Total persons
		Married	Not married		
15–19	56.2	75.4	57.6	58.2	57.2
20–24	85.2	70.1	78.7	76.3	80.8
25–34	92.2	69.1	75.3	71.3	81.8
35–44	91.4	71.6	71.0	71.5	81.4
45–54	87.8	74.7	68.0	73.1	80.5
55–59	73.3	50.4	51.3	50.6	62.2
60–64	49.9	22.5	25.6	23.4	36.7
65+	10.6	5.5	2.1	3.5	6.6
<b>Total</b>	<b>72.3</b>	<b>58.3</b>	<b>51.6</b>	<b>55.4</b>	<b>63.8</b>

Source: ABS 2002g.

**Table 3.18: Unemployment rate by age, sex and marital status, June 2002 (per cent)**

Age	Males		Females		Total persons
	Married	Total	Married	Total	
15–19	*24.0	15.7	*18.5	16.4	16.0
20–24	8.0	10.9	7.7	8.3	9.7
25–34	3.8	6.1	4.8	6.4	6.2
35–44	3.2	4.6	3.7	5.0	4.8
45–54	2.8	4.0	2.6	3.9	3.9
55–59	4.8	5.8	2.1	2.6	4.5
60–64	2.9	4.0	*0.5	*1.0	3.0
<b>Total 15–64</b>	<b>3.6</b>	<b>6.4</b>	<b>3.7</b>	<b>6.3</b>	<b>6.3</b>

Source: ABS 2002g.

## Indigenous employment

Employment outcomes for Indigenous Australians were notably poorer than for the population overall (Table 3.19). Indigenous Australians had a labour force participation rate that was lower than for non-Indigenous Australians in 2001 (52%, compared with 63%), and their unemployment rate was 20%, compared with 7.2% for the rest of the population.

Indigenous employment figures include almost 18,000 Community Development Employment Projects (CDEP) scheme participants, as recorded in the Census. This Census figure represents about 60% of the 32,000 CDEP participants recorded by ATSIIC. This undercount is probably related to collection methods outside remote areas – the standard Census form, used in less remote areas, was not specifically designed to collect information on CDEP participation (ABS & AIHW 2003:25). The main aim of the CDEP scheme is to create local employment opportunities in remote Indigenous communities where the labour market might not otherwise offer employment.

**Table 3.19: Labour force and employment status of persons aged 15 years and over, by Indigenous status, 2001**

	Indigenous	Non-Indigenous	Total <sup>(a)</sup>
In the labour force:			
Employed: CDEP <sup>(b)</sup>	17,805	1,900	19,769
Employed: Other	78,446	7,950,402	8,076,660
Employed: Not stated <sup>(c)</sup>	4,142	192,184	202,177
Unemployed	25,044	628,623	660,709
<i>Total labour force</i>	<i>125,437</i>	<i>8,733,109</i>	<i>8,959,315</i>
Not in the labour force	115,422	5,060,381	5,265,426
Unemployment rate (%)	20.0	7.2	7.4
Labour force participation rate	52.1	63.3	63.0

(a) Includes not stated.

(b) Community Development Employment Projects scheme.

(c) Includes employed persons who did not state industry sector.

Source: ABS 2003j.

## Families, employment and disadvantage

There have been increases in employment over the 1990s among families with dependent children aged 0–14. Between 1992 and 2002 there was an increase in the proportion of sole parents employed, and in the proportion of couple families with at least one parent employed (Table 3.20). There was a corresponding decrease in the proportions of families with dependents with no parent employed – from 10% to 7% for couple families and from 59% to 54% for one-parent families.

**Table 3.20: Employment patterns of families with dependent children aged 0–14 years, by family type, 1992 and 2002**

Employment patterns and family type	1992		2002	
	No. ('000)	Per cent	No. ('000)	Per cent
<b>Couple families</b>				
Both partners employed	884.0	51.7	973.8	57.1
One partner only employed				
Husband employed	607.2	35.5	550.5	32.3
Wife employed	51.1	3.0	57.6	3.4
At least one partner employed	1,542	90.2	1,582	92.8
Neither partner is employed	168.1	9.8	123.1	7.2
<b>Total</b>	<b>1710.4</b>	<b>100.0</b>	<b>1,704.9</b>	<b>100.0</b>
<b>One-parent families</b>				
Parent employed	137.0	40.6	234.7	46.2
Parent not employed	200.2	59.4	273.8	53.8
<b>Total</b>	<b>337.2</b>	<b>100.0</b>	<b>508.5</b>	<b>100.0</b>

Source: AIHW 2003a.

**Table 3.21: People aged 15–64 years and living in households: labour force status by disability status, 1998**

	Core activity restriction				Schooling or employment restriction	Total with selected restrictions <sup>(a)</sup>	Total with disability	Total without disability	Total with/without disability
	Profound	Severe	Moderate	Mild					
<b>Per cent</b>									
<b>Unemployment rate</b>									
Males	8.3	13.3	16.0	11.7	16.2	14.2	13.5	7.7	8.4
Females	6.4	9.8	9.2	5.6	8.2	8.2	8.6	8.0	8.1
Persons	7.4	11.6	13.1	9.3	12.9	11.7	11.5	7.8	8.3
<b>Participation rate</b>									
Males	20.9	43.4	51.5	65.3	51.4	55.9	60.3	89.2	84.2
Females	16.9	37.2	40.8	46.7	40.6	42.3	45.5	71.0	66.9
Persons	18.9	40.2	46.3	56.5	46.4	49.3	53.2	80.1	75.6
<b>Number ('000)</b>									
<b>Total</b>									
Males	61.7	173.2	214.0	310.4	785.9	920.7	1,078.3	5,192.6	6,270.9
Females	64.2	191.6	199.7	279.5	688.7	854.8	988.3	5,195.8	6,184.1
Persons	125.8	364.8	413.7	589.9	1,474.6	1,775.4	2,066.7	10,388.4	12,455.0

(a) Total numbers may be less than the sum of the components because people may have both a core activity restriction and a schooling or employment restriction.

*Notes*

Core activities are:

- Self care—bathing or showering, dressing, eating, using the toilet, and managing incontinence;
- Mobility—moving around at home and away from home, getting into or out of a bed or chair, and using public transport; and
- Communication—understanding and being understood by others: strangers, family and friends.

A core activity restriction may be:

- Profound—unable to perform a core activity or always needing assistance;
- Severe—sometimes needing assistance to perform a core activity;
- Moderate—not needing assistance, but having difficulty performing a core activity: or
- Mild—having no difficulty performing a core activity but using aids or equipment because of disability.

Source: AIHW 1999; ABS 1999b: Table 20.

Data from the 2002 General Social Survey indicate that there were 548,000 children aged under 15 years (14%) living in one-family households where there was no employed adult (ABS 2003d). Of these children, 63% were living in one-parent households. In addition, there were 120,000 children living in one-family or multiple-family households without an employed parent, but where another member of the household did have a job.

### **Employment rates of people with a disability**

People with a disability had a lower level of involvement in the paid workforce than the rest of the population in 1998 (Table 3.21). While the participation rate for people with no disability was 80%, it was 53% for people with a disability. Participation rates for people with severe and profound core activity restrictions were even lower—40% and 19%, respectively. Women’s participation rates were lower than men’s across all disability levels. (See Table 3.21 footnotes for definitions of terms used in the ABS Survey of Disability, Ageing and Carers.)

The unemployment rate for males with a disability was 13.5% – higher than for men generally (8.4% as measured in this survey<sup>10</sup>). With one exception, this difference applied across all disability levels. The exception was the unemployment rate for men with profound core activity restrictions – 8.3% – but this may be the result of their very low participation rate (20.9%). The unemployment rate for women with a disability was 8.6%, only marginally higher than that for women generally (8.1%); again this similarity in unemployment rates masks substantial differences in labour force participation rates – 46% for women with a disability, compared with 71% for women without disability. Unemployment rates varied with the level of disability.

### **3.4 Transport and communication**

The ability to move around the community, to communicate within it, and to access transport and communication systems are all important aspects and facilitators of successful human functioning (e.g. WHO 2001). Accessibility has been defined as the ease of access with which people can reach a variety of locations, and is achieved not only through mobility but also through communication networks such as telephone systems and the Internet (Ross 1999). Accessibility, in this sense, is essential for everyday life.

The availability of efficient and affordable transport is important not only for the movement of people and goods but also because it provides significant social and economic benefits, by facilitating access to resources within and around the community, trade opportunities, employment, education, health services, leisure activities and community activities (NSW EPA 2000). Such mobility, within Australia, is commonly provided either by the private motor vehicle or the public transport network.

The communication of information, ideas and knowledge is important to many aspects of participation, including in education and the economic sphere. Communication networks provide access to information through channels such as the Internet. The Internet increases accessibility to information for cultural or recreational pursuits, as well as providing efficiencies (through facilities such as Internet banking and purchasing). Better communication makes Australian industry more competitive, both domestically and internationally, thereby enabling a higher economic standard of living (ABS 2002a).

#### **Key issues, concepts and frameworks**

Gauging the quality and adequacy of transport and communication can involve subjective and complex measurement. Ideal indicators might, for instance, focus on:

- whether people have access to efficient and affordable transport;
- whether people have access to acceptable public transport networks (in terms of connections and timetables, for instance) or uncongested roads;
- whether those who need a car can afford to own or use one; and
- whether people have access to the telephone and internet services they need.

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10 The 1998 ABS Survey of Disability, Ageing and Carers, from which these data are taken, used a less rigorous definition of unemployment than the standard; thus, while the figures quoted here enable comparisons, they do not match exactly the ABS labour force data of the time.

The NSW Environment Protection Authority presents a conceptual framework for transportation indicators (NSW EPA 2000). While the purpose of the framework is to provide a structure within which to measure environmental issues related to transport, some of the measures used also reflect the population's demands for accessible and efficient transport. An example of such a measure is the impact of transportation air quality. Transport directly contributes more than half of the most common air pollutants; the distance of vehicle travel and mode of transport can be used as indicators of this contribution, but can also be used as indicators of transport use patterns and access to different modes of transport.

Recognition of the importance of highly accessible transport for everybody has led to the implementation of disability standards for accessible public transport under the *Disability Discrimination Act 1992*. These standards were designed to help to promote greater independence and a correspondingly better quality of life for people with a disability, older people and parents with young children (Attorney-General's Department 2002). A 20-year timetable was specified, within which almost all public transport will become accessible; 25% must be accessible within 5 years. Improvements in public transport accessibility are to focus on disability access issues, including such improvements as access paths, manoeuvring areas, ramps and boarding devices (e.g. low-floor buses).

Australian government organisations (e.g. the Department of Transport and Regional Services) and other transportation organisations, including Austroads and the National Road Transport Commission, publish transportation indicators that focus on the economic aspects of transportation use, such as employment, output and fuel sales (BTRE 2003). ABS publications, for instance, *Australian Social Trends 1996*, *How Australians use their time 1997*, and *Measuring Australia's Progress 2002*, provide a general picture of the available data on mobility and transport use by Australians (ABS 1996a, 1998c, 2002a).

The Australian Communications Authority collects and analyses data on various aspects of telecommunication, which it publishes yearly in the *Telecommunications Performance Report* (ACA 2002a). The report investigates the performance of the telecommunication industry and customer satisfaction. Established performance indicators are used to measure the efficiency of supply and compare the adequacy of telecommunication services between different sub-populations, especially between metropolitan and remote regions.

## **Transport and communication indicators**

Indicators presented in this section concentrate on the more immediate effects of transport and communication for people, and focus particularly on access. While few of the indicators are broken down by geographic location, geography is recognised as an important factor in accessibility of transport and communication in Australia. Metropolitan areas tend to be better served for public transport and for telecommunications than other areas. Distances in some rural or remote areas can be magnified by lack of trains and buses, or by poorly maintained roads or lack of alternative routes in bad weather. If useful summary measures of transport accessibility become available, their distribution across the types of geographic regions would be an important aspect.

### **Transport**

While there is a considerable array of data on transport in Australia, the emphasis is often on economic inputs, distances travelled or resources consumed, rather than the efficacy of transport systems for people's wellbeing.

Below, available data on transport use, accessibility of private motor vehicles, access to public transport, and transport accessibility for people with disabilities are presented, as well as newly-released data from the ABS General Social Survey (GSS) on whether people have difficulty getting to the places they need to go. Transportation safety is another important indicator, as motor vehicle traffic accidents are costly in terms of deaths, injuries and damage to vehicles (ABS 1996a); section 2.4 on safety provides some relevant data on road deaths and injuries.

### **Transport use**

Transport use data might ideally provide an indication of the use of the different modes of transport, by various population groups, to travel between locations. Modes of transport of interest could include private cars, public transport, taxis, walking and cycling.

The mode of transport used may be influenced by the purpose of the journey and a range of other factors. For example, whether and when people use their cars depends on factors such as anticipated levels of congestion and the price of fuel, as well as the availability and accessibility of alternative transport.

In Australia, the car<sup>11</sup> is the main means of transport for almost all purposes. According to the 2001 Census, 64% of employed people reported that their sole method of travel to work was by car, as either passenger or driver; 3% travelled by 'train only'; 3% by 'bus only'; and 5% either rode a bike or walked (Table 3.22). Even in the Sydney region, the car dominates—on weekdays in 2001, 48% of all trips were made by motor vehicle drivers, 22% by passengers, 5% by train, 6% by bus, 17% walking, and 2% using other modes (TDC 2002).

While the share of journeys made by public transport has decreased over recent decades, public transport remains an essential mode of transport as it provides necessary mobility to people who cannot afford or cannot drive a car. It is also more suitable for journeys to or from large city centres, especially during the peak hours. Without public transport, Australia's larger cities would have difficulty functioning and the environmental effects would be serious (ABS 1996a).

Data from the 1992 ABS Time Use Survey indicate that 16% of all people living in capital cities used public transport on an average weekday and 4% used it on an average weekend day (ABS 1996a). Of public transport users in capital cities, 42% used public transport to travel to work and 25% used it for shopping. Incentives to use public transport tend to be greater in metropolitan areas because of parking restrictions and traffic congestion.

### **Accessibility of private motor vehicles and public transport**

Rates of car ownership provide an indicator of access to private motor vehicles. Car ownership is calculated as the number of car registrations per 1,000 population (ABS 1996a, 2002a). Cars may be registered by an individual or by a private or public organisation. Car ownership has increased in recent years (Figure 3.1).

Cars are often shared between members of a household. In 1993–94, 51% of Australian households had one registered private car, 26% had two and 7% had three or more. Only 16% did not have any registered cars (ABS 1996a).

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11 In this section 'car' is used to mean a private passenger motor vehicle constructed mainly for the occupancy of less than 10 people, and includes station wagons, four-wheel drives and people-moving vans.

**Table 3.22: Method of travel to work by employed persons<sup>(a)</sup>, by sex, 7 August 2001 (per cent)**

	<b>Males</b>	<b>Females</b>	<b>Persons</b>
<b>One method only</b>			
Train	3.0	3.4	3.2
Bus	2.1	3.0	2.5
Ferry	0.1	0.1	0.1
Tram <sup>(b)</sup>	0.3	0.5	0.4
Taxi	0.3	0.2	0.3
Car, as driver	61.3	54.0	58.0
Car, as passenger	5.2	7.4	6.2
Truck	2.9	0.1	1.6
Motorbike/motor scooter	1.0	0.1	0.6
Bicycle	1.4	0.4	0.9
Other	0.8	0.3	0.6
Walked only	3.7	3.9	3.8
<b>Two methods</b>			
Train and Bus	0.7	0.8	0.7
Train and other (excluding bus)	1.1	1.4	1.3
Bus and other (excluding train)	0.3	0.5	0.4
Other two methods	0.9	0.6	0.8
<b>Three methods</b>			
Train and other two methods	0.3	0.3	0.3
Bus and other two methods (excluding train)	0.0	0.0	0.0
Other three methods	0.1	0.0	0.0
<i>Total</i>	0.4	0.3	0.4
Worked at home	4.5	6.3	5.3
Did not go to work	8.3	14.7	11.2
Not stated	1.7	2.0	1.8
<b>Total (number)</b>	<b>4,546,783</b>	<b>3,751,823</b>	<b>8,298,606</b>

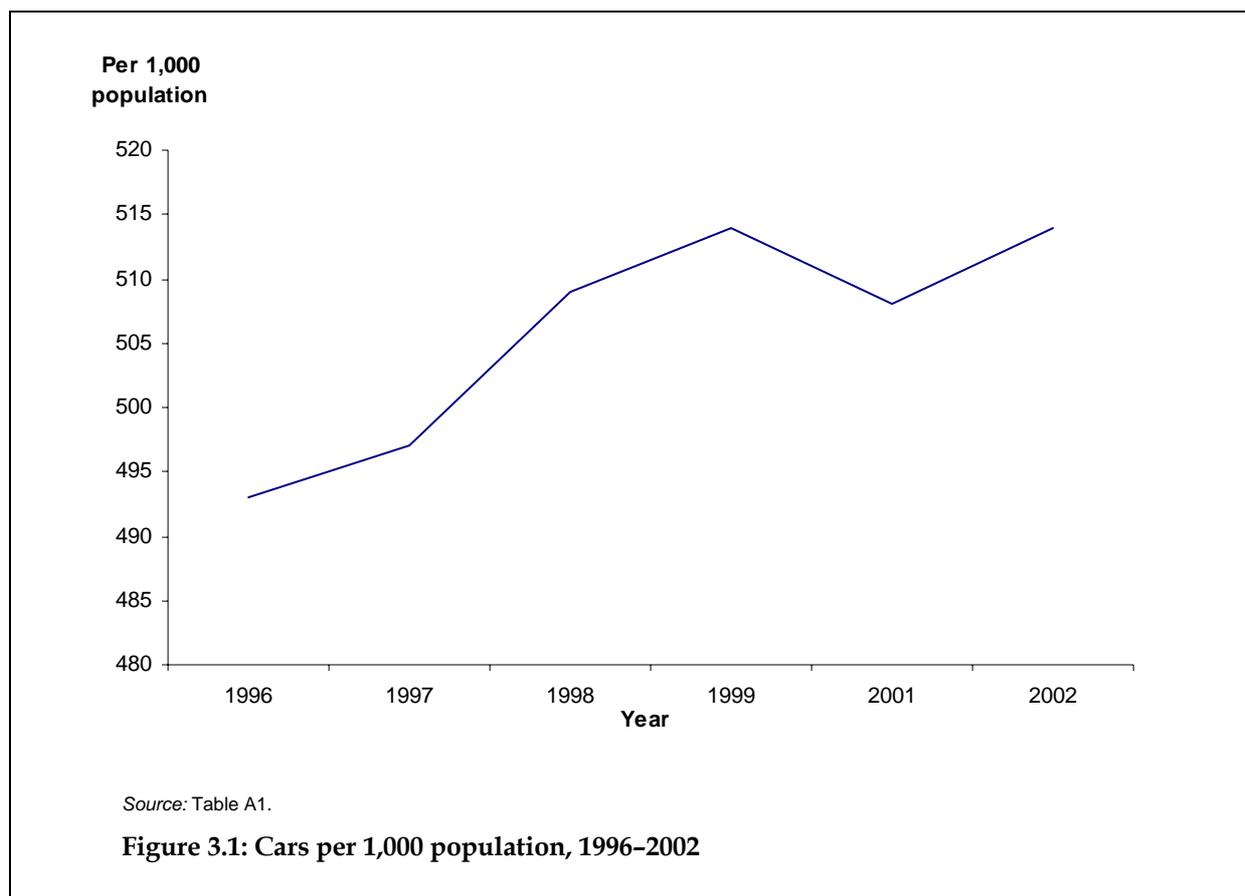
(a) Aged 15 years and over (excluding overseas visitors).

(b) Includes light rail.

Source: ABS 2002h.

Per capita car ownership rates provide limited information on the accessibility of private motor vehicles, as ownership may be concentrated, with some households or individuals having several cars, and others none. In the 2002 GSS, 90% of respondents aged 18 years or over reported that they had access to a car to drive (ABS 2003d).

Affordability is an alternative indicator of the accessibility of private motor vehicles. The average operating cost of most small to medium cars (up to 5 years old) was estimated as



ranging between \$130 and \$180 per week (NRMA 2003),<sup>12</sup> compared with average weekly earnings of Australian employees in early 2003 of \$713 per week (ABS 2003k).

Access to public transport, and the criteria for judging accessibility, vary by location within Australia. In 2000–01 it is estimated that 99% of Australians living outside metropolitan areas, in urban centres and localities of 200 persons or more, were within ‘reasonable access distance’ of regional rail, coach or air services (that is, road distance of 70 to 120 kilometres of an airport or 16 kilometres of a rail or regional coach stop) (BTRE 2002). Equivalent data are not available for other regions.

In the 2002 GSS, 84% of respondents aged 18 years or over reported that they could easily get to the places they needed to go, while 12% sometimes had difficulty, and 4% said they often had difficulties or could not get to the places they needed to go (ABS 2003d). In older age groups a greater proportion of people could not, or often had difficulty getting to the places they needed to go – 5% of those aged 65–74 and 11% of those aged 75 years or over. Women in these older age groups were more likely than men to report difficulty with transport.

### **Transport accessibility for people with disabilities**

Public transport accessibility for people with a disability is important in facilitating full participation in and enjoyment of community life. In 1998, journeys by public transport were undertaken by 47% of the 3,378,500 people with a disability aged 5 years and over. For the

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<sup>12</sup> These costs included depreciation, interest, registration, full insurance, NRMA membership, fuel, vehicle maintenance and additional purchase costs.

last journey in the fortnight before the ABS disability survey, 7% of people with a disability (250,400 people) used public transport, while 78% (2,626,400) travelled by motor vehicle (31% as a passenger and 46% as the driver) (ABS 1999b:31, 33). Difficulty with using public transport was identified by 31% (1,050,700) of people with a disability, the most common difficulty being due to steps for getting in/out of vehicles/carriages. Also, 15% (508,800) of people with a disability said that public transport was not available in their local area.

The taxi industry provides an essential mode of public transport for people with disabilities, particularly as taxis can provide direct pick up and drop off at preferred locations. State and territory governments around Australia provide substantial subsidies to people with disabilities for taxi use (HREOC 2000). Currently 14% of the national taxi fleet are accessible vehicles. This figure represents a higher ratio of WAT (Wheelchair Accessible Taxis) to the disabled population than the ratio of taxis overall to general taxi users (HREOC 2000). Nonetheless, as WATs are not reserved exclusively for people with disabilities, people with disabilities often experience problems such as slow response times, and long waiting times at ranks until a suitable taxi arrives (HREOC 2000).

## **Communication**

The communication of information and knowledge is important to Australia's functioning. Our focus in this section is on indicators of access to communication systems and equipment (communications enablers), rather than on indicators of communication activities. Two indicators are presented: internet access and telephone access.

### **Internet access**

The Internet has become an increasingly important form of communication. It is a powerful communication and research tool, providing information about and to organisations, companies, universities and individuals. It also offers on-line services including education, banking and shopping, thus allowing people to work or study from home, as well as to communicate with others (ABS 2002a). Internet accessibility, calculated as the number of households connected to the Internet as a percentage of all households, grew rapidly from 4% in 1996 to 37% in 2000 (ABS 2002a).

At March 2002, 27% of Australian Internet subscribers were outside capital cities (ACA 2002a) – 45% of households in rural areas and 47% in remote areas had Internet access. Often rural households have higher costs and lower access quality, which can discourage people from connecting to the Internet.

There has been a rapid growth in Internet connections over the past decade, driven partly by improvements in technology and infrastructure. Internet access varies markedly with household characteristics, particularly income, location, and age (ABS 2002a). Data from the 2002 GSS indicate that 69% of households in the highest income quintile had Internet access, compared with just 21% of households in the lowest quintile (ABS 2003d). Of households with dependent children, one-parent families were less likely to have Internet access than couple families (43% compared with 69%). Only 23% of lone person households had Internet access.

Internet usage in Australia is high by world standards, with Australia ranked equal fifth in an OECD study in 2000 (ABS 2002a).

## Telephone access

Despite the growth in Internet use, the telephone continues to be a major mode of communication. The number of fixed phone lines in Australia increased by over a third between 1990 and 1999, from 7.8 million to almost 10.5 million (ABS 2002a).

The adequacy of mobile phone coverage is of particular importance in a country the size of Australia. Mobile phone accessibility is calculated as the area of signal coverage by mobile networks relative to the total area of Australia. Mobile density is the number of mobile phones per capita (ACA 2002b).

There are two main types of networks: global system for mobile communications (GSM) and code division multiple access (CDMA) networks. Mobile phone services are also offered via satellite, with coverage over the entire Australian landmass. However, this option is more costly and not often considered by the average consumer. In 2001–02, Australia's CDMA network had the largest cellular mobile coverage, providing more than 1.1 million square kilometres of coverage, or over 13% of Australia's total land area and 97% of the total population. The GSM network covered at least 6.6% of the total land area and 95% of the total population (ACA 2002a).

The number of mobile phone subscribers increased by 25% between 2000 and 2001. In July 2001, Australia's 11.1 million mobile subscribers outnumbered the 10.9 million fixed line connections (ACA 2002b).

## 3.5 Recreation and leisure

A balanced lifestyle that includes participation in recreation and leisure activities can be a major contributor to a person's physical and mental health and wellbeing. Recreational activities may involve group or club activities and hence offer opportunities for social interaction and community engagement, in turn adding to the fabric of a cohesive society. So important is the human need for leisure that it is recognised in the UN Declaration of Human Rights, which states that 'Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay' (UN 1948).

### Key issues, concepts and frameworks

There are complexities in defining the scope of 'recreation and leisure', and in measuring its effects on wellbeing (ABS 2001a).

Definitional boundaries may blur between 'work' (both paid and unpaid) and 'recreation'. For instance, people may tend to work at what they most enjoy and may continue aspects of their work, for interest, outside the workplace; similarly, unpaid 'work' such as gardening and shopping may be considered by some to be recreational; and some social interactions (e.g. with relatives) may blur the boundaries between recreation, social activity and unpaid work (e.g. caring activities). Equally, measuring the value of and benefit gained from recreational activities can rely on subjective judgements about 'enjoyment' and 'refreshment' (ABS 2001a).

There are a range of other potential data sources, including industry surveys, the population census, and a number of specific surveys, for instance relating to attendance at selected cultural and leisure venues. These provide data on the culture and leisure industry and related expenditure, products and occupations. Data from these sources are not included, as

the focus here is on participation in recreation and leisure, not on the economic inputs to and outputs of some recreation-related industries (see ABS 2001a).

Measuring the time actually spent on recreation and leisure appears to be the most straightforward way of summarising participation in recreation and leisure. This is the approach taken in this paper; it enables the indication of balance in lifestyle, in that time spent on recreation and leisure can be compared with time spent on other activities.

An important, health-related area of recreation is that of physical activity. While, in health terms, it is important to know how much physical activity occurs at work, the focus in this section is on how much of 'recreation' it comprises.

Further indicators of recreation and leisure may be included in future editions of *Australia's Welfare*, for instance if they are developed and routinely published by the ABS. At present *Measuring Australia's Progress* (ABS 2002a) lists 'culture and leisure' as a heading, but there are no headline or supplementary indicators included in the publication.

### Time use survey and framework

The ABS time use framework identifies four categories of time (ABS 2001a):

- **Necessary time**, which includes activities which serve basic physiological needs such as sleeping, eating, personal care, health and hygiene.
- **Contracted time**, which includes paid work and regular education. Activities within this category have explicit or implicit contract which control the periods of time in which they are performed. These activities, therefore, constrain the distribution of other activities over the rest of the day.
- **Committed time** describes activities to which a person has committed him/herself because of previous acts or behaviours or community participation such as having children, setting up a household, or doing voluntary work. The activities of domestic work, care of children, shopping, and voluntary work and care of others are all included in this time category. However, some of these activities could potentially be considered leisure activities (e.g. some people consider household activities such as gardening or making furniture to be leisure rather than duty).
- **Free time** is the amount of time left when the previous three types of time (necessary, contracted, committed) have been taken out of a person's day. Social and community interaction and recreation and leisure activities are included in this time category.

The time use framework is supported by an activity classification that describes what people do with their time in terms of: for whom the activity is done, with whom is it done, and where it is done.

Data from the survey are presented in terms of 'main activity' and 'all activities', recognising that people can often be carrying out more than one activity at any one time:

- The 'main activity' refers to the first activity people recorded in each five-minute time slot of the time use diary.
- 'All activities' include both the main activity and a secondary activity recorded in response to the question: what else were you doing at the same time?'

Recreation and leisure activities include:

- Sport and outdoor activities such as: outdoor activities, organised sport, informal sport, bushwalking, walking, fishing, holiday travel, driving for pleasure;

- Games, hobbies, arts and crafts such as: playing cards and board games, crosswords, gambling, computer games, arcade games, collecting, craft work, art making, performing or making music;
- Reading and audio/visual media including: reading books, magazines, newspapers, CD-ROMs, watching TV or video, listening to radio, listening to tapes, CDs or records, accessing the Internet;
- Attendance at recreational courses including personal development, do-it-yourself, art, craft, and hobby courses;
- Other free time activities such as relaxing, resting, doing nothing, thinking, worrying, drinking alcohol, social drinking, smoking, interacting with pets.

Time use, in this section, is reported as an average across the whole population aged 15+ years and across every day of the week. These estimated averages are based on household surveys and diary records kept by survey respondents (see ABS 1998c). Because people can carry out more than one activity at a time, activities may be tabulated as 'main activities' (for which the time used can be summed to a whole day) or else as 'all activities'.

## Recreation and leisure indicators

### Overall pattern of time use

Personal care, as a main activity, occupied 46% of people's time in 1997, largely because of the inclusion of 'sleep' in this category, on which people spent an average of 36% of their time (ABS 1998c). 'Recreation and leisure' was the next main activity (19% of people's time), ahead of employment (14%) and domestic activities (10%).

There were male-female differences in this pattern, with males spending, on average, more time at employment-related activities than females (18% of time compared with 9%), slightly more in recreation and leisure (20%, compared with 18%), and less in domestic activities (7%, compared with 13%).

**Table 3.23: Average daily time spent on main activities, 1997**

Purpose of activities	Males		Females		Persons	
	Min/d <sup>(a)</sup>	% of day	Min/d <sup>(a)</sup>	% of day	Min/d <sup>(a)</sup>	% of day
Personal care	658	45.7	671	46.6	665	46.2
Employment related	261	18.1	132	9.2	196	13.6
Education	24	1.7	28	1.9	26	1.8
Domestic activities	97	6.7	180	12.5	139	9.7
Child care	16	1.1	45	3.1	31	2.2
Purchasing goods and services	35	2.4	54	3.8	45	3.1
Voluntary work and care	19	1.3	24	1.7	22	1.5
Social and community interaction	42	2.9	47	3.3	45	3.1
Recreation and leisure	283	19.7	254	17.6	268	18.6
Undescribed	5	0.3	5	0.3	5	0.3
<b>Total</b>	<b>1,440</b>	<b>100.0</b>	<b>1,440</b>	<b>100.0</b>	<b>1,440</b>	<b>100</b>

(a) Units are average time shown in minutes per day.

Source: ABS 1998c.

## Overall pattern of recreation and leisure activities

Of time spent on recreation and leisure activities, by far the most likely was time spent on audio-visual media – TV, radio, recorded music (130 minutes per day on average, of a total of 268 minutes on recreation and leisure as a main activity). Talking (35 minutes) was a distant second, ahead of sport and outdoor activities (27 minutes), reading, games and crafts, and other activities (Table 3.24). There were a number of sex differences, the most marked being that females spent more time talking, and men spent more time on audio-visual activities and sporting and outdoor activities.

When ‘all activities’ are considered, the picture of recreation and leisure changes somewhat. Audio-visual activities assume even more importance – 130 minutes per day for audio-visual media as a *main* activity climbs to 256 minutes per day for *all* audio-visual activities – probably reflecting the ease with which people can undertake other activities combined with these, for instance, listening to the radio while driving or gardening (Table 3.25). Sport and outdoor activities changed far less, from 27 minutes per day to 28.

**Table 3.24: Average daily time spent on recreation and leisure as main activities, by sex, 1997 (minutes)**

Main free-time activities <sup>(a)</sup>	Males	Females	Persons
Sport and outdoor activity	33	20	27
Games/hobbies/arts/crafts	18	15	17
Reading	24	26	25
Audio/visual media	143	118	130
Attendance at recreational courses	1	1	1
Other free time	23	20	21
Talking (including phone)	27	44	35
Writing/reading own correspondence	1	2	1
Associated travel	11	7	9
Other	2	1	1
<b>Total</b>	<b>283</b>	<b>254</b>	<b>268</b>

(a) ‘Free time’ is a time use category comprising activities such as religious observance, socialising, and a range of activities commonly associated with recreation and leisure.

Source: ABS 1998c.

## Age differences in recreation and leisure time

The age group 35–44 spent the least time of all age groups on recreation and leisure activities (221 minutes per day as a main activity). Thereafter the time increased, with those in the age group 55–64 years achieving the same leisure time as the 15–24 year age group (around 300 minutes per day).

The sex differences previously noted held in every age group, although they were greatest in the age group 15–24 years, where females spent about 60 minutes less per day on recreation and leisure than did males of the same age (Table 3.26).

**Table 3.25: Average daily time spent on recreation and leisure as all activities, by sex, 1997 (minutes)**

All free-time activities <sup>(a)</sup>	Males	Females	Persons
Sport and outdoor activity	35	21	28
Games/hobbies/arts/crafts	21	21	21
Reading	36	37	36
Audio/visual media	261	251	256
Attendance at recreational courses	1	1	1
Other free time	36	27	31
Talking (including phone)	101	128	115
Writing/reading own correspondence	1	2	1
Associated travel	11	7	9
Other	2	1	1
<b>Total</b>	<b>504</b>	<b>497</b>	<b>501</b>

(a) 'Free time' is a time use category comprising activities such as religious observance, socialising, and a range of activities commonly associated with recreation and leisure.

Source: ABS 1998c.

## Recreation and employment

People who were employed full time spent some 30 minutes per day less on recreation and leisure than did those who were employed part-time (Table 3.27). People who were not employed at the time of the survey spent the greatest amount of time on recreation and leisure activities. Females had less leisure time than males, regardless of employment status.

**Table 3.26 : Average daily time spent on recreation and leisure main activities by age group and sex, 1997 (minutes per day)**

Age (years)	Males	Females	Persons
15–24	326	263	295
25–34	242	206	223
35–44	233	209	221
45–54	253	233	243
55–64	314	297	305
65 and over	400	377	387
<b>Total</b>	<b>286</b>	<b>257</b>	<b>271</b>

Source: ABS 1998c.

**Table 3.27: Average daily time spent on recreation and leisure main activities, by employment status and sex, 1997 (minutes per day)**

Employment status	Males	Females	Persons
Employed full-time	225	198	217
Employed part-time	304	226	247
Not employed	392	303	337

Source: ABS 1998c.

In fact, females employed part-time had about the same average time for recreation and leisure as did males employed full time, and those not employed had as much leisure time as part-time employed males.

### **Physical activity**

Physical activity is recognised as an important factor in reducing the risk of certain chronic diseases and their effects. The National Physical Activity Guidelines for Australians recommend 30 minutes of moderate-intensity physical activity on most days of the week.

Data from the Active Australia surveys indicate that the proportion of people aged 18 years and over whose physical activity levels were considered sedentary rose between 1997 and 2000, from 13.4% to 15.3% (AIHW 2003g:3). These people reported no participation in walking, moderate-intensity or vigorous-intensity activity during the week prior to the survey. It should be noted that, in determining a respondent's level of physical activity, the Active Australia Survey does not count physical activity in the course of work.

## 4 Social cohesion

Social cohesion can be described as the ‘connections and relations between societal units such as individuals, groups (and) associations’ (Berger-Schmitt 2000:2, following McCracken 1998). Embedded within this concept are feelings and attitudes such as shared values, trust, and a sense of belonging, which shape and moderate these connections and relations.

A review of approaches to the concept of social cohesion identified two main themes or ‘societal goal dimensions’ (Berger-Schmitt 2000):

1. The first dimension concerns the reduction of disparities, inequalities and social exclusion.
2. The second dimension concerns the strengthening of social relations, interactions and ties. This dimension embraces all aspects which are generally also considered as the social capital of society.

Both dimensions are of equal importance to any assessment of social cohesion, since strong social capital on its own may result in exclusion of or discrimination against people not belonging to a particular community or group.

The underlying theme of the first dimension (i.e. exclusion) flows through this and the other welfare components (‘Healthy living’ in chapter 2 and ‘Autonomy and Participation’ in chapter 3), in terms of the measures of distribution, inequality and disadvantage. The indicator topics in this chapter represent aspects of social capital, the second dimension of social cohesion.<sup>13</sup>

Here, then, social cohesion is seen as encompassing social capital. However, interpretations of the relationship between these concepts do differ, with social cohesion being seen as encompassing, equal to, or an element of social capital (see, for example, Green 2003).

Different notions of what constitutes a source, and what an outcome, of social capital can compound issues of definition and measurement. Trust, for instance, is seen by some as a constituent of shared values and norms (Cote & Healy 2001), while for others it is simply an outcome of these values and norms (Woolcock 2001). The separation of cause and effect is, however, primarily an issue when explanation is being sought and a causal model is being tested. In this paper, social capital, and hence social cohesion, is given status as a desired outcome, rather than being regarded only as factor in, or cause of, other desirable outcomes.

Social capital, in the broad sense, encompasses themes of norms, networks, reciprocity and trust, but continues to elude a universally accepted definition. Narayan (1999) distinguishes between two ‘types’ of social capital – ‘bonding’ social capital, which occurs within groups such as friends, religious or ethnic groups, and ‘bridging’ social capital, or strong cross-cutting ties across groups. Putnam (2000) has described ‘bonding’ and ‘bridging’ social capital as good for ‘getting by’ and ‘getting ahead’, respectively. A third type of social capital – ‘linking’ social capital – has also been identified to describe the vertical relationships existing within a hierarchy, i.e. between people ‘who are not on an equal footing’ (Woolcock

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13 Social capital as defined by the OECD, and recognised by the ABS, comprises the ‘networks, together with shared norms, values and understandings which facilitate cooperation within or among groups’ (Cote & Healy 2001:41).

2001). One example of linking social capital may be the dealings between an individual and a welfare agency over access to welfare payments. Evaluating social capital, however, is not a straightforward process, since it is considered difficult, if not possible, to establish when optimal levels are operating in society.

Social cohesion is an evolving field in social statistics, in terms of its constituents and interpretation. Internationally, the major frameworks for information on social cohesion are the OECD 'Social Indicators' and the European Union 'System of Social Indicators' (see AIHW 2001a for a brief review). The OECD framework (OECD 2003), which does not exclusively focus on social cohesion, reports on six 'social status' indicators (e.g. group membership, suicide) and one 'societal response' (prisoners) indicator. A more extensive array of indicator topics is suggested by the EU 'System of Social Indicators' framework (Berger-Schmitt & Noll 2000). This framework covers fourteen life domains (e.g. Housing, Social and Political Participation and Integration, Health) and consists of indicators relating to the two 'societal goal dimensions' described above. For example, in the life domain 'Labour Market and Working Conditions', an indicator for dimension (1) is long-term unemployment (social exclusion), and indicators of dimension (2) include quality of social relations in the work place and trust in institutions (trade unions).

Several countries are also developing social cohesion or social capital frameworks. Two well-developed but not yet operational frameworks are products of the UK Office of National Statistics (Healy 2002) and Statistics New Zealand (Statistics New Zealand 2002; Spellerberg 2001). The latter framework has taken the approach of separating indicators into 'behaviours' (what people do), 'attitudes and values' (what people feel), 'population groups' (what people are) and 'organisations' (social structures), and aims to assess and discuss the interplay between these.

In Australia, the Australian Bureau of Statistics (ABS) has undertaken substantial work in the social indicator field, one example being the *Australian Social Trends* series, an annual publication describing social conditions in Australia and how they change over time. Two additions to this arena are *Measuring Australia's Progress* and the General Social Survey. *Measuring Australia's Progress* presents a set of headline indicators relating to social, economic and environmental progress in Australia (ABS 2002a). Two 'headline dimensions' are used to measure 'social progress' – crime and social attachment. The General Social Survey examines various aspects of life important to general wellbeing, including social attachment and the support received from relatives, friends and the community. The ABS is also involved in the development of a social capital framework and a set of indicators which will inform the collection of nation- and state-wide data, earmarked for possible commencement in 2005 (ABS 2002i).

The *Families, Social Capital and Citizenship* project, led by the Australian Institute of Family Studies, is taking a more family focussed route, by examining the family, varying family circumstances, and associated levels of social capital (Hughes & Stone 2003; Stone 2001; Stone & Hughes 2002). The project, which has already started data collection and analysis, will also assess the importance of social capital to family engagement in the economy and community.

## 4.1 Family formation and functioning

The family is 'the largest source of emotional, practical and financial support in our society' (McDonald 1995:1). However, what constitutes a family often depends on whose perspective

is being sought and the purposes for which a definition is needed. The ABS defines family as 'two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household' (ABS 1995b:7). While this definition excludes families that are extended over more than one household, it is quite broad and so enables changes in family characteristics to be monitored (Weston et al. 2001).

The family can be conceived as the wellspring from which some of the dimensions crucial to social cohesion develop (Coleman 1988; Furstenberg & Hughes 1995; Hughes & Black 2003; Stone & Hughes 2002). Trust is often first learnt within the family, and being married and having children extends informal social networks outwards from the immediate family. A greater number of ties within the family is associated with a larger network of friends (Stone & Hughes 2002). Furthermore, those in family relationships are more likely to participate in social activities outside the family, and report greater confidence in turning to relatives for support in times of need (Hughes & Black 2003, but see Stone & Hughes 2002). Thus, trust and networks extend from the 'informal realm' (Stone & Hughes 2002) into the 'social realm', as characterised by the bonds formed with more distant relatives, friends and neighbours. The breakdown of the family is, in turn, suggested to contribute to the disruption of these wider networks and of the inherent trust that goes with them.

## **Family formation and functioning indicators**

### **Family formation**

Families have undergone significant change in the last three decades. Marriage rates and fertility rates have decreased, de facto relationships and single-parent families are more common, and divorce has increased, although the divorce rate has remained stable over the last decade (AIHW 1997, 1999, 2001a, 2003a; McDonald 1995, 2003).

To reflect these changes, the indicators of family formation and dissolution presented here include social marital status and the prevalence of different family types, as well as more traditional indicators – marriage, divorce and fertility rates. The AIHW has routinely presented most of these indicators in biennial publications of *Australia's Welfare*.

### **Marriage rate**

Age-specific first marriage rates for men aged 25–29 and 30–34 years were similar in 2000, at 71 per 1,000 unmarried men (Table 4.1). While the marriage rate has not changed much since 1991 for men aged 30–34, it has decreased for men aged 25–29, from 94 per 1,000 in 1991.

Women aged 20–24 and 25–29 years also entered first marriages at a lower rate in 2000 than in 1991. This was particularly apparent for 20–24 year olds, with the rate declining from 82 to 47 per 1,000 unmarried women.

Between 1991 and 2001 the median age at first marriage has risen for both men (from 26.7 to 28.7 years) and women (from 24.5 to 26.9 years).

**Table 4.1: Age-specific first marriage rates, by sex, 1991, 2000 and 2001<sup>(a)</sup>**

	Males			Females		
	1991	2000	2001	1991	2000	2001
19 and under <sup>(b)</sup>	1.9	1.0	n.a.	9.5	4.9	n.a.
20–24	46.6	25.4	n.a.	82.4	46.6	n.a.
25–29	94.0	70.7	n.a.	109.6	90.2	n.a.
30–34	73.0	71.0	n.a.	69.4	74.6	n.a.
35–39	42.5	42.8	n.a.	36.6	38.6	n.a.
40–44	21.7	23.6	n.a.	16.8	20.1	n.a.
45–49	12.6	12.9	n.a.	11.0	11.3	n.a.
50 and over	3.8	4.4	n.a.	2.1	2.8	n.a.
Median age at first marriage	26.7	28.5	28.7	24.5	26.7	26.9

(a) Per 1,000 unmarried people within each age/sex group.

(b) Per 1,000 unmarried males or females aged 15–19 years.

Source: AIHW 2003a: Table 6.1.

## Social marital status

Social marital status reflects the current marital status of Australians aged 15 years and over, including those people living in registered and de facto marriages. De facto marriages include both heterosexual and same-sex couples. Issues related to the accurate identification of same-sex couples, however, preclude any attempt to present these data separately here.

In 2001, over 60% of Australians aged 35–64 were in registered marriages (Table 4.2). Younger Australians (aged 15–24 years) were more often not married, as was the case for women over the age of 75 years. Compared with males, a greater proportion of females between the ages of 15 and 44 years were in registered marriages, particularly for the age group 25–34 (47% of females, compared with 36% of males).

**Table 4.2: Social marital status of Australians, by sex and age, 2001 (per cent)**

	Age group							
	15–24	25–34	35–44	45–54	55–64	65–74	75–84	85+
	<b>Males</b>							
Registered marriage	2.2	36.2	59.9	66.1	69.2	68.2	61.8	39.8
De facto marriage <sup>(a)</sup>	4.9	14.3	8.5	5.8	3.5	1.5	8.8	0.7
Not married	82.2	39.3	23.4	20.2	18.4	19.5	24.8	33.8
Not applicable <sup>(b)</sup>	10.7	10.2	8.2	7.8	8.9	10.8	12.5	25.7
	<b>Females</b>							
Registered marriage	5.4	46.5	63.3	65.1	63.2	51.8	29.8	8.3
De facto marriage <sup>(a)</sup>	8.2	13.7	7.6	5.1	2.4	0.8	0.4	0.2
Not married	76.7	32.6	24.0	23.8	25.9	37.4	55.2	53.1
Not applicable <sup>(b)</sup>	9.7	7.2	5.2	5.9	8.5	10.0	14.7	38.4

(a) Includes same-sex couples.

(b) Includes persons in non-classifiable households, non-private dwellings, migratory or off-shore census collection districts, and visitors from within Australia.

Source: ABS 2003I.

The proportion of people living in de facto marriages ranged from 0.7% to 14% for males and 0.2% to 14% for females. De facto marriages were far more common for younger adults, the highest rates being reported by people aged 25–34 years (14% for both males and females), followed by 35–44 year olds (9% of males and 8% of females).

**Fertility rate**

The total fertility rate in 2001 was 1.73 children per women (Table 4.3). This rate has declined from 1.86 in 1991.

**Table 4.3: Total fertility rate, 1999, 2000 and 2001**

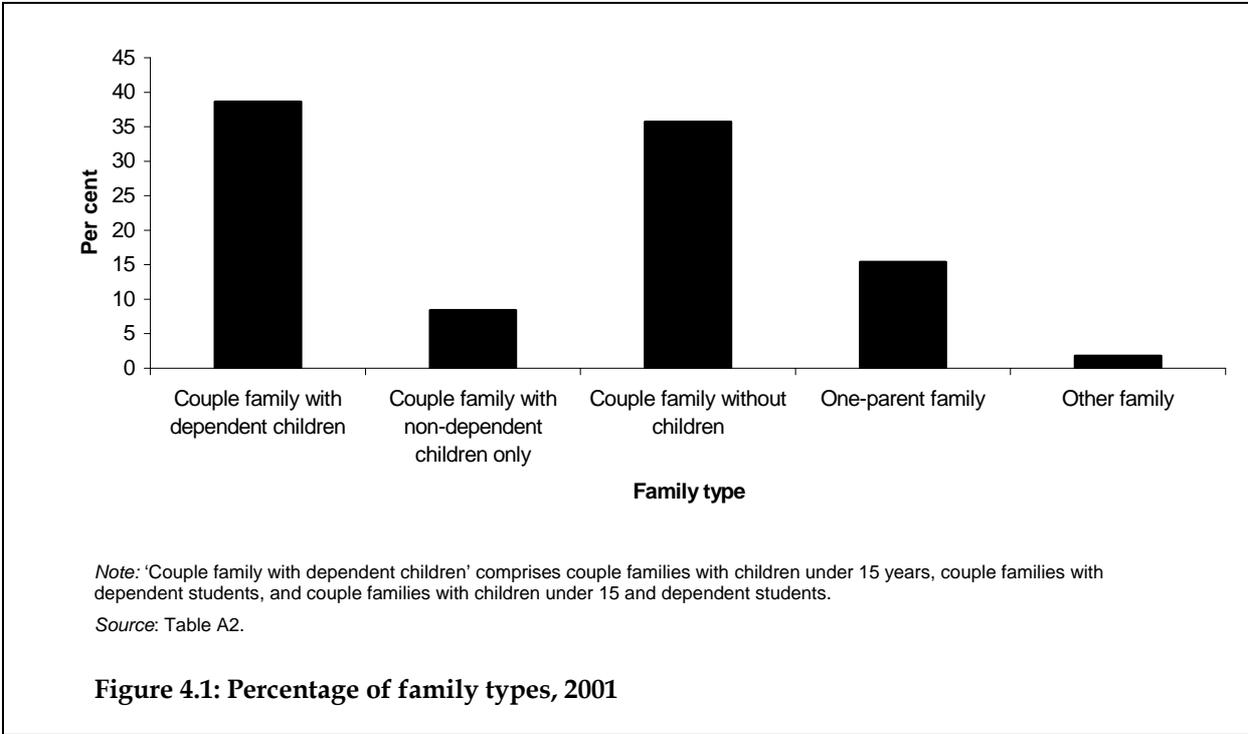
	1991	2000	2001
Total fertility rate (no. children per woman)	1.855	1.749	1.726

Source: AIHW 2003a: Table 6.2.

**Family type**

Families may be composed of different combinations of related individuals, but the relationships most commonly recognised in a family are those between couples (married or de facto) and between parent and child. Family types have hence been characterised as couple families (with dependent, other or no children), one-parent families (with dependent or other children), other families, step-families and blended families (see ABS 2003a for definitions).

The majority of Australian families in 2001 were couple families with dependent children (39%) or couple families without children (36%) (Figure 4.1). One-parent families made up 15% of all families.



## Divorce rates

The age-specific divorce rate for both men and women in 2001 was 12.0 divorces per 1,000 married people (Table 4.4). The highest rates for both men and women occurred between the ages of 25 and 39 years. Divorce rates have remained relatively stable since 1991, for both sexes and most age groups.

**Table 4.4: Age-specific divorce rates,<sup>(a)</sup> 1991 and 2001**

	Age group									Total
	< 24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60+	
<b>Males</b>										
1991	10.6	20.5	19.7	17.0	14.7	12.5	9.0	5.9	2.2	11.6
2001	12.0	19.1	21.1	18.8	16.5	14.2	11.4	7.5	2.7	12.0
<b>Females</b>										
1991	16.1	21.5	18.3	15.6	13.5	10.6	6.5	3.8	1.4	11.5
2001	16.1	21.8	20.5	17.5	15.4	12.6	9.0	5.2	1.8	12.0

(a) Per 1,000 married people within each age/sex group.

Source: ABS 2002j.

## Family functioning

Family functioning is an important mediator of the impact of family structure and exerts possibly greater influence on child development and health outcome than family structures and transitions (Sanson & Lewis 2001). Traditionally, family functioning is most often explored with reference to its impact on children; there has also been a research focus on family functioning where a family member has a psychiatric, intellectual or drug related problem (e.g. Douglas & Spellacey 1996; Kinsman et al. 1999; Saunders 1999).

Themes such as family cohesion, as indicated by the strength and quality of relationships, family support, and resilience<sup>14</sup> are common in any discussion of family functioning and its relationship with social cohesion (Amato 1998; Coleman 1988; Furstenburg & Hughes 1995). Some potential indicators are discussed below, although universally applied indicators are yet to be developed. Data are presented for two indicators of family breakdown – domestic violence and rates of children who were the subject of a child protection substantiation.

Indicators of family cohesion focus on the quantity and quality of interactions between family members, and hence the quality of existing relationships. One approach is to develop a composite of indicators based on questions relating to the frequency of positive interactions (e.g. attention, conversation, pursuit of common activities) or negative confrontations (e.g. conflict) (Amato 1998; Berger-Schmitt 2000; Coleman 1988). Another approach looks at levels of satisfaction as expressed by different family members. The HILDA survey (see <http://www.melbourneinstitute.com.au/hilda>) provides some data on family cohesion – an appropriate indicator will be developed in the future.

14 Family resilience, or the family's ability to 'cope with' or 'pull through' family crises or trauma, is an important theme in the family functioning literature, but it is difficult to measure and no indicators have yet been proposed. Instead, some researchers have suggested that family strengths, such as cohesion, flexibility, open communication and problem-solving, equip the family with the attributes to deal with negative incidents (e.g. Silberberg 2001). This approach, however, is liable to circularity.

## **Family support and cohesion**

Family members are often the first source people turn to when looking for support. Having the confidence to seek support from immediate family members in times of need suggests the entrenchment of trust and reciprocity (Hughes & Black 2003). The EU System of Social Indicators developed three indicators related to family support – per cent of people living in a family who would first turn to a family member for help (a) with personal problems, (b) when ill, or (c) when in financial distress.

The ‘Growing up in Australia’ survey<sup>15</sup>, a longitudinal study examining the impact of the social and cultural environment on Australian children, will ask respondents about who they turn to when needing emotional support and advice, financial assistance and practical help (e.g. care when sick). The first wave of these data is not due until 2005.

## **Domestic violence**

Domestic violence refers to all potential forms of family violence (Flitcraft 1997), but definitions vary, both in terms of the level and type of abuse, and the identity of the perpetrator and victim. Such varied definitions, combined with differing methods of data collection, have produced a broad range of prevalence estimates (see Hegarty & Roberts 1998).

Abuse between married and de-facto couples, specifically with the female partner as victim, tends to be the most commonly defined form of domestic violence and is hence the primary subject of policy and research attention. Data on the incidence of domestic violence are largely drawn from state- and territory-based crime victim surveys and police crime statistics. The Northern Territory based Domestic Violence Strategy Data Collection Project is a particularly strong repository of annual incidence statistics on reported cases of domestic violence in the Northern Territory (see, for example, Office of Women’s Policy 2000). However, nationwide data are limited and what information is available is often concealed within general assault (physical or sexual) statistics. The Australian component of the International Violence Against Women Survey, which was completed in 2003, should fill this gap through its inclusion of questions relating specifically to domestic violence. Data from the 2002 Crime and Safety Survey are presented here.

In 2002, 21% of assault victims (149,100 persons) were assaulted by a partner (current or ex-) or other family member (Table 4.5). Females (35%) were much more likely than males (9%) to have been assaulted by a partner or other family member.

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15 The ‘Growing up in Australia’ survey is being funded by the Commonwealth Government and implemented by a consortium led by the Australian Institute of Family Studies and FaCS.

**Table 4.5: Domestic violence: Australians who were assaulted by a partner, ex-partner or other family member, 2002<sup>(a)</sup>**

	Males		Females		Persons	
	No. ('000)	Per cent	No. ('000)	Per cent	No. ('000)	Per cent
Partner	4.9	1.3	29.8	9.2	34.7	4.8
Ex-partner	7.3	1.9	37.5	11.5	44.9	6.3
Other family member	23.4	6.0	46.1	14.2	69.5	9.7
<b>Total</b>	<b>35.6</b>	<b>9.2</b>	<b>113.4</b>	<b>34.9</b>	<b>149.1</b>	<b>20.8</b>
Total victims of assault <sup>(b)</sup>	392.2	100.0	325.7	100.0	717.9	100.0

(a) Data are based on the most recent incident reported by respondents in the 2002 ABS Crime and Safety Survey. Does not include sexual assault.

(b) Other offenders include friend, work/study colleague, neighbour, acquaintance, other known person, and not known personally.

Source: ABS 2003e.

## Child abuse and neglect

Child abuse and neglect is the 'physical or psychological damage caused by the abusive behaviour of others, or the failure of others to protect a child from such damage' (James 1994:2). Such abuse is often caused by family breakdown, either by 'internal' factors – such as marital conflict or other dysfunctional family relationships, lack of parenting skills, or problems with coping or self-control – or by 'external' factors such as social isolation.

Significant legislative reform regarding the protection of children suffering child abuse began in the 1970s. Reporting of cases of harm done to children (due to abuse or neglect) to the relevant community service department is now mandatory in all states and territories except Western Australia (AIHW 2003h). Notifications of child abuse to community services departments are substantiated if there is reasonable cause to believe that a child has been, was being or is likely to be abused or neglected or otherwise harmed. Community attitudes, and the differences between jurisdictions in child protection policies and practices, affect rates of substantiation and thus the data discussed below should be treated with some caution (AIHW 2003h).

Rates of children who were the subject of a child protection substantiation in 2001–02 declined with age, with the highest rates for children aged under 1 year (range: 1.8–15.6 per 1,000) and the lowest for children aged 15 and 16 years (range: 0.6–5.2 per 1,000) (Table 4.6).

**Table 4.6: Rates of children who were the subject of a child protection substantiation, by age, Indigenous status, and state and territory, 2001–02 (per 1,000)**

Age	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
<1	4.5	11.1	15.6	4.8	8.8	1.8	6.5	11.6
1–4	4.2	7.4	9.8	2.5	5.6	1.6	3.0	7.1
5–9	5.0	6.2	8.6	2.7	5.9	1.1	3.0	5.1
10–14	5.3	5.8	7.6	2.1	4.8	1.0	2.2	5.3
15–16	3.9	5.2	3.3	1.2	2.4	0.6	1.1	2.6
<b>Indigenous</b>	<b>15.3</b>	<b>48.1</b>	<b>14.3</b>	<b>13.5</b>	<b>31.6</b>	<b>0.3</b>	<b>6.5</b>	<b>9.7</b>
<b>Non-Indigenous</b>	<b>4.3</b>	<b>6.1</b>	<b>7.9</b>	<b>1.7</b>	<b>4.4</b>	<b>1.4</b>	<b>2.6</b>	<b>3.2</b>

Source: AIHW 2003h.

The one exception was New South Wales where higher substantiation rates were found for children aged 10–14 years.

Indigenous children were more likely to be the subject of substantiation than non-Indigenous Australian children, for all states and territories. In Victoria, for example, the substantiation rate for Indigenous children was 48.1, compared with 6.1 for non-Indigenous children. The reasons behind the over-representation of Indigenous children in child protection substantiations are complex but may include intergenerational effects of previous, involuntary separations from family and culture, and poor socioeconomic status (HREOC 1997).

## **4.2 Social and support networks**

Social networks are intrinsic to the concept of social cohesion. They embody the informal networks operating in society and are representative of what has been referred to as bonding social capital. In this context, bonds include connections with family, friends and neighbours. Interaction is key to the maintenance of social networks and provides the opportunity to build reciprocal relationships and generate interpersonal trust.

Strong social networks may act as reservoirs for support, 'a resource that, once accumulated, can be drawn upon or accessed as needed' (Boisjoly et al. 1995:609). Support may be experienced in any number of guises, including the provision of information, practical help or emotional support. The quality and amount of support offered is often related to the social norms governing a network, the knowledge and will of the network, as well as its size and density.

### **Social and support network indicators**

#### **Frequency and quality of informal social contact**

The number of contacts with extended family (including those not usually living in the same household) and friends is a commonly used indicator of social network strength in national and community based surveys. How often individuals see or speak to relatives, friends and neighbours can translate into feelings of acceptance, social trust and shared norms and identities. The quality of social contacts is also important in strengthening social networks because it presents strong evidence for actual and existing bonds (Black & Hughes 2001). It is important to measure frequency of contacts with reference to quality of contact, as contact frequency may not always be characterised by, or generate, positive social interaction or responses.

Data collected in the 2002 GSS found that 95% of Australians aged 18 years and over had contact in the preceding week with family or friends who lived outside the household (ABS 2003d). There was little variation between males and females, or between age groups.

#### **Availability of family and friends for support**

Family and close friends are often the first people individuals turn to for care and support. Access to social support is reported to have a positive impact on health (Baum et al. 2000; Rosenfeld 1997), to buffer stress (Cassel 1976) and facilitate empowerment (Craig & Mayo

1995). Furthermore, the receipt and delivery of assistance, especially in times of need, can engender feelings, and the actual execution, of reciprocity.

Good measures of such access to and provision of support need to be objective and valid in a variety of cultural and social settings. While not a straightforward process, one approach is to address support in terms of stocks and investments in time and money (Hofferth 1995, cited in Stone 2001) since financial and time-related support has wide applicability (Black & Hughes 2001).

Around 93% of Australians interviewed in the 2002 GSS reported being able to ask for small favours from persons living outside the household, and 94% reported being able to receive support in times of crisis (ABS 2003d). The majority of support received came from a family member (88% of people reporting they could get support from this source) or friends (70%).

### **Social attachment**

Social attachment develops from strong social and support networks, and the bonds and interactions within these networks. Attachment encompasses the concepts of belonging, inclusion and participation, i.e. the positive outcomes of societal living, and is a key theme in the definition of social cohesion (Berger-Schmitt 2000; Jenson 1998).

In *Measuring Australia's Progress* it is stated that 'no conceivable single indicator that captures all that might be important' in the assessment of social attachment (ABS 2002a) and this is a view shared here. Instead, the ABS has suggested using a composite of indicators covering participation in social activities, formation and dissolution of intimate social relationships (marriage and divorce), and the likelihood of living alone. These indicators aim to capture the 'activities, behaviours or situations that reflect on social attachment'.

### **Social detachment**

Social detachment can be experienced in terms of isolation, exclusion and non-involvement, particularly if a person is cut off from relationships providing friendship, company, care or support. While the potential for social detachment is not unique to any specific population group it tends to be experienced more often and more intensely by groups traditionally found on the margins of society and those especially susceptible to societal changes (e.g. youth: Eckersley 1988, 1998).

Rates of suicide and rates of imprisonment are two indicators proposed in various social statistic systems to reflect the level of social detachment in a population, and hence the level of strain on social cohesion (see, for example, ABS 2002a; Berger-Schmitt & Noll 2000; OECD 2003).

While rates of suicide tend to rise with age, recent attention has focussed on suicide amongst people aged 25 years and under, since rates in most OECD countries have either increased or undergone no significant decline between 1980 and 1999 (OECD 2003). During the latter part of this period, Australia experienced the fifth highest youth suicide rate amongst 29 OECD countries (OECD 2003).

As discussed in the section on 'Safety' (Section 2.4), male death rates from suicide in 2000 were almost four times female death rates. Males aged between 20 and 44 years experienced the highest death rates from suicide, at around 30 per 100,000 population.

On 30 June 2002, there were 22,492 prisoners in Australia (Table 4.7). Males made up 93% of the prison population and their rate of imprisonment was much higher than for females – 282.4 males per 100,000 population, compared with 19.2 females per 100,000.

Non-Indigenous Australians made up 80% of the prison population in 2002. The rate of imprisonment was 118.7 persons per 100,000. Around 39% of these prisoners were aged 20–29 and 32% were aged 30–39 years (Table 4.7). Non-Indigenous males were imprisoned at a rate much higher than their female counterparts (226.9 and 14.5, respectively).

The imprisonment rate of Indigenous people was considerably higher than that of non-Indigenous people, at 1,806 per 100,000 (compared with 119). Again, most prisoners were aged between 20 and 39 years, with half of all Indigenous prisoners aged 20–29 years. Imprisonment rates for males in these age groups were exceptionally high – 5,453 per 100,000 for those aged 20–29 and 4,616 per 100,000 for those aged 30–39 – and over 10 times the equivalent rates for non-Indigenous males. For females in these age groups, the difference between Indigenous and non-Indigenous rates was even greater.

**Table 4.7: Rates of imprisonment,<sup>(a)</sup> by age, sex, and Indigenous status, 30 June 2002<sup>(b)</sup>**

Age	Males			Females			Persons		
	No.	%	Rate <sup>(c)</sup>	No.	%	Rate <sup>(c)</sup>	No.	%	Rate <sup>(c)</sup>
<b>Non-Indigenous</b>									
17–19	572	3.4	133.6	27	2.4	6.6	599	3.3	71.6
20–29	6,604	39.1	483.5	478	42.8	35.4	7,082	39.3	260.8
30–39	5,322	31.5	360.2	364	32.6	24.1	5,686	31.5	190.5
40–49	2,677	15.9	186.5	176	15.8	12.1	2,853	15.9	98.5
50–59	1,209	7.2	100.6	56	5.0	4.7	1,265	7.0	52.9
60+	497	2.9	32.4	16	1.4	0.9	513	2.9	15.3
<i>Total</i>	<i>16,881</i>	<i>100.0</i>	<i>226.9</i>	<i>1,117</i>	<i>100.0</i>	<i>14.5</i>	<i>17,998</i>	<i>100.0</i>	<i>118.7</i>
<b>Indigenous</b>									
17–19	241	5.8	1,720.0	25	6.8	184.1	266	5.9	964.0
20–29	2,017	48.9	5,453.1	195	53.1	523.2	2,212	49.2	2,978.6
30–39	1,359	32.9	4,616.0	102	27.8	312.0	1,461	32.5	2,350.6
40–49	409	9.9	2,009.3	40	10.9	175.7	449	10.0	1,041.4
50–59	84	2.0	740.4	5	1.4	39.8	89	2.0	372.1
60+	17	0.4	218.4	—	—	—	17	0.4	95.8
<i>Total</i>	<i>4,127</i>	<i>100.0</i>	<i>3,441.4</i>	<i>367</i>	<i>100.0</i>	<i>284.8</i>	<i>4,494</i>	<i>100.0</i>	<i>1,806.3</i>
<b>Total prison population</b>	<b>21,008</b>	<b>93.4</b>	<b>282.4</b>	<b>1,484</b>	<b>6.6</b>	<b>19.2</b>	<b>22,492</b>	<b>100.0</b>	<b>148.3</b>

(a) Data exclude persons held in juvenile institutions, psychiatric custody and policy custody.

(b) Data were collected on all persons held in Australian prisons on the night of 30 June 2002, based on administrative records held by corrective services in each Australian state and territory.

(c) Per 100,000 population in each age group. Rates are age-standardised and were derived using resident population and estimated Indigenous population for June 2002.

Source: ABS 2003m.

## 4.3 Trust

Trust is the ‘expectation that arises within a community of regular, honest and cooperative behaviour’ (Fukuyama 1995:26). It is also a response to trustworthiness, or people ‘acting according to the ways expected or promised, taking into account the interests of the other person’ (Black & Hughes 2001:88). Trust and trustworthiness are two sides of the same

phenomenon, acting to 'lubricate' social interaction and hence the smooth functioning of society.

Three types of trust have been defined in the literature: interpersonal, social and civic trust. Interpersonal trust, or the trust of familiars, is a feature of close informal networks. The family is often the foundation for the cultivation of trust, and such trust is indicative of bonding social capital. Social trust, in contrast, reflects bridging social capital and is the trust felt towards more casual acquaintances and strangers. Social trust is seen as being more important than interpersonal trust, since social trust indicates a more inclusive form of acceptance (Cox & Caldwell 2000; Hughes et al. 2000). Civic trust is trust in institutions, such as government, trade unions, the legal system and the police force.

Stemming from social trust is the acceptance of diversity, having respect for those with different values, ways of life and norms. Such respect is a characteristic of social capital (Cox & Caldwell 2000).

## **Trust indicators**

### **Social trust**

Social trust is one of the quintessential indicators of social cohesion and social capital. While there is debate about the relationship between trust and social capital (see Cote & Healy 2001; Putnam 2000; Woolcock 2001), social trust continues to be considered in any discussion or application of social capital, and hence social cohesion, and remains a primary indicator. According to Halpern (1999, cited in Harper 2001) trust is the 'quick and dirty' measure of social capital, as it is easy to measure and is associated with more policy-relevant outcomes than other traditional measures, such as volunteering. This view, however, is not universal.

In Australia, social trust has been found to be stronger in small, rural communities than in larger rural/regional towns and metropolitan areas (for example, see Hughes et al. 1999, 2000; Onyx & Bullen 2000). However, social trust in such rural communities is essentially trust of the local population, based on a general familiarity with most members of the community. When people were asked about their trust of 'most Australians', higher levels of trust in smaller communities were not so evident and, in fact, levels were lower than in middle-sized towns and similar to levels in urban areas of higher socio-economic status (Hughes et al. 1999). Within urban environments, trust in 'locals' and in 'most Australians' was much lower in areas of lower socio-economic status than in areas of high socio-economic status.

Data from other countries suggest that levels of social trust are declining. However, the underlying pattern of change varies between countries. For example, in the US, the decline in trust can be attributed largely to growing distrust within younger age groups (Putnam 2001). The disaffection of youth is a common theme and the apparent decline in trust may well be associated with a general decline in the wellbeing of young people. However, levels of social trust in the British population does not vary greatly with age, suggesting that the general decline observed is more 'a sign of the times' (NCVO & CCS 2000).

The World Values Study (WVS) has been collecting data on social trust since 1980 based on the question 'Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?' Some authors have questioned the methodological strength of this question and subsequent interpretation of responses. Berry and Rodgers (in press) critique the WVS question, arguing that a single item question cannot

capture the complexity, subtleties and value-laden nature of a concept like trust. Furthermore, individuals are asked to indicate one of two response categories, i.e. 'Most people can be trusted' or 'Can't be too careful' – responses that are not necessarily mutually exclusive. To achieve greater coverage of trust, Berry and Rodgers (in press) and Hughes et al. (1999) have used a longer list of questions to gauge levels of trust in rural and regional/urban communities, respectively. While these are likely to be more appropriate measures of trust, neither of the studies is nationally based. Results from the WVS will therefore be used here although these cannot be broken down into relevant population groups.

In the early 1980s, 46% of the Australian population felt they could trust most people. Ten years later this rate had dropped to 40% of the population, and the rate remained at this level in 1995–96 (Hughes et al. 2000, citing Morgan Gallup 1984 and Basanez et al. 1997).

### **Civic trust**

Linking social capital – i.e. interactions between different strata in society or 'vertical relationships' – is considered as important in promoting social cohesion as bonding and bridging social capital. Through such linkages people are in a better position to access resources and, potentially, foster socially useful links (Anheier & Kendall 2000; Black & Hughes 2001). The ultimate strength of social cohesion in this context depends upon an individual's trust of higher level organisations that need to be accessed or relied upon (Black & Hughes 2001). Trust in public or high level institutions is referred to as civic trust.

Confidence can be viewed as antecedent or complementary to trust. Much of the data relating to the Australian population's views of public institutions is based on feelings of confidence, rather than trust per se, and thus confidence in these institutions will be used as a proxy indicator of trust.

In 2001, Australians had the highest level of confidence in the armed forces (84%) and the police force (68%). Confidence in other institutions – federal government, legal system, major companies and trade unions – was much lower with 50% or less of the population surveyed indicating 'a great deal' or 'quite a lot' of confidence in them (Table 4.8).

Trends in confidence in these different institutions show quite varied patterns. Whereas levels of confidence in the police force, legal system and major Australian companies declined between 1983 and 2001 – quite markedly for the legal system and major companies where confidence almost halved – confidence in the armed forces rose by almost 20 percentage points. In the case of the federal government, the trend was more erratic – confidence fell between 1983 and 1995, then increased again in 2001. Trade unions have experienced relatively static levels of confidence over this time period, staying at roughly a quarter of the population.

### **Acceptance of diversity**

In a multicultural society like Australia's, acceptance of people from different cultural backgrounds is crucial for preserving social cohesion. Such acceptance is found to be associated with pro-activity, in a social sense, and general feelings of trust and safety (Black & Hughes 2001). In the absence of acceptance, members of minority groups may suffer from isolation, alienation and insecurity, and respond by establishing cultural ghettos, which may serve to increase isolation from the general community and reinforce prejudiced views.

**Table 4.8: Levels of confidence in selected institutions,<sup>(a)</sup> 1983, 1995 and 2001 (per cent)**

	Federal government	Legal system	Police	Major Australian companies	Trade unions	Armed forces
<b>1983<sup>(b)</sup></b>						
A great deal	8.6	11.6	27.4	15.6	4.3	22.2
Quite a lot	46.7	48.9	53.0	63.7	19.8	44.6
Not very much	37.4	34.9	17.3	19.2	55.7	28.5
None at all	7.3	4.6	2.2	1.6	20.2	4.6
<b>1995<sup>(b)</sup></b>						
A great deal	2.2	4.9	18.5	5.7	2.9	14.7
Quite a lot	23.9	29.8	57.3	52.8	22.7	52.9
Not very much	53.3	53.2	20.2	36.7	51.9	28.0
None at all	20.5	12.1	4.0	4.7	22.4	4.5
<b>2001<sup>(c)</sup></b>						
A great deal	6.2	4.9	13.2	2.9	2.3	26.2
Quite a lot	44.6	31.1	55.0	43.5	24.5	58.2
Not very much	37.8	51.3	27.2	44.3	56.6	14.2
None at all	11.3	12.7	4.6	9.4	16.8	1.4

(a) In the text, 'confidence' comprises survey responses 'A great deal' and 'Quite a lot'.

(b) Data from the Australian Values and World Values Survey.

(c) Data from the Australian Election Study.

Sources: Papadakis 1999 analysis of Australian Values Survey 1983 and World Values Survey 1995; SSSA 2001.

A respect for the lifestyles and beliefs of others underpins acceptance and can be captured using an indicator such as support for multiculturalism or general acceptance of different lifestyles. No indicator of acceptance of diversity will be presented here due to the absence of a widely accepted measure.

## 4.4 Community and civic engagement

Community and civic engagement denotes the type of participation, including volunteering, that occurs within the more formal social networks operating in the community. These formal networks incorporate the myriad of relations people have with more distant acquaintances, or associates and colleagues. Such relationships are generally weaker and more diverse than those in informal social and support networks, and tend to involve individuals who may not normally associate with one another on an informal basis, that is, they form 'bridges' between community members. Community engagement traditionally includes membership of organisations such as sporting, cultural, religious or special interest groups. Civic engagement, on the other hand, focuses on involvement in those groups or activities that have a more political or 'done for the good of the community' focus.

Stolle and Rochon (1998:48) have referred to community (and civic) engagement as 'private civiness', which creates or enhances social cohesion through the building of 'trust and capacity for collective action within the group'. Such 'private civiness' has the potential to develop into 'public civiness', where the trust developed among group members is extended outside the group to the broader community.

An important component of community and civic engagement is volunteering. First proposed by Putnam (1993), membership of voluntary associations has become a major

indicator of social capital, and hence social cohesion. Accordingly, some countries, including Australia, have administered surveys on participation in volunteering activities, membership of voluntary organisations, and financial donations to charities and non-profit organisations (see, for example, Hall et al. 2001 (Canada) and ABS 1996b, 2001i (Australia)).

Volunteering generally relies on face-to-face interaction, often drawing people who may not necessarily interact in other circumstances, to work together for the benefit of others. This initial establishment of 'social bridges' is proposed to engender other sources of cohesion, such as trust, and the further establishment of support networks and norms (Putnam 1993). Lyons (2000:168) has argued that voluntary organisations and non-profit organisations 'institutionalise' social capital since they 'serve as examples of the efficacy and practicality of social trust, and they practise people in it'.

## **Community and civic engagement indicators**

### **Community engagement**

#### **Involvement in community groups**

A commonly used indicator of community engagement is involvement in community groups or projects. Involvement is usually measured as general participation in one or more organisations, or the number of groups an individual is involved in. These indicators, however, do not necessarily capture actual and committed involvement. Black and Hughes (2001) have also argued against the use of 'number of groups' since organisations vary in their strength and effectiveness.

A way of avoiding some of these issues is to concentrate on 'active' membership. Indicators of 'active' membership could focus on attendance (e.g. attending meetings over the last six months) or involvement in specific activities or roles crucial to the running or purpose of the organisation (e.g. a member of the management committee).

In 1997, Australians spent an average of 49 hours per year engaged in community activities (Table 4.9). Females spent, on average, 12.2 more hours than males in such activities. Average times have increased since 1992, particularly for females.

**Table 4.9: Average number of hours<sup>(a)</sup> per year Australians engage in 'community participation', 1992 and 1997**

Community participation	1992			1997		
	Males	Females	Persons	Males	Female	Persons
Persons	30.4	36.5	30.4	42.6	54.8	48.7

(a) Annual rates were calculated from original data published as minutes/day.

Source: ABS 1998c.

## Volunteering

The traditional measure of volunteering centres on voluntary organisation membership. While this indicator gives some idea of the proportion of the population who engage in voluntary work it underestimates actual volunteer participation. Not all volunteering is carried out as part of a formal organisation (e.g. coaching amateur sports team; assisting elderly neighbours with transportation) and thus any indicator focussing just on membership will omit those engaging less formal kinds of voluntary work.

Information on time spent volunteering is crucial to gauging the extent of volunteering. Furthermore, any indicator of voluntary work must consider volunteering done for the good of others, rather than self-interest. This ensures that the concept of altruism, or the propensity people have to give their time to causes that do not directly benefit them, is captured by the indicator.

**Table 4.10: Participation in voluntary work: time spent, by age and sex of person, 1995 and 2000**

	1995			2000		
	No. ('000)	Per cent	Average hours/year	No. ('000)	Per cent	Average hours/year
<b>Age group</b>						
18-24	376.0	16.6	135.6	493.3	26.8	122.6
25-34	571.7	20.4	128.0	774.1	27.5	109.2
35-44	863.0	31.7	142.5	1,157.3	40.1	128.3
45-54	614.9	27.7	163.8	897.5	35.4	166.2
55-64	356.4	23.8	208.2	545.5	32.5	255.3
65-74	309.2	23.0	225.1	381.4	30.3	236.2
75+	97.7	14.9	205.8	146.7	17.8	218.0
<b>Sex</b>						
Males	1,522.3	22.9	160.8	2,080.9	30.5	154.4
Females	1,667.1	24.4	160.1	2,314.6	33.0	165.4
<b>Total volunteering</b>	<b>3,189.4</b>	<b>23.6</b>	<b>160.4</b>	<b>4,395.6</b>	<b>31.8</b>	<b>160.2</b>

Note: Voluntary activity includes administration/clerical work/recruitment, befriending/supportive/counselling, coaching/judging/refereeing, fundraising/sales, management/committee work, performing/media production, personal care/assistance, preparing/serving food, repairing/maintenance/gardening, teaching/instruction/providing information, and transporting people and goods (see source for definitions). Voluntary work for the Sydney 2000 Olympic and Paralympic Games is excluded from the data and thus does not account for the higher rate of volunteering in 2000.

Source: ABS 1996b, 2001i.

In 2000, 32% of the Australian population were involved in voluntary work, a rise from 24% in 1995 (Table 4.10). This increase in volunteering is also found for each age group, and males and females. Rates of volunteering varied by age and sex. In both 1995 and 2000, volunteering was most common among both males and females aged 35–44 years – 32% and 40%, respectively. Actual time spent volunteering, however, was greater for people over the age of 55 years, who volunteered an average of 200 or more hours in both 1995 and 2000. Females tended to volunteer at higher rates than males and, in 2000, devoted slightly more time to voluntary work.

Male volunteers were most likely to be involved in sport and recreational organisations (44%) and community/welfare groups (31%) (Table 4.11). In contrast, female volunteers were most likely to be involved in community/welfare groups (40%), followed by education/training and development (34%). Both males and females were least likely to be involved in health organisations.

Males under the age of 55 years were most often involved in sport and recreation groups, but as age increased their involvement rate in such groups declined and involvement rates in religious and community/welfare groups increased. Females displayed quite a different pattern. Between the ages of 25 and 44 years, females' voluntary involvement was focussed on education, training and youth development organisations. Over the age of 45 years, female involvement was concentrated in community/welfare groups, with some increase in involvement in religious and health groups.

**Table 4.11: Participation in voluntary work: involvement rate<sup>(a)</sup> by type of voluntary organisation, by age, 2000 (per cent)**

	Type of voluntary organisation				
	Community/welfare	Sport/recreation	Education/ training/youth development	Religious	Health
<b>Males</b>					
18–24	14.7	56.3	17.6	10.5	5.9
25–34	20.2	48.7	20.3	12.4	6.0
35–44	27.3	48.5	30.0	10.9	3.3
45–54	25.6	48.4	26.5	16.8	4.1
55–64	53.3	29.2	15.0	16.8	6.8
65+	53.3	22.8	10.2	23.9	6.7
<b>Total</b>	<b>30.9</b>	<b>43.7</b>	<b>21.7</b>	<b>14.7</b>	<b>5.1</b>
<b>Females</b>					
18–24	27.9	23.6	16.1	20.4	6.9
25–34	26.6	28.3	42.9	14.9	10.3
35–44	28.1	37.2	59.1	15.7	6.0
45–54	43.4	23.9	28.5	22.7	11.4
55–64	52.5	14.4	12.2	29.0	14.4
65+	74.2	8.5	3.6	25.6	15.8
<b>Total</b>	<b>39.1</b>	<b>25.5</b>	<b>33.6</b>	<b>20.1</b>	<b>10.1</b>

(a) For any group, the involvement rate is the aggregate number of organizations worked for by that group expressed as a percentage of total volunteers in that group.

Note: Figures may not add up to 100% since volunteers may work for more than one organisation.

Source: ABS 2001i.

## Philanthropy

Philanthropy, in this case donations to charitable and non-profit organisations, can be viewed as an adjunct indicator to community engagement, capturing the concept of altruism, which underpins but does not necessarily prompt all voluntary behaviour. Monetary donations, in which the donor does not receive any benefit (e.g. prizes from raffle tickets) suggest that the donation is sincerely being made to improve the circumstances of others. Hence, an indicator capturing such good intent needs to focus only on those donations made for this explicit purpose.

Three-quarters of Australians donated money to charities or non-profit organisations in 2000 (Table 4.12). Females donated at a slightly higher rate than males: 77%, compared with 72%. The age groups 35–44 and 45–54 reported the highest rates of donation (80% each), but the rate was above 70% for all other groups aged over 25 years. Persons aged 18–24 years were the least inclined to donate money. Volunteers (84%) were more likely than non-volunteers (70%) to make donations.

A second indicator of charitable giving focuses on ‘corporate giving’, that is, monetary pledges made by for-profit businesses. In the period 2000–01, 8,370 Australian businesses donated \$585 million to the community sector<sup>16</sup> where a donation was defined as an ‘unconditional voluntary transfer(s) of money, goods and services to non-related community organisations or individuals’ (ABS 2002k:12). Such donations were mostly in the form of money (\$334 million), followed by services worth \$173 million and goods worth \$79 million.

**Table 4.12: People who made monetary donations to charities and non-profit organisations, by volunteer status, 2000**

	By volunteers		By non-volunteers		Total	
	No. ('000)	Per cent	No. ('000)	Per cent	No. ('000)	Per cent
<b>Age</b>						
18–24	333.5	67.6	806.3	59.7	1,139.7	61.8
25–34	649.1	83.9	1,357.7	66.5	2,006.8	71.3
35–44	996.6	86.1	1,299.6	75.1	2,296.2	79.5
45–54	792.0	88.2	1,224.4	74.9	2,016.4	79.6
55–64	472.0	86.5	829.7	73.1	1,301.7	77.4
65–74	328.6	86.2	586.5	66.7	915.1	72.6
75+	127.2	86.7	467.5	69.2	594.6	72.3
<b>Sex</b>						
Males	1,719.3	82.6	3,165.0	66.6	4,884.3	71.5
Females	1,979.7	85.5	3,406.8	72.6	5,386.4	76.9
<b>Total</b>	<b>3,698.9</b>	<b>84.2</b>	<b>6,571.8</b>	<b>69.6</b>	<b>10,270.7</b>	<b>74.2</b>

*Note:* A donation was defined as a ‘voluntary transfer of funds made in the preceding 12 months by a person, on an individual not a business basis. The donor should not have received any benefit in return. Excludes purchase of goods and raffle tickets but includes door knocks and sponsoring walkathons etc.’

*Source:* ABS 2001i.

<sup>16</sup> The community sector includes organisations providing activities in arts and culture, community service and welfare, education and training, employment, environment, health, and sports and recreation.

## **Civic engagement**

Civic engagement captures participation associated with the political sphere and the administration of clubs and other organisations. This sort of participation may include being an active member of a political party, recent involvement in protest meetings, signing petitions, and/or having a primary role in the running of a community club or organisation (see, for example, Black & Hughes 2001). No current national data are available on civic engagement.

## 5 Future directions

This working paper was undertaken as a resource from which material presented in Chapter 2 of *Australia's Welfare 2003* (AIHW 2003a) could be drawn. The paper provides broad summary indicators of the welfare of Australians, including indicator data not published in Chapter 2. Together, these data provide important indications of the welfare of the Australian population.

The aim of Chapter 2 was to provide context and background for other chapters of the biennial report *Australia's Welfare*, focussing on specific aspects of welfare service provision. The chapter and this working paper advance work published in *Australia's Welfare 2001* (AIHW 2001a) through a strengthening of the conceptual framework and presentation of data on 13 indicator topics within the three main components of welfare: healthy living; autonomy and participation; and social cohesion. The chapter will be a regular feature of the biennial report.

The indicator topics vary in terms of the clarity of the underlying concepts, the level of authoritative agreement as to their construction, and the availability of suitable data. This is perhaps particularly the case for the social cohesion component. There is, thus, scope for further development in all these areas.

For each indicator topic there has been an effort to reflect the three different types of measures considered important: average or level; distribution or inequality; disadvantage or social exclusion. The lack of suitable data or authoritative agreement on measurement have, in some cases, limited the ability to present all three types of measure for each indicator topic, and this is another area for further work. Most indicators are presented in terms of the most recent available, reliable, point-in-time data, with few trends discussed.

The completion of the working paper and Chapter 2 represents the second stage of three stages of development. Future work will focus on further refining the indicators presented, including new data where available, and more trend analysis.

The AIHW has benefited from discussion of this working paper with a range of commentators, and continues to welcome comments and suggestions on this material.

# Appendix tables

**Table A1: Cars per 1,000 people, 1996–2002**

	Year					
	1996	1998	1998	1999	2001	2002
Number ('000)	493	497	509	514	508	514

Source: ABS 2002l, 2002m, 2003n.

**Table A2: Australian family types,<sup>(a)</sup> Census night 2001**

	Family type					Total
	Couple family with dependent children <sup>(b)</sup>	Couple family with non-dependent children	Couple family without children	One-parent family	Other family	
Number ('000)	1,904.1	417.0	1,764.2	762.6	88.9	4,936.8
Per cent	38.6	8.4	35.7	15.4	1.8	100.0

(a) As defined by the ABS.

(b) 'Couple family with dependent children' comprises couple families with children under 15 years, couple families with dependent students, and couple families with children under 15 and dependent students.

Source: ABS 2002n.

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