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Australian Social Trends 2002

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Australian Social Trends 2002

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Contents

Preface

Australian Social Trends 2002 is the ninth of an annual series presenting information on contemporary social issues and areas of public policy concern. By drawing on a wide range of ABS statistics, as well as those from other official sources, *Australian Social Trends* describes Australian society and how it is changing over time. It is designed to assist and encourage informed decision-making and to be of value to a wide audience, including all those involved in social policy, research, journalism, marketing and teaching, as well as anyone interested in how we live today.

As in previous editions, the material presented in *Australian Social Trends 2002* is organised into seven chapters, each representing an area of social concern: population, family, health, education, work, income and expenditure, and housing. Through extensive referencing across articles, including those presented in previous editions of *Australian Social Trends*, connections between issues have also been highlighted. In some articles, the opportunity has been taken to revisit topics covered in previous editions, to provide an expanded and more contemporary picture, by using the most up-to-date data. This edition also includes a number of articles covering new areas such as the risks faced by teenagers, the education of Aboriginal and Torres Strait Islander peoples, energy efficiency in the home, and how pay is set in Australia. However, as described on the contents page, there is a wealth of information on other topics of social concern.

As well as analytical articles, *Australian Social Trends 2002* includes a set of national and State summary tables which present key social indicators in each of the seven major areas of social concern. These show at a glance how aspects of social wellbeing have been changing over time and how circumstances differ between States and Territories. Also provided is a set of tables of international comparisons for 17 countries, which include major OECD countries, Australia's nearest neighbours, and trading partners. Finally, there is a cumulative index to the 294 articles from all nine editions.

I would particularly like to thank Mr Brendan O'Reilly of the Department of Education, Science and Training, and Professor Peter Saunders and Dr Bruce Bradbury of the Social Policy Reseach Centre, for their contributions in writing articles. I would also like to thank Mr Mike Giles, who provided editorial comment on all of the articles, and reviewers from various Commonwealth agencies and departments who gave of their time and expertise. In addition, I am grateful to the ABS staff from across the organisation who were involved in compiling and editing the publication.

Various organisations have assisted in providing data and advice for this publication. These include: ANZDATA Registry; Archicentre Limited; Australian Education International; Australian Institute of Health and Welfare; Centrelink; Department of Education, Science and Training; Department of Family and Community Services; Department of Finance and Administration; Ministerial Council on Education, Employment, Training and Youth Affairs; National Centre for Vocational Education Research; and New South Wales Bureau of Crime Statistics and Research.

The ABS welcomes readers' suggestions on how the publication could be improved. To express your views or to ask for more information, please contact the Director, Social Analysis and Reporting at the address below.

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In many cases, the ABS can also provide information which is available on request or which is historical or compiled from a variety of sources. Information of this kind may be obtained through the Information Consultancy Service. This information may be made available in one or more of the following forms: consultancy reports, microfiche, floppy disk, magnetic tape, computer printout or photocopy. Charges are generally made for such information. Inquiries may be made by contacting Information Services in your nearest ABS office (see p. 226).

Abbreviations

The following abbreviations have been used in graphics and tables throughout this publication.

Australia, States and Territories of Australia

Aust.	Australia
NSW	New South Wales
Vic.	Victoria
Qld	Queensland
SA	South Australia
WA	Western Australia
Tas.	Tasmania
NT	Northern Territory
ACT	Australian Capital Territory

Other abbreviations

ABSCQ	ABS Classification of qualifications
AEI	Australian Education International
AGPS	Australian Government Publishing Service
ANZOD	Australian and New Zealand Organ Donation Registry
ANZSIC	Australian and New Zealand Standard Industry Classification
ASCED	Australian Standard Classification of Education
ASCO	Australian Standard Classification of Occupations
AIHW	Australian Institute of Health and Welfare
AusAID	Australian Agency for International Development
BMI	Body mass index
CES	Commonwealth Employment Service
CPI	Comsumer Price Index
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DALY	Disability Adjusted Life Year
ELICOS	English Language Intensive Courses for Overseas Students
ERP	Estimated resident population
FTE	Full-time equivalent
GDP	Gross Domestic Product
GFS	Government Finance Statistics
HECS	Higher Education Contribution Scheme
ICD–10	International Classification of Diseases – 10th revision
ICD–9	International Classification of Diseases – 9th revision
ISCED	International Standard Classification of Education
NOHSC	National Occupational Health and Safety Commission
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development
PISA	Program for International Student Assessment
PNG	Papua New Guinea
SACC	Standard Australian Classification of Countries
SAR	Special Administrative Region of China
SEDA	Sustainable Energy Development Authority
SGC	Superannuation Guarantee Charge
SIDS	Sudden Infant Death Syndrome
SLA	Statistical Local Area
SOCOG	Sydney Organising Committee for the Olympic Games
TAFE	Technical and Further Education
UK	United Kingdom
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
USA	United States of America
USSR	Union of Soviet Socialist Republics
VET	Vocational Education and Training
WHO	World Health Organisation

Symbols and usages

The following symbols and usages mean:

billion	1,000 million
GJ	Gigajoules of energy
hrs	hours
J	Joules of energy
km	kilometre
mins	minutes
mls	millilitres
m^2	square metre
n.a.	not available
n.y.a.	not yet available
no.	number
p	preliminary — figures or series subject to revision
r	figures or series revised since previous edition
'000	thousand
'000m	thousand million
'00,000	hundred thousand
$	dollar
$m	million dollars
$US	American dollar
%	per cent
*	subject to high sampling variability
**	data suppressed due to unacceptably high sampling variability
. .	not applicable
—	nil or rounded to zero (including null cells)

Where figures have been rounded, discrepancies may occur between the sums of the component items and totals.

Population

Population: national summary

COMPOSITION	Units	1991	1992	1993	1994(a)	1995	1996	1997	1998	1999	2000	2001p
Total population	'000	17 284	17 495	17 667	17 855	18 072	18 311	18 524	18 730	18 937	19 157	19 387
Male population	'000	8 615	8 716	8 798	8 888	8 994	9 108	9 214	9 320	9 425	9 538	9 655
Female population	'000	8 669	8 779	8 869	8 967	9 078	9 203	9 310	9 411	9 512	9 619	9 731
Indigenous population(b)	'000	345.4	352.9	360.7	368.8	377.1	386.0	394.2	402.4	410.6	418.8	427.1
Overseas born population	%	22.9	23.0	22.9	22.9	23.0	23.3	23.3	23.3	23.3	23.6	n.y.a.
Born in United Kingdom and Ireland	%	7.2	7.1	7.0	6.9	6.8	6.7	6.7	6.5	6.4	6.3	n.y.a.
Born in Europe including former USSR	%	14.0	13.8	13.6	13.5	13.3	13.2	13.1	12.9	12.7	12.5	n.y.a.
Born in East and Southern Asia	%	4.2	4.4	4.5	4.7	4.9	5.1	5.2	5.3	5.4	5.6	n.y.a.
Population living in capital cities	%	63.6	63.5	63.5	63.5	63.5	63.6	63.7	63.7	63.8	r64.0	64.1
Population aged 0–14	%	21.9	21.8	21.7	21.6	21.5	21.4	21.2	20.9	20.7	20.5	20.2
Population aged 15–64	%	66.8	66.7	66.6	66.6	66.6	66.6	66.7	66.9	67.0	67.2	67.4
Population aged 65 and over	%	11.3	11.5	11.6	11.8	11.9	12.0	12.1	12.2	12.3	12.3	12.4
Population aged 80 and over	%	2.2	2.3	2.4	2.5	2.6	2.6	2.7	2.7	2.8	2.9	3.0
Median age of total population	years	32.4	32.7	33.0	33.4	33.7	34.0	34.3	34.6	34.9	35.2	35.4
Median age of Indigenous population(b)	years	19.8	19.8	19.9	20.0	20.0	20.1	20.1	20.1	20.2	20.2	20.3
Sex ratio of population aged 0–64	ratio	103.0	102.8	102.7	102.6	102.5	102.4	102.3	102.4	102.4	102.4	102.5
Sex ratio of population aged 65 and over	ratio	75.0	75.5	75.9	76.3	76.7	77.1	77.5	77.9	77.5	78.6	79.0

POPULATION GROWTH	Units	1991	1992	1993	1994(a)	1995	1996	1997	1998	1999	2000	2001p
Population growth	'000	218.9	210.6	172.4	187.6	217.0	239.0	213.4	206.2	206.8	r220.0	229.5
Births	'000	261.2	259.2	260.0	258.3	258.2	250.4	253.7	249.1	250.0	r249.3	248.7
Deaths	'000	119.6	120.8	121.3	123.5	126.2	126.4	127.3	129.3	128.3	r128.4	128.9
Natural increase	'000	141.6	138.4	138.6	134.8	132.0	124.0	126.4	119.9	121.7	r120.9	119.8
Net overseas migration	'000	86.4	68.6	30.0	46.5	80.1	104.1	87.1	86.4	85.1	99.1	109.7
Population growth rate	%	1.28	1.22	0.99	1.06	1.22	1.32	1.17	1.11	1.10	1.16	1.20
Net overseas migration to total growth	%	39.5	32.6	17.4	24.8	36.9	43.6	40.8	41.9	41.2	r45.0	47.8

MIGRATION	Units	1991	1992	1993	1994(a)	1995	1996	1997	1998	1999	2000	2001
Total settler arrivals(c)	'000	121.7	107.4	76.3	69.8	87.4	99.1	85.8	77.3	84.1	92.3	n.y.a.
Skilled settler arrivals	%	39.8	37.6	29.0	18.3	23.1	20.2	23.0	33.6	33.2	35.1	n.y.a.
Family settler arrivals	%	44.3	45.3	42.1	48.1	42.4	46.9	42.6	27.3	25.6	21.6	n.y.a.
Humanitarian settler arrivals	%	6.4	6.7	14.3	16.3	15.6	13.9	11.5	11.4	10.4	7.9	n.y.a.

PROJECTIONS — SERIES II	Units	2006	2011	2016	2021	2026	2031	2036	2041	2046	2051	2101
Total population	'000	20 395	21 289	22 132	22 926	23 648	24 254	24 713	25 034	25 253	25 409	25 254
Population aged 0–14	%	19.0	17.7	16.8	16.1	15.8	15.5	15.1	14.8	14.5	14.4	14.4
Population aged 15–64	%	68.0	68.0	66.9	65.5	63.7	62.3	61.2	60.4	60.0	59.6	58.6
Population aged 65 and over	%	13.0	14.3	16.4	18.4	20.5	22.3	23.7	24.8	25.5	26.1	27.0
Population aged 80 and over	%	3.4	3.9	4.0	4.4	5.1	6.3	7.2	8.2	8.8	9.4	10.1
Median age of total population	years	36.9	38.6	40.0	41.2	42.4	43.4	44.3	45.1	45.6	46.0	46.1
Population living in capital cities	%	64.5	64.8	65.1	65.4	65.8	66.1	66.5	66.8	67.2	67.5	n.a.

(a) From 1994, includes Christmas and Cocos (Keeling) Islands.

(b) From 1997, figures are projections.

(c) Total settler arrivals includes special eligibility and non-program migration, in addition to family, skilled and humanitarian migration.

Reference periods: Population composition and projection figures are at 30 June. Growth figures are for the year ended 30 June.

Population: State summary

COMPOSITION	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Total population	'000	2001	6 532	4 829	3 628	1 502	1 910	470	198	314	19 387
Male population	'000	2001	3 251	2 392	1 813	743	961	231	104	157	9 655
Female population	'000	2001	3 281	2 437	1 815	759	948	239	93	158	9 731
Indigenous population(a)	'000	2001	121.1	24.6	118.7	24.3	61.5	16.6	56.4	3.6	427.1
Overseas born population	%	1996(b)	24.5	25.1	17.7	22.3	29.3	10.8	16.8	23.7	23.3
Born in the United Kingdom and Ireland	%	1996(b)	5.4	5.5	6.0	10.0	13.2	5.4	4.9	6.7	6.7
Born in Europe including former USSR	%	1996(b)	11.7	15.2	9.4	17.5	18.9	8.0	8.2	13.6	13.2
Born in East and Southern Asia	%	1996(b)	6.7	5.8	2.8	2.7	5.3	1.0	4.5	5.6	5.1
Population living in capital cities	%	2001	63.4	72.9	45.7	73.2	73.3	41.3	54.4	99.9	64.1
Population aged 0–14	%	2001	20.2	19.6	20.9	19.2	20.8	20.8	25.9	20.4	20.2
Population aged 15–64	%	2001	67.0	67.5	67.5	66.2	68.5	65.5	70.5	71.1	67.4
Population aged 65 and over	%	2001	12.9	12.8	11.5	14.6	10.8	13.8	3.6	8.5	12.4
Population aged 80 and over	%	2001	3.1	3.1	2.8	3.7	2.6	3.4	0.6	1.9	3.0
Median age of total population	years	2001	35.7	35.5	34.9	37.4	34.5	37.0	29.3	32.9	35.4
Median age of Indigenous population	years	2001	19.8	20.9	19.8	20.4	20.6	20.3	21.7	21.0	20.3
Sex ratio of population aged 0–64	ratio	2001	102.6	101.6	102.5	101.9	104.2	100.1	112.1	101.4	102.5
Sex ratio of population aged 65 and over	ratio	2001	78.1	77.7	82.4	77.3	81.1	77.7	106.6	79.4	79.0

POPULATION GROWTH	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Total population growth	'000	2000–2001	70.0	62.2	61.0	5.0	26.1	—	2.1	3.2	229.5
Births	'000	2000–2001	86.3	58.6	47.7	17.4	24.4	6.3	3.7	4.2	248.7
Deaths	'000	2000–2001	45.7	32.0	22.8	11.8	10.5	3.9	0.9	1.4	128.9
Natural increase	'000	2000–2001	40.6	26.6	24.9	5.6	13.9	2.4	2.8	2.8	119.8
Net overseas migration	'000	2000–2001	46.1	27.6	16.4	3.6	14.8	0.2	1.0	—	109.7
Net interstate migration	'000	2000–2001	–16.7	7.9	19.7	–4.2	–2.7	–2.6	–1.7	0.3	—
Population growth rate	%	2000–2001	1.1	1.3	1.7	0.3	1.4	—	1.1	1.0	1.2
Net interstate migration rate	%	2000–2001	–0.3	0.2	0.6	–0.3	–0.1	–0.5	–0.9	0.1	—

PROJECTIONS - SERIES II	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Total population	'000	2051	8 248	5 547	6 101	1 411	3 038	319	370	372	25 409
Population aged 0–14	%	2051	14.4	13.5	14.8	12.8	15.0	12.5	20.5	14.4	14.4
Population aged 15–64	%	2051	59.3	58.7	60.5	56.0	60.6	53.5	69.3	62.3	59.6
Population aged 65 and over	%	2051	26.3	27.8	24.7	31.1	24.3	34.0	10.3	23.3	26.1
Population aged 80 and over	%	2051	9.4	10.4	8.5	12.2	8.5	13.2	2.1	8.4	9.4
Median age of total population	years	2051	46.1	47.1	45.3	50.2	44.5	53.2	34.7	43.3	46.0
Population living in capital cities	%	2051	71.0	79.2	46.9	78.1	73.5	45.8	52.0	n.a.	67.5

(a) Population projections.
(b) Only available in census years.

Reference periods: Population composition and projection figures are at 30 June.
Growth figures are for the year ended 30 June.

Population definitions and references

Births
live births occurring in that year.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Deaths
deaths occurring in that year.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

East and Southern Asia
including the countries of North-East, South-East and Southern Asia. Countries are classified according to the *Standard Australian Classification of Countries (SACC), 1998* (ABS Cat. no. 1269.0).
Reference: *Migration, Australia* (ABS Cat. no. 3412.0).

Europe and the Former USSR
including the United Kingdom and Ireland, the former USSR and the Baltic States.
Reference: *Migration, Australia* (ABS Cat. no. 3412.0).

Family settler arrivals
migrants who have been sponsored by a relative who is an Australian citizen, or permanent resident of Australia, under the family stream of the migration program.
Reference: *Immigration Update, June Quarter 2000*, Department of Immigration and Multicultural Affairs.

Humanitarian settler arrivals
comprise: those who arrive under the refugee program (which provides protection for people who have fled their country because of persecution); those who arrive under the special humanitarian programs (those suffering persecution within their own country or who have left their country because of significant discrimination amounting to gross violation of human rights); and those who arrive under the special assistance category (groups determined by the Minister to be of special concern to Australia and in real need, but who do not come under the traditional humanitarian categories. It includes those internally and externally displaced people who have close family links in Australia).
Reference: *Immigration Update, June Quarter 2000*, Department of Immigration and Multicultural Affairs.

Indigenous population
estimates of the resident Aboriginal and Torres Strait Islander population. Estimates are experimental in that the standard approach to population estimation is not possible because satisfactory data on births, deaths and migration are not generally available. Furthermore, there is significant intercensal volatility in census counts of the Indigenous population, due in part to changes in the propensity of persons to identify as being of Indigenous origin.
Reference: *Experimental Estimates of the Aboriginal and Torres Strait Islander Population* (ABS Cat. no. 3230.0).

Long-term arrivals and departures
long-term arrivals comprise overseas visitors who intend to stay in Australia for one year or more (but not permanently) and Australian residents returning after an absence of one year or more overseas. Long-term departures comprise Australian residents who intend to stay abroad for one year or more (but not permanently), and overseas visitors departing who stayed one year or more.
Reference: *Migration, Australia* (ABS Cat. no. 3412.0).

Median age
the age at which half the population is older and half is younger.
Reference: *Population by Age and Sex: Australian States and Territories* (ABS Cat. no. 3201.0).

Natural increase
the excess of births over deaths during the year.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Net interstate migration
interstate arrivals minus interstate departures during the year. Net interstate migration rate expresses this as a proportion (per cent) of the population at the beginning of the year.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Net overseas migration
permanent and long-term arrivals minus permanent and long-term departures during the year, plus an adjustment for the net effect of category jumping. This net effect may be either positive or negative.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Permanent arrivals and departures
permanent arrivals comprise travellers who hold migrant visas and other persons eligible to settle, and permanent departures comprise Australian residents who intend to settle in another country.
Reference: *Migration, Australia* (ABS Cat. no. 3412.0).

Population
estimated resident population (ERP). ERP is an estimate of the Australian population obtained by adding to the estimated population at the beginning of each period the components of natural increase (on a usual residence basis) and net overseas migration. For the States and Territories, account is also taken of estimated interstate movements involving a change of usual residence.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Population growth
increase in the population during the year, measured as the sum of natural increase and net overseas migration. For dates prior to 1996, differences between growth and the sum of natural increase and net overseas migration arise from retrospective adjustments to population estimates (which are made after each census) to compensate for intercensal discrepancy. Population growth rate expresses the increase as a proportion (per cent) of the population at the beginning of the year.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Population projections
ABS population projections take the base year population for each sex by single years of age and advance it year by year by applying assumptions about future mortality and migration. Assumed age-specific fertility rates are applied to the female populations of child-bearing ages to provide the estimates of new births for each year. The ABS produces several series of population projections based on different combinations of assumptions about mortality, fertility and migration. The assumptions underlying Series II most closely reflect prevailing trends and comprise: declining rates of mortality; the total fertility rate for Australia falling to 1.6 by 2008, and then remaining constant; low levels of overseas migration (annual net gain of 90,000 from 2001–2002); and medium levels of interstate migration. The base year for these projections is 1999.
Reference: *Population Projections, 1999 to 2101* (ABS Cat. no. 3222.0).

Sex ratio
the ratio of males to females multiplied by 100.
Reference: *Births* (ABS Cat. no. 3301.0).

Skilled settler arrivals
the skill stream component of the migration program is designed to contribute to Australia's economic growth. Settlers under this program meet a demand in Australia for their particular occupational skills, outstanding talents or business skills.
Reference: *Immigration Update, June Quarter 2000*, Department of Immigration and Multicultural Affairs.

Population definitions and references continued

Total settler arrivals

comprised largely of those who arrived under the migration and humanitarian programs. These programs include the following categories: the family stream; the skilled stream; special eligibility migrants; refugees; special humanitarian and special assistance migrants.
Reference: *Immigration Update, June Quarter 2000*, Department of Immigration and Multicultural Affairs.

Regional population ageing

POPULATION COMPOSITION

Over the last 100 years, the proportion of the population aged 65 years and over has risen from 4% to 12%. It is projected to rise to about 18% by 2020.

Together with many other developed countries, Australia's population is ageing. Over the course of the 20th century, the proportion of people aged 65 years and over has tripled, from 4% in 1901 to 12% in 2001. It is projected that this growth will continue over the 21st century and by 2020, 18% of the population will be aged 65 years and over.[1]

Falling fertility, increased life expectancy and the redistribution of the population through internal migration have resulted in some parts of Australia ageing more rapidly than others. Similar to large scale population ageing, regional population ageing has implications for the provision of, and distribution of funding for, public services. For example, regions with a large number of older people may have a greater need for specialised health services, home help, public transport and smaller housing than regions with a younger population. This article highlights patterns of regional population ageing by examining the proportion of people aged 65 years and over across statistical local areas (SLAs).

Causes of population ageing

A population can age numerically and structurally.[2] Numerical ageing refers to an increase in the *number* of people aged 65 years and over in a population, while structural ageing refers to an increase in the *proportion* of people aged 65 years and over.

The primary cause of numerical ageing is declining mortality, which results in a large proportion of people living to an older age. A period of high fertility, such as Australia's 'baby boom', eventually contributes to numerical ageing, particularly if mortality remains low.

Structural ageing is mainly caused by declining fertility, which leads to a relatively small proportion of young people in a population compared with older people. Declining mortality leading to increased life expectancy plays a less important role in structural ageing.

In contrast to the main causes of population ageing, internal migration is the primary factor associated with regional ageing in Australia. A regional population will age if relatively large numbers of older people

Sources and definitions

This article uses data from the ABS 2000 Population Estimates by Age and Sex series, mainly at the Statistical Local Area level and, to a lesser extent, by Capital City/Balance of State.

Statistical Local Areas (SLAs) are geographical units which are used to collect and disseminate statistics. In non-census years, SLAs are the smallest unit of classification in the Australian Standard Geographical Classification (ASGC). In 2000, Australia had 1,331 SLAs.

The *Capital City/Balance of State* classification divides each State into two parts by combining SLAs which define a capital city into one geographical region, while the remaining SLAs together define the Balance of State. In this way, a broad comparison can be made between Australia's metropolitan and non-metropolitan regions.

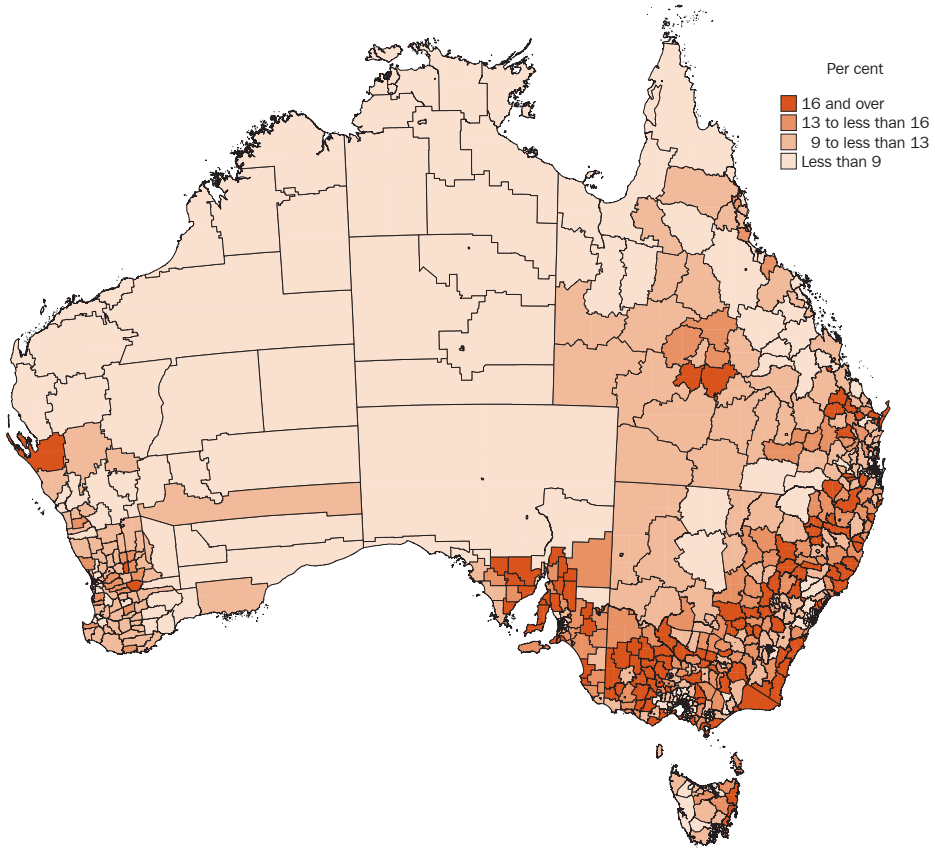
For this article, *older people* are defined as those aged 65 years and over. Regions are considered to have an older age structure when 16% or more of the population is aged 65 years and over.

Ageing across Australian States and Territories — 2000

	Units	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Proportion aged 65 years and over	%	*12.8*	*12.8*	*11.5*	*14.5*	*10.7*	*13.6*	*3.5*	*8.3*	*12.3*
Capital city	%	11.7	12.1	10.9	14.5	10.9	13.5	4.0	8.3	11.8
Balance of State	%	14.8	14.6	11.9	14.3	10.0	13.6	3.0	..	13.3
Number aged 65 years and over	*'000*	*828.8*	*608.8*	*408.4*	*216.7*	*200.8*	*63.9*	*6.8*	*25.9*	*2 360.2*
Capital city	'000	478.0	419.5	177.3	159.4	150.5	26.3	3.6	25.9	1 440.4
Balance of State	'000	350.8	189.4	231.1	57.3	50.3	37.7	3.2	..	919.7
Median age	*years*	*35.0*	*35.0*	*34.0*	*37.0*	*33.0*	*36.0*	*28.0*	*32.0*	*35.0*
Capital city	years	34.0	34.0	33.0	37.0	34.0	36.0	30.0	32.0	34.0
Balance of State	years	37.0	36.0	35.0	37.0	33.0	36.0	27.0	..	36.0

Source: ABS 2000 Population Estimates by Age and Sex, Australia.

Proportion of people aged 65 years and over in Australian SLAs — 2000



Source: ABS 2000 Population Estimates by Age and Sex, Australia.

move into an area and/or young people leave an area. Because Australia's population is mobile (with 43% of the population changing their address between 1991 and 1996),[3] fertility and mortality rates generally have less impact on ageing at the local level than the proportion and age structure of people entering or leaving an area.

Ageing across Australia

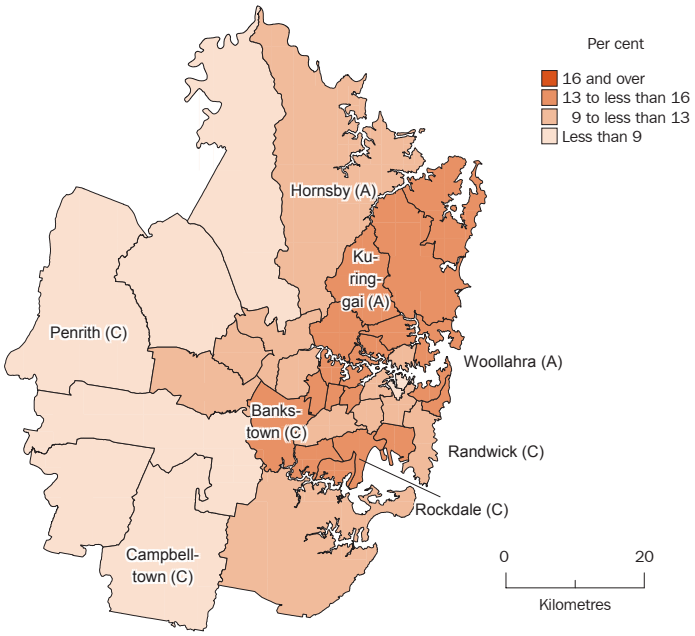
In 2000, much of Australia's population was clustered along the coast, extending further inland in the south-eastern parts of the continent than in the north or west. The majority of land mass in the Northern Territory, Western Australia, South Australia, and to a lesser extent, Queensland, was characterised by small populations with as few as 0.1 persons per square kilometre.[4]

Together with the rest of the population, older people were more likely to live in the south-eastern areas of Australia in 2000, extending from south-east Queensland, through the eastern half of New South Wales, throughout Victoria and into the south-east corner of South Australia, and the north and east coasts of Tasmania. Although older people were more likely to live in Australia's more populated regions than in other areas, the most densely populated regions (i.e. capital cities) did not have the highest proportions of older people.

The larger capital cities — Sydney, Melbourne and Brisbane — tended to have slightly younger populations than their balances of State. This may reflect the educational and employment opportunities in capital cities which attract young and working-age people away from other areas, while the comparatively lower cost of living in non-metropolitan areas, including many coastal areas, both attracts and retains higher proportions of older people.

Darwin had a much younger population than any other capital city, but was slightly older than the balance of the Northern Territory in 2000. This largely reflects the high proportion of Indigenous people living in the Northern Territory and particularly outside Darwin.[5] The Indigenous population has a younger age

Proportion of people aged 65 years and over in Sydney SLAs — 2000



Source: ABS 2000 Population Estimates by Age and Sex, Australia.

structure than the total population due to their high fertility and mortality rates (see *Australian Social Trends 2000,* Social conditions of Aboriginal and Torres Strait Islander people, pp. 21–26).

Metropolitan areas

Variations in population age structure exist within all Australian cities, usually reflecting differences in the age of suburbs and more recent redevelopments in older suburbs, and the ensuing suitability and affordability of housing in these areas.

Most inner city areas in Australia are characterised by businesses, retail stores and increasingly, high density housing which is attractive to young working people without children. Surrounding these areas are SLAs often containing expensive real estate with favourable outlooks and access to the city. Beyond these are areas which were new suburbs a few decades ago. Many people bought in these areas when they were first developed and have grown older along with the area. On the outskirts of most capital cities are comparatively new suburbs, and areas which have only recently become incorporated as part of the city. These areas are characterised by recently developed and more affordable family housing which attracts younger families.

Sydney is a typical example of these patterns. Sydney's age structure is similar to the national average, although in 2000 there was no SLA within its boundary with more than 16% of its population aged 65 years and over. However, typical patterns of metropolitan population ageing were still apparent. The proportion of people aged 65 years and over tended to be higher in the band of SLAs where suburbs were developed during the mid-20th century. Examples of these SLAs include Ryde and Ku-ring-gai in northern Sydney (14% and 15% respectively), Strathfield (15%) to the west of the city and Rockdale (just under 16%) in the south.

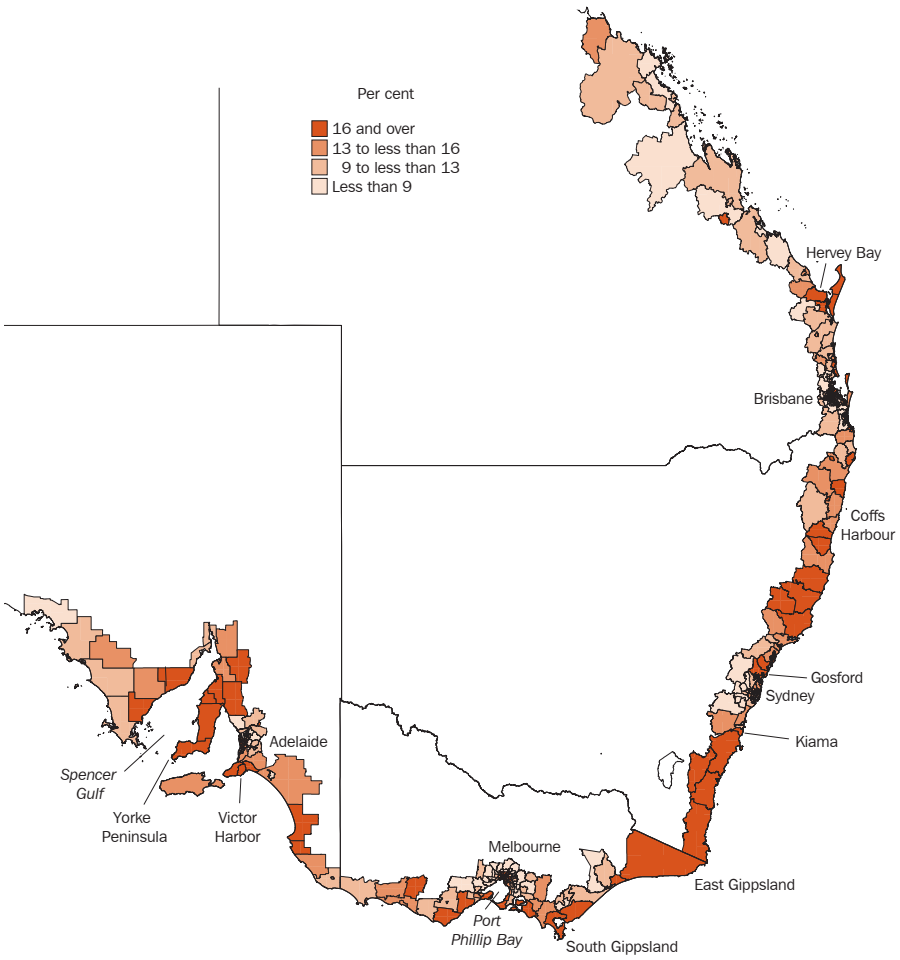
By contrast, older people were less likely to live in the inner city SLAs of Sydney-Inner and Sydney-Remainder, which had fewer than 9% of people aged 65 years and over. The proportion of older people in the SLAs immediately surrounding inner Sydney was close to the Australian average (12%). Examples include North Sydney (12%), Leichhardt (10%), South Sydney (10%) and Randwick (13%). SLAs such as Auburn and Hornsby, located towards outer Sydney (although becoming more central as Sydney expands) had proportions of older people similar to the national average (11% and 12% respectively).

The proportion of older people living on the outskirts of Sydney was similar to the proportion living in inner Sydney. For example, 7% of people in Penrith and 6% of people in Campbelltown were aged 65 years and over. The main difference between the age structures of inner and outer Sydney — despite these areas having similar proportions of older people — was the proportion of children. Over 20% of people living in outer Sydney SLAs were aged less than 15 years, compared with 8% in inner Sydney.

Inland non-metropolitan areas

In 2000, non-metropolitan regions in Australia had older populations than metropolitan regions overall. Many of the 'older' inland SLAs (those SLAs with at least 16% of their population aged 65 years and over) were located in the wheat-sheep belt to the west of the Great Dividing Range, extending from west of Spencer Gulf in South Australia, across to western Victoria (particularly surrounding Horsham), and along the Murray River into New South Wales. There were more older SLAs just north of Wagga Wagga from Coolamon to Coonabarabran, up to Bingara and into south-east Queensland, ending inland from Hervey Bay.

Proportion of people aged 65 years and over in SLAs along coastal south-eastern Australia — 2000



Source: ABS 2000 Population Estimates by Age and Sex, Australia.

Remote parts of inland Australia tend to have a very small population. People who did live in remote Australia in 2000 were more likely to be younger than older. This young age structure is largely due to employment opportunities in these areas (where agricultural, mining or pastoral industries are common) and is also affected by the disproportionate number of Indigenous Australians who live in remote areas.[4]

Ageing on the coast

A century ago, most Australians lived either in capital cities (32%) or in 'the bush' (61%), with around 7% living on the coastline in non-metropolitan areas.[6] In contrast, almost 20% of Australians lived in coastal towns and cities other than capital cities in 2000.

In South Australia, older coastal SLAs (those with at least 16% of their population aged 65 years and over) extended along both sides of Spencer Gulf and Yorke Peninsula, to Victor Harbor, south of Adelaide. In Victoria, older populations were located along the coastline of Port Phillip Bay, and the south-east coast of Victoria from South Gippsland to East Gippsland at the New South Wales border. This trend continued along the south coast of New South Wales to Kiama, south of Sydney. Many parts of the north coast of New South Wales also had a high proportion of older residents, with most SLAs from Gosford to Hervey Bay in Queensland having more than 13% of their populations aged 65 years and over, and many of them, more than 16%.

In comparison, the sparsely populated coastal areas of northern Queensland, the Northern Territory and Western Australia had relatively young populations in 2000. Exceptions were parts of Townsville in northern Queensland and Shark Bay, Mandurah and Albany Central in Western Australia, which had at least 16% of their populations aged 65 years and over.

Projected 'oldest' SLA(a) populations in Australia — 2019

			Proportion aged 65 years and over	
			1999	2019
Statistical Local Area	State	Region(b)	%	%
Bribie Island	Qld	C	28.2	36.8
Bilinga	Qld	C	28.6	35.2
Victor Harbor	SA	C	29.0	33.3
Runaway Bay	Qld	C	20.2	32.3
Paradise Point	Qld	C	24.8	32.3
Mornington Peninsula South	Vic.	C	16.5	32.0
Strathbogie	Vic.	I	20.3	31.9
Mannum	SA	I	20.2	31.8
Hollywell	Qld	C	20.4	30.8
Barraba	NSW	I	21.5	30.6
Redcliffe Scarborough	Qld	C	21.9	30.4
Hindmarsh	Vic.	I	21.6	30.3
Brighton	SA	C/M	20.1	30.3
Bass Coast Balance	Vic.	C	21.9	30.2
Sandgate	Qld	C/M	24.6	30.1
Great Lakes	NSW	C	24.8	30.1
Fisher	ACT	M	12.6	30.1
Upper Mount Gravatt	Qld	M	20.5	30.1
Total Australia			**12.2**	**17.6**

(a) Uses 1996 SLA boundaries and excludes SLAs with fewer than 1000 people.
(b) 'C'=coastal; 'I'=inland; and 'M'=metropolitan.

Source: ABS Population Projections for Statistical Local Areas 1999–2019.

Projected population ageing

Population projections show that by 2019, around 18% of Australia's population is likely to be aged 65 years and over, compared with the current level of around 12%. While it is expected that Tasmania will be the State with the oldest population, older populations are expected to continue to be situated in SLAs along the coast, particularly in Queensland. Of the SLAs with the highest projected proportions of people aged 65 years and over, 12 out of 18 are likely to be along the coast, with 7 of these in Queensland.

The SLA with the oldest population in Australia in 2019 is projected to be Bribie Island on the Queensland coast, with 37% of its residents aged 65 years and over. This is an increase of 9 percentage points from current levels, and almost 20 percentage points higher than the projected national average.

Bilinga in Queensland is projected to continue to be the second-oldest SLA in Australia, with 35% of its population aged 65 years and over in 2019. Victor Harbor in South Australia, currently the oldest SLA, is projected to have 33% of its population aged 65 years and over, making it the third oldest SLA in 2019.

Altogether 170 SLAs are projected to have one-quarter or more of their population aged 65 years and over in 2019. Over the projection period, the number of people in this age group is projected to double in 370 SLAs. This presents challenges for many regions in terms of meeting the needs of the rapidly growing older population.

Endnotes

1 Australian Bureau of Statistics 2000, *Population Projections, Australia, 1999 to 2101*, Cat. no. 3222.0, ABS, Canberra.

2 Jackson, N. 1999, 'Understanding population ageing: a background', *Australian Social Policy*, vol.1, pp. 203–224.

3 Australian Bureau of Statistics 1996, *Population Growth and Distribution, 1996*, Cat. no. 2035.0, ABS, Canberra.

4 Bureau of Rural Sciences (BRS) 1999, *Country Matters: Social Atlas of Rural and Regional Australia*, BRS, Canberra.

5 Australian Bureau of Statistics 2000, *Regional Statistics, Northern Territory, 2000*, Cat. no. 1362.7, ABS, Canberra.

6 Salt, B. 2001, *The Big Shift: Welcome to the Third Australian Culture: The Bernard Salt Report*, Hardie Grant Books, Victoria.

Fertility futures

POPULATION PROJECTIONS

Under a very low fertility scenario of 1.3 babies per woman by 2008–9, Australia's population would peak at 23.2 million in 2039 and then decline to 22.9 million by 2051. At the other extreme, a high fertility rate of 2.1 babies per woman would see the population reach 30.1 million by 2051.

At various times since European settlement, Australian governments have expressed concern over slumps in the birth rate, believing the healthy growth of the population to be essential to the wellbeing of the country.[1] In the latter part of the 20th century, Australia was one of many developed countries to experience sustained fertility decline. Since 1976, Australian fertility has been below replacement level, which will eventually result in the population decreasing. With such significant implications for the size and structure of the population, low fertility lies at the heart of many current economic, environmental, and social issues.

One of the most dramatic consequences of fertility decline is population ageing, which is already manifest in Australia (see *Australian Social Trends 1999*, Our ageing population, pp. 6–10). This is the inevitable result of sustained low fertility accompanied by increasing life expectancy. The ageing of the population will change the ratio of old to young, and the proportion of the population who are of working age. These shifts will affect many areas of social and economic activity, forcing change not only in the health and aged-care systems but in labour market structures and skills.

Fertility decline

Over the course of the 20th century, Australian fertility, as measured by the total fertility rate, reflected changing social and economic conditions. Fertility was relatively low during the Great Depression of the 1930s, reaching 2.1 babies per woman in 1934. In 1961, at the height of the 'baby boom', it peaked at 3.5 babies per woman. Since then, fertility has declined, falling sharply during the early 1960s and again during the 1970s, and reaching replacement level (2.1) in 1976. The total fertility rate then stabilized somewhat during the 1980s, before resuming a more gradual decline during the 1990s (see *Australian Social Trends 1996*, Trends in fertility, pp. 36–40). At 1.7 babies per woman, the fertility rate recorded for 2000 was the lowest on record.

Explanations of fertility decline have centred around the far-reaching social and technological changes that have occurred in

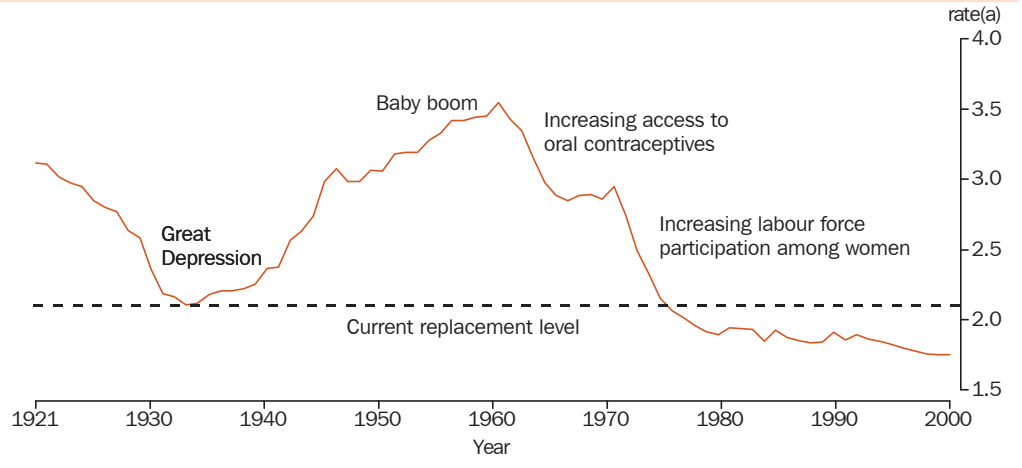
Births and population growth

This article uses data from two sources: births data derived from Birth Registrations; and ABS population projections which span the period 1999–2101 for Australia.

The *total fertility rate* is the sum of age-specific fertility rates (live births at each age of mother per 1,000 female population of that age). It represents the number of children a woman would bear over her lifetime if she experienced current age-specific fertility rates at each age of her reproductive life.

Replacement level fertility is the level that needs to be sustained in the long term to ensure that a population replaces itself and is currently estimated at 2.1 babies per woman in Australia.

Total fertility rate(a)



(a) Babies per woman.

Source: Births, Australia, 2000 (ABS Cat. no. 3301.0).

Australia, as in other developed countries, since the mid-20th century. The late 1960s and early 1970s saw major changes in access to birth control and abortion. In particular, the oral contraceptive pill became available in the mid-1960s, following which the total fertility rate fell to 2.9 babies per woman in the years 1966–1971. Accompanied by changing laws and attitudes surrounding the role of women in society, these changes allowed women greater reproductive choice, and greater freedom to pursue education and employment. As a result, female participation in the labour force increased dramatically in the late 1960s and early 1970s (see *Australian Social Trends 1998,* Trends in women's employment, pp. 111–114). The further slump in fertility during the 1970s, which saw the total fertility rate fall below replacement level, is largely attributed to this factor, along with changing views on family size and standards of living.

In situations where it remains difficult for women to pursue both work and family goals, some are choosing to have fewer children or none at all, contributing to the continued decline in fertility. The current low level of fertility in Australia is a result of increasing proportions of women remaining childless and couples restricting their family size to one or two children. Both trends are related to the fact that partnering and childbearing are occurring at later ages than in the past, reducing opportunities to have children and limiting the likelihood of larger families. The median age of Australian mothers at first pregnancy (of the current relationship) resulting in a live birth has risen from 24 years in 1975 to 29 years in 2000 (see *Australian Social Trends 2001*, Older mothers, pp. 55–58; *Australian Social Trends 2002*, Trends in childlessness, pp. 37–40).

In reaction to these trends, 'family-friendly' policies such as paid parental leave and subsidised child care, which enable parents, and especially mothers, to combine work and family goals, are often advocated as the key to maintaining sustainable levels of fertility.[2] Others argue that governments should cater to the diversity of parents' work and lifestyle preferences, supporting families in all choices made with regard to the care of young children, rather than focusing on the workforce participation of women.[3] In either case, policy is just one element among many in the complex equation that determines fertility levels. Economic factors, such as the availability of employment, and access to affordable housing and child care, also have an impact on fertility;[3] as does continued social change encouraging individualism and affecting the stability of couple relationships.[4]

International comparison

According to the United Nations' 2000 projections, the world's average total fertility rate for 2000–2005 will be 2.7 births per woman. While Australia's fertility is well below this level, it is comparable to that of other developed countries, most of which have also experienced sustained fertility decline. The projected total fertility rate for Australia (1.8) is lower than that of the United States (estimated at 1.9) or New Zealand (2.0), but considerably higher than that of countries such as Spain (1.1), Hong Kong (1.2), Italy (1.2), Greece (1.2), Germany (1.3) and Japan (1.3). These fertility rates contrast with those projected for developing countries, some of which remain as high as 8.0 babies per woman.

International total fertility rates(a), estimates and projections

Country	*1950 –1955* rate(b)	*1975 –1980* rate(b)	*2000 –2005* rate(b)
Australia	3.18	2.09	1.75
China	6.22	3.32	1.80
Germany	2.16	1.52	1.29
Greece	2.29	2.32	1.24
Hong Kong (SAR of China)	4.44	2.32	1.17
Indonesia	5.49	4.73	2.27
Italy	2.32	1.89	1.20
Japan	2.75	1.81	1.33
New Zealand	3.69	2.18	1.97
Niger	7.70	8.20	8.00
Spain	2.57	2.57	1.13
United Kingdom	2.18	1.72	1.61
United States of America	3.45	1.79	1.93
World	5.01	3.90	2.68

(a) Average total fertility over 5 year periods, spanning from mid-year of the beginning to mid-year of the end of the period.
(b) Babies per woman.

Source: United Nations Population Division, 2001, *World Population Prospects*, The 2000 Revision, vol.1: Comprehensive Tables, United Nations, New York.

How low could fertility fall?

There is much debate about how low fertility will fall in the developed world. There are reasons to believe that countries with the lowest total fertility rates of 1.1 or 1.2 may have reached the limits of low fertility. It has been suggested that there is a biological component to the motives driving fertility (a 'need to nurture') which will ensure that the majority of women continue to bear at least one child.[5] This view is supported by a number of studies showing that women still

anticipate an average completed family size of two or more children, even if this goal is not ultimately realized by many[6] (see *Australian Social Trends 2002*, Changes across Australian generations, pp. 46–51).

While Australian fertility may not fall to the levels experienced by countries such as Spain, Italy, or Hong Kong, further reductions in childbearing might reasonably be expected if the labour force participation of women continues to increase. Fertility in parts of Australia (notably Melbourne and the Australian Capital Territory) has already fallen to 1.6 babies per woman, and could decline further. The possibility that Australia's fertility could fall to 1.3 should not be discounted, given that the difference between a fertility rate of 1.3 and the middle level fertility scenario (total fertility rate=1.6) equates to around a third of Australian women having one child less.[7]

What if ....?

Small differences in fertility levels over the next 50 to 100 years could produce very different population outcomes. A change of just 0.1 in the total fertility rate over the whole of the projection period would result in the population being approximately 1.0 million larger or smaller in 2051, and 2–3 million larger or smaller in 2101.

The scenarios considered in this article demonstrate the extent to which the size and age structure of the population could be affected by different levels of fertility. If the total fertility rate is assumed to be 2.1 babies per woman (i.e. replacement level),

Population projections

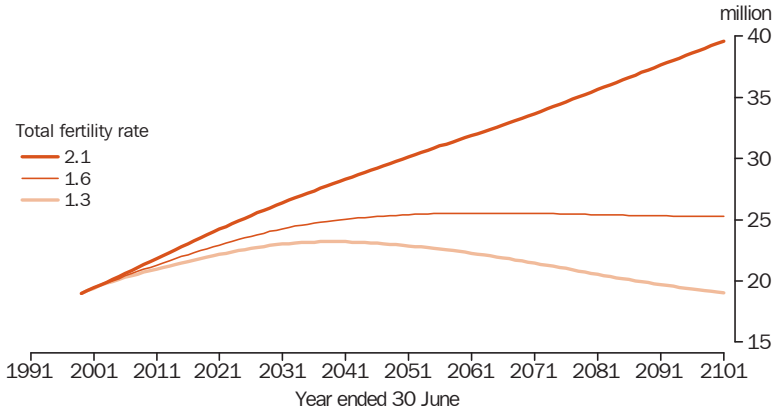
ABS population projections use the estimated resident population at 30 June 1999 as a base population. Population projections are not predictions or forecasts. They simply show what would happen to Australia's population if a particular set of assumptions about future levels of births, deaths and net overseas migration were to hold for the next 50 to 100 years. The assumptions about levels of future fertility, mortality and migration are based on long-term trends, current debate, and possible future scenarios arising from research in Australia and elsewhere. See *Population Projections, Australia, 1999 to 2101* (ABS Cat. no. 3222.0).

This article explores the possible impact on the Australian population of three very different fertility scenarios. Each scenario assumes that fertility reaches a certain rate in 2008–2009 and remains constant at this level until 2101. Under the lowest fertility scenario, this rate is 1.3 babies per woman, a level already realized in some countries. The middle level scenario assumes a total fertility rate of 1.6. The third scenario, at a high level of 2.1 babies per woman, represents replacement level fertility. Migration and mortality, the other two factors affecting population growth, are held at the same level for all scenarios. Net overseas migration is assumed to be 90,000 per year, while life expectancy at birth is assumed to rise to 83.3 years for males and 86.6 years for females in 2051, then remaining constant until 2101.

Australia's population would reach 30.1 million in 2051 and 39.6 million in 2101, and would continue to grow steadily beyond this date. Given current trends, the likelihood of the total fertility rate rising to 2.1 and remaining at that level is small. Nevertheless, many argue that this level of population growth is desirable in the interests of economic growth. Others argue that the size of the resulting population would cause serious environmental degradation and that this rate of growth should be avoided in the interests of sustainability.

At the other extreme, if fertility fell to 1.3 babies per woman, the rate of natural increase (the excess of births over deaths) would eventually decline. Population growth would initially continue while there remain large numbers of women of reproductive age having children, but after peaking at 23.2 million in 2039, Australia's population would decline to 22.9 million by 2051 and to 19.0 million by 2101. This scenario carries with it fears that Australia's economic growth and position in the Asia-Pacific region would be severely weakened by a smaller and declining population. These concerns have often resulted in calls to increase immigration. However, higher levels of immigration can do little to influence the age structure of the population and, in order to

Projected population size assuming varying levels of total fertility rate(a)



(a) Projection assumes net overseas migration of 90,000 per year and life expectancy at birth rising to 83.3 years for males and 86.6 years for females in 2051, then remaining constant until 2101.

Source: Population Projections, Australia, 1999 to 2101 (ABS Cat. no. 3222.0).

Projected population 2051(a): varying levels of fertility

	Total fertility rate (babies per woman)		
	1.3	*1.6*	*2.1*
	million	million	million
Total population	**22.9**	**25.4**	**30.1**
	%	%	%
Growth rate for year ending June 2051	–0.2	0.1	0.6

(a) Projections assume net overseas migration of 90,000 per year and life expectancy at birth rising to 83.3 years for males and 86.6 years for females in 2051, then remaining constant until 2101.

Source: Population Projections, Australia, 1999 to 2101 (ABS Cat. no. 3222.0).

stem population decline, would need to be considerably higher than previously experienced in Australia.[8]

Under the more moderate assumption that the total fertility rate reaches 1.6 babies per woman, the population is projected to grow to 25.4 million by 2051, remaining around this level to the end of the projection period. A fertility rate of 1.6 would thus mean longer-term stability in the size of the Australian population, and as such has been nominated as the level below which Australian fertility ideally would not fall.[7]

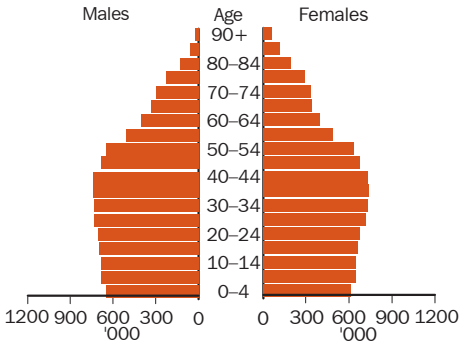
Population ageing

The impact of low fertility is most immediately evident in the younger age cohorts of a population. As the proportion of the population in these age groups shrinks, population becomes concentrated in older age groups. This effect is intensified by a projected increase in life expectancy, as more people survive into older age groups. This structural shift in the population age distribution towards older ages is known as population ageing. The result is a top-heavy population pyramid which has considerable momentum for further population decline, as smaller birth cohorts result in smaller cohorts of reproductive-aged women.

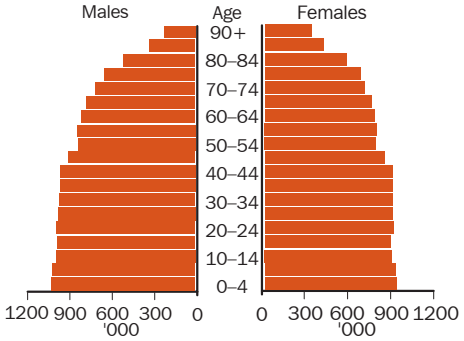
Even if it is assumed that fertility reaches 2.1 babies per woman by 2008–9, population ageing will occur, as the impact of past and present trends in fertility continue to be felt throughout the age structure. An increase in the median age may be used as an indicator of population ageing. If the total fertility rate were to fall to 1.3, the median age of the Australian population would rise, from 35 years in 2001, to be 50 years in 2051,

Population age and sex structure: five year age groups

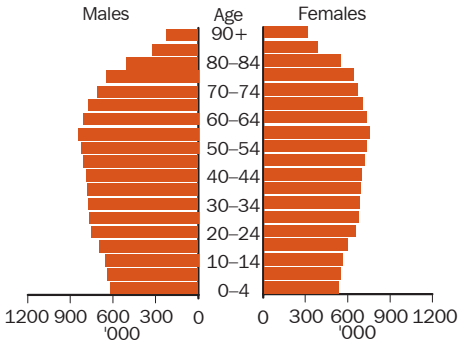
2001 — actual



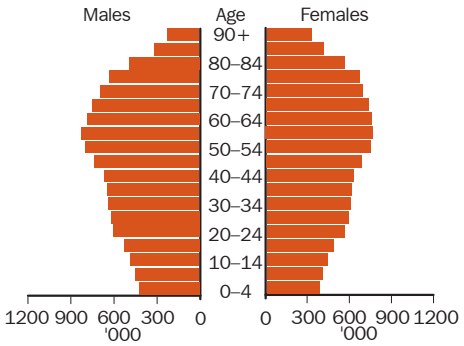
2051 — projected, total fertility rate of 2.1



2051 — projected, total fertility rate of 1.6



2051 — projected, total fertility rate of 1.3



Source: Population Projections, Australia, 1999 to 2101 (ABS Cat. no. 3222.0).

Projected population age structure 2051(a): varying levels of fertility

		Age group (years)					
		0–14		15–64		65 and over	
Total fertility rate (babies per woman)	Median age	2051	Change from 2001(b)	2051	Change from 2001(c)	2051	Change from 2001(d)
	years	%	% points	%	% points	%	% points
1.3	50	11.5	–8.8	59.5	–7.8	29.0	16.6
1.6	46	14.4	–5.9	59.6	–7.8	26.1	13.7
2.1	40.0	19.1	–1.2	59.0	–8.4	22.0	9.6

(a) Projections assume net overseas migration of 90,000 per year and life expectancy at birth rising to 83.3 years for males and 86.6 years for females in 2051, then remaining constant until 2101.

Source: Population Projections, Australia, 1999 to 2101 (ABS Cat. no. 3222.0).

compared with 40 years if fertility were to increase to replacement level (2.1 babies per woman).

In 2001, the proportion of the population aged 0–14 years was 20%, while the proportion aged 65 years and over was 12%. Using total fertility rates of 1.3 and 2.1, the proportion of the population aged 0–14 years could decline to between 11% and 19% respectively in 2051. At the other end of the age scale, the proportion aged 65 years and over could increase to between 29% and 22% respectively. Under the medium-level scenario of 1.6 babies per woman, the proportion of the population aged 0–14 years would be 14% in 2051, while the proportion aged 65 years and over would be 26%.

The ageing of the population therefore effectively amounts to children progressively being replaced by older people. This shift has economic implications, as public expenditure on services for older people (health, housing and aged care) is greater than that spent on services for children (principally education and health).[9] In addition, while most children are dependent on their parents' income, most older people are eligible for government income support. Concern has been expressed that the predicted increase in public expenditure necessitated by population ageing will occur in conjunction with a decrease in the size of the working-age population who may be expected to support such expenditure through taxation revenue. However, this prospect may be offset to some extent by rising female participation in the labour force. It is also true that the majority of older people are relatively healthy and live independently in their own homes, and that the increased prevalence of personal superannuation will result in larger numbers of self-funded retirees.[10] Further, older Australians make significant contributions to their families and communities through voluntary work for welfare and community organisations, child care for grandchildren and other forms of caring.[11]

Endnotes

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Older overseas-born Australians

POPULATION COMPOSITION

In 2000, there were 768,900 older Australians who were born overseas. This population is expected to grow to just over one million by 2011 and almost 1.5 million by 2026.

In 2000, there were over three-quarters of a million Australians aged 65 years and over who were born overseas. They represented one-third of the population in this age group. Along with the total older Australian population, the older overseas-born population has increased rapidly in recent years and is projected to grow more rapidly through the coming decades, reaching at least one million by 2011 and approaching 1.5 million by 2026. Despite this increase, they would still represent about one-third of the population aged 65 years and over.

Older overseas-born Australians are a diverse population, culturally, linguistically and geographically. At least some of this group may require special consideration in policy development and planning in the field of aged care services, particularly as they move into the 80 years and over age groups. Factors affecting the number and type of services required include not only the size of the population, but also its characteristics, such as location, age and sex structure, living arrangements, health and disability status and proficiency in spoken English.

Main countries of birth of older Australians — 2000

Country of birth	*Population aged 65 years and over* '000	*As a proportion of all ages* %
United Kingdom	265.8	22.9
Italy	96.1	39.8
Greece	39.3	27.8
Former Yugoslav Republics	35.1	16.7
Germany	31.1	25.8
Netherlands	27.1	29.9
Poland	26.1	38.2
China (excludes SARs and Taiwan province)	25.5	15.2
Former USSR and the Baltic States	24.6	44.8
New Zealand	23.5	6.3
Born overseas	*768.9*	*17.0*
Born in Australia	*1 591.4*	*10.9*
Total	**2 360.2**	**12.3**

Source: Migration, Australia, 1999–2000 (ABS Cat. no. 3412.0).

Countries of birth

This article draws on data from the ABS Estimated Resident Population by Country of Birth series; the ABS Ethnic Aged Population Projections Project; the 1998 ABS Survey of Disability, Ageing and Carers; and the ABS 1996 Census of Population and Housing.

Older Australians are residents of Australia (i.e. have lived or intend to live in Australia for one year or more) who are aged 65 years and over.

Population projections of older Australians from selected countries of birth for 2011 and 2026 were prepared by the ABS for the Department of Health and Aged Care. The projections are based on the death rates of the population at June 1996. Given the difficulty of developing plausible assumptions for the country of birth mix of immigration and emigration over the 30 year projection period, zero overseas migration was assumed. As a result, the projections provide a conservative estimate of the likely future size of the older overseas-born population in Australia.

The ageing of the overseas-born

Immigration to Australia increased markedly in the second half of the 20th century, reaching its highest levels during the late 1960s and early 1970s, and peaking again in the late 1980s (see *Australian Social Trends 2001*, Coming to Australia, pp. 16–20). The number of older overseas-born Australians has recently increased as these post-war migrants, most of whom came to Australia as young adults, turn 65 years.[1] In 1998, over three-quarters of the older overseas-born had arrived in Australia prior to 1971 and over one-quarter prior to 1951.

The present composition of the older overseas-born population reflects post-war migration flows, which were dominated by people born in the United Kingdom and European countries such as Italy and Greece. In 2000, the United Kingdom was the most common country of birth, accounting for 265,800 older overseas-born Australians, followed by Italy with 96,100 and Greece with 39,300.

With the exception of the United Kingdom, many individual country groups have not been greatly augmented by ongoing migration, and so tend to have high proportions of older people. For example, in 2000, close to half (45%) of those born in the Former USSR were aged 65 years and over.

The populations born in Italy and Poland also had high proportions of older people (40% and 38% respectively).

Projections of the older overseas-born population suggest small changes in the most common countries of birth. In 2026, the United Kingdom, Italy and Greece are projected to continue to be the most common countries of birth. However, with higher numbers of migrants arriving from Eastern Asia in the 1980s (see *Australian Social Trends 2001*, Asian-born Australians, pp. 12–15), Viet Nam is projected to become the fourth most common country of birth of older overseas-born Australians by 2026, followed by China.[2]

Age and sex structure

In 2000, Australia's overseas-born population had a higher proportion of older people than the Australian-born population (17% compared with 11%). However, within the older population, the age structure of the overseas-born was younger than that of the Australian-born, with a higher proportion aged 65–69 years and a lower proportion aged 85 years and over. This is because many of the overseas-born aged 85 years and over in 2000 arrived prior to 1951, when migration numbers were low.

Women formed a relatively low proportion of the older overseas-born population (52% compared with 58% for the older Australian-born population). There are two main reasons for this — the lower proportion of older overseas-born Australians aged 85 years and over (10% compared with 11% for the older Australian-born population), a group dominated by women because of their longer life expectancy; and the high proportion of men among post-war migrants.

While the number of older overseas-born Australians in each age group is projected to grow considerably by 2026, more rapid growth is expected among those aged 80 years and over. So, for example, the proportion of older overseas-born Australians aged 85 years and over is likely to increase from 10% in 2000 to 13% in 2026, while the proportion aged 65–69 years is likely to decrease from 32% to 26%. This ageing is largely because many migrants who arrived during the peak period of immigration to Australia (from the late 1960s to the early 1970s) and who were approaching 65 years of age in 2000, will be aged 85 years and over by 2026. To a lesser extent, this ageing is due to the impact of excluding migration from the projections, since the 'younger' age groups (65–74 years) are smaller in 2026 than if migration was included.

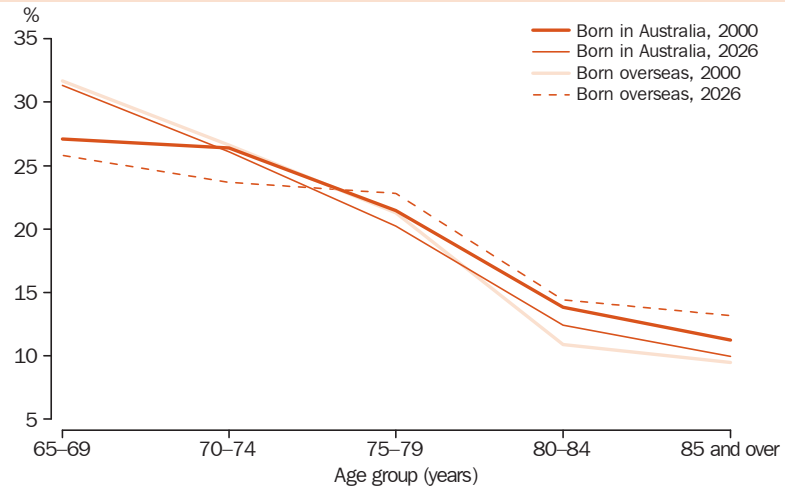
In contrast, the age structure of the older Australian-born population is projected to become younger by 2026. The higher proportion of this population aged 65–69 years (31%, compared with 27% in 2000) will result from the last of the post-war baby-boomers entering this age group.

Older overseas-born Australians — present and future

	Born overseas		*Born in Australia*	
Age group (years)	'000	%	'000	%
2000				
65–69	243.9	31.7	431.0	27.1
70–74	204.1	26.6	420.2	26.4
75–79	163.5	21.3	341.5	21.5
80–84	83.9	10.9	219.8	13.8
85 and over	73.4	9.5	178.8	11.2
2026				
65–69	381.2	25.8	926.6	31.3
70–74	349.9	23.7	771.8	26.1
75–79	336.1	22.8	597.8	20.2
80–84	212.5	14.4	367.2	12.4
85 and over	195.4	13.2	294.4	10.0

Source: Migration, Australia, 1999–2000 (ABS Cat. no. 3412.0); Gibson, D., Braun, P., Benham, C. and Mason, F. 2001, *Projections of Older Immigrants: people from culturally and linguistically diverse backgrounds, 1996–2026, Australia*, AIHW Cat. no. 18., AIHW, Canberra.

Age structures of older Australians



Source: Migration, Australia, 1999–2000 (ABS Cat. no. 3412.0) ; Gibson, D., Braun, P., Benham, C. and Mason, F. 2001, *Projections of Older Immigrants: people from culturally and linguistically diverse backgrounds, 1996–2026, Australia*. AIHW Cat. no. 18., AIHW, Canberra.

Distribution of older Australians, selected countries of birth — 1996

	Country of birth								
	United Kingdom	*Italy*	*Greece*	*Poland*	*China(a)*	*New Zealand*	*Born overseas*	*Born in Australia*	*Total*
State or Territory	%	%	%	%	%	%	%	%	%
New South Wales	28.8	27.1	33.4	29.0	57.3	35.4	32.7	36.7	35.5
Victoria	22.0	40.3	43.1	37.3	24.6	15.1	28.5	24.7	25.8
Queensland	16.8	8.3	5.0	9.0	8.6	35.5	13.4	18.5	16.9
South Australia	12.6	11.5	12.5	11.9	2.8	3.4	10.4	8.9	9.4
Western Austrlia	15.6	11.3	4.3	8.8	4.4	7.3	11.6	6.9	8.3
Tasmania	2.6	0.6	0.4	2.3	0.5	1.8	1.7	3.2	2.7
Northern Territory	0.3	0.1	0.3	0.1	0.4	0.4	0.3	0.3	0.3
Australian Capital Territory	1.4	0.8	1.0	1.5	1.4	1.2	1.4	0.8	1.0
Australia	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	'000	'000	'000	'000	'000	'000	'000	'000	'000
Australia	**252.4**	**81.0**	**26.8**	**27.8**	**18.0**	**19.2**	**681.6**	**1 521.5**	**2 203.1**

(a) Excludes SARs and Taiwan Province.

Source: ABS 1996 Estimated Resident Population by Country of Birth.

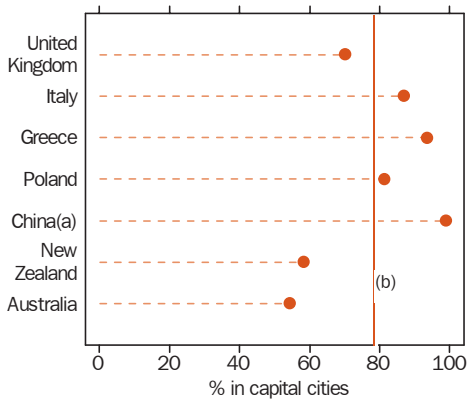
Where do older overseas-born Australians live?

In 1996, New South Wales and Victoria had the largest concentrations of older overseas-born Australians (33% and 29% respectively). Both Victoria and Western Australia had higher proportions of the older overseas-born population than of the older Australian-born population (29% compared with 25% for Victoria, and 12% compared with 7% for Western Australia).

Most States had high concentrations of older overseas-born Australians from specific countries. For example, 43% of older Australians born in Greece, 40% born in Italy and 37% born in Poland lived in Victoria. New South Wales had a very high concentration of older people born in China (57%). In South Australia, there were higher proportions of those born in the United Kingdom and Greece (both 13%) and Poland and Italy (both 12%) than of all older overseas-born Australians (10%). While Queensland had a relatively small proportion of older overseas-born Australians overall (13% compared with 19% of the older Australian-born population), over one-third (36%) of the older New Zealand-born lived there. Of older overseas-born Australians, the distribution of those born in the United Kingdom was most similar to that of older people born in Australia.

The older overseas-born population is more highly urbanised than older people born in Australia, with almost 80% living in capital cities in 1998, compared with 54% of the Australian-born. Those born in China and Greece were the most likely to live in capital cities (99% and 94% respectively), while those born in New Zealand were the least likely to live in the capital cities (58%).

Proportion of older Australians in capital cities, selected countries of birth — 1998



(a) Excludes SARs and Taiwan Province.
(b) Total older overseas-born Australians.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

Social and health characteristics of older Australians — 1998

	Born overseas	*Born in Australia*
	%	%
Married	60.1	52.8
Widowed	30.6	34.7
Living with family members	70.0	58.0
Living alone	21.0	30.4
Has a disability	51.3	55.1
Has a long-term health condition	81.3	85.8
Needs assistance	39.8	38.8
Receives assistance(a)	94.6	96.8
Formal care(b)	86.9	81.8
Informal care(b)	51.6	62.7

(a) Of those needing assistance. Includes those who receive formal care and those who receive informal care.
(b) Of those receiving assistance. More than one answer is possible, therefore components do not add to total.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

Living arrangements

Families are a major source of emotional and financial support. In Australia, most care for older people needing assistance is provided informally by family members, particularly partners and children. Living arrangements and the presence of family nearby thus has an impact on the level of support upon which older people can rely.

Despite the disrupting effect that immigration can have on families, by reducing the number of family members available to offer help, in 1998 older overseas-born Australians were more likely to be living with family members than those who were born in Australia (70% and 58% respectively).[3] This is a reflection of the higher proportion of the older overseas-born who were married (60% compared with 53% of the Australian-born), along with lower proportions who were widowed (31% compared with 35%) and living alone (21% compared with 30%). Those born in Greece and the Former Yugoslav Republics were the most likely to be married (both around 75%) and to be living with family members (both over 80%).

Health and disability status

The health requirements placed on migrants as a condition of entry to Australia mean that, on the whole, the older overseas-born population enjoys good, if not better, health than their Australian-born counterparts.[4] Older overseas-born Australians reported lower levels of disability (51% compared with 55%) and long-term health conditions (81% compared with 86%), according to the 1998 Survey of Disability, Ageing and Carers. While the figures in this article are crude rates, examination of age and sex standardised rates shows that the relatively young age profile of older overseas-born Australians does not account for the differences between the health status of this group and that of the older Australian-born.

Older people born in New Zealand and Italy were the most likely groups to have a disability. With 59% and 56% of these groups respectively having a disability, their disability rates were also higher than for those born in Australia. The New Zealand-born also had the highest proportion of all older populations (including the Australian-born) with a long-term health condition (89%). In comparison, those born in Germany had among the lowest rates of both disability and long-term health conditions (36% and 77% respectively).

The proportion of older overseas-born Australians with a need for assistance (40%) was similar to that of those born in Australia (39%), but variation existed between groups born in different countries. Those from countries such as Germany, which had low proportions with a disability or long-term health condition, were less likely to need assistance (25%). On the other hand, those from countries such as Italy, which had high proportions with a disability or long-term health condition, were more likely to need assistance (43%). Almost all older overseas-born Australians (95%) needing assistance received it.

Of those needing and receiving assistance (about 38% of both Australian and overseas-born older people), older overseas-born Australians were more likely to receive formal care than their Australian-born counterparts (87% compared with 82%). The reverse was true for informal care, with the Australian-born more likely to receive this type of care (63% compared with 52%). Of those receiving assistance, all of the Greece-born and almost all (95%) of the Poland and New Zealand-born received formal care. The Greece-born were also the most likely of all older people (including the Australian-born) to receive informal care (70%).

Proficiency in English

English language skills facilitate social integration and the ability to access services. Those who have limited proficiency in English may therefore experience restrictions in the number and types of services available to them.[5]

Proficiency in spoken English of older overseas-born Australians(a)

	Arrived in Australia 1986–96		*Arrived in Australia before 1986*	
	Arrivals	*Proficient in English(b)*	*Arrivals*	*Proficient in English(b)*
Country of birth	'000	%	'000	%
United Kingdom	12.4	99.8	214.5	100.0
Italy	0.5	30.5	70.4	55.4
Greece	0.3	19.3	22.5	44.1
Former Yugoslav Republics	1.3	8.9	20.0	62.7
Germany	0.6	65.4	23.6	96.0
Netherlands	0.4	88.6	22.0	97.7
Poland	0.8	34.2	23.1	83.7
China (excludes SARs and Taiwan Province)	6.1	10.4	9.1	33.2
Former USSR and Baltic States	1.9	13.7	20.8	78.6
New Zealand	4.0	99.6	12.4	99.8
All overseas born	**51.5**	**56.4**	**537.8**	**83.8**

(a) Excludes those whose proficiency in English was not stated.
(b) Includes those who spoke English well or very well, or spoke only English.

Source: ABS 1996 Census of Population and Housing.

Participation in education and the labour force once in Australia help to develop English proficiency and maintain it throughout life. Consequently, those who have been here longer are likely to have a greater command of English. This was the case for all birthplace groups. Overall, of those who had been in Australia for up to 10 years at the 1996 Census, 56% were proficient in spoken English (i.e. spoke English well or very well, or spoke only English). This increased to 84% for those who had been in Australia for more than 10 years.

However, despite improvements over time, the differences in proficiency in spoken English between countries of birth do not disappear with longer periods of residence. For example, while the proficiency of those born in Greece increased from 19% for arrivals between 1986 and 1996 to 44% for those who arrived before 1986, the levels remained lower than those of people born in Italy (31% to 55%) and Germany (65% to 96%). The proficiency of those born in the former USSR increased the most, from 14% to 79%. In contrast, China-born arrivals between 1986 and 1996 had relatively low proficiency in English, at 10%, which rose to 33% for those who arrived before 1986.

Endnotes

1 Australian Bureau of Statistics 1999, *Older People, Australia: A Social Report 1999*, Cat. no. 4109.0, ABS, Canberra.

2 Gibson, D., Braun, P., Benham, C. and Mason, F. 2001, *Projections of Older Immigrants: people from culturally and linguistically diverse backgrounds, 1996–2026,* Australian Institute of Health and Welfare, Canberra.

3 Benham, C. and Gibson, D. 2000, *Independence in Ageing: the social and financial circumstances of older overseas-born Australians*, Department of Immigration and Multicultural Affairs and Australian Institute of Health and Welfare, Canberra.

4 Australian Institute of Health and Welfare 2000, *Australia's Health 2000: the seventh biennial health report of the Australian Institute of Health and Welfare,* Australian Institute of Health and Welfare, Canberra.

5 Australian Bureau of Statistics 1999, *Standards for Statistics on Cultural and Language Diversity*, Cat. no. 1289.0, ABS, Canberra.

New Zealanders in Australia

POPULATION COMPOSITION

New Zealand-born residents in Australia represented 8% of all overseas-born residents in 2000. They were mainly of working age, 62% being aged between 20 and 49 years.

Australia and New Zealand have enjoyed a close relationship since European settlement. That closeness reflects the affinity that developed between two geographically near countries, both settled as British Colonies at similar times in a region far from other British Dominions. Citizens of both countries have enjoyed almost complete freedom of movement between countries. Historically, the pattern of movements can be seen as a response to relative economic conditions in either country. In the post-war years net flows were small and mainly towards New Zealand. However, since the late 1960s the net flow has brought New Zealanders to Australia in increasing numbers.[1]

The number of New Zealand-born people coming to settle (permanent arrivals) in Australia each year has fluctuated markedly. From 17,400 in 1981, the number decreased to a low of 5,800 in 1984, then recovered in the late 1980s, peaking at 23,500 in 1989. The economic slump in Australia during the early 1990s saw the number drop back again, as low as 6,700 in 1993, before increasing in the late 1990s to 21,900 in 2000. This made New Zealand the largest single source of settler arrivals in 2000 — representing 24% of all settler arrivals.

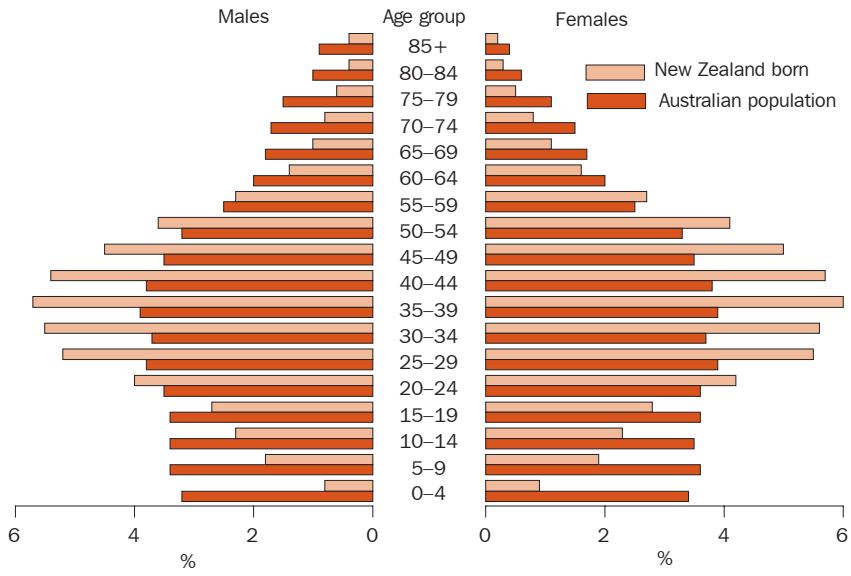
New Zealand-born residents in Australia

The main sources of information on New Zealand-born people living in Australia used in this article were the following ABS data sets: Estimated Resident Population, the Marriages and Divorces collection, the Overseas Arrivals and Departures collection, the monthly Labour Force Survey and its annual supplement on Labour Force Status and Other Characteristics of Migrants. In addition, information from the 1996 Census has been used.

Estimates of New Zealand-born residents in Australia based on Estimated Resident Population (ERP) include both settlers (permanent arrivals) and those intending to stay for longer than one year (long-term arrivals). ERP estimates by birthplace are based on census counts augmented by overseas arrivals and departures data and mortality data.

In 1996, there were an estimated 315,000 New Zealand-born people resident in Australia, a number estimated to have grown to 375,000 by 2000. At this time, New Zealanders made up 8% of the overseas-born population in Australia.

Age/sex profile of the New Zealand-born population and the total Australian population — 2000



Source: ABS Estimated Resident Population, 2000(p).

A young population

New Zealanders in Australia are predominantly of working age. In 2000, 62% of New Zealand-born residents in Australia were aged from 20 to 49 years: among the total Australian population 45% were in that age range. There were proportionally few New Zealand-born children: 10% were aged under 15 years compared with 20% among all Australian residents. There were also comparatively few New Zealand-born adults aged 65 years and over: 6% compared with 12% among all Australian residents. Many of the differences observed between New Zealand-born residents and all Australian residents can be attributed to this young age structure.

Over half arrived in the last 20 years

The large number of settlers arriving from New Zealand over the past two decades means that a large proportion of New Zealand-born Australian residents are relatively recent arrivals. In 2001, an estimated 66% of New Zealand-born residents aged 15 years and over had arrived in Australia since 1981. Among all overseas-born Australian residents aged 15 years and over, 45% had arrived since 1981.

Mainly city dwellers

The 1996 Census found that New Zealand-born residents of Australia lived mainly in major cities, predominantly on the east coast. One-quarter lived in the Sydney/Newcastle/Wollongong region, 24% in Brisbane or the Gold Coast/Tweed region, 12% in Melbourne, 10% in Perth, and a further 6% in other major cities. The remaining 24% lived in areas other than major cities.

Settlers arriving in Australia are asked where they plan to live, though that does not necessarily mean they settle permanently there. Nevertheless, the State or Territory in which New Zealand-born settlers intended to live matched the patterns of residence portrayed by the census.

Recent New Zealand-born settlers continue to be drawn to the eastern States of Queensland and New South Wales. These two States shared equally 72% of arrivals in 1999–2000. A further 17% and 8% intended to live in Victoria and Western Australia respectively.

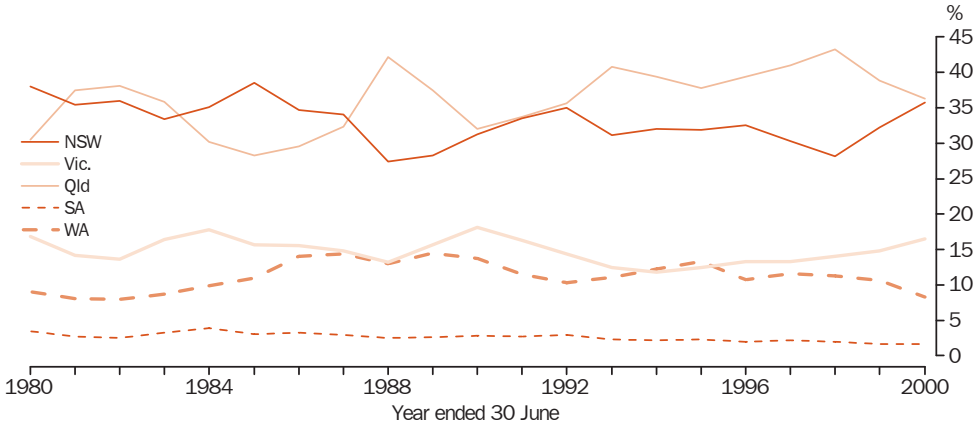
Year of arrival(a) — 2001

	New Zealand-born %	*All overseas-born* %
Before 1976	18.3	47.5
1976–1980	15.9	7.8
1981–1985	15.6	10.3
1986–1990	19.2	12.8
1991–1995	10.6	9.4
1996–2000	20.4	12.2
Total	**100.0**	**100.0**

(a) Of New Zealand born people aged 15 years and over.

Source: ABS Monthly Labour Force Survey, August 2001.

Main location of intended residence(a) of adult(b) New Zealand-born permanent arrivals



(a) Overseas arrivals are asked their intended address. This does not necessarily mean they will have settled permanently in that State or Territory.
(b) Aged 18 years and over.

Source: ABS *Overseas Arrivals and Departures* (Cat. no. 3401.0).

Relationship in household — 2001

	New Zealand-born		Total Australian population	
	Males %	Females %	Males %	Females %
Family member	*79.3*	*81.1*	*83.0*	*83.0*
Partner in relationship	65.3	61.7	61.7	58.3
With dependants	50.8	49.5	47.0	46.3
Without dependants	49.2	50.5	53.0	53.7
Lone parent	*2.4	11.9	1.6	9.2
Non-dependent child	4.7	*2.5	10.9	6.3
Dependent student	*2.9	*2.6	6.7	6.6
Other family person	4.1	*2.4	2.1	2.5
Non-family member	*20.7*	*18.9*	*17.0*	*17.0*
Lone person	11.4	11.5	10.8	12.6
Not living alone	9.4	7.4	6.2	4.4
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: ABS Monthly Labour Force Survey, August 2001.

The attractiveness of particular States to New Zealand-born settlers has changed over time, probably reflecting the influence of State economies and associated job opportunities. Although alternating in their priority, the eastern States of New South Wales and Queensland have consistently been the main destinations of New Zealand-born settlers. These two States together attracted an average of 69% of New Zealand-born settlers each year over the past 20 years. Over the same period Victoria has been the intended destination of between 12% and 18% of New Zealand-born settlers, while Western Australia attracted between 8% and 14%. South Australia has consistently attracted a small proportion of New Zealand-born settlers each year, an average of 3% over the past 20 years.

The intended State of residence of New Zealand-born settlers varied with their age. In 1999–2000, younger New Zealand-born settlers were most likely to state New South Wales, followed by Queensland, as their intended address (44% and 31% respectively of 18–24 year olds). New Zealand-born settlers aged 25–54 years had similar patterns as those already described for all New Zealand-born settlers; that is, they were mainly drawn to both Queensland and New South Wales in similar proportions (36% and 35% respectively). Older New Zealand-born settlers were most likely to state Queensland as their intended address — 57% of those aged 55 years and over. However, this group represented only 7% (1,070) of all adult New Zealand-born settlers in 1999–2000.

Marriages and divorces — 2000

		New Zealand-born		Australia-born	
	Units	Males	Females	Males	Females
Registered marriages					
Marriage rate	per 1000	16.2	14.4	11.6	11.6
Age standardised marriage rate	per 1000	12.5	11.4	12.1	12.6
Civil celebrant	%	63.5	65.9	49.3	48.5
Median age at marriage	years	32.1	30.0	29.7	27.8
Proportion that were remarriages	%	27.8	25.9	22.0	21.0
Median duration of marriage	years	12.0	11.8	11.7	11.7
Divorces					
Divorce rate	per 1000	7.1	7.0	4.6	4.8
Age standardised divorce rate	per 1000	5.2	5.1	4.8	5.1
Divorces involving children	%	51.8	51.9	55.7	55.6
Median age at divorce (decree made absolute)	years	42.7	38.9	40.8	38.0

Source: Marriages and Divorces, Australia, 2000 (ABS Cat no. 3310.0).

Family life

Like most Australians, New Zealanders were most likely to live in a family. In 2001, New Zealand-born men were slightly more likely to be living with a partner (65%) than New Zealand-born women (62%), though women were much more likely to be a lone parent, 12% compared with about 2% of men. Among all Australians, women were also more likely than men to be lone parents, 9% compared with 2%. About half the New Zealand-born with partners had dependent children, slightly more than all Australians. About 11% of New Zealand-born residents lived alone, similar to all Australians, while 9% and 7% of men and women respectively lived in group houses or as boarders — compared with 6% and 4% respectively of all Australians.

In 2000, the marriage rate for both New Zealand-born men (16 per 1,000 men) and women (14 per 1,000 women) was higher than that for those born in Australia (12 per 1,000 for both men and women). This difference in marriage rates is primarily a result of the predominance of young adults among the New Zealand-born population. When standardised by age, the difference almost disappears, with New Zealand-born men having only a slightly higher marriage rate than Australian-born men. Among women, the standardised marriage rate was lower for New Zealand-born women than Australian-born women.

Fertility — 2000

	Units	Females		
		New Zealand-born	*Total overseas-born*	*Total Australia*
Total fertility rate	babies per female	1.77	1.73	1.75
Median age of mother at time of birth	years	29.8	31.3	29.8
Married mother (registered)	%	56.4	80.4	70.6
Unmarried mother	%	43.6	19.6	29.4
Paternity acknowledged	%	38.9	17.0	25.9
Paternity not acknowledged	%	4.7	2.7	3.5

(a) Refers to persons whose registered marital status is 'Never married', 'Widowed' or 'Divorced', including those who are living with a de facto partner'.

Source: Births, 2000 (ABS Cat no. 3301.0).

Citizenship

Like other settlers, after a period of two years' residence, a New Zealand settler can apply for Australian citizenship (new legislation introduced in February 2001 means that some New Zealand settlers will need to apply for permanent residency if they wish to become Australian citizens). In 1999–2000, 6,700 New Zealanders were granted Australian citizenship — 9% of all citizenships granted in that year. New Zealanders were the third most common nationality to be granted citizenship in that year, coming after British (21% of all grants) and Chinese nationals (11% of all grants).

However, the 1996 Census found that New Zealand-born residents had one of the lowest rates of citizenship (32%). Residents born in mainly English speaking countries had comparatively low citizenship rates, 61% for those born in the United Kingdom and 57% for those born in Canada. In comparison, the rate was 96% among Greece-born residents.

In 2000, New Zealand-born residents who married tended to be older than Australian-born residents who married. The median age at marriage was 32.1 years for grooms and 30.0 years for brides, compared with 29.7 years for Australian-born grooms and 27.8 years for brides. New Zealand-born residents were more likely to be remarrying than Australian-born residents. In 2000, 28% and 26% of New Zealand-born brides and grooms respectively were remarrying compared with 21% and 22% of Australian-born brides and grooms.

New Zealand-born residents marrying in 2000 were more likely to use a civil celebrant than a religious celebrant. Two-thirds of the brides and nearly two-thirds of the grooms were married by a civil celebrant. This is consistent with the relatively high proportion (28%) of New Zealand-born residents who stated they had no religion in the 1996 Census; which may also be related to their relatively young age profile. Just under half of Australian-born brides and grooms marrying in 2000 used a civil celebrant.

In 2000, New Zealand-born women had a similar total fertility rate (1.77) to all women in Australia (1.75). The total fertility rate indicates the average number of children born alive to a woman over her lifetime if she followed the pattern of births by age prevalent in that year, in this case 2000. The median age of New Zealand-born mothers in 2000 was the same as that for all Australian mothers, 30 years, but slightly younger than that for all overseas born mothers, 31 years.

The proportion of New Zealand-born mothers who were not married (44%) was considerably higher than for all mothers (29%) and all overseas-born women (20%). Although the majority of these unmarried women were probably in de facto relationships, the proportion of births in which paternity was not acknowledged in 2000 was 5% among New Zealand-born mothers, compared with 4% for all women and 3% for all overseas-born women.

Migrants who arrived after 1980(a): labour force and education — 1999

	New Zealand-born		*Total overseas-born*	
	Males	*Females*	*Males*	*Females*
	%	%	%	%
Unemployment rate	*2.7	5.4	4.7	4.6
Participation rate	89.5	67.1	81.5	57.1
Employed before migration	84.8	66.1	73.3	57.1
Had tertiary qualifications	*73.0*	*47.3*	*79.4*	*61.7*
Arrived with tertiary qualifications	82.3	75.9	78.8	76.0
Gained tertiary qualifications since arrival	17.7	24.1	21.2	24.0

(a) Aged 18 years and over at arrival.

Source: Labour Force Status and other Characteristics of Migrants, 1999 (ABS Cat. no. 6250.0).

Employed people: selected industries(a) — 2001

	New Zealand-born			Total Australia	
	Males	Females		Males	Females
	%	%		%	%
Property and Business Services	14.2	17.6	Retail Trade	13.0	17.6
Manufacturing	16.0	8.4	Manufacturing	15.7	7.2
Retail Trade	10.1	13.2	Property and Business Services	11.3	11.8
Construction	17.4	*1.9	Health and Community Services	3.9	17.1
Health and Community Services	*3.3	15.7	Construction	11.6	2.1
Accommodation, Cafes and Restaurants	*3.5	10.4	Education	4.3	10.9
Total of selected industries	**64.6**	**67.2**	**Total of selected industries**	**59.9**	**66.7**

(a) Top six industries ranked on New Zealand-born people and Australian people respectively.

Source: ABS Monthly Labour Force Survey, August 2001.

Divorce

In 2000, New Zealand-born residents had a divorce rate of 7 per 1,000 for both men and women, higher than that for Australian-born residents, 5 per 1,000 for both men and women. This difference was mainly due to the relative youth of New Zealand-born residents since, when age standardised, the rates were similar — though slightly higher for New Zealand-born men compared with Australian-born men.

The divorce of a New Zealand-born resident was slightly less likely to involve children than the divorce of an Australian-born resident (52% and 56% of divorces respectively). The median age at divorce (decree made absolute) was slightly higher for New Zealand-born divorcees (42.7 years for men and 38.9 years for women) compared with Australian-born divorcees (40.8 years for men and 38.0 years for women). Since median duration of marriage was 12 years for both sexes in both groups, the difference in age at divorce probably refects the difference in age at marriage.

Employed people: occupations — 2001

	New Zealand-born		Total Australia	
	Males	Females	Males	Females
	%	%	%	%
Managers and Administrators	7.4	*4.3	10.2	4.6
Professionals	14.2	19.2	17.1	20.7
Associate Professionals	12.6	11.7	12.8	10.2
Tradespersons and Related Workers	22.8	*3.9	20.5	3.0
Advanced Clerical and Service Workers	**0.5	10.3	0.9	8.9
Intermediate Clerical, Sales and Service Workers	7.3	27.0	8.2	28.4
Intermediate Production and Transport Workers	16.4	*2.9	14.0	2.2
Elementary Clerical, Sales and Service Workers	6.2	11.9	6.1	14.4
Labourers and Related Workers	12.6	8.7	10.1	7.7
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: ABS Monthly Labour Force Survey, August 2001.

Skills and employment

The predominance of working age New Zealand-born residents and the relationship between Trans-Tasman immigration and economic conditions[1] suggests a group of migrants with strong links to the labour force. Their high rates of labour force participation confirm this relationship (to participate in the labour force an individual must be working or actively seeking and available to work).

In November 1999, 90% of male and 67% of female New Zealand-born residents who had arrived in Australia after 1980 aged 18 years and over were participating in the labour force. Among all overseas-born people who arrived after 1980 aged 18 years and over, the rates were lower, 82% for men and 57% for women. In November 1999, the overall level of labour force participation in Australia for people aged 15 years and over was 72% for men and 54% for women.

The unemployment rate among New Zealand-born residents who arrived after 1980 aged 18 years and over was 4%, a lower rate than recorded for all overseas-born residents (5%). For comparison, the unemployment rate for all people aged 15 years and over in the Australian labour force in November 1999 was 6%.

Male New Zealand-born residents who arrived after 1980 were more likely to have tertiary qualifications than female New Zealand-born residents (73% of men and 47% of women). However, New Zealand-born residents who arrived after 1980 were less likely overall to possess tertiary qualifications than all migrants who had arrived after 1980 (79% of men and 62% of women). Most New Zealand-born men and women with tertiary qualifications had arrived with their qualification (82% of men and 76% of women).

In August 2001, the ranking of industries in which employed New Zealand-born residents worked was different to that observed among all employed people. The six industries in which New Zealand-born workers were most likely to work were, in descending order: Property and business services, Manufacturing, Retail trade, Construction, Health and community services, and Accommodation, cafes and restaurants. Among all Australian workers, Retail trade was the most common industry, followed in descending order by Manufacturing, Property and business services, Health and community services, Construction, and Education.

In August 2001, the proportion of New Zealand-born employed men working in the Construction industry was notably greater than the proportion of all employed men working in that industry: 17% compared with 12%; as was the proportion of employed women in the Property and business services industry, 18% compared with 12% among all employed women. Employed New Zealand-born women were less likely to work in the Retail trade industry than all employed women, 13% compared with 18% of all employed women.

Trans-Tasman travel arrangements[2]

The 1973 Trans-Tasman Travel Arrangement has allowed Australian and New Zealand citizens to freely enter each other's country to visit, live or work, without any need to obtain authority.

From September 1994, all non-citizens residing lawfully in Australia were required to hold visas (Special Category temporary residence Visa), including New Zealand citizens. For New Zealanders this involves a stamp in a valid New Zealand passport, given at immigration clearance (subject to health and character concerns).

On 26 February 2001, the Australian and New Zealand governments announced a new bilateral social security agreement. Some New Zealand citizens are now required to obtain Australian permanent residence if they wish to access certain social security payments (subject to the two year waiting period for most payments), sponsor family members for permanent residence or take out Australian citizenship.

Although the occupation mix of employed New Zealand-born residents was similar to that of all Australians, the mix was slightly skewed towards lower skilled occupations. In August 2001, employed New Zealand-born residents were slightly under-represented among male Managers and administrators (7% compared with 10% of all employed men); male Professionals (14% compared with 17% of all employed men) and female Elementary clerical, sales and service workers (12% compared with 14% for all employed women).

Employed New Zealand-born residents were slightly over-represented among male Tradespersons and related workers (23% compared with 21% of all employed men), male Intermediate production and transport workers (16% compared with 14% of all employed men), and male Labourers and related workers (13% compared with 10% of all employed men).

Endnotes

1 Carmichael, G. 1996, Trans-Tasman Migration in *Population Shift, Mobility and Change in Australia*, Edited by Newton, P. W., and Bell, M., Australian Government Publishing Service, Canberra.

2 Department of Immigration and Multicultural Affairs, 2001. *New Zealanders in Australia, 2001, Fact Sheet 6*, Department of Immigration and Multicultural Affairs, Canberra.

Family

Family: national summary

LIVING ARRANGEMENTS	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total households	'000	6 173	6 302	6 446	6 579	6 690	6 762	r6 910	r7 015	r7 127	7 250	7 393
Lone-person households	%	21.1	21.8	22.3	22.7	22.8	23.0	r23.6	r23.7	r24.1	24.6	24.6
Households with three or more persons	%	47.0	46.3	45.5	44.8	44.5	44.5	r43.8	43.2	r43.1	42.5	41.4
Total families	'000	4 502	4 587	4 638	4 709	4 791	4 834	4 899	5 027	5 056	5 116	5 248
Families with children under 15	'000	2 002	2 048	2 038	2 041	2 100	2 092	2 130	2 160	2 166	2 172	2 162
Couple families	'000	3 849	3 883	3 929	3 998	4 051	4 080	4 090	4 158	4 197	4 265	4 350
De facto couple families (of all couple families)(a)	%	8.2	n.a.	n.a.	n.a.	n.a.	10.1	n.a.	n.a.	n.a.	n.a.	n.y.a.
Couple-only families (of all couple families)	%	48.9	48.7	49.3	51.0	51.1	51.9	51.1	51.8	52.3	52.6	53.5
Couple-only families with female partner aged under 40 (of all couple only families)	%	22.0	22.1	22.3	22.7	21.6	21.3	20.9	21.3	21.3	21.5	19.9
Couple families with children under 15 (of all families with children under 15)	%	84.0	83.5	83.0	82.8	81.5	81.6	80.0	78.4	78.8	79.1	78.3
Lone-father families with children under 15 (of all families with children under 15)	%	1.8	1.5	1.7	1.8	1.9	2.0	2.3	2.0	1.9	2.3	2.3
Lone-mother families with children under 15 (of all families with children under 15)	%	14.2	14.9	15.3	15.4	16.6	16.3	17.7	19.5	19.3	18.6	19.3
Families with at least one child aged under 5 (of all families with children under 15)	%	47.4	47.4	47.8	47.8	47.4	47.8	47.8	46.2	45.0	46.1	45.2
Average family size (persons)	no.	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0
Children under 15 living in one-parent families (of all children under 15)	%	13.6	14.4	14.8	15.3	16.4	16.3	18.0	19.5	19.0	18.2	19.6
Persons aged 20–24 living with parents (of all persons aged 20–24)	%	47.2	47.4	46.1	44.7	45.2	44.5	46.2	48.0	47.2	45.5	45.8
Persons aged 25–34 living with parents (of all persons aged 25–34)	%	10.7	10.5	10.7	10.5	10.6	10.7	11.5	12.4	11.8	12.3	12.6
Persons aged 15–64 who live alone (of all persons aged 15–64)	%	6.0	6.3	6.8	7.0	7.4	7.6	7.9	8.1	8.2	8.2	8.5
Persons aged 65 and over who live alone (of all persons aged 65 and over)	%	29.4	29.3	31.0	29.4	29.3	29.8	30.7	29.0	29.5	30.9	29.2

FAMILIES AND WORK	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Couple families with children under 15, both parents employed (of all couple families with children under 15)	%	51.8	51.7	50.6	51.1	56.2	54.5	54.4	55.6	54.9	56.3	56.7
Couple families with children under 15, neither parent employed (of all couple families with children under 15)	%	8.1	9.8	10.8	10.0	8.4	7.9	8.6	8.5	7.9	7.5	7.5
One-parent families with children under 15, parent employed (of all one-parent families with children under 15)	%	43.2	40.6	41.4	41.8	43.2	42.7	42.9	42.1	44.0	47.3	46.4
Children under 15 living in families where no parent is employed (of all children under 15)	%	n.a.	n.a.	18.8	18.5	17.1	17.2	18.1	19.7	18.3	16.8	17.9

(a) Includes same-sex couples in 1996.

Reference periods: Data on living arrangements, and on families and work, are at June.
Data on de facto couple are at census date.

Family: national summary continued

FAMILY FORMATION	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Registered marriages												
Number of marriages	'000	117.0	113.9	114.8	113.3	111.2	109.4	106.1	106.7	110.6	114.3	113.4
Crude marriage rate (per 1,000 population)	rate	6.9	6.6	6.6	6.4	6.2	6.1	5.8	5.8	5.9	6.0	5.9
Marriages where both partners married for the first time (of all marriages)	%	67.4	67.5	67.2	67.1	67.5	67.5	66.4	66.6	66.7	66.9	66.6
Median age of males at first marriage	years	26.5	26.7	26.9	27.0	27.2	27.3	27.6	27.8	27.9	28.2	28.5
Median age of females at first marriage	years	24.3	24.5	24.7	24.8	25.1	25.3	25.7	25.9	26.2	26.4	26.7
Median age at remarriage (divorced males)	years	39.6	39.7	40.1	40.4	40.9	41.1	41.6	41.8	42.0	42.2	42.7
Median age at remarriage (divorced females)	years	36.0	36.1	36.5	36.8	37.4	37.6	38.0	38.2	38.4	38.6	39.1
Divorce												
Number of divorces	'000	42.6	45.6	45.7	48.4	48.3	49.7	52.5	51.3	51.4	52.6	49.9
Crude divorce rate (per 1,000 population)	rate	2.5	2.6	2.6	2.7	2.7	2.8	2.9	2.8	2.7	2.8	2.6
Median duration between marriage and final separation	years	7.3	7.4	7.4	7.6	7.6	7.6	7.6	7.7	7.8	7.9	8.2
Divorces involving children under 18 (of all divorces)	%	55.6	54.2	52.9	52.6	52.4	n.a.	53.6	54.0	53.4	53.9	52.7
Children under 18 affected by divorce	'000	44.9	46.7	45.7	48.1	47.5	n.a.	52.5	51.7	51.6	53.4	49.6
Fertility												
Births	'000	262.6	257.2	264.2	260.2	258.1	256.2	253.8	251.8	249.6	248.9	249.6
Total fertility rate (per female)	rate	1.91	1.86	1.89	1.86	1.85	1.83	1.80	1.78	1.76	1.75	1.75
Births to mothers aged under 20 (of all births)	%	5.8	5.7	5.4	5.1	5.0	4.9	4.9	4.9	4.7	4.7	4.6
Births to mothers aged 35 and over (of all births)	%	10.0	10.7	11.4	11.9	12.9	13.7	14.6	15.3	16.1	16.8	17.4
Births outside marriage (of all births)	%	21.9	23.0	24.0	24.9	25.6	26.6	27.4	28.1	28.7	29.2	29.2
Births outside marriage acknowledged by father (of all births outside marriage)	%	77.1	79.5	81.0	81.7	82.2	83.3	84.2	85.5	87.1	88.2	88.2
Females aged 35 and over giving birth for the first time (of all births to females 35 and over)	%	n.a.	12.7	19.9	19.8	20.8	20.8	21.2	22.4	23.3	23.7	n.a.
Median age of mothers at first birth	years	n.a.	26.3	26.5	r26.7	26.8	26.9	27.1	27.3	27.5	27.6	n.a.

CHILD CARE	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Children aged under 3 using formal care (of all children under 3)	%	n.a.	n.a.	17.0	n.a.	n.a.	21.6	n.a.	n.a.	22.3	n.a.	n.a.
Children aged under 3 using informal care (of all children under 3)	%	n.a.	n.a.	40.4	n.a.	n.a.	39.3	n.a.	n.a.	43.0	n.a.	n.a.

Reference periods: Data on family formation are for the calendar year. Data on child care are at November 1990, June 1993, March 1996 and June 1999.

Family: State summary

LIVING ARRANGEMENTS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Total households	'000	2001	2 434	1 818	1 406	614	739	191	69	123	7 393
Lone-person households	%	2001	23.1	24.1	24.8	27.6	26.8	29.3	25.0	26.4	24.6
Households with three or more persons	%	2001	43.1	43.0	39.8	36.4	39.9	37.2	44.4	41.4	41.4
Total families	'000	2001	1 773	1 313	970	426	519	131	37	79	5 248
Families with children under 15 years	'000	2001	723	541	422	156	215	56	18	32	2 162
Couple families	'000	2001	1 483	1 081	800	353	430	108	31	64	4 350
De facto couple families (of all couple families)(b)	%	1996	9.4	8.4	11.9	9.8	12.0	11.1	19.6	11.3	10.1
Couple-only families (of all couple families)	%	2001	53.9	51.6	53.3	58.5	53.5	55.8	46.3	49.6	53.5
Couple-only families with female partner aged under 40 (of all couple only families)	%	2001	20.8	18.0	19.6	18.8	23.0	14.4	34.9	21.4	19.9
Couple families with children under 15 (of all families with children under 15)	%	2001	79.7	78.9	76.5	76.5	78.5	75.5	76.9	76.6	78.3
Lone father families with children under 15 (of all families with children under 15)	%	2001	2.0	1.7	2.9	3.2	2.9	1.8	5.0	4.3	2.3
Lone mother families with children under 15 (of all families with children under 15)	%	2001	18.3	19.4	20.6	20.4	18.6	22.7	18.1	19.1	19.3
Families with at least one child aged under 5 (of all families with children under 15)	%	2001	45.5	44.4	45.9	45.1	44.2	47.8	44.7	46.1	45.2
Average family size (persons)	no.	2001	3.1	3.1	3.0	2.9	3.0	3.0	3.1	3.0	3.0
Children under 15 living in one-parent families (of all children under 15)	%	2001	18.3	19.2	21.5	20.7	19.4	21.0	20.8	21.0	19.6
Persons aged 20–24 living with parents (of all persons aged 20–24)	%	2001	49.8	50.3	37.4	44.3	41.0	43.4	28.3	34.6	45.8
Persons aged 25–34 living with parents (of all persons aged 25–34)	%	2001	14.3	16.4	7.6	12.3	8.1	8.7	5.4	10.6	12.6
Persons aged 15–64 who live alone (of all persons aged 15–64)	%	2001	7.5	8.1	8.8	10.3	9.9	10.0	11.3	9.8	8.5
Persons aged 65 and over who live alone (of all persons aged 65 and over)	%	2001	27.9	28.1	29.6	31.4	30.9	37.1	31.9	32.5	29.2

FAMILIES AND WORK	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Couple families with children under 15, both parents employed (of all couple families with children under 15)	%	2001	56.7	57.2	56.4	55.3	55.0	55.3	65.3	70.4	56.7
Couple families with children under 15, neither parent employed (of all couple families with children under 15)	%	2001	7.6	6.7	8.9	7.8	7.2	8.1	5.3	2.8	7.5
One-parent families with children under 15, parent employed (of all one-parent families with children under 15)	%	2001	42.2	47.9	47.7	46.8	51.0	41.1	49.5	62.1	46.4
Children under 15 living in families where no parent is employed (of all children under 15)	%	2001	17.7	16.6	19.9	18.7	17.1	20.9	15.6	11.7	17.9

(a) All estimates for the Northern Territory other than household estimates and those for de facto couples, refer to mainly urban areas only.

(b) Includes same-sex couples.

Reference periods: Data on living arrangements, and on families and work, are at June.
Data on de facto couples are at census date.

Family: State summary continued

FAMILY FORMATION	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Registered marriages											
Number of marriages	'000	2000	39.3	26.9	22.8	8.2	11.0	2.6	0.9	1.7	113.4
Crude marriage rate (per 1,000 population)	rate	2000	6.1	5.6	6.4	5.5	5.8	5.5	4.4	5.6	5.9
Marriages where both partners married for the first time (of all marriages)	%	2000	67.7	68.9	64.3	64.1	64.7	61.4	58.4	67.6	66.6
Median age of males at first marriage	years	2000	28.4	28.7	28.3	28.4	28.8	28.3	29.8	28.3	28.5
Median age of females at first marriage	years	2000	26.5	27.1	26.4	26.5	26.8	26.3	27.7	26.7	26.7
Median age at remarriage (divorced males)	years	2000	42.6	42.3	42.7	43.7	43.0	43.2	43.6	42.9	42.7
Median age at remarriage (divorced females)	years	2000	38.8	38.7	39.0	40.2	39.8	39.8	38.6	39.3	39.1
Divorce											
Number of divorces	'000	2000	14.8	12.4	10.1	4.0	5.3	1.3	0.5	1.6	49.9
Crude divorce rate (per 1,000 population)	rate	2000	2.3	2.6	2.8	2.7	2.8	2.8	2.3	(a)	2.6
Median duration between marriage and final separation	years	2000	7.6	8.4	8.3	8.9	8.7	9.0	7.0	8.9	8.2
Divorces involving children under 18 (of all divorces)	%	2000	51.2	52.8	53.5	55.6	50.3	58.3	47.3	58.0	52.7
Children under 18 affected by divorce	'000	2000	14.1	12.4	10.3	4.2	5.0	1.5	0.4	1.7	49.6
Fertility											
Births	'000	2000	86.8	59.2	47.3	17.9	25.1	5.7	3.7	4.1	249.6
Total fertility rate (per woman)	rate	2000	1.81	1.63	1.78	1.71	1.78	1.79	2.22	1.61	1.75
Births to mothers aged under 20 (of all births)	%	2000	4.2	2.9	6.1	4.2	5.6	7.7	13.3	3.1	4.6
Births to mothers aged 35 and over (of all births)	%	2000	17.8	19.3	15.0	18.6	16.2	13.7	13.7	18.5	17.4
Births outside marriage (of all births)	%	2000	26.5	23.8	33.9	32.6	34.0	40.4	60.7	25.5	29.2
Births outside marriage acknowledged by father (of all births outside marriage)	%	2000	87.4	92.9	86.9	89.9	90.4	89.2	62.5	86.7	88.2

CHILD CARE	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
Children aged under 3 using formal care (of all children under 3)	%	1999	20.7	19.7	25.8	25.5	23.6	20.1	34.8	28.8	22.3
Children aged under 3 using informal care (of all children under 3)	%	1999	43.4	47.7	37.1	50.7	38.3	38.0	32.6	40.8	43.0

(a) Based on the location of the Family Court where the divorce is granted and registered. Due to the large number of divorces granted in the Australian Capital Territory to usual residents of another State, the divorce rate for the Australian Capital Territory is not representative of the Australian Capital Territory population.

(b) Estimates for child care for the Northern Territory refer to mainly urban areas only.

Reference periods: Data on family formation are for the calendar year. Data on child care are at June.

Family definitions and references

Average family size
for any group of families, the total number of family members divided by the number of families in the group.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Birth
the delivery of a child irrespective of the duration of pregnancy who, after being born, breathes or shows any evidence of life such as a heartbeat.
Reference: *Births, Australia* (ABS Cat. no. 3301.0).

Births outside marriage
births where the father was not registered as married to the mother at the time of the birth, whether or not the parents were living together at the time of the birth, and whether or not the child may subsequently have been adopted or become legitimate.
Reference: *Births, Australia* (ABS Cat. no. 3301.0).

Births outside marriage acknowledged by father
births outside registered marriage where the father's name is recorded on the birth certificate.
Reference: *Births, Australia* (ABS Cat. no. 3301.0).

Child under 15
a related or unrelated person aged under 15 years who forms a parent-child relationship with one person aged 15 years or over resident in the household.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Couple family
a family based on two persons who are in a registered or de facto marriage and who are usually resident in the same household. The family may include any number of dependents, non-dependents and other related individuals. It is not necessary for a parent-child relationship to be formed, thus a couple family can consist of a couple without children present in the household.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Couple-only family
a couple family with no dependent children or other family members (e.g. non-dependent children) present.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Crude divorce rate
the number of divorces granted in the calendar year per 1,000 of the estimated resident population at 30 June of that year.
Reference: *Marriages and Divorces, Australia* (ABS Cat. no. 3310.0).

Crude marriage rate
the number of marriages registered in the calendar year per 1,000 of the estimated resident population at 30 June of that year.
Reference: *Marriages and Divorces, Australia* (ABS Cat. no. 3310.0).

De facto marriage
the relationship between two people who live together in a consensual union who are not registered as married to each other.
Reference: *1996 Census of Population and Housing.*

Divorces involving children
divorces of couples with unmarried children of the registered marriage who were aged under 18 years at the time of application for divorce. Under the *Family Law Act 1975,* adopted and ex-nuptial children and children from a former registered marriage may be included (in certain cases). Children who are registered as married or aged 18 years and over are not subject to custody and guardianship orders and are excluded.
Reference: *Marriages and Divorces, Australia* (ABS Cat. no. 3310.0).

Employed
persons aged 15 years and over who either worked during the reference week for pay, profit, commission, payment in kind or without pay for one hour or more in a family business, or who had a job but were not at work. Also includes employers, own account workers or contributing family workers who had a job, business or farm, but were not at work.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Estimated resident population
quarterly estimates of the Australian population are obtained by adding to the estimated population at the beginning of each period the components of natural increase (on a usual residence basis) and net overseas migration. For the States and Territories, account is also taken of estimated interstate movements involving a change of usual residence.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Family
two or more persons, one of whom is aged 15 years and over, who are related by blood, marriage (registered or de facto), adoption, step or fostering; and who are usually resident in the same household. The basis of a family is formed by identifying the presence of a couple relationship, lone parent-child relationship or other blood relationship. Some households will, therefore, contain more than one family.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Formal child care
regulated care, away from the child's home. Includes preschool; before and after school care program; long-day care centre; family day care; occasional care and other formal care.
Reference: *Child Care, Australia* (ABS Cat. no. 4402.0).

Household
a person living alone or a group of related or unrelated people who usually reside and eat together.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Informal child care
non-regulated care, arranged by the child's parent/guardian, either in the child's home or elsewhere. It includes care by (step) brothers or sisters; care by relatives (including non-custodial parents) and by non-relatives such as friends, neighbours or baby sitters. It may have been paid or unpaid.
Reference: *Child Care, Australia* (ABS Cat. no. 4402.0).

Lone parent
a person who has no spouse or partner present in the household but who forms a parent-child relationship with at least one dependent or non-dependent child usually resident in the household.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Median
the value at which half the population falls above and half falls below.

Median age of mothers at first birth
actually the median age of mothers at first confinement. A confinement is a pregnancy which results in at least one live birth: multiple births (e.g. twins) may be involved.
Reference: Australian Institute of Health and Welfare, *Australia's Mothers and Babies (1996).*

Family definitions and references continued

Median duration of marriage to separation

the median interval between the date of registered marriage and the date of separation.
Reference: *Marriages and Divorces, Australia* (ABS Cat. no. 3310.0).

One-parent family

a family consisting of a lone parent with at least one dependent or non-dependent child (regardless of age) who is also usually resident in the household. The family may also include any number of other dependent children, non-dependent children and other related individuals.
Reference: *Labour Force Status and Other Characteristics of Families, Australia* (ABS Cat. no. 6224.0).

Registered marriages

refer to formally registered marriages for which the partners hold a marriage certificate.
Reference: *Marriages and Divorces, Australia* (ABS Cat. no. 3310.0).

Total fertility rate

the average number of children a woman would bear during her lifetime if she conformed to the current age-specific fertility rates throughout her reproductive life.
Reference: *Births, Australia* (ABS Cat. no. 3301.0).

Women giving birth for the first time

Multiple births (e.g. twins or triplets) may be involved at the time of first birth.
Reference: Australian Institute of Health and Welfare, *Australia's Mothers and Babies (1998).*

Trends in childlessness

FAMILY FORMATION

According to 2000 estimates, about a quarter of women in their reproductive years are likely never to have children.

A growing proportion of Australian women and their partners are not having children. Estimates for 2000 suggested that 24% of women currently in their reproductive years would never have children.[1] This trend is also seen in other developed countries, with recent estimates of permanent childlessness for women in the United Kingdom and the United States of America of 20% and 22% respectively.[2]

Although the proportion of women who remained childless was higher early in the 20th century, estimated levels of childlessness at the start of the 21st century are a social issue for at least two reasons. Firstly, childlessness contributes to fertility decline, with ramifications for the future size and age structure of the population (see *Australian Social Trends 2002*, Fertility futures, pp. 12–16). Secondly, increasing levels of childlessness mean that in the future there will be more older people with no children. It is widely recognised that family members, in particular children, contribute to the support and wellbeing of older people.[3] Without such informal care, the reliance on formal care through government funded programs or privately purchased services may increase.

This article outlines trends in childlessness and some of the reasons for women and their partners remaining childless. Additionally, the characteristics of women who remain childless, including their educational attainment, cultural background, religion and labour force participation, are discussed.

Trends in lifetime childlessness

The level of childlessness among different generations of women is influenced by the political, economic and social circumstances that they experienced during their child-bearing years. Lifetime childlessness, derived from census data collected throughout the century, was at its highest level for women born between 1901 and 1905 (31%). These women were in their child-bearing years during the Great Depression, a period when economic constraints led to both postponement of marriage and avoidance of child-bearing within marriage.[4] The proportion of women who remained childless fell for successive generations of women born during the first 40 years of the 20th century.

Childlessness

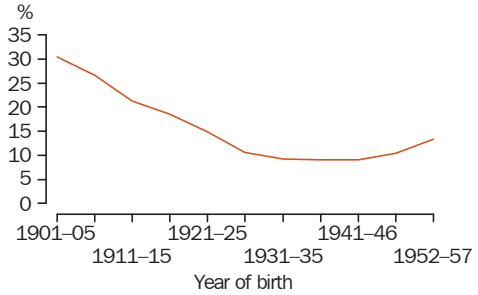
Most of the data for this article are from the 1996 Census of Population and Housing.

Lifetime childlessness is the proportion of women who have reached the end of their child-bearing years (ages 15–44 years) and have not had any children. This can be derived for women aged 45 years and over from a census question which asks each woman the number of (live) babies she has ever had. The proportion of women aged 45–49 years who have never had a baby represents the group who has most recently completed their reproductive life, childless. These women were born 45 to 49 years before the census date. For example, the women who were 45–49 years old at the time of the 1996 Census, were born between 1946 and 1951. Women of younger ages may still have children. As a result, the measure of lifetime childlessness from census data is useful for historical trends, but not current patterns.

The *current level of childlessness* in a given year is the proportion of women (aged 15–44 years) who are likely never to have children if current fertility patterns were to prevail until they reach the end of their child-bearing years. This can be derived from the number of women at each age who have a first birth during the year, using birth registrations data. Further information is available in *Births, Australia, 1999 and 2000* (ABS Cat. no. 3301.0).

About 20% of women born between 1910 and 1920 remained childless, partly as a result of family disruption during the Depression and the Second World War.[4] However, childlessness was at its lowest level for the century (approximately 9%) among women

Proportion of females who were childless at age 45–49 years(a)



(a) Based on data from Censuses of Population and Housing.

Source: Rowland, D. T., 1998. The prevalence of childlessness in cohorts of older women, *Australasian Journal on Ageing*, vol. 17, no. 1, pp.18–23.

born between 1930 and 1946, who benefited from the improved economic outlook after World War II. This period was characterised by both earlier marriage, high marriage rates (9 to 11 per 1,000 population) and high fertility within marriage. The post-war 'baby boom' thus resulted from a 'marriage boom'.[4]

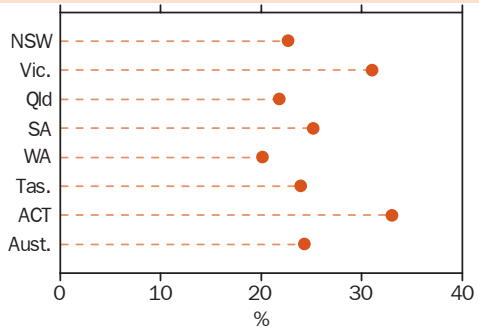
The level of lifetime childlessness began to increase among women born after 1946, who were in their child-bearing years from the late 1960s onwards. This, along with the falling average number of children in families, contributed to the decline in the total fertility rate during the 1970s. In a context of widely available contraception, this period saw increasing proportions of women moving away from the more traditional role of wife and mother at home, to participate in paid employment, either in combination with parenting or without having children at all. Of women aged 45–49 years at the time of the 1996 Census, 11% had never had a child.

Recent estimates of childlessness

For women who have not yet reached the end of their child-bearing years, current levels of childlessness can be estimated from births registration data. In 1986, about one in five women were likely to remain childless. In 2000 the level was about one in four women.

Current levels of childlessness vary across the States and Territories. Patterns of childlessness derived from first birth fertility rates for 2000 suggest that 33% of women in the Australian Capital Territory and 31% of women in Victoria will remain childless. These comparatively high levels of childlessness are associated with higher average ages of mothers at the birth of their first child (28.6 years in both the Australian Capital Territory and Victoria) compared with other States. Queensland (22%) and Western Australia (20%) had the lowest levels of childlessness in 2000.

Current childlessness of females in States and Territories(a) — 2000



(a) Reliable data are not available for the Northern Territory.

Source: Births, Australia, 2000 (ABS Cat. no. 3301.0).

Why people remain childless

A wide variety of reasons have been given by both men and women for the decision to remain childless. These range from lifestyle choices relating to the pursuit of education and a career, to a preference for a life without children.[5] For some, the cost of raising children, in terms of both time and money, is a barrier, while for others, health concerns such as fear of passing on a genetic defect to a child are contributing factors.

Many forces compete with raising children, including difficulties of combining work with family and changing social values. The introduction of effective contraception in the 1960s and the wider availability of abortion gave women and couples greater choice about when and if to have children. That said, some childlessness continues to be involuntary.

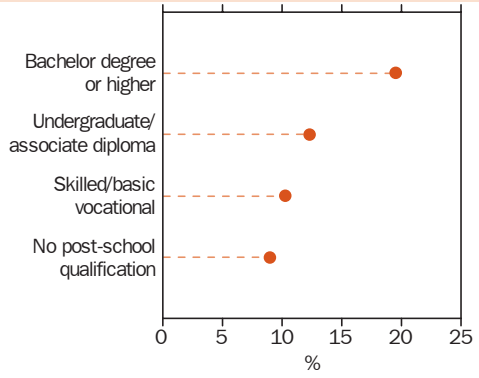
Voluntary childlessness of a temporary nature may become involuntary in circumstances where women delay having children to a point where they are no longer able to conceive or carry a pregnancy to term. Overall, natural infertility occurs at a rate of about 7%,[6] but this increases with age. Natural infertility is being offset to some extent by the increasing number of assisted pregnancies, which accounted for almost 2% of all births in 1999.[7]

Another more practical reason for involuntary childlessness for some people is not being married or in a stable relationship in which to have children. The importance placed on such relationships is shown by the fact that in 2000, 71% of births were to married women and 26% were exnuptial but had the father's name on the birth certificate.[1] Declining marriage rates, high divorce rates and the temporary nature of some de facto relationships have thus contributed to the increasing prevalence of childlessness.[2]

Which women remain childless?

The proportion of women who remain childless varies according to such characteristics as educational attainment and cultural and religious background. These variations were apparent for women aged 45–49 years who had never had a child at the time of the 1996 Census. Participation in the labour force at age 45–49 years is relatively high for all women, with and without children. Since the impact of childlessness is more apparent at younger ages (20–44 years), when women take time out of the workforce

Proportion of childless females aged 45–49 years: highest post-school education level achieved — 1996



Source: 1996 Census of Population and Housing.

to raise children, labour force participation for women in these age groups is discussed later in this section.

In 1996, the proportion of women aged 45–49 years who were childless increased with level of educational attainment. The highest proportion of childless women was among those with a bachelor degree or higher (20%), compared with 12% of those with an undergraduate or associate diploma. Women with no post-school qualifications had the lowest level of childlessness (9%). This pattern is consistent with more highly educated women delaying child-bearing to concentrate on their education and career. Although some of these women may make an intentional choice to have no children, others may delay child-bearing to a point where they are no longer able to have a child.

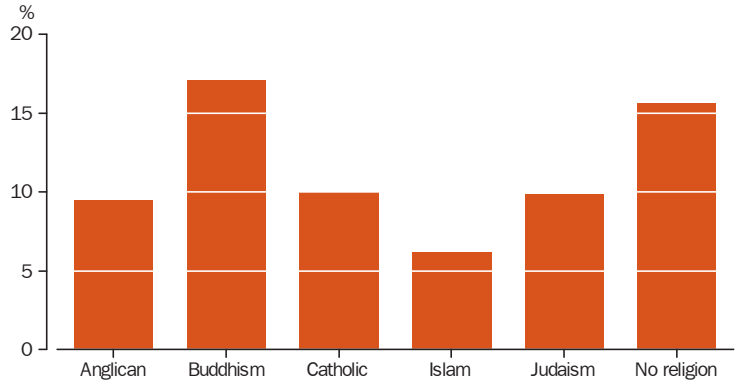
The proportion of women who remain childless also varies according to their cultural background. In 1996, 11% of Australian-born women aged 45–49 years were childless. Of Australian residents born overseas, higher rates of childlessness existed among women in this age group who were born in the United States of America (24%), the Philippines (21%) and Malaysia (18%). Notably lower rates of childlessness existed among women who were born in Greece (4%), Croatia (5%) and Italy (6%). A lower proportion of Indigenous women aged 45–49 years were childless than non-Indigenous women in Australia (8% compared with 11%).

Different belief systems place different emphases on the place of marriage, the importance of family, the role of women in society and the acceptability of controlling fertility, all of which can affect levels of childlessness. In 1996, of women aged 45–49 years, Buddhist women and women with no religion had the highest levels of childlessness (17% and 16% respectively), while Islamic women had the lowest level (6%). About 10% of both Catholic and Anglican women were childless, close to the Australian average.

Across all age groups, participation in the labour force was notably higher for women who were childless than for women who had one or more children. In 1996, 80% of women aged 20–44 years who had not yet had a child were employed compared with 56% of those with children.

Of those with no children, somewhat lower proportions of younger and older women were employed (76% of those aged

Proportion of childless females aged 45–49 years: selected religious groups — 1996



Source: 1996 Census of Population and Housing.

Selected countries of birth of childless females aged 45–49 years — 1996

Country of birth	*Proportion of females who were childless* %
Greece	3.7
Croatia	5.2
Italy	5.7
Malta	6.0
Netherlands	8.8
India	9.9
Australia	**10.6**
United Kingdom	10.9
New Zealand	13.4
Viet Nam	15.4
Malaysia	17.8
Philippines	22.4
United States of America	24.1

Source: 1996 Census of Population and Housing.

Proportion of females aged 20–44 who were employed — 1996

	Age group(years)					
	20–24	25–29	30–34	35–39	40–44	Total 20–44
	%	%	%	%	%	%
Females with no children						
Employed(a)	*75.5*	*85.1*	*83.7*	*80.6*	*77.3*	*80.1*
Working part-time	25.6	18.6	19.3	20.4	20.9	21.8
Working full-time	48.6	65.5	63.5	59.4	55.5	57.2
Females with one or more children						
Employed(a)	*27.0*	*41.6*	*51.2*	*61.2*	*68.9*	*56.2*
Working part-time	17.1	26.2	32.4	35.6	34.1	32.0
Working full-time	9.0	14.3	17.7	24.3	33.4	23.0

(a) Includes women whose hours worked were not stated.

Source: 1996 Census of Population and Housing.

Usual place of residence, females aged 75 years and over — 1996

	Number of children ever born		
	None	1 or more	Total
	%	%	%
Non-private dwellings			
Hospital	2.0	1.5	2.1
Nursing home	8.2	5.1	8.0
Accommodation for retired or aged (cared)	9.9	6.6	7.7
Other non-private dwelling	2.3	0.8	1.0
Total	*22.3*	*14.0*	*18.9*
Private dwellings	77.7	86.0	81.1

Source: 1996 Census of Population and Housing.

20–24 years and 77% of those aged 40–44 years) than those in the prime child-bearing years (85% of those aged 25–29 years and 84% of those aged 30–34 years). For women with one or more children, the proportion employed was higher in successive age groups, ranging from 27% of 20–24 year olds to 69% of 40–44 year olds. This reflects the growing independence of older children, but increasing financial needs of families.

There were variations in the proportion of women with and without children working full-time. Women with no children were more likely than those with children to work full-time (57% compared with 23% for those aged 20–44 years). The highest levels of full-time work were among women with no children aged 25–29 years and 30–34 years (66% and 64% respectively). For women with children the likelihood of working full-time increased with age, from 9% of 20–24 year olds to 33% of 40–44 year olds).

Childlessness and ageing

The increasing prevalence of childlessness has implications for the wellbeing of the elderly in the future. As Australia's population ages, increasing numbers of older people will have no children to help with care and support. When in good health, people with no children have more contact with friends and neighbours than people with children, but as health problems mount, the likelihood of social isolation can increase.[8] Women are likely to be more affected because they tend to live longer than men.

At present, children are the main source of informal care for many older people. In 1998, 55% of people aged 65 years and over who were receiving informal assistance, received it from their sons and daughters.[9] Without this support, there is likely to be a shift from reliance on informal to formal care, provided either privately or by the government.

Women aged 75 years and over with no children are more likely to be in hospitals or residential care than those with children. In 1996, 22% of women aged 75 years and over who were childless were living in hospitals, hostels, nursing homes and other non-private dwellings, compared with 14% of women who had children.

Endnotes

1 Australian Bureau of Statistics 2000, *Births, Australia, 2000*, Cat. no. 3301.0, ABS, Canberra.

2 Qu, L., Weston, R. and Kilmartin, C. 2000, 'Effects of changing personal relationships on decisions about having children', Family Matters, Issue No. 57 Spring/ Summer 2000, pp. 14–19.

3 Australian Institute of Health and Welfare, (AIHW) 2001, Australia's Welfare 2001, AIHW, Canberra.

4 Weston, R., Stanton, D., Qu, L. and Soriano, G. 2001, 'Australian families in transition: some socio-demographic trends 1901–2001', Family Matters, Issue No. 60 Spring/ Summer 2001, pp. 13–23.

5 Weston, R. and Qu, L. 2001, 'Men's and women's reasons for not having children', Family Matters, Issue No. 58 Autumn 2001, pp. 10–15.

6 Peter McDonald, quoted in the Age Sunday 17th June 2001, Melbourne.

7 Hurst, T. and Lancaster, P. 2001, Assisted conception Australia and New Zealand 1999 and 2000. AIHW Cat. no. PER 18. Sydney: AIHW National Perinatal Statistics Unit (Assisted Conception Series No. 6).

8 Rowland, D. T., 1998. 'Consequences of childlessness in later life', Australasian Journal on Ageing, vol. 17, no. 1, pp. 24–28.

9 Australian Bureau of Statistics 1998, Disability Ageing and Carers, Australia, 1998, Cat. no. 4430.0, ABS, Canberra.

People with a disability: need for guidance

FAMILY SERVICES

In 1998, around one in five 15–64 year olds with a disability needed help to either make friends, interact with others, maintain relationships, cope with feelings or emotions, make decisions, or think through problems.

Wellbeing is partly determined by a person's ability to establish, develop and maintain relationships with others, to manage feelings, emotions and consequent behaviour and to make good decisions. These essential day-to-day tasks can be difficult for anyone. People living with a disability, particularly those restricted by a psychological or intellectual impairment, may experience additional difficulty and may need help from others.

There has been a continuing move away from the institutional care of people with a disability towards independent living within the community. As part of this general trend, only a small proportion of people with mental disorders now spend extended periods in psychiatric hospitals or residential facilities.[1] Meeting the challenges of living outside an institutional setting may have increased some people's need for help to make decisions, control behaviour and manage relationships. These aspects of everyday living are an area of concern to service providers to people with a disability living in the community.

Guidance

Most people perform a common set of tasks as part of their routine living; tasks such as dressing, walking, understanding others,

Disability and need for guidance

Data presented in this article were collected in the 1998 ABS Survey of Disability, Ageing and Carers. For more information about this survey see *Disability, Ageing and Carers: User Guide, Australia, 1998* (ABS Cat. no. 4431.0).

In the survey, a person is defined as having a *disability* if he/she has a specified limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and which restricts an everyday activity.

The focus group in this article is people with a disability who were of workforce-age (15–64 years) and who were living in the community (in a private dwelling or in a self care arrangement in a non-private dwelling). For this population, *needing guidance* is defined as feeling that help is needed from others, because of disability, to do one or more of the following three tasks:

- make friends, interact with others, or maintain relationships;
- cope with feelings or emotions; or
- make decisions or think through problems.

In the survey, 94% of the selected sample of working-age people with a disability living in the community were personally interviewed. Information for the remaining 6% was collected by interviewing a third party (often a carer) on behalf of the person selected for interview. Of those needing guidance, information was collected for 16% by this method.

People aged 15–64 years with a disability(a): proportion who needed guidance — 1998

	Guidance-related tasks				
	Making friends, interacting with others, or maintaining relationships	*Coping with feelings or emotions*	*Making decisions or thinking through problems*	*Total with a need for guidance(b)*	*Total(c)*
Restricting impairment	%	%	%	%	'000
Psychological	36.9	60.4	53.8	72.3	238.8
Intellectual	28.9	35.9	47.6	56.4	213.9
Head injury, stroke or brain damage	21.6	30.6	33.0	41.3	146.4
Sensory or speech	11.8	16.5	15.7	23.9	449.3
Physical	7.4	15.4	13.4	19.7	1 535.0
Total(d)	**8.4**	**15.4**	**13.6**	**20.5**	**2 066.7**

(a) Living in the community.
(b) The sum of the three guidance-related tasks exceeds the total because a person can need help with more than one task.
(c) The sum of the restricting impairment types exceeds the total because a person can have more than one type of restricting impairment.
(d) Includes those whose restricting impairment type(s) could not be determined because of insufficient information.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

taking medicine, filling in forms, cooking, washing and travelling away from home. In the 1998 Survey of Disability, Ageing and Carers, people with a disability were asked whether they had difficulty performing a range of day-to-day tasks and whether they needed help with them. Three of these tasks were grouped together under the broad activity heading of 'guidance'. They were: making friends, interacting with others, or maintaining relationships; coping with feelings or emotions; and making decisions or thinking through problems.

The focus of this article is the extent to which work-force age people living in the community, because of their disability, felt (or were felt) to need help from others to perform the three guidance-related tasks. In 1998, 8% of the 2,066,700 people in this group needed help to make friends, interact with others, or maintain relationships, 15% needed help to cope with feelings or emotions, and 14% required assistance to make decisions or think through problems.

Types of restricting impairment

Any loss or abnormality of psychological, physiological or anatomical structure or function can be classified to one of five broad types of restricting impairment (see *Australian Social Trends 2001*, Disability among adults, pp. 75–79). Need for guidance (i.e. need for help from others with at least one of the three guidance-related tasks) was most prevalent among those restricted by a psychological impairment (72%). Guidance was felt to be needed to a lesser extent among those restricted by an intellectual impairment (56%), by head injury, stroke or brain damage (41%), by a sensory or speech impairment (24%) and least of all among those restricted by a physical impairment (20%). Those restricted by a psychological impairment were also the most likely to need help to make friends, interact with others, or maintain relationships (37%), to cope with feelings or emotions (60%) and to make decisions or think through problems (54%).

Frequency and intensity of need

Of those who had a need for guidance because of their disability, 20% always needed such help and 80% only sometimes needed it. The majority (57%) needed help at least once a week, with almost one in four (24%) needing guidance on a daily basis.

Of those who needed guidance, those restricted by a physical impairment tended to need guidance less often than those restricted by other types of impairment. Those restricted by head injury, stroke or brain damage (39%) and those restricted by an intellectual impairment (also 39%), were the most likely to need guidance on one or more occasions every day.

People aged 15–64 years with a disability(a) needing guidance: intensity and frequency of need for guidance — 1998

	Intensity of need		*Frequency of need*					
	Sometimes	*Always*	*Less than once a month*	*At least once a month*	*At least once a week*	*At least once a day*	*Total(b)*	
Restricting impairment	%	%	%	%	%	%	%	'000
Psychological	69.4	30.6	10.8	89.2	71.0	33.4	100.0	172.7
Intellectual	64.3	35.7	13.1	86.9	70.6	38.6	100.0	120.6
Head injury, stroke or brain damage	70.7	29.3	15.4	84.6	66.2	39.4	100.0	60.5
Sensory or speech	68.1	31.9	13.7	86.3	61.0	30.7	100.0	107.5
Physical	78.5	21.5	19.0	81.0	58.6	25.5	100.0	302.9
Total(c)	**79.6**	**20.4**	**19.4**	**80.6**	**57.3**	**23.6**	**100.0**	**424.7**

(a) Living in the community.
(b) The sum of the restricting impairment types exceeds the total because a person can have more than one type of restricting impairment.
(c) Includes those whose resticting impairment type(s) could not be determined because of insufficient information.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

Long-term health conditions

A long-term health condition differs from a restricting impairment in that a long-term health condition is a disease or disorder which has lasted, or is likely to last, at least six months. A long-term health condition can also be a disease, disorder or event (such as a stroke, poisoning, or an accident) which produces an impairment or restriction which has lasted, or is likely to last, at least six months.

In 1998, there was considerable variation in the extent to which the long-term health conditions of workforce-age people with a disability were accompanied by a need for guidance. At a broad level, those with a mental or behavioural disorder were more likely to feel (or be felt to have) a need for guidance than those with a physical or sensory disorder. At a more detailed level, relatively high rates of need for guidance prevailed among those with mental retardation (82%), mental disorders due to alcohol and other psychoactive substance use (72%), attention deficit disorder or hyperactivity (68%), schizophrenia (68%), depression or mood affective disorders other than postnatal depression (65%) and phobic and anxiety disorders (63%). In contrast, need for guidance was relatively low among those with back problems (19%), high cholesterol (18%), arthritis and related disorders (16%), leg, knee, foot or hip damage from an injury or accident (14%) and noise induced deafness or hearing loss (14%).

Those health conditions that were associated with needing guidance tended to also be associated with needing help with each of the three guidance-related tasks. For example, of workforce-age people with a disability who had schizophrenia, 46% needed help to make friends, interact with others, or maintain relationships, 54% needed help to cope with feelings or emotions, and 50% needed help to make decisions or think through problems.

People aged 15–64 years with a disability(a): need for help with guidance-related tasks by selected characteristics — 1998

	Guidance-related tasks			
Selected characteristics	*Making friendships, interacting with others, or maintaining relationships* %	*Coping with feelings or emotions* %	*Making decisions or thinking through problems* %	*Total* '000
Age group (years)				
15–24	15.5	21.6	19.0	229.4
25–34	11.2	16.7	16.1	303.5
35–44	10.5	19.7	15.2	432.0
45–54	6.6	15.2	13.4	546.2
55–64	4.2	9.1	8.7	555.6
Sex				
Male	9.2	14.4	12.9	1 078.3
Female	7.6	16.5	14.3	988.3
Relationship in household				
Family member	7.9	14.9	13.2	1 669.6
Husband, wife or partner	5.8	12.8	10.1	1 258.0
Lone parent	8.1	18.8	16.4	146.1
Dependent student	18.0	22.3	19.0	68.4
Non-dependent child	20.1	23.0	30.6	150.9
Other related individual	*9.4	21.0	22.6	46.1
Non-family member	10.6	17.7	15.1	396.7
Unrelated individual in family household	**20.9	**15.3	**15.3	12.8
Group household member	*7.6	18.0	*12.7	71.3
Lone person	10.9	17.8	15.6	312.5
Total	**8.4**	**15.4**	**13.6**	**2 066.7**

(a) Living in the community.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

Demographic and family characteristics

In 1998, of 15–64 year olds with a disability, the need for guidance because of disability was more common among younger people than among older people. Relatively high proportions of those aged 15–24 years needed help to make friends, interact with others, or maintain relationships (16%), to cope with feelings or emotions (22%) and to make decisions or think through problems (19%). The corresponding proportions among those aged 55–64 years were lower at 4%, 9% and 9% respectively. These differences may be due in part to the difference in the proportions of the two age groups restricted by each of the impairment types. Younger people with a disability were more likely to be restricted by an intellectual impairment and somewhat more likely to be restricted by a psychological impairment, both of which were relatively often associated with a need for guidance. In comparison, older people were more likely to be restricted by a physical impairment or a sensory or speech impairment, both of which were less likely to be associated with a need for guidance.

There were some small differences between men and women in their need for guidance. In 1998, men were slightly more likely than

women to need help to make friends, interact with others, or maintain relationships, whereas women were slightly more likely than men to need help to cope with feelings and emotions (17% compared with 14%), and to make decisions or think through problems.

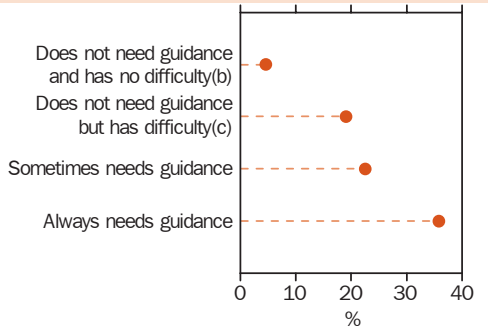
Close family relationships, proximity to others and sense of isolation or dislocation may also influence the need for guidance. Equally, having a need for guidance may influence a person's living arrangements and potential for partnering. In 1998, relatively low proportions of those who were living with a spouse needed help to make friends, interact with others, or maintain relationships (6%), to cope with feelings or emotions (13%) and to make decisions or think through problems (10%). Help with each of these three guidance-related tasks was more likely to be needed by lone parents and people living alone than by people living with a spouse.

Those 15–64 year olds with a disability living with a parent tended to be more likely to need help with these guidance-related tasks than those in other living arrangements. This greater likelihood is in keeping with the types of restricting impairment common to younger people with a disability. In 1998, 20% of those who were living with one or both parents as a non-dependent child needed help to make friends, interact with others or maintain relationships, 23% needed help to cope with feelings or emotions, and 31% needed help to make decisions or think through problems. Corresponding proportions were lower among those in other living arrangements, including those living alone.

Self assessed health status

In 1998, workforce-age people with a disability were more likely to regard their general health as poor the more intensely they needed guidance. Of those who did not have difficulty with any of the three guidance-related tasks, a small proportion (5%) considered their general health to be poor. This compared with 19% of those who did not need guidance but had difficulty performing at least one of the three guidance-related tasks. A higher proportion of those who sometimes needed guidance (23%) and an even higher proportion again (36%) of those who always needed guidance, felt that in general, their health was poor.

People aged 15–64 years with a disability(a): proportion who felt their health was poor — 1998



(a) Living in the community.
(b) With any of the three guidance-related tasks.
(c) With at least one of the three guidance-related tasks.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

Participation in selected activities

Bearing in mind the inter-relationships between impairment, participation in a broad range of activities, and need for guidance, in 1998, people with a disability aged 15–64 years who needed guidance had lower participation rates for several activities than those who did not need guidance.

Needing help or having difficulty with a guidance-related task was associated with some travel restrictions. These travel restrictions may have further limited participation in other activities. In 1998, while only a very small proportion (1%) of workforce-age people with a disability who needed guidance were house bound, most experienced some form of travel restriction. For example, 55% had difficulty travelling to places away from their home without assistance, 52% could not go out as often as they liked, 41% were either not licensed to drive or never drove, and 23% could not use all forms of public transport.

Each of these four measures of travel restriction increased as the need for guidance intensified. In other words, those workforce-age people with a disability who had no difficulty with guidance-related tasks were less likely to have each of the four measures of travel restriction than those who had difficulty with one or more tasks but didn't need help with any of them. Those who sometimes needed guidance were even more likely to have these travel restrictions, while those who always needed guidance were most travel restricted.

People aged 15–64 years with a disability(a): proportion who participated in selected activities by intensity of need for guidance — 1998

Selected activities	Intensity of need for guidance			
	Does not need guidance		Needs guidance	
	Has no difficulty(b)	Has difficulty(c)	Sometimes	Always
	%	%	%	%
Leaves home	99.8	99.6	99.4	95.4
Can leave home as often as would like	77.9	49.9	49.0	44.6
No difficulty travelling without assistance	80.0	58.1	49.9	23.9
Holds a current driver's licence and drives	82.3	76.1	65.6	32.5
Able to use all forms of public transport	86.9	81.8	81.1	58.9
Employed	54.7	41.3	33.3	15.7
Went shopping during the last fortnight	87.3	84.4	82.1	68.9
Participated in a cultural or leisure activity(d)	82.5	73.1	76.3	61.9
Participated in a social or community activity away from home(e)	96.6	93.4	91.2	86.2
Visited friends or relatives during the last fortnight	78.4	72.1	71.4	70.4
Used a computer for communicating with person(s) living outside the household(e)	11.4	10.1	9.5	**3.0
	'000	'000	'000	'000
Total	**1 259.3**	**382.7**	**338.0**	**86.7**

(a) Living in the community.
(b) With any of the three guidance-related tasks.
(c) With at least one of the three guidance-related tasks.
(d) Away from home in the last 12 months.
(e) In the last 3 months.

Source: ABS 1998 Survey of Disability, Ageing and Carers.

Higher levels of intensity of need for guidance tended to also be associated with lower rates of participation in many activities. This pattern was more evident for some activities, particularly paid employment. Of working-age people living in the community who did not have a disability, 74% were employed. The proportion who were employed was lower (55%) among those who had a disability but who did not have difficulty with any of the three guidance-related tasks. It was lower still among those who had difficulty with at least one of the guidance-related tasks but didn't need help with any of them (41%). The proportion who were employed was lower again among those who sometimes needed guidance (33%) and lowest among those who always needed guidance (16%).

While not as pronounced, there were similar patterns of reduced participation in shopping, in at least one cultural or leisure activity away from home in the previous year (such as visiting a library or taking part in physical recreation) and in at least one social or community activity away from home in the previous three months (such as voluntary work or church activity). Greater need for guidance was also associated with being less likely to have visited a friend or relative in the previous fortnight. However, not all social activity occurs away from home. For example, in 1998, 8% of those who needed guidance used a computer at home within the previous three months to communicate with people outside their home.

Endnotes

1 Australian Institute of Health and Welfare (AIHW) 2001, *Australia's welfare 2001*, AIHW, Canberra.

Changes across Australian generations

LIVING ARRANGEMENTS

Contributed by Professor Peter Saunders and Dr Bruce Bradbury
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By the time the group of people born in 1965–69 had reached 30–34 years, nearly 24% remained unmarried, almost twice as many as those born 15 years earlier, when 13% remained unmarried at the same age.

Changes in the economic and social circumstances of successive Australian generations have implications for society, and for its institutions and policies. Generational changes in incomes, living standards, family size and living arrangements can affect the economy, the communities where people live and the provision and funding of services ranging from schools and hospitals, through to pensions and other income support. Understanding generational changes and trends will assist in assessing their impact and in developing appropriate responses.

Most studies of the economic circumstances of Australians use cross-sectional data generated by surveys conducted at a point in time. This provides a basis for comparing how people vary in relation to their age, household type, income level, country of birth, and so on. What these comparisons do not fully reveal is how the circumstances of individuals are changing as they move through the life cycle.

This article uses a cohort analysis to examine selected living arrangements and income characteristics of successive generations of Australians. Changes in these characteristics are examined for a series of five-year age groups (or cohorts) over a 15 year period from 1984 to 1998–99, a period that has been characterised by rapid economic and social change.

Household Expenditure Surveys

This article uses data from the four most recent ABS Household Expenditure Surveys. These surveys were conducted in 1984, 1988–89, 1993–94 and 1998–99. While there have been changes in methodology from survey to survey, the data used in this article are broadly comparable across all four surveys.

While the analysis in this article is based on people in particular age groups (or cohorts), two of the characteristics that are examined, household income and children within the household, relate to the households to which they belong. For example, each person within a particular household may be in a different cohort but they will each have the same household income as all of the others in that household.

The article illustrates the contribution of cohort comparisons to understanding changes in household structures, incomes and standards of living over this period. These comparisons provide information about what is happening to different age groups at a point in time and how the circumstances and fortunes of different age groups are changing over time.

Constructing synthetic cohorts

ABS Household Expenditure Surveys were conducted approximately five years apart from 1984 to 1998–99, and each collected

Synthetic cohorts

	Age (years) in 1984, Year of birth				
Age at time of survey (years)	*15–19 1965–69*	*20–24 1960–64*	. . . . .	*55–59 1925–29*	*60–64 1920–24*
15–19	Cohort 1(a)	—	—	—	—
20–24	Cohort 1(b)	Cohort 2(a)	—	—	—
25–29	Cohort 1(c)	Cohort 2(b)	. . . . .	—	—
30–34	Cohort 1(d)	Cohort 2(c)	. . . . .	—	—
35–39	—	Cohort 2(d)	. . . . .	—	—
40–44	—	—	. . . . .	—	—
45–49	—	—	. . . . .	—	—
50–54	—	—	. . . . .	—	—
55–59	—	—	. . . . .	Cohort 9(a)	—
60–64	—	—	. . . . .	Cohort 9(b)	Cohort 10(a)
65–69	—	—	. . . . .	Cohort 9(c)	Cohort 10(b)
70–74	—	—	—	Cohort 9(d)	Cohort 10(c)
75 and over	—	—	—	—	Cohort 10(d)

(a) 1984 Household Expenditure Survey.
(b) 1988-89 Household Expenditure Survey.
(c) 1993-94 Household Expenditure Survey.
(d) 1998-99 Household Expenditure Survey.

Same cohort at different ages

Different cohorts at the same age

information on the age of household members that can be expressed in five-year ranges. This makes it possible to construct a synthetic cohort by gathering together information on people who were of a given age in 1984 and a comparable group who were 5 years older in 1988–89, 10 years older in 1993–94 and 15 years older in 1998–99. This information can then be viewed not as a series of separate cross-sectional snapshots, but from the perspective of a cohort that has aged by 15 years over the course of the four surveys.

This method has been used to construct 10 separate synthetic cohorts from the four surveys. The first or youngest cohort was aged 15–19 years in 1984 and ended up aged 30–34 years in 1998–99, the second cohort was aged 20–24 years in 1984 and ended up aged 35–39 years in 1998–99, and so on. It is then possible to examine how the circumstances of people in each cohort change over time and to compare different cohorts at a given age.

Currently it is only possible to track changes over 15 years using ABS Household Expenditure Survey data. As further surveys are conducted, it will become possible to extend the scope of this kind of analysis in ways that may make it possible to identify key trends with more certainty.

Family and household characteristics

The basic structure of households change as people marry, possibly get divorced and remarry, have children, and see those children attain adulthood. At the same time social and economic conditions, and attitudes also change. Comparison across different cohorts allows the extent of these generational changes to be examined. This issue is explored by examining for people in each age group: the proportion who had never entered a registered marriage; the proportion who were in households that contained children (0–14 years); and the average number of children that were in their households, where there were some present.

The proportion of people who had never been in a registered marriage within each cohort declined over time as more people met and were married. For example, 24% of those aged 25–29 years in 1984 had never been married; 5 years later in 1988–89 only 15% of this age group (who were then aged 30–34 years) had never been married.

Cohort analysis

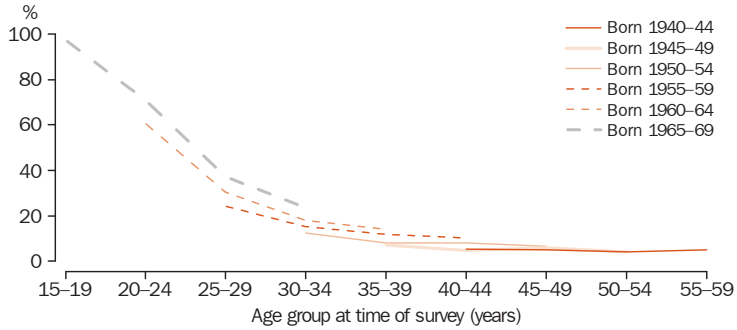
Cross-sectional surveys, that are representative of a population of interest, provide a snapshot of what is happening at a particular point in time. While cross-sectional surveys are often repeated, they rarely include the same households and people and thus cannot be used to examine how the structure and fortunes of specific people and households have changed (i.e. they can not be used for longitudinal analysis). Comparing people across different ages using cross-sectional results to draw conclusions about changes over time can be misleading when there are generational effects operating. For example, it cannot be assumed that the circumstances and experience of future generations will be similar to those of current generations.

Questions about changes that occur across generations can usually only be answered with the help of longitudinal data that track how the circumstances of the same people vary over time. However, in the absence of longitudinal data, it is possible to link data from a sequence of cross-sectional surveys to form what is referred to as 'synthetic cohorts'. These can then be used to estimate how the circumstances of cohorts change as they move through a statistically constructed life cycle.

In the cohort analysis conducted for this article people who migrated to Australia since the first survey in 1984 were excluded to ensure that there were consistent populations in the age cohorts. However, the populations in each age group for each of the four surveys does vary slightly because of differences in the timing of the first survey compared with later surveys and because the precise age recorded in each survey depends upon when a person's birthday falls relative to when they are interviewed.

The trends within individual cohorts can be affected slightly by sampling variation and the effect of mortality and outward migration rates differing in relation to the characteristic being examined. For example, such factors would explain small increases in the proportion of people never married in some cohorts.

Proportion of persons in selected birth year groups who have never been in a registered marriage(a)



(a) Includes those people who are in, or have been in, a de facto relationship but have never been in a registered marriage.

Source: ABS, 1984, 1988–89, 1993–94 and 1998–99 Household Expenditure Surveys.

Selected family and household characteristics of persons

Age at time of survey (years)	Age (years) in 1984, Year of birth									
	15–19 1965–69	*20–24 1960–64*	*25–29 1955–59*	*30–34 1950–54*	*35–39 1945–49*	*40–44 1940–44*	*45–49 1935–39*	*50–54 1930–34*	*55–59 1925–29*	*60–64 1920–24*
	Persons never married(a)									
	%	%	%	%	%	%	%	%	%	%
15–19	97.2	—	—	—	—	—	—	—	—	—
20–24	70.8	60.6	—	—	—	—	—	—	—	—
25–29	37.3	30.4	24.3	—	—	—	—	—	—	—
30–34	23.7	18.0	15.3	12.5	—	—	—	—	—	—
35–39	—	14.1	11.9	8.2	7.3	—	—	—	—	—
40–44	—	—	10.4	8.3	4.8	5.3	—	—	—	—
45–49	—	—	—	6.7	6.0	5.1	4.9	—	—	—
50–54	—	—	—	—	4.1	4.1	4.3	5.8	—	—
55–59	—	—	—	—	—	5.1	3.0	5.0	4.0	—
60–64	—	—	—	—	—	—	3.7	5.6	4.9	5.2
65–69	—	—	—	—	—	—	—	2.8	4.2	5.3
70–74	—	—	—	—	—	—	—	—	4.3	4.3
75 and over	—	—	—	—	—	—	—	—	—	4.6
	Persons living in households where children aged 0–14 years are also present									
	%	%	%	%	%	%	%	%	%	%
15–19	52.5	—	—	—	—	—	—	—	—	—
20–24	22.1	30.4	—	—	—	—	—	—	—	—
25–29	35.1	46.9	54.4	—	—	—	—	—	—	—
30–34	59.5	62.4	72.1	75.6	—	—	—	—	—	—
35–39	—	69.7	68.7	79.3	80.1	—	—	—	—	—
40–44	—	—	57.0	52.2	61.5	69.2	—	—	—	—
45–49	—	—	—	30.0	24.8	35.3	41.7	—	—	—
50–54	—	—	—	—	11.3	9.7	17.5	17.8	—	—
55–59	—	—	—	—	—	6.7	5.9	4.7	8.5	—
60–64	—	—	—	—	—	—	4.6	2.1	3.2	4.6
65–69	—	—	—	—	—	—	—	1.7	1.9	2.7
70–74	—	—	—	—	—	—	—	—	2.5	1.3
75 and over	—	—	—	—	—	—	—	—	—	1.8
	Average number of children aged 0–14 years or less in the household (where such children are present)									
	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.
15–19	1.49	—	—	—	—	—	—	—	—	—
20–24	1.40	1.44	—	—	—	—	—	—	—	—
25–29	1.91	1.77	1.86	—	—	—	—	—	—	—
30–34	2.07	2.39	2.17	2.17	—	—	—	—	—	—
35–39	—	2.07	2.25	2.15	2.18	—	—	—	—	—
40–44	—	—	1.75	1.87	1.77	1.77	—	—	—	—
45–49	—	—	—	1.51	1.61	1.54	1.49	—	—	—
50–54	—	—	—	—	1.44	1.30	1.36	1.41	—	—
55–59	—	—	—	—	—	1.64	1.83	1.28	1.44	—
60–64	—	—	—	—	—	—	1.42	1.76	1.61	1.85
65–69	—	—	—	—	—	—	—	1.14	1.36	1.45
70–74	—	—	—	—	—	—	—	—	1.71	1.42
75 and over	—	—	—	—	—	—	—	—	—	1.98

(a) Includes those people who are in, or have been in, a de facto relationship but have never been in a registered marriage.

Source: ABS 1984, 1988–89, 1993–94 and 1998–99 Household Expenditure Surveys.

A change in attitudes to registered marriage among people from different cohorts is likely to have resulted in increasingly larger proportions of people in younger cohorts remaining unmarried (at least up until their early 40s). By the time the youngest cohort (those born 1965–69) had reached 30–34 years, nearly 24% were unmarried, almost 6 percentage points higher than that of the previous cohort at the same age, and almost double that of the cohort born 15 years earlier (13%). This is consistent with an increase in de facto relationships, which delay or replace registered marriage. (A person in, or who has been in, a de facto relationship is included as never married, unless the person had previously been in a registered marriage.)

Within each cohort, the probability of a person living in a household containing a child (0–14 years) increased with the age of the householder and then declined from approximately age 40–44 years, as the children attained adulthood. However, there are differences in these life-cycle patterns across cohorts. In keeping with the trends towards some families having no children (see *Australian Social Trends 2002*, Trends in childlessness, pp. 37–40) and increasing divorce (see *Australian Social Trends 2002*, Family: national summary table, pp. 30–31) the proportion of people of a given age with children present in their household tended to fall below that of the previous cohort. Around 70% of the second youngest cohort were living with a child by the time they had reached 35–39 years of age in 1998–99. This compares with around 80% of the people in the cohorts born 10 and 15 years earlier when they were in their late 30s. Similarly, of the cohort aged 30–34 years in 1984, 30% lived with a child when they had reached the age 45–49 years, compared with over 40% for the cohort born 15 years ahead of them.

While people in each cohort were less likely than those in previous cohorts at the same age to be living in a household with a child, for those that were living with a child, the number present remained relatively stable over successive cohorts. However, changing patterns in the number of children present from survey to survey are likely to be related to the timing of births, which can be influenced by changing attitudes to family formation and prevailing economic circumstances. In addition, there was a consistent age pattern present where the average number of children present tended to peak around 30–39 years of age and fall thereafter.

Income and living standards

The income and living standards of households also change as people move through life-cycle stages. At various times people within a household may enter paid employment, leave the labour force for different lengths of time when children are born, eventually see these children enter the labour force and earn money of their own (which increases the household income), and see these children leave to form new households.

In this section three measures are used to compare the incomes and living standards of different age cohorts. The first measure is average weekly household disposable income (adjusted to 2000–01 dollars in line with movements in the Consumer Price Index). The second measure further adjusts these income data using an equivalence scale to account for the needs of households of different size and composition, resulting in a measure referred to as household equivalised income. The third measure examines the percentage of persons whose average weekly household equivalised income places them in the bottom 20 per cent of all persons, when ranked by household equivalised incomes.

Over a person's life cycle, there is a well established tendency for average weekly household disposable income to increase up

Household income

Household disposable income is defined as the combined income received from all sources by all members of the household, after personal income tax and other periodic levies (such as the Medicare Levy) are taken out.

Household equivalised income is household disposable income adjusted on the basis of the household's size and composition. This allows the standard of living of different households to be compared. For example, an adjustment is made to account for the difference that would exist in the standard of living between a couple with children and a couple without children who both receive the same combined household disposable income. The 'modified' OECD equivalence scale has been used in this article to estimate household equivalised income (for further information see *Income Distribution, Australia 2000–2001*, ABS Cat. no. 6523.0). When comparing household equivalised income over time or between cohorts the relative magnitudes of the figures is most relevant, rather than the absolute levels.

The household income data from the 1998–99 survey used in this article incorporate revisions to initially published results. For more information see *Australian Economic Indicators April 2002*, Upgrading Household Income Distribution Statistics (ABS Cat. no. 1350.0).

Selected household income measures of persons(a)

Age at time of survey (years)	*15–19* *1965–69*	*20–24* *1960–64*	*25–29* *1955–59*	*30–34* *1950–54*	*35–39* *1945–49*	*40–44* *1940–44*	*45–49* *1935–39*	*50–54* *1930–34*	*55–59* *1925–29*	*60–64* *1920–24*
	Age (years) in 1984, Year of birth									
	Average weekly household disposable income									
	$	$	$	$	$	$	$	$	$	$
15–19	1075	—	—	—	—	—	—	—	—	—
20–24	1042	1052	—	—	—	—	—	—	—	—
25–29	870	869	892	—	—	—	—	—	—	—
30–34	928	815	810	855		—	—	—	—	—
35–39	—	939	832	849	901	—	—	—	—	—
40–44	—	—	964	941	984	973	—	—	—	—
45–49	—	—	—	1077	949	1026	1066	—	—	—
50–54	—	—	—	—	1033	928	920	953	—	—
55–59	—	—	—	—	—	815	694	743	784	—
60–64	—	—	—	—	—	—	592	575	532	585
65–69	—	—	—	—	—	—	—	518	454	454
70–74	—	—	—	—	—	—	—	—	475	412
75 and over	—	—	—	—	—	—	—	—	—	453
	Average weekly household equivalised disposable income									
	$	$	$	$	$	$	$	$	$	$
15–19	421	—	—	—	—	—	—	—	—	—
20–24	520	523	—	—	—	—	—	—	—	—
25–29	496	494	494	—	—	—	—	—	—	—
30–34	509	447	427	443		—	—	—	—	—
35–39	—	489	428	407	436	—	—	—	—	—
40–44	—	—	482	461	457	441	—	—	—	—
45–49	—	—	—	527	492	493	489	—	—	—
50–54	—	—	—	—	557	496	480	495	—	—
55–59	—	—	—	—	—	455	392	425	439	—
60–64	—	—	—	—	—	—	362	352	332	354
65–69	—	—	—	—	—	—	—	330	293	293
70–74	—	—	—	—	—	—	—	—	313	280
75 and over	—	—	—	—	—	—	—	—	—	309
	Persons in the bottom 20% of the income distribution(b)									
	%	%	%	%	%	%	%	%	%	%
15–19	15.8	—	—	—	—	—	—	—	—	—
20–24	11.5	12.4	—	—	—	—	—	—	—	—
25–29	12.2	13.5	15.0	—	—	—	—	—	—	—
30–34	13.4	16.8	16.8	16.5	—	—	—	—	—	—
35–39	—	14.2	16.4	17.9	16.3	—	—	—	—	—
40–44	—	—	15.3	14.8	13.9	16.1	—	—	—	—
45–49	—	—	—	13.7	13.0	14.0	14.9	—	—	—
50–54	—	—	—	—	15.0	14.6	14.7	14.6	—	—
55–59	—	—	—	—	—	25.0	24.5	23.6	20.2	—
60–64	—	—	—	—	—	—	36.1	30.7	33.4	30.0
65–69	—	—	—	—	—	—	—	38.5	36.4	39.2
70–74	—	—	—	—	—	—	—	—	38.3	39.7
75 and over	—	—	—	—	—	—	—	—	—	43.5

(a) All income adjusted to 2001 dollars using the Consumer Price Index for the eight capital cities.
(b) Distribution of persons by the average weekly household equivalised disposable income of their household.

Source: ABS 1984, 1988–89, 1993–94 and 1998–99 Household Expenditure Surveys.

until middle-age (i.e. age 45–54 year olds), before declining slightly and then more rapidly after retirement (see *Australian Social Trends 1998*, Income distribution and life cycle, pp.130–133). In broad terms, the cohort analysis confirms this tendency, with the exception of the two youngest cohorts (those born between 1960–69). The average weekly household disposable income for these two cohorts was at least $170 a week higher, at ages 15–19 years and 20–24 years respectively, than when they were in the 25–29 years age group. This is likely to be associated with many young people still living with their parents, where many of these young people study up until age 20–24 years (see *Australian Social Trends 2000*, Young adults in the parental home, pp. 39–42). It remains to be seen if the life-cycle tendency of declining household disposable income experienced by people aged 45 years and over in 1984 will prevail among those people in the 6 youngest cohorts, most of whom were yet to reach this age at the time of the last survey.

Comparisons across cohorts indicate each cohort had a higher average weekly household disposable income than its predecessor at some ages, but a lower income at other ages. This will, at least partly, reflect differences over time in general economic conditions, differences in household structures, and changes in the likelihood of household members being in paid work.

Most of the patterns observed in average weekly household disposable income remain in household equivalised income, where adjustments have been made for differences in household size and composition using an equivalence scale. However, the differences in average weekly household equivalised income between cohorts and within cohorts were smaller than those in (unadjusted) household disposable income. As household size is one of the main factors used to adjust household disposable income to obtain household equivalised income, the reduced difference in household equivalised incomes indicates that household disposable income tends to increase with household size. This implies that differences in living standards are less pronounced than those observed when simply comparing household disposable incomes.

Another issue of social concern is whether a specific group of people (such as an age cohort or people of a particular age) are more likely to have lower incomes than others. The likelihood of a person being in the bottom 20% of all persons, when ranked by household equivalised incomes, tends to decrease after age 30–34 years and increase from age 50–54 years. This is likely to reflect the higher unemployment rates among older men compared with middle-aged men and the impact of retirement on income (see *Australian Social Trends 1999*, Economic resources of older Australians, pp. 138–140). Between age 25 and 39 years, people in the younger cohorts (those born 1960–64 and 1965–69) were generally less likely to have household equivalised income in the bottom 20% than those in older cohorts at the same age. For example, in 1998–99, the proportion of people aged 30–34 years in the bottom 20% of people's household equivalised income was lower (13%) than for the three previous cohorts (each 17%). This reflects the higher average household incomes of people in these younger cohorts and is consistent with the greater likelihood of women from these younger cohorts to be working, which will have increased household income for people in these cohorts (see *Australian Social Trends 2001*, Women's incomes, pp. 153–156).

Transitions in living arrangements

In 1999, one in five Australians had experienced one or more changes in their living arrangements in the previous year.

A stable and supportive home life is generally acknowledged to be an important contributor to the social and emotional wellbeing of both children and adults. Much of Australia's family and social policy is concerned with measures aimed at keeping families together and with providing special assistance to supporting parents and children after families break down. But family and household units are by nature dynamic, and all of the transitions that occur throughout the life cycle involve personal, social and economic adjustments and have an important impact on wellbeing.

In 1999, 1.4 million Australian households had gained or lost one or more usual residents in the previous year. Group households were the most likely to have changed composition in the previous year (52%) followed by one-parent families (about 29% overall). Lone-person and couple only households were the least likely to have changed in the previous year (14% and 12% respectively).

Households which changed composition in the previous year — 1999

	Number which changed	*Proportion of each group which changed*
Current household composition	'000	%
Selected one family households(a)		
Couple only	212.1	12.1
Couple with children		
Aged 0–14 years only	246.5	19.1
Aged 0–14 and 15–24 years	47.3	13.7
Aged 15–24 years only	100.7	19.7
One parent with children		
Aged 0–14 years only	84.4	29.3
Aged 0–14 and 15–24 years	14.3	26.9
Aged 15–24 years only	38.0	30.6
Other family household	230.3	28.4
Non-family household		
Lone person	252.4	14.3
Group household	145.7	51.6
Total households(b)	**1 371.7**	**19.0**
Persons in households		
Aged 0–14 years	816.8	20.9
Aged 15 years and over	2 961.2	20.0

(a) May include both family and non-family members.
(b) Includes households not shown in the selected one family household groups.

Source: ABS 1999 Australian Housing Survey.

Transitions and temporary residents

This article uses statistics on transitions in living arrangements and characteristics of temporary residents collected in the ABS 1999 Australian Housing Survey. The survey identified households which had changed composition in the previous 12 months. Within these households, usual residents aged 15 years and over were interviewed to ascertain the type(s) of transitions in living arrangement(s) they had experienced during the previous 12 months. The survey also identified households which had one or more regular temporary residents and collected information about the numbers and characteristics of temporary residents, including those aged under 15 years, in each household.

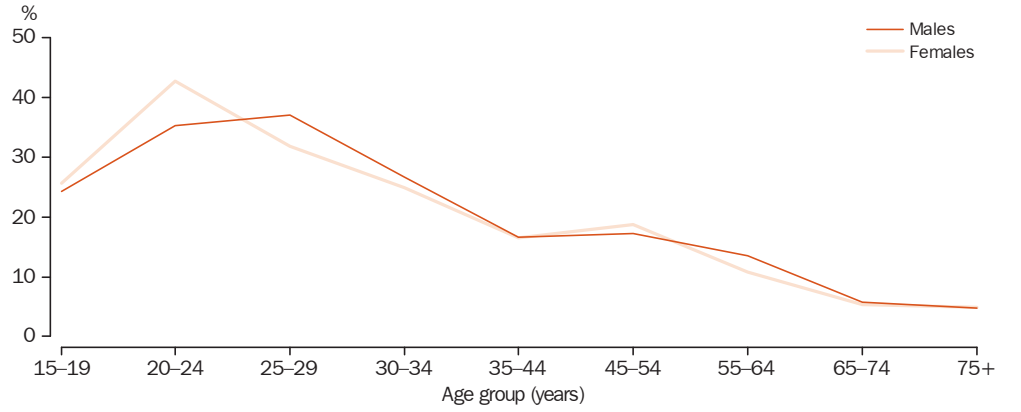
Usual residents are people who have lived, or intend to live, with the household for a total of six months or more and regard it as their own (or main) household.

Households which changed composition are households which had gained and/or lost one or more usual residents in the previous 12 months. This includes new households which formed during the previous 12 months but excludes households which may have experienced change during the period but had the same usual residents at the time of the survey as 12 months previously (e.g. households where a couple had separated and reunited, or a child had moved out of the parental home and returned, within the previous 12 months).

Transitions in living arrangements are experiences of persons (aged 15 years and over) which were associated with a change or changes in their household situation (e.g. moved out of parents' home, moved into parents' home, left a partner, living with a new partner, one or more children born/adopted, child(ren) left home, child(ren) returned to household, parent(s) moved into household, other relative moved into household). A single event such as a 20 year old son returning to live with both parents and his 17 year old sister and 14 year old brother was recorded as four individual experiences, one for each household member aged 15 years and over. The 20 year old experienced a move into his parents' home, the mother and father each experienced a child returning to the household, and the 17 year old experienced an 'other relative' moving into the household.

Temporary residents are people (of all ages) who are not usual residents of the household, but who stay, or are expected to stay, with the household for at least 20 nights (not necessarily consecutive) over a 12 month period. The data on the characteristics of temporary residents presented in this article are limited to a maximum of four temporary residents per household and cover 90% of all temporary residents identified in the survey.

Proportion of age group whose living arrangements changed in the previous year — 1999



Source: ABS 1999 Australian Housing Survey.

In 1999, almost 3 million Australians aged 15 years and over had experienced one or more changes in their living arrangements in the previous year. These changes were most common among younger people. The proportion of women whose living arrangements had changed in the previous year peaked at 43% in the 20–24 years age group, while for men the peak (37%) occurred a little later, in the 25–29 years age group. This was largely because women leave their parents' home earlier and also enter their first marriage or defacto partnership at a younger age than men. Following these peaks, the proportions of people with changed living arrangements declined rapidly with age, and were about the same for both men and women.

People whose living arrangements changed in the previous year: type(s) of change experienced — 1999

	Age group (years)								
Type(s) of change experienced	*15–19*	*20–24*	*25–29*	*30–34*	*35–44*	*45–54*	*55–64*	*65 and over*	*Total 15 and over*
	%	%	%	%	%	%	%	%	%
Child(ren) born or adopted	*2.1	10.6	22.1	40.3	21.5	*2.0	*1.5	**1.1	14.7
Child(ren) left home	**0.4	*1.4	*0.8	*2.5	26.6	57.4	45.9	21.7	17.9
Child(ren) returned to household	**0.2	*1.9	*1.0	*1.7	12.4	24.7	30.2	10.5	9.0
Gained or lost custody/care of child(ren)	**0.3	*0.9	2.4	5.9	8.0	2.7	**1.0	*3.0	3.2
Started living with first or new partner	6.5	17.3	17.1	14.7	9.7	4.9	*1.2	**0.8	10.9
Left partner or partner moved out	*2.9	9.9	10.6	14.4	13.7	6.0	5.8	*4.5	9.3
Widowed or partner died	**—	**0.3	**—	**0.1	**0.4	*1.4	*3.7	29.0	1.7
Moved out of parents' home	22.3	27.6	18.9	8.8	3.0	**0.4	**—	**—	12.1
Moved into parents' home	9.7	13.6	7.9	5.8	*1.9	**0.6	**—	**—	5.9
Parent(s) moved out or in	5.5	4.7	2.9	*2.4	4.3	*3.3	*3.7	**0.8	3.7
Other relative or unrelated person moved out	26.4	21.8	15.5	11.1	12.4	11.2	14.9	11.9	15.9
Other relative or unrelated person moved in	19.2	18.6	16.6	12.8	11.2	13.7	16.4	11.5	15.2
Moved in with other relative or unrelated person	14.3	25.0	17.0	6.4	5.8	*1.6	*3.4	11.1	11.5
Moved out from other relative or unrelated person	8.8	20.0	16.3	10.6	4.9	3.0	*2.9	*4.5	10.1
Total whose living arrangements changed(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	'000	'000	'000	'000	'000	'000	'000	'000	'000
Total whose living arrangements changed(a)	**323.5**	**515.8**	**507.6**	**355.6**	**481.7**	**457.5**	**204.2**	**115.3**	**2 961.2**

(a) People may have experienced more than one type of change in their living arrangements so components may not add to totals.

Source: ABS 1999 Australian Housing Survey.

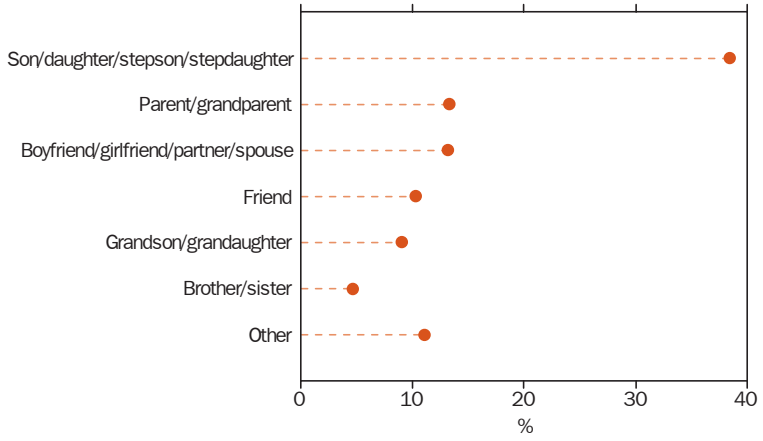
Young people leaving home

For young adults in Australian society, leaving home is generally seen as an important step in the transition from a largely dependent childhood to adult independence, and is one of the most common types of change experienced by young people. In 1999, almost one in four 15–29 year olds whose living arrangements had changed in the previous year had moved out of their parents' home, though not necessarily for the first or last time. About one in ten 15–29 year olds with changed living arrangements had moved back in with their parents in the previous year. Some young people may return to live with their parents several times before they firmly establish themselves elsewhere.

A single event, such as a young person leaving or returning to the family home, may also affect the living arrangements of many others. For example, by far the most common type of change among people aged 45–64 years was having one or more children leave home. The next most common type of change they experienced was having one or more children move back in. As well as affecting their parents' living arrangements, young people leaving or returning to the family home also affect the other members of the household, mainly their brothers and sisters still living at home.

When young people leave home they generally move into households with other young people such as friends, acquaintances or relatives (e.g. brothers, sisters, cousins) who are also no longer living with their parents. These other young people are also affected, both when new members move in, and when they move out. In 1999, one in four 15–24 year olds whose living arrangements had changed in the previous year, had a relative other than a parent, child or partner (most commonly a brother or sister) or an unrelated person move out of the household. Around one in five had such a relative or unrelated person move into the household.

Relationship of temporary residents to the household head or spouse/partner — 1999



Source: ABS 1999 Australian Housing Survey.

Family formation and breakdown

An important transition often associated with leaving the parental home is the formation of a new family unit. Establishing a household with either their first or a new life partner was most common in the 20–29 years age group. Of all 20–29 year olds whose living arrangements had changed in the previous year, 17% had begun living with their first or a new partner. The proportion declined with age to 15% of 30–34 year olds and 10% of 35–44 year olds whose living arrangements had changed in the previous year.

Conversely, the proportion of people who had either left their partner, or whose partner had left them, increased over these age groups. Around 10% of 20–29 year olds and 14% of 30–44 year olds whose living arrangements had changed in the previous year had separated from their partner.

The birth or adoption of a child was the most common change experienced by people in their late twenties and early thirties, and the second most common change among those in their late thirties and early forties. Among those with changed living arrangements, 40% of 30–34 year olds and 22% of both 25–29 and 35–44 year olds experienced the birth or adoption of a child in the previous year.

Gaining or losing care of children is relatively rare overall and is generally associated with the separation of couples with children. Reflecting their relatively high rates of partnership breakdown, 30–44 year olds were the most likely to have either gained or lost primary care of their children. Of all 30–44 year olds whose living arrangements had changed in the previous year, around 7% had either gained or lost primary care of one or more children.

Death of a life partner

Relatively rare in the younger age groups, the death of a life partner was the most common change experienced by people aged 65 years and over. Of all people aged 65 years and over whose living arrangements had changed in the previous year, 29% had experienced the death of their partner.

Three most common types of temporary residents by life-cycle stage of household — 1999

	Relationship of temporary residents to the household head or their spouse/partner					
Selected life-cycle groups		%		%		%
Group household	Boyfriend/girlfriend/ partner/spouse	35.0	Friend	24.3	Son/daughter(a)	14.4
Lone person, aged under 35 years	Boyfriend/girlfriend/ partner/spouse	31.7	Son/daughter(a)	20.5	Parent/grandparent	15.3
Couple only, reference person aged under 35 years	Parent/grandparent	31.7	Son/daughter(a)	27.2	Brother/sister	*15.6
Couple, eldest child aged under 5 years	Parent/grandparent	40.3	Son/daughter(a)	28.0	Brother/sister	*10.7
Couple, eldest child aged 5–14 years	Son/daughter(a)	35.6	Parent/grandparent	33.7	Friend	*5.4
Couple, eldest child aged 15 years or over	Son/daughter(a)	40.7	Parent/grandparent	13.2	Friend	12.3
One parent with dependent children	Boyfriend/girlfriend/ partner/spouse	29.1	Son/daughter(a)	23.3	Parent/grandparent	12.7
Couple only, reference person aged 55 years or over	Son/daughter(a)	49.3	Grandson/ grandaughter	33.0	Parent/grandparent	*5.1
Lone person, reference person aged 55 years or over	Son/daughter(a)	43.0	Grandson/ grandaughter	26.6	Boyfriend/girlfriend/ partner/spouse	7.3

(a) Includes stepsons and stepdaughters.

Source: ABS 1999 Australian Housing Survey.

Temporary residents

In addition to the longer-term transitions in living arrangements discussed above, many households also experience short-term variations in living arrangements. These include periods when students living away from home return during term breaks or when other non-resident family members or friends come to stay.

In 1999, 17% of Australian households had one or more regular temporary residents who spent at least 20 nights per year in the household. Of the 1.9 million temporary residents identified, sons and daughters of the household head (or their spouse) made up the largest proportion (40%), followed by parents or grandparents (13%), boyfriend, girlfriend, partner or spouse (13%), friends (10%) and grandchildren (9%). However, there was considerable variation across life-cycle groups.

For example, boyfriends, girlfriends, partners or spouses of the household head were the most common type of temporary residents in younger non-couple households, accounting for 35% of all temporary residents in group households, 32% in young lone-person households (reference person aged under 35 years) and 29% in one-parent households with dependent children. Boyfriends, girlfriends, partners or spouses were the third most common type of temporary resident in older lone person households (reference person aged 55 years or over).

Parents or grandparents of the household head (or their spouse) were the most common type of temporary residents in young couple only households, comprising 32% of all temporary residents in these households. Reflecting the generally close links between grandparents and grandchildren, especially while the children are young, parents or grandparents of the household head also made up a considerable proportion of temporary residents in households with young children. They accounted for 40% of all temporary residents in couple households in which the eldest child was aged under 5 years and 34% in couple households in which the eldest child was aged 5–14 years. At the same time, grandchildren made up the second largest proportion of temporary residents in older couple only and lone person households — 33% and 27% respectively.

Sons and daughters who are temporary residents

Overall, the largest group of temporary residents were sons and daughters. They made up the largest proportion of temporary residents in older couple only and lone person households — 49% and 43% respectively. They were also the largest group of temporary residents in couple households in which the eldest child was aged 15 years or over (41%) and in couple households in which the eldest child was aged 5–14 years (36%). Sons and daughters also made up a considerable proportion of the temporary residents in younger households, including group households where they accounted for 14% of all temporary residents.

Sons and daughters who are temporary residents — 1999

Reason(s) not a usual resident	%
Usually lived with other parent(a)	*35.5*
Aged under 15 years	28.5
Aged 15–24 years	7.0
Student living away from home	*11.7*
Aged 15–24 years	10.6
Employment reasons	*13.9*
Aged 15–24 years	7.8
Aged 25–34 years	4.2
Aged 35 years and over	1.8
Other reasons(b)	*40.3*
Aged under 15 years	2.0
Aged 15–24 years	11.1
Aged 25–34 years	16.6
Aged 35 years and over	10.5
Total	**100.0**
Aged under 15 years	30.9
Aged 15–24 years	35.7
Aged 25–34 years	21.2
Aged 35 years and over	12.1

(a) Refers to children whose parents were separated or divorced.
(b) Mainly adults living independently elsewhere.

Source: ABS 1999 Australian Housing Survey.

The majority of temporary resident sons and daughters were young. Almost a third were under 15 years of age, and over a third were aged 15–24 years. Only 12% were aged 35 years and over.

Children (of separated or divorced parents) visiting their non-resident parent made up over a third (36%) of all sons and daughters who were temporary residents. The proportion was much higher in younger households. Over 90% of temporary resident sons and daughters in young lone person and couple only households, and in couple households in which the eldest child was aged under 5 years, were visiting their non-resident parent. Four out of five children (of separated or divorced parents) visiting their non-resident parent were under 15 years of age.

Students living away from home during educational terms, and returning for holidays or weekends, made up 12% of all sons and daughters who were temporary residents. The vast majority were aged 15–24 years and were most highly represented in couple and lone-parent households in which the eldest resident child was over 15 years of age.

A further 14% of temporary resident sons and daughters were living away from their parents' home for employment reasons. This group tended to be older than the students (with 44% aged 25 years and over) and was most highly represented in older couple only households and couple households in which the eldest resident child was aged 15 years or over.

Of the remaining 40% of temporary resident sons and daughters, most were adults living independently elsewhere. This was the oldest group with two-thirds aged 25 years and over.

Selected risks faced by teenagers

In 1998, 82% of teenagers aged 14–19 years reported that they had been offered or had the opportunity to use alcohol. For tobacco, the proportion was 69%, and for marijuana, 48%.

The teenage years are formative years, encompassing the transition from childhood to adulthood; the growth of individual identity; extension of friendships, relationships and interests outside the family; and the progression towards emotional and financial independence. These years can also be a time when children push at the boundaries they are given and become increasingly exposed to influences outside the family sphere. In this environment, teenagers can be vulnerable to pressures to conform to the behaviour of their peers and other role models presented to them in popular culture. Among males, that conformity can often involve the risk taking behaviour that is part of the stereotype of masculinity.[1]

This article examines some of the risks that teenagers face — they are not necessarily unique to teenagers, but many are faced for the first time during those years. The risks examined here are exposure to legal and illegal drugs; injury, accidents and mental health conditions; and criminal activity. Most of the risk behaviours discussed were generally more prevalent among older teenagers. For example, there were more deaths among older teenagers, and rates of both criminal victimisation and offending were higher among older teenagers.

Teenagers

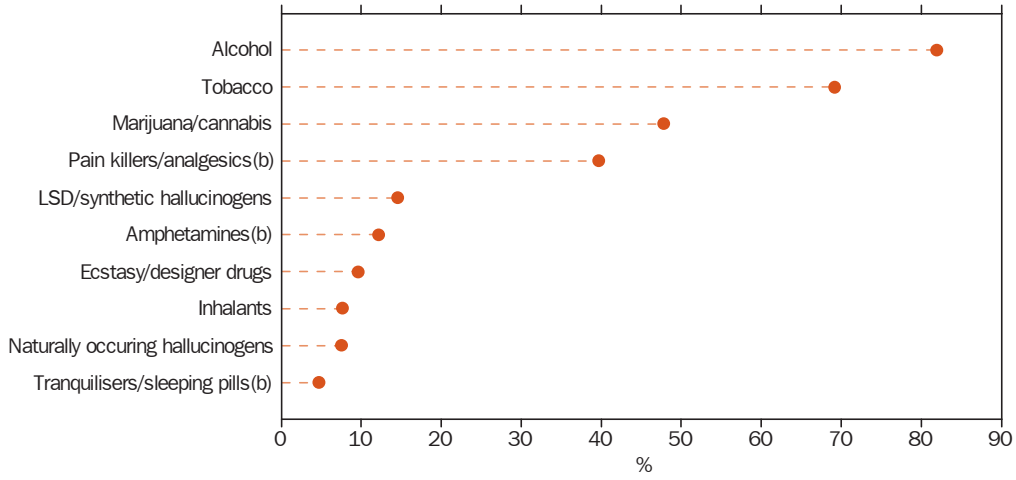
Although this article examines teenagers aged 13–19 years, few data sources cover this whole age range. Because of this, a smaller age range has been used when examining some issues. The data presented come from a range of sources, including: the 1998 National Drug Strategy Household Survey published by the Australian Institute of Heath and Welfare; and the 1998 Child and Adolescent Component of the National Survey of Mental Health and Wellbeing published by the Commonwealth Department of Health and Ageing.

National data on juvenile criminal offenders are not available because of differences in State laws and the age at which a teenager is considered an adult. In this article, New South Wales Criminal Courts Statistics 2000, published by the New South Wales Bureau of Crime Statistics and Research, are used to indicate the types of offences committed by teenage offenders.

Drugs

For some teenagers, drugs can represent a major risk. Although adolescents may have access to many illicit drugs, alcohol and tobacco are the ones most readily available and most commonly consumed. The influence of peers in drug experimentation is reflected in the proportions of individuals who said that friends and acquaintances were the source of their drug.

Most common drugs available(a) to teenagers aged 14–19 years — 1998



(a) Had been offered or had the opportunity to use in the last 12 months.
(b) For non-medical purposes.

Source: Australian Institute of Health and Welfare, *1998 National Drug Strategy Household Survey, Detailed Findings*, 2000.

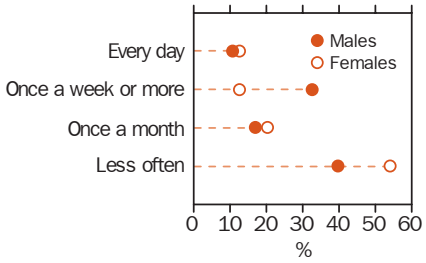
Teenagers aged 14–19 years: consumption of selected drugs — 1998

Selected drug/ frequency of use	Males %	Females %
Alcohol drinking status		
Regular(a)	33.0	27.3
Occasional(b)	37.5	43.9
Ex-drinker	8.2	4.6
Never	21.3	24.3
Tobacco smoking status		
Regular(c)	16.3	15.8
Occasional(d)	8.4	10.1
Ex-smoker	27.3	29.1
Never smoked	48.1	45.0
Marijuana/cannabis use		
Life time use(e)	45.3	45.1
Recent users(f)	35.6	34.6
Never used	54.7	54.9

(a) Drinks alcohol on at least one day per week.
(b) Drinks alcohol less often than one day per week.
(c) Smokes daily/most days.
(d) Smokes less often than daily/most days.
(e) Had used marijuana at some time in their life.
(f) Had used marijuana in the past 12 months.

Source: Australian Institute of Health and Welfare, *1998 National Drug Strategy Household Survey, Detailed Findings*, 2000.

Consumption of marijuana among teenage recent users(a) aged 14–19 years — 1998



(a) Had used marijuana in the past 12 months.

Source: Australian Institute of Health and Welfare, *1998 National Drug Strategy Household Survey, Detailed Findings*, 2000.

In 1998, the National Drug Strategy Household Survey asked adolescents aged 14–19 years whether they had been offered or had the opportunity to use any of a list of drugs during the previous year. The results demonstrate the availability of drugs to teenagers, though this does not necessarily imply use. Alcohol (82%), tobacco (69%), marijuana (48%), and painkillers (40%) were the drugs most commonly reported as being available. Notably, cocaine (4%), heroin (3%) and barbiturates (2%) were much less available.

In 1998, the three most commonly available drugs among adolescents aged 14–19 years were also the three most commonly used. Alcohol was the most commonly consumed drug — 33% of males and 27% of females aged 14–19 years were regular drinkers, that is they drank alcohol on at least one day per week. A further 38% of males and 44% of females drank less frequently than that, while 21% of males and 24% of females had never drunk alcohol.

Teenage recent drinkers (those who had consumed alcohol during the previous year) particularly favoured bottled spirits (63%) and regular beer (47%). Teenage respondents stated that parties (77%) were a common place of consumption, along with their own home (49%) and licensed premises (43%). Under-age recent drinkers (those aged less than 18 years) most commonly received their first drink from a friend or acquaintance (41%), though among under-age males, parents were the most common source (43%). The most common source of current supply was from a friend or acquaintance for both under-age males and females (39% and 47% respectively).

Alcohol often plays a large part in risk taking behaviour, particularly in relationship to drinking and driving: alcohol is implicated in about one-third of all motorist deaths and nearly half of all pedestrian deaths in the total population.[2]

Tobacco use among teenagers aged 14–19 years was less common than drinking alcohol. Just under half (48%) of males and 45% of females had never smoked, while a further 27% of males and 29% of females aged 14–19 years classed themselves as ex-smokers. Among both males and females 16% were regular smokers (smoked daily or on most days), and a smaller proportion were occasional smokers (8% and 10% respectively). Like under-age drinkers, under-age smokers commonly obtained their first cigarette from a friend or acquaintance. This was particularly the case among females: nearly three-quarters (73%) obtained their first cigarette from a friend or acquaintance. Among males, the corresponding figure was 59%.

Marijuana is the most commonly consumed illicit drug among teenagers. In 1998, nearly half (45%) of all teenagers aged 14–19 years had tried marijuana at some time in their life. Although 35% of teenagers aged 14–19 years

Teenagers aged 13–19 years and the total population: hospitalisation rates for selected injuries(a) — 1999–2000

	Teenagers aged 13–19 years			
	Males	*Females*	*Total*	*Total population*
External cause	rate(a)	rate(a)	rate(a)	rate(a)
Transport accidents	*779*	*323*	*557*	*305*
Car occupant	232	186	210	124
Motorcyclist	230	20	127	59
Pedal cyclist	210	24	120	45
Pedestrian	46	26	36	30
Falls	720	193	463	843
Complications of medical and surgical care	340	349	344	1 431
Intentional self-harm	107	293	198	139
Assault	281	80	183	119
Accidental poisoning by noxious substances	68	95	82	85
Exposure to heat, smoke, fire and flames	54	17	36	42
All hospitalisations(b)	**3 688**	**1 765**	**2 750**	**3 712**

(a) Hospital separations for external causes per 100,000.
(b) All hospitalisations for external causes, includes causes not listed. Some hospitalisations can involve more than one external cause.

Source: AIHW National Hospital Morbidity Database.

had used marijuana during the past year, many of these recent users were infrequent users — 57% of male recent users and 75% of female recent users had used marijuana once a month or less often. Nonetheless, 11% of male recent users and 13% of female recent users had used marijuana every day. Male recent users were more likely than female recent users to be users once a week or more (33% and 13% respectively).

Although these drugs are discussed individually, in reality, multiple use is common. For example, among teenagers who had smoked tobacco in the previous year, 96% had also drunk alcohol and 76% had also used marijuana in that year.[3]

Injury and death

In 1999–2000, teenagers aged 13–19 years had a hospitalisation rate for external causes (such as accidents, poisonings, violence and self-harm) of 2,750 per 100,000. The hospitalisation rate for males aged 13–19 years (3,688 per 100,000) was around double that for females (1,765 per 100,000) — this difference may be related to both the different types of physical activities undertaken by male and female teenagers and the tendency for males to take more risks than females.

The most common individual cause of injury resulting in hospitalisation among teenagers was transport accidents. These accounted for 20% of all hospitalisations for injuries among teenagers aged 13–19 years — a rate of 557 per 100,000. This rate was notably higher than the rate for the total population (305 per 100,000). Teenagers also had higher rates of hospitalisation than the total population for injuries arising from intentional self-harm and assault. These two causes each represented 7% of hospitalisations among teenagers and had rates of 198 and 183 per 100,000 respectively compared with rates of 139 and 119 per 100,000 respectively for the total population.

There are notable differences in hospitalisation rates for male and female teenagers. The hospitalisation rate for male teenagers for injuries due to transport accidents was over double the rate for females (779 per 100,000 compared with 323). Injuries due to assault were also more common among males; their hospitalisation rate was over three times that for females (281 per 100,000 compared with 80). In contrast, the hospitalisation rate for females due to injuries from intentional self-harm was nearly three times that for males (293 per 100,000 compared with 107).

Although the death rate in 2000 among teenagers (43 per 100,000) was low compared with the total population (670 per 100,000), this still represented 804 teenage deaths in that year. Of those deaths, over two-thirds were older teenagers (aged 17–19 years) and 69% were male, again reflecting in part the male predilection to risk taking behaviour. Accidents were by far the most common cause of death among teenagers, particularly for males. In 2000, accidents accounted for 50% of deaths among younger male teenagers (aged 13–16 years) and 51% of deaths among older male teenagers (aged 17–19 years). Among female teenagers, accidents accounted for 39% of deaths among younger teenagers and 45% among older teenagers.

The most common cause of accidental death among teenagers was motor vehicle accidents, again, particularly for males. In 2000, 39% of deaths of older male teenagers were due to a motor vehicle accident; among younger male teenagers the proportion was 29%. In both age groups the proportion for females was lower — 35% of older female teenage deaths and 25% of younger teenage deaths were caused by motor vehicle accidents.

Causes of death among teenagers — 2000

Cause of death	Teenagers aged 13–16 years			Teenagers aged 17–19 years		
	Males	*Females*	*Total*	*Males*	*Females*	*Total*
	%	%	%	%	%	%
Motor vehicle traffic accidents	28.5	24.7	27.2	38.7	34.8	37.5
Suicide	10.9	14.1	12.0	19.3	18.6	19.1
Other accidents(a)	19.4	9.4	16.0	8.9	3.1	7.2
Cancer	7.3	17.6	10.8	5.3	6.8	5.8
Diseases of the nervous system	14.5	3.5	10.8	4.1	3.1	3.8
Accidental poisoning by drugs	1.8	4.7	2.8	3.1	6.8	4.2
Assault	1.8	3.5	2.4	3.8	3.7	3.8
Other causes of death	15.8	22.4	18.0	16.8	23.0	18.6
All teenage deaths	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	no.	no.	no.	no.	no.	no.
All teenage deaths	**165**	**85**	**250**	**393**	**161**	**554**

(a) Excludes accidental poisoning by drugs and motor vehicle traffic accidents.

Source: ABS 2000 Causes of Death collection.

Youth suicide has become an increasingly prominent cause of death among teenagers, due to both increases in suicide rates and decreases in death rates due to motor vehicle accidents (see *Australian Social Trends 1994*, Youth suicide, pp. 55–59). Despite this, suicide rates among 15–19 year old males continue to be lower than those for older age groups, and although rates in this age group increased during the 1980s, they have been more stable in recent years.[4]

Suicide accounted for 19% of deaths among older teenagers (aged 17–19 years) in 2000, making it the second most common cause of death in that age group. Among younger teenagers (aged 13–16 years), it was the third most common cause of death (accounting for 12% of all deaths in that age group). In the older group, the male and female proportions were similar, but among the younger group (those aged 13–16 years), females were slightly more likely to have died from suicide than other causes of death compared with males (14% compared with 11%). However, because there were considerably more male deaths than female deaths overall, 60% of suicides among younger teenagers and 72% of suicides among older teenagers were male.

Deaths due to suicide only partly tell the story of self-harm among teenagers. The hospitalisation rates due to deliberate self-harm are relatively high among female teenagers (293 per 100,000 in 1998–99 for females aged 13–19 years compared with 139 per 100,000 for the total population). Among males aged 13–19 years the rate was lower at 107 per 100,000 (the male hospitalisation rate for self-harm peaked at older ages, in the late 20s and early 30s).[4]

Prevalence of selected mental health problems among teenagers aged 13–17 years — 1998

Type of problem	Observed by parents		Self reported		
	Males	*Females*	*Males*	*Females*	*Total*
	%	%	%	%	%
Delinquent behaviour(a)	6.4	5.9	11.5	12.4	11.9
Aggressive behaviour	5.0	4.0	6.2	9.1	7.6
Attention problems	4.8	4.6	7.1	6.6	6.9
Anxious/depressed	3.6	3.6	6.7	6.8	6.8
Somatic complaints(b)	10.6	6.8	6.3	6.6	6.5
Social problems(c)	3.8	3.0	3.4	3.5	3.5
Thought problems(d)	3.4	3.1	3.3	2.7	3.0
Withdrawn	4.8	4.2	3.1	2.9	3.0

(a) Breaking rules and norms set by parents and communities.
(b) Chronic physical complaints without known cause or medically verified basis.
(c) Impaired peer relationships.
(d) Strange behaviours or ideas, obsessions.

Source: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care, *Mental Health of Young People in Australia*, 2000.

Mental health

During the teenage years, mental health problems can emerge as significant causes of ill health. Evidence from other countries suggests that mental health problems among young people are increasing, and it seems likely that a similar situation exists in Australia.[5] The 1998 National Survey of Mental Health and Wellbeing (commissioned by the Mental Health Branch of the

Commonwealth Department of Health and Aged Care) established that children and adolescents with relatively more emotional and behavioural problems had more difficulties than their peers in many other areas of their lives (for example, self esteem, peer relationships and school activities). Adolescents who reported relatively more problems were also more likely to report using tobacco, alcohol and/or marijuana. These findings reinforce the need for measuring and monitoring the mental health of teenagers and investing in preventative measures. In 1998, 13% of both male and female Australian teenagers aged 13–17 years had mental health problems that scored in the clinical range (that is their score on the relevant behaviour problem scale was in the range typically reported for those of the same age and sex attending mental health clinics).

The survey recorded both the parent's observation of their teenager and the teenager's self assessment. For some conditions, the reporting rates differed. Teenagers reported higher rates than parents for a number of specific conditions, particularly delinquent and aggressive behaviour, and anxiety and depression.

The most common mental health problem reported by teenagers aged 13–17 years in 1998 was delinquent behaviour (12% of both males and females). This was followed by aggressive behaviour (6% of males and 9% of females) and attention problems (7% of both males and females). Anxiety and depression ranked fourth overall (7% of both males and females).

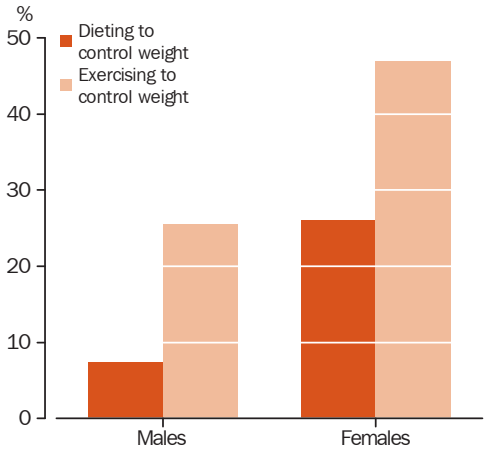
Most common selected offences(a): victimisation rates(b) — 2000

	Teenagers aged 15–19 years			
	Males rate(b)	*Females* rate(b)	*Total(c)* rate(b)	*Total population* rate(b)
Offence				
Assault	1 731	1 298	1 525	737
Robbery	548	135	348	122
Sexual assault	54	431	239	82
Abduction/kidnapping	6	18	12	4
Driving causing death	4	2	3	1

(a) Based on victims of crime reported to and recorded by police. Only nationally comparable crimes are included.
(b) Rate per 100,000.
(c) Includes sex not stated.

Source: Recorded Crime, Australia, 2000 (ABS Cat. no. 4510.0) and ABS 2000 Recorded Crime Collection.

Teenagers aged 13–17 years: dieting and exercise behaviour — 1998



Source: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care, *Mental Health of Young People in Australia*, 2000.

Teenagers, perhaps due to inexperience, can be vulnerable to those ideals portrayed in popular culture that link slimness to physical attractiveness. This is perhaps reflected in the high prevalence of weight consciousness among teenagers, particularly females. In 1998, nearly half (47%) of females aged 13–17 years were exercising to control weight and just over a quarter (26%) were dieting to control weight. The more extreme practice of vomiting or using laxatives to lose weight was practised by 3% of females aged 13–17 years. Among males aged 13–17 years, weight consciousness was lower; 26% were exercising to control weight and 7% were dieting.

Crime

In 2000, about 2% of teenagers aged 15–19 years were recorded by police as victims of selected crimes. The most common offence suffered by these teenagers was assault (a rate of 1,525 per 100,000), followed by robbery (348 per 100,000) and sexual assault (239 per 100,000).

The 1998 Crime and Safety Survey found that teenagers aged 15–19 years had the highest rates for all ages of victimisation for robbery and assault. Among women aged 18 years and over, 18–19 year old women had the highest rate of victimisation for sexual assault. The survey also established that teenagers were the least likely of all ages to report these crimes to the police (38% reporting rate for robbery and 17% reporting rate for assault among teenagers aged 15–19 years).[6]

Teenage juveniles(a) charged in New South Wales Children's Court — 2000

		Proportion male
Selected offences	%	%
Assault	17.7	77.4
Theft (except motor vehicle)	13.7	74.9
Burglary, break and enter	11.9	90.3
Disorderly conduct	8.3	83.5
Motor vehicle theft and related offences	7.7	88.4
Robbery	7.2	84.6
Breach of justice order	5.9	82.4
Property damage	5.7	86.7
Receiving or handling proceeds of crime	5.1	81.4
Possession/use illicit drugs	3.5	84.2
Total selected offences	**86.7**	**. .**
	no.	%
Total court appearances	**9 192**	**82.9**

(a) Offenders were aged 13–17 years at the time of the offence but could be aged 13–18 years or over at the time of their court appearance — based on appearances finalised.

Source: New South Wales Criminal Courts Statistics 2000, New South Wales Bureau of Crime Statistics and Research, 2001.

Victimisation rates presented for teenagers for the year 2000 are based only on crimes that were reported to and recorded by the police. Consequently, the rates presented are likely to be an underestimate of some types of criminal victimisation.

In 2000, teenage males aged 15–19 years were more likely to be victims of assault (other than sexual assault) than teenage females, with rates of 1,731 per 100,000 and 1,298 per 100,000 respectively. Teenage males were also more likely than teenage females to be victims of robbery, with rates of 548 and 135 per 100,000 respectively. However, teenage victims of sexual assault were more likely to be female: the female rate of 431 per 100,000 was eight times greater than for males (54 per 100,000).

National data on juvenile criminal offenders are not available because of differences in State laws and the age at which a teenager is considered an adult. In this article data for the year 2000 from New South Wales are used to indicate the type of offences committed by Australian teenagers for which they attend court. In 2000, 9,200 juvenile offenders aged over 12 years appeared in New South Wales Children's courts — a charge rate of 1,735 per 100,000 teenagers aged 13–18 years in New South Wales. Although this is lower than the adult charge rate for local and higher courts in New South Wales (2,623 per 100,000), this may be because juveniles who commit less serious offences can be diverted from court by using processes such as warnings, cautions and conferences.[7]

The five most common offences in the New South Wales Children's Court for offenders aged 13–17 years were assault (18% of all Children's Court appearances), theft (except motor vehicle) (14%), burglary, break and enter (12%), disorderly conduct (8%), and motor vehicle theft and related offences (8%). Overall, 83% of teenager offenders aged 13–17 years were male.

Endnotes

1 Patience, A. 1992, 'A cultural context for adolescent mental health' in *Breaking Out: Challenges in Adolescent Mental Health in Australia*, eds Kosky, R., Eshkevari, H. and Kneebone, G., National Health and Medical Research Council, AGPS, Canberra.

2 Ridolfo, B. and Stevenson, C. 2001, *The Quantification of Drug-caused Mortality and Morbidity in Australia, 1998*, Cat. no. PHE 29, Australian Institute of Health and Welfare, Canberra.

3 Adhikari, P. and Summerill, A. 2000, *1998 National Drug Strategy Household Survey: Detailed findings*, Cat. no. PHE 27, Drug Statistics Series No.6, Australian Institute of Health and Welfare, Canberra.

4 Steenkamp, M. and Harrison, J. 2000, *Suicide and Hospitalised Self-Harm in Australia,* Injury Research and Statistics Series, Cat. no. INCAT 30, Australian Institute of Health and Welfare, Adelaide.

5 Moon, L., Meyer, P. and Grau, J. 1999, *Australia's Young People: Their Health and Wellbeing 1999*, Cat. no. PHE 19, Australian Institute of Health and Welfare, Canberra.

6 Australian Bureau of Statistics 1998, *Crime and Safety, Australia*, Cat. no. 4509.0, ABS, Canberra.

7 NSW Department of Juvenile Justice, 1994, *Breaking the Crime Cycle: New Directions in Juvenile Justice in NSW*: White Paper, Sydney.

Health

Health: national summary

HEALTH STATUS	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Life expectancy												
Male life expectancy at birth	years	73.9	74.4	74.5	75.0	75.0	75.0	75.2	75.6	75.9	76.2	76.6
Female life expectancy at birth	years	80.1	80.4	80.4	80.9	80.9	80.8	81.1	81.3	81.5	81.8	82.0
Male life expectancy at 65 years	years	15.2	15.4	15.4	15.7	15.7	15.7	15.8	16.1	16.3	16.6	16.9
Female life expectancy at 65 years	years	19.0	19.1	19.2	19.5	r19.7	19.5	19.6	19.8	20.0	20.2	20.4
Male disability-free life expectancy at birth	years	n.a.	n.a.	n.a.	58.4	n.a.	n.a.	n.a.	n.a.	57.5	n.a.	n.a.
Female disability-free life expectancy at birth	years	n.a.	n.a.	n.a.	64.2	n.a.	n.a.	n.a.	n.a.	63.3	n.a.	n.a.
Males surviving to 50 years(a)	%	93.0	93.3	93.5	93.7	93.6	93.7	93.8	93.9	93.9	94.0	n.a.
Females surviving to 50 years(a)	%	96.2	96.4	96.4	96.6	96.6	96.7	96.7	96.7	96.7	96.7	n.a.
Males surviving to 70 years(a)	%	69.9	70.8	71.3	72.5	72.5	73.2	74.1	74.7	75.5	76.3	n.a.
Females surviving to 70 years(a)	%	82.9	83.3	83.6	84.2	84.2	84.5	85.0	85.2	85.7	86.1	n.a.
Males surviving to 85 years(a)	%	23.5	24.1	24.2	25.9	25.6	26.3	28.0	28.6	29.9	31.2	n.a.
Females surviving to 85 years(a)	%	43.1	43.6	43.7	45.5	45.2	45.9	47.0	47.8	48.9	50.2	n.a.
Mortality												
Total number of deaths	'000	120.1	119.1	123.7	121.6	126.7	125.1	128.7	129.4	127.2	128.1	128.3
Crude death rate (per 1,000 population)	rate	7.0	6.9	7.1	6.9	7.1	6.9	7.0	7.0	6.8	6.8	6.7
Standardised death rate (per 1,000 population)	rate	7.2	6.9	6.9	6.6	6.7	6.4	6.4	6.3	6.0	5.9	5.7
Infant mortality rate (per 1,000 live births)	rate	8.2	7.1	7.0	6.1	5.9	5.7	5.8	5.3	5.0	5.7	5.2
Perinatal mortality rate (per 1,000 live births and fetal deaths combined)	rate	11.3	10.6	10.7	9.2	9.1	9.4	10.0	9.2	8.3	8.5	8.3
Disability												
Disability with specific restrictions (per 100 population)(b)(c)	%	n.a.	n.a.	n.a.	13.6	n.a.	n.a.	n.a.	n.a.	16.1	n.a.	n.a

CAUSES OF DEATH	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Leading causes(b)												
(Death rates per 100,000 population)												
Cancer	rate	181	181	181	180	181	177	177	171	168	166	164
Ischaemic heart disease	rate	186	176	177	162	161	151	145	138	128	122	113
Stroke	rate	72	69	67	65	67	63	61	56	53	53	51
Selected cancers(b)												
(Death rates per 100,000 population)												
Male lung cancer	rate	60	60	59	57	59	56	55	52	53	50	48
Female lung cancer	rate	17	18	18	19	19	19	20	19	19	19	20
Female breast cancer	rate	27	27	25	27	27	26	25	24	23	22	22
Prostate cancer	rate	32	31	34	35	35	33	33	29	29	28	29
Skin cancer	rate	7	6	7	7	7	7	7	6	6	6	5
Heart disease and diabetes(b)												
(Death rates per 100,000 population)												
Male ischaemic heart disease	rate	250	237	235	219	216	204	196	183	171	164	150
Female ischaemic heart disease	rate	136	127	130	117	118	109	105	101	93	89	84
Diabetes mellitus	rate	13	13	14	14	15	14	15	14	13	14	13
Accidents												
(Death rates per 100,000 population)												
Motor vehicle traffic accident(b)	rate	15	13	12	11	11	11	11	10	9	9	9
Male 15–24 years motor vehicle traffic accident	rate	42	38	31	33	30	32	32	29	27	26	26
Female 15–24 years motor vehicle traffic accident	rate	14	12	12	10	10	11	8	10	9	8	9

(a) 1991, 1996, 1997, 1998 and 1999 data are calculated using the average of three years of data. It includes the year prior to and the year following the date shown.
(b) Rates are age-standardised.
(c) Adjusted to a common basis for the two disability surveys of 1993 and 1998. As a result, the national estimate for 1998 is not the same as that shown in the State summary table.

Reference periods: All health status data and causes of death data are for the calendar year except for (a).

Health: national summary continued

CAUSES OF DEATH CONTINUED	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Suicide												
(Death rates per 100,000 population)												
Suicide(a)	rate	13	14	13	12	13	13	13	15	14	13	12
Male suicide	rate	21	22	21	19	21	21	21	23	23	21	19
Female suicide	rate	5	6	5	4	5	5	5	6	6	5	5
Male 15–24 years suicide	rate	27	27	27	25	27	25	25	31	27	23	19
Female 15–24 years suicide	rate	4	6	6	4	4	6	4	7	6	5	6
Drugs												
(Death rates per 100,000 population)												
Drug induced	rate	5	5	5	5	6	7	6	7	9	9	8
Male drug induced	rate	7	6	7	6	8	9	9	10	13	14	12
Female drug induced	rate	4	4	4	3	4	4	4	5	5	5	5
AIDS(a)												
(Death rates per 100,000 population)												
AIDS-related	rate	3	3	4	4	4	4	3	2	1	1	1

RISK FACTORS	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Immunisation status												
Children not fully immunised aged 3 months to 6 years (of children 3 months to 6 years)	%	45.9	n.a.	n.a.	n.a.	n.a.	47.9	n.a.	n.a.	n.a.	n.a.	n.a.
Drinking and smoking												
Alcohol: apparent consumption per person per day	mls	29.9	28.6	27.2	26.4	27.1	26.5	26.0	26.2	26.2	25.8	n.a.
Tobacco: apparent consumption per person per day	grams	5.6	5.2	5.3	4.7	4.3	4.1	3.9	3.9	3.8	3.7	n.a.
Diet and exercise												
Total fats: apparent consumption per person per day	grams	54.5	53.5	53.3	52.2	53.0	51.8	52.7	49.8	51.2	50.8	n.a.
Persons who do not exercise for sport, recreation or fitness (of persons 18 years and over)(a)	%	35.8	n.a.	n.a.	n.a.	n.a.	34.0	n.a.	n.a.	n.a.	n.a.	n.a.

SERVICES	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Hospital separations (per 1,000 population)	rate	225	n.a.	237	247	260	263	276	283	291	295	298
Hospital beds (per 1,000 population)	no.	5.0	5.0	4.5	4.4	4.2	4.5	4.6	4.3	4.2	4.2	4.1
Average length of stay in hospital	days	5.6	5.1	4.8	4.8	4.7	4.3	4.3	4.2	4.1	3.9	3.8
Doctors (per 100,000 population)	no.	n.a.	225	n.a.	n.a.	n.a.	n.a.	241	n.a.	n.a.	n.a.	n.a.
Residential aged care places (per 1,000 population aged 70 years and over)	no.	95.1	94.0	93.7	93.1	92.6	92.2	90.6	89.4	87.5	85.7	83.8
Medicare usage												
Average Medicare services processed per person(a)	no.	8.5	8.5	8.9	9.7	10.0	10.3	10.5	10.5	10.6	10.6	10.6
Average Medicare services processed per male(a)	no.	6.9	6.9	7.2	7.8	8.2	8.4	8.7	8.7	8.7	8.7	8.6
Average Medicare services processed per female(a)	no.	10.1	10.1	10.6	11.5	11.8	12.2	12.4	12.4	12.4	12.4	12.4
Average Medicare services processed per person aged 65 years and over	no.	15.3	15.4	16.4	17.9	18.8	19.6	20.5	20.9	21.4	21.9	22.5
Proportion of Medicare services used by persons aged 65 years and over	%	19.9	20.6	21.0	21.4	22.0	22.5	23.0	23.6	24.2	24.6	25.3

EXPENDITURE	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Persons with private health insurance	%	44.5	43.7	41.0	39.4	37.2	34.9	33.6	31.9	30.5	30.6	43.0
Total health expenditure per person per year (1997–98 reference year)	$	1 700	1 820	1 902	1 990	2 071	2 170	2 296	r2 434	r2 557	r2 706	2 817
Total health expenditure as a proportion of GDP	%	7.5	7.9	r8.2	8.2	8.2	8.2	8.2	r8.4	r8.4	r8.6	8.5

(a) Rates are age-standardised.

Reference periods: Immunisation status data are at April. Apparent consumption and expenditure data (except private health insurance data which are at the June quarter) and services data (except doctors per 100,000 population which is at census date) are for the year ended 30 June.

Health: State summary

HEALTH STATUS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Life expectancy											
Male life expectancy at birth	years	2000	76.4	77.1	76.4	76.6	76.9	75.7	70.3	78.3	76.6
Female life expectancy at birth	years	2000	81.9	82.3	81.9	82.3	82.6	81.2	75.2	82.3	82.0
Males surviving to 50 years	%	1998–2000	94.0	94.5	93.9	94.0	93.9	93.6	87.2	95.2	94.0
Females surviving to 50 years	%	1998–2000	96.8	96.8	96.6	96.8	96.9	96.7	92.2	97.1	96.7
Males surviving to 70 years	%	1998–2000	75.8	77.4	75.8	76.4	77.2	74.6	61.4	80.4	76.3
Females surviving to 70 years	%	1998–2000	86.0	86.7	85.9	86.1	86.8	84.7	71.5	86.8	86.1
Males surviving to 85 years	%	1998–2000	30.5	32.4	31.2	31.1	32.4	28.4	20.5	35.5	31.2
Females surviving to 85 years	%	1998–2000	49.6	50.8	50.0	50.8	51.9	46.9	31.7	50.8	50.2
Mortality											
Total number of deaths	'000	2000	45.4	32.0	22.4	11.8	11.7	3.7	0.9	1.3	128.3
Crude death rate (per 1,000 population)	rate	2000	7.0	6.7	6.3	7.9	5.7	7.9	4.7	4.2	6.7
Standardised death rate (per 1,000 population)	rate	2000	5.8	5.5	5.7	5.8	5.4	6.2	8.9	5.1	5.7
Infant mortality rate (per 1,000 live births)	rate	2000	5.2	4.5	6.2	4.6	4.3	5.8	11.7	4.2	5.2
Perinatal mortality rate (per 1,000 live births and fetal deaths combined)	rate	2000	7.7	7.9	8.9	8.2	8.4	10.6	14.5	8.3	8.3
Morbidity and disability prevalence(b) (% of State/Territory population)											
Cancer	%	1995	2.1	1.8	2.6	1.9	2.1	2.4	2.0	1.9	2.1
Heart disease	%	1995	2.9	2.8	2.8	2.7	2.4	3.6	*1.4	2.7	2.8
Diabetes	%	1995	2.0	2.4	2.0	2.7	2.5	2.6	2.5	2.0	2.3
Asthma	%	1995	10.4	11.2	13.3	11.2	11.5	10.2	12.7	11.2	11.3
Injury	%	1995	5.8	5.6	7.7	6.4	7.6	7.2	8.7	7.6	6.4
Disability with specific restrictions	%	1995	16.6	15.7	17.8	18.9	17.6	18.7	16.1	16.7	16.9

CAUSES OF DEATH	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Leading causes(b) *(Death rates per 100,000 population)*											
Cancer	rate	2000	161	164	165	162	164	187	220	151	164
Ischaemic heart disease	rate	2000	117	103	123	118	103	117	141	104	113
Stroke	rate	2000	56	46	52	49	45	55	55	52	51
Selected cancers(b) *(Death rates per 100,000 population)*											
Male lung cancer	rate	2000	47	45	51	51	50	53	72	28	48
Female lung cancer	rate	2000	19	20	18	18	23	24	38	21	20
Female breast cancer	rate	2000	21	24	19	23	19	26	28	30	22
Prostate cancer	rate	2000	28	29	31	30	27	34	17	26	29
Skin cancer	rate	2000	7	5	8	4	6	6	14	4	5
Heart disease and diabetes(b) *(Death rates per 100,000 population)*											
Male ischaemic heart disease	rate	2000	155	139	155	160	140	157	185	122	150
Female ischaemic heart disease	rate	2000	87	75	96	85	73	85	88	88	84
Diabetes mellitus	rate	2000	11	16	14	14	14	11	39	9	13
Accidents *(Death rates per 100,000 population)*											
Motor vehicle traffic accident(b)	rate	2000	9	8	9	11	11	9	28	7	9
Male 15–24 years motor vehicle traffic accident(c)	rate	2000	26	21	22	37	34	43	72	15	26
Female 15–24 years motor vehicle traffic accident(c)	rate	2000	9	10	7	8	13	3	34	8	9

(a) Morbidity and disability estimates for Northern Territory relate to mainly urban areas only.
(b) Rates are age-standardised.
(c) Data for Tasmania, Northern Territory and Australian Capital Territory are not available as numbers are too low for reliable rates.

Reference periods: All health status data and causes of death data are for the calendar year.

Health: State summary continued

CAUSES OF DEATH CONTINUED	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Suicide											
(Death rates per 100,000 population)											
Suicide(a)	rate	2000	11	11	15	13	14	11	20	9	12
Male suicide	rate	2000	18	16	24	21	22	19	33	16	19
Female suicide	rate	2000	4	5	7	5	6	5	5	2	5
Male 15–24 years suicide	rate	2000	18	13	24	21	21	31	30	19	19
Female 15–24 years suicide	rate	2000	4	6	7	2	10	10	14	0	6
Drugs											
(Death rates per 100,000 population)											
Drug induced	rate	2000	8	10	7	8	8	5	4	5	8
Male drug induced	rate	2000	12	14	9	11	11	7	5	6	12
Female drug induced	rate	2000	4	7	5	5	5	2	3	3	5
AIDS(a)											
(Death rates per 100,000 population)											
AIDS-related	rate	2000	2	1	0	1	1	0	0	1	1

RISK FACTORS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
Immunisation status											
Children not fully immunised aged 3 months to 6 years (of children 3 months to 6 years)	%	1995	46.1	48.8	52.5	50.3	40.7	57.0	46.5	36.5	47.9
Drinking and smoking(a)											
Male medium/high-risk drinkers (of males 18 years and over)	%	1995	10.9	8.9	11.4	10.2	11.4	9.6	24.6	12.2	10.6
Female medium/high-risk drinkers (of females 18 years and over)	%	1995	6.4	5.3	6.5	6.4	6.6	4.7	5.9	7.1	6.1
Male current smokers (of males 18 years and over)	%	1995	27.1	26.7	29.0	26.6	26.6	27.2	30.2	23.6	27.3
Female current smokers (of females 18 years and over)	%	1995	20.0	20.0	21.7	20.0	18.8	24.5	26.0	19.3	20.3
Diet and exercise(a)											
Male overweight/obese adults (of males 18 years and over)	%	1995	62.5	64.6	62.1	64.7	60.5	66.4	58.9	63.1	63.0
Female overweight/obese adults (of females 18 years and over)	%	1995	45.3	48.9	43.5	49.4	45.3	53.6	43.5	50.4	46.5
Males who do not exercise for sport, recreation or fitness (of males 18 years and over)	%	1995	34.5	34.2	33.8	34.0	29.7	33.8	42.6	22.6	33.7
Females who do not exercise for sport, recreation or fitness (of females 18 years and over)	%	1995	37.4	32.4	34.8	34.8	28.5	36.1	34.6	28.0	34.4
High blood pressure(a)											
Male hypertension (of males 18 years and over)	%	1995	17.1	17.1	19.6	18.3	15.6	17.7	17.3	16.9	17.6
Female hypertension (of females 18 years and over)	%	1995	14.6	15.0	15.1	17.2	15.6	17.4	9.3	13.7	15.1

(a) Rates are age standardised.
(b) Risk factor estimates for Northern Territory relate to mainly urban areas only.

Reference periods: Immunisation status data are at April. Overweight/obese and hypertension data for the year ended March 1996. Services data (except for doctors per 100,000 population which is at census date) are for the year ended 30 June. Private health insurance data are at the June quarter.

Health: State summary continued

SERVICES	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Hospital separations (per 1,000 population)	rate	1999–2000	274	306	323	309	322	258	290	360	298
Hospital beds (per 1,000 population)	no.	1999–2000	3.8	3.9	4.5	4.2	4.9	4.0	2.8	4.1	4.1
Average length of stay in hospital	days	1999–2000	4.1	3.6	3.9	3.5	3.9	4.2	3.5	3.4	3.8
Doctors (per 100,000 population)	no.	1996	250	237	233	264	221	220	249	259	241
Residential aged care places (per 1,000 population aged 70 years and over)	no.	1999–2000	83.9	79.9	88.3	84.7	85.3	83.3	83.7	89.2	83.8
Medicare usage											
Average Medicare services processed per person(a)	no.	1999–2000	11.4	10.7	10.6	9.6	9.5	9.6	6.5	9.3	10.6
Average Medicare services processed per male(a)	no.	1999–2000	9.5	8.8	8.6	8.0	7.6	7.6	5.2	7.4	8.6
Average Medicare services processed per female(a)	no.	1999–2000	13.1	12.5	12.5	11.1	11.4	11.5	7.9	10.9	12.4
Average Medicare services processed per person aged 65 years and over	no.	1999–2000	23.7	22.9	22.2	20.4	20.5	19.0	13.4	20.1	22.5
Proportion of Medicare services used by persons aged 65 years and over	%	1999–2000	25.8	26.2	23.7	28.9	22.8	25.9	8.1	18.6	25.3

EXPENDITURE	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Persons with private health insurance(b)	%	2000	44.8	42.1	40.3	43.5	44.2	43.4	34.9	n.a.	43.0

(a) Rates are age standardised.
(b) The Australian Capital Territory is included in New South Wales.

Reference periods: Immunisation status data are at April. Overweight/obese and hypertension data for the year ended March 1996. Services data (except for doctors per 100,000 population which is at census date) are for the year ended 30 June. Private health insurance data are at the June quarter.

Health definitions and references

AIDS-related death
death where AIDS is mentioned anywhere on the death certificate as a contributing factor or an underlying cause.
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Alcohol: apparent consumption
millilitres of pure alcohol (not total alcoholic beverages) consumed, divided by the population 15 years and over. Apparent consumption of beer and spirits is based on the quantities on which excise duty was paid, and imports cleared for consumption. Apparent consumption of wine comprises quantities sold by winemakers and imports cleared for consumption. Home-made beer and wine are included.
Reference: *Apparent Consumption of Foodstuffs and Nutrients, Australia* (ABS Cat. no. 4306.0).

Apparent consumption
equals (commercial production + estimated home production + imports + opening stocks) minus (exports + usage for processed food + non-food usage + wastage + closing stocks) divided by the population.
Reference: *Apparent Consumption of Foodstuffs and Nutrients, Australia* (ABS Cat. no. 4306.0).

Asthma
the proportion of people reporting asthma as a recent condition (within two weeks) or a long-term condition (lasting or expecting to last six months or more).
Reference: *National Health Survey: Summary of Results, Australia*, 1995, (ABS Cat. no. 4364.0).

Average length of stay in hospital
the total number of occupied bed days in both public and private hospitals divided by the total number of separations.
Reference: *Australian Hospital Statistics, 1998–99,* Australian Institute of Health and Welfare.

Average Medicare services processed
average number of services processed per Australian resident per year.
Reference: Health Insurance Commission, *Financial Statements and Statistical Tables, 1998–99.*

Breast cancer deaths
deaths where malignant neoplasm of the female breast is mentioned on the death certificate as the underlying cause (ICD–9 code 174 up to 1998, ICD–10 code C50 from 1999).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Cancer
the proportion of people reporting cancer as a recent condition (within two weeks) or a long-term condition (lasting or expecting to last six months or more).
Reference: *National Health Survey: Summary of Results, Australia,* 1995, (ABS Cat. no. 4364.0).

Cancer deaths
deaths where malignant neoplasms are mentioned on the death certificate as the underlying cause (ICD–9 codes 140–208 up to 1998, ICD–10 codes C00–C97 from 1999).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Causes of death
the causes of death, both underlying and multiple, are classified to the International Classification of Diseases 9th and 10th Revision (ICD–9 up to and including 1998, and ICD–10 for 1999 and onwards).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Children not fully immunised
the proportion of children reported as not having received all the required vaccinations for diphtheria, tetanus, poliomyelitis, whooping cough, measles and mumps for their age. The required vaccinations are based on the 1986 National Health and Medical Research Council Standard Childhood Vaccination Schedule.
Reference: *Children's Immunisation, Australia* (ABS Cat. no. 4352.0).

Crude death rate
number of deaths registered per 1,000 of the estimated resident population at 30 June of that year.
Reference: *Deaths, Australia* (ABS Cat. no. 3302.0).

Current smokers
persons aged 18 years and over who smoke one or more manufactured (packet) cigarettes, roll-your-own cigarettes, cigars or pipes per day. Smoking excludes chewing tobacco and smoking of non-tobacco products.
Reference: *National Health Survey: Health Risk Factors* (ABS Cat. no. 4380.0).

Diabetes
the proportion of people reporting diabetes as a recent condition (within two weeks) or a long-term condition (lasting or expecting to last six months or more), including Diabetes Mellitus Type 1 and 2 and unspecified diabetes.
Reference: *National Health Survey: Summary of Results, Australia,* 1995 (ABS Cat. no. 4364.0).

Diabetes mellitus deaths
deaths where diabetes mellitus is mentioned on the death certificate as the underlying cause (ICD–9 code 250 up to 1998, ICD–10 Codes E10–E14 for 1999).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Disability-free life expectancy
the average number of years at birth a person might expect to live free of disability. Disability is the presence of a limitation, restriction or impairment due to a physical, emotional or nervous condition which had lasted or was likely to last six months or more.
Reference: *Australian Health Trends, 2000,* Australian Institute of Health and Welfare.

Disability with specific restrictions
people with a disability which causes difficulty or who need assistance with, or use an aid for, self-care, mobility, communication, employment and/or education activities. Includes all children aged under 5 years with a disability.
Reference: *Disability, Ageing* and *Carers: Summary of Findings, Australia,* 1998 (ABS Cat. no. 4430.0).

Doctors per 100,000 population
the number of practising general and specialist medical practitioners per 100,000 estimated mean resident population.
Reference: *Australia's Health, 1998*, Australian Institute of Health and Welfare.

Drug induced deaths
any death directly caused by an acute episode of poisoning or toxicity to drugs, including deaths from accidental overdoses, suicide and assault, and any death from an acute condition caused by habitual drug use. The term 'drug' refers to substances classified as drugs that may be used for medicinal or therapeutic purposes and those that produce a psychoactive effect excluding alcohol, tobacco and volatile solvents (e.g. petrol).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0)

Health definitions and references continued

Exercise (persons who do not exercise)
persons who reported that within the two-week reference period they did not undertake exercise activities, including walking, for sport, recreation or fitness, so as to cause a moderate increase in heart rate or breathing.
Reference: *National Health Survey: Summary of results, Australia,* 1995 (ABS Cat. no. 4364.0).

Fetal death
the delivery of a child weighing at least 400 grams at delivery (or, when birthweight is unavailable, of at least 20 weeks gestation) which did not, at any time after delivery, breathe or show any other evidence of life such as a heart beat.
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Heart disease
the number of people per 1,000 population reporting heart disease as a recent condition (within two weeks) or a long-term condition (lasting or expecting to last six months or more), including heart attack, coronary thrombosis, angina and leaking valve.
Reference: *National Health Survey: Summary of Results, Australia,* 1995 (ABS Cat. no. 4364.0).

Hospital beds (per 1,000 population)
the total number of beds in all hospitals (public and private) providing acute care services per 1,000 estimated mean resident population. Hospitals providing acute care services are those in which the treatments typically require short durations of stay.
Reference: *Private Hospitals, Australia* (ABS Cat. no. 4390.0); *Australian Hospital Statistics, 1999–2000*, Australian Institute of Health and Welfare.

Hospital separations (per 1,000 population)
the total number of separations in all hospitals (public and private) providing acute care services per 1,000 estimated resident population at 31 December of the reference year. A separation is an episode of care which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay ending in a change of status (for example from acute care to rehabilitation). The inclusion of status changes has been progressively introduced since 1995–96. Hospitals providing acute care services are those in which the treatments typically require short durations of stay.
Reference: *Australian Hospital Statistics, 1999–2000* Australian Institute of Health and Welfare.

Hypertension
high blood pressure, either treated or untreated. People are considered hypertensive if they are on tablets for blood pressure and/or their systolic blood pressure is 160 mmHg or greater and/or their diastolic blood pressure is 95 mmHg or greater.
Reference: ABS 1995 National Nutrition Survey.

Infant mortality rate
the number of deaths of children under one year of age per 1,000 live births.
Reference: *Deaths, Australia* (ABS Cat. no. 3302.0).

Injury
the proportion of people reporting injury as a recent condition (within two weeks) or a long-term condition (lasting or expecting to last six months or more), including fractures, dislocations, sprains, wounds, bruising, crushing, burns, poisoning and surgical complications.
Reference: *National Health Survey: Summary of Results, Australia,* 1995 (ABS Cat. no. 4364.0).

Ischaemic heart disease deaths
deaths where coronary heart diseases, including heart attack (acute myocardial infarction, coronary occlusion) and angina (angina pectoris), are mentioned on the death certificate as the underlying cause (ICD–9 codes 410–414 up to 1998, ICD–10 codes I20–I25 for 1999).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Life expectancy
the average number of years a newborn infant of a given sex would be expected to live if the age-specific death rates of the reference period continued throughout his or her lifetime. For persons aged 65 years of a given sex, it is the average additional years of life expected if the age specific death rates of the reference period continued throughout his or her remaining life.
Reference: *Deaths, Australia* (ABS Cat. no. 3302.0).

Live birth
the delivery of a child weighing at least 400 grams at delivery (or, when birthweight is unavailable, of at least 20 weeks gestation) who after being born, breathed or showed any other evidence of life such as a heart beat.
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Lung cancer deaths
deaths where malignant neoplasm of the trachea, bronchus and lung are mentioned on the death certificate as the underlying cause (ICD–9 code 162 up to 1998, ICD–10 codes C33–C34 for 1999).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Medium/high-risk drinkers
males aged 18 years and over who reported drinking 50–75ml of absolute alcohol (medium-risk) or more than 75ml (high-risk) per day, and females aged 18 years and over who reported drinking 25–50ml of absolute alcohol (medium-risk) or more than 50ml (high-risk) per day.
Reference: *National Health Survey: Health Risk Factors* (ABS Cat. no. 4380.0).

Motor vehicle traffic accident deaths
deaths where motor traffic accidents are mentioned on the death certificate as the underlying cause (ICD–9 codes E810–E819 up to 1998, ICD–10 relevant codes selected from V01–V89 for 1999).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Neonatal death
deaths of any child weighing at least 400 grams at delivery (or, when birthweight is unavailable, of at least 20 weeks gestation) who was born alive (as defined under live birth) and who died within 28 days of birth.
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Overweight or obese adults
overweight is defined by a body mass index (BMI) greater than or equal to 25 and less than 30, while obesity is defined by a BMI greater than or equal to 30. BMI is body weight in kilograms divided by the square of height in metres.
Reference: ABS 1995 National Nutrition Survey.

Perinatal mortality rate
the annual number of fetal and neonatal deaths per 1,000 live births and fetal deaths combined (where birthweight was at least 400 grams).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Persons with private health insurance
proportion of the total population with private hospital insurance.
Reference: *Annual Reports*, Private Health Insurance Administration Council.

Probability of males/females surviving to 70 and 85 years
the probability of survival to specific ages represents the proportion of survivors from birth to that age in a life table. Estimates are based on Life Tables calculated by the Australian Bureau of Statistics until 1994 and from 1999 onwards. From 1995 to 1997 the life tables were produced by the Australian Government Actuary. From 1995 onwards, probability of survival is based on life tables calculated using three years' data to reduce the impact of year-to-year statistical variations.
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Health definitions and references continued

Prostate cancer deaths
deaths where malignant neoplasm of the prostate gland is mentioned on the death certificate as the underlying cause (ICD–9 code 185 up to 1998, ICD–10 code C61 for 1999 and onwards).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Residential aged care places
the number of beds which are provided for long-term nursing care to chronically ill, frail or disabled persons, and beds provided for people who are unable to live wholly independently but do not require nursing care, per 1,000 of the population aged 70 years and over.
Reference: *Residential aged care facilities in Australia 1998–99: A statistical overview*, Australian Institute of Health and Welfare.

Skin cancer deaths
deaths where malignant neoplasm of the skin, including both melanoma and non-melanocytic skin cancer are mentioned on the death certificate as the underlying cause (ICD–9 codes 172–173 up to 1998, ICD–10 codes C43–C44 for 1999 and onwards).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Standardised rates
these enable the comparison of rates between populations with differing age structures by relating them to a standard population. These rates are the overall rates that would have prevailed in the standard population if it had experienced at each age the rates of the population being studied. Mortality and Medicare usage rates use the 1991 Australian population as the standard population. All other standardised rates use the Australian population of the year that the survey was last collected.
Reference: *Deaths, Australia* (ABS Cat. no. 3302.0).

Stroke deaths
deaths where cerebrovascular disease (causing a blockage (embolism) or rupture (haemorrhage) of blood vessels within or leading to the brain) is mentioned on the death certificate as the underlying cause (ICD–9 codes 430–438 up to 1998, ICD–10 codes I60–I69 for 1999 and onwards).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Suicide deaths
deaths where suicide is mentioned on the death certificate as the underlying cause (ICD–9 codes E950–E959 up to 1998, ICD–10 codes X60–X84 for 1999 and onwards).
Reference: *Causes of Death, Australia* (ABS Cat. no. 3303.0).

Tobacco: apparent consumption
grams of tobacco consumed divided by the population aged 15 years and over. Apparent consumption of tobacco is based on the quantity on which import duty and excise (on cigarettes only) was paid and does not include duty or excise-free tobacco.
Reference: ABS International Trade collection.

Total fats: apparent consumption
the total fat content of food apparently consumed, in grams, divided by the total population.
Reference: *Apparent Consumption of Foodstuffs and Nutrients, Australia* (ABS Cat. no. 4306.0).

Total health expenditure as a proportion of GDP/per person
total health expenditure as a proportion of Gross Domestic Product, in current prices. Total health expenditure per person is expressed in Australian dollars, in chain volume measures, referenced to the year 1997–98.
Reference: *Health Expenditure Bulletin*, Australian Institute of Health and Welfare.

Organ donation

HEALTH RELATED ACTIONS

In 2000, close to 200 people became organ donors after death, benefiting over 650 organ transplant recipients.

The first transplant operations commonly performed in Australia were corneal transplants, which date from the 1940s. However, the first organ transplants began around 1963 after medical advances had made kidney transplantation an effective treatment. Since then, transplants of other organs, such as the heart, liver, lungs and pancreas have also been developed into effective treatments. To corneal transplants have been added transplants of other tissue, such as bone marrow, heart valves, bone and skin. In all, about 30,000 tissue and organ transplants have been performed in Australia.[2]

Organ transplants and waiting lists

While tissue can be taken from the body after the heart stops beating, the requirements for organ donation are more restricting, and few people die in circumstances that allow them to become organ donors. Organ donation is usually only possible in cases where a patient in an intensive care unit is determined to have suffered brain death, while their heart/lung function is being maintained artificially. Some health conditions rule out donation, and age can also be a consideration, although in the case of kidneys and livers, there is effectively no age limit on donors. It is estimated that currently up to 1% of people who die in a year might have the potential for organ donation.[3] Only a small proportion of these actually become donors; hence there is a shortfall in organs for transplantation.

Waiting lists and transplants

	Waiting lists		
	February 2000	*January 2001*	*Transplants(a) 2000*
Organ	no.	no.	no.
Kidney	1 531	1 487	350
Liver	71	77	148
Heart	50	58	57
Lungs or Heart-lung	82	100	92
Pancreas	54	42	26

(a) Number of transplant recipients over year, from deceased donors.

Source: ANZOD Registry Report 2001. Waiting list data reproduced by ANZOD from individual waiting lists and the National Organ Matching System.

Organ donation in Australia

This article focuses on the donation of human organs for transplant. Data on organ donation in Australia are maintained by the Australia and New Zealand Organ Donation (ANZOD) Registry, which is funded by the Australian Health Minister's Advisory Council, New Zealand Ministry of Health, and The Australian Kidney Foundation.[1] The information on donors is derived from a form filled out in respect of each organ donor by donation coordinators, and covers every donor in Australia.

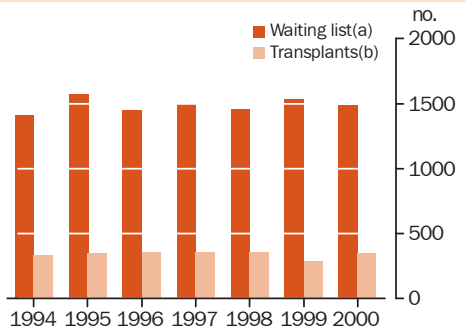
ANZOD requires that any reproduction of its data in another publication be accompanied by the following statement:

> The data reported here have been supplied by the Australia and New Zealand Organ Donation Registry. The interpretation and reporting of these data are the responsibility of the Editors and in no way should be seen as an official policy or interpretation of the Australia and New Zealand Organ Donation Registry.

In this article, *organs* refers to what are medically termed *solid organs* such as kidneys, heart, lungs, liver and pancreas. *Tissue* is used to refer to bone marrow, skin, bone, heart valves and corneas.

In 1999–2000, there were 35 organ transplant units in Australian hospitals, comprising 20 renal units, 8 liver units, 5 heart units and 2 pancreas units.[4] During 2000, there were about 650 transplants from deceased donors. Nevertheless, close to 1,800 people were on a waiting list in January 2001, similar to the number early in 2000.

Waiting list for kidney donation, and kidney transplants



(a) Number of people on waiting list at one date each year.
(b) Number of people who received a kidney transplant over entire year from deceased donors.

Source: ANZOD Registry Reports 1997 and 2001. They reproduce waiting list data from ACCORD (pre 1998); Australians Donate (1998); and from individual waiting lists and the National Organ Matching System (1999, 2000).

Live donors

In Australia, kidney donation is the only widely practised form of organ transplant from live donors. In some other countries, liver transplants from a live donor have become an established treatment, and transplants of parts of the lung, pancreas, and intestine, are also performed.

In Australia, kidney transplants from live donors date from the 1960s. Transplants from live donors have tended to increase at a faster rate than those from deceased donors and thus have increased as a proportion of all donors. Over the 1970s, they increased from less than 1% to 10% of all kidney transplants. They averaged 10% over the 1980s, and 22% over the 1990s. In 2000 there were 180 kidney transplants from live donors, the highest number to date, making up 34% of all transplants in the year. Most of these 180 live donors were biological relatives of the person receiving the kidney (69%). These included 75 parents, 37 siblings and 8 children of recipients. A further 27% of live donors were other (non-biological) relatives, most commonly wives (30) or husbands (15).[5]

Kidney transplants from living donors — 1994 to 2000

		As proportion of total kidney transplants
Year	no.	%
1994	103	23.4
1995	93	21.1
1996	115	24.2
1997	144	28.7
1998	161	31.1
1999	167	36.9
2000	180	34.0

Source: ANZDATA Registry Report 2001.

The contrast between waiting lists early in 2001 and the number of transplants performed over 2000 gives some indication of the extent of the need for organs for transplant, and whether it is being met. The largest waiting list, by a considerable margin, was for a kidney transplant. There were 1,487 people on this list in January 2001. In contrast, over the whole of 2000 there were 350 kidney transplants from deceased donors. This roughly indicates a waiting period of four years for a kidney transplant from a deceased donor. Likewise, the data suggest average waiting periods of one year for a heart transplant, and six months for a liver transplant.

However, waiting times can vary greatly for individuals, and some people die before organs become available. Information on the lengths of time people spend waiting for a transplant, and the outcomes for them, including death before an organ becomes available, would be necessary for a more detailed discussion of waiting periods.

Donors

In 2000, 196 deceased people became organ donors. They made up 0.15% of all people who had died during the year. Between 1989 and 2000 there have been 2,387 donors (an average of 199 per year).

Slightly more than half of the organ donors in 2000 (52%) had died from a cerebral vascular accident such as a stroke or brain haemorrhage. Road trauma was the next most common cause of death (21%), followed by other trauma (11%). Donors ranged in age from less than 1 year to 77 years, with an average age of 41 years. Males made up over half of all donors (57%).

From close to 200 donors, over 650 people benefited through receiving an organ transplant. The number of donors in each State or Territory ranged from 55 in the most populous State, New South Wales, to five or less in Tasmania and the two Territories, which have smaller populations.

Donation rates in Australia

In 2000, the Australian organ donation rate was 10 per million population. There was considerable variation in the rates for the States and Territories. South Australia had the highest rate, 20 donors per million population. In other States for which reliable

Organ donors — 2000

		Donation rate	
State/Territory	no.	per million population	per 1,000 deaths
NSW	55	8.5	1.2
Vic.	44	8.5	1.4
Qld.	37	9.2	1.6
SA	30	20.0	2.5
WA	22	11.7	2.1
Tas.(a)	1	n.p.	n.p.
NT(a)	2	n.p.	n.p.
ACT(a)(b)	5	n.p.	n.p.
Aust.	**196**	**10**	**1.5**

(a) Number of donors too low to reliably calculate separate rates.
(b) ACT hospitals tend to be used by people in the southern NSW region.

Source: ANZOD Annual Report, 2001; ABS Deaths, Australia, 2000 (ABS Cat. no. 3302.0).

International comparison

Compared with other countries for which information is available, Australia's donation rate of 10.2 per million population — the number of people who die and become donors out of the (live) population — is low. When organ donation rates are compared per 1,000 deaths, the difference between the donation rate for Australia and some other countries is reduced. In 2000, Australia's donation rate of 1.5 per 1,000 deaths was comparable with estimated rates for New Zealand and for several European countries, including the United Kingdom and Ireland, the Netherlands and Germany.

In 2000, Spain had the highest donation rate, whether calculated per million population (33.9) or per 1,000 deaths (3.9). Over the 1990s Spain had a high and increasing rate of donors per million population. The rate rose rapidly from 14.3 per million population in 1989 to more than 20 in 1991, and had exceeded 30 by 1998. This has been attributed to procedures introduced by a national transplant organisation set up in 1989, which included having donation coordinators in hospitals, training medical staff in requesting donation, and closely monitoring potential and actual donation.[6]

Organ donation rate for selected countries

	Donors(a)	*Donation rate*	
Country	no.	*per million population(a)*	*per 1,000 deaths(b)*
Spain	1 345	33.9	3.9
Belgium	256	25.6	2.5
Austria	194	24.0	2.5
United States of America	5 984	22.3	2.6
Portugal	194	19.5	1.8
France	1 016	17.0	1.9
Italy	880	15.3	1.6
United Kingdom and Ireland(c)	845	13.4	1.3
Netherlands	202	12.6	1.5
Germany	1 026	12.5	1.2
New Zealand	41	11.0	1.4
Sweden	97	10.9	1.0
Australia	**196**	**10.2**	**1.5**

(a) Donors, and donation rates per million population, as published by the Council of Europe.
(b) Rates per 1,000 deaths have been calculated using the number of donors in 2000 as the numerator and the number of deaths, latest year available, as the denominator. The deaths data for countries other than Australia are as published by the World Health Organisation, and reference years range from 1995 to 1998. The numerator and denominator for these countries are therefore for different years, and the rates per 1,000 deaths are approximate.
(c) Combined data are produced for the United Kingdom and Ireland by a transplant organisation.

Source: Council of Europe, *Newsletter Transplant, 2001;* World Health Organisation *World Health Statitsics Annual* <URL:http://www.WHO.int./WHOSIS/whsa/whsa_table1> accessed February 2002.

rates could be calculated, rates of donation ranged from 7 per million population for New South Wales, to 12 for Western Australia.

While calculating the number of donors per million population is a widely accepted way to compare donation rates over time and between areas, it is also useful to calculate rates per 1,000 deaths. This takes account of those differences in donation rates which are caused by differences in the crude death rate. In 2000, the ranking of the Australian States and Territories by the number of donors per 1,000 deaths was the same as their ranking by donors per million population. This suggests that differences in the crude death rate are not a major reason for differences in organ donation rates between the Australian States and Territories.

Donation procedures

Hospital procedures regarding organ donation are one factor which can influence donation rates. In 2000, Spain had the highest donation rate in the world and this has been attributed to a range of hospital procedures in place there. There is some evidence to suggest that donation rates in Australia could also be increased with appropriate procedures. In South Australia, intensive care clinicians play an important role in maintaining intensive care patients and requesting donation, and emergency department procedures are also said to have contributed to the high donation rate.[7]

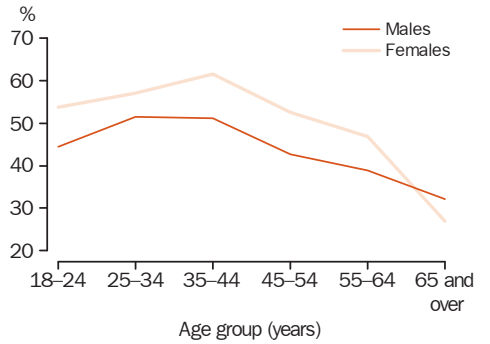
Research in other States and Territories to identify obstacles to donation has also pointed to the importance of hospital procedures.[7, 8] Studies found that the most common reason why donation of organs from a medically suitable potential donor did not occur was that medical practitioners did not request donation after the patient was determined to be brain dead, instead withdrawing, or not starting heart/lung support. A less common reason was that relatives refused consent.

Willingness to donate

Public attitudes to donation also play a part in donation rates. In 2000, a national register was established of people who are prepared to be organ donors after death. Prior to electronic registers being set up, questions included on State drivers' licenses were the main way a person's intentions could be noted. In 2002, the proportions of current license holders who had answered 'yes' to organ donation was 45% in New South Wales and Tasmania, 47% in South Australia and 52% in Queensland. Information was incomplete for Western Australia and Victoria, and was not collected by the transport authorities in the two Territories.[9]

Survey data from November 1999, indicate that almost half (48%) of people aged 18 years and over had taken steps to be an organ or tissue donor after death.[10] About a third (33%) of people had expressed an intention to donate on a driver's license, 5% carried a signed donor card and 33% had discussed their willingness to donate with family members.

People who had taken steps(a) to be an organ or tissue donor — 1999



(a) At least one of the following steps was taken: person was a donor on drivers license, carried a signed donor card, or discussed willingness to donate with family.

Source: Population Survey Monitor, November 1999 (ABS Cat no. 4103.0).

The proportion of people who had taken at least one of these steps to donate was highest in the 35–44 years age group, with those aged 25–34 years ranking second (54%). The lowest proportion was recorded among those aged 65 years and over (29%). Women were somewhat more likely than men to have taken steps (51% compared with 45%).

Regardless of the intentions a person declares, the consent of next-of-kin must be obtained. Market research on organ donation in the 1980s, found that although two-thirds of people said they were either definitely or probably prepared to be donors after death, fewer (38%) said they would definitely or probably donate the organs of next of kin.[11] Organisations such as the Australian Kidney Foundation promote the discussion of organ donation within families, in the hope that if people express their intentions while alive, this will alleviate the stress on their relatives if faced with the decision of whether or not to consent to organ donation.

In 2000, 19% of donor families offered consent before it was requested. However, most commonly consent was requested, either by intensive care clinicians or registrars (57%), donor coordinators (22%), or nursing staff (2%). Regardless of who requested donation, most families had contact with a donor coordinator — either face to face (87% of all donor families) or by telephone (8%). This practice was observed in every State and Territory.[1]

Endnotes

1 Australia and New Zealand Organ Donation Registry (ANZOD) 2001, *ANZOD Registry Report 2001*, ANZOD, Adelaide.

2 Australian Red Cross Blood Service Coordination Centre for Organ and Tissue Donation NSW/ACT 2000, *Fact Sheet*, July 2000, Sydney.

3 Australians Donate 1999, *Inaugural National Forum on Organ & Tissue Donation, 12–13 April 1999*, *Summary and Strategies paper*, p. 3, Australians Donate, Adelaide.

4 Australian Institute of Health and Welfare (AIHW) 2001, *Australian hospital statistics, 1999–00*, AIHW Cat. no. HSE 14, AIHW (Health Services Series no. 17), Canberra; Australian Bureau of Statistics 2001, *Private Hospitals Australia, 1999–2000*, Cat. no. 4390.0, ABS, Canberra.

5 Australia and New Zealand Dialysis and Transplant Registry, 2002, *ANZDATA Registry Report 2001* <URL:http://www.ANZDATA.org.au/annual reports/24th annual report> accessed 12 March 2002.

6 Australian Donate 2000 *Second National Forum on Organ & Tissue Donation, 17–18 July 2000, Best Practises Summary/Outcome paper* pp 9–12 Australians Donate, Adelaide.

7 Totaro, Paola 2001 'Doctors call for organ donation overhaul' The Age July 31 2001 <URL:http//www.theage.com.au/news/ 20000731> accessed 11 February 2002.

8 Hibberd, A. D., et al 1992, 'Potential for cadaveric organ retrieval in New South Wales', *British Medical Journal,* May 1992; 304:1339–43.

9 State Departments of Transport, drivers' license statistics.

10 Australian Bureau of Statistics 2000, *Population Survey Monitor November 1999,* Cat. no. 4203.0, ABS, Canberra.

11 Dye, Peter 1995, 'Donation in Australia: An historical overview, current directions and future principles' *Anaesthesia and Intensive Care*, Vol 23, No. 1, February 1995.

Work-related injuries

RISK FACTORS

In 2000, the rate of injury for male workers was 60 per 1,000, compared with 36 per 1,000 for female workers.

Work-related injuries range in seriousness from minor cuts and bruises to major injuries and illnesses or death. They may affect a person's health, through immediate or long term pain, suffering or disability, and impact their economic wellbeing through health expenses and lost income. Employers also incur costs when workers are injured, through lost working days or lower productivity and the cost of workers' compensation insurance. Information on work-related injury is used for planning occupational health and safety measures and appropriate financial compensation of people who suffer a work-related injury.

The most extreme result of work-related injury or illness is death. According to the National Occupational Health and Safety Commission, in 1999–2000 there were 346 compensated fatalities in Australia, of which 84 resulted from accidents on the journey to or from work and 262 from workplace activities. As not all work-related deaths result in compensation, the total number of work-related deaths is thought to be higher.[1]

In 1999–2000, the most common type of non-fatal compensated injuries or illness, which resulted in at least 10 days off work, were sprains and strains of joints and adjacent muscles, accounting for 54% of claims. Back injuries accounted for 25% of claims, making the back the most commonly injured part of the body. Consistent with these data, 'body stressing' was the most common way that injuries arose, accounting for 44% of claims. Non-powered tools or equipment were involved in the injury in 25% of all claims, and environmental causes,

Work-related injuries

The latest ABS data on work-related injuries were collected in September 2000, through supplementary questions included in the monthly Labour Force Survey. Respondents to the survey aged 15 years and over, who had worked at some time in the previous 12 months, were asked whether they had experienced any work-related injuries or illnesses in the previous 12 months. Work-related injuries or illnesses which resulted in death were excluded from the survey.

Work-related injury is broadly defined as an injury or illness sustained as a result of work activities, or on a journey to or from work, or by aggravation of pre-existing conditions where employment was a contributory factor.

An *injured worker* is one who experienced a work-related injury or illness in the 12 months to September 2000.

For any group, the *injury rate* is the number of people who had experienced a work-related injury or illness in the 12 months to September 2000, as a proportion of the total population of the group.

Nature and circumstances of injuries – National data on the nature and circumstances of work-related injuries of employees are compiled by the National Occupational Health and Safety Commission (NOHSC), based on successful claims dealt with by State and Territory workers' compensation authorities. The most recent NOHSC data are based on successful claims that arose in 1999–2000 (but exclude data from the ACT, which were not available). These claims ranged in seriousness from those that involved a temporary condition to those involving permanent disability and death. In this article, the NOHSC data on non-fatal injuries are limited to claims that involved at least 10 days off work, and exclude journey to work claims, in order to ensure a common scope across the States and Territories.

Injured workers(a) — 2000

	Injured workers		*Rate of injury*
	'000	%	per 1,000 workers
Males	323.9	67.8	59.8
Females	154.0	32.2	36.1
Some time off work	304.2	63.7	..
5 days or more off work	163.8	34.3	..
Received workers' compensation	189.4	39.6	..
Total	**477.8**	**100.0**	**49.3**

(a) Injured in the 12 months to September 2000.

Source: Work-related injuries, Australia, September 2000 (ABS Cat. No. 6324.0).

such as slippery ground surfaces, high traffic areas, or steps and stairways, were involved in 14%.[2] In all, 92,900 such claims were lodged, indicating that in 2000 about 1% of the workforce were compensated for a non-fatal injury or illness which entailed at least 10 days off work.

Not all work-related injuries and illnesses result in compensation. Household surveys supplement compensation data with information on the broader pattern of non-fatal work-related injury.

Work-related injuries

In September 2000, close to 478,000 people had experienced at least one work-related injury or illness in the previous 12 months. They made up 5% of people aged 15 years and over who had worked in that period. Not all of the injuries resulted in time being taken off work or in an application for workers' compensation. About 64% of those injured took at least part of a day off work and about 40% received workers' compensation.

More than twice as many men as women had experienced a work-related injury (324,000 compared with 154,000). There are more men in the workforce, so a higher number of work-related injuries is expected. However, the difference was mostly due to their higher rate of injury — 60 per 1,000 of men who had worked in the previous 12 months, compared with 36 per 1,000 for women. The greater tendency for men to have hazardous occupations is likely to explain much of this difference in overall rates of injury for men and women.

Occupation

The highest numbers and rates of injury were observed for occupations which are likely to involve physical labour. The highest rates of injury were experienced by Intermediate production and transport workers (95 per 1,000 workers), a group that includes plant and machine operators and road and rail drivers. The rate for Labourers and related workers was almost as high (93 per 1,000 workers). This group includes factory hands and cleaners as well as labourers in construction, mining and similar fields. Tradespersons and related workers (78 per 1,000 workers) ranked third. Together, these three occupation groups accounted for 52% of all those who had experienced a work-related injury in the previous 12 months. The injury rates for other occupations ranged from 13 per 1,000 for Advanced clerical and service workers (which encompasses occupations such as bookkeepers and insurance agents) to 45 per 1,000 for Associate professionals (a group which includes enrolled nurses, medical and science technical officers, and managing supervisors in sales, hospitality and accommodation, and other occupations).

The majority of injured Tradespersons and related workers, Labourers and related workers and Intermediate production and transport workers were men (86% of these three occupation groups combined). This was mostly because many more men than women were employed in these occupations (men made up 81% of workers in the three combined). In the case of Tradespersons and related workers and Labourers and related workers (but not Intermediate production

Injured workers(a): occupation — 2000

	Injured workers			*Rate of injury*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
Occupation group(b)	'000	'000	'000	per 1,000 workers	per 1,000 workers	per 1,000 workers
Intermediate production and transport workers	65.3	9.4	74.7	95.1	91.2	94.6
Labourers and related workers	59.7	22.0	81.7	108.0	66.9	92.7
Tradespersons and related workers	89.1	*4.6	93.7	82.2	*39.0	78.0
Associate professionals	27.1	18.4	45.5	42.4	48.3	44.5
Intermediate clerical, sales and service workers	20.6	42.1	62.8	47.0	38.2	40.8
Managers and administrators	20.6	*3.7	24.3	42.5	*24.8	38.3
Elementary clerical, sales and service workers	14.8	18.4	33.2	50.6	31.2	37.6
Professionals	25.5	31.2	56.7	31.2	38.9	35.0
Advanced clerical and service workers	*1.1	*4.2	5.2	*25.0	*11.7	13.1

(a) Injured in the 12 months to September 2000.
(b) Occupation of job in which most recent work-related injury or illness occurred.

Source: ABS 2000 Work-related Injuries Survey.

Injured workers(a): industry — 2000

	Injured workers			Rate of injury		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
Industry(b)	'000	'000	'000	per 1,000 workers	per 1,000 workers	per 1,000 workers
Mining	6.0	*1.1	7.0	85.9	*111.8	89.0
Manufacturing	76.1	15.7	91.8	92.1	51.1	81.1
Transport and storage	28.9	*3.8	32.7	93.2	*38.6	80.0
Construction	47.1	*2.0	49.1	76.3	*22.7	69.6
Agriculture, forestry and fishing	24.3	*4.6	29.0	79.8	*34.3	65.8
Health and community services	11.8	41.1	52.9	66.4	61.8	62.7
Electricity, gas and water supply	*3.4	**0.4	*3.8	*64.3	**39.7	*60.0
Accommodation, cafes and restaurants	12.6	14.0	26.6	63.8	56.0	59.4
Communication services	8.1	*1.6	9.7	67.3	*28.6	55.0
Cultural and recreational services	9.7	*2.5	12.1	82.5	*24.0	55.1
Personal and other services	13.9	4.5	18.4	76.1	26.9	52.7
Retail trade	29.4	24.7	54.1	46.3	35.9	40.9
Government administration and defence	10.4	*4.0	14.4	54.8	*25.4	41.5
Education	8.9	16.4	25.2	45.0	39.5	41.3
Wholesale trade	14.9	*3.5	18.4	45.3	*24.4	38.8
Property and business services	15.9	9.4	25.3	28.3	20.8	25.0
Finance and insurance	*2.5	*4.8	7.4	*17.2	*26.0	22.1

(a) Injured in the 12 months to September 2000.
(b) Industry of job in which most recent work-related injury or illness occurred.

Source: ABS 2000 Work-related Injuries Survey.

and transport workers), there were also considerably higher rates of injury for men than women.

It is difficult to make a direct comparison of men and women's injury rates using broad occupation groups because men and women tend to have different occupations within these groups, and these occupations may be associated with different injury risks. For example, in 2000 the largest single group of female Tradespersons and related workers were Food tradespersons (24%), while the largest single group of male Tradespersons and related workers were Construction tradespersons (26%).

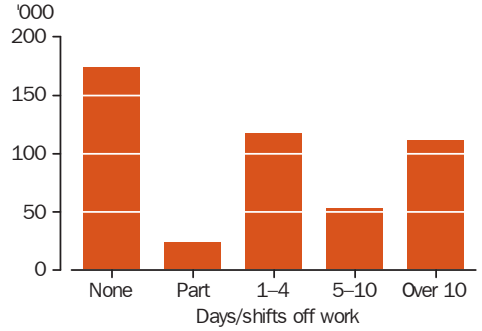
The most common broad occupation groups for women who had experienced a work-related injury in the previous 12 months were Intermediate clerical, sales and service workers (42,100), Professionals (31,000) and Labourers (22,000). The highest rates were observed for Intermediate production and transport workers (91 per 1,000 workers) and Labourers and related workers (67 per 1,000).

Industry

The industries accounting for the largest numbers of injured workers were Manufacturing (91,800), Retail trade (54,100), Health and community services (52,900), Construction (49,100) and Transport and storage (32,700). The large number of people who had experienced an injury in these industries was partly due to the size of their workforces. That said, three of these groups also had relatively high injury rates (ranking among the top five).

Mining, which has relatively few employees, and accounted for 7,000 of those injured, had the highest injury rate, 89 per 1,000 workers. Manufacturing (81 per 1,000), Transport and storage (80 per 1,000) and Construction (70 per 1,000) ranked next, followed by the Agriculture, forestry and fishing industry (66 per 1,000). Within most industries men had a higher rate of injury than women. This is consistent with the different occupations that men and women tend to have within industries.

Injured workers(a): time taken off work — 2000



(a) Injured in the 12 months to September 2000.

Source: Work-related injuries, Australia, September 2000 (ABS Cat. no. 6324.0).

Injured workers(a): proportion who applied for workers' compensation and time taken off work — 2000

(a) Injured in the 12 months to September 2000.

Source: Work-related injuries, Australia, September 2000 (ABS Cat. no. 6324.0).

Time off work and workers' compensation

Loss of income due to time off work is one of the main expenses a person with a work-related injury can incur, and for which they may be eligible to make a workers' compensation claim. In Victoria, a person with a temporary condition must be off work for more than 10 days before workers' compensation might be available (for shorter times off due to work-related injury, the employer is expected to pay). In other States, there is no minimum time off work before workers' compensation would apply.

Consistent with many injuries being minor, 36% of the 477,800 injured workers in 2000 took no time off work, and more than half did not apply for workers' compensation (54%). The proportion who applied for workers' compensation increased with the amount of time taken off work — from 22% of those who took no time off work to 70% of those who took 10 days or more. Of those who applied, most received workers' compensation (87%).

The leading reasons given for not applying for workers' compensation varied according to length of time off work. Among those who took from no time to less than 5 days off work, the leading reason was that workers' compensation was not necessary, or that the injury was minor (58%). The next most common reasons were not being covered by workers' compensation, or not being aware of coverage (11%) and not being eligible for workers' compensation for the injury (6%). In contrast, among those who took 5 days or more off work the leading reason was not being covered by workers' compensation, or not being aware of coverage (28%), followed by not being eligible for workers' compensation for the injury (18%). The minor nature of the injury, or workers' compensation not being necessary, ranked third (14%).

Injured workers(a): whether received workers' compensation — 2000

	Days/shifts off work					
Whether applied for and whether received workers' compensation	*None*	*Part*	*1–4*	*5–10*	*11 or more*	*Total*
	%	%	%	%	%	%
Didn't apply	77.6	63.0	48.2	39.0	30.2	54.4
Applied	22.4	37.0	51.8	61.0	69.8	45.6
Received	18.4	35.3	44.9	53.8	61.0	39.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	'000	'000	'000	'000	'000	'000
Total	**173.6**	**23.5**	**116.8**	**52.6**	**111.2**	**477.8**

(a) Injured in the 12 months to September 2000.

Source: Work-related injuries, Australia, September 2000 (ABS Cat. no. 6324.0).

Persons who had experienced a work-related injury(a): whether applied for workers' compensation — 2000

Selected characteristics(b)	Applied %	Received %	Injured workers '000
Status in employment			
Employee	50.1	43.6	425.5
Employer	**7.5	**4.2	9.6
Own account worker	9.6	*7.9	42.4
Full-time or part-time status			
Employed, working full-time	47.3	41.2	375.7
Employed, working part-time	38.6	33.4	101.1
Leave entitlement status of employees			
Employee, with leave entitlements	53.8	47.2	329.5
Employee, without leave entitlements	37.1	31.2	96.0
Occupation			
Managers and administrators	19.8	17.6	24.3
Professionals	37.1	31.6	56.7
Associate professionals	40.2	35.4	45.5
Tradespersons and related workers	49.3	43.1	93.7
Advanced clerical and service workers	*36.1	*24.9	5.2
Intermediate clerical, sales and service workers	39.2	33.3	62.8
Intermediate production and transport workers	59.5	51.2	74.7
Elementary clerical, sales and service workers	37.6	29.8	33.2
Labourers and related workers	54.0	49.4	81.7
Total	**45.6**	**39.6**	**477.8**

(a) Injured in the 12 months to September 2000.
(b) Characteristics of the job in which the person's most recent work-related injury occurred.

Source: Work-related injuries, Australia, September 2000 (ABS Cat. no. 6324.0).

Who applied?

Workers' compensation regulations are directed at those who work for others, including those in indirect relationships such as subcontractors, rather than at the self-employed. Therefore it is not surprising that own account workers and employers who were injured were much less likely to apply for workers' compensation than were employees. (Less than 10% of injured own account workers and employers applied compared with 50% of employees). Nevertheless, employees predominate in the workforce and so the great majority of those who did not apply for compensation were in fact employees (82%). Part-time workers were somewhat less likely to apply than were full-time workers (39% applied compared with 47%). Employees without leave entitlements were less likely to apply than employees with leave entitlements (37% compared with 54%). The likelihood of applying for compensation also varied according to occupation. Intermediate production and transport workers were the group most likely to apply (60%), followed by Labourers (54%), while Managers and administrators were the least likely to apply (20%).

Other assistance

Medical bills and loss of earnings while ill are the two most common costs faced by a person who sustains a work-related injury or illness. As well as workers' compensation schemes, many people with a work-related injury or illness accessed some other types of financial assistance. The most commonly used types of assistance were regular sick leave funded by the employer, and Medicare benefits, each used by 14% of all those who had experienced a work-related injury in the previous 12 months. Other types of assistance accessed were employer payments other than paid sick leave (7%), private health insurance (4%), income protection insurance (2%) and social security (2%).

A total of 152,400 people (32% of those who experienced a work-related illness or injury in the previous 12 months) received neither workers' compensation nor any other financial assistance. Of these, 67% took no time off work.

Endnotes

1 National Occupational Health and Safety Commission, *NOHSC: Work-related Fatalities in Australia, 1989–1992,* <URL:http://NOHSC.gov.au/statistics/fatalities/Work-related Fatalities Reports> (accessed 27 February 2002).

2 National Occupational Health and Safety Commission 2002, *National Online Statistical Information (NOSI) database,* <URL:http://NOHSC.info.au.com/> (accessed 18 March 2002).

Cardiovascular disease: 20th century trends

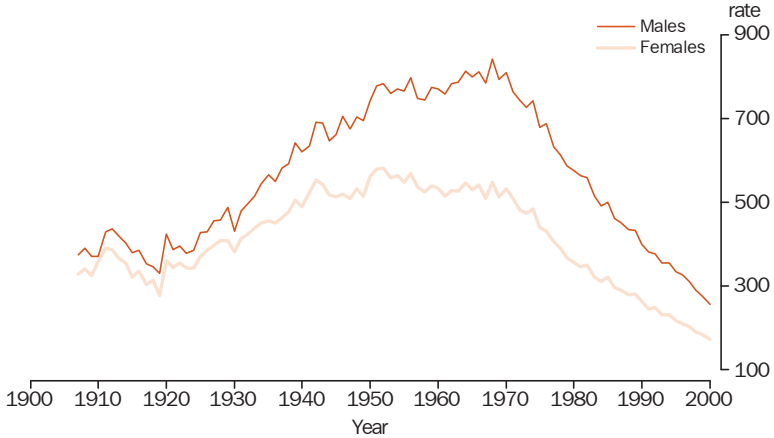
While the death rate for cardiovascular disease declined over the latter part of the 20th century, since 1977–78 Australian adults have become more likely to have a cardiovascular condition.

Behavioural changes and medical advances over the last 20–30 years have reduced the likelihood of people dying from cardiovascular disease. Yet cardiovascular disease was the leading cause of death in Australia in 2000, accounting for 49,700 or 39% of all deaths. Because much illness and premature death from cardiovascular disease is preventable, it has been a focus of public attention and health policy, and in 1996 was named a National Health Priority Area.[1]

Although cardiovascular disease is a cause of death and disease for younger age groups, a higher proportion of older people suffer from cardiovascular disease. In 2000, the majority of deaths from cardiovascular disease occurred among those aged 50 years and over. Early in the 20th century, Australia's population had a young age structure and the proportion of deaths from cardiovascular disease was relatively low (15% in 1907). However, as the century progressed and fewer people died from infectious diseases, this proportion increased markedly, peaking at 56% in 1968, before steadily declining.

Even when the effect of age is removed, the pattern of rising then falling death rates from cardiovascular disease remains. The age-standardised death rate for men increased from 376 to 843 per 100,000 between 1907 and 1968, before falling to 256 per 100,000 in 2000. For women, the rate increased from 328 to 583 per 100,000 between 1907 and 1952, then fell to 173 per 100,000 in 2000.

Death rates(a) for cardiovascular disease



(a) Age-standardised rate per 100,000 persons.

Source: AIHW Mortality Database.

Cardiovascular disease

The main sources of data in this article are the Australian Institute of Health and Welfare Mortality Database (which currently sources data from 1907 onwards from the ABS Causes of Death collection), the ABS National Health Survey, and *Apparent Consumption of Foodstuffs, Australia, 1997–98 and 1998–99* (Cat. no. 4306.0).

Cardiovascular disease, or *diseases of the circulatory system*, comprises all diseases and conditions involving the heart and blood vessels including ischaemic heart disease, cerebrovascular disease (stroke), peripheral vascular disease and heart failure. In Australia, these diseases mostly result from impeded or diminished supply of blood to the heart, brain or leg muscles.[2]

Diseases of the circulatory system are classified according to the International Classification of Diseases (ICD). There have been many revisions of the ICD since it was introduced in 1898. The most recent revision (ICD–10) was implemented in Australia in 1999 and comprises the following:

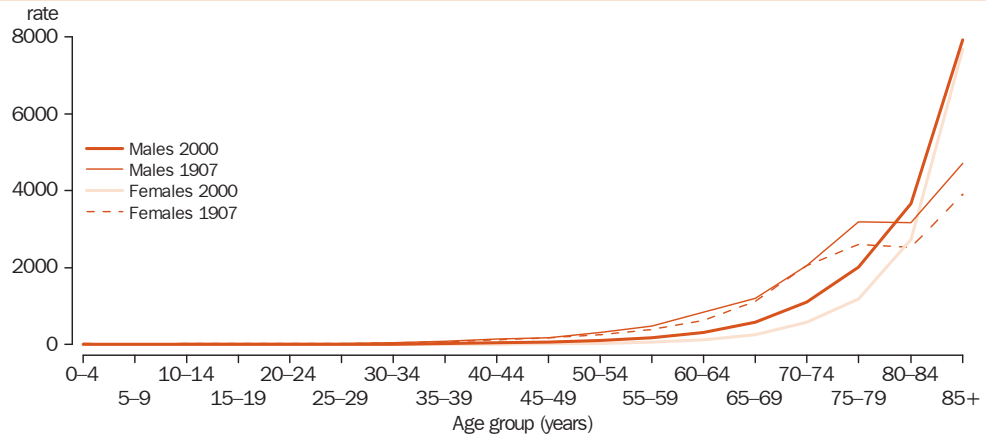
- acute rheumatic fever and chronic rheumatic heart diseases (I00–I09);
- hypertensive diseases (I10–I15);
- ischaemic heart diseases (I20–I25);
- pulmonary heart disease and diseases of pulmonary circulation (I26–I28);
- other forms of heart disease (I30–I52);
- cerebrovascular diseases (I60–I69);
- diseases of arteries, arterioles and capillaries (I70–I79);
- diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80–I89); and
- other and unspecified diseases of the circulatory system (I95–99).

Standardised death rates enable the comparison of death rates between populations with differing age structures by relating them to a standard population. Death rates in this article have been standardised to the 1991 total population, and are expressed per 100,000 of the population.

Overweight and *obesity* are measured using the body mass index (BMI). The BMI is calculated by weight (kg) divided by height (m) squared. A BMI of 25 or greater indicates overweight, and 30 or greater indicates obesity.[3]

While death rates have fallen, the prevalence of cardiovascular disease has increased, with the proportion of people living with cardiovascular disease rising from 8% to 21% between 1977–78 and 1995.[4] These rates of death and illness are associated with changes in behavioural factors and medical interventions. More about trends in causes of death during the 20th century can be found in *Australian Social Trends 2001*, Mortality in the 20th century, pp. 67–70.

Age–specific death rates(a) for cardiovascular disease



(a) Deaths per 100,000 people of the same sex and age group.

Source: AIHW Mortality Database.

Trends in death rates

There were three main changes in the pattern of deaths from cardiovascular disease between the beginning and end of the 20th century. First, male and female cardiovascular death rates are notably lower than they were at the beginning of the century for all age groups except the very oldest (80 years and over). Second, the decline in cardiovascular death rates across the 20th century was greater for younger age groups than for older age groups. For example, in 1907 the death rate for both girls and boys aged 5–9 years was more than 10 times larger than in 2000. Third, while the likelihood of dying from cardiovascular disease varied for males and females across age groups in 1907, the risk of dying was substantially higher for males than females at almost all ages in 2000. The death rates for men aged 25–79 years were around two to three times higher than for women in 2000.

Types of cardiovascular disease

The two leading causes of death from cardiovascular disease are ischaemic heart disease and cerebrovascular disease (stroke).

Death rates(a) for selected types of cardiovascular disease

	Year				
	1907	*1931*	*1950*	*1968*	*2000*
Cause of death (ICD-10 codes)	rate	rate	rate	rate	rate
Males					
Ischaemic heart disease (I20–I25)	n.a.	n.a.	n.a.	497.5	150.2
Cerebrovascular disease (I60–I69)	107.1	106.3	144.3	183.5	53.5
Hypertension (I10–I15)	n.a.	n.a.	59.1	20.2	4.9
Chronic rheumatic heart disease (I05–I09)	n.a.	59.8	9.6	9.7	1.0
Females					
Ischaemic heart disease (I20–I25)	n.a.	n.a.	n.a.	249.5	84.0
Cerebrovascular disease (I60–I69)	109.2	117.1	166.1	168.4	48.3
Hypertension (I10–I15)	n.a.	n.a.	53.5	20.6	5.0
Chronic rheumatic heart disease (I05–I09)	n.a.	53.0	9.3	10.1	1.3

(a) Age–standardised rate per 100,000 persons.

Source: AIHW Mortality Database.

Indigenous death rates

There is a shortage of national health data on Aboriginal and Torres Strait Islander peoples. Based on the most reliable State and Territory data (from Western Australia, South Australia and the Northern Territory), in 1996–98, Indigenous Australians died from cadiovascular disease at twice the rate of other Australians.[5] In 1998, it was the leading cause of death among Indigenous peoples in Queensland, Western Australia, South Australia and the Northern Territory (27% of Indigenous men's deaths and 33% of Indigenous women's deaths). The median age at death from cardiovascular disease for Indigenous peoples was 60 years, compared with 81 years for the total population, which is associated with the lower life expectancy of Indigenous peoples.[6]

The higher rate of death from cardiovascular disease for the Indigenous population than for the total population is associated with a number of risk factors which are higher among the Indigenous population than the total population. In 1995, Indigenous Australians were about twice as likely to smoke as the total population, and were about twice as likely to consume alcohol to a high risk level (more than 75mls per day for men and more than 50mls per day for women).[7] In 1994, 25% of Indigenous men aged 18 years and over and 29% of Indigenous women aged 18 years and over were obese, compared with about 19% of all Australians aged 19 years and over in 1995.[7]

Over the last three decades, ischaemic heart disease has been the leading cause of cardiovascular death for men and women. In 2000, it accounted for 59% of men's deaths and 48% of women's deaths from cardiovascular disease. This was despite a rapid decline in ischaemic heart disease death rates over the last three decades. Between 1968 and 2000, the death rate for ischaemic heart disease fell from 498 to 150 deaths per 100,000 for men, and from 250 to 84 deaths per 100,000 for women.

Stroke was the second most common cause of cardiovascular death since 1968, accounting for 21% of men's and 28% of women's deaths from cardiovascular disease in 2000. Throughout most of the 20th century, women were more likely to die from stroke than men. This pattern was reversed by 1968. Between 1968 and 2000, the male death rate fell from 184 to 54 deaths per 100,000, while the female rate fell from 168 to 48 deaths per 100,000. This represents a fall of 71% for both men and women over the period.

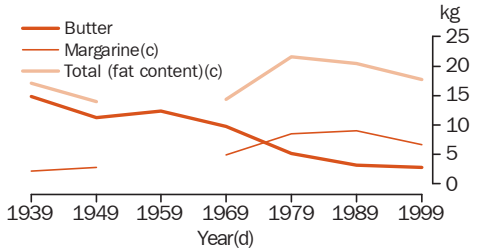
Illness

While the death rate from cardiovascular disease has declined, its prevalence in the population has increased, rising from 8% (1.1 million) in 1977–78 to 17% (2.2 million) in 1989–90 and to 21% (2.8 million) in 1995. This is partly associated with improvements in medical interventions, which have increased the survival rate among people living with cardiovascular disease. Improved techniques for diagnosing cardiovascular disease and better public information have increased the prevention and early detection of cardiovascular disease. The introduction of specialist ambulance services and better public knowledge of rescue-emergency management techniques have enhanced the immediate treatment of cardiovascular disease. Moreover, with the establishment of coronary care units and developments in surgery and drugs, the in-hospital care of patients has greatly improved.[8]

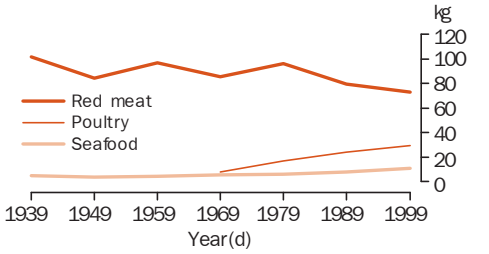
The health and economic costs of cardiovascular disease are greater than any other disease. In 1993–94, it accounted for $3.7 billion or 12% of total health costs.[9] Burden of disease is a concept that has been developed as an indicator of population health, and refers to the impact of injury, disability and premature death on 'healthy life'. It is measured using the disability adjusted life year (DALY) concept. One DALY is equivalent to one year lost of 'healthy life', and summed together, DALYs can be used to represent the differing burden of various illnesses.[9] In 1996, cardiovascular disease accounted for 22% of all disease burden in Australia.

In addition, studies on the burden of disease have assessed the relative importance of risk factors in illness, injury and premature death.

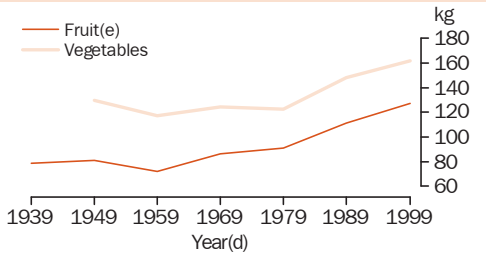
Selected oils and fats consumption(a)(b)



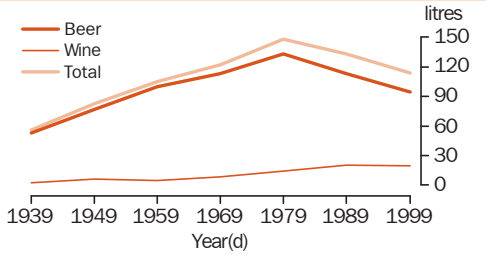
Meat consumption(a)(b)



Fruit and vegetable consumption(a)(b)



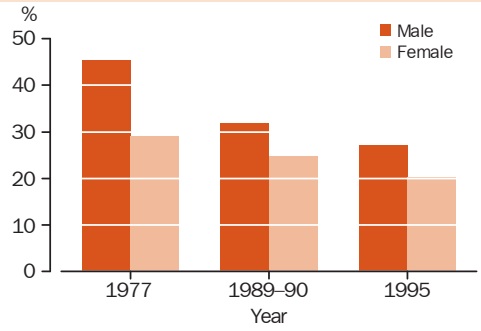
Selected alcohol consumption(f)



(a) Consumption refers to estimates of food supply and utilisation, rather than actual food intake.
(b) Kilograms consumed on average per person per year.
(c) Data for margarine and total (fat content) were not available for the three year period ending 30 June 1959.
(d) Average 3 year period ended 30 June.
(e) Includes fruit products, jams, conserves, dried fruit and processed fruit.
(f) Litres consumed on average per person per year.

Source: Apparent Consumption of Foodstuffs, Australia, 1997–98 and 1998–99 (ABS Cat. no. 4306.0).

Current smokers aged 18 years and over



Source: ABS 1977 Alcohol and Tobacco Consumption Patterns Survey; ABS 1989–90 National Health Survey; ABS 1995 National Health Survey.

The leading risk factors to which burden of disease was attributable in 1996 were tobacco smoking (10%), physical inactivity (7%), high blood pressure (5%), obesity (4%) and a lack of fruit and vegetables (3%).[10] All of these risk factors are thought to influence the prevalence of cardiovascular disease.

Behavioural changes

Changes in behaviour and lifestyle are associated with the changing rates of death and illness due to cardiovascular disease over the 20th century. Factors such as diet, alcohol and tobacco intake and levels of physical activity all influence body weight, blood pressure levels and blood cholesterol levels, which increase the risk of developing cardiovascular disease.[9]

The consumption of large amounts of fats has been associated with high cholesterol levels and obesity (where physical activity levels are low), which in turn increase the risk of dying from cardiovascular disease. Both the overall consumption of fats (particularly butter and whole milk) and of red meat (a source of saturated fat) have fallen since the late 1960s. In contrast, fresh fruit and vegetable consumption, which reduces the risk of cardiovascular disease, has increased in the second half of the 20th century.

Although low levels of alcohol consumption can protect against cardiovascular disease, excessive consumption is associated with conditions such as hypertension and obesity, which are linked to an increased risk of cardiovascular disease.[4] Between 1939 and 1979, alcohol consumption rose and then fell steadily until the late 1990s.

Smoking was responsible for 13% of cardiovascular deaths in 1996, and increases the risk of heart attack and stroke three times in hypertensive individuals.[9] The proportion of the adult population smoking declined from 37% in 1977 to 24% in 1995. This has helped to reduce rates of cardiovascular disease, particularly amongst men. However, there has been a recent trend towards more people, especially females, smoking in younger age groups, which may influence rates of cardiovascular disease in the future.[11]

Contrary to the popular image of Australians as active and sports-oriented, the last 15 years have seen notable increases in the proportion of overweight people. The proportion of overweight or obese women aged 25–64 years living in capital cities has increased from 27% in 1980 to 43% in 1995. For men the proportion increased from 48% to 63%.[9] People who are physically inactive and who are obese are at a greater risk of developing cardiovascular disease than others.[9] Lack of physical activity may be one factor behind the continuing high rates of illness from cardiovascular disease.

Endnotes

1 Australian Institute of Health and Welfare (AIHW) 2000, *First Report on National Health Priority Areas 1996,* AIHW Cat. no. PHE1, AIHW, Canberra.

2 d'Espaignet, E. T. 1993, *Trends in Australian Mortality – Diseases of the Circulatory System: 1950–1991*, Australian Government Publishing Service, Canberra.

3 Australian Bureau of Statistics 1995, *National Nutrition Survey: Nutrient intakes and physical measurements*, Cat. no. 4805.0, ABS, Canberra.

4 Australian Bureau of Statistics 1995, *National Health Survey: Cardiovascular and Related Conditions,* Cat. no. 4372.0, ABS, Canberra; and Australian Bureau of Statistics 1979, *Australian Health Survey, 1977–78: Chronic Conditions,* Cat. no. 4314.0, ABS, Canberra.

5 Australian Institute of Health and Welfare, (AIHW) 2001, *Heart, Stroke and Vascular Diseases: Australian Facts 2001,* AIHW Cat. no. CVD14, AIHW, Canberra.

6 Australian Bureau of Statistics 2001, *Year Book, Australia 2001,* Cat. no. 1301.0, ABS, Canberra.

7 Australian Bureau of Statistics 2001, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples,* Cat. no. 4704.0, ABS, Canberra.

8 Hugo, G. 1986, *Australia's Changing Population,* Oxford University Press, Melbourne.

9 Australian Institute of Health and Welfare (AIHW) 2000, *Australia's Health 2000,* AIHW Cat. no. 19, AIHW, Canberra.

10 Australian Bureau of Statistics 2001, *Australia Now: Health — Chronic Diseases and Risk Factors,* <URL:http://www.abs.gov.au/ausstats> (accessed 23 November 2001).

11 Hill, D., White, V. and Letcher, T. 1999, 'Tobacco use among Australian secondary students in 1996', *Australian and New Zealand Journal of Public Health,* vol. 23, no. 3, pp. 252–259.

Mortality of Aboriginal and Torres Strait Islander peoples

In 1998–2000, life expectancy for Aboriginal and Torres Strait Islander peoples was shorter by 21 years for males and 20 years for females, compared with the total population.

Since the beginning of the 20th century, life expectancy has increased markedly for Australians overall, reflecting improvements in areas such as public health and medical interventions. However, at the turn of the 21st century, Aboriginal and Torres Strait Islander peoples had, on average, the same life expectancies as the total Australian population in the early part of the 20th century. In 1998–2000, life expectancy for Indigenous males was 56 years — 21 years less than for the total male population and a level similar to that experienced by Australian males in the period 1901–1910. In 1998–2000 life expectancy for Indigenous females was 63 years — 20 years less than for the total female population and a similar level to that of Australian females in 1920–1922.

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. The report recommended that baseline measures be established against which improvements in the health of the Indigenous population might be measured.[1] This article presents recent data about the mortality of Indigenous Australians. These analyses of life expectancy and death rates are based on experimental demographic 'life tables' which do not include deaths in Tasmania and the Australian Capital Territory. However, as both have very small Indigenous populations, this is unlikely to affect analysis at the national level.

Life expectancy and mortality

Mortality data are compiled by the ABS from information received from State and Territory Registrars of Births, Deaths and Marriages. Unless otherwise specified, data used in this article are based on averages for the three years 1998, 1999 and 2000.

In this article, life expectancies and death rates for the Indigenous population are based on a set of experimental demographic life tables which take into account the under-registering of Indigenous deaths across States and Territories. Because of the small number of registered Indigenous deaths and/or very low coverage, Indigenous deaths registered in Tasmania and the Australian Capital Territory are excluded from the Australian life tables. This exclusion would have only a minimal effect on life expectancy at the national level. For more information see 'Appendix 1' in *Deaths, Australia*, 1999 (ABS Cat. no. 3302.0).

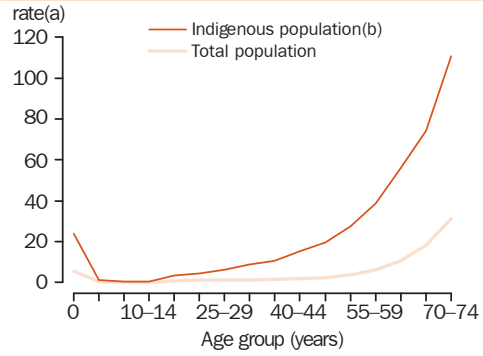
Life expectancy at birth refers to the average number of years at birth a person might expect to live, if the age-specific death rates of the given period continued throughout his or her lifetime. In this article, life expectancy at birth is referred to as life expectancy.

Death rates are the number of deaths registered during a calendar year expressed as a number per 1,000 of the estimated resident population at 30 June of a particular year (in this article this is 1999 — the middle year of the three years used).

Age-specific death rates are the number of deaths of persons in a specific age group per 1,000 of the estimated resident population in that age group.

The *infant mortality rate* is the number of deaths of children aged under one year per 1,000 live births.

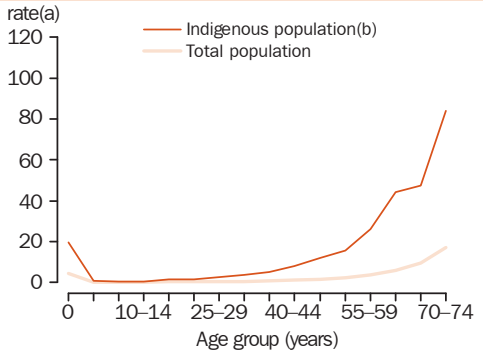
Age-specific death rates(a) for males — 1998–2000



(a) Rate per 1,000.
(b) Experimental rates. Exclude Tasmania and the Australian Capital Territory.

Source: ABS Deaths Collection.

Age-specific death rates(a) for females — 1998–2000



(a) Rate per 1,000.
(b) Experimental rates. Exclude Tasmania and the Australian Capital Territory.

Source: ABS Deaths Collection.

Although the identification of Aboriginal and Torres Strait Islander peoples continues to be less than satisfactory in some administrative collections, considerable progress has been made over recent years towards nationally consistent and comprehensive coverage. 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. Despite these limitations in the availability of data, this article provides an insight into the substantial differences between the health of Indigenous peoples and that of the total population.

Age-specific death rates

In 1998–2000, Aboriginal and Torres Strait Islander males and females at all ages had higher age-specific death rates compared with the total population. In the younger age groups (less than 30 years), and among those aged 65 years and over, death rates for Aboriginal and Torres Strait Islander peoples were approximately four times that of the total population. However, between the ages of 30 and 64 years the death rates of Indigenous Australians were around seven times the rates for the total population in those age groups.

Life expectancy

The significantly lower life expectancy of Aboriginal and Torres Strait Islander peoples, compared with the total population, reflects their higher death rates at all ages. This is largely the result of relatively high death rates in adulthood, especially between the ages of 45 and 65 years. In the period 1998–2000, deaths of Indigenous people aged 25 years and over accounted for 18 years of the 21 year gap in male life expectancy and 17 years of the 20 year difference in female life expectancy between the Aboriginal and Torres Strait Islander population and the total population.

Much of the difference between Indigenous and total life expectancy had been attributed to the excessive rates of infant death among Indigenous peoples. In 1998–2000, the death rate for Indigenous infants was around four times the rate in the total population. However, in this period, the higher Indigenous infant mortality accounted for only 1 year of the approximately 20 year difference in life expectancy between the

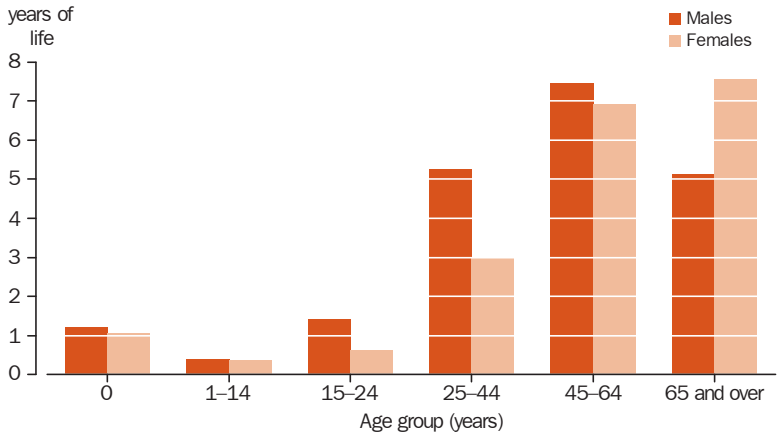
Data quality for deaths of Indigenous peoples

While the identification of the deaths of Aboriginal and Torres Strait Islander peoples has improved considerably in recent years, it is not known how many Indigenous deaths are not identified. Therefore, the number of deaths registered as Indigenous in a given year is expected to be an undercount of the actual number of deaths of Indigenous people. The ABS continues to work with State and Territory Registrars of Births, Deaths and Marriages to improve the recording of Indigenous origin. For more information see *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples, Australia*, 2001 (ABS Cat. no. 4704.0).

Since 1998, the coverage of Indigenous deaths for all States and Territories except Tasmania and the Australian Capital Territory have been considered sufficiently reliable to be included in the analysis of life expectancy. The estimated coverage of these deaths varies considerably between States and Territories. For example, in the period 1998–2000, the coverage in New South Wales was estimated to be 45%, in contrast to 91% in the Northern Territory. These percentages are derived from projections based on the 1996 Census. In this article, estimates of deaths, age-specific death rates and life expectancies for Indigenous peoples are derived by making broad adjustments using the above estimates of coverage at the State and Territory level. In the period 1998–2000, there were approximately 6,200 deaths registered where Indigenous origin of the deceased person was identified. However, taking account of the undercoverage, the number of Indigenous deaths is estimated to be around 10,200.

The three year period 1998–2000 was used for all deaths analysis in this article. This was done to remove variation in annual death rates as a result of the small size of the Indigenous population, the relatively small number of deaths which occur each year and the variability in the coverage of deaths of Indigenous peoples each year.

Age–group contribution to the life expectancy(a) difference between the Indigenous population and the total population — 1998–2000



(a) Life expectancies for Indigenous peoples are experimental and exclude Tasmania and the Australian Capital Territory.

Source: ABS Deaths Collection.

Indigenous population and the total population for both sexes. A major decline in Indigenous infant mortality occurred in the 1970s and is largely attributed to improvements in community infrastructure and intensive Indigenous health programs which focused on maternal and child health.[2]

Within the adult age groups, there were marked differences between males and females in the age group contributions to the difference in life expectancy. The high death rates experienced by Indigenous males aged from 25 to 44 years resulted in one-quarter (5 years) of the life expectancy difference between Indigenous males and the total male population. In comparison, female death rates in this age group contributed three years to the life expectancy gap. In the 65 years and over age group, high female Indigenous mortality contributed over one-third (8 years) of the gap between Indigenous life expectancy and that for the total female population. Death rates among Indigenous males in this age group contributed one-quarter (5 years) of the life expectancy gap.

Analysis of the major causes of death provides further insight into the pattern of higher mortality rates among Aboriginal and Torres Strait Islander peoples. The relative importance of each of these causes of death is also analysed in terms of their impact on the lower life expectancy.

Cardiovascular disease

Diseases of the circulatory system, or cardiovascular diseases, which include ischaemic heart disease, stroke and rheumatic heart disease, are the leading causes of death for both Aboriginal and Torres Strait Islander peoples and the total population. In the period 1998–2000, 3,034 Indigenous Australians died of cardiovascular disease, accounting for almost 30% of all Indigenous deaths during that period.

In 1998–2000, deaths from cardiovascular disease among Aboriginal and Torres Strait Islander males were 5.2 times higher than would be expected if the Indigenous population experienced the same age-specific death rates as the total male population. This comparative rate is known as the standardised mortality ratio. The standardised mortality ratio for females was 4.7. In the same period, the median age for deaths of Indigenous males from cardiovascular disease was 58 years, compared with 78 years for the total male population. For Indigenous females, the median age of death from this cause was 65 years, compared with 84 years for all females.

Risk factors contributing to the comparatively high incidence of cardiovascular disease among Aboriginal and Torres Strait Islander peoples include their high rates of smoking,

Causes of death and the standardised mortality ratio

Causes of death are classified according to the International Classification of Diseases (ICD). Data on main causes of death presented in this article have been classified at the chapter level of the 10th revision of this classification.

The *standardised mortality ratio* is the ratio of the number of deaths in the population under study to the number of deaths which would have occurred if the population under study had experienced the age-cause-specific death rates of the standard population (in this case the total male and female populations of Australia over the period 1998–2000).

Selected causes of death of Indigenous peoples(a) — 1998–2000

	Standardised mortality ratio				
	Males ratio	*Females* ratio	*Persons* ratio	*Deaths* no.	*Proportion of all Indigenous deaths* %
Diseases of the circulatory system	5.2	4.7	4.9	3 034	29.8
External causes of morbidity and mortality	4.4	4.7	4.4	1 613	15.8
Malignant neoplasms	2.6	2.5	2.5	1 485	14.6
Diseases of the respiratory system	6.9	6.0	6.5	828	8.1
Endocrine, nutritional and metabolic disease	10.9	14.2	12.4	822	8.1
Diseases of the digestive system	7.1	6.6	6.8	434	4.3
All other causes of death	5.1	5.3	5.2	1 964	19.3
All deaths	**4.6**	**4.6**	**4.6**	**10 180**	**100.0**

(a) Deaths data for Indigenous peoples are experimental and exclude Tasmania and the Australian Capital Territory.

Source: ABS Causes of Death Collection.

obesity and diabetes.[3] In addition, it has been argued that low infant birthweight predisposes a person to cardiovascular disease in later life.[4] Thus the high rate of heart disease in Indigenous adults may be due in part to the relatively high proportion of Indigenous babies with low birthweight and the survival of greater numbers of these babies, resulting from improved infant survival rates since the 1950s.[5]

In 1998–2000, there were 84 deaths of Indigenous people caused by rheumatic heart disease. The median age at death of Indigenous Australians from rheumatic heart disease was 45 years, compared with 75 years for the total population. Indigenous Australians experience particularly high death rates from rheumatic heart disease — around 20 times higher than the rate among the total population in 1998–2000. Rheumatic heart disease is often associated with poor infection control arising in many instances from overcrowding, lack of hygiene and scabies infestation.[6]

External causes

Aboriginal and Torres Strait Islander peoples are more likely than the total population to die from external causes such as accidents, poisonings and violence. External causes also include deaths from transport accidents, falls and intentional self-harm or suicide. In the period 1998–2000, there were 1,613 deaths of Indigenous Australians attributed to external causes, accounting for 16% of deaths, compared with 6% of deaths in the total population. Among Indigenous males and females, there were 4.4 and 4.7 times more deaths respectively than would have been expected from age-specific death rates for the total male and female populations. External causes were the second leading cause of death for Indigenous Australians in 1998–2000, and the fourth for the total population. As a proportion of all Indigenous deaths, suicide accounted for 4.3% (2.0% for the total population), transport accidents 4.2% (1.6%), and assault 2.0% (0.2%).

Cancer

Malignant neoplasms, or cancers, of the digestive organs and lungs (and other smoking-related cancers) are the most common types of cancer that lead to deaths among Aboriginal and Torres Strait Islander peoples. In 1998–2000, cancer caused 1,485 deaths of Indigenous Australians (nearly 15% of all deaths of Indigenous peoples). While cancer death rates are higher among Indigenous peoples than for all Australians, the standardised mortality ratio of 2.6 for males and 2.5 for females is less than for other leading causes of death.

Indigenous peoples have low cancer survival rates compared with their incidence rates, partly because they are more likely to develop cancers with a poor prognosis (such as lung cancer).[7] Another possible factor is that cancers among Indigenous Australians may be detected at more advanced stages than in the total population. For example, cervical and breast cancer are among the most common types of cancer for Indigenous females. Cervical cancer is one of the few potentially preventable cancers, but participation in Pap smear screening in Indigenous communities is thought to be relatively low.[7]

Other major causes of death

In the period 1998–2000, 828 Aboriginal and Torres Strait Islander people died from diseases of the respiratory system. This represented 8% of all deaths among Indigenous Australians. The standardised mortality ratio shows that Indigenous males died from diseases of the respiratory system at 6.9 times the rate of the total population, and females at 6.0 times the rate.

Endocrine, nutritional and metabolic diseases comprised 8% of all deaths of Indigenous Australians. Of the 822 deaths in this group, 87% (715) were due to diabetes mellitus. Indigenous Australians are over 12 times more likely to die from diabetes than the total population, as measured by the standardised mortality ratio. Diabetes and associated complications, such as cardiovascular and renal disease, are in part due to increasing weight in adulthood and poor diet. The prevalence of diabetes among Indigenous Australians living in remote communities in the Northern Territory is estimated to be between 10% and 20%.[8]

Possible years of life expectancy gained

Each of the higher death rates for particular causes of death among Aboriginal and Torres Strait Islander peoples, compared with the total population, contributes to their lower life expectancy. The degree to which each cause of death contributes to lower life expectancy for Indigenous Australians can be broken down to represent the difference in years of life expectancy due to each cause. These years indicate the potential years of life expectancy that could be gained if the death rates from these causes could be reduced to those of the total population. The technique used to derive potential years of life

Potential years of life expectancy(a) gained by Indigenous peoples if selected causes of death reduced to that of the total population — 1998–2000

	Years of life expectancy gained	
	Males	Females
Diseases of the circulatory system	6.5	6.4
External causes	3.7	1.7
Malignant neoplasms	2.4	2.5
Diseases of the respiratory system	2.0	1.7
Endocrine, nutritional and metabolic disease	1.6	2.5
Diseases of the digestive system	1.0	0.8
Other causes	3.7	3.8
Total	**20.9**	**19.5**

(a) Life expectancies for Indigenous peoples are experimental and exclude Tasmania and the Australian Capital Territory.

Source: ABS Causes of Death Collection.

expectancy gained for individual causes of death produces gains which add to the total difference in life expectancy between the Indigenous population and the total population.[9] However, in reality the potential years of life gained for the individual causes of death are not necessarily cumulative because of the complex interaction between diseases and causes of death.

If the death rate from cardiovascular disease for Aboriginal and Torres Strait Islander peoples was the same as for the total population, life expectancy for Indigenous Australians would increase by around 6.5 years for both males and females. For external causes of death, which are potentially preventable deaths, life expectancy would increase by 3.7 years for males and 1.7 years for females. This difference between males and females in the potential years of life expectancy gained is principally due to greater proportions of males dying at younger ages from external causes, such as traffic accidents and suicides, compared with females.

Assuming cancer death rates among Indigenous Australians were the same as for the total population, the additional years of life expectancy gained would be 2.4 years for males and 2.5 years for females. Gains in life expectancy from endocrine, nutritional and metabolic diseases, which includes diabetes, would be 1.6 years for males and 2.5 years for females.

Endnotes

1 House of Representatives Standing Committee on Family and Community Affairs 2000, *Health is Life: Report on the Inquiry into Indigenous Health,* Parliament of the Commonwealth of Australia, Canberra.

2 Thomson, N. 1990, 'Trends in Aboriginal infant mortality' in *A Matter of Life and Death: Contemporary Aboriginal Mortality*, ed Gray, A., Aboriginal Studies Press, Canberra.

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4 Barker, D.P.J., Osmond, C., Winter, P.D., Margetts, B.M. and Simmonds S.J. 1989, 'Weight in infancy and death from ishaemic heart disease', *Lancet*, vol. 2, pp. 577–580.

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6 Carapetis, J.R. and Currie, B.J. 1999, 'Mortality due to acute rheumatic fever and rheumatic heart disease in the Northern Territory: A preventable cause of death in Aboriginal people', *Australian and New Zealand Journal of Public Health*, vol. 23, no. 2., pp. 159–163.

7 Coory, M.J., Thompson, A., Ganguly, I. 2000, 'Cancer among people living in rural and remote Indigenous communities in Queensland', *Medical Journal of Australia*, vol. 173, no. 6, pp. 301–304.

8 London, J.A. and Guthridge, S. 1998, 'Aboriginal perspectives of diabetes in a remote community in the Northern Territory', *Australian and New Zealand Journal of Public Health*, vol. 22, no. 6, pp. 726–728.

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Infant mortality

Between 1900 and 2000, the rate of infant deaths decreased from 103 deaths per 1,000 live births to 5 deaths per 1,000 live births.

The survival of infants in their first year of life is commonly viewed as an indicator of the general health and wellbeing of a population. A low infant mortality rate is a major contributor to increased life expectancy. The improved survival of babies in Australia in the last century, as in many other developed countries, has been associated mainly with the decline of infectious diseases, along with growing preventative health measures and public health programs.[1]

Trends in infant mortality

Over the 20th century, the rate of infant deaths decreased from 103 deaths per 1,000 live births in 1900 to 5.2 deaths per 1,000 live births in 2000. The dramatic decline in the infant mortality rate during the first half of the century was linked to improvements in public sanitation and health education. In the 1940s, the development of vaccines and the ensuing programs of mass vaccination, along with effective use of antibiotics, resulted in further gains. These measures removed much of the earlier volatility in the infant mortality rate caused by outbreaks of infectious diseases. The more modest declines in the second half of the century were largely due to improved medical technology and education campaigns about the importance of immunisation;[2] and most recently, in the case of Sudden Infant Death Syndrome (SIDS), infant sleeping position.[3] Improvements in neonatal intensive care in the 1970s also played a major role in the continued decline in infant mortality in the latter part of the century.

Infant deaths are commonly divided into those which occur within the first 28 days of life (called the neonatal period) and those which occur on or after the 28th day but in

Deaths among infants

The main source of data in this article is the ABS Deaths collection, compiled from data provided by the Registrar of Births, Deaths and Marriages in each State and Territory. For more information see *Deaths, Australia, 2000* (ABS Cat. no. 3302.0).

An *infant death* is the death of a child before its first birthday.

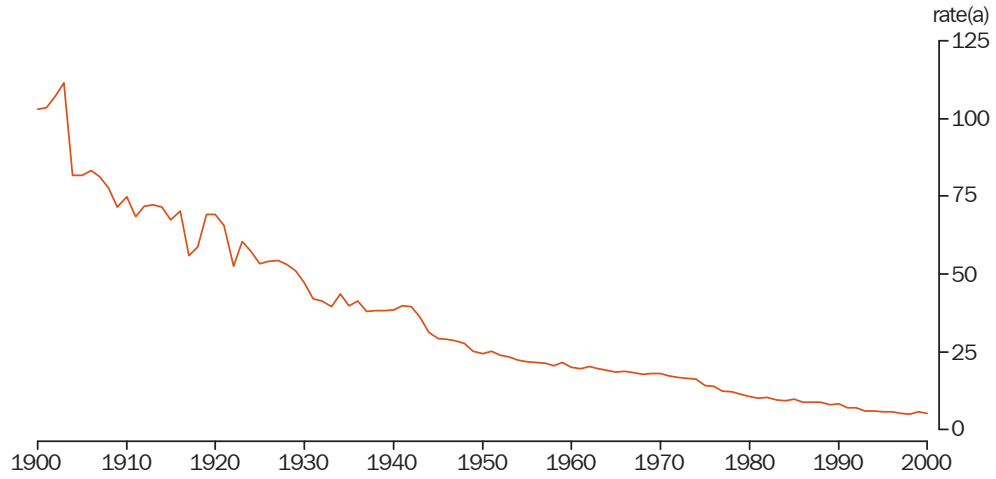
The *infant mortality rate* is the number of deaths in a calendar year of children aged under one year per 1,000 live births in the same calendar year. It comprises neonatal and postneonatal deaths.

A neonatal death is the death of an infant within 28 days (0–27) of birth who after delivery, breathed or showed any other evidence of life such as a heartbeat.

A *postneonatal death* is the death of an infant on or after 28 days but less than 12 months.

Perinatal conditions are diseases and conditions that originated during pregnancy or the neonatal period, even though death or mobidity may occur later.

Infant mortality rate(a)



(a) Per 1,000 live births.

Source: Deaths, Australia, 2000 (ABS Cat. no. 3302.0).

the first year of life (called the postneonatal period). Improvements in infant mortality varied for babies of different age groups over the century. Until the 1940s, the decline in the infant mortality rate was mostly due to a rapid decline in postneontal deaths. In contrast, after World War II, the decline was greater for neonatal deaths than for older babies.

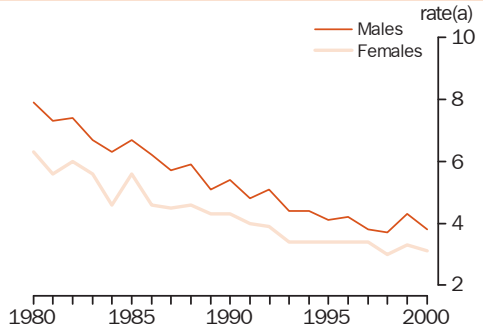
Infant mortality rates are higher among boys than girls for almost all leading causes of death. This difference is largely biological in origin.[4] Between 1980 and 2000, the infant mortality rate for boys was, on average, 27% higher than that for girls.

Neonatal mortality

The death rate for babies aged under 28 days continued to decline rapidly over the last two decades of the 20th century. Between 1980 and 2000, the neonatal mortality rate declined from 7.1 to 3.5 deaths per 1,000 live births. The rate of decline was similar for boys and girls.

In 1997–2000, two major groups of causes accounted for 95% of neonatal deaths — conditions originating in the perinatal period (pregnancy and the first 28 days of life) (64%), and congenital malformations (31%). Conditions which originate in the perinatal period include causes that relate to pregnancy, fetal growth, labour and delivery. Congenital malformations are conditions present at birth that are either hereditary or originating from pregnancy, including deformities and chromosomal abnormalities.

Neonatal mortality rate(a)



(a) Rate per 1,000 live births.

Source: ABS Causes of Death collection.

Over the last decade of the 20th century, the neonatal death rate from conditions originating in the perinatal period declined by 26%, from 3.1 deaths per 1,000 live births in 1987–1990 to 2.3 deaths per 1,000 live births in 1997–2000. In 1997–2000, 56% of neonatal deaths from conditions originating in the perinatal period were due to maternal factors and complications of pregnancy, labour and delivery (36% of all neonatal deaths). Because of changes in the classification of causes of death, a comparable figure is not available for 1987–1990. The two other common types of conditions originating in the perinatal period were

Neonatal deaths

	1987–1990		*1997–2000*	
	Death rate(a)	*Proportion of deaths*	*Death rate(a)*	*Proportion of deaths*
Main cause of death	rate	%	rate	%
Certain conditions originating in the perinatal period	3.11	62.5	2.28	64.0
Congenital malformations, deformations and chromosomal abnormalities	1.61	32.4	1.09	30.5
Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	0.11	2.3	0.06	1.8
Other causes	0.15	2.8	0.13	3.7
All causes	**4.98**	**100.0**	**3.56**	**100.0**

(a) Rate per 1,000 live births.

Source: ABS Causes of Death collection.

Causes of infant deaths

Infant deaths are classified according to the International Classification of Diseases (ICD). There have been a number of revisions of the ICD, the most recent being the ICD–10 introduced to Australian deaths statistics in 1999.

Deaths which occurred prior to 1999 have been matched with the ICD–10 codes to facilitate comparison over time. This article discusses infant deaths classified to the following categories of underlying causes of death in the ICD–10 (followed by the equivalent ICD–9 code):

- certain infectious and parasitic diseases, A00–B99 (001–139);
- diseases of the nervous system, G00–G99 (320–389);
- diseases of the respiratory system, J00–J99 (460–519);
- certain conditions originating in the perinatal period, P00–P96 (760–779);
- congenital malformations, deformations and chromosomal abnormalities, Q00–Q99 (740–759);
- symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified, R00–R99 (780–799); and
- external causes of morbidity and mortality, V01–Y98 (E800–E899).

hypoxia, birth asphyxia and other respiratory conditions (accounting for 12% of neonatal deaths in 1997–2000), and disorders relating to length of gestation and fetal growth (accounting for 4% of deaths). Both types of conditions made up a greater proportion of neonatal deaths a decade earlier (27% and 19% respectively in 1987–1990). Over the same period, there was a slight increase in the proportion of deaths from conditions which originate in the perinatal period which were not identified.

Between 1987–1990 and 1997–2000, the neonatal death rate for congenital malformations declined from 1.6 to 1.1 deaths per 1,000 live births, partly due to improved screening methods to detect such conditions (including amniocentesis and ultrasound) and greater awareness of preventative measures during pregnancy.

Postneonatal mortality

Between 1980 and 2000, the mortality rate for babies aged 28 days and under one year declined by 53% from 3.6 to 1.7 deaths per 1,000 live births. The rate of decline was similar for boys and girls. Babies who die after the first 28 days of life were likely to die from a greater range of causes than those who die in their first four weeks of life. Congenital malformations and conditions originating in the perinatal period were again among the more common causes of postneonatal deaths, accounting for 21% and 12% of deaths respectively in 1997–2000. However, the most commonly cited group of causes were symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified. This group of causes accounted for a third of postneonatal deaths in 1997–2000, the bulk of them (30% of all postneonatal deaths) caused by Sudden Infant Death Syndrome (SIDS).

Between 1987–1990 and 1997–2000, the postneonatal death rate for SIDS declined from 1.8 to 0.5 deaths per 1,000 live births. Proportionally, this equated to a decrease from 54% to 30% of all postneonatal deaths. The decrease in death rate for SIDS occurred following the introduction of a national health educational campaign in 1990. The campaign highlighted the risk factors which are associated with SIDS such as sleeping position, feeding practices and exposure to passive smoking.[3]

The death rates for conditions originating in the perinatal period, and for congenital malformations declined to 0.2 and 0.4 deaths per 1,000 live births respectively between 1987–1990 and 1997–2000. However, these two groups of causes accounted for a greater proportion of postneontal deaths in 1997–2000 than they did a decade earlier, as a result of the greater gains in reducing deaths caused by SIDS and the improved survival of babies with these conditions beyond the first 28 days of life.

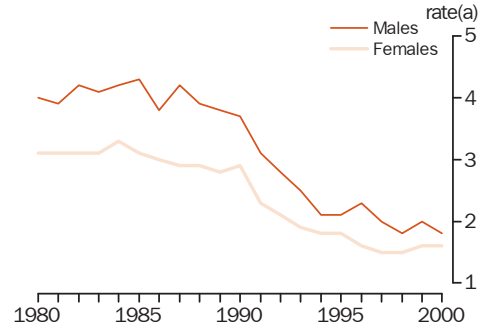
Postneonatal deaths

Main cause of death	1987–1990 Death rate(a) rate	1987–1990 Proportion of deaths %	1997–2000 Death rate(a) rate	1997–2000 Proportion of deaths %
Certain infectious and parasitic diseases	0.08	2.2	0.06	3.2
Diseases of the nervous system	0.13	3.9	0.11	6.5
Diseases of the respiratory system	0.17	5.0	0.09	5.1
Certain conditions originating in the perinatal period	0.31	9.2	0.21	12.1
Congenital malformations, deformations and chromosomal abnormalities	0.55	16.1	0.37	21.1
Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	1.85	54.5	0.57	32.8
Sudden infant death syndrome	1.83	54.0	0.51	29.7
External causes of morbidity and mortality	0.18	5.2	0.16	9.2
Other causes	0.13	3.9	0.17	10.0
All causes	**3.39**	**100.0**	**1.73**	**100.0**

(a) Rate per 1,000 live births.

Source: ABS Causes of Deaths Collection.

Postneonatal mortality rate(a)



(a) Rate per 1,000 live births.

Source: ABS Causes of Death collection.

State/Territory infant mortality rates(a)

State/Territory	1980	1990	2000
NSW	10.9	8.1	5.2
Vic.	10.0	7.8	4.5
Qld	10.9	7.7	6.2
SA	10.1	8.5	4.6
WA	11.7	8.6	4.3
Tas.	12.8	8.9	5.8
NT	14.2	15.2	11.7
ACT	8.0	9.4	4.2
Aust	**10.7**	**8.2**	**5.2**

(a) Rate per 1,000 live births.

Source: Deaths, Australia, 2000 (ABS Cat. no. 3302.0).

State and Territory differences

There is some variation in infant mortality rates across States and Territories. In 2000, the rates ranged from 4.2 deaths per 1,000 live births in the ACT to 11.7 deaths per 1,000 live births in the Northern Territory. The notably higher infant mortality rate in the Northern Territory reflects the higher proportion of Indigenous babies born in the Northern Territory. Overall, the infant mortality rate for the Indigenous population is much higher than for the total Australian population (13.5 deaths per 1,000 live births compared with 5.3 deaths per 1,000 live births in 1998–2000). For more information on Indigenous mortality rates see *Australian Social Trends 2002*, Mortality of Aboriginal and Torres Strait Islander peoples, pp. 86–90.

Between 1980 and 2000, the infant mortality rate for Australia decreased by 51%, from 10.7 to 5.2 deaths per 1,000 live births. Decreases varied across States and Territories with Western Australia and Victoria experiencing the greatest declines over the period — 63% and 55% to 4.3 and 4.5 deaths per 1,000 live births respectively in 2000. While infant mortality rates in Tasmania and the Australian Capital Territory have decreased in line with the national trend, they have shown more variability from year to year due to the small numbers of infant deaths.

International comparison

Despite continued declines in the infant mortality rates of most countries over the last 20 years, there continues to be a wide variation in the rates experienced in different countries. Australia's infant mortality rate is among the lowest in the world.

Selected infant mortality rates(a)

	1978	1998
Hong Kong, SAR of China	11.8	3.2
Japan	8.4	3.6
Sweden	7.8	(c)3.7
Singapore	12.6	4.2
Australia	**12.2**	**5.0**
Canada	12.0	(c)5.3
New Zealand	13.8	5.3
Italy	17.1	(c)5.5
United Kingdom	13.3	(c)5.9
Greece	19.3	6.1
United States of America	13.8	7.2
Korea, Republic of	(b)36.7	(d)10.0
Viet Nam	(b)106.4	(d)38.2
China	(e)48.7	(f)41.0
Indonesia	(b)98.7	(d)48.4
Papua New Guinea	(b)110.9	(d)61.4

(a) Rate per 1,000 live births.
(b) Estimate for 1975–80.
(c) 1997 data.
(d) Estimate for 1995–2000.
(e) 1979 data.
(f) 1995 data.

Source: United Nations, *Demographic Yearbook 1998;* and *Demographic Yearbook 1982*.

Endnotes

1 United Nations, *1988 Mortality of children under age 5: World Estimates and projections 1950–2025*, United Nations, New York.

2 Stanley, F. J. 2001, 'Child health since Federation', in *Year Book Australia 2001*, ABS Cat. no. 1301.0, pp. 368–400, Ausinfo, Canberra.

3 SIDS Australia Online, <URL: http://www. sidsaustralia.org.au/> (accessed 25/10/2001).

4 Australian Bureau of Statistics 1998, *Causes of Infant and Child Deaths, 1982–1996*, Cat. no. 4398.0, ABS, Canberra.

Education

Education: national summary(a)

PARTICIPANTS	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
School students(b)	'000	3 075	3 099	3 098	3 099	3 109	3 143	3 172	3 199	3 227	3 247	3 268
Students in government schools(b)	%	72.1	72.1	71.9	71.5	71.0	70.7	70.3	70.0	69.7	69.2	68.8
Females — of all Year 11 and 12 students(b)	%	51.3	51.0	51.1	51.4	51.8	51.8	51.8	52.0	52.1	52.1	51.8
Year 12 apparent retention rate — males(b)	%	66.1	72.5	71.9	69.6	66.7	65.9	66.2	65.9	66.4	66.1	68.1
Year 12 apparent retention rate — females(b)	%	76.7	82.0	81.4	79.9	77.9	77.0	77.8	77.7	78.5	78.7	79.1
Education participation of 15–19 year olds — of all 15–19 year olds(c)	%	70.6	72.8	73.4	72.9	73.9	74.0	77.4	76.9	77.8	77.6	77.4
Education participation of 20–24 year olds — of all 20–24 year olds(c)	%	25.0	27.1	25.8	26.6	28.0	31.5	31.0	32.1	34.4	34.4	34.8
Vocational Education and Training (VET) students(d)	'000	985.9	1 042.5	1 121.4	1 131.5	1 272.7	1 347.4	1 458.6	1 535.2	1 647.2	1 749.4	n.y.a.
Females — of all VET students(d)	%	45.1	45.1	45.9	45.9	47.2	47.6	48.1	47.3	48.7	49.0	n.y.a.
15–24 year olds studying VET(c)	%	11.1	11.8	11.5	9.8	12.2	12.5	12.1	12.6	13.0	13.4	11.8
Higher education students	'000	534.5	559.4	575.6	585.4	604.2	634.1	658.8	671.9	686.3	r695.5	726.2
Females — of all higher education students	%	53.3	53.4	53.4	53.5	53.9	54.3	54.4	54.7	55.0	55.2	55.0
Overseas students — of all higher education students(e)	%	5.5	6.1	6.4	6.9	7.6	8.4	9.6	10.7	12.1	13.7	15.5
15–24 year olds studying higher education(c)	%	12.7	13.7	13.1	14.9	14.2	15.5	16.4	16.4	17.6	17.2	18.4
Apprentices and trainees	'000	160.2	151.9	137.5	131.1	135.9	156.5	r171.9	r192.9	r252.5	r277.3	316.2

EDUCATION OUTCOMES	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
With non-school educational qualifications — of all aged 15–64(f)(g)	%	40.8	41.7	39.1	39.0	41.0	42.3	40.4	41.9	43.7	43.8	47.2
Bachelor degree or above	%	9.0	9.6	10.1	11.5	11.9	12.8	13.6	14.3	15.4	15.7	17.0
Advanced diploma and diploma or below	%	31.8	32.1	28.9	27.5	29.1	29.4	26.8	27.6	28.3	28.1	30.2
Females — of all with non-school educational qualifications	%	43.0	43.6	42.6	44.1	43.9	44.1	44.6	45.1	45.2	45.8	44.4
With non-school educational qualifications — of all aged 25–64(f)(g)	%	46.8	47.5	44.6	44.1	46.4	47.7	45.5	47.3	49.3	49.5	53.3
Bachelor degree or above	%	10.7	11.3	11.8	13.4	13.8	14.8	15.6	16.6	17.7	18.1	19.7
Advanced diploma and diploma or below	%	36.1	36.2	32.8	30.8	32.6	32.9	29.9	30.7	31.7	31.4	33.6
Higher education students completing courses	'000	107.7	120.6	132.9	138.7	141.0	145.3	155.3	161.7	164.4	170.1	n.y.a
Without non-school educational qualifications — of all aged 15–64(f)	%	59.2	58.3	60.9	61.0	59.0	57.7	59.6	58.1	56.3	56.2	52.8
Did not complete highest level of secondary school	%	36.2	34.5	37.3	37.7	36.1	34.8	36.3	34.2	32.7	32.0	36.1

(a) The order of and terms used for some indicators presented here differ slightly from previous editions of *Australian Social Trends*, as they have been updated to reflect the *Australian Standard Classification of Education* (ABS Cat. no. 1272.0) and the Framework for Australian Education and Training Statistics, both introduced by the ABS in 2001.

(b) Refers to full-time students only.

(c) Data for 1993–1995 refer to courses leading to recognised qualifications only.

(d) Data prior to 1994 are not strictly comparable to more recent data due to changes in scope and collection methodology. Community education providers were included in the collection from 1995, and private providers were included from 1996.

(e) Prior to 1996, New Zealand students were counted as being overseas students.

(f) From 1993, figures refer to recognised qualifications only.

(g) Does not include persons studying for courses where the level has not been determined.

Reference periods: Schools data are at August, except for 1992–1994 (July). Data on participation rates, educational attainment and unemployment rates are at May. VET and apprentice and trainee data for 1991–1997 are at June and from 1998–2001 are at 31 December. Higher education and overseas student data are at 31 March.

Education: national summary continued

LABOUR MARKET OUTCOMES	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Unemployment rate (aged 15–64)												
With non-school educational qualifications(a)												
Bachelor degree or above	%	3.9	4.3	4.8	4.7	3.6	3.8	3.5	3.1	3.0	3.0	2.8
Advanced diploma and diploma or below	%	7.3	8.8	8.0	6.7	6.3	6.0	6.5	6.0	5.5	5.2	5.7
Without non-school educational qualifications(a)	%	12.4	13.7	14.1	13.0	11.1	11.3	11.6	10.9	10.3	r9.1	9.6

FINANCIAL RESOURCES	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999(b)	2000	2001
Total expenses on education — of GDP(c)	%	5.4	5.6	5.6	5.4	5.3	5.2	5.3	5.2	r6.8	6.7	6.7
Government expenses on education — of GDP(c)	%	4.7	4.9	4.9	4.7	4.6	4.5	4.5	4.4	r5.2	5.1	5.2
Government expenses on education(c)												
Primary and secondary	$'000m	10.7	11.6	12.0	12.2	12.5	13.0	13.9	14.7	r17.3	18.2	19.5
Tertiary	$'000m	5.9	6.4	6.9	7.1	7.6	7.6	8.1	8.0	r11.7	12.1	12.8

HUMAN RESOURCES	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
School student/teaching staff ratio												
All schools	ratio	15.4	15.3	15.3	15.5	15.4	15.4	15.3	15.3	15.0	14.9	14.7
Government schools	ratio	15.2	15.1	15.2	15.4	15.4	15.4	15.3	15.3	14.9	14.9	14.8
Primary schools	ratio	18.5	18.4	18.4	18.5	18.1	18.1	17.9	17.9	17.3	17.3	17.0
Secondary schools	ratio	12.5	12.4	12.4	12.6	12.6	12.7	12.7	12.7	12.6	12.4	12.4
Females — of all primary school teachers	%	73.7	74.2	74.4	74.7	76.1	76.2	76.9	77.5	78.0	78.3	78.7
Females — of all secondary school teachers	%	50.4	50.6	51.1	51.3	52.3	52.6	53.1	53.5	54.1	54.4	54.9
Females — of all higher education academic staff(d)	%	30.8	31.9	32.6	32.8	33.5	34.1	34.4	35.1	35.5	34.1	n.y.a.

PROVIDERS	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Schools	no.	9 980	9 957	9 865	9 679	9 648	9 630	9 609	9 587	9 590	9 595	9 596
Government schools — of all schools	%	74.8	74.8	74.7	74.0	73.8	73.6	73.2	73.0	72.7	72.6	72.3

(a) From 1993, figures refer to recognised qualifications only.
(b) Series break due to the introduction of Accrual Accounting in the 1998–99 financial year. Data for the 1998–99 financial year onwards are not comparable with the cash-based estimates in previous financial years.
(c) Prior to 1998–99, this indicator refers to cash outlays on education including capital outlays. From 1998–99 onwards, when accrual accounting was implemented in Government Finance Statistics (GFS), this indicator refers to Operating Expenses and does not include a capital component.
(d) Data cover full-time and fractional full-time staff but exclude casual academic staff.

Reference periods: Expenditure data are for financial years. Schools data are at August, except for 1992–1994 (July). Higher education data are at 31 March.

Education: State summary(a)

PARTICIPANTS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
School students(c)	'000	2001	1 099	809	611	249	319	83	37	61	3 268
Students in government schools(c)	%	2001	68.7	65.8	71.2	69.3	70.3	74.9	77.2	62.6	68.8
Females — of all Year 11 and 12 students(c)	%	2001	52.2	52.4	50.8	51.7	51.1	53.0	53.4	49.7	51.8
Year 12 apparent retention rate — males(c)	%	2001	63.0	72.2	74.9	60.4	67.0	63.6	44.1	87.5	68.1
Year 12 apparent retention rate — females(c)	%	2001	73.7	86.7	83.2	72.5	77.3	73.9	57.9	91.2	79.1
Education participation of 15–19 year olds — of all 15–19 year olds(d)	%	2001	80.1	83.5	70.4	73.7	70.0	73.9	73.2	82.4	77.4
Education participation of 20–24 year olds — of all 20–24 year olds(d)	%	2001	38.2	37.9	30.0	28.2	30.6	28.1	*16.6	39.8	34.8
Vocational Education and Training (VET) students	'000	2000	641.1	468.6	286.8	146.2	129.9	34.2	22.4	20.2	1 749.4
Females—of all VET students	%	2000	51.0	47.6	48.8	48.3	47.4	45.3	46.9	48.0	49.0
15–24 year olds studying VET(d)	%	2001	13.8	11.0	9.4	11.7	12.7	12.3	*5.6	*11.1	11.8
Higher education students(e)	'000	2001	231.6	193.8	135.7	50.9	66.6	13.2	4.7	19.9	726.2
Females — of all higher education students(e)	%	2001	54.8	54.1	54.7	57.2	56.7	50.7	65.0	51.6	55.0
Overseas students — of all higher education students(d)(e)	%	2001	14.5	18.7	14.6	15.4	15.5	9.0	4.2	13.3	15.5
15–24 year olds studying higher education(d)	%	2001	17.7	21.8	18.3	13.4	17.8	11.3	*11.6	20.4	18.4
Apprentices and trainees	'000	2001	92.5	98.4	54.6	32.6	18.7	12.0	5.1	2.3	316.2

EDUCATION OUTCOMES	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
With non-school educational qualifications — of all aged 15–64(f)(g)	%	2001	49.2	46.5	45.4	43.5	48.4	43.0	46.0	56.7	47.2
Bachelor degree or above	%	2001	17.9	19.0	14.3	13.7	16.2	11.6	15.8	29.3	17.0
Advanced diploma and diploma or below	%	2001	31.3	27.5	31.1	29.8	32.2	31.4	30.3	27.4	30.2
Females — of all with non-school educational qualifications	%	2001	47.4	43.6	41.3	39.8	45.3	39.5	39.3	54.6	44.4
With non-school educational qualifications — of all aged 25–64(f)(g)	%	2001	55.5	52.8	50.7	48.9	54.7	48.9	51.3	65.8	53.3
Bachelor degree or above	%	2001	20.6	22.1	16.4	15.7	18.9	13.9	18.5	35.1	19.7
Advanced diploma and diploma or below	%	2001	34.9	30.7	34.3	33.2	35.8	35.0	32.9	30.7	33.6
Higher education students completing courses	'000	2000	53.9	46.6	28.3	11.7	17.1	3.1	0.8	5.6	170.1
Without non-school educational qualifications — of all aged 15–64(f)	%	2001	50.8	53.5	54.6	56.5	51.6	57.0	54.0	43.3	52.8
Did not complete highest level of secondary school	%	2001	34.7	36.0	37.4	41.7	34.8	45.5	37.9	21.8	36.1

(a) The order and names of some indicators presented here differ slightly from previous editions of *Australian Social Trends*, as they have been updated to reflect the *Australian Standard Classification of Education* (ABS Cat. no. 1272.0) and the Framework for Australian Education and Training Statistics, both introduced by the ABS in 2001.
(b) Estimates for Northern Territory refer to mainly urban areas only, except all schools data and VET students.
(c) Data refer to full-time students only.
(d) Data refer to courses leading to both recognised and non-recognised qualifications.
(e) State and Territory totals exclude students of the Australian Catholic University which has campuses in more than one State or Territory.
(f) Data refer to recognised qualifications only.
(g) Does not include persons studying for courses where the level has not been determined.

Reference periods: Schools data are at August. Data on participation rates, educational attainment and unemployment rates are at May. VET and apprentice and trainee data are at 31 December. Higher education data and overseas student data are at 31 March.

Education: State summary continued

LABOUR MARKET OUTCOMES	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Unemployment rate (aged 15–64)											
With non-school educational qualifications(a)	%	2001	3.6	4.5	7.2	4.0	4.8	4.4	*2.3	3.1	4.6
Bachelor degree or above	%	2001	2.2	3.4	3.7	2.7	2.7	*1.7	**1.9	*1.7	2.8
Advanced diploma and diploma or below	%	2001	4.5	5.3	8.9	4.7	5.8	5.6	*2.6	4.6	5.7
Without non-school educational qualifications(a)	%	2001	8.4	8.3	12.2	11.5	9.6	10.4	9.6	10.4	9.6

HUMAN RESOURCES	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
School student/teaching staff ratio											
All schools	ratio	2001	15.0	14.5	14.6	14.7	14.8	14.4	13.1	14.8	14.7
Government schools	ratio	2001	15.1	14.7	14.6	14.5	15.0	14.4	12.9	14.2	14.8
Primary schools	ratio	2001	17.7	16.8	16.4	17.0	16.9	16.4	14.4	17.5	17.0
Secondary schools	ratio	2001	12.4	12.4	12.6	11.9	12.4	12.5	10.9	12.5	12.4
Females — of all primary school teachers	%	2001	80.0	79.5	77.3	75.4	76.9	78.4	81.5	83.5	78.7
Females — of all secondary school teachers	%	2001	55.0	56.2	56.1	48.9	51.3	53.9	60.7	60.8	54.9
Females — of all higher education academic staff(b)	%	2000	34.4	38.5	35.3	34.2	36.1	25.9	40.4	26.7	34.1

PROVIDERS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Schools	no.	2001	3 092	2 321	1 721	811	1 052	281	181	137	9 596
Government schools — of all schools	%	2001	70.7	70.0	75.1	75.3	73.1	76.2	82.3	69.3	72.3

(a) Data refer to recognised qualifications only.
(b) Data cover full-time and fractional full-time staff but exclude casual academic staff.

Reference periods: Schools data are at August. Higher education data are at 31 March.

Education definitions and references

Apprentices and trainees
persons undertaking vocational training through contract of training arrangements. Contracts of training are legal agreements entered into by employers and trainees who are engaged in employment-based training.
Reference: National Centre for Vocational Education Research, *Australian Apprentice and Trainee Statistics.*

Bachelor degree or above
a bachelor degree (including honours), a graduate or post-graduate diploma, master's degree or a doctorate. Data are from *Education and Work, Australia* (ABS Cat. no. 6227.0).

Did not complete highest level of secondary school
a person without non-school qualifications who did not complete the highest level of secondary schooling available at the time they left school. Data are from *Education and Work, Australia* (ABS Cat. no. 6227.0).

Educational participation
all persons enrolled and attending any institution with a primary role of education. Included are schools, higher education establishments, colleges of technical and further education, public and private colleges. Data are from *Education and Work, Australia* (ABS Cat. no. 6227.0).

Full-time equivalent (FTE)
a measure of the total level of staff resources used. The FTE of a full-time staff member is equal to 1.0. The calculation of FTE for part-time staff is based on the proportion of time worked compared with that worked by full-time staff performing similar duties. Casual staff are excluded.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

GDP (gross domestic product)
total market value of goods and services produced in Australia within a given period after deducting the cost of goods used up in the process of production, but before deducting allowances for the consumption of fixed capital (depreciation).
Reference: *Government Finance Statistics, Education, Australia* (ABS Cat. no. 5518.0.55.001).

Government expenses on education
total government final expenditure on education services and facilities; government transfer payments paid for the purpose of facilitating education but not intended to be spent directly on educational services (such as personal benefit payments to students and advances to persons for the Higher Education Contribution Scheme (HECS)); and other miscellaneous expenditure on education by government. Data are from *Government Finance Statistics, Education, Australia* (ABS Cat. no. 5518.0.55.001).

Government school
one administered by the Department of Education under the Director-General of Education (or equivalent) in each State or Territory.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

Higher education student
a person for whom there is a full-time, part-time or external enrolment in a course at a higher education institution at the reference date. State totals are based on the student's usual State of residence. Data for proportion of 15–24 year olds attending higher education are from *Education and Work, Australia* (ABS Cat. no. 6227.0).

Data for higher education students and overseas higher education students are obtained from the Department of Education, Science and Training administrative data. State totals are the number of students enrolled at all higher education institutions within a particular State or Territory.
Reference: Department of Education, Science and Training, *Selected Higher Education Statistics*.

Non-government school
any school not administered by a Department of Education, but including special schools administered by government authorities other than the State and Territory education departments.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

Non-school educational qualification
an award for attainment as a result of formal learning from an accredited non-school institution. Educational qualifications are classified according to the *ABS Classification of Qualifications* (ABSCQ) (ABS Cat. no. 1262.0). The level of attainment includes higher degrees, postgraduate diplomas, bachelor degrees, undergraduate and associate diplomas, and skilled and basic vocational qualifications.

From 2001, and with the implementation of the Australian Standard Classification of Education (ASCED) (ABS Cat. no. 1262.0), non-school qualifications are awarded for educational attainments other than those of pre-primary, primary or secondary education. This includes qualifications at the Post Graduate Degree Level, Master Degree Level, Graduate Diploma and Graduate Certificate Level, Bachelor Degree Level, Advanced Diploma and Diploma Level, and Certificates I, II, III and IV levels. Non-school qualifications may be attained concurrently with school qualifications.
Reference: *Education and Work, Australia* (ABS Cat. no. 6227.0).

Overseas higher education students
full-fee paying students at higher education institutions whose residence is usually overseas.
Reference: Department of Education, Science and Training, *Selected Higher Education Statistics*.

Primary education
full-time education which typically commences around age five years and lasts for seven to eight years. It does not include sessional education such as pre-school education.
Reference: *Schools, Australia* (ABS Cat no. 4221.0).

School
an educational institution which provides primary or secondary education on a full-time daily basis, or the provision of primary or secondary distance education.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

School student
a person who is enrolled in a school and active in a course of study, other than pre-school or Technical and Further Education (TAFE) courses.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

School student/teaching staff ratio
number of full-time school students divided by full-time equivalent teaching staff.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

Secondary education
education which typically commences after completion of primary education, at around age 12 years, and lasts for five or six years.
Reference: *Schools, Australia* (ABS Cat no. 4221.0).

Total expenses on education
total government expenses on education plus total private expenses on education less private expenses on education financed by government transfers. Data are from *Government Finance Statistics, Education, Australia* (ABS Cat. no. 5518.0.55.001).

Unemployment rate
an estimate of unemployed persons in any group expressed as a percentage of the labour force in the same group.
Reference: *Education and Work, Australia* (ABS Cat. no. 6227.0).

Education definitions and references continued

Vocational Education and Training (VET) student

a person aged 15–64 years for whom there is a full-time or part-time vocational stream enrolment in a TAFE college or a course provided by some private or adult and community education providers in the reference year. Does not necessarily equate to individuals, as some people may have more than one enrolment.
Reference: National Centre for Vocational Education Research, *Australian Vocational Education and Training Statistics: In Detail*.

Year 12 apparent retention rate

the percentage of full-time students of a given cohort group who continue from the first year of secondary schooling to Year 12.
Reference: *Schools, Australia* (ABS Cat. no. 4221.0).

Overseas students

PARTICIPATION IN EDUCATION

In 2000, there were 153,400 overseas students studying in Australia. Almost half (47%) were studying in higher education.

Over the past two decades, increasing numbers of overseas students have come to Australia. In 2000, overseas students generated $3.7 billion for the Australian economy.[1] Exporting education has played a major role in forging links with other countries, especially in Asia, from which the majority of overseas students originate. Moreover, by accepting increasing numbers of overseas students, Australia has become more widely recognised in the arena of international education, and is regarded as a safe, friendly study destination with high quality courses.[2]

As well as the economic benefits, there are cultural and political advantages to welcoming overseas students. Agreements about educational exchange are an important element of Australia's foreign relations policies with countries such as China, India and Indonesia.[3] A diverse student population helps to foster cultural exchange and understanding amongst students. Some overseas students also add to our cultural diversity and skilled labour supply by becoming permanent residents after finishing their studies. This article examines some of the characteristics of overseas students and their role in Australian society.

Trends in overseas student arrivals

In 1999–2000, 64,000 long-term visitor arrivals and 163,100 short-term visitor arrivals stated that education was their main purpose for travelling to Australia. This represents 48% of all long-term visitor arrivals and 4% of all short-term visitor arrivals. Long-term visitor arrivals for education have increased by more than eight times since 1981–82 (from 7,600), while short-term visitor arrivals for education have increased tenfold over the same period (from 16,300).

Over the last two decades, there have been some changes to the ranking of the countries of residence of visitor arrivals for education. While Malaysia, the United States of America, Hong Kong and Indonesia have frequently been present in the top five, Singapore and China have become more prominent in the 1990s. Papua New Guinea and New Zealand declined in relative importance as source countries through the 1980s and 1990s, although the numbers of arrivals from these countries continued to increase.

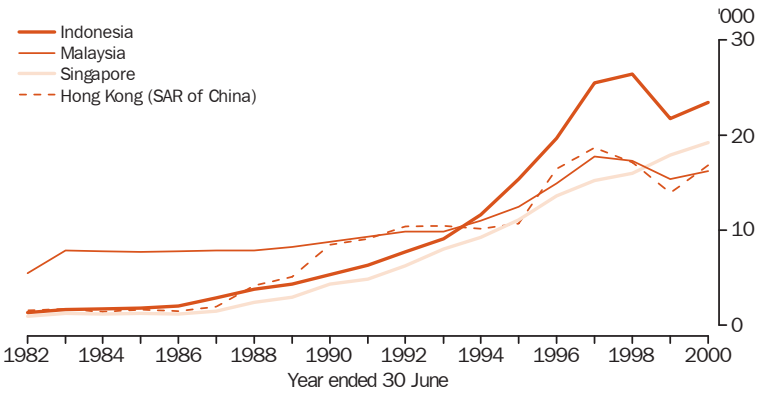
Since the early 1980s, the quality of Australian education has become better known and promoted more widely internationally. As the

Overseas visitor arrivals and overseas students

This article draws on two different sources of data about overseas students.

- Data on *overseas visitor arrivals* are taken from the ABS Overseas Arrivals and Departures Collection. Overseas visitors are people arriving in Australia from other countries for temporary visits which are either *long-term* (12 months or greater) or *short-term* (less than 12 months). Overseas visitor arrivals for education refer to those who nominated education as their main purpose of journey, regardless of whether they had a student visa. Therefore, New Zealand citizens and people intending to undertake short-term courses in Australia (such as work-related training, personal interest courses and some English language courses) not requiring a student visa, are included. Visitor arrivals refer to movements rather than individuals and thus multiple entries of individuals are counted. For more information, see *Overseas Arrivals and Departures, Australia* (ABS Cat. no. 3401.0).
- Data on *overseas students* are sourced from the Australian Education International Overseas Student Statistics Collection. For Commonwealth higher education institutions, data are collected from higher education institutions. For other providers of higher education and for other educational sectors, data are gathered from a register of courses and institutions for overseas students and matched with data on student visa holders.

Selected countries of residence of visitor arrivals(a) for education



(a) Both long-term and short-term.

Source: ABS 1980–2000 Overseas Arrivals and Departures Collection.

Major countries of residence of visitor arrivals(a) for education

	Year ended 30 June			
	1982	*1988*	*1994*	*2000*
Country of residence	'000	'000	'000	'000
Indonesia	1.3	3.8	11.6	23.4
Singapore	0.9	2.4	9.2	19.2
United States of America	1.4	3.4	6.9	18.0
Hong Kong (SAR of China)	1.6	4.2	10.2	16.9
Malaysia	5.5	7.9	11.0	16.2
China (excludes SARs and Taiwan Province)	0.2	6.4	2.5	14.0
New Zealand	2.4	3.8	4.5	6.2
Papua New Guinea	3.2	3.5	4.8	4.2
Total(b)	**23.9**	**54.9**	**110.5**	**227.1**

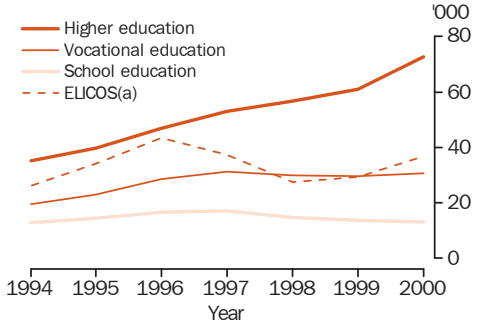
(a) Both long-term and short-term.
(b) Also includes other countries not listed and therefore components do not add to total.

Source: ABS 1980–2000 Overseas Arrivals and Departures Collection.

economies of Asian countries grew, so did their need for a skilled, educated workforce. Australia absorbed many students who might otherwise have studied in the United States of America or the United Kingdom, because Asian students perceived it as being closer and cheaper.[2]

Between 1997–98 and 1998–99, there was a decline in the number of arrivals for education from Indonesia, Hong Kong and Malaysia. This was associated with the Asian currency crisis in 1997–98, resulting in fewer people travelling to study because of the increased cost.[4] Countries less affected by the currency crisis (such as China and Singapore) did not experience the same declines in visitor arrivals, and arrivals from the United States of America rose markedly due to a large increase in short-term visitor arrivals.

Overseas students in different educational sectors



(a) English Language Intensive Courses for Overseas Students.

Source: Australian Education International, *Overseas Student Statistics 2000*.

Overseas students and educational sectors

For providers of higher education, *overseas students* are defined as students who are neither Australian nor New Zealand citizens and who are enrolled in a higher education course at some point over the year.

For sectors other than higher education, *overseas students* are defined as foreign visitors in Australia who have student visas and who attend an educational course on a full-fee paying basis (although they may not be paying these fees themselves) at any point over the year. Citizens of New Zealand are excluded because they do not require student visas. Students on institutional exchange programs are also excluded because they neither pay fees nor have their fees subsidised. In this article, students studying offshore (that is, at campuses of Australian education institutions outside Australia or by distance education outside Australia) are excluded, unless otherwise stated.

Students are allocated to educational sectors based on the courses they study. Where an institution offers different types of courses, students are allocated to sectors based on the type of course predominantly undertaken at that institution. *School education* refers to study at the primary or secondary level. *Vocational education* refers to study at the certificate and diploma level. *Higher education* refers to study at the bachelor degree or associate degree level or above. *English Language Intensive Courses for Overseas Students* (ELICOS) refers to a range of different courses in English language taught at higher education institutions, vocational education institutions, schools or private colleges.

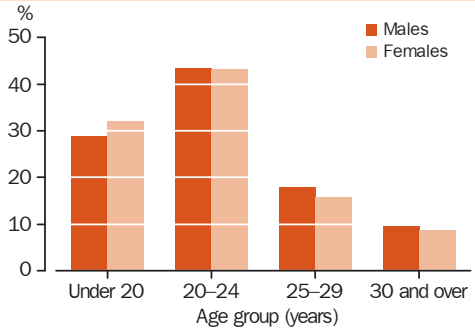
Between 1998–99 and 1999–2000, visitor arrivals from Indonesia, Hong Kong and Malaysia increased, and in 1999–2000 visitor arrivals for education from all countries were larger than ever before.

Characteristics of overseas students

In 2000, there were 153,400 overseas students in Australia, according to Australian Education International. This figure differs from the estimate of overseas visitor arrivals for education because it counts the number of students in Australia during the year, rather than the number of arrivals into Australia. It also only counts those students with student visas or students in higher education who are not Australian or New Zealand citizens, while overseas visitor arrivals count every person who states education is their main purpose for travelling.

Almost half of the 153,400 overseas students in Australia during 2000 were studying in the higher education sector (72,700 or 47%).

Overseas students — 2000



Source: Australian Education International 2000 Overseas Student Statistics Collection.

Higher education experienced the greatest growth in overseas student numbers, doubling between 1994 and 2000. The number of students in vocational education also increased over this period (from 19,500 to 30,800), while those in school education remained much the same (around 13,000).

English Language Intensive Courses for Overseas Students (ELICOS) numbers generally increased between 1994 and 2000, although numbers have varied within this period, peaking in 1996, falling substantially in 1997 and 1998, then recovering somewhat in 1999 and 2000. These courses may have been more affected by the Asian currency crisis than others, because some students undertake them as part of work-related training. In addition, overseas visitors may combine plans to study short English courses with plans to holiday in Australia. Visitors from countries affected by the currency crisis might have postponed holiday plans until their country's economic situation improved.

Reflecting the fact that most overseas students are studying in higher education, in 2000 they were most commonly aged 20–24 years (43%). There were also similar numbers of men and women from overseas countries studying in Australia. This contrasts with the situation in 1983, when most (67%) overseas students in higher education were men (see *Australian Social Trends, 1995,* Overseas students in higher education, pp. 75–77).

...in schools

In 2000, close to 1,400 overseas students were attending primary school while 11,400 were attending secondary school. They comprised 9% of all overseas students. While the number of overseas students in schools has remained much the same since 1994, in 2000 they represented a smaller proportion of overseas students. This is due to the steady increase of overseas students in higher education.

Between 1994 and 2000, the relatively small number of overseas students studying at primary schools trebled, while the number in secondary schools decreased by 7%. However, there were still many more overseas students in secondary than in primary school in 2000. This could be associated with the fact that some overseas students arrive in Australia for the final years of secondary school in preparation for further education.[5]

Distribution of overseas students(a) in schools across States and Territories

	Primary		*Secondary*	
	1994	*2000*	*1994*	*2000*
State or territory	%	%	%	%
New South Wales	21.7	19.3	32.3	20.2
Victoria	14.7	20.3	25.6	39.2
Queensland	44.4	30.1	17.6	17.2
South Australia	4.5	4.8	4.7	4.8
Western Australia	11.0	22.7	16.3	11.2
Tasmania	1.0	0.9	0.9	2.4
Northern Territory	1.2	0.7	0.4	1.4
Australian Capital Territory	1.5	1.2	2.3	3.7
Australia	**100.0**	**100.0**	**100.0**	**100.0**
	no.	no.	no.	no.
Australia	**401**	**1 385**	**12 237**	**11 423**

(a) As these data refer only to those students who hold a student visa, they exclude overseas visitors' dependents attending school, such as children of adults with working visas or children of diplomats.

Source: Australian Education International 1994 and 2000 Overseas Student Statistics Collection.

Overseas students in higher education and vocational education — 2000

Level of study(a)	'000	%
Higher education		
Doctorate	3.2	3.1
Masters	14.7	14.2
Other postgraduate	3.7	3.5
Bachelor	46.7	45.1
Other courses	4.4	4.3
Total higher education	*72.7*	*70.3*
Vocational education		
Certificate	6.4	6.2
Diploma	23.1	22.3
Other courses	1.2	1.2
Total vocational education	*30.8*	*29.7*
Total	**103.5**	**100.0**

(a) Level of study as described by Australian Education International.

Source: Australian Education International 2000 Overseas Student Statistics Collection.

...in higher education and vocational education

As noted earlier, in 2000, 72,700 or 47% of overseas students were studying in the higher education sector. The majority (64%) of these were studying towards bachelor degrees.

While most overseas students in higher education are self-funded, a small proportion are studying under scholarships. In 2000, 4% were recipients of Australian Agency for International Development (AusAID) scholarships. Higher education students were more likely to have been recipients of these scholarships than vocational education students. In 2000, only 1% of vocational education students were studying with AusAID scholarships.

The increase in overseas student numbers in vocational education (from 19,500 in 1994 to 30,800 in 2000) could be attributed to the fact that the vocational education and training sector expanded during the 1990s. Overseas students may have been attracted to its increasingly varied curriculum.

International Comparison

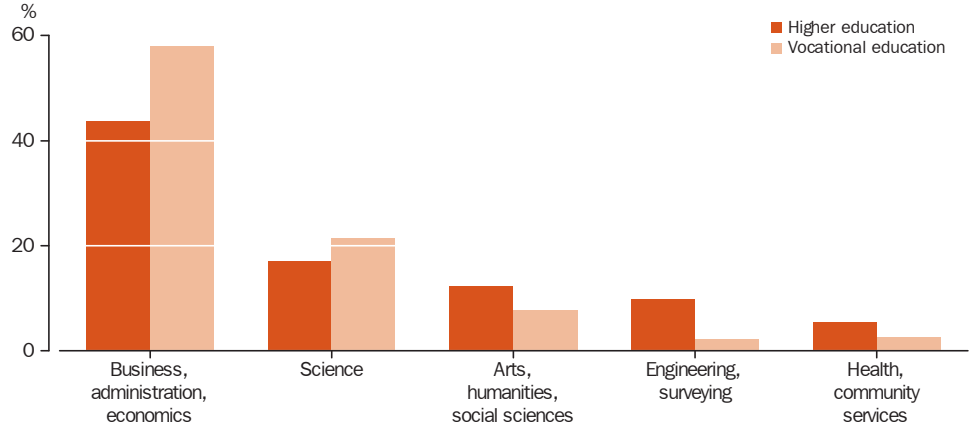
Overseas student numbers in higher education vary substantially across countries. Australia and the United Kingdom have the largest proportions of overseas students relative to all higher education students (14% and 10%, respectively). The United States of America hosts the greatest number (451,900).

Overseas higher education students in selected countries, 1999

Host country	*Total overseas students* '000	*Overseas students as a proportion of all students* %
Australia	**117.5**	**13.9**
United Kingdom	209.5	10.1
Canada	35.5	3.0
New Zealand	6.9	4.1
United States of America	451.9	3.3
Japan	56.6	1.4
Korea (Republic of)	2.9	0.1

Source: OECD Online Education Database, <URL: http://www1.oecd.org/els/education/ei/> accessed March 15 2002.

Distribution of overseas students in higher education and vocational education across selected fields of study — 2000



Source: Australian Education International, *Overseas Student Statistics 2000*.

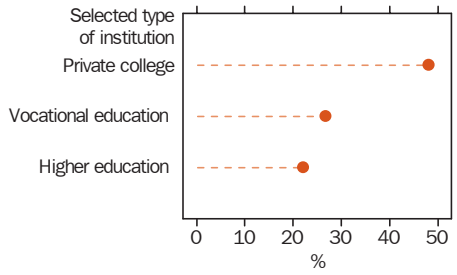
In 2000, the most common field of study for overseas students in both higher education and vocational education was Business, administration and economics (44% of higher education students and 58% of vocational education students). These field of study choices for overseas students differed in some respects from those of Australian students. In 2000, Business, administration and economics was the most common field of study for Australian vocational education and training students. For Australian higher education students, Arts, humanities and social science was the most common field, with Business, administration and economics a close second.[6]

...in intensive English language courses

In addition to overseas students who come to Australia to study towards degrees, certificates and other long-term courses, some students come for shorter periods to undertake courses in English language. Around 36,800 or 24% of overseas students were undertaking English Language Intensive Courses for Overseas Students (ELICOS) in 2000. These courses can be undertaken at a variety of institutions. While those undertaken at higher education and vocational education institutions may be part of a degree or diploma, those undertaken at private institutions can be as short as six weeks. In 2000, almost half (48%) of overseas students undertaking ELICOS were studying in private colleges, while 27% were studying at vocational education institutions and 22% at higher education institutions.

However, unlike students undertaking other courses, ELICOS students do not require a student visa, and these figures do not include overseas visitors who undertake English language courses while in Australia on a tourist or a working holiday visa. In 2000, it was estimated that 43% of overseas visitors studying ELICOS had other types of visas.

Overseas students(a) studying English language intensive courses — 2000



(a) With student visas only.

Source: Australian Education International, *Overseas Student Statistics 2000*.

Expenditure by overseas students in Australia — 2000

	Type of expenditure		
	Fees	Goods and services	Total
Sector	$m	$m	$m
Higher education	978	1 009	1 987
Vocational education	337	376	713
School education	130	148	278
ELICOS(a)	395	323	718
Total	**1 840**	**1 856**	**3 696**

(a) English Language Intensive Courses for Overseas Students.

Source: Australian Education International, *Overseas Student Statistics 2000*.

Exporting education

Overseas students continue to be a major source of revenue for Australian educational institutions, with their expenditure on fees increasing from $883 million to $1.8 billion between 1994 and 2000. Overseas students also contribute to the Australian economy more generally. For example, in 2000 they spent $1.9 billion on goods and services while in Australia.

In recent years, the Australian education industry has built upon the success of exporting education by establishing campuses in countries other than Australia. In addition, it is possible for students to study Australian courses in other countries via distance education. In 2000, around 34,900 or 19% of all overseas students enrolled in Australian institutions were studying offshore, most commonly in Malaysia, Singapore and Hong Kong. This number has increased fourfold since 1994.

After study

In some instances, the influence of overseas students on Australian society continues after they have finished their studies. Australia benefits from the immigration of former overseas students by gaining highly skilled migrants who already have an experience of Australian society. In a small survey of overseas students in higher education conducted in 1992, 47% said they planned to migrate to Australia at a later time. The main reasons they gave for this were because of the experience of studying in Australia; because

of social and political conditions in their home countries; and because they had friends and relatives in Australia.[5]

Moreover, former overseas students wishing to migrate to Australia have the advantage of possessing Australian qualifications. Applicants for skilled visas and permanent residency grants, who hold Australian qualifications and who apply within six months of finishing their studies, do not need to have any skilled work experience as part of their application. In 1999–2000, 14% of permanent residence grants made in Australia were to holders of student visas, and in 2000–01, around 50% of applicants for skilled migration were former overseas students.[7]

The benefits for Australia of overseas students are felt even when students return to their home countries. Having a positive experience of studying here may encourage overseas students to 'spread the word' about Australia, resulting in benefits to tourism, foreign investment and future overseas student enrolments.

Endnotes

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2 Cameron, N. 2001, 'Australian education on top', *Business Asia,* vol. 9, no. 7, pp. 20–21.

3 Department of Foreign Affairs and Trade 2001, *Annual Report 2000–01,* <URL: http://www.dfat.gov.au/dept/annual_reports/index.html> (accessed 14 November 2001).

4 Dobson, I.R., Hawthorne, L. and Birrell, B. 1998, 'The impact of the 'Hanson' effect and the Asian currency crisis on education exports', *People and Place,* vol 6, no 1, pp. 44–51.

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7 Department of Immigration and Multicultural Affairs (DIMA) 2000, *Population Flows: Immigration Aspects,* DIMA, Canberra; and DIMA 2001, *Annual Report, 2000–01,* DIMA, Canberra.

Education of Aboriginal and Torres Strait Islander peoples

PARTICIPATION IN EDUCATION

The number of Indigenous students in Vocational Education and Training increased by 60% between 1996 and 2000. Smaller increases over the last 5 to 6 years were recorded in schools (25%) and higher education (6%).

The social conditions of Aboriginal and Torres Strait Islander peoples have long been a cause for concern within Australian society, with health and employment identified as two principal areas where improvement is necessary (see *Australian Social Trends 2000*, Social conditions of Aboriginal and Torres Strait Islander people, pp. 21–26). Education is generally considered to be a key factor in improving outcomes for Indigenous Australians, with many studies having shown that improved health and socioeconomic status are directly linked to educational participation and achievement.[1]

There is a range of issues affecting participation in education for Indigenous Australians, including access to educational institutions, financial constraints, and community expectations. Government policies have been developed to address some of these issues, such as the provision of culturally appropriate teacher training. While targeted programs are improving outcomes in some educational areas, Aboriginal and Torres Strait Islander students continue to fare poorly compared with Australian students overall.[2]

This article examines the extent to which Indigenous students participate in each education sectors, and presents some measures of performance and achievement.

Indigenous education

Data in this article come principally from the ABS National Schools Statistics Collection, from data collected by the National Centre for Vocational Education Research, and from the Department of Education, Science and Training higher education data collection.

Indigenous students are those who identify themselves as an Aboriginal or Torres Strait Islander person when enrolling. Indigenous education statistics may be affected by the willingness to identify as Aboriginal or Torres Strait Islander, and by the different methods used to collect this information across organisations and States and Territories.

The *apparent retention rate* is the percentage of full-time students of a given cohort group who continue from the first year of secondary schooling to a specified year level. Care should be taken in interpreting apparent retention rates, as they do not account for students repeating a year or migrating in or out of the Australian school student population.

Vocational Education and Training (VET) refers specifically to vocational training delivered by publicly funded training providers (e.g. TAFE, agricultural colleges, and some schools and private providers).

Higher education refers to publicly funded educational courses at universities; the Australian Film, Television and Radio School; the National Institute of Dramatic Art; and the Australian Defence Force Academy.

Indigenous participation in education(a)

	1996	*1997*	*1998*	*1999*	*2000*	*2001*
Student numbers	'000	'000	'000	'000	'000	'000
School students	92.7	96.8	102.2	106.6	111.5	115.5
Primary	64.9	67.1	70.5	73.2	76.7	78.9
Secondary	27.8	29.7	31.6	33.4	34.8	36.5
VET students	32.3	38.5	44.4	50.8	51.7	n.y.a.
Higher education students	7.0	7.5	7.8	8.0	7.4	n.y.a.
As a proportion of all students	%	%	%	%	%	%
School students	2.9	3.1	3.2	3.3	3.4	3.5
Primary	3.5	3.6	3.8	3.9	4.0	4.1
Secondary	2.1	2.3	2.4	2.5	2.6	2.7
VET students(b)	3.1	3.4	3.7	3.9	3.7	n.y.a.
Higher education students(c)	1.2	1.3	1.3	1.3	1.2	n.y.a.

(a) School student numbers are from a census conducted in August each year. VET students comprise total enrolments for the year. Some students could enrol more than once in a year. Higher education data are from a census of students at Higher education institutions on 31 March of each year.
(b) Persons whose Indigenous status was not known were excluded prior to the calculation of percentages.
(c) Excludes overseas students.

Source: Schools, Australia, 1996–2001 (ABS Cat. no. 4221.0); National Centre for Vocational Education Research, *Australian Vocational Education and Training Statistics: In detail, 1996–2000*; Department of Education, Training and Youth Affairs, *Students 2000: Selected Higher Education Statistics*.

Comparisons with previous years, and with the total student population, provide context for the discussion of trends for Indigenous students within the education system.

Indigenous participation in education

In 2001, Aboriginal and Torres Strait Islander peoples made up 2.2% of the Australian population.[3] However, the Indigenous population had a much younger age profile than the rest of the population (a result of higher mortality rates, higher fertility rates, and intermarriage with non-Indigenous persons). This meant that Indigenous Australians made up a relatively higher proportion of the total population who were aged 5–14 years (4.0%) and 15–24 years (3.0%) — the age groups encompassing the majority of students. When considering education participation rates, it could be expected that the proportion of Indigenous students in the various education sectors would reflect the proportion of Indigenous Austalians in these two age groups, with figures around 3–4%.

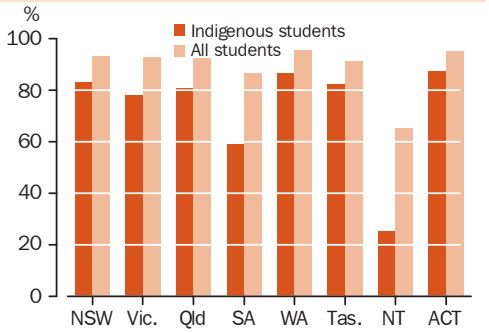
Over the last 5 to 6 years, the number of Indigenous students in most education sectors increased steadily. These increases may reflect an increased willingness to identify as Aboriginal or Torres Strait Islander Australians, the underlying growth in the population and an increase in participation in education. Over this period, Aboriginal and Torres Strait Islander school enrolments increased by 25%. As a proportion of the total school population, this represented an increase from 2.9% in 1996 to 3.5% in 2001. Indigenous participation was highest for the primary student population, with Indigenous students comprising 4.1% of the primary student population, compared with 2.7% of the secondary student population.

The increase in Indigenous participation over the late 1990s was greatest in the Vocational Education and Training sector, where Indigenous student numbers rose by 60% between 1996 and 2000. Consistent with this, the proportion of Indigenous VET students also increased, from 3.1% in 1996 to 3.7% in 2000. This contrasted with Indigenous participation in higher education, where student numbers increased during this period but the proportion of Indigenous students in this sector remained largely unchanged.

Primary and secondary school

There were 115,500 Indigenous students enrolled in Australian schools in 2001; 78,900 in primary schools and 36,500 in secondary schools. These students were less likely than the overall student population to be attending a non-government school (12.3% compared with over 30% of all students). The proportion of Indigenous students attending a non-government school was virtually unchanged between 1996 and 2001.

Proportion of students achieving the Year 3 reading benchmark — 2000



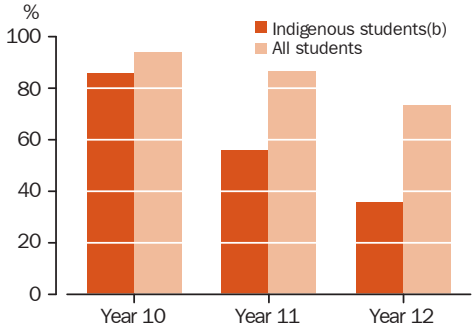
Source: Ministerial Council for Education, Employment, Training and Youth Affairs, *National Report on Schooling in Australia Preliminary Paper, 2000.*

The literacy of Australian students has been a focus of educational initiatives in recent years, particularly as literacy is regarded as an indicator of likely educational and labour force outcomes.[1] While it has traditionally been difficult to report comparative achievement of school students across states, recent literacy testing using benchmarks has provided a useful uniform measure (see *Australian Social Trends 2002*, Literacy and numeracy among school students, pp. 114–118). The reading benchmark is based on testing the ability of students to read and understand a range of texts considered suitable for the relevant year level.

In 2000, a smaller proportion of Indigenous students achieved the Year 3 reading benchmark compared with all students who were tested. Results for Indigenous students were substantially lower in most States, most notably in the Northern Territory, where 26% of Indigenous Year 3 students achieved the benchmark compared with 65% of all students. This may in part be attributable to the fact that English is a second language for some Indigenous students, particularly those in remote areas.

Another focus of Indigenous education programs has been to encourage students to remain at school as long as possible so that educational outcomes and entry rates into tertiary education are improved.[1] While apparent retention rates for Indigenous full-time students have improved since the 1980s, Indigenous students were still less

Apparent retention rates(a) for Years 10, 11 and 12 — 2001



(a) From Year 7/8 for full-time students only.
(b) Indigenous apparent retention rates are influenced by the degree to which students identify as Indigenous, which may have increased between 1998 and 2000.

Source: ABS 2001 National Schools Statistics Collection.

likely than all students in 2001 to stay at school beyond the compulsory years.[2] In 2001, the proportion of Indigenous students continuing to Year 10 was 86%, compared with 94% of all students. For Indigenous students continuing their studies to Year 12, the apparent retention rate was half that of all students (36% compared with 73%).

Vocational Education and Training

While the numbers of Indigenous students in higher education have long been influenced by low Year 12 completion rates, participation in Vocational Education and Training (where completion of Year 12 is not necessarily a prerequisite) has increased markedly in recent years. As already mentioned, there was a 60% increase in the number of Indigenous VET students from 1996 to 2000. This coincided with a 34% increase in VET student numbers overall.

The training of apprentices and trainees remains an important function of the VET sector in Australia, particularly with the expansion and diversification of this system over the 1990s. The number of Indigenous people in apprenticeships and traineeships increased between 1996 and 2000, both in terms of participants (from 2,900 to 5,200), and as a proportion of all apprentices and trainees (from 1.8% to 1.9%). Most of this increase was in non-trade occupations. However, the proportion of Indigenous apprentices and trainees in skilled trade occupations doubled during this period (from 0.6% to 1.2%).

In 2000, Indigenous VET students were more likely than other students to be studying in the fields of Arts/Social Science/Humanities, Education, Agriculture/Animal Husbandry, and Health/Community Services. They were twice as likely to be involved in TAFE Multi-field education (23% of Indigenous students compared with 11% of all students). Multi-field education encompasses a range of enabling courses, which provide students with generic study, interpersonal, or job search skills.

Indigenous VET students in 2000 were less likely to be studying for higher level qualifications than all students. About 13% of Indigenous students were studying at the Certificate IV level or above in 2000,

Indigenous VET students by major field of study — 2000

Field of study(a)	*Indigenous students* '000	*As a proportion of all students* %
Agriculture, Animal husbandry	4.3	4.8
Architecture, Building	2.2	2.6
Arts, Social Science, Humanities	6.2	5.3
Business administration, Economics	6.5	1.8
Education	2.3	5.1
Engineering, Surveying	4.0	2.0
Health, Community Services	5.5	4.0
Law, Legal Studies	0.4	3.6
Science	1.4	1.1
Veterinary Science, Animal Care	—	0.9
Services, Hospitality, Transport	4.9	1.7
TAFE Multi-field education	11.7	5.9
Total(b)	**51.7**	**3.0**

(a) Field of study as described by the Australian Vocational Education and Training Management Information Statistical Standard.
(b) Includes students studying a module only (with no related qualification or field of study).

Source: National Centre for Vocational Education Research 2000 Australian Vocational Education and Training Statistics.

Major qualification VET students were studying towards — 2000

Qualification	*Indigenous students* %	*All students* %
Diploma or higher	5.9	11.4
Certificate IV or equivalent	7.4	9.9
Certificate III or equivalent	19.1	19.9
Certificate II	29.3	17.4
Certificate I	14.6	4.8
Certificate — level not known	2.5	1.8
Senior secondary	0.1	0.2
Other recognised course	7.1	6.9
Non-award course	9.7	22.7
Module only — no qualification	4.4	5.0
Total	**100.0**	**100.0**

Source: National Centre for Vocational Education Research 2000 Australian Vocational Education and Training Statistics.

VET module outcomes(a) — 2000

	Indigenous students	*All students*
	%	%
Completions	*60.8*	*75.1*
Assessed – successful	54.2	62.5
Non-assessed – completed	3.6	6.3
Recognition of prior learning	1.2	2.5
Credit transfer	1.8	3.9
Non-completions	*39.2*	*24.9*
Assessed – not successful	16.6	10.1
Non-assessed – not completed	0.6	0.4
Withdrawn	14.2	8.2
Continuing studies	7.8	6.2

(a) Module outcomes where the result was not stated were excluded prior to the calculation of percentages.

Source: National Centre for Vocational Education Research 2000 Australian Vocational Education and Training Statistics.

compared with 21% of all VET students. The proportion of Indigenous VET students studying at the Certificate I or II level was twice that of all students (44% compared with 22%).

While Indigenous VET participation increased over the 1990s, success in vocational education is ultimately dependent upon successful completion of modules. In 2000, the rate of VET module completions was lower for Indigenous students (61%) than for the total VET student population (75%). Of those modules not completed, the rate of unsuccessful results for Indigenous students was higher than that for all students (17% compared with 10%). In 2000, 14% of modules attempted by Indigenous VET students were recorded as withdrawals, compared with 8% for all VET students.

Higher education

It is in the higher education sector that Aboriginal and Torres Strait Islander students are most underrepresented. In 2000, Indigenous students made up 1.2% of the total student population (a proportion which has changed little since 1996). Continuing low Year 12 apparent retention rates, and a high rate of attrition among Indigenous higher education students contribute to the low level of participation in this sector.[4] While there has been little change in the proportion of Indigenous students in higher education, data relating to higher education commencements indicate that between 1997 and 2000 there has been a decline in the number of Indigenous students beginning higher education courses.[5]

Along with the underrepresentation in higher education, there was also a notable gender imbalance among Indigenous higher education students in 2000, with females accounting for 64% of Indigenous students (compared with females accounting for 55% of all students).

Indigenous higher education students by field of study — 2000

	Indigenous students(a)	*As a proportion of all students(b)*
Field of study(c)	no.	%
Agriculture, Animal husbandry	122	0.9
Architecture, Building	56	0.8
Arts, Social Science, Humanities	2 794	1.8
Business administration, Economics	663	0.5
Education	2 024	2.8
Engineering, Surveying	102	0.2
Health, Community Services	972	1.4
Law, Legal Studies	470	1.4
Science	446	0.4
Veterinary Science, Animal Care	17	—
Total(d)	**7 350**	**1.2**

(a) Includes students enrolled in more than one field of study.
(b) Excludes overseas students.
(c) Field of study as described by DETYA.
(d) Includes students studying non-award courses.

Source: Department of Education, Training and Youth Affairs (DETYA) 2000, *Students 2000: Selected Higher Education Statistics*, DETYA, Canberra.

Level of study of higher education students — 2000

	Indigenous students	*All students(a)*
Level of study	%	%
Doctorate	1.3	4.1
Master's degree	4.5	7.9
Graduate (post) diploma	2.4	5.0
Graduate certificate	1.0	1.8
Bachelor degree	59.1	77.3
Associate degree	2.1	0.4
Advanced diploma	4.8	0.5
Diploma	9.7	1.0
Other award courses	0.4	0.3
Enabling courses	14.5	0.6
Non-award courses	0.2	1.0
Total	**100.0**	**100.0**

(a) Excludes overseas students.

Source: Department of Education, Training and Youth Affairs 2000 Higher Education Statistics Collection.

Higher education unit completions — 2000

	Indigenous students	*All students*
	%	%
Passed	57.7	78.6
Withdrew	4.3	2.2
Failed	26.0	10.4
Total(a)	**100.0**	**100.0**

(a) Includes completion status not yet determined.

Source: Department of Education, Training and Youth Affairs 2000 Higher Education Statistics Collection.

Participation in higher education varied for Indigenous and non-Indigenous students according to field of study. In 2000, nearly 40% of Indigenous higher education students were studying Arts, Social Sciences, or Humanities (compared with 27% of all students). The proportions of Indigenous students studying Education, Health or Community Services were also higher than for other students, while smaller proportions of Indigenous students were studying Architecture, Business Administration, Engineering and Science.

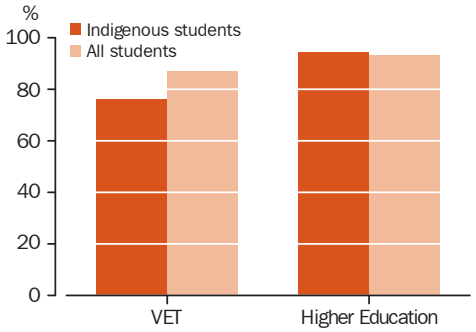
As with Vocational Education and Training, Indigenous higher education students were less likely to be studying for a high level qualification than other students. In 2000, 68% of Indigenous higher education students were studying for a bachelor degree or higher compared with 96% of all students. The proportion of Indigenous students participating in post-graduate study was less than half that of all students (9% compared with 19%). In contrast, Indigenous students were more likely than other students to be studying for diplomas (10% of Indigenous students compared with less than 1% of the total student population).

Indigenous students in higher education recorded fewer passes and more failures compared with all students. In 2000, 58% of unit completions were recorded as a pass for Indigenous students, compared with 79% for all students. The rate of unit failure for Indigenous higher education students was more than double that of all students (26% compared with 10% of all students).

Graduate outcomes

While students from the VET and higher education sectors usually have quite different demographic and labour force profiles, the focus for most graduates from both sectors is generally centred on either seeking employment or continuing their studies.

Proportion of 1999 graduates employed in 2000(a)(b)



(a) Based on the population of graduates in the labour force (that is, either seeking employment or in employment).

(b) VET graduates were surveyed in May; higher education graduates were surveyed in April or October, depending on whether they completed their studies mid-year or at the end of the year.

Source: National Centre for Vocational Education Research 2000 Student Outcomes Survey; Graduate Careers Council of Australia 2000 Graduate Destination Survey.

In 1999, 1.9% of VET graduates and 0.7% of higher education graduates were Indigenous. Indigenous VET graduates in the labour force were less likely to be employed than all VET graduates in the labour force in May of the following year (76% compared with 87% were employed). This may have been due to Indigenous VET graduates having a greater proportion of lower level qualifications.

The 1999 Indigenous higher education graduates in the labour force had similar outcomes to all higher education graduates. Nearly 95% were in paid employment four to five months after completing their studies.

Endnotes

1 Department of Education, Training and Youth Affairs (DETYA) 2000, *The National Indigenous English Literacy and Numeracy Strategy* <URL: http://www.detya.gov.au/schools/publications/LNS_March2000.pdf> accessed 15 January 2002.

2 Robinson, C. and Bamblett, L. 1998, *Making a difference: The impact of Australia's Indigenous education and training policy*, National Centre for Vocational Education Research, Adelaide.

3 Australian Bureau of Statistics 1998, *Experimental projections of the Indigenous population, 1996–2006,* Cat. no. 3231.0, ABS, Canberra.

4 Department of Education, Training and Youth Affairs (DETYA) 1999, *Equity in Higher Education*, Occasional Paper Series 99–A, Canberra.

5 Department of Education, Training and Youth Affairs (DETYA) 2000, *Higher Education Student Statistics*, DETYA, Canberra.

Literacy and numeracy among school students

EDUCATIONAL ATTAINMENT

In 2000, 15 year old girls scored higher on average than 15 year old boys in reading literacy (546 compared with 513). Performance was much the same in mathematical literacy and scientific literacy.

Literacy and numeracy have long been recognised as providing the basic skills needed for functioning in work and every day life. Proficiency in reading, writing and mathematics are indicators of social wellbeing for all people, providing not only skills for interacting with the world, but also the foundations for further education in and beyond school. People who carry lower levels of literacy and numeracy through to adulthood are more likely to be unemployed than people with higher levels of literacy and numeracy (see *Australian Social Trends 1998,* Literacy skills, pp. 77–80). In a society that is increasing its demand for workers with higher levels of education, basic literacy and numeracy skills become essential.

In a recent international study by the OECD of reading, scientific and mathematical literacy among 15 year olds, Australian students performed consistently well, and scored comparably with countries such as Canada and New Zealand.[1] While Australian students attained a good result overall, achievement was not uniform across students with different characteristics. For example, girls outperformed boys in reading literacy, and Aboriginal and Torres Strait Islander students generally scored lower than other students.[1]

In 1997, the State, Territory and Commonwealth Education Ministers agreed on a National Literacy and Numeracy Plan. The goal of the plan was that every child leaving primary school in Australia should meet nationally agreed minimum standards in literacy and numeracy. This 'back to basics' approach aimed to measure literacy and numeracy from the first years of schooling, and to develop early intervention strategies for those students having difficulties, thereby redressing some inequalities in educational outcomes later in life.

Literacy and numeracy

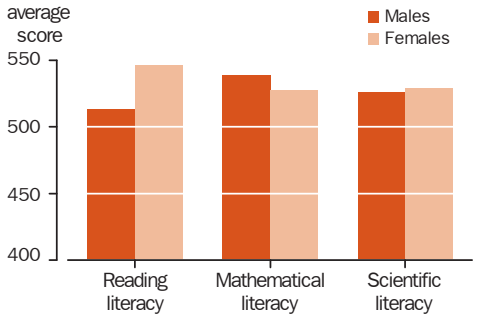
In this article, literacy and numeracy generally refer to the skills needed to communicate ideas and to make sense of the world through language and numbers.

Although literacy and numeracy are areas of social concern for adults, this article deals with the literacy and numeracy skills of primary and secondary school students — their performance in tests and the implications of their performance for future education and employment outcomes. Two data sources are used: the Year 3 national benchmarks developed as part of the National Literacy and Numeracy Plan, and Australian data from the Programme for International Student Assessment (PISA) conducted by the OECD for 15 year olds.

Factors affecting literacy and numeracy

Literacy and numeracy achievement is associated with a variety of social and demographic factors, such as sex, location, cultural and family background, personality, learning style and school attended. Although these factors are discussed separately in this article, they are interlinked and shed light on

Reading, mathematical and scientific literacy scores of Australian 15 year olds — 2000



Source: OECD, *Knowledge and Skills for Life: First Results from PISA 2000.*

Reading and numeracy benchmark achievement of Year 3 students — 2000

Source: Ministerial Council on Education, Employment, Training and Youth Affairs, *National Report on Schooling in Australia: Preliminary Paper, 2000.*

some of the characteristics of students likely to be at risk of not achieving adequate levels of literacy and numeracy.

...sex

Learning outcomes for girls and boys are of particular interest because of recent concerns about a perceived decline in the levels of boys' educational attainment.[1] However, in 2000, there was little difference between the proportions of girls and boys reaching either the Year 3 national reading benchmark (94% compared with 91%) or the Year 3 national numeracy benchmark (both 93%).

The difference between girls' and boys' educational performance, for reading skills at least, appeared to be more pronounced at older ages. In 2000, among Year 5 students, 90% of girls reached the Year 5 reading benchmark, compared with 85% of boys. However, the proportions of girls and boys reaching the Year 5 numeracy benchmark were much the same (90% of girls compared with 89% of boys). A similar pattern emerged in the 2000 Programme for International Student Assessment for 15 year olds, with girls scoring higher on average than boys in reading literacy (546 compared with 513). There was little difference in scores between girls and boys for mathematical literacy (527 for girls and 539 for boys) and scientific literacy (529 for girls and 526 for boys).

Benchmark achievement of Year 3 students — 2000

	Proportion reaching the benchmark	
	Reading	*Numeracy*
	%	%
State or Territory		
New South Wales	93.1	93.2
Victoria	93.0	96.5
Queensland	92.6	91.4
South Australia	86.8	85.3
Western Australia	95.8	90.5
Tasmania	91.2	92.8
Northern Territory	65.3	81.4
Australian Capital Territory	95.1	95.7
Language background other than English(a)	90.8	90.3
Aboriginal and Torres Strait Islander students	76.9	73.7
All students	**92.5**	**92.7**

(a) Depending on State or Territory, this group was either identified from responses to questions asked about the languages students or their families spoke at home; from questions asked about their own or their parents' country of birth; from enrolment records; or from English as a second language program records.

Source: Ministerial Council on Education, Employment, Training and Youth Affairs, *National Report on Schooling in Australia: Preliminary Paper, 2000.*

Students' literacy and numeracy

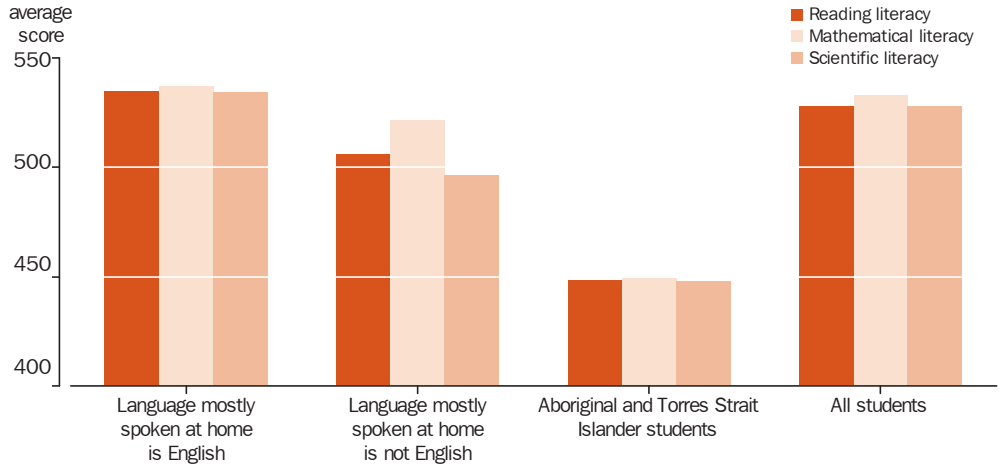
The Ministerial Council on Education, Employment, Training and Youth Affairs has established national benchmarks for reading, writing, spelling and numeracy for Year 3, 5 and 7 students. 'Benchmark' refers to a nationally agreed minimum acceptable standard, without which a student would have difficulty making sufficient progress at school.[2] This article examines characteristics of Year 3 students in the Year 3 reading and numeracy benchmark studies in 2000, in which the majority of students in Australia participated. Starting ages at school vary in Australia, which may have a minor impact on the data. In addition, the method used for identifying students with a *language background other than English* varied according to State or Territory. This group was either identified from responses to questions asked about the languages students or their families spoke at home; from questions asked about their own or their parents' country of birth; from enrolment records; or from English as a second language program records.

The Programme for International Student Assessment was developed by the OECD and its first survey took place in 2000. It assesses the abilities of 15 year olds in various countries (15 year olds being generally in the last year of compulsory education) to apply knowledge and skills to real-life problems and situations. It measures literacy in three domains: reading literacy, scientific literacy and mathematical literacy, and uses a scaling method which assigns scores so that 500 is the OECD average, with about two-thirds of all students in OECD countries scoring between 400 and 600. Australian students scored above the 500 average in all three literacy domains. For reading literacy, the average score for Australian students was 528, with about two-thirds scoring between 426 and 630. For mathematical literacy the figure was 533 (with two-thirds of students scoring between 443 and 623), while for scientific literacy the figure was 528 (with two-thirds of students scoring between 434 and 622). In the Australian PISA sample, 41 very remote mainland schools were excluded, which may have contained high proportions of Indigenous students.

...State or Territory

In 2000, across Australia, the highest proportions of Year 3 students reaching the national reading benchmark were located in Western Australia and the Australian Capital Territory (96% and 95%, respectively). Around 65% of Year 3 students in the Northern Territory reached the reading benchmark, the lowest proportion of all the States and Territories. The pattern was much the same for the Year 3 numeracy benchmark, with students in Victoria and the Australian Capital Territory being the most likely to reach the benchmark (97% and 96%, respectively). Again, the Northern Territory had the lowest proportion of students reaching the benchmark (81%).

Selected characteristics of Australian 15 year old students and their scores in reading, mathematical and scientific literacy — 2000



Source: Lokan, J., Greenwood, L. and Cresswell, J., *How Literate are Australia's Students? 2001.*

Results from the Programme for International Student Assessment in 2000 showed a similar distribution of scores for 15 year olds. Students in the Australian Capital Territory, New South Wales and Western Australia tended to score the highest on average in reading, mathematical and scientific literacy, while students in the Northern Territory scored the lowest of all States and Territories. Low results for Northern Territory students are associated with the fact that Aboriginal and Torres Strait Islander students comprise a large proportion of the student population, and generally scored lower than all students in both the Programme for International Student Assessment and the national benchmarks.

...language background

Although school students who speak a language other than English at home may be highly literate in their first language, literacy and numeracy tests conducted in English may disadvantage them. For this reason, school students with language backgrounds other than English, including students who speak Aboriginal and Torres Strait Islander languages, have been identified as a group for whom literacy and numeracy outcomes could be improved.[2]

In the 2000 national benchmark study, there was little difference between Year 3 students from a language background other than English and all Year 3 students. Around 91% of students from a language background other than English reached the reading benchmark and 90% reached the numeracy benchmark. This compares with 93% for all students for both the reading and numeracy benchmarks.

In contrast, Australian results from the Programme for International Student Assessment for 15 year olds indicate generally lower performance for students who speak languages other than English at home when compared with students who speak English at home. The difference was greatest for scientific literacy, where the average score for students who mostly or only spoke English at home was 534, compared with 497 for students who mostly spoke languages other than English at home.

This test focused on students' ability to work through real-life problems and scenarios, rather than simply assessing knowledge, and thus all three literacy domains required some proficiency with English.[1] However, items in the mathematical domain were the least verbally complex. This is consistent with the fact that students who spoke languages other than English most of the time at home generally scored higher in mathematical literacy than in reading and scientific literacy.

Another way to consider performance in the Programme for International Student Assessment is to compare the distributions of reading literacy scores according to levels of proficiency for various groups of students. For example, around 6% of students who spoke languages other than English at home most of the time scored less than 335 in reading literacy, compared with 3% of all students.

Distribution of scores of Australian 15 year old students by proficiency levels in reading literacy — 2000

	Proficiency level(a)						
	Less than 335	*335–407*	*408–480*	*481–552*	*553–625*	*626 and over*	*Total*
Selected characteristics	%	%	%	%	%	%	%
Male	5	11	21	26	23	14	100
Female	2	7	17	25	28	22	100
Mostly speak languages other than English at home	6	12	23	26	20	13	100
Aboriginal and Torres Strait Islander students	11	24	25	25	*7	*8	100
All students	**3**	**9**	**19**	**26**	**25**	**18**	**100**

(a) Cut-offs for each level of proficiency were determined so that there were approximately equal differences between the skills associated with each level.

Source: Lokan, J., Greenwood, L. and Cresswell, J., *How Literate are Australia's Students? 2001.*

...Aboriginal and Torres Strait Islander students

Literacy and numeracy levels for Aboriginal and Torres Strait Islander students are generally lower than those for other Australian students. Education is one area that may be pivotal to improving Indigenous health, employment and socioeconomic outcomes (see *Australian Social Trends 2002*, Education of Aboriginal and Torres Strait Islander peoples, pp. 109–113). This has been recognised with the launching of the National Indigenous English Literacy and Numeracy Strategy, which states that by 2004, Indigenous outcomes should match non-Indigenous outcomes in literacy and numeracy.[3]

In the 2000 national reading and numeracy benchmark studies, Aboriginal and Torres Strait Islander Year 3 students were more likely to have reached the reading than the numeracy benchmark, but proportions for each benchmark were well below those for all students. Around 77% of Indigenous students reached the reading benchmark and 74% reached the numeracy benchmark.

In Australian results from the Programme for International Student Assessment in 2000, Indigenous 15 year old students scored on average about 80 points lower than all 15 year old students in all three of the reading, mathematical and scientific literacy domains. When the distribution of reading literacy scores across proficiency levels was considered, the scores of Indigenous students were more concentrated in the lower end of the distribution than the scores of all students. Around 35% of Indigenous students scored less than 408 in reading literacy, compared with 12% of all students. The lower performance of Indigenous students is likely to be associated with a range of factors linked to disadvantage, such as generally low levels of socioeconomic status and low levels of proficiency in written and spoken English.[4]

...other factors

Performance in literacy and numeracy is additionally related to the home and school environments of students, as well as their

International comparison

Australian 15 year old students perform well in literacy and numeracy when compared with other OECD countries. Students in Japan scored notably higher than Australian students in mathematical literacy, while students in both Japan and the Republic of Korea scored notably higher in scientific literacy. Students from the United States of America scored lower than Australian students in all three domains.

	Literacy domain		
	Reading	*Mathe-matical*	*Scientific*
Selected OECD country	average score	average score	average score
Australia	**528**	**533**	**528**
Canada	534	533	529
Japan	522	557	550
Korea (Republic of)	525	547	552
New Zealand	529	537	528
USA	504	493	499
OECD average	*500*	*500*	*500*

Source: Lokan, J., Greenwood, L. and Cresswell, J., *How Literate are Australia's Students? 2001.*

Reading literacy achievement of Australian 15 year olds and indexes of home, school and individual characteristics — 2000

Index(a)	Average score of students in quartiles of each index: Lowest average score	Highest average score
Home		
Socioeconomic status (based on parents' labour force status and occupation)	490	576
Social communication with parents (based on type and frequency of communication with parents)	502	545
Family wealth (based on type and quantity of possessions in the home)	510	544
School		
Quality of school's educational resources (based on type and quantity of different educational resources)(b)	515	542
Disciplinary climate (based on perceptions of effective behavioural control and maintaining order in class)	506	553
Individual		
Interest in reading (based on enjoyment of time spent reading)	495	588
Self-concept in reading (based on beliefs about own aptitude in English classes)	499	572

(a) Indexes for each characteristic were devised by the OECD and are based on students' responses to questions pertaining to each index. Students were ranked on each index such that the higher the ranking on the index, the greater the existence of that characteristic. For further information, see OECD 2001, *Knowledge and Skills for Life: First Results from PISA 2000*, OECD, Paris.

(b) Based on principals' responses.

Source: OECD, *Knowledge and Skills for Life: First Results from PISA 2000*.

individual characteristics. Analysis of the results from the Programme for International Student Assessment suggests that socioeconomic status was a major predictor of achievement.[1] For example, in 2000, students in the lowest quartile of the socioeconomic index devised by the OECD scored about 90 points less in reading literacy than students in the highest quartile.

Other home environment characteristics associated with literacy and numeracy include levels of social communication with parents, and family wealth. For both of these characteristics, there were differences in reading literacy of about 40 points between students in the lowest quartile and those in the highest quartile.

School factors can also play a key role in literacy and numeracy achievement, as they give students the environment and support required for learning. In the Programme for International Student Assessment, students who rated the disciplinary climate of schools most highly, stating that the teacher was effective in maintaining order and behavioural control, scored better on average in reading literacy than students who rated it the lowest (553 compared with 506). The quality of schools' educational resources was also associated with performance in reading literacy. Students whose principals rated the quality of their schools' educational resources the highest scored on average 542 in reading literacy, compared with students whose principals rated it the lowest, who scored 515 on average.

Attitudes to reading and confidence in their own ability also tend to be associated with students' learning outcomes. In the index of interest in reading devised by the Programme for International Student Assessment, students in the highest quartile scored nearly 100 points higher than students in the lowest quartile (588 compared with 495). Similarly, there were differences between students who rated their self-concept in reading (that is, their confidence in their ability in English classes) the highest (572) and those who rated it the lowest (499).

Factors such as socioeconomic status, disciplinary climate at school and interest in reading are intertwined with characteristics such as sex, language background and cultural background. In many cases, they work together to affect students' self esteem, motivation and interest in reading and learning.[1]

Endnotes

1 Lokan, J., Greenwood, L. and Cresswell, J. 2001, *How Literate are Australia's Students?* Australian Council for Educational Research, Melbourne.

2 Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) 1999, *National Report on Schooling in Australia: 1999,* MCEETYA, Melbourne.

3 Department of Education, Training and Youth Affairs (DETYA) 2000, *The National Indigenous English Literacy and Numeracy Strategy* <URL: http://www.detya.gov.au/schools/publications/LNS_March2000.pdf> accessed 15 January 2002.

4 Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) 2000, *Report of MCEETYA Taskforce on Indigenous Education* <URL: http://www.curriculum.edu.au/mctyapdf/reportm.pdf> accessed 15 March 2002.

Education and training: international comparisons

EDUCATIONAL ATTAINMENT

Contributed by J.B. O'Reilly, Department of Education, Science and Training

In 1999, 18% of 25–64 year olds in Australia had attained a university level qualification, compared with the OECD country mean of 14%.

Education contributes to economic growth, facilitates socioeconomic mobility, and improves social and individual wellbeing. For these reasons, it is important to know how Australia's education system is performing, and international comparisons are very useful in placing our performance in context and also allow us to learn from the experience of other countries.

Comparing Australia and other OECD countries

Using OECD indicators of education and training to compare performance across countries, Australia has generally above average levels of educational participation and attainment in tertiary education. Of all OECD countries, Australia has the second highest expected years of schooling overall (unweighted for all levels of education), with comparatively fewer years on average spent in full-time study, but a higher number of years on average spent studying part-time. Australian expenditure on educational institutions is above the OECD average, and is characterised by below average public expenditure and above average private expenditure. Preschool education is the main area of below average overall spending.

The most notable international trend evident over the past decade has been strong growth in tertiary participation, supported by completion of upper secondary education having become the norm in most countries. In many cases spending at tertiary level has not kept pace with the growth in enrolments.

Evaluating educational systems

The development over recent decades of international education statistical collections has allowed the evaluation of Australia's educational system to extend beyond domestic comparisons. These statistics are now becoming widely used, both as a reference source for comparable country statistics and as benchmarks to assess the relative performance of national education systems. The main source of statistics for this article is the Organisation for Economic Co-operation and Development (OECD) publication Education at a Glance published annually since 1992.

The publication currently presents data on educational indicators for 30 OECD countries, as well as for developing countries participating in the World Education Indicators program.

An OECD *country mean* is calculated as the average of all OECD countries for a given measure (e.g. educational attainment) for which data are available or can be estimated.

Educational attainment and participation

In 1999, the proportion of Australians aged 25–64 years who were university educated was slightly above the OECD country mean

Proportion of population aged 25–64 years, educational attainment — 1999

	Below upper secondary	*Upper secondary or above(a)*	*Any tertiary*	*University level*
Selected OECD countries	%	%	%	%
Australia	43	57	27	18
Canada	21	79	39	19
Germany	19	81	23	13
Ireland(b)	49	51	21	11
New Zealand	26	74	27	13
Spain	65	35	21	15
Turkey	78	22	7	(c)
United Kingdom	38	62	25	17
United States of America	13	87	35	27
OECD country mean(d)	**38**	**62**	**22**	**14**

(a) Excluding ISCED 3C Short programmes.
(b) 1998 data.
(c) Denotes data included in another column of the table.
(d) Includes OECD countries not included above.

Source: OECD, *Education at a Glance: OECD Indicators, 2001.*

International education statistics

International education statistics are classified according to the International Standard Classification of Education (ISCED), which provides a means of presenting data from different national systems in a consistent format.

The ISCED level structure comprises seven levels:

- pre-primary (0);
- primary (1);
- lower secondary (2);
- upper secondary (3);
- post-secondary non-tertiary (4);
- tertiary (5); and
- advanced research (6).

Secondary and tertiary levels are further sub-classified by orientation:

- academic (A);
- vocational leading to further courses (B); and
- vocational leading directly to the workforce (C).

The structure of the Australian school sector closely matches ISCED levels 0–3A, while Australian Vocational Education and Training (VET) courses are classified across ISCED levels 2, 3, 4, and 5 (Certificates are classified at the lower levels, generally with either B or C orientations, while Diplomas are 5B). Nearly all Australian university degree and post-graduate programs are classified as ISCED 5A. The exception is research doctorates, which are 6A.

(18% compared with 14%). Among younger Australians (those aged 25–34 years) this proportion was higher (20% compared with an OECD country mean of 16%). However, 43% of Australians aged 25–64 years had an educational attainment level that was below the upper secondary level, compared with an OECD country mean of 38%. Among those aged 25–34 years, 35% of Australians had an attainment level below upper secondary, again higher than the OECD average (28%).

There are a range of indicators that are used to make international comparisons of participation in education. 'School expectancy' (the total number of full-time and part-time years a 5 year old child can expect to spend in formal education over a lifetime) is one such measure. In 1999, Australia had the second highest school expectancy (19.9 years) of all OECD countries, after Sweden. The OECD country mean was lower, at 16.7 years. Many OECD countries do not have a clear concept of what constitutes a full time student load in their country, which makes it impossible to make comparisons based on a full-time equivalent aggregation. The OECD does, however, provide a full-time/part-time breakdown for most countries. Australia has slightly below average full-time school expectancy (14.3 years compared with 15.4 years for the OECD country mean) but by far the highest part-time school expectancy (5.6 years compared with 1.2 years — see *Australian Social Trends 2001*, Combining study and work, pp. 113–115).

Participation in education — 1999

	School expectancy(a)		*Part-time students as a proportion of all students*	
Selected OECD countries	*Full-time* years	*Part-time* years	*In vocational courses* %	*In academic courses* %
Australia	14.3	5.6	68.9	37.2
Canada	15.3	1.2	14.6	31.4
France	16.5	—	n.a.	n.a.
Germany	17.1	0.1	15.1	n.a.
Mexico	12.4	—	n.a.	n.a.
New Zealand	15.2	2.0	55.4	29.3
Spain	16.8	0.6	0.6	8.2
Sweden	16.7	3.6	10.9	46.0
United Kingdom	14.7	4.2	68.7	24.2
United States of America	15.3	1.9	57.1	41.2
OECD country mean(b)	**15.4**	**1.2**	**19.9**	**14.9**

(a) Refers to the number of years a 5 year old child can expect to spend in formal education over a lifetime.
(b) Includes OECD countries not included above.

Source: OECD, *Education at a Glance: OECD Indicators, 2001.*

Performance in the Programme for International Student Assessment — 2000

Source: Lokan, J., Greenwood, L. and Cresswell, J., *How Literate are Australia's Students? 2001.*

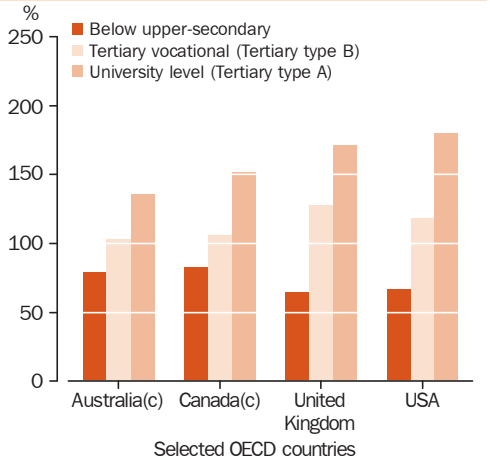
Learning outcomes

The OECD's 2000 Programme for International Student Assessment, which measured the reading, mathematical and scientific literacy of 15 year olds, confirmed the findings of earlier studies that Australian secondary students perform relatively well in standardised international assessments. Only Finland achieved substantially higher in reading literacy, only Japan in mathematical literacy and only Japan and the Republic of Korea in scientific literacy. Australia's performance was generally comparable with that of New Zealand, Canada and the United Kingdom; all were over the OECD average. Despite our comparatively good results internationally, there was some variation in achievement for Australian students with different characteristics and backgrounds (see *Australian Social Trends 2002,* Literacy and numeracy among school students, pp. 112–116).

For all OECD countries, average earnings and educational attainment are linked, such that the higher the educational attainment, the higher the average earnings. By using the average earnings of 25–64 year olds who had only completed the upper secondary level as a benchmark of 100%, it is possible to compare between countries the relative earnings of people who have different levels of educational attainment. In the late 1990s, people aged 25–64 years across the OECD who had completed university had the highest average earnings, relative to other levels of educational attainment. Conversely, in all OECD countries average earnings were lowest for those who had below upper secondary level attainment.

Differences in the average earnings of people with different levels of educational attainment tend to be smaller in Australia than in other OECD countries. For example, the difference between the earnings of those 15–64 year olds in Australia who had not completed the upper secondary level and those who had completed the university level was 57 percentage points, while the comparable figure for the United States of America was 113 percentage points.

Ratio of average earnings(a) for selected levels of educational attainment(b) — 1999



(a) Ratio of selected average earnings to upper secondary average earnings , based on upper secondary earnings as 100%.
(b) For persons aged 25–64 years.
(c) 1997 data.

Source: OECD, *Education at a Glance: OECD Indicators, 2001.*

Expenditure on educational institutions as a proportion of Gross Domestic Product — 1998

	Primary, secondary and post-secondary non-tertiary education			Tertiary education		
	Public	*Private*	*Total*	*Public*	*Private*	*Total*
Selected OECD countries	%	%	%	%	%	%
Australia	3.2	0.6	3.8	1.1	0.5	1.6
Canada	3.7	0.3	4.1	1.5	0.3	1.9
Germany	2.8	0.9	3.7	1.0	0.1	1.0
Ireland	3.2	0.1	3.3	1.1	0.3	1.4
Mexico	3.0	0.5	3.5	0.8	0.1	0.9
New Zealand	4.6	n.a.	n.a.	1.1	n.a.	n.a.
Spain	3.3	0.4	3.7	0.8	0.3	1.1
Sweden	4.5	—	4.5	1.5	0.2	1.7
United Kingdom	3.4	n.a.	n.a.	0.8	0.3	1.1
United States of America	3.4	0.4	3.7	1.1	1.2	2.3
OECD country mean(a)	**3.5**	**0.4**	**3.7**	**1.1**	**0.3**	**1.3**

a) Includes OECD countries not included above.

Source: OECD, *Education at a Glance: OECD Indicators, 2001.*

Expenditure on education

In 1998, Australian expenditure on educational institutions was 5.5% of Gross Domestic Product (GDP), slightly below the mean for all of the OECD (5.7%). This mainly reflects Australia's comparatively low spending on preschools (0.1% of GDP compared with an OECD country mean of 0.4%). Conversely, Australia's spending on tertiary educational institutions was above the average (1.6% of GDP compared with an OECD country mean of 1.3%), while spending on primary, secondary and post secondary non-tertiary educational institutions was slightly above the average (3.8% compared with a country mean of 3.7%).

Expenditure per full-time equivalent student in Australia was above the OECD country mean for all sectors except preschool. The OECD cautions that lower unit expenditure should not be equated with lower school performance. For example, countries such as Japan, the Republic of Korea and the Netherlands, which have comparatively modest expenditure per student, have some of the highest performance by 8th grade students in mathematics.

The private sector provides relatively more funds for educational institutions in Australia than in most OECD countries. In 1998, 25% of funding for Australian educational institutions came from private sources, compared with the OECD country mean of 13%. In Japan and the United States of America, more than half of all final funds for tertiary institutions originate from private sources, and in the Republic of Korea the proportion exceeds 80%.

In terms of human resources, primary teacher salaries in OECD countries in 1996 tended to be less than those of other public sector professionals. For Australian teachers, salaries in 1999 were generally above the OECD country mean when adjustments are made for the price levels in the different countries (using Purchasing Power Parity). In addition, a public primary or secondary school teacher took an average of 25 years to progress from minimum to maximum salary in the OECD in 1999. However, in Australia, Denmark, England and New Zealand, public school teachers on average reached the maximum salary after less than 10 years service.

Work

Work: national summary

LABOUR FORCE	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total labour force	'000	8 488	8 514	8 569	8 690	8 881	9 061	9 169	9 256	9 395	9 574	9 755
Females (of total labour force)	%	41.7	41.9	41.9	42.3	42.7	43.0	43.1	43.2	43.3	43.6	43.9
Participation rate	%	63.6	62.9	62.6	62.7	63.3	63.6	63.4	63.1	63.1	63.4	63.7
Male participation rate	%	75.3	74.3	73.8	73.6	73.8	73.8	73.4	72.9	72.8	72.5	72.5
Female participation rate	%	52.3	51.9	51.7	52.2	53.2	53.8	53.8	53.6	53.8	54.5	55.2
Females in the labour force with children aged 0–4 years (of all females with children aged 0–4 years)	%	44.5	46.6	45.3	46.1	49.3	47.4	47.7	48.2	47.1	49.3	49.8
Standardised participation rate	%	63.7	63.1	62.8	63.0	63.6	64.0	63.9	63.7	63.8	64.1	64.5
Participation rate of persons aged 15–19 years	%	58.6	55.7	55.1	55.8	58.8	59.2	59.0	57.7	58.3	59.3	60.1
Participation rate of persons aged 20–24 years	%	84.0	82.6	82.1	82.1	82.8	83.0	82.5	82.0	82.2	82.2	82.3
Median age of male labour force	years	36.1	36.3	36.5	36.7	36.9	37.1	37.2	37.5	37.7	37.8	38.0
Median age of female labour force	years	34.2	34.6	34.9	35.1	35.3	35.7	36.1	36.2	36.5	36.8	36.9

EMPLOYED PEOPLE	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total employed	'000	r7 803	r7 659	r7 655	r7 802	r8 113	r8 324	r8 404	r8 519	r8 703	r8 940	9 130
Employment population ratio	%	r58.5	r56.6	55.8	r56.3	r57.8	r58.5	r58.1	r58.1	r58.5	r59.2	59.6
Proportion of the total population in work	%	45.4	44.0	43.5	43.9	45.2	45.7	45.6	45.7	46.2	46.9	47.4
Part-time work												
Part-time workers (of total employed)	%	21.8	23.1	23.7	24.0	24.5	24.7	25.3	25.7	26.1	26.3	26.7
Male part-time workers (of total male employed)	%	r8.6	r9.8	r10.3	r10.5	r11.0	r11.1	r11.8	r12.1	r12.6	r12.6	13.4
Female part-time workers (of total female employed)	%	r40.4	r41.4	r41.9	r42.2	r42.6	r42.6	r43.1	r43.5	r43.6	r43.9	43.6
Female part-time workers (of total part-time employed)	%	77.2	75.6	75.0	74.9	74.5	74.5	73.6	73.3	72.6	72.9	71.9
Average hours worked per week by part-time workers	hours	14.8	15.0	15.0	15.1	15.3	15.2	15.4	15.5	15.6	15.7	15.8
Part-time workers who prefer more hours (of all part-time employed)	%	21.7	26.4	29.2	28.3	26.1	26.1	26.2	25.8	25.1	23.9	24.3
Part-time workers who worked 15 hours or less per week (of all part-time employed)	%	53.9	53.3	53.4	52.8	51.8	52.1	51.1	50.8	50.8	49.8	49.6
Full-time work												
Average hours worked per week by full-time workers	hours	39.9	40.6	40.3	40.7	40.9	40.5	41.0	41.2	41.1	41.4	40.7
Full-time workers working 50 hours or more per week (of all full-time employed)	%	20.7	22.1	22.4	23.7	24.3	23.7	24.4	24.9	24.9	25.5	23.9
Males employed without leave entitlements (of all male employees)	%	13.5	15.6	16.4	18.1	18.5	21.2	20.9	22.6	22.0	23.0	23.5
Females employed without leave entitlements (of all female employees)	%	29.0	30.9	30.6	30.8	30.8	32.0	31.7	32.0	31.8	32.3	31.9
Employees without leave entitlements (of all employees)	%	20.3	22.3	22.7	23.7	24.0	26.1	25.8	26.9	26.4	27.3	27.5
Job mobile in previous year	%	14.8	12.8	n.a.	14.5	n.a.	15.8	n.a.	14.3	n.a.	15.8	n.a.
Employers and own account workers (of total employed)	%	14.6	15.0	15.2	15.2	14.6	14.6	13.9	14.3	13.6	13.5	13.2
Industry												
Employed in service industries (of total employed)	%	69.7	71.1	70.8	71.0	71.5	72.4	72.6	72.7	73.4	73.1	73.7
Employed in manufacturing industries (of total employed)	%	14.7	14.2	14.3	14.1	13.8	13.4	13.5	13.2	12.5	12.5	12.5
Sector												
Private sector employees (of all employees)	%	71.9	72.9	73.6	75.4	76.7	77.7	78.3	79.2	79.7	80.0	80.0
Employed in small business (of all private sector employed)	%	n.a.	48.3	49.1	48.7	47.5	47.0	46.2	47.4	46.8	47.2	n.a.

Reference periods: All data are annual averages for the year ending 30 June except: labour force participation of females with children (June); job mobility (February), casual employment and private sector employment (August).

Work: national summary continued

EMPLOYED PEOPLE CONTINUED	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Occupation												
Employed in highest skill (ASCO Skill Level 1) occupations(a)	%	r24.0	r24.6	r24.9	24.9	r24.7	r24.8	r24.5	r25.1	r25.2	r25.1	25.5
Employed in lowest skill (ASCO Skill Level 5) occupations(a)	%	r22.7	r22.1	r21.8	r22.0	r22.0	r21.8	r20.4	r20.4	r20.3	r19.7	19.6
Females (of all employed in highest skill (ASCO Skill Level 1) occupations(a))	%	r33.7	r34.7	r34.9	r35.0	r35.0	r35.5	r41.4	r41.2	r40.8	r41.9	42.5

INDUSTRIAL RELATIONS	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Trade union membership	%	n.a.	39.6	37.6	35.0	32.7	31.1	30.3	28.1	25.7	r24.7	24.5
Median age of trade union members	years	n.a.	37	37	37	38	38	38	39	40	41	40
Working days lost due to industrial disputes (per 1,000 employees)	days	248	147	100	76	79	131	75	72	87	r61	50

UNEMPLOYMENT	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total unemployed	'000	684.2	854.8	914.1	888.5	768.6	736.5	764.9	737.8	691.7	634.5	625.5
Long-term unemployed (of total unemployed)	%	20.2	27.4	33.7	34.6	32.3	27.5	27.0	29.3	29.7	r26.7	23.4
Long-term unemployed (of labour force)	%	1.6	2.8	3.6	3.5	2.8	2.2	2.3	2.3	2.2	1.8	1.5
Unemployment rate	%	8.1	10.0	10.7	10.2	8.7	8.1	8.3	8.0	7.4	6.6	6.4
Male unemployment rate	%	8.2	10.6	11.4	10.7	8.9	8.5	8.6	8.2	7.6	6.7	6.7
Female unemployment rate	%	7.8	9.3	9.6	9.5	8.3	7.6	8.0	7.6	7.1	6.5	6.0
Unemployment rate – capital cities	%	8.1	r10.1	r10.7	r10.1	r8.7	r8.1	8.2	7.6	r6.7	6.3	6.1
Unemployment rate – balance of States and Territories	%	r8.9	r10.8	r11.5	r11.3	r9.4	r9.0	r9.6	r9.6	r7.9	r8.1	7.7
Median duration of unemployment – males	weeks	19	29	r37	r38	r33	26	25	r29	27	23	19
Median duration of unemployment – females	weeks	14	21	25	24	21	18	18	20	18	13	13
Retrenchment rate	%	6.5	6.4	n.a.	5.4	n.a.	4.6	n.a.	4.4	n.a.	4.0	n.a.
Male retrenchment rate	%	7.3	7.4	n.a.	6.3	n.a.	5.4	n.a.	4.9	n.a.	4.6	n.a.
Female retrenchment rate	%	5.3	5.1	n.a.	4.3	n.a.	3.5	n.a.	3.8	n.a.	3.2	n.a.
Unemployed looking for full-time work												
Persons aged 15–19 years (of all persons aged 15–19)	%	7.6	9.1	8.9	8.6	7.3	7.1	6.9	6.5	5.7	5.0	5.0
Persons aged 20–24 years (of all persons aged 20–24)	%	9.0	11.3	11.6	10.8	8.7	8.5	8.9	8.6	7.6	6.3	6.4
Labour force underutilisation												
Extended labour force underutilisation rate	%	n.a.	n.a.	n.a.	15.5	15.1	15.2	15.0	14.3	13.2	11.9	n.y.a.

NOT IN THE LABOUR FORCE	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Marginally attached	'000	819.3	846.4	907.8	773.3	862.8	879.6	890.5	922.6	883.2	823.9	n.y.a.
Discouraged jobseekers	'000	138.2	145.6	147.4	106.5	111.9	118.9	118.4	110.9	105.8	106.5	n.y.a.

TRANSITION TO RETIREMENT	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Participation rate of males aged 55–59 years	%	75.2	72.9	72.5	72.5	73.5	73.0	73.1	72.5	73.2	72.3	72.4
Participation rate of females aged 55–59 years	%	35.7	35.7	36.4	38.0	38.7	41.3	42.3	42.3	43.6	46.5	48.1
Participation rate of males aged 60–64 years	%	50.6	50.2	48.5	49.0	47.7	46.6	45.4	45.8	45.9	46.5	46.9
Participation rate of females aged 60–64 years	%	15.9	14.9	14.4	15.8	16.0	17.6	18.3	19.1	18.4	20.3	21.5
Persons retired from full-time work of all persons aged 50–64 years	%	n.a.	46.4	n.a.	46.1	n.a.	n.a.	45.0	n.a.	n.a.	n.a.	n.a.

(a) Australian Standard Classification of Occupation (ASCO) second edition was introduced in August 1996. Data prior to this date are concorded with ASCO second edition at the major group level.

Reference periods: All data are annual averages for the year ending 30 June except: occupation and trade union membership (August); working days lost due to industrial disputes (year ending 31 December); retrenchment data (February); extended labour force underutilisation (September); not in the labour force data (September); and retirement data (October/November).

Work: State summary

LABOUR FORCE	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Total labour force	'000	2000–2001	3 231	2 455	1 843	730	1 001	220	99	177	9 755
Females (of total labour force)	%	2000–2001	43.7	43.8	44.3	43.9	43.6	43.9	43.9	47.3	43.9
Participation rate	%	2000–2001	62.4	63.8	65.1	60.4	66.8	59.1	70.1	72.9	63.7
Male participation rate	%	2000–2001	71.3	73.3	73.2	69.3	75.4	68.1	75.4	78.6	72.5
Female participation rate	%	2000–2001	53.7	54.8	57.1	52.0	58.2	50.6	64.3	67.5	55.2
Females in the labour force with children aged 0–4 years (of all females with children aged 0–4 years)	%	2001	50.4	49.2	50.5	49.0	46.2	47.0	57.1	60.7	49.8
Standardised participation rate	%	2000–2001	63.7	64.9	65.4	63.4	65.9	61.8	62.5	69.7	64.5
Participation rate of persons aged 15–19 years	%	2000–2001	57.4	58.5	65.2	60.1	63.3	58.3	54.1	63.9	60.1
Participation rate of persons aged 20–24 years	%	2000–2001	81.7	82.5	83.7	82.7	81.9	81.0	71.2	84.3	82.3
Median age of male labour force	years	2000–2001	38.1	37.8	37.9	38.3	38.0	38.7	37.3	37.2	38.0
Median age of female labour force	years	2000–2001	36.7	36.8	36.7	37.9	37.1	38.1	35.9	36.9	36.9

EMPLOYED PEOPLE	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Total employed	'000	2000–2001	3 051	2 307	1 695	678	937	201	93	169	9 130
Employment population ratio	%	2000–2001	58.9	60.0	59.9	56.1	62.5	54.0	66.1	69.5	59.6
Proportion of the total population in work	%	2000–2001	46.9	48.1	47.1	45.2	49.4	42.8	47.4	54.2	47.4
Part-time work											
Part-time workers (of total employed)	%	2000–2001	25.0	26.9	27.4	29.3	28.4	31.1	21.9	25.7	26.7
Male part-time workers (of total male employed)	%	2000–2001	12.8	13.6	13.4	14.5	13.7	14.6	15.0	15.1	13.4
Female part-time workers (of total females employed)	%	2000–2001	40.7	44.7	44.9	47.8	47.3	51.5	30.6	37.2	43.6
Female part-time workers (of total part-time employed)	%	2000–2001	71.5	71.7	73.0	72.4	73.0	74.0	62.0	69.3	71.9
Average hours worked per week by part-time workers	hours	2000–2001	15.9	15.3	16.1	16.2	15.4	15.4	16.9	15.6	15.8
Part-time workers who prefer more hours (of all part-time employed)	%	2000–2001	21.5	23.8	28.6	27.5	23.7	27.5	18.9	22.8	24.3
Part-time workers who worked 15 hours or less per week (of all part-time employed)	%	2000–2001	48.3	51.8	48.7	47.9	51.5	51.4	37.0	50.0	49.6
Full-time work											
Average hours worked per week by full-time workers	hours	2000–2001	40.6	40.3	41.5	40.6	40.9	40.3	40.4	38.4	40.7
Full-time workers working 50 hours or more per week (of all full-time employed)	%	2000–2001	23.4	23.0	26.5	23.1	25.3	22.8	23.4	18.8	23.9
Males employed without leave entitlements (of all male employees)	%	2001	21.9	21.6	28.9	24.3	23.3	22.8	20.8	21.8	23.5
Females employed without leave entitlements (of all female employees)	%	2001	28.2	29.3	36.4	37.4	33.7	36.4	28.3	23.7	31.9
Employees without leave entitlements (of all employees)	%	2001	24.9	25.2	32.5	30.5	28.3	29.3	24.4	22.7	27.5
Employers and own account workers (of total employed)	%	2000–2001	12.3	12.1	15.3	14.7	14.9	15.2	8.2	8.4	13.2
Industry											
Employed in service industries (of total employed)	%	2000–2001	75.1	71.9	73.8	71.7	71.8	72.5	80.8	89.5	73.7
Employed in manufacturing industries (of total employed)	%	2000–2001	11.9	16.1	10.8	13.7	10.0	11.3	4.4	3.1	12.5
Sector											
Private sector employees (of all employees)	%	2001	80.8	83.5	78.3	78.6	80.3	73.8	69.3	56.3	80.0
Employed in small business (of all private sector employed)	%	2000	48.3	43.3	47.8	46.0	50.8	51.5	54.1	55.4	47.2

(a) Estimates for Northern Territory refer to mainly urban areas only.

Reference periods: All data are annual averages for the year ending 30 June except: labour force participation of females with children (June); casual employment and private sector employment (August).

Work: State summary continued

EMPLOYED PEOPLE CONTINUED	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Occupation											
Employed in highest skill (ASCO Skill Level 1) occupations	%	2001	26.4	27.4	22.4	24.4	23.2	22.6	22.7	36.7	25.5
Employed in lowest skill (ASCO Skill Level 5) occupations	%	2001	18.8	18.8	21.4	21.8	19.6	21.8	21.9	13.5	19.6
Females (of all employed in highest skill (ASCO Skill Level 1) occupations)	%	2001	42.2	42.7	43.5	41.6	41.1	43.7	51.3	44.1	42.5

INDUSTRIAL RELATIONS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Trade union membership	%	2001	26.4	24.3	22.9	26.4	19.5	30.9	19.4	21.5	24.5
Median age of trade union members	years	2001	40	39	40	41	42	40	41	41	40
Working days lost due to industrial disputes (per 1,000 employees)	days	2001	62	65	38	27	32	7	2	3	50

UNEMPLOYMENT	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Total unemployed	'000	2000–2001	179.9	147.9	147.2	52.8	64.6	19.0	5.6	8.4	625.5
Long-term unemployed (of total unemployed)	%	2000–2001	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23.4
Unemployment rate	%	2000–2001	5.6	6.0	8.0	7.2	6.5	8.7	5.6	4.7	6.4
Male unemployment rate	%	2000–2001	5.9	6.0	8.2	7.9	6.9	9.8	6.6	5.4	6.7
Female unemployment rate	%	2000–2001	5.2	6.0	7.8	6.3	5.9	7.2	4.4	3.9	6.0
Unemployment rate – capital city	%	2000–2001	4.9	6.0	7.7	7.8	6.6	9.2	5.8	4.9	6.1
Unemployment rate – balance of State and Territories	%	2000–2001	7.5	7.0	8.7	6.5	6.7	8.9	n.a.	n.a.	7.7
Median duration of unemployment – males	weeks	2000–2001	19.0	18.0	18.0	29.0	14.0	41.0	12.0	17.0	19.0
Median duration of unemployment – females	weeks	2000–2001	13.0	12.0	14.0	16.0	10.0	20.0	8.0	10.0	13.0
Retrenchment rate	%	2000	3.6	3.2	5.4	3.5	5.1	3.3	6.0	2.9	4.0
Male retrenchment rate	%	2000	4.3	3.3	6.4	3.9	5.9	3.6	7.0	4.1	4.6
Female retrenchment rate	%	2000	2.8	3.1	4.1	3.1	4.0	2.9	5.1	1.6	3.2
Unemployed looking for full-time work											
Persons aged 15–19 years (of all persons aged 15–19)	%	2000–2001	4.6	3.7	6.7	5.6	5.5	7.3	4.9	3.9	5.0
Persons aged 20–24 years (of all persons aged 20–24)	%	2000–2001	5.3	5.9	8.4	6.8	6.9	9.1	5.1	4.5	6.4
Labour force underutilisation											
Extended labour force underutilisation rate	%	2001	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.

NOT IN THE LABOUR FORCE	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Marginally attached	'000	2000	271.6	197.6	159.9	69.5	80.4	29.3	*4.6	10.9	823.9
Discouraged jobseekers	'000	2000	38.6	28.0	18.9	6.5	9.4	*3.4	**0.9	**0.8	106.5

TRANSITION TO RETIREMENT	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Participation rate of males aged 55–59 years	%	2000–2001	70.8	76.1	70.8	68.3	76.5	61.6	81.2	79.0	72.4
Participation rate of females aged 55–59 years	%	2000–2001	46.8	47.2	49.6	44.5	55.2	39.0	58.5	59.2	48.1
Participation rate of males aged 60–64 years	%	2000–2001	43.7	50.1	48.1	43.3	51.7	41.6	45.3	56.1	46.9
Participation rate of females aged 60–64 years	%	2000–2001	18.6	21.3	26.2	19.8	23.9	22.1	30.5	29.0	21.5
Persons retired from full-time work (of all persons aged 50–64 years)	%	1997	44.0	47.2	44.1	47.6	44.3	48.5	20.6	36.4	45.0

(a) Estimates for Northern Territory refer to mainly urban areas only.

Reference periods: All data are annual averages for the year ending 30 June except: occupation and trade union membership (August); working days lost due to industrial disputes (year ending 31 December); retrenchment (February); extended labour force underutilisation; not in the labour force data (September); and retirement data (October/November).

Work definitions and references

Average hours worked per week by full-time workers
aggregated hours worked, including overtime, by full-time workers during the survey reference week divided by the number of full-time workers. The hours are those actually worked and are not necessarily the hours paid for.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Discouraged jobseekers
persons who were marginally attached to the labour force, wanted to work and who were available to start work within four weeks but whose main reason for not actively seeking work was that they believed they would not find a job for any of the following reasons:
- considered too old or too young by employers;
- difficulties with language or ethnic background;
- lacked necessary schooling, training, skills or experience;
- no jobs in their locality or line of work; or
- they considered that there were no jobs available at all.

Reference: *Persons Not in the Labour Force, Australia* (ABS Cat. no. 6220.0).

Employed
persons aged 15 years and over who, during the reference week:
- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work; or
- were employers or own account workers who had a job, business or farm, but were not at work.

Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Employee
a person who works for a public or private employer and receives remuneration in wages, salary, a retainer fee by their employer while working on a commission basis, tips, piece rates or payment in kind, or a person who operates his or her own incorporated enterprise with or without hiring employees.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Employees without leave entitlements
employees who were not entitled to either paid holiday leave or sick leave in their main job.
Reference: *Weekly Earnings of Employees, Australia* (ABS Cat. no. 6310.0). For data after 1998, *Employee Earnings, Benefits and Trade Union Membership, Australia* (ABS Cat. no. 6310.0).

Employer
a person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires one or more employees.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Employment population ratio
for any group, the number of employed persons expressed as a percentage of the civilian population aged 15 years and over in the same group.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Extended labour force underutilisation rate
a measure of underutilised labour beyond what is conventionally measured in the labour force. It includes the unemployed, the underemployed (persons working less than 35 hours a week who wanted to work additional hours and were available to start work with more hours), and two groups of people with marginal attachment to the labour force:
- persons actively looking for work, who were not available to start work in the reference week, but were available to start work within four weeks; and
- discouraged jobseekers.

For more information, see the Information Paper: Measures of Labour Underutilisation (ABS Cat. no. 6296.0).
Source: Data available on request, Labour Force and Supplementary Surveys section, ABS.

Full-time workers
employed persons who usually worked 35 hours or more a week (in all jobs) and others who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Industrial dispute
a withdrawal from work by a group of employees, or a refusal by an employer or a number of employers to permit some or all of their employees to work, each withdrawal or refusal being made in order to enforce or resist a demand, or to express a grievance.
Reference: *Industrial Disputes, Australia* (ABS Cat. no. 6321.0).

Job mobile
Persons aged 15–69 years who either
- change employer/business with or without a change in locality; or
- change locality without a change of employer/business.

Reference: *Labour Mobility, Australia* (ABS Cat. no. 6209.0).

Labour force
for any group, persons who were employed or unemployed, as defined.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Long-term unemployed
persons unemployed for a period of 52 weeks or longer.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Manufacturing industries
consists of the manufacturing division of the *Australian and New Zealand Standard Industrial Classification (ANZSIC) 1993* (Cat. no. 1292.0).
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Marginally attached
persons aged 15–69 years who were not in the labour force, wanted to work and; were actively looking for work but were not available to start; or were not actively looking for work, but were available to start work or would have been if child care was available.
Reference: *Persons Not in the Labour Force, Australia* (ABS Cat. no. 6220.0).

Median age
the age at which half the population is older and half is younger.

Median duration of unemployment
the duration which divides unemployed persons into two equal groups, one comprising persons whose duration of unemployment is above the median and the other, persons whose duration is below it.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Work definitions and references continued

Occupation

a collection of jobs which are sufficiently similar in their main tasks to be grouped together for the purposes of classification. The Australian Standard Classification of Occupations (ASCO) Second Edition, which is used for the classification of occupations, applies skill level and skill specialisation as major criteria.
Skill level is measured by: formal education and training, and previous experience usually required for entry into an occupation. ASCO Second Edition assigns each of the nine major groups in the classification to one of five ranked skill levels.
Skill Level 1 comprises the major groups, Managers and administrators, and Professionals; Skill Level 2 — Associate professionals; Skill Level 3 — Tradespersons and related workers and Advanced clerical and service workers; Skill Level 4 — Intermediate production and transport workers, and Intermediate clerical sales and service workers; and Skill Level 5 — Elementary clerical, sales and service workers and Labourers and related workers.
Reference: *Australian Standard Classification of Occupations, Second edition* (ABS Cat. no. 1220.0).

Own account worker

a person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires no employees. (This category was formerly entitled self-employed.)
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Participation rate

for any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Part-time workers

employed persons who usually worked less than 35 hours a week and who did so during the survey reference week.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Part-time workers who prefer more hours

part-time employed workers who indicated they would prefer to work more hours.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Private sector

the public sector includes all employees of local government authorities and government departments, agencies and authorities created by, or reporting to, the Commonwealth Parliament and State and Territory Parliaments or Legislative Assemblies. All other employees are classified as private sector.
Reference: *Wage and Salary Earners, Australia* (ABS Cat. no. 6248.0).

Proportion of the total population in work

the number of employed persons expressed as a percentage of the total population. For more information, see *Measuring Australia's Progress* (ABS. Cat. no. 1370.0).
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Retired from full-time work

persons who had a full-time job at some time and who had ceased full-time labour force activity (i.e. were not working full-time, were not looking for and did not intend to work full-time at any time in the future). Unpaid voluntary work was not considered as full-time work.
Reference: *Retirement and Retirement Intentions, Australia* (ABS Cat. no. 6238.0).

Retrenchment rate

persons who ceased their last job because they were either:
- employees who were laid off, including no work available, retrenched, made redundant, employer went out of business or dismissed; or
- self employed persons whose business closed down for economic reasons, including 'went broke', liquidated, no work, or no supply or demand.

Data are collected over the 12 month period before the survey, as a percentage of all people who had been employed at some time over the same period.
Reference: *Labour Mobility, Australia* (ABS Cat. no. 6209.0).

Service industries

the combination of the following divisions of the *Australian and New Zealand Standard Industrial Classification (ANZSIC) 1993* (Cat. no. 1292.0): Wholesale trade; Retail trade; Accommodation, cafes and restaurants; Transport and storage; Communication services; Finance and insurance; Property and business services; Government administration and defence; Education; Health and community services; Cultural and recreational services; and Personal and other services.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Small business

management units with fewer than 20 employees in all industries except agriculture where they have an estimated value of agricultural operations of between $22,500 and $400,000.
Reference: *Small Business in Australia* (ABS Cat. no. 1321.0).

Standardised participation rate

age-specific labour force participation rates expressed as a percentage of the standard civilian population, to remove the effect of age and sex composition of the population. The standard population used is the 1991 Census population.

Trade union membership

employees with membership of an organisation (or employees of professional associations), the principal activities of which include the negotiation of rates of pay and conditions of employment for its members.
Reference: *Trade Union Members, Australia* (ABS Cat. no. 6325.0). For data after 1998, *Employee Earnings, Benefits and Trade Union Membership, Australia* (ABS Cat. no. 6310.0).

Unemployed

persons aged 15 years and over who were not employed during the reference week, but who had actively looked for work, and:
- were available to start work; or
- were waiting to start a new job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then.

Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Unemployed looking for full-time work

unemployed persons actively seeking full-time work, expressed as a proportion of the civilian population aged 15 years and over in the same group.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Unemployment rate

for any group, the number of unemployed persons is expressed as a percentage of the labour force in the same group.
Reference: *Labour Force, Australia* (ABS Cat. no. 6203.0).

Working days lost

total working days lost by employees directly or indirectly involved in industrial disputes.
Reference: *Industrial Disputes, Australia* (ABS Cat. no. 6321.0).

Employment arrangements

PAID WORK

Between 1986 and 2000, the proportion of employees who worked some of their hours at night or on the weekend in the previous four weeks increased from 56% to 64%.

Paid employment is the main source of income for most households, providing some degree of economic security and independence. Aspects of employment, such as the amount of remuneration, the conditions and tenure of employment, the personal development opportunities available, and the physical, financial and psychological effects, can all impact upon a worker's sense of wellbeing.

Over the past decade, growth in service industries, increasing numbers of women in the workforce, sustained periods of relatively high unemployment, labour market deregulation, and technological change have coincided with the emergence of different working arrangements. Such arrangements may accord with the individual preferences of many employees. They may also produce economic and social benefits such as more employment, greater productivity and higher living standards. However, if actual employment arrangements differ from preferred arrangements, the mismatch may give rise to perceptions of underemployment, job insecurity, unsociable working hours, and/or overwork.

The vast majority of employed people have just the one job, with only 7% holding more than one job simultaneously in 2000. When considering multiple jobholders, this article examines only those who are employees in their main job, and only looks at employment arrangements prevailing in that main job.

The 1990s witnessed trends away from full-time and permanent employment towards part-time and casual employment. The proportion of employed persons working full-time decreased each year to fall from 79% in 1990 to 74% in 2000. Over the same period, the proportion of employees with an entitlement to either paid sick leave or paid holiday leave declined fairly steadily from 81% to 73% (see *Australian Social Trends 2001*, Work: national summary table p. 118). These changes have helped to alter the traditional notion of a job, which was commonly viewed as being permanent and full-time, with paid leave entitlements and daytime weekday working hours.

Working arrangements

Data presented in this article are mainly from the ABS Working Arrangements Survey which was last conducted in November 2000, and from the ABS Survey of Employment Arrangements and Superannuation (SEAS), conducted between April and June 2000.

Employed people are those aged 15 years and over who, during the reference week, worked for one hour or more for pay, profit, commission, payment in kind in a job or business or on a farm, or worked without pay in a family business, or who had a job but were not at work. Also included are employers, own account workers or contributing family workers who had a job, business or farm, but were not at work.

An *employee* is a person who works for a public or private employer and receives remuneration in wages or salary, or is paid a retainer fee by his or her employer and works on a commission basis, or works for an employer for tips, piece-rates or payment in kind; or, is a person who operates his or her own incorporated enterprise with or without hiring employees.

Some employed people (including some employees) were excluded from the scope of the Working Arrangements Survey and the SEAS. In particular, persons aged 15–19 years who were attending school were excluded from the 2000 Working Arrangements Survey. For a comprehensive list of scope exclusions, see the explanatory notes of the ABS publications *Working Arrangements, Australia* (Cat. no. 6342.0) and *Employment Arrangements and Superannuation, Australia, 2000* (Cat. no. 6361.0).

Proportion of employees working under selected employment arrangements

Selected employment arrangements(a)	1993 %	1995 %	1997 %	2000 %
Able to work extra hours to take time off work	33.9	37.3	38.1	38.4
Working days vary from week to week	11.9	12.0	13.4	13.7
Regularly works overtime	32.8	35.7	33.6	33.0
Worked shift work in the previous four weeks	13.8	14.6	14.5	13.9
Variable start and finish times	34.4	36.5	37.0	33.7
Entitled to rostered days off work	28.2	26.5	23.2	20.4

(a) In the main job of people who are an employee in their main job.

Source: Working Arrangements, Australia, August 1997 and *November 2000* (ABS Cat. no. 6342.0).

Pattern of work hours

One trend evident between 1993 and 2000 has been the growing proportion of employees able to work extra hours to take time off; 34% worked under this arrangement in 1993, rising to 38% in 2000. This increase was accompanied by a decrease in employees entitled to rostered days off work. In 2000, 20% of employees were entitled to rostered

days off work, down from 28% in 1993. The proportion of employees whose working days varied from week to week rose slightly from 12% in 1993 to 14% in 2000.

For many employees, paid employment is an activity not confined to daytime weekday hours. Between 1986 and 2000, the proportion of employees who worked some of their hours at night (between 7pm and 7am) or on the weekend in the previous four weeks increased from 56% to 64%.

Set against the backdrop of continuing labour market deregulation, the prevalence of some employment arrangements was the same in 2000 as it had been in 1993, notwithstanding some minor fluctuations in the intervening years. Around one-third of employees worked overtime on a regular basis in both years, and a similar proportion had variable start and finish times. Furthermore, there was only a small increase between 1986 and 2000 in the proportion of employees who performed shift work during the previous four weeks (from 12% to 14%).

Male and female employees

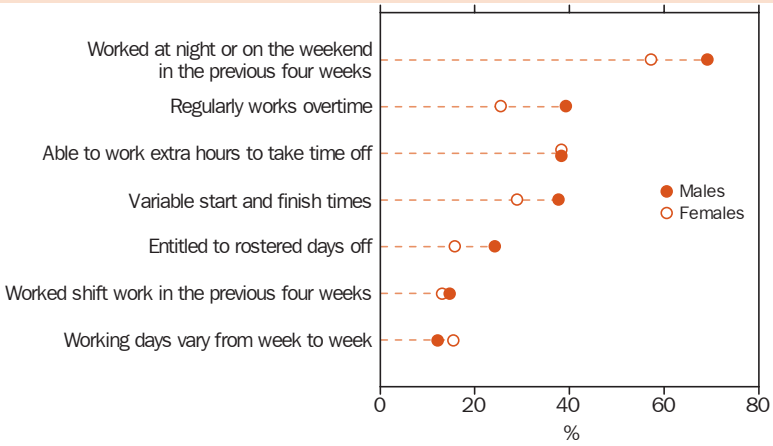
There were differences in certain employment arrangements between male and female employees in 2000. Male employees were more likely than female employees to work overtime on a regular basis (39% compared with 25%), to work at night or on the weekend (69% compared with 57%), to have variable start and finish times (38% compared with 29%), and to have an entitlement to rostered days off work (24% compared with 16%). Female employees were more likely to have a pattern of working days that varied from week to week (16% compared with 12% of male employees).

Some of these differences between male and female employees may reflect differences in the number of hours worked each week. In 2000, male employees were more likely to be employed full-time, and female employees were more likely to be employed part-time. Full-time employees were considerably more likely than part-time employees to be entitled to rostered days off work (26% compared with 5%), and to regularly work overtime (41% compared with 12%). Conversely, part-time employees were more likely to have a pattern of working days that varied from week to week (26% compared with 9% of full-time employees).

Overtime

In 2000, around 2.5 million employees (33%) regularly worked overtime in their main job. At least two-thirds of these employees had been, or expected to be, reimbursed in some way for the most recent period of overtime that they worked; 38% by extra pay, 21% by inclusion of overtime in their salary package, 5% by receiving time off work in lieu of payment, and 2% by other means. One-third of all employees who usually worked overtime were not, or did not expect to be, reimbursed by any of these methods for the most recent period of overtime that they worked.

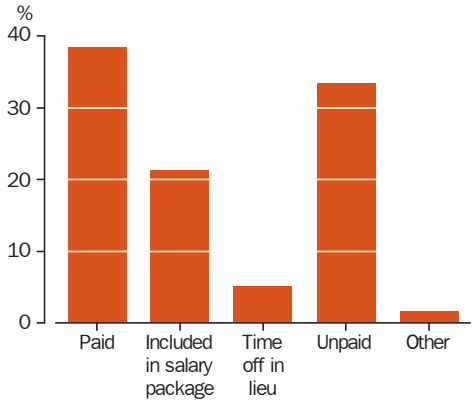
Proportion of male and female employees working under selected arrangements(a) — 2000



(a) In the main job of people who are an employee in their main job.

Source: Working Arrangements, Australia, November 2000 (ABS Cat. no. 6342.0) except 'Worked at night or on the weekend in the previous four weeks' which has been sourced from the ABS 2000 Survey of Employment Arrangements and Superannuation.

Method of reimbursement for employee(a) overtime(b) — 2000



(a) Employees who worked overtime on a regular basis in their main job.
(b) For the most recent period of overtime worked in their main job.

Source: Working Arrangements, Australia, November 2000 (ABS Cat. no. 6342.0).

Employees' usual and preferred working hours(a) — 2000

	Preferred to work(b)					
	Less hours and earn less	*More hours and earn more*	*Same hours and earn the same(c)*	*Less hours and earn the same*	*Total(b)*	
Usual weekly hours	%	%	%	%	%	'000
Working part-time	*3.5*	*34.1*	*60.8*	*1.6*	*100.0*	*2 124.9*
1–15	1.7	39.5	57.7	*1.1	100.0	894.8
16–24	3.6	32.1	62.9	*1.4	100.0	620.0
25–34	6.0	28.3	63.2	2.5	100.0	610.1
Working full-time	*8.7*	*15.6*	*67.5*	*8.3*	*100.0*	*5 379.0*
35–39	6.8	20.5	69.1	3.7	100.0	1 515.8
40	7.1	16.9	70.7	5.3	100.0	1 196.5
41–48	9.3	17.7	65.4	7.6	100.0	1 181.8
49–59	11.0	9.5	67.1	12.4	100.0	915.9
60 or more	11.9	5.6	60.9	21.5	100.0	568.9
Total(a)	**7.2**	**20.9**	**65.6**	**6.4**	**100.0**	**7 503.8**

(a) In the main job of people who are an employee in their main job.
(b) Those whose preference was not known have been included in the population estimate total column but have been excluded from the calculation of percentage distributions.
(c) Includes those who indicated no preference.

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

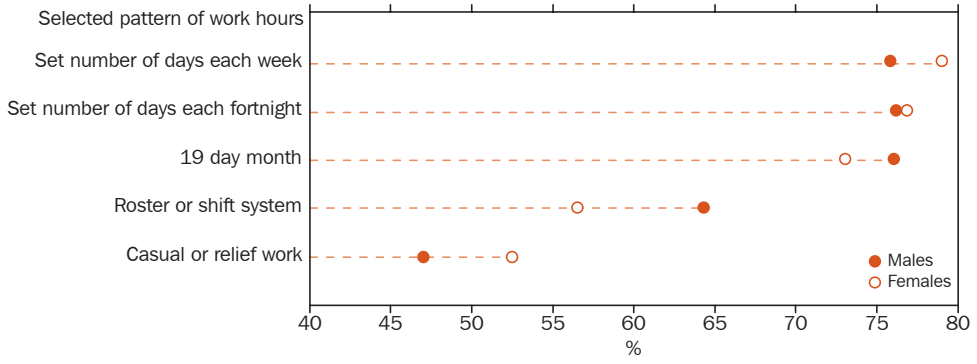
In 1993, 40% of employees who regularly worked overtime in their main job were reimbursed by extra pay for their most recent period of overtime worked. As in 2000, 5% received time off in lieu of payment.

Preferred work hours and patterns

One indicator of job satisfaction is the extent to which actual working arrangements mirror preferred working arrangements. In the ABS 2000 Survey of Employment Arrangements and Superannuation, survey respondents were asked whether they would prefer to 'Work less hours and earn less', 'Work more hours and earn more', 'Work the same amount as now' or whether they had 'No preference'. While 'Work less and maintain current earnings' was not a preference option, interviewers recorded this response when it was given. In total, 6% of employees responded to the question in this way.

In 2000, nearly two-thirds of people who were an employee in their main job preferred to work the same amount of hours as they actually worked in that main job. However, those who usually worked full-time (35 hours or more per week) in their main job were

Proportion of employees who preferred their current pattern of work hours(a) — 2000



(a) In the main job of people who are an employee in their main job.

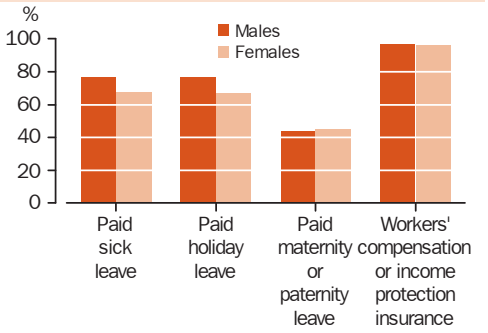
Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

more likely to be working according to their preference than those who usually worked part-time (less than 35 hours per week). While the majority (61%) of part-time employees were working their preferred amount of hours, 34% preferred to work more hours and earn more. This preference to work more hours and earn more was strongest among those working less than 16 hours (40%) and generally weakened with increased usual weekly working hours. While 61% of those who usually worked more than 60 hours per week in their main job worked according to their preference, 6% preferred to work more hours and earn more, and 12% preferred to work less hours and earn less.

In 2000, the single most common main reason for employees wanting to work fewer hours in their main job was to have more free time to engage in social or recreational activities. Of employees who preferred to work more hours, desire for more income was the main reason for 93%. Very small proportions preferred to work more hours mainly to gain more experience or meet career goals (3%), to get work done or to meet a workload (2%), or for some other reason (3%).

In 2000, employees working a set number of days over a given period of time were more likely than employees working shiftwork, casual or relief work to be working their preferred pattern of hours. This difference prevailed among both male and female employees. For example, 76% of male employees and 79% of female employees working a set number of days each week were working their preferred pattern of hours. In comparison, only 47% and 52% respectively of male and female employees doing casual or relief work were working their preferred pattern.

Proportion of employees with selected entitlements(a)(b) — 2000



(a) In the main job of people who are an employee in their main job.
(b) Those who did not know if they had a particular entitlement were excluded prior to the calculation of that proportion.

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

Entitlements

Over recent decades, some employers and employees have expressed a desire for change that embraces more diverse, more flexible, and more 'family-friendly' working arrangements. Wider access to maternity leave, paternity leave, parental leave, and carer's leave are examples of such desired change, which is likely to have been influenced in part by increasing workforce participation of women during this period of time.

In 2000, nearly half of all female employees (45%) were entitled to some paid maternity leave. A similar proportion of male employees (44%) had an entitlement to some paid paternity leave. Higher proportions of both male and female employees were entitled to paid sick leave, and to paid holiday leave, and

Selected characteristics of the main job of employees(a) — 2000

Selected characteristics	*Employees with leave entitlements* %	*Self-identified casual employees* %	*All employees* %
Guaranteed a minimum number of hours as a condition of employment	n.a.	18.8	n.a.
Job has a set finishing date	7.0	7.1	6.8
Expects to leave job within 12 months because of economic or work-related reasons	2.5	7.0	3.6
Employed on a fixed-term contract basis	5.6	4.4	5.2
Proportion of those employed on a fixed-term contract basis who expected that contract to be renewed when it finished	75.3	60.3	71.9

(a) Limited to those who were an employee in their main job.

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

almost all employees were covered by either workers' compensation or income protection insurance.

Continuity of employment

Confidence about having ongoing paid employment may influence people's decisions about, and ability to undertake, long-term commitments such as raising children, entering into mortgages, and borrowing to invest or to purchase assets such as cars, furniture and appliances. A move away from permanent employment towards contract employment, which promises a job for only a specified period of time, and casual employment, in which there is not necessarily an expectation of continuing employment, could generate concern among some people about diminishing job security.

In 2000, 3% of employees with leave entitlements expected to leave their job within a year because of economic or work-related reasons (including the ending of a fixed-term contract). The proportion was higher among employees who considered themselves to be employed on a casual basis, with 7% expecting to leave their job within a year for these reasons.

Also in 2000, 5% of people who worked as an employee in their main job were employed on a fixed-term contract basis. The majority of these people did not expect to have to leave their job when their contract ended, with 72% expecting their contract to be renewed.

Searching for work

UNDERUTILISED LABOUR

In July 2000, around one in three people who found work in the previous year got their job through their network of friends, relatives or company contacts.

Searching for work is an activity undertaken by many people in a variety of circumstances. At any point in time, some people who are not employed are looking for their first job or looking to regain employment. In addition, some people who are currently employed are looking for more work, or for a different job. There are numerous ways to search for work, ranging from registering with an employment agency to directly contacting likely employers. While the method used to search for work influences the likelihood of finding a job,[1] success in finding work also varies with the characteristics of people seeking work.

Ways of finding work

Of people who found work in the year to July 2000, 32% got their job by either obtaining knowledge from a friend, relative or company contact that work was available, or by contacting a friend or relative as the first step taken in seeking the job obtained. This had also been the most common way of finding work throughout the 1990s.

Yet there was some change during the 1990s in the ways by which people found work. This change was accompanied by institutional, labour market and technological change, as well as changes in the

Jobsearching

Data presented in this article are mainly from the ABS Successful and Unsuccessful Job Search Experience Survey which was last conducted in July 2000, and from the ABS Job Search Experience of Unemployed Persons Survey, most recently conducted in July 2001.

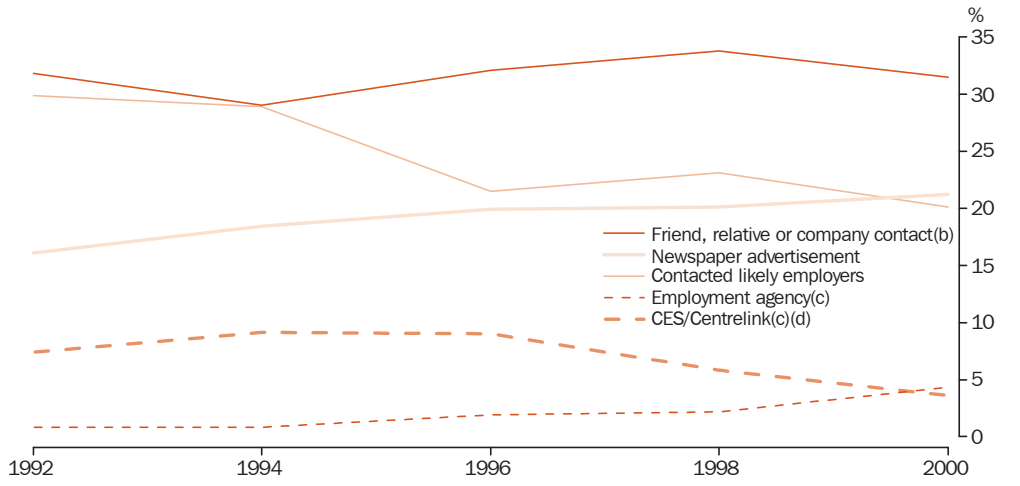
Successful jobseekers are people aged 15 years and over who started work for an employer for wages or salary lasting two weeks or more during the previous 12 months. For people who started two or more jobs during this period, data were collected about the most recently started job only. Persons who started a new job without changing employer are excluded.

While some successful jobseekers are approached by their employer, most approach their employer to get work. In this article, the subset of successful jobseekers who approached their employer are referred to as *people who found work*.

Unsuccessful jobseekers are people aged 15 years and over who had not started work for an employer for wages or salary, but who had looked for work with an employer for wages or salary while they were out of work during the previous 12 months.

In this article, *unemployed persons* are people aged 15 years and over who were not employed during the survey reference week, but were available for work and were actively looking for work, except for those who were stood down without pay for less than four weeks.

People who found work(a): most common ways of finding work



(a) In the 12 months to July.
(b) Contacted as a first step taken, or obtained knowledge from one of these sources that work was available.
(c) Changes to employment service arrangements occurred between July 1997 and July 1998.
(d) Registered with or used CES/Centrelink services as a first step taken, or obtained knowledge from CES/Centrelink.

Source: Successful and Unsuccessful Job Search Experience, Australia (ABS Cat. no. 6245.0), various issues.

unemployment rate (see *Australian Social Trends 2001*, Unemployment trends and patterns, pp. 137–141).

During the years of economic growth that have followed the 1990–91 recession, there has been an increase in the proportion of people who found work by obtaining knowledge about their job from a newspaper advertisement. In July 2000, 21% of people who found work in the previous 12 months did so in this way, up from 16% in the year to July 1992. In contrast, there was a decline in the proportion who had found work over a 12-month period by contacting likely employers without prior knowledge that a job was available (to 20% in the year to July 2000 from 30% in the year to July 1992). Changes in these two ways of finding work are consistent with employers being more likely to advertise available jobs in newspapers during periods of relatively low unemployment, and with jobseekers being more likely to contact prospective employers during periods of relatively high unemployment.

Of people who found work over the 12-month period, the proportion who did so by registering with, obtaining knowledge from, or using the services of Centrelink or the former Commonwealth Employment Service (CES) fell between 1996 (9%) and 2000 (4%). At least part of this decline has been offset by an increase in finding work through employment agencies. Over this same period, the proportion of people who found work by obtaining knowledge from an employment agency increased from 2% to 4% of people who found work. These changes are likely to have been influenced by institutional change that commenced in September 1997, when Centrelink began replacing CES and Department of Social Security (DSS) shopfronts. From May 1998, private, community and government organisations known as Job Network members were contracted to match jobseekers with jobs registered with them by employers. In the Successful and Unsuccessful Job Search Experience Survey, a Job Network member was defined as an employment agency.

Technological change has seen internet sites become an additional source of information about available jobs. However, despite the rise in numbers over recent years, finding jobs from internet sites has to date been an uncommon way of finding work. Of people who found work in the 12 months to July 2000, 1% found work in this way.

People who found work(a): full-time or part-time status of job — 2000

Ways of finding work	Status of job when started		Total
	Full-time	*Part-time*	*Total*
	%	%	%
Friend, relative or company contact(b)	28.5	35.2	31.5
Newspaper advertisement	24.7	16.8	21.2
Contacted likely employers	16.8	24.1	20.1
Employment agency	6.0	2.1	4.3
Centrelink(c)	4.2	2.8	3.6
Tendered or advertised for work	2.4	1.7	2.1
Sign or notice on employer's premises	0.6	3.8	2.0
Internet sites	1.2	*0.7	1.0
School programs	*0.4	*0.7	0.5
Other	15.1	11.9	13.7
Total	**100.0**	**100.0**	**100.0**
	'000	'000	'000
Total	**831.2**	**668.9**	**1 500.1**

(a) In the 12 months to July.
(b) Contacted as a first step taken, or obtained knowledge from one of these sources that work was available.
(c) Registered with or used Centrelink services as a first step taken, or obtained knowledge from Centrelink.

Source: ABS 2000 Successful and Unsuccessful Job Search Experience Survey.

Part-time and full-time jobs

One area of labour market change that may have impacted upon the ways of finding work over the past decade has been a shift away from finding a full-time job towards finding a part-time job. Of people who found work, the proportion who found a part-time job increased between the year to July 1992 and the year to July 2000 (from 43% to 45%).

In July 2000, the three most common ways of finding work over the previous 12 months were similar for those who found a full-time job and those who found a part-time job. Yet there were some differences between these two groups. Those who found a full-time job were more likely than those who found a part-time job to have found their job through a newspaper advertisement (25% compared with 17%) or an employment agency (6% compared with 2%). Conversely, those who started a part-time job were more likely to have found their job by way of a friend, relative or company contact (35% compared with 29%), by contacting likely employers (24% compared with 17%), or by responding to a sign or notice on the employer's premises (4% compared with 1%). Differences in the ways of finding work between people who found a full-time job and people who found a part-time job may reflect different recruitment methods used by employers when filling full-time and part-time job vacancies.

Proportion of jobseekers(a) with selected characteristics who were successful jobseekers — 2000

	%
Age group (years)	
15–19	77.3
20–24	80.2
25–34	81.2
35–44	71.8
45–54	68.6
55 and over	60.3
Sex	
Males	75.0
Females	77.0
Educational attainment	
With post-school qualifications	81.9
Without post-school qualifications	71.5
Still at school	73.4
Country of birth	
Born in Australia	77.2
Born overseas	71.9
In the United Kingdom, Ireland, Canada, South Africa, the United States of America or New Zealand	79.9
In another country	65.9
Total	**76.0**

(a) In the 12 months to July.

Source: Successful and Unsuccessful Job Search Experience, Australia, July 2000 (ABS Cat. no. 6245.0).

Successful jobseeking

In the year to July 2000, 76% of all jobseekers were successful. Over the year to July 2000, younger jobseekers were more likely than older jobseekers to succeed in finding work, with those aged between 25 and 34 years being the age group most likely to be successful (81%). Thereafter, the likelihood of success steadily declined with age, dropping to 60% of those aged 55 years and over. A similar pattern of declining success with increasing age was evident in 1990 and 1996, although in these two years the age group most likely to succeed in finding work was younger, at 20–24 years. In the year to July 2000, female jobseekers were slightly more likely to have found work than male jobseekers (77% compared with 75%).

In July 2000, jobseekers with post-school qualifications were more likely to have succeeded in getting a job in the previous 12 months than those without a post-school qualification (82% compared with 72%). A lower success rate (66%) also prevailed among jobseekers born overseas in a country other than the United Kingdom, Ireland, Canada, South Africa, the United States of America, and New Zealand. In contrast, jobseekers born overseas in one of these six English-speaking countries were more likely to succeed in their search for work (80%) than jobseekers overall. If country of birth is an indicator of English language proficiency and degree of familiarity with Australian institutions and customs, then some of the percentage point difference between the two groups of overseas-born Australians may be due to variation in English language skill and cultural familiarity.

States and Territories

Variation in the availability of jobs in the States and Territories is likely to further impact upon a jobseeker's chance of finding work. In the year to July 2000, Tasmanian jobseekers and South Australian jobseekers were least likely among jobseekers in each State and Territory to succeed in getting work (with 65% and 71% respectively of jobseekers in these States being successful). These two States also had the highest unemployment rates on average that year (8.8% in Tasmania and 8.0% in South Australia). In contrast, jobseekers in the two Territories were most likely to have succeeded in finding work (80% or more for both Territories). The Territories also had the lowest unemployment rates of all States and Territories in 1999–2000.

Proportion of jobseekers(a) who were successful jobseekers and unemployment rate — 2000

State or Territory	*Proportion of jobseekers(a) who were successful jobseekers* %	*Unemployment rate(b)* %
NSW	76.7	5.8
Vic.	77.5	6.6
Qld	74.4	7.7
SA	71.4	8.0
WA	77.6	6.2
Tas.	64.6	8.8
NT(c)	82.9	4.4
ACT	80.0	5.2
Aust.	**76.0**	**6.6**

(a) In the 12 months to July.
(b) Average for the year ending 30 June.
(c) Refers to mainly urban areas.

Source: ABS 2000 Successful and Unsuccessful Job Search Experience Survey; *Labour Force, Australia* (ABS Cat. no. 6203.0).

As well as variation in the availability of work, such differences between the States and Territories may reflect to some extent the different age profiles of jobseekers across Australia. Given the way the success rate varies between age groups, a State or Territory with a relatively high proportion of younger jobseekers could be expected to have a higher success rate than a State or Territory with a relatively high proportion of older jobseekers.

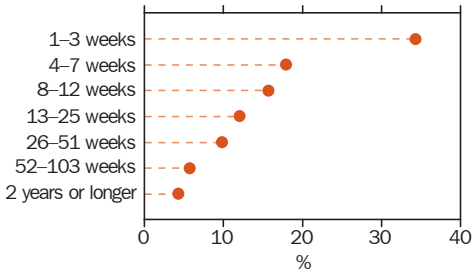
Time spent searching

Some people find work quickly while others can be looking for a job for months or even years. More than one-third of people who found work in the year to July 2000 spent less than four weeks looking before finding a job and half found work within eight weeks. Around 10% had searched for 52 weeks or longer before finding work, with this proportion representing over 120,000 jobseekers who found a job in the year to July 2000.

In an increasingly competitive and changing labour market, there are people who struggle to find paid employment in any occupation, and some who have difficulty finding paid employment in their preferred occupation. For some people, unsuccessful job searching over a prolonged period may result in a loss of confidence and motivation for finding work, and may give rise to negative perceptions among some potential employers.[2] For others, unsuccessful job searching could result in withdrawal from the labour force altogether.

In the year to July 2000, long periods of looking for work were more likely to have been experienced by unsuccessful jobseekers than by people who found work. Over half (55%) of all unsuccessful jobseekers had been looking for at least six months between July 1999 and July 2000, compared with 20% for people who found work. One in three (34%) unsuccessful jobseekers had searched for work for the entire 12 month period.

People who found work(a)(b): time spent searching for work before being offered a job — 2000



(a) In the 12 months to July.
(b) After looking for at least one week, and whose duration of looking for work before being offered a job was known.

Source: Successful and Unsuccessful Job Search Experience, Australia, July 2000 (ABS Cat. no. 6245.0).

Searching spells

Some jobseekers encounter little difficulty in finding work but have difficulty securing continuous employment. Alongside long-term unemployment, turbulent labour market experience (i.e. frequent movement between employment and unemployment or being out of the labour force) may impair a person's ability to undertake ongoing financial commitments such as repaying a mortgage.

Of people who were unemployed in July 2001, most (88%) were experiencing their only spell of being out of work and looking for a job within the period spanning July 2000 to July 2001. However, 8% were looking for a job for the second time within the year, and 4% were looking for work for at least the third time in the past 12 months.

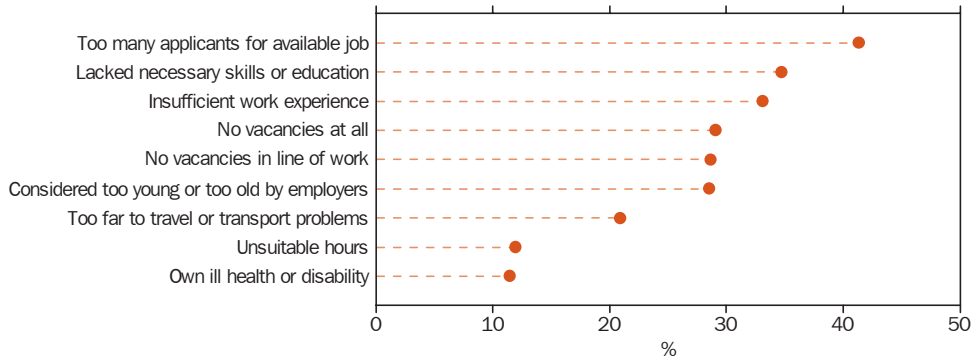
Difficulties faced in finding work

The proportion of unemployed people having difficulty finding work because they feel that there are too many applicants for the available jobs may be one indication of the competitiveness of the labour market. In July 2001, 41% of unemployed people felt they had difficulty getting a job for this reason.

Unemployed people in July 2001 were considerably less likely than unemployed people in June 1991 to indicate that they had difficulty getting a job because of a lack of jobs. In 2001, 29% of unemployed people felt that they had difficulty finding work because there were no vacancies at all (compared with 58% in 1991), and the same proportion (29%) felt that they experienced difficulty because there were no vacancies in their line of work (compared with 48% in 1991). These differences are likely to be due in part to the Australian economy being in a contractionary phase in 1991 and a growth phase in 2001.

Other commonly perceived difficulties in 2001 were a lack of necessary skills or education (35%) and insufficient work experience (33%). These difficulties were encountered by a higher proportion of unemployed persons in July 2001 than a decade earlier, possibly reflecting the shift towards a more skilled labour force (see *Australian Social Trends 1997*, Changing industries, changing jobs, pp. 93–98).

Difficulties perceived by unemployed persons in finding work — 2001



Source: ABS 2001 Job Search Experience of Unemployed Persons Survey.

Unemployed people in July 2001 felt slightly less likely than those of a decade earlier to have had trouble getting a job because of being considered too young or too old by employers. However, they were slightly more likely than unemployed people in June 1991 to have had trouble because of transport problems, travel distance, unsuitable hours, and personal health or disability.

Willingness to relocate for work

At any point in time, most people who are unemployed will not have been offered a job by an employer during their current period of unemployment. For example, of those people who were unemployed in July 2001, 86% had not been offered a job during their current period of unemployment. Fewer than one in ten (9%) had received one offer during this period, with the remainder (5%) having received two or more offers.

One of the reasons that some unemployed people decline a job offer may be their desire to stay close to their support network of family and friends. However, in 2001, one-third (34%) of unemployed people were prepared to move elsewhere within their State or Territory if offered a suitable job. A smaller proportion (22%) were prepared to move to another State or Territory.

Willingness to change residence to take up work may be influenced by the prevailing rate of unemployment and expectations of job shedding or employment growth in the foreseeable future. A decade earlier, when the unemployment rate was higher and had been rising for some time, higher proportions of unemployed persons were prepared to move intrastate (43%) and interstate (29%) if offered a suitable job. Differences between the characteristics of unemployed people in June 1991 and July 2001 may also have contributed to the lesser willingness of unemployed people to relocate for work in 2001. Between June 1991 and July 2001, the proportion of unemployed people who were still at school increased from 5% to 8% and the proportion looking for part-time work rose from 14% to 24%.

Willingness of unemployed persons to move if offered a suitable job — 2001

	%
Within the same State/Territory	
Would move	33.7
May move	10.6
Undecided	2.1
Would not move(a)	53.6
Total	**100.0**
To a different State/Territory	
Would move	22.3
May move	7.6
Undecided	2.5
Would not move(a)	67.6
Total	**100.0**
	'000
Total	**613.0**

(a) Includes 49,600 persons who were still at school and who comprised 8% of all unemployed persons.

Source: ABS 2001 Job Search Experience of Unemployed Persons Survey.

Endnotes

1 Heath, A. 1999, *Job-search methods, neighbourhood effects and the youth labour market*, Research Discussion Paper 1999–07, Reserve Bank of Australia, Canberra.

2 Chapman, B. 1993, 'Long term unemployment: The case for policy reform', *Social Security Journal*, June 1994, pp. 19–37.

Working from home

PAID WORK

In June 2000, there were almost 1 million home workers in Australia. The main reason for people working from home was to operate a business (48%).

While there have always been home workers in the Australian labour market, advances in information technology and the introduction of family-friendly policies and flexible working arrangements have made working from home an increasingly attractive option for many people. As location is less important for home work, employees have access to a larger range of jobs, and employers can choose from larger numbers of potential employees. Home work may also increase opportunities for people who have limited access to normal workplaces due to disability, illness or caring responsibilities.[1]

Working from home offers a range of benefits to both individuals and their employers. Home workers, whether employees or self-employed persons, may find they have greater flexibility in working hours, a reduction in travelling time and costs, and better access to recreational, social and educational facilities in their local communities.[1] Employers may benefit from employing home workers through reduced operating costs, increased employee motivation, retention of skilled personnel, reduced absenteeism and the use of peak performance times.[2]

However, employees working from home may experience reduced opportunities for career advancement, and feel isolated from workplace communication channels.[2] Home workers must also strive to balance family and other pressures that intrude at home.[1] Employers may also have difficulties accessing and supervising their staff, and achieving a better team work approach.[3]

Home workers

The ABS collects information on persons employed at home through the Locations of Work Survey. This survey was conducted for the first time in June 2000 and replaced the Survey of Persons Employed at Home conducted in 1989, 1992 and 1995. As a result of conceptual changes, data from the 2000 survey are not directly comparable with data from earlier surveys.

In this article, persons employed at home are referred to as *home workers*. As in the June 2000 survey, home workers are defined as employed persons who, during the reference week, worked all or most hours at their own home or at the home of another person (excluding the home of their employer or client) and employees who worked less hours at home than elsewhere but had an arrangement with their employer to work at home.

Who are home workers?

One in five (1.8 million) employed persons in 2000 worked some hours at home. Almost 1 million of these were classified as home workers. Home workers include persons who only or mainly worked at home (692,600 persons) as well as employees who, though working less hours at home than elsewhere, had an arrangement with their employer to work at home (287,700 persons). Almost half (49%) of all home workers in 2000 were women. This was larger than the proportion of all workers who were women (44%).

In general, home workers tend to be older than other employed persons. In 2000, more than three-quarters (76%) of home workers

Home workers and all employed persons — 2000

	Home workers			*All employed persons*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
Age group (years)	%	%	%	%	%	%
15–24	5.5	3.3	4.5	17.0	20.3	18.4
25–34	18.1	21.7	19.8	24.7	24.1	24.5
35–44	25.5	32.9	29.1	25.3	25.4	25.3
45–54	28.0	27.8	27.9	21.4	21.9	21.6
55–64	16.1	11.7	13.9	9.6	7.2	8.6
65 and over	6.8	2.7	4.8	2.1	1.1	1.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	'000	'000	'000	'000	'000	'000
Total	**503.3**	**476.9**	**980.3**	**4 830.8**	**3 758.6**	**8 589.4**

Source: ABS 2000 Survey of Locations of Work.

were aged 35 years and over, compared with 57% of all workers. The median age of home workers was 44 years, compared with 38 years for all workers. Male home workers tended to be older than female home workers, with a median age of 45 years, compared with 43 years for females.

In 2000, home workers were more likely to be employees than self-employed (58% compared with 42%). However, the proportion of home workers who were self-employed was higher than the proportion of all workers who were self-employed (13%).

Industry

In 2000, 23% of all home workers worked in the Agriculture, forestry and fishing industry. This reflects the large number of farmers who were home workers. Just over one in five home workers in 2000 were farmers.

Working from home was less common in service industries than in goods producing industries (9% and 15%, respectively, of all persons employed in these industries).

Industry of home workers — 2000

Industry	*Proportion of home workers*	*Home workers(a) as a proportion of all employed persons in the industry(b)*
Selected industries	%	%
Agriculture, forestry and fishing	22.9	50.4
Personal and other services	5.5	15.3
Property and business services	15.4	14.5
Education	9.2	14.4
Cultural and recreational services	3.1	13.8
Construction	8.1	11.0
Wholesale trade	4.9	10.7
Finance and insurance	3.6	10.2
Electricity, gas and water supply	0.7	10.2
Communication services	1.3	7.1
Goods producing industries(c)	39.4	15.4
Service industries(d)	60.6	8.9
Total	**(e)100.0**	**10.9**
	'000	'000
Total	**(f)980.3**	**9 032.3**

(a) Home workers in the June 2000 Locations of Work Survey.
(b) All employed persons in the May 2000 Labour Force Survey.
(c) Comprises Agriculture, forestry and fishing, Mining, Manufacturing, Construction, and Electricity, gas and water supply.
(d) Comprises Wholesale trade, Retail trade, Accommodation, cafes and restaurants, Transport and storage, Communication services, Finance and insurance, Property and business services, Government administration and defence, Education, Health and community services, Cultural and recreational services, and Personal and other services.
(e) Home workers whose industry was not determined were excluded prior to the calculation of percentages.
(f) Includes home workers whose industry was not determined.

Source: ABS 2000 Survey of Locations of Work; ABS Labour Force Survey, May 2000.

However, due to larger numbers of people working in service industries, home workers were more likely to come from these industries (61% of all home workers) than goods producing industries (39%). Of the 584,500 home workers employed in service industries, 25% worked in Property and business services, 15% worked in Education and 10% worked in Health and community services.

Occupation

In 2000, home workers comprised 39% of all persons employed as Managers and administrators and 28% of all Advanced clerical and service workers. The latter occupation group includes occupations such as bookkeepers, secretaries and personal assistants.

Just over half (52%) of home workers employed in goods producing industries were Managers and administrators, compared with 9% of home workers in service industries. This reflects the large number of farmers working from home.

Home workers in service industries were concentrated in Professional occupations (39% of all home workers in these industries). Professionals working from home were concentrated in Education (30%, e.g. teachers) and Property and business services (29%, e.g. accountants and computing professionals).

The distribution of male and female home workers among different occupation groups tended to follow overall labour market trends. Women working from home outnumbered men in each of the three occupation groups involving clerical, sales and service workers. However, as in the total labour force, male home workers outnumbered female home workers in every other occupation group.

Reasons for working at home

In 2000, almost half (48%) of all home workers indicated that their main reason for working at home was to operate their own (or a family) business. Other reasons given for working at home were to catch up on work (15% of all home workers), flexible working arrangements (11%) and conditions of employment (10%). Child care or family considerations was the main reason for working at home for 4% of home workers.

While relatively few people cited their main reason for working at home as child care or family considerations, women working from home in 2000 were more likely to have

Occupation of home workers — 2000

	Type of industry		Sex			Home workers(a) as a proportion of all employed persons in the occupation(b)
	Goods producing industries(c)	Service industries(d)	Males	Females	Persons	
Occupation	%	%	%	%	%	%
Managers and administrators	52.4	8.7	35.3	15.9	25.9	39.4
Professionals	5.2	39.3	28.0	23.6	25.9	15.2
Associate professionals	3.8	16.5	13.5	9.4	11.5	10.9
Tradespersons and related workers	8.2	3.7	8.6	2.1	5.5	4.4
Advanced clerical and service workers	13.0	10.2	1.6	21.6	11.3	28.0
Intermediate clerical, sales and service workers	7.1	15.6	5.3	19.5	12.2	7.4
Intermediate production and transport workers	3.1	1.0	2.4	1.3	1.9	2.2
Elementary clerical, sales and service workers	*0.5	3.4	1.6	3.0	2.3	2.5
Labourers and related workers	6.7	1.6	3.7	3.5	3.6	4.0
Total	**(e)100.0**	**(e)100.0**	**(e)100.0**	**(e)100.0**	**(e)100.0**	**10.9**
	'000	'000	'000	'000	'000	'000
Total	**(f)379.6**	**(f)584.5**	**(f)503.3**	**(f)476.9**	**(f)980.3**	**9 032.3**

(a) Home workers in the June 2000 Locations of Work Survey.
(b) All employed persons in the May 2000 Labour Force Survey.
(c) Comprises Agriculture, forestry and fishing, Mining, Manufacturing, Construction, and Electricity, gas and water supply.
(d) Comprises Wholesale trade, Retail trade, Accommodation, cafes and restaurants, Transport and storage, Communication services, Finance and insurance, Property and business services, Government administration and defence, Education, Health and community services, Cultural and recreational services, and Personal and other services.
(e) Home workers whose occupation was not determined were excluded prior to the calculation of percentages.
(f) Includes home workers whose occupation was not determined.

Source: ABS 2000 Survey of Locations of Work; ABS Labour Force Survey, May 2000.

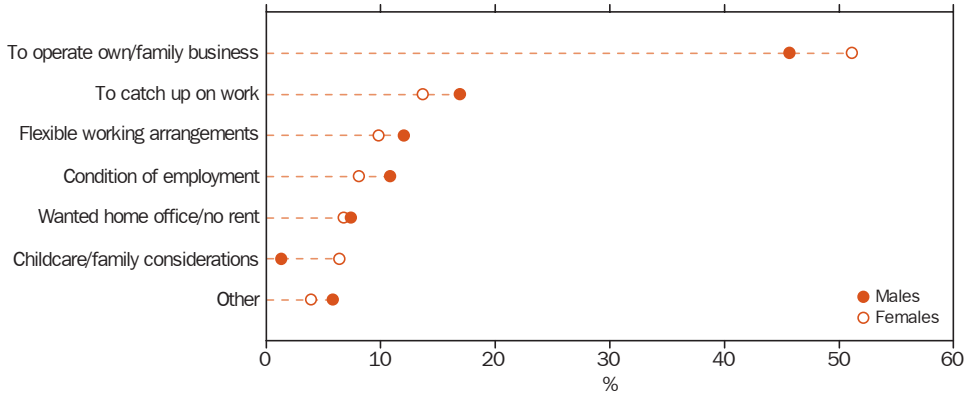
children aged under 15 years than women working in other locations (42% of female home workers and 30% of all female workers). In comparison, 35% of male home workers and 32% of all male workers had children aged under 15 years.

Working hours and conditions

On average, male home workers in 2000 worked longer hours at home than female home workers. Men working at home in their main job averaged 27 hours a week at home, compared with 17 hours for women working from home. Although 53% of all home workers worked more than 40 hours a week in total, much of this work was done away from home. More than half (57%) of all home workers working at home in their main job worked 19 hours a week or less.

For many home workers, working from home is a long-term arrangement. In 2000, half (51%) of all home workers had worked in a

Home workers, main reason for working at home — 2000



Source: Locations of Work, Australia, June 2000 (ABS Cat. no. 6275.0).

Home workers and all employed persons, weekly hours worked — 2000

	Home workers working at home in main job			Home workers working in all jobs and locations	All employed persons
	Males	Females	Persons		
Weekly hours worked	%	%	%	%	%
Under 10 hours	33.0	42.4	37.5	10.5	7.3
10–19 hours	15.6	23.6	19.4	11.4	9.5
20–29 hours	9.8	12.0	10.9	10.1	11.0
30–34 hours	6.4	5.5	6.0	7.8	12.9
35–39 hours	4.1	4.0	4.1	7.7	14.5
40 hours or more	31.1	12.5	22.2	52.6	44.8
Total(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Persons whose weekly hours worked was not determined were excluded prior to the calculation of percentages.

Source: ABS 2000 Survey of Locations of Work.

job at home for five years or more, with 34% having worked from home for 10 years or more. The length of time that persons had worked from home varied across occupation groups. In 2000, 57% of Managers and administrators had worked from home for 10 years or more, compared with 28% of Professionals and 32% of Advanced clerical and service workers.

Of the 58% of homeworkers who were employees, most were covered by workers compensation and superannuation, but they were less likely to have access to such benefits than other employees. In 2000, 80% of employees working from home in their main job were covered by workers compensation, compared with 93% of all employees.[4] Similarly, 74% of employees working from home had superannuation coverage provided by their current employer, compared with 84% of all employees.[4]

Many employees working from home have access to paid sick leave and paid holiday leave, although again not to the same extent as other employees. In 2000, 59% of employees working from home had access to either paid sick leave or paid holiday leave, compared with 71% of all employees.[5]

Employees working from home were also less likely to be members of trade unions than other employees. In June 2000, 16% of employees working from home were trade union members, compared with 25% of all employees in August 2000.[5]

Use of information technology

In 2000, most home workers (64%) used information technology in their job at home. In the Locations of Work Survey, information technology refers to computers and the Internet (including e-mail).

Female home workers were slightly more likely than males to use computers as part of their job at home (66% compared with 63%). However, male home workers were more likely to use the Internet in their job at home than females (43% compared with 35%). These differences in information technology usage are likely to reflect differences in the occupational profiles of male and female home workers.

In terms of the occupations of home workers, information technology usage was highest among Professionals (83%) and Advanced clerical and service workers (76%).

Use of information technology by home workers — 2000

	Males	Females	Persons
Use of information technology	%	%	%
Use information technology in job at home	*63.0*	*65.6*	*64.2*
Use computer only	20.2	30.2	25.1
Use Internet	42.7	35.3	39.1
Do not use information technology in job at home	*37.0*	*34.4*	*35.8*
Total	**100.0**	**100.0**	**100.0**

Source: ABS 2000 Survey of Locations of Work.

Professionals working from home (over half of whom were men) were more likely to use the Internet in their job at home (59%) than to use computers alone (24%). In contrast, Advanced clerical and service workers working from home (most of whom were women) were slightly more likely to use computers without connection to the Internet (40%) than with such connections (36%).

Endnotes

1 Standen, P. 1997 'Home, work and management in the Information Age', *Journal of the Australian and New Zealand Academy of Management*, vol. 3, no. 1, pp. 1–14.

2 Haseloff, K. 1999 'Teleworking – OH&S issues for employers', *Safety Science Monitor*, vol. 3, Safety Management, article 11 <http://www.ipso.asn.au/index.htm> accessed 21 January 2002.

3 Di Martino, V. 2001, *The High Road to Teleworking*, International Labour Organisation, Geneva.

4 Australian Bureau of Statistics 2001, *Employment Arrangements and Superannuation, Australia, April to June 2000*, Cat. no. 6361.0, ABS, Canberra.

5 Australian Bureau of Statistics 2001, *Employee Earnings, Benefits and Trade Union Membership, Australia*, *August 2000*, Cat. no. 6310.0, ABS, Canberra.

Voluntary work

UNPAID WORK

In 2000, 32% of the population aged 18 years and over had performed some voluntary work in the preceding 12 months, up from 24% in 1995.

Recent events have raised the public profile of volunteers, who make a valuable contribution to a wide range of nonprofit organisations. The United Nations declared 2001 the International Year of Volunteers, acknowledging their important role in social development. Activities to recognise and celebrate the role of volunteers in building a strong and cohesive society took place throughout the year in Australia. Volunteers were also recognised in Australia for their role in the Sydney 2000 Olympic and Paralympic Games, and late in 2001 widespread bushfires called attention to the work of emergency services volunteers.

As well as the economic value of the services volunteers provide, there is much interest in the role of volunteers in building social networks and increasing social cohesion. Thus, as well as information on the hours worked and activities undertaken by volunteers, there is interest in people's reasons for volunteering, how they were recruited, and how the likelihood of volunteering varies among the population.

Change over time

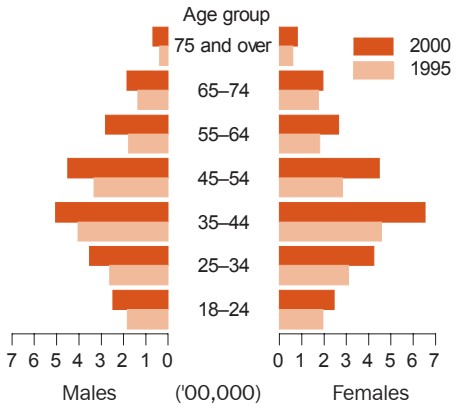
Between 1995 and 2000, there was substantial growth in the number of volunteers, from 3.2 million to 4.4 million. There were increases across all age groups, for both sexes. As a result of the increase in the number of volunteers, there was an increase in the total amount of voluntary work performed. Annual hours totalled 511.7 million in 1995 and this rose to 704.1 million in 2000. The average hours per volunteer did not change, remaining at 3.1 per week.

The proportion of the population who volunteered increased from almost a quarter (24%) to almost a third (32%). The age pattern of volunteering remained similar, with those aged 35–44 years the most likely to volunteer (32% of this age group volunteered in 1995 and 40% in 2000.)

Geographical differences

In 2000, the volunteer rate was higher outside capital cities (38%, compared with 28% in capital cities). This was the case across all age groups, for both sexes. A similar pattern was apparent in 1995, with a volunteer rate of 21% for capital cities and 29% for other areas.

Volunteers



Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

Voluntary work

The second national Survey of Voluntary Work was conducted by the ABS during 2000. Information was collected from people aged 18 years and over about voluntary work they had performed in the previous twelve months.

People who did voluntary work overseas, or whose only voluntary work was for the Sydney 2000 Olympic or Paralympic Games, were excluded from the survey. The large number of Olympic volunteers would have impacted on the survey results and affected comparability with the first national survey, conducted in 1995.

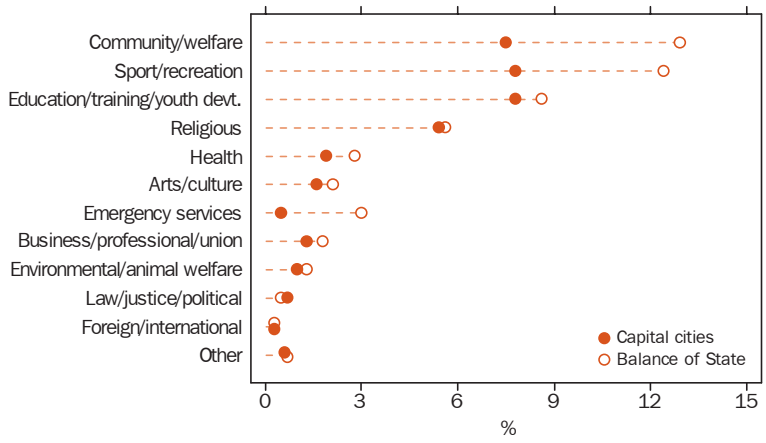
People who performed voluntary work to satisfy a requirement to receive government benefits, such as those in work-for-the-dole programs, were also excluded from the survey. However, those who undertook voluntary work as part of a more flexible 'mutual obligation' program under which they had a choice between undertaking study or work, were included.

A *volunteer* is someone who willingly gives unpaid help, in the form of time, service or skills, through an organisation or group.

The *volunteer rate* for any group (for example, an age group) is the number of volunteers in that group expressed as a percentage of the total population of that group.

Many people volunteer for more than one organisation. For each person, information was collected about the volunteer work done for up to three organisations. The work done by a person for an organisation is termed a *volunteer involvement*.

Volunteer rate(a): type of organisation — 2000



(a) People who volunteered for each type of organisation expressed as a proportion of the population of each area. As people could volunteer for more than one type of organisation, rates by type of organisation do not sum to the total rate.

Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

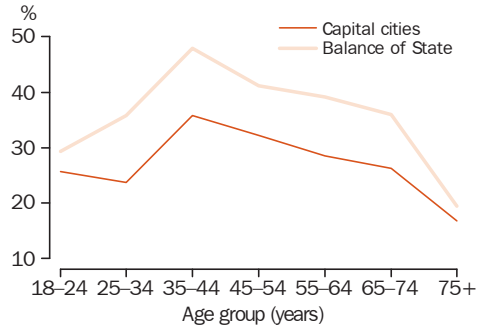
There were higher rates outside capital cities for most types of voluntary work, with particularly large differences for the two leading types. In areas outside of capital cities, 13% of the population volunteered for at least one community or welfare organisation (compared with 8% in capital cities), and 12% volunteered for a sport or recreation organisation (compared with 8% in capital cities). Less pronounced differences were observed for the other leading types of voluntary work: education, training and youth development (8.6% compared with 7.8%), and religious work (5.6% compared with 5.4%). Volunteering for emergency services was six times higher outside capital cities, the greatest proportional difference between the rates for the two areas, but this was a less common type of volunteering in both areas (3.0% compared with 0.5%).

Volunteer rate: States and Territories — 2000

	Capital city	*Balance of State*	*Total*
State/Territory	%	%	%
NSW	24.7	37.6	29.3
Vic.	28.9	43.8	32.8
Qld	30.2	32.1	31.2
SA	35.8	44.5	38.0
WA	28.2	44.6	32.2
Tas.	31.5	35.7	34.0
NT	31.6	32.0	31.7
ACT	36.2	—	36.2
Australia	**28.4**	**38.1**	**31.8**

Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

Volunteer rate(a): geographical area — 2000



(a) Volunteers as a proportion of the population of each age in each area.

Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

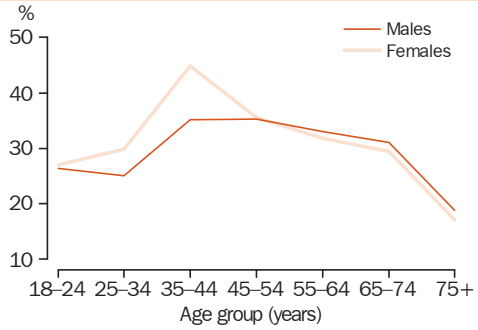
The most marked difference between the volunteer rates for a capital city and the balance of the State was observed in Western Australia, where the rate was 28% in Perth and 45% elsewhere. In New South Wales, Victoria and South Australia, there was likewise a considerable difference between the volunteer rates for the capital city and the balance of the State. However, in Queensland, Tasmania and the Northern Territory the difference was relatively small. In these two States and the Northern Territory, the volunteer rates for areas outside capital cities were low compared with other States, while the volunteer rates for Darwin, Brisbane and Hobart were comparable with those of other capital cities.

The volunteer rate of 45% for areas of Western Australia outside of Perth was the highest of any area, and the rate of 25% for Sydney was the lowest. The greatest difference between the rates for Sydney and other capital cities was in the 25–34 years age group. In this age group Sydney's volunteer rate was 15% while rates for other cities ranged from 26% (Melbourne) to 35% (Adelaide). Largely as a result of the low rate for Sydney, New South Wales had the lowest overall rate of any State (29%).

Who volunteers? How much do they do?

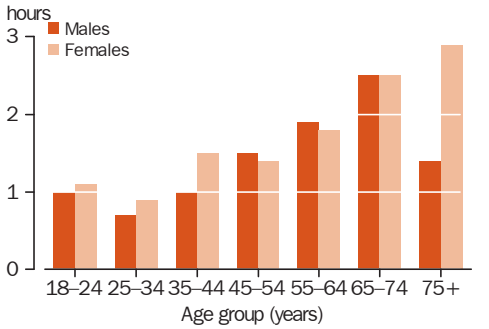
The likelihood of volunteering appears to be related to stages in the life cycle. In 2000, 27% of 18–24 year olds and 28% of 25–34 year olds volunteered, but the proportion who volunteered was substantially higher in the next age group, 35–44 year olds (40%). The likelihood of volunteering then declined slowly with age, to 30% of 65–74 year olds, before dropping more markedly for those in the oldest age group, 75 years and

Volunteer rates: sex and age — 2000



Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

Volunteers: median weekly hours spent volunteering — 2000



Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

over (18%). Whereas the rate of volunteering peaked in the 35–44 years age group, the median hours worked by volunteers tended to increase steadily with age, to peak at 2.5 hours per week for ages 65–74 years.

There were some differences in the volunteer rates of men and women. In age groups under 45 years women both volunteered more and contributed more hours than men. In particular, there was a pronounced peak in the female volunteer rate for 35–44 year olds (45% in 2000) which was not the case for men. (In 2000, the highest male rate was 35% and this occurred among 35–44 year olds and 45–54 year olds). At older ages both the volunteer rate and median hours were slightly higher for men (except for median hours in the oldest age group). Overall, the volunteer rate was slightly higher for women than men (33% compared with 31%) as were median hours per week (1.4 compared with 1.2).

The likelihood of volunteering varied according to the type of household to which people belonged. Volunteering was highest among people living with a partner and children (42%), and higher for women in this situation (45%) than men (38%). This is consistent with the peak in the female rate at ages 35–44 years, and may reflect the effect of having children in the home, as mothers in particular often become involved in voluntary tasks associated with their children's activities. However, the highest median hours were observed for volunteers who were lone parents or who lived alone (1.7 hours per week in each case), followed by couples without children in the home (1.5 hours per week).

Among those aged under 65 years, people in paid employment were more likely to volunteer than others. However, there were differences between men and women in this regard. Among men those in full-time employment had the highest volunteer rate in 2000 (34%), followed by those in part-time employment (29%). Both groups had a higher rate than men who were not in the labour force (23%) or were unemployed (21%). In contrast, among women, there was a particularly high rate for those working part-time (45%), and the rate for unemployed women (34%) exceeded that of women employed full-time (31%) and those not in the labour force (29%).

While employed people were more likely to volunteer than others, it was volunteers who were not in the labour force who tended to

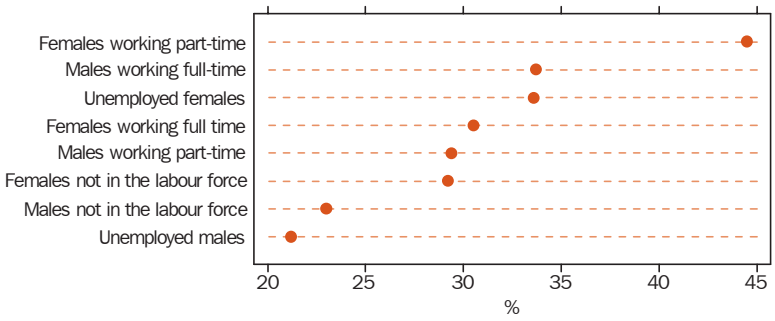
Volunteer rates for persons with selected characteristics — 2000

	Males	*Females*	*Persons*
	%	%	%
Relationship in household(a)			
Family member			
Husband, wife or partner			
without dependent children(b)	29.4	27.5	28.5
with dependent children(b)	37.6	45.4	41.6
Lone parent	30.9	33.0	32.6
Dependent student(b)	26.5	44.0	36.8
Non-dependent child	24.3	25.8	24.9
Non-family member			
Lone person	23.2	29.3	26.5
Other	25.8	19.7	23.2
Labour force status (18–64 years)			
Employed, working full-time	33.7	30.5	32.7
Employed, working part-time	29.4	44.5	40.7
Unemployed	21.2	33.6	27.1
Not in labour force	23.0	29.2	27.2

(a) The relationship of the individual to others in their household. Only relationship types for which reliable data could be calculated have been included.
(b) Dependent children are those who are living in a one-parent or couple household and are either aged under 15 years or are aged 15–24 years and full-time students (dependent students), except those who are classified as husbands, wives or lone parents.

Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

Volunteer rates: sex and labour force status, people aged 18–64 years — 2000



Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

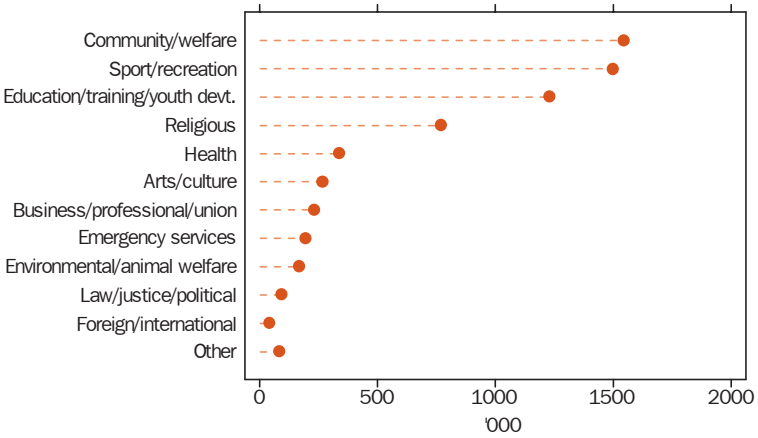
contribute more hours. In 2000, the median hours of people aged under 64 years and not in the labour force were 1.9 per week, compared with 1.6 hours per week for unemployed people, 1.5 hours per week for people who worked part-time and 1.2 hours per week for people who worked full-time.

What do they do?

In 2000, over a third of volunteers (35%) had worked for more than one organisation in the preceding 12 months. Most volunteer involvements with a particular organisation were on a regular basis: either weekly (37%), fortnightly (12%) or monthly (20%).

Volunteers worked in many fields. Community or welfare organisations and sports or recreation organisations each accounted for about 1.5 million involvements. Education, training and youth development organisations (1.2 million involvements) and religious organisations (772,000 involvements) also attracted substantial numbers of volunteers. Volunteer involvements for the remaining seven types of organisation ranged from 339,100 for health organisations to 43,500 for foreign or international organisations. Sport and recreation was the leading type among male volunteers (910,000 involvements) and community/welfare the leading type among female volunteers (904,200 involvements).

Volunteer involvements: type of organisation — 2000



Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

A volunteer might contribute only one type of activity to an organisation, or undertake a broader range of tasks. The most common type of activities undertaken were 'white collar' activities such as fundraising, undertaken by 46% of volunteers, management (35%), teaching (36%) and administration (33%). Preparing and serving food (30%), transporting people or goods (23%) and undertaking repairs, maintenance or gardening (22%) were the next most common activities.

The type of voluntary work people undertook was related to their paid occupations. Managers and administrators tended to be involved in management and committee work (48% compared with 34% of other volunteers). Professionals tended to teach (51% compared with 33%), and tradespersons were more likely to undertake repairs, gardening or maintenance (41% compared with 20%).

Volunteer work also reflected the traditional roles of men and women. Women were more likely than men to prepare and serve food (39% compared with 19%). Men were more likely than women to undertake repairs, maintenance and gardening (33% compared with 12%).

Reasons for volunteering

People who had first done some kind of voluntary work within the previous 10 years were asked how they became involved. The great majority became involved in this type of work through personal contact of some kind (82%), suggesting that volunteering not only builds social networks but grows out of them. Most often, people became involved because someone asked them (32%), they knew someone involved (29%), or they were already involved in the organisation (22%). A small proportion found out about voluntary work themselves (8%), while relatively few had responded to a media report or advertisement (4%).

The leading two reasons given for doing voluntary work were to help others or the community (47%) and to gain personal satisfaction (43%). Related to both of these responses might be the desire to do something worthwhile, given as a reason for

Sydney 2000 Olympic Games

According to the Sydney Organising Committee for the Olympic Games (SOCOG), 47,800 people worked as volunteers in the Sydney 2000 Olympic Games. About 15,000 people worked as volunteers in the 2000 Paralympic Games, and many of these had already volunteered in the Olympic Games. Most of the Sydney Olympic volunteers were New South Wales residents (80%). Compared with other volunteers, the Sydney Olympic volunteers had a younger age profile. Those under 25 years made up 23% of Olympic volunteers and most of the remaining volunteers were of working age (9% were aged over 64 years). About half were specialist volunteers contributing professional skills. These included sports volunteers with roles in events (field-of-play volunteers) and those with skills in sports medicine, information technology, broadcasting and translating. The remainder were general volunteers who performed tasks such as driving buses, providing information and staffing ticket gates.[1]

One of the benefits to Sydney of staging the Olympic Games was said to be that it would gain a unique, trained volunteer workforce. It was also hoped that the event might encourage more people to volunteer for other events or programs.[2]

Sydney 2000 Olympic volunteers

	Males	*Females*	*Persons*
Age (years)	%	%	%
Under 25	8.9	13.7	22.6
25–34	7.2	9.3	16.5
35–44	8.1	8.4	16.4
45–54	9.1	10.6	19.7
55–64	8.3	7.6	16.0
65 and over	5.9	2.8	8.7
Total	**47.5**	**52.3**	**100.0**

Source: SOCOG, administrative data.

volunteering by 30%. Some people saw their voluntary work as stemming naturally from involvement in an organisation: 31% gave personal or family involvement as a reason. This might be a reason offered by those who undertook tasks for their church, sports team, or their child's school, for example. Others related their voluntary work to religious beliefs (12%).

As well as general personal satisfaction, some specific benefits of involvement for volunteers were given as reasons. These were social contact (18%), to use skills or experience (13%), to be active (11%), to learn new skills (7%) and to gain work experience (4%).

In almost every age group, the two leading reasons for volunteering were to help others or the community and to gain personal satisfaction, while wanting to do something worthwhile was consistently ranked third or fourth. However, in some other respects the types of reason given tended to vary by age. Gaining work experience was given as a reason by 17% of 18–24 year old volunteers, but by less than 4% of any other age group. Personal or family involvement was the leading reason for volunteering among 35–44 year olds (49%), but was less prominent in younger and older age groups. Reasons more common among those aged 65 years and over than in other age groups were social contact (28%), to be active (19%) and religious beliefs (17%).

Reasons for volunteering — 2000

How first became involved(a)	%
Someone asked me	31.7
Knew someone involved	28.6
Self/family involvement in organisation	21.9
Found out about it myself	8.4
Saw ad/report in the media	4.0
Other	5.5
Total	**100**

Current reasons(b)	%
To help others/community	47.0
Personal satisfaction	42.7
Personal/family involvement	31.3
To do something worthwhile	29.5
Social contact	17.9
Use skills/experience	12.7
Religious beliefs	11.9
To be active	10.8
To learn new skills	6.7
Felt obliged	5.7
Gain work experience	3.9
Just happened	3.0

(a) Volunteers who had been involved in voluntary work 10 years or less were asked how they first became involved.
(b) All volunteers were asked their current reasons for doing voluntary work. Volunteers could give more than one reason, so reasons do not add to 100%.

Source: Voluntary Work, 2000 (ABS Cat. no. 4441.0).

Endnotes

1 'SOCOG wants 50,000 volunteers' <URL:http://www.picosearch.com/cgi-bin/ts/>, (accessed 19 November 2001).

2 Sherill Nixon 'Volunteering has a new appeal' <URL:http://www.olympics.smh.com.au/news/2000/10/05/>, (accessed 19 November 2001).

How pay is set

PAID WORK

Of all employees in May 2000, the largest proportion (40%) had their pay set by individual agreements. Almost as many (37%) had their pay set by collective agreements.

Australia's industrial relations system has undergone extensive changes in the last twenty years, particularly during the 1990s, as both the Commonwealth and State governments moved to deregulate labour markets. Within the broader context of the restructuring and globalization of the Australian economy, industrial relations reforms have aimed to increase the flexibility, productivity and international competitiveness of Australia's workforce.

Until the early 1990s, the wages and conditions of most Australian employees were regulated by a system of awards administered by federal and State industrial commissions and courts. Awards generally prescribe employment conditions and rates of pay for occupational structures within industries. Employers are bound by law to pay at least the rates prescribed in an award to all of their employees covered by the award.

In more recent years, there has been a move away from the award-based centralised wage fixing environment in favour of agreements at the enterprise, workplace and individual employee levels. Although these agreements are often underpinned by awards, legislation has reduced the role of awards, principally to the status of a 'safety net' of minimum wages and conditions. Anything beyond these minimum provisions are now generally negotiated through either a collective or individual agreement-making process.

This new focus on localised agreement-making processes may present opportunities for both employers and employees to reach mutually beneficial agreements tailored to their specific situations and needs. However, there is also recognition that some groups of employees (e.g. part-time and casual workers, and those employed in the lower skill occupations) may have limited resources and bargaining power and thus be disadvantaged in their attempts to negotiate pay and other work conditions above the basic award provisions.

Methods of setting pay — May 2000

	Proportion of employees %
Awards only	23.2
Collective agreements	*36.8*
Registered	35.2
Unregistered	1.5
Individual agreements	*40.0*
Registered	1.8
Unregistered	38.2
Total employees	**100.0**

Source: Employee Earnings and Hours, Australia, May 2000 (ABS Cat. no. 6306.0).

Methods of setting pay

This article draws on data from the biennial ABS Survey of Employee Earnings and Hours. Information on methods of setting pay was included in this survey for the first time in May 2000.

Awards are legally enforceable determinations made by federal or State industrial tribunals that set the terms of employment (pay and/or conditions) usually in a particular industry or occupation. *Award-only employees* are those whose pay was set by awards and who were not paid more than the award rate of pay in the survey reference period.

Collective agreements set the terms of employment for a group of employees. These agreements result from bargaining between an employer (or group of employers) and a group of employees (or one or more unions or employee associations representing the employees). They are generally restricted to employees within a single enterprise or workplace and are sometimes referred to as enterprise awards. They may be agreed to by a valid majority of employees or by their representing union(s). *Employees whose pay was set by collective agreements* are those who had all or part of their pay in the survey reference period set by collective agreements. This group includes employees who had their pay set by collective agreements in conjunction with awards.

Individual agreements set the terms of employment for individual employees. These agreements may result from negotiation between an employer and an individual employee (or their representative) or from a unilateral decision by management to set non-negotiable terms of employment. In either case, they are agreed to by individual employees rather than by their representatives or groups of employees. *Employees whose pay was set by individual agreements* are those who had all or part of their pay in the survey reference period set by individual agreements. This group mainly consists of employees whose pay was set by individual common law contracts, employees receiving overaward payments by individual agreement, and working proprietors (of incorporated enterprises) who set their own rate of pay. This group includes employees who had their pay set by individual agreements in conjunction with other pay setting methods (awards and/or collective agreements).

Methods of setting pay

Of all employees in May 2000, the largest proportion (40%) had their pay set by individual agreements. Almost as many (37%) had their pay set by collective agreements, while the remaining 23% had their pay set by awards only (i.e. were paid at exactly the award rate). The vast majority of employees whose pay was set by collective agreements were in collective agreements that had been registered with a federal or State tribunal. In contrast, the vast majority of employees whose pay was set by individual agreements had unregistered agreements — including individual common law contracts and less formal arrangements.

There are many factors which have a bearing on the pay setting methods currently in place, including the size, sector (public or private) and industry of the employer. There is also an association between certain employee characteristics (e.g. occupation, full-time/part-time status, sex) and the methods used to set employees' pay. The following subsections will briefly examine the influence that each of these factors has on how employees' pay is set, and will touch on some of the complex interrelationships that exist between them.

Employer size

Smaller businesses (i.e. those with less than 100 employees) are more likely to use individual agreements, while those with larger numbers of employees are more likely to use collective agreements. In May 2000, the proportion of employees whose pay was set by individual agreements ranged from 69% in businesses of less than 20 employees down to 9% in those with 1,000 or more employees. Conversely, the proportion of employees whose pay was set by collective agreements ranged from 4% in businesses of less than 20 employees up to 83% in those with 1,000 or more employees.

Award-only employees comprised a similar proportion of employees (between 25% and 32%) in all but the largest businesses. In businesses with 1,000 or more employees, only 8% of employees had their pay set by awards only.

Employer size and methods of setting pay — May 2000

Employer size	*Awards only* %	*Collective agreements* %	*Individual agreements* %	*Total* %
Under 20 employees	27.5	4.0	68.5	100.0
20–49 employees	31.8	11.9	56.4	100.0
50–99 employees	31.8	23.5	44.8	100.0
100–499 employees	28.5	40.2	31.4	100.0
500–999 employees	24.9	52.6	*22.4	100.0
1,000 or more employees	7.7	82.9	9.4	100.0
All employees	**23.2**	**36.8**	**40.0**	**100.0**

Source: Employee Earnings and Hours, Australia, May 2000 (ABS Cat. no. 6306.0).

Industry

For most industry groups the distribution of employees across pay setting methods largely reflects their distribution across employer size categories. However, other factors such as economic sector of employer and occupational skill levels of employees also influence pay setting methods in some industries.

In May 2000, consistent with recent directions in government policy, collective agreements were the most common pay setting method used in the predominantly public sector industries. The proportions of employees whose pay was set by collective agreements were highest in Government administration and defence (78%), Education (77%), Electricity, gas and water supply (77%) and Communication services (69%). These industries are also dominated by very large employers. In the Health and community services industry, which is also mainly public sector, 44% of employees had their pay set by collective agreements, 37% by awards only and 19% by individual agreements. This pattern partly reflects the more even spread of employees across all employer size categories in this industry.

Individual agreements were the most common method used to set employees' pay in all but two of the predominantly private sector industries. In May 2000, the three industries with the highest proportions of employees with individual agreements were Wholesale trade (77%), Property and business services (68%) and Construction (61%). These industries also had the highest proportions of employees working in businesses with less than 20 employees, and relatively low proportions working in businesses with 500 or more employees. In the Finance and insurance industry, more employees had their pay set by collective agreements (50%) than individual agreements (44%). This was in keeping with the proportion of employees working in larger businesses in this industry.

Award-only employees comprised the majority (65%) of all employees in the Accommodation, cafes and restaurants

Industry of employment and methods of setting pay — May 2000

Industry group	Awards only %	Collective agreements %	Individual agreements %	Total %
Mining	*5.9	39.7	54.3	100.0
Manufacturing	11.4	37.0	51.6	100.0
Electricity, gas and water supply	*1.4	76.5	22.1	100.0
Construction	15.0	23.8	61.2	100.0
Wholesale trade	12.1	10.8	77.1	100.0
Retail trade	34.9	28.7	36.5	100.0
Accommodation, cafes and restaurants	64.7	6.7	28.6	100.0
Transport and storage	18.4	40.1	41.5	100.0
Communication services	*1.5	69.4	29.1	100.0
Finance and insurance	5.6	49.9	44.4	100.0
Property and business services	20.7	11.1	68.2	100.0
Government administration and defence	15.3	77.9	6.8	100.0
Education	13.6	77.1	9.3	100.0
Health and community services	37.4	43.5	19.1	100.0
Cultural and recreational services	18.9	33.3	47.8	100.0
Personal and other services	27.1	42.8	30.1	100.0
All employees	**23.2**	**36.8**	**40.0**	**100.0**

Source: Employee Earnings and Hours, Australia, May 2000 (ABS cat. no. 6306.0).

industry in May 2000. Consistent with the predominance of small businesses in this industry, only 7% of employees had their pay set by collective agreements, but use of individual agreements was much lower than in other 'small business' industries. It may be that the predominance of award-only employees in this industry is associated with its relatively low-skill occupational profile. This may also be a factor in Retail trade, which had a relatively high proportion of award-only employees (35%). Award-only employees also comprised relatively large proportions of all employees in Health and community services (37%) and in Personal and other services (27%).

Occupation

The occupations in which awards still predominate tend to be associated with lower skill levels. In May 2000, the occupation groups with the highest proportions of award-only employees were Elementary clerical, sales and service workers (42%) and Labourers and related workers (37%). In all other major occupation groups, award-only employees made up the smallest proportion of total employees.

In the higher and intermediate skill level occupation groups, individual agreements tended to be the most common method of setting pay in May 2000. The exceptions were Professionals and Intermediate production and transport workers, who were more likely to have their pay set by collective agreements. Notably, the proportion of employees in professional occupations who had their pay set by collective agreements (51%) was higher than for any other occupation group. This may be because a large proportion of professionals (particularly teachers and nurses) work for large public sector employers. The proportions of employees whose pay was set by individual agreements were highest among Managers and administrators (74%), Advanced clerical and service workers (65%) and Associate professionals (54%).

Full-time and part-time employees

In May 2000, similar proportions of both full-time and part-time employees had their pay set by collective agreements (38% and 35% respectively). However, there were large differences between full-time and part-time employees in relation to individual agreements and awards. Among full-time employees the most common method of setting pay was individual agreements (47%) and the least common was awards only (15%). In contrast, the most common method of setting pay for part-time employees was awards only (40%) and the least common was individual agreements (26%).

Occupation of employees and methods of setting pay — May 2000

Occupation group (Skill level(a))	Awards only %	Collective agreements %	Individual agreements %	Total %
Managers and administrators (1)	3.3	22.9	73.8	100.0
Professionals (1)	13.2	51.4	35.4	100.0
Associate professionals (2)	12.2	33.8	54.1	100.0
Tradespersons and related workers (3)	23.1	32.0	44.9	100.0
Advanced clerical and service workers (3)	14.2	20.9	64.9	100.0
Intermediate clerical, sales and service workers (4)	29.9	31.4	38.7	100.0
Intermediate production and transport workers (4)	19.1	48.7	32.2	100.0
Elementary clerical, sales and service workers (5)	42.0	36.9	21.1	100.0
Labourers and related workers (5)	36.9	34.6	28.5	100.0
All employees	**23.2**	**36.8**	**40.0**	**100.0**

(a) Occupation groups are based on the *Australian Standard Classification of Occupations (ASCO)* Second Edition (ABS Cat. no. 1220.0).

Source: Employee Earnings and Hours, Australia, May 2000 (ABS Cat. no. 6306.0).

Part of this difference can be attributed to differences in the occupation and industry mix of full-time and part-time employees. For example, in May 2000, proportionally more full-time than part-time employees were working in occupations in which individual agreements were the predominant method of setting pay (55% compared with 42%).[1] On the other hand, proportionally more part-time than full-time employees were working in occupations in which awards were the predominant method of setting pay (39% compared with 14%).[1] Similarly, over half (53%) of all part-time employees, but only 22% of all full-time employees, were found in the three industry groups with the highest proportions of award-only employees.[1]

Full-time, part-time status of employees and methods of setting pay — May 2000

	Awards only %	Collective agreements %	Individual agreements %	Total %
Full-time employees	*15.3*	*37.8*	*47.0*	*100.0*
Males	12.4	37.5	50.1	100.0
Females	19.9	38.3	41.8	100.0
Part-time employees	*39.9*	*34.6*	*25.5*	*100.0*
Males	37.4	33.3	29.3	100.0
Females	40.8	35.1	24.1	100.0
All employees	**23.2**	**36.8**	**40.0**	**100.0**
Males	16.8	36.7	46.5	100.0
Females	29.9	36.8	33.3	100.0

Source: Employee Earnings and Hours, Australia, May 2000 (ABS Cat. no. 6306.0).

However, in May 2000, there was also a general tendency towards using awards to set pay for part-time employees, and individual agreements to set pay for full-time employees. In all of the occupation groups, and in all but one of the industry groups, part-time employees were more likely than full-time employees to have their pay set by awards only. Similarly, in all but one of the occupation groups, and in 11 of the 16 industry groups, full-time employees were more likely than part-time employees to have their pay set by individual agreements.

Male and female employees

Pay setting methods varied considerably between men and women in May 2000. While equal proportions of male and female employees (37%) had their pay set by collective agreements, female employees were more likely than males to have their pay set by awards, and less likely to have their pay set by individual agreements. Close to 30% of all female employees had their pay set by awards only (compared with 17% of males) and 33% had their pay set by individual agreements (compared with 47% of males). Some of this difference can be explained by the much higher proportion of female employees who worked part-time in May 2000 (43% compared with 13% of male employees).[1]

However, even among full-time employees, females were more likely than males to have their pay set by awards only (20% compared with 12% of males) and less likely than males to have their pay set by individual agreements (42% compared with 50% of males). Part of this difference can be attributed to the

different occupation and industry mix of female and male full-time employees. For example, in May 2000, 43% of all female full-time employees, but only 23% of male full-time employees, were found in the three relatively low-skill occupation groups with the highest proportions of award-only employees.[1] Similarly, 33% of all female full-time employees, but only 17% of all male full-time employees, were found in the three industry groups with the highest proportions of award-only employees.[1]

Compositional effects aside, in all of the occupation groups, female full-time employees were more likely than male full-time employees to have their pay set by awards only. This was also the case in 11 of the 16 industry groups. In all but one of the occupation groups, female full-time employees were less likely than male full-time employees to have their pay set by individual agreements. However, this pattern was less widespread across industry groups, being evident in only half of them.

Relative earnings of employees

Comparing employee earnings across methods of setting pay provides a broad indication of the different wage and salary outcomes for employees under varying methods, and can help to identify those groups of employees most at risk of disadvantage in the workplace. However, such comparisons only provide part of the picture. Access to other employee benefits such as employer funded superannuation (over and above the prescribed minimum), employee discounts, employer provided/subsidised services (e.g. childcare), paid leave and so on, also have a considerable impact on the working lives and overall wellbeing of employees. In addition, the agreement-making process allows for rolling some employee entitlements (e.g. paid overtime) into a general weekly pay level. This could affect the comparability of average weekly earnings across pay setting methods, as could practices such as salary packaging and salary sacrificing which reduce cash earnings.

In May 2000, employees whose pay was set by individual agreements earned an average of $731 per week which was 1.1 times the average for all employees. Those whose pay was set by collective agreements earned a little less ($717 per week). The average weekly earnings of award-only employees were much lower, averaging $416, or 0.6 of the average for all employees.

Relatively low average earnings among award-only employees are consistent with the recently reduced role of awards in setting minimum wages and conditions. However, such broad level comparisons can be strongly affected by certain compositional factors such as the full-time/part-time, male/female and occupational mix of employees in each pay setting group. For example, over half (56%) of award-only employees worked part-time compared with 30% of employees whose pay was set by collective agreements, and 21% of those whose pay was set by individual agreements.

Taking the full-time/part-time status and sex of employees into account, award-only earnings were still considerably lower than for the other pay setting methods, particularly among male full-time employees. However, with the exception of male part-time workers, employees whose pay was set by collective agreements had higher average earnings than those who had individual agreements.

A similar pattern occurs with occupation groups. Among full-time employees in May 2000, both males and females whose pay was set by collective agreements had the highest average earnings in all but one of the nine occupation groups. It was only among Professionals that individual agreements delivered the highest average earnings. Among male full-time employees, award-only employees had the lowest average earnings (compared with other pay setting methods) in all occupation groups except Advanced clerical and service workers and Intermediate production and transport workers. In these two occupation groups, those on individual

Average weekly total earnings of employees and methods of setting pay — May 2000

	Awards only	*Collective agreements*	*Individual agreements*	*Total*
	ratio(a)	ratio(a)	ratio(a)	$
Full-time employees	*0.73*	*1.08*	*1.03*	*821.00*
Males	0.70	1.07	1.02	883.80
Females	0.80	1.09	1.01	717.70
Part-time employees	*0.90*	*1.12*	*0.99*	*301.00*
Males	0.91	1.02	1.09	289.00
Females	0.90	1.15	0.96	305.60
All employees	**0.64**	**1.10**	**1.12**	**652.80**
Males	0.62	1.08	1.07	780.20
Females	0.73	1.13	1.11	520.60

(a) For any group of employees, the average weekly total earnings associated with each pay setting method expressed as a proportion of the average weekly total earnings of all employees in that group.

Source: Employee Earnings and Hours, Australia, May 2000 (ABS Cat. no. 6306.0).

Average weekly total earnings of full-time employees: occupation and methods of setting pay — May 2000

Occupation group (Skill level(b))	*Awards only* ratio(a)	*Collective agreements* ratio(a)	*Individual agreements* ratio(a)	*Total* $
Male full-time employees				
Managers and administrators (1)	0.83	1.02	1.00	1,355.8
Professionals (1)	0.80	0.99	1.03	1,085.3
Associate professionals (2)	0.85	1.10	0.95	906.7
Tradespersons and related workers (3)	0.66	1.26	0.95	753.4
Advanced clerical and service workers (3)	1.03	1.09	0.92	796.5
Intermediate clerical, sales and service workers (4)	0.81	1.06	1.02	737.4
Intermediate production and transport workers (4)	0.92	1.12	0.88	784.6
Elementary clerical, sales and service workers (5)	0.85	1.14	0.95	664.2
Labourers and related workers (5)	0.80	1.14	0.92	680.9
Female full-time employees				
Managers and administrators (1)	0.84	1.02	1.01	1,145.80
Professionals (1)	0.90	1.00	1.03	907.90
Associate professionals (2)	0.87	1.09	0.98	731.50
Tradespersons and related workers (3)	0.87	1.31	1.01	525.00
Advanced clerical and service workers (3)	0.91	1.19	0.96	667.00
Intermediate clerical, sales and service workers (4)	0.86	1.09	1.01	612.20
Intermediate production and transport workers (4)	0.84	1.15	0.93	571.70
Elementary clerical, sales and service workers (5)	0.87	1.13	1.02	532.70
Labourers and related workers (5)	0.88	1.11	0.93	559.30

(a) For any group of employees, the average weekly total earnings associated with each pay setting method expressed as a proportion of the average weekly total earnings of all employees in that group.
(b) Occupation groups are based on the *Australian Standard Classification of Occupations (ASCO)* Second Edition (ABS Cat. no. 1220.0).

Source: ABS 2000 Survey of Employee Earnings and Hours.

agreements had the lowest average earnings. Among female full-time employees, award-only employees had the lowest average earnings in all occupation groups.

The degree of the difference between award-only earnings and the highest average earnings for full-time employees in each group tended to be less for females than males in most occupation groups. By far the greatest difference for both males and females was among Tradespersons and related workers, possibly because apprentices make up a relatively high proportion of award-only employees in this group. The earnings ratio of male full-time award-only employees in this occupation group was 0.7 compared with 1.3 for those whose pay was set by collective agreements. For female full-time employees, the ratios were 0.9 and 1.3 respectively.

In most industry groups, full-time employees whose pay was set by individual agreements had the highest average earnings. The difference between their earnings and the earnings of those whose pay was set by other methods was greatest among male full-time employees in industries dominated by large employers. This is consistent with the common practice in large enterprises of using collective agreements to set the pay of the majority of employees, and individual agreements for the (predominantly male) higher level managerial and executive staff.

Among male full-time employees, award-only employees had the lowest average earnings (compared with other pay setting methods) in all industry groups except Mining (where those on individual agreements had the lowest earnings) and Accommodation, cafes and restaurants (where those with collective agreements had the lowest earnings). Among female full-time employees, award-only employees had the lowest average earnings in all industry groups except Accommodation, cafes and restaurants (where those with collective agreements had the lowest earnings).

Endnotes

1 Australian Bureau of Statistics, May 2000 Labour Force Survey.

Income and expenditure

Income: national summary

INCOME DISTRIBUTION	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
GDP per capita(a)	$'000	r26.3	r26.0	r26.7	r27.4	r28.3	r29.1	r29.8	r30.8	r32.0	r33.0	33.3
Gross household disposable income per capita	$'000	15.8	16.2	r16.8	r17.2	18.0	18.8	r19.6	20.0	r21.0	21.9	23.7
Personal income tax as a proportion of taxable income	%	22.4	21.9	22.2	22.0	22.1	22.7	23.3	23.7	24.0	n.a.	n.y.a.
Median gross weekly income of couple with dependants only households	$	n.a.	n.a.	n.a.	n.a.	904	868	891	914	n.a.	n.y.a.	n.y.a.
Median gross weekly income of one parent with dependants only households	$	n.a.	n.a.	n.a.	n.a.	372	359	380	390	n.a.	n.y.a.	n.y.a.
Household disposable income(b)												
Equivalised mean weekly income for selected groups of households(c)												
Low income	$	n.a.	n.a.	n.a.	n.a.	408	408	427	427	n.a.	n.y.a.	n.y.a.
Middle income	$	n.a.	n.a.	n.a.	n.a.	687	680	707	720	n.a.	n.y.a.	n.y.a.
High income	$	n.a.	n.a.	n.a.	n.a.	1 556	1 518	1 561	1 642	n.a.	n.y.a.	n.y.a.
Equivalised income of households at top of selected income percentiles(c)												
20th(P20)	$	n.a.	n.a.	n.a.	n.a.	402	404	419	420	n.a.	n.y.a.	n.y.a.
50th(P50)	$	n.a.	n.a.	n.a.	n.a.	687	676	704	716	n.a.	n.y.a.	n.y.a.
80th(P80)	$	n.a.	n.a.	n.a.	n.a.	1 122	1 121	1 160	1 180	n.a.	n.y.a.	n.y.a.
Ratios of incomes of households at top of selected income percentiles												
P90/P10	ratio	n.a.	n.a.	n.a.	n.a.	3.92	3.90	3.84	3.96	n.a.	n.y.a.	n.y.a.
P80/P20	ratio	n.a.	n.a.	n.a.	n.a.	2.79	2.77	2.77	2.81	n.a.	n.y.a.	n.y.a.
P80/P50	ratio	n.a.	n.a.	n.a.	n.a.	1.63	1.66	1.65	1.65	n.a.	n.y.a.	n.y.a.
P20/P50	ratio	n.a.	n.a.	n.a.	n.a.	0.59	0.60	0.60	0.59	n.a.	n.y.a.	n.y.a.
Share of total income received by households with												
High incomes	%	n.a.	n.a.	n.a.	n.a.	39.1	38.6	38.3	39.2	n.a.	n.y.a.	n.y.a.
Low incomes	%	n.a.	n.a.	n.a.	n.a.	10.2	10.4	10.5	10.2	n.a.	n.y.a.	n.y.a.
Gini coefficient	ratio	n.a.	n.a.	n.a.	n.a.	0.320	0.315	0.309	0.322	n.a.	n.y.a.	n.y.a.

SOURCES OF INCOME	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Wages and salaries as main source of income (of all households)	%	n.a.	n.a.	n.a.	n.a.	54.7	53.2	54.1	54.2	n.a.	n.y.a.	n.y.a.
Compensation of employees as a proportion of GDP	%	48.4	48.0	r47.8	r47.4	47.6	r47.9	r48.7	r47.9	r48.5	48.0	48.2
Main income source from government payments (of all households)	%	n.a.	n.a.	n.a.	n.a.	30.0	29.8	29.5	30.0	n.a.	n.y.a.	n.y.a.
Main income source from government payments (of couples with dependants only households)	%	n.a.	n.a.	n.a.	n.a.	11.4	11.5	10.9	11.1	n.a.	n.y.a.	n.y.a.
Main income source from government payments (of one parent with dependants only households)	%	n.a.	n.a.	n.a.	n.a.	64.5	65.8	68.2	64.6	n.a.	n.y.a.	n.y.a.
Average total weekly earnings of all employees	$	484	505	518	532	548	564	578	596	611	635	663
Average total weekly earnings of full-time adult employees	$	592	618	633	656	688	715	737	768	791	822	861
Average total weekly ordinary time earnings of full-time adult employees	$	561	587	598	618	647	673	697	727	751	783	824
Mean weekly ordinary time earnings of full-time non-managerial adult employees	$	521	541	558	578	608	634	n.a.	692	n.a.	737	n.a.
Female/male ratio of mean weekly ordinary time earnings of full-time non-managerial adult employees	ratio	0.90	0.92	0.91	0.92	0.91	0.89	n.a.	0.89	n.a.	0.90	n.a.

(a) Chain volume measure, reference year 1999–2000.

(b) All estimates have been adjusted using OECD equivalence scales.

(c) Adjusted for changes in the Consumer Price Index; values are given in 1997–98 dollars.

Reference periods: Data for income distribution, sources of income (except mean weekly earnings data which are at May), and expenditure are for the year ending 30 June. Income support data (except full benefit received and GDP spent, which are for the year ending 30 June) are at June.

Income: national summary continued

INCOME SUPPORT	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Aged on age pension	%	59.3	61.0	62.8	64.3	63.0	62.7	64.4	65.4	65.5	65.9	67.8
Age pensioners	'000	1 376	1 446	1 516	1 582	1 579	1 603	1 680	1 683	1 716	r1 730	1 786
Male age pensioners	'000	418	448	481	514	545	570	598	614	634	r655	684
Female age pensioners	'000	957	998	1 034	1 068	1 034	1 033	1 082	1 069	1 082	r1 075	1 101
Labour market allowance(a)	'000	676.7	851.8	913.8	878.3	822.6	846.6	829.9	809.6	r745.9	r672.3	665.8
Disability support pensioners(b)	'000	334.2	378.6	406.6	436.2	464.4	499.2	527.5	553.3	577.7	r602.3	623.9
Single-parent payment(b)	'000	265.7	287.2	298.4	313.4	324.9	342.3	358.9	372.3	384.8	r397.3	424.6
Full weekly benefit received by a couple with two children	$	310	326	339	347	355	370	r386	r393	r397	405	433
GDP spent on income support(c)	%	6.0	6.8	7.1	7.4	7.1	7.1	7.2	6.8	7.0	6.8	7.2

EXPENDITURE	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Consumer price index (Base year 1989–90 = 100.0)	index no.	105.3	107.3	108.4	110.4	113.9	118.7	120.3	120.3	121.8	124.7	132.2
Household final consumption expenditure per capita(d)	$'000	15.4	15.5	15.7	15.9	16.5	17.0	17.3	17.9	18.5	19.6	20.9

(a) Average weekly data for June. Includes people who receive a nil rate of payment.

(b) Includes payments to people living overseas.

(c) Refers to income support payments administered by the Department of Family and Community Services only and omits income support payments administered by other agencies such as the Department of Veterans Affairs.

(d) Chain volume measure, reference year 1999–2000.

Reference periods: Data for income distribution, sources of income (except mean weekly earnings data which are at May), and expenditure are for the year ending 30 June. Income support data (except full benefit received and GDP spent, which are for the year ending 30 June) are at June.

Income: State summary

INCOME DISTRIBUTION	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Gross state product at current prices per capita(a)	$'000	2000–01	36.7	35.7	30.3	28.8	39.1	24.7	44.4	42.9	34.8
Gross household disposable income per capita	$'000	2000–01	25.1	24.5	21.2	20.9	23.2	18.9	24.6	31.4	23.7
Median gross weekly income of couple with dependants households	$	1997–98	971	893	933	793	882	826	1143	1143	914
Median gross weekly income of one-parent households	$	1997–98	360	413	386	391	419	397	750	569	390
Household disposable income(b)											
Equivalised mean weekly income for selected groups of households											
Low income	$	1997–98	425	445	426	398	433	405	479	509	427
Middle income	$	1997–98	733	734	709	629	730	604	887	932	720
High income	$	1997–98	1 740	1 590	1 604	1 373	1 729	1 404	1 666	1 783	1 642
Equivalised income of households at top of selected income percentiles											
20th(P20)	$	1997–98	421	439	420	398	422	408	491	519	420
50th(P50)	$	1997–98	725	722	700	627	739	595	860	943	716
80th(P80)	$	1997–98	1 229	1 178	1 125	1 071	1 206	963	1 281	1 428	1 180
Ratios of incomes of households at top of selected income percentiles											
P90/P10	ratio	1997–98	4.11	3.90	3.80	3.59	4.07	3.41	4.13	4.44	3.96
P80/P20	ratio	1997–98	2.92	2.68	2.68	2.69	2.86	2.36	2.61	2.75	2.81
P80/P50	ratio	1997–98	1.70	1.63	1.61	1.71	1.63	1.62	1.49	1.51	1.65
P20/P50	ratio	1997–98	0.58	0.61	0.60	0.63	0.57	0.69	0.57	0.55	0.59
Share of total income received by households with											
High incomes	%	1997–98	40.2	37.9	38.9	37.8	40.3	39.1	35.6	35.9	39.2
Low incomes	%	1997–98	9.8	10.6	10.3	10.9	10.0	11.2	10.4	10.2	10.2
Gini coefficient	ratio	1997–98	0.336	0.307	0.316	0.308	0.332	0.304	0.290	0.295	0.322

SOURCES OF INCOME	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Wages and salaries as main source of income (of all households)	%	1997–98	53.3	56.1	54.2	47.7	56.3	50.2	71.7	64.0	54.2
Main income source from government payments (of all households)	%	1997–98	31.0	27.7	30.3	36.6	26.9	36.8	21.9	16.7	30.0
Main income source from government payments (of couple with dependants households)	%	1997–98	12.4	9.7	12.2	15.3	6.1	14.5	n.p.	5.2	11.1
Main income source from government payments (of one-parent households)	%	1997–98	69.2	58.8	66.5	70.4	61.3	66.7	23.1	45.5	64.6
Average total weekly earnings of all employees	$	2001	704	644	636	629	639	577	679	758	663
Average total weekly earnings of full-time adult employees	$	2001	912	835	810	819	867	782	860	952	861
Average total weekly ordinary time earnings of full-time adult employees	$	2001	871	800	774	781	830	756	826	939	824
Mean weekly ordinary time earnings of full-time non-managerial adult employees	$	2000	758	731	717	695	743	696	775	792	737
Female/male ratio of mean weekly ordinary time earnings of full-time non-managerial adult employees	ratio	2000	0.90	0.90	0.88	0.90	0.89	0.94	0.89	0.90	0.90

(a) This indicator was previously titled "Gross state product at market prices per capita".

(b) All estimates have been adjusted using the OECD equivalence scales.

Reference periods: Data for income distribution, sources of income (except mean weekly earnings data which are at May) are for the year ending 30 June. Income support data are at June, except labour market allowance recipients which are at May.

Income: State summary continued

INCOME SUPPORT	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Aged on age pension	%	2001	64.8	67.4	65.3	71.0	65.2	68.2	68.3	53.6	67.8
Age pensioners(a)	'000	2001	596.0	457.3	301.1	169.5	148.4	48.4	5.6	16.0	1 785.6
Male age pensioners(a)	'000	2001	224.2	173.0	116.3	64.0	55.9	18.3	2.3	5.7	684.2
Female age pensioners(a)	'000	2001	371.7	284.4	184.8	105.5	92.6	30.1	3.2	10.3	1 101.3
Labour market allowance(b)	'000	2001	196.2	147.1	151.1	58.7	66.3	23.6	15.4	6.0	664.9
Disability support pensioners(a)	'000	2001	207.0	147.1	116.5	59.9	51.6	21.6	5.0	6.3	623.9
Single-parent payment(a)	'000	2001	138.0	92.7	91.9	34.3	43.7	12.7	5.8	5.4	424.6

(a) Components do not add to Australian total because total for Australia includes payments to people living overseas and where valid geographic data were not available.

(b) Point in time data which will not match average of weekly data. This data include people who receive a nil rate of payment.

Reference periods: Data for income distribution, sources of income (except mean weekly earnings data which are at May) are for the year ending 30 June. Income support data are at June, except labour market allowance recipients which are at May.

Income definitions and references

Adult employees
employees aged 21 years and over, and those under 21 years who are paid at the full adult rate.
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

Age pension recipients
people receiving full or partial Age pension excluding associated Wife's or Carer's pension. The qualifying age for Age pension eligibility for men is 65 years. Between 1 July 1995 and 2012, the qualifying age for women is gradually being raised from 60 to 65 years. At 1 July 2002 the qualifying age for females was 62 years.
Reference: Commonwealth Department of Family and Community Services, *Customers: a statistical overview*.

Aged
population meeting age criteria for the Age pension, comprising men 65 years and over and women 62 years and over in 2002; men 65 years and over and women 60 years and over prior to 1998.
Reference: *Population by Age and Sex, Australian States and Territories* (ABS Cat. no. 3201.0).

Average total weekly earnings
average total weekly earnings of employees including ordinary time earnings plus overtime earnings.
Reference: *Average Weekly Earnings, Australia* (ABS Cat. no. 6302.0).

Compensation of employees as a proportion of GDP
includes wages, salaries and employers' social contributions. Wages and salaries include payments in kind and termination and redundancy payments. Employers' social contributions comprise employer contributions to superannuation and workers' compensation premiums.
Reference: *Australian System of National Accounts* (ABS Cat. no. 5204.0).

Consumer price index
a measure of change over time in the retail price of a constant basket of goods and services which is representative of consumption patterns of employee households in metropolitan areas.
Reference: *The Australian Consumer Price Index: Concepts, Sources and Methods* (ABS Cat. no. 6461.0).

Disability support pensioners
persons receiving a pension on the basis of an assessed physical, intellectual or psychiatric impairment and on their continuing inability to work or be retrained to work 30 hours or more per week within the next two years.
Reference: Commonwealth Department of Family and Community Services, *Customers: a statistical overview*, *2000*.

Disposable income
gross income less personal income tax (including the Medicare levy and other adhoc periodic levies).
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Employees
all wage and salary earners who received pay for any part of the reference period.
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

Equivalised income
disposable income adjusted, using simplified Henderson equivalence scales, to allow comparison between different types of income units. The scales reflect assumptions about how different characteristics, e.g. size and composition, relate to the amount of income different types of income units need to achieve an equivalent standard of living.
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Female/male ratio of mean weekly ordinary time earnings of full-time non-managerial adult employees
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

Full weekly benefit income received by a couple with two children
the maximum weekly social security benefit (including family allowances) available to an adult couple with one child aged under 5 years and one child aged between 5 and 13 years. Excludes any rent assistance which may be available.
Reference: Commonwealth Department of Family and Community Services, unpublished data.

Full-time employees
employees who usually work 35 hours or more a week, or the agreed hours of a full-time employee.
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

GDP (gross domestic product)
an aggregate measure of the value of economic production in a year. The series used are GDP chain volume measures (reference year 1997–98) and GDP at current prices.
Reference: *Australian System of National Accounts:* (ABS Cat. no. 5204.0).

GDP spent on income support
special appropriations under the Social Security Act 1991 for income support as a proportion of GDP.
Reference: Department of Social Security, *Annual Report*. From 1998–99, Commonwealth Department of Family and Community Services, *Annual Report*.

Gini coefficient
a measure for assessing inequality of income distribution. The measure, expressed as a ratio that is always between 0 and 1, is low for populations with relatively equal income distributions and high for populations with relatively unequal income distributions.
Reference: *Surveys of Income and Housing Costs, Australia*.

Gross household disposable income per capita
where gross household disposable income, as measured in the Australian System of National Accounts, is gross household income less income tax payable, other current taxes on income, wealth etc., consumer debt interest, interest payable by dwellings and unincorporated enterprises, social contributions for workers' compensation, net non-life insurance premiums and other current transfers payable by households. The population used is the mean resident population for the financial year.
Reference: *Australian National Accounts: State Accounts* (ABS Cat. no. 5220.0).

Gross income
cash receipts, that are of a regular and recurring nature, before tax or any other deductions are made.
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Gross state product
a similar measure to GDP but based on State income estimates. However, current prices have been used with State estimates, as the chain volume measures are experimental.
Reference: *Australian National Accounts: State Accounts* (ABS Cat. no. 5220.0).

High income households
households in the top income quintile (9th and 10th deciles) after being ranked by their equivalised income.
Reference: *Surveys of Income and Housing Costs, Australia*. (ABS Cat. no. 6553.0).

Income definitions and references continued

Household
a group of related or unrelated people who usually live in the same dwelling and make common provision for food and other essentials of living; or a lone person who makes provision for his or her own food and other essentials of living without combining with any other person.
Reference: *Surveys of Income and Housing Costs, Australia*. (ABS Cat. no. 6553.0).

Household final consumption expenditure per capita
net expenditure on goods and services by persons, and expenditure of a current nature by private nonprofit institutions serving households. Includes personal expenditure on motor vehicles and other durable goods, the value of 'backyard' production, the payment of wages and salaries in kind and imputed rent on owner-occupied dwellings. Excludes the purchase and maintenance of dwellings by persons and capital expenditure by unincorporated businesses and nonprofit institutions. The measure is expressed in Australian dollars using chain volume measures, reference year 1997–98, and is based on the mean resident population of each financial year.
Reference: *Australian System of National Accounts* (ABS Cat. no. 5204.0).

Households at the 10th (P10), 20th (P20), 50th (P50), 80th (P80) and 90th (P90) income percentile
households that have income that is as high or higher than 10%, 20%, 50%, 80% or 90% of all households. For more information, see *Measuring Australia's Progress* (ABS. Cat. no. 1370.0).
Reference: *Surveys of Income and Housing Costs, Australia*. (ABS Cat. no. 6553.0).

Labour market allowance recipients
the number of recipients of Unemployment Benefit prior to 1991; Job Search Allowance, Newstart Allowance and Youth Training Allowance from 1991 to 1996; Newstart Allowance and Youth Training Allowance from 1997; Newstart Allowance and Youth Allowance (other) from July 1998.
Reference: Commonwealth Department of Family and Community Services, *Customers: a statistical overview*.

Low income households
households in the 2nd and 3rd income deciles after being ranked by their equivalised income.
Reference: *Surveys of Income and Housing Costs, Australia*. (ABS Cat. no. 6553.0).

Main income source from government payments
where government pensions or allowances form the largest component of usual income.
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Managerial employees
managerial, executive and senior professional employees who are in charge of a significant number of employees or have significant responsibilities in the conduct or operations of the organisation and who usually do not receive payment for overtime.
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

Mean weekly ordinary time earnings of full-time non-managerial adult employees
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

Median weekly income
the level of weekly income at which half the income units have higher incomes and half have lower incomes.
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Middle income households
households in the middle income quintile (5th and 6th deciles) after being ranked by their equivalised income.
Reference: *Surveys of Income and Housing Costs, Australia*. (ABS Cat. no. 6553.0).

Ordinary time
employees' agreed hours of work including annual leave, paid sick leave and long service leave taken during the reference period.
Reference: *Employee Earnings and Hours, Australia* (ABS Cat. no. 6306.0).

Personal income tax as a proportion of taxable income
net income tax levied on individuals (including the Medicare levy minus rebates and other credits) expressed as a percentage of taxable income (i.e. gross income or profits minus allowable tax deductions).
Reference: Australian Taxation Office, *Taxation Statistics*; *Government Finance Statistics, Australia: Concepts, Sources and Methods* (ABS Cat. no. 5514.0).

Share of gross/equivalised income going to top/bottom quintile
share of gross/equivalised income received by the 20% of income units with the highest/lowest incomes.
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Single-parent payment recipients
lone parents receiving the 'Parenting Payment — Single'. Prior to March 1998, this was known as the 'Sole Parent Pension'.
Reference: Commonwealth Department of Family and Community Services, *Customers: a statistical overview*.

Wages and salaries as a main source of income
where wages and salaries form the largest component of usual income.
Reference: *Income Distribution, Australia* (ABS Cat. no. 6523.0).

Trends in disability support

INCOME SUPPORT

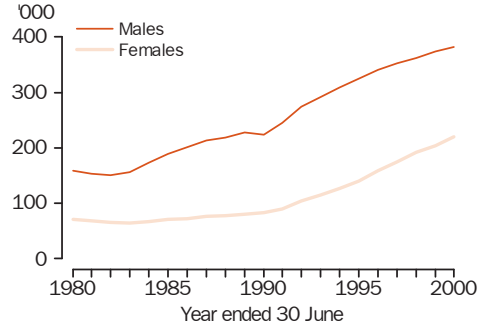
Between 1980 and 2000, the number of disability support pension recipients increased from 229,200 to 602,300.

Self-care, mobility and communication are fundamental activities which underlie most aspects of everyday life. Some people with a disability are restricted in one or more of these core activities, which may affect their participation in social and economic activities. In 1998, 3.6 million people or 19% of Australia's population had a disability. Of those aged between 15 and 64 years, 510,000 or 3% of the population had a profound or severe restriction where they were unable to perform, or needed help in performing, a core activity.

Although the probability of having a disability increases with age, many younger people also have disabilities which restrict their participation in education and employment. Employment participation rates are lower for people who have a disability than for those without a disability. In 1998, the participation rate for people aged 15–64 years with a disability was 53%, while for all people in this age group it was 76%. People with psychological disabilities had the lowest participation rate (29%), while those with sensory and speech disabilities had the highest (56%) (see *Australian Social Trends 2001,* Disability among adults, pp. 75–79).

The disability support pension provides income support to people with a disability who are unable to work full-time. As at June 2000, 602,300 people aged 15 years and over, representing 3% of the Australian population, received the disability support pension, amounting to $5.2 billion of support provided. The number of Australians receiving the disability support pension over the previous 20 years increased by 373,100 persons. In 1980, 229,200 people, representing less than 2% of the Australian population, received the disability support pension. While the number of income support recipients increased for all benefits between 1991 and 2000, there was a more rapid increase in the number of disability support pension recipients during these years (80%) (see *Australian Social Trends 2001*,

Disability support pension recipients



Source: Department of Family and Community Services, *Income Support Customers: A statistical overview, 1999 and 2000.*

Disability support

Data on disability support pension recipients in this article are drawn from the Department of Family and Community Services publication *Income Support Customers: A Statistical Overview*. Data prior to 1997 have been sourced from the Department of Social Security (DSS) publications *Annual Statistics of Pensions and Family Allowances*; *Characteristics of Pensioners*; and *DSS Clients: A Statistical Overview*. Data relating to disability support pension recipients by disability for 2000 came from Centrelink administrative data.

Data on disability rates are drawn from the ABS 1998 Survey of Disability, Ageing and Carers. In that survey *disability* was defined as any restriction or lack (resulting from an impairment) of ability to perform an activity in a manner or within the range considered normal for a human being.

The *disability support pension* is an income support payment available to people who are permanently blind, or to people who have a physical, intellectual or psychiatric impairment that prevents them from working. To qualify for a disability support pension, a person must:

- be aged at least 16 years but less than age pension age on the day the claim is made; and
- be an Australian resident or have 10 years qualifying Australian residence (unless the inability to work or blindness occurred while they were an Australian resident or they arrived as a refugee); and
- have a physical or intellectual or psychiatric impairment with a rating of at least 20 points on Centrelink Impairment Tables; and
- be unable to work full-time, or be retrained for full-time work, for at least two years because of a disability, illness or injury (full-time work is defined as at least 30 hours a week at award wages or above); or
- be permanently blind.

This article focuses on disability support recipients aged 16–64 years, although in 2000, a small number of people aged 65 years and over (2,230) also received this pension.

Income support among people of working age, pp. 166–169). Some reasons for this increase are discussed in this article.

Who receives disability support payments?

Just as the likelihood of having a disability increases with age, the proportion of disability support pension recipients in each age group also increases towards older ages. In 2000, 11% (66,300) of disability support pension recipients were aged less than 30 years, and 35% (208,500) were aged 30–49 years. However, the majority of disability support pension recipients (54%) were aged 50 years and over.

In 2000, the majority of disability support pension recipients (63%) were men. Men comprised 60% of all disability support pension recipients under the age of 50 years. This proportion was slightly lower (57%) for those aged 50–60 years, but was highest (85%) for 60–64 year olds, as the majority of women in this age group qualified for the aged pension.

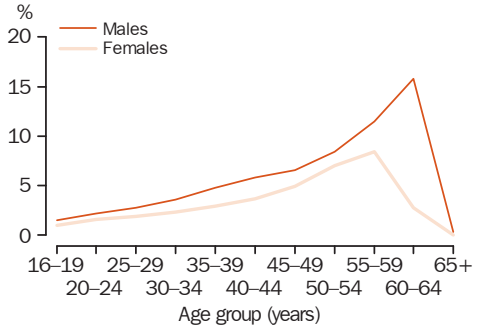
In 2000, musculo-skeletal and connective tissue conditions, such as arthritis, were the most common conditions. Of recipients between the ages of 16 and 64 years, 124,500 men and 65,700 women with these conditions, accounting for 32% of all recipients, were receiving the disability support pension.

Main condition of disability support pension recipients aged 16–64 years — 2000

	Age group (years)			
	16–29	*30–49*	*50–64*	*Total*
Main condition	%	%	%	%
Acquired brain impairment	3.5	3.2	2.0	2.6
Cancer/tumour	0.9	1.4	2.5	2.0
Congenital abnormality	6.2	1.9	0.5	1.6
Circulatory system	0.8	2.3	8.4	5.5
Intellectual/learning	38.4	13.0	2.2	10.0
Musculo-skeletal and connective tissue	6.8	24.8	41.2	31.7
Psychological/psychiatric	27.0	31.5	14.0	21.5
Respiratory system	1.0	1.7	4.5	3.1
Visceral disorder	1.0	1.8	1.5	1.5
Other	14.4	18.4	23.2	20.5
Total	**100.0**	**100.0**	**100.0**	**100.0**
	'000	'000	'000	'000
Total male recipients	39.1	125.6	215.7	380.3
Total female recipients	27.3	82.9	109.5	219.7
Total recipients	**66.3**	**208.5**	**325.2**	**600.0**

Source: Centrelink administrative data.

Distribution of disability support pension recipients across age groups — 2000



Source: Department of Family and Community Services administrative data.

Main conditions differed depending on the age, and to a lesser extent the sex of disability support pension recipients. Younger people tend to have higher rates of intellectual impairments which are often caused by congenital disorders such as Down syndrome. Recipients in older age groups displayed higher rates of physical disabilities related to ageing, such as arthritis, but also injury from physical work, accident or sport. Overall, the pattern of conditions was similar for male and female recipients. However, women tended to be more likely to have psychological or psychiatric disorders than men, while men were more likely to have musculo-skeletal or circulatory disorders than women.

In 2000, the main conditions of recipients aged 16–29 years were intellectual and learning difficulties (38%), followed by psychological and psychiatric conditions (27%). Between the ages of 30 and 49 years, psychological and psychiatric conditions were the most common for those receiving the disability support pension (32%). Musculo-skeletal and connective tissue conditions were the main condition for 25% of recipients in this age group.

Despite the proportion of recipients whose main condition was an intellectual or learning disorder being lower for those aged 30–49 years than those aged 16–29 years (13% and 38% respectively), the number of recipients with this condition was higher. The number of male recipients was 450 higher than in the younger age group, bringing the total number of male recipients to 15,400. For women, the number of recipients was 1,300 higher, totalling 11,800 recipients.

The most common main condition among recipients aged 50–64 years was musculo-skeletal and connective tissue. These conditions accounted for 41% of people

Selected countries of birth of disability support pension recipients — 2000

Country of birth	Recipients '000	Change since 1995 %
Australia	429.8	31.9
United Kingdom and Ireland	39.1	22.1
Former Yugoslav Republics(a)	21.2	41.4
Greece	16.1	3.6
Italy	15.2	–12.7
New Zealand	8.1	62.4
Viet Nam	3.8	97.8
Philippines	1.0	116.0
Cambodia	0.5	139.4
Total(b)	**602.3**	**29.7**

(a) Comprises of Bosnia-Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Slovenia and the former Yugoslav Republic of Serbia and Montenegro.
(b) Includes countries of birth not specified above.

Source: Centrelink administrative data.

receiving the disability support pension in this age group, compared with 25% in the 30–49 year age group. Reflecting the higher number of recipients in total in the 50–64 year age group, (325,200 compared with 208,500 in the 30–49 year age group), there were 55,400 more men and 26,800 more women recipients with this condition. Men with a musculo-skeletal condition in the 50–64 years age group totalled 88,700 and women totalled 45,200.

The ethnic and cultural background of disability support recipients is an important issue to welfare support providers. To ensure that a helpful and efficient service is accessible to its clients, cultural needs such as language need to be taken into account. The countries of birth of disability support recipients reflect migration patterns over the last 50 years (see *Australian Social Trends 2001,* Coming to Australia, pp. 16–20). Immigrants who settled in Australia shortly after the Second World War, such as those from the United Kingdom and other European countries, constitute the largest proportion of overseas-born disability support pension recipients in 2000. However, more recent immigrants from countries such as the Philippines and Cambodia constitute the largest proportional increases between 1995 and 2000.

In 2000, 29% of disability support pension recipients were born outside of Australia, a slightly higher proportion than for the overseas-born in the total population (24%). This reflects the older age structure of the overseas-born population and the associated higher disability rates. The older age structure of many migrant groups is reflected in their median ages (see *Australian Social Trends 2002,* Older overseas-born population, pp. 17–21). In 2000, while the median age for the Australian-born population was relatively low (30.9 years) it was higher for those born in Italy (61.1 years), the United Kingdom (50.8 years) and the Former Yugoslav Republics (49.1 years). Median ages were somewhat lower for those born in the Philippines (38.0 years), Viet Nam (36.5 years) and Cambodia (35.8 years) than their European born counterparts.[1] However, taking the effect of age structure into account, there are differences in recipient rates between immigrant groups. For example, disability support pension recipients from Viet Nam and the Philippines have lower rates than Australian-born recipients. This may be explained by health requirements for more recent immigrants, and the 10 year waiting period for all immigrants to receive the disability support pension if they have an existing condition on arrival in Australia.

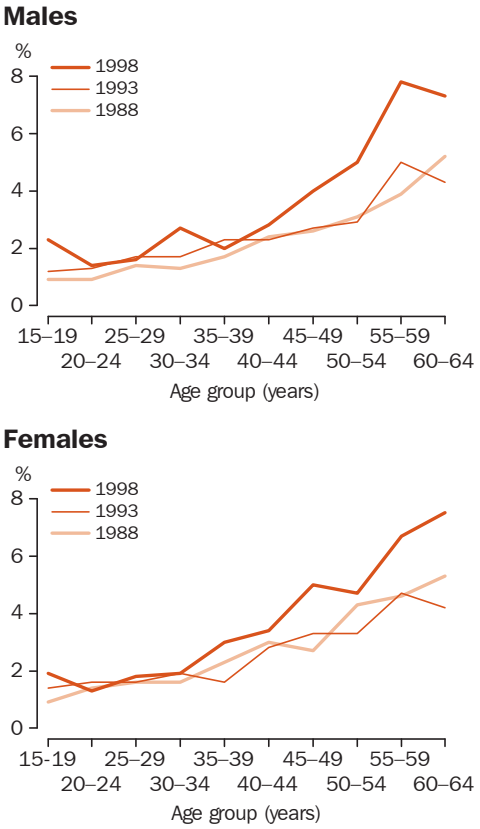
Factors for increase

A number of factors have contributed to the increase in disability support pension recipients since 1980. These include legislative changes, changes in living arrangements, health improvements and population ageing.

A major contributor to the rapid increase in numbers of disability support pension recipients between 1990 and 1995 was the introduction of the Disability Reform Package in 1991. These reforms were initiated with the objective of more effectively integrating people with a disability into the labour market.[2] As a consequence, the disability support pension replaced the invalid pension and the sheltered employment allowance. This restructuring added 10,100 sheltered employment allowance recipients to the disability support pension in 1991. The new disability support pension also broadened the eligibility basis to include people who could perform part-time (up to 30 hours per week), but not full-time work, as well as enabling greater access to the disability support pension by people with psychiatric, and drug and alcohol conditions.

In the late 1990s, the increase in the age at which women qualify for the age pension also influenced disability support pension recipient numbers. Between 1995 and 2013, the qualifying age for women to receive age

Severe restriction rates



Source: ABS, *Accounting for change in disability and severe restriction, 1981–1998*, Working paper number 2001/1.

pension is being increased gradually to 65 years. Therefore, female disability support pension recipients who, prior to the new legislation would have changed to the age pension at younger ages, are now remaining on the disability support pension for longer. In 1995, 650 women aged 60–64 years received the disability support pension. By 2000 this number had increased to 16,900.

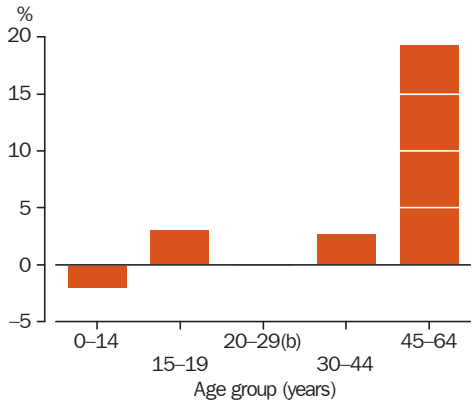
The number of older women receiving the disability support pension is also likely to have increased with the phasing out of payments based on current or former dependence on a male breadwinner. Since the closure to new entrants of the wife pension in 1995 and widow B pension in 1987, women who might have previously claimed these pensions may qualify for the disability support pension, which is more generous than the two aforementioned pensions.

The increase in numbers of disability support pension recipients since 1980 may have been influenced by the higher number of people living alone either by choice, or as a result of separation and divorce. Since the disability support pension requires that an applicant meet both asset and income tests, a single person who lives alone is more likely to be eligible for a full pension than someone living with a partner who may be earning income.

Paradoxically, numbers of disability support pension recipients have increased due to improvements in the mortality of Australians. Medical advances, combined with personal lifestyle choices, mean that more people, including those with a disability, are surviving at every age.[3] As a result, people who are receiving the disability support pension do so for longer periods of time. Improved health care also means that people are more likely to receive life saving treatment for a vehicle accident, stroke or heart attack. Despite surviving the treatment, the person may be left with a severe or profound disability. In earlier times, the risk of dying from injuries sustained was higher.

Australia's ageing population has also had a major influence on the number of disability support pension recipients. In 1997, the 'baby boomers' began to enter the 50 years and over age groups (see *Australian Social Trends 1999,* Our ageing population, pp. 6–10). Between 1992 and 1998, about 38% of disability support pension recipients aged 50 years and over received an income support payment for the first time.[4] Apart from this generation contributing to an increase in numbers of disability support pension recipients, the rates of severe restrictions are higher in this age group.

Projected change in population with a severe or profound core activity restriction — 2000–06(a).



(a) Estimated numbers were calculated by applying age and sex specific prevalence rates derived from the ABS Survey of Disability, Ageing and Carers to ABS 1998 population projections (Series K) as at 30 June.
(b) Projected change for 20–29 year age group is –0.1%.

Source: AIHW analysis of ABS 1998 Survey of Disability, Ageing and Carers data.

Additionally, the severe restriction rate has increased over the last 10 years for people of older ages. Male and female respondents in the 50–64 year age group reported higher incidences of severe restrictions in 1998 than they had in 1988 or 1993. This increase was mainly due to the prominence of reported musculo-skeletal conditions, particularly conditions other than arthritis such as neck, shoulder and back disorders.

Future trends

Australia's ageing population is likely to have a profound influence on the number of disability support pension recipients in the future, as could further changes in legislation. ABS population projections suggest that Australia's 45–64 year age group will increase from 4.5 million, or 23% of the population in 2001, to 5.1 million, or 25% by 2006.

An analysis of projected numbers of Australians with a severe or profound disability was undertaken by the Australian Institute of Health and Welfare (AIHW) in 1999, utilising ABS Survey of Disability, Ageing and Carers data. The AIHW suggested that between 2000 and 2006, the total number of Australians with a severe or profound restriction is likely to increase by 12% while the Australian population is projected to increase by 7%. If these projections hold true, the number of people aged less than 65 years with a severe or profound disability is likely to increase by 9%. The greatest increase is projected to be in the 45–64 years age group which will increase by 19%.[5]

The composition of people receiving the disability support pension is also likely to change in the future. To qualify for the disability support pension with an existing condition, an individual must have been a resident of Australia for at least 10 years (five of these years in a single period). Therefore, as more recent immigrants with existing conditions, from Viet Nam, Cambodia and the Philippines for example, become eligible for the disability support pension, the proportion of recipients from these countries can be expected to increase. Such changes in the composition of recipients will affect the demand for welfare support services such as language services. Evidence of this trend is already apparent, with immigrants from these aforementioned countries constituting the largest percentage increase in disability support pension recipient numbers between 1995 and 2000.

Endnotes

1 Australian Bureau of Statistics 2001, *Migration Australia, 1999–2000*, Cat. no. 3412.0, ABS, Canberra.

2 Australian Institute of Health and Welfare (AIHW) 1995, Australia's Welfare 1995: Services and assistance, AIHW, Canberra.

3 Australian Institute of Health and Welfare (AIHW) 2000, Disability and Ageing, Australian population patterns and implications, AIHW, Canberra.

4 Australian Institute of Health and Welfare (AIHW) 1999, Australia's Welfare 1999: Services and assistance, AIHW, Canberra.

5 Australian Institute of Health and Welfare (AIHW) 2001, Australia's Welfare 2001, AIHW, Canberra.

Households in financial stress

EXPENDITURE

In 1998–99, around a third of households had some degree of financial stress.

An important focus of public policy is to ensure acceptable living standards for all Australians. A key element of people's living standards is the amount of discretion they have in their spending on goods and services to meet their needs. While ABS measures of income and expenditure provide information on the main economic resources available to most households to support their standard of living (and associated patterns of expenditure), these measures do not necessarily tell the full story of how households are coping financially. For example, households may go without key goods and services, or rely on actions such as drawing on savings, to meet financial commitments or to maintain other expenditure. The extent to which this occurs can provide an indication of the overall financial stress experienced by households. This article describes new experimental ABS measures of financial stress and looks at the characteristics of households with varying levels of stress.

Measuring financial stress

In the 1998–99 Household Expenditure Survey, the ABS included for the first time some questions which might indicate that households were experiencing some degree of deprivation or financial stress. The questions encompassed the items of expenditure some households may not be able to afford, as well as cash flow problems, lack of access to financial resources and accessing support outside the household. However, questions relating to these items can only give an indication of deprivation or financial stress as there is no established methodology to measure these concepts objectively.

The questions the ABS used drew heavily on previous Australian work done on living standards and subsequent survey pilot studies. To some extent the questions asked

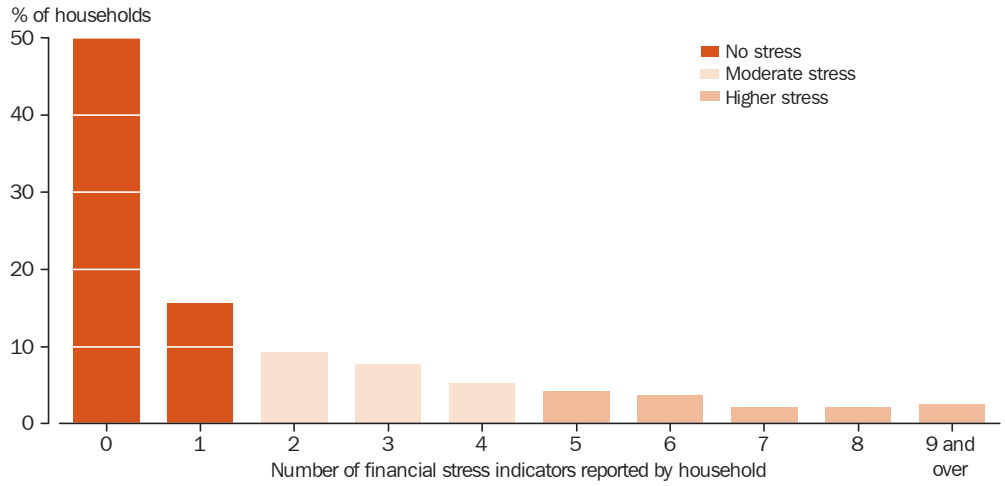
Financial stress

Measures of household financial stress used in this article are drawn from the ABS 1998–99 Household Expenditure Survey. In the survey households were asked to report on a range of indicators (e.g. sought financial help from friends or family, or could not afford a special meal once a week) which were then used to measure household financial stress. Using these indicators, levels of financial stress were defined as follows.

- *No stress*: one or no stress indicators reported.
- *Moderate stress*: two to four stress indicators reported.
- *Higher stress*: five or more stress indicators reported.

For more information see *Australian Economic Indicators June 2001,* Household income, living standards and financial stress (ABS Cat. no. 1350.0).

Incidence of financial stress indicators — 1998–99



Source: 'Household income, living standards and financial stress' in *Australian Economic Indicators, June 2001* (ABS Cat. no. 1350.0).

Households which reported financial stress indicators — 1998–99

Financial stress indicators	Households reporting this indicator '000	Proportion of all households %	Proportion of households reporting this indicator with — No stress %	Moderate stress %	Higher stress %
Could not usually afford a holiday away from home for at least one week a year	1 949	27	18	45	38
Could not usually afford a night out once a fortnight	1 386	19	11	43	46
Unable to raise $2,000 in a week for something important	1 357	19	11	42	47
Could not pay electricity, gas or telephone bills on time	1 144	16	6	40	54
In the last 12 months spent more money than received	1 050	15	29	33	38
Could only afford second hand clothes most of the time	838	12	5	32	63
Could not usually afford a special meal once a week	830	12	6	34	60
Sought financial help from friends or family	704	10	8	34	58
Could not afford leisure or hobby activities	647	9	2	30	68
Could not pay car registration or insurance on time	465	7	3	35	62
Could not afford friends or family over for a meal once a month	374	5	2	23	75
Pawned or sold something	300	4	2	21	76
Sought assistance from welfare/community organisations	247	3	3	11	86
Went without meals	195	3	4	11	85
Could not afford to heat home	158	2	—	14	86

Source: 'Household income, living standards and financial stress' in *Australian Economic Indicators, June 2001* (ABS Cat. no. 1350.0).

were either subjective in nature or required interpretation of objective responses. The ABS results discussed in this article should therefore be considered with this in mind.

Further, some of the indicators when reported on their own do not necessarily identify a household as having financial stress. Some actions such as not paying bills on time may be a convenient short-term financial management strategy, rather than an absolute inability to meet payments. Similarly, members of a household may not usually be able to afford a special meal once a week because they are saving for an overseas holiday. Also, some indicators (such as seeking assistance from a welfare or community organisation) appear to be more severe than others. The subjective nature of the indicators therefore makes it difficult to rank them in order of importance. As a result of this difficulty each financial stress indicator is given equal importance and much of the analysis in this article focuses on the characteristics of those reporting the separate indicators.

To permit analysis to be done at a broad level, the degree of financial stress experienced by households has been categorised according to the total number of indicators each household reported. Based on this approach, households were considered to be suffering from financial stress if they reported two or more indicators of financial stress. If none or only one of the indicators was reported, the household was not considered to be experiencing financial stress. This cut-off was selected as there was a natural break in the data at this point, with 17% of households reporting one indicator, and then a sharp drop to 9% for those reporting two indicators.

Based on these criteria, in 1998–99, around two-thirds of all households were not considered to be in financial stress. However, 2.4 million households reported two or more stress indicators and were regarded as being in financial stress. For 1.5 million of these households, the degree of financial stress was moderate (that is they reported two to four stress indicators) while nearly 900,000 were regarded as being in higher financial stress, having reported five or more indicators.

Indicators of financial stress

Notwithstanding the subjective nature of individual spending preferences, the indicators used to determine financial stress did vary somewhat in severity — from, for example, not being able to afford leisure or hobby activities, to seeking assistance from welfare or community organisations. In 1998–99, the most commonly reported indicators were not being able to usually afford a holiday away from home once a year (reported by 27% of households), not being

able to usually afford a night out once a fortnight (reported by 19% of households) and being unable to raise $2,000 in a week for something important (also reported by 19% of households). However these indicators were more likely to be reported as the sole indicator of financial stress, that is by households regarded as having no financial stress. For example, of those households who reported not being able to usually afford an annual holiday away from home, 18% had no stress (i.e. no other indicators were reported by these households) and 38% were in higher stress (i.e. they reported at least five indicators overall). This is consistent with the less 'essential' nature of some indicators compared with others.

There were other commonly reported indicators which when considered in isolation were less likely to indicate levels of financial stress. Notably, of the 15% of households which reported that over the previous 12 months they spent more money than they received, 29% had no stress and the proportion with higher levels of stress was one of the lowest of all indicators (38%). This may indicate that at least some of these households had savings on which they were drawing rather than relying on income.

On the other hand, there were some indicators which, if reported, were more likely to be associated with household financial stress and, in particular, with higher levels of stress. These included not being able to afford to heat the home, seeking assistance from welfare or community organisations, and going without meals. These were the three least commonly reported stress indicators in 1998–99 (each reported by around 2 to 3% of households). However, all of the households which reported not being able to heat their homes had some financial stress — 86% of them had higher levels of stress. A similar pattern occurred for households which reported seeking assistance from welfare organisations or going without meals.

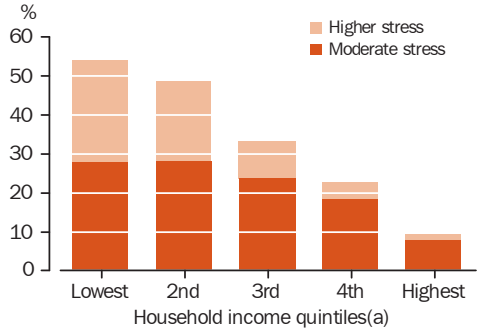
Household income quintiles

Household income quintiles are formed by ranking all households in the population in ascending order by income (in this case equivalised disposable income), and then dividing them into five groups (or quintiles), each containing 20% of households. In 1998–99, there were 1.4 million households in each of the five quintile groups.

Equivalised disposable income is the income received from all sources after income tax and the Medicare levy have been deducted, which is then adjusted on the basis of the household's size and composition to allow the standard of living of different households to be compared. For example, an adjustment is made for the difference that would exist in the standard of living between a couple with children and a couple without children who both receive the same combined income. The original OECD equivalence scale has been used in this article (for more information see *Income Distribution, Australia 1999–2000*, ABS Cat. no. 6523.0).

The household income data from the 1998–99 Household Expenditure Survey used in this article do not incorporate subsequent revisions to initially published results. For more information see *Australian Economic Indicators April 2002*, Upgrading Household Income Distribution Statistics (ABS Cat. no. 1350.0). These revisions do not substantially affect the analysis presented in this article.

Distribution of households in financial stress — 1998–99



(a) Based on equivalised disposable income.

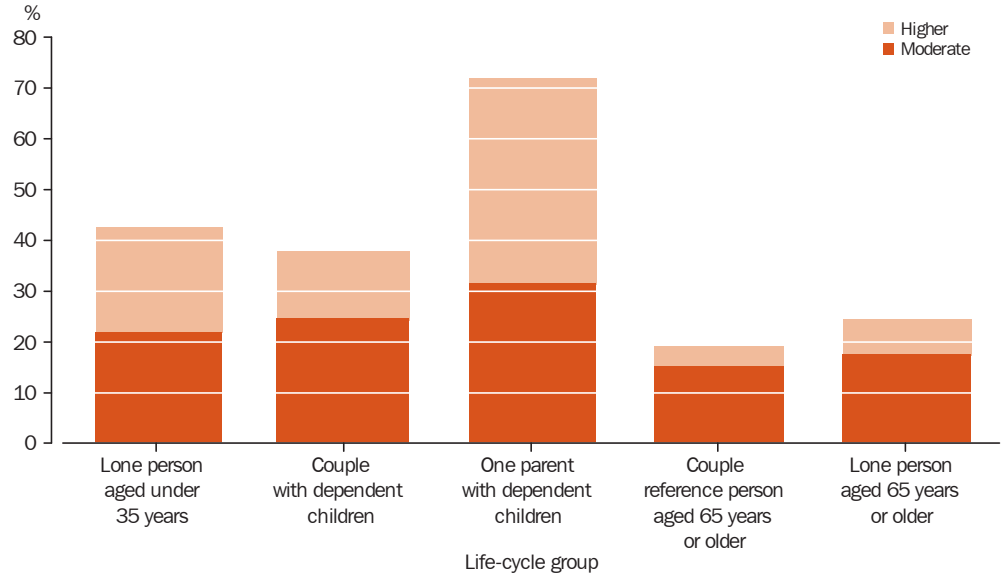
Source: 'Household income, living standards and financial stress' in *Australian Economic Indicators, June 2001* (ABS Cat. no. 1350.0).

Income

While both high and low income households may experience financial stress, the likelihood of this occurring is much greater for low income households, particularly for higher levels of stress. In 1998–99, almost a third (32%) of households which had financial stress were in the lowest income quintile and 29% were in the second income quintile. In comparison, 14% of households which had financial stress were in the fourth income quintile and 6% were in the highest income quintile.

While households may be in a situation where they have trouble meeting financial obligations, this does not necessarily imply that they are in a situation of unacceptably low living standards. In many cases, financial stress may reflect the impact of obligations entered into with discretionary choice (e.g. investment in assets such as a home, cars or shares), short-term cash flow management techniques (e.g. through the deferral of payment where a penalty will not

Selected life-cycle groups: proportion of households in financial stress — 1998–99



Source: ABS 1998–99 Household Expenditure Survey.

be incurred) or the practice of borrowing or drawing on savings to fund expenditure. This is supported by the nature of some of the financial stress indicators commonly reported by high income households. For example, in 1998–99, households in the highest income quintile most commonly reported that they could not usually afford an annual holiday away from home (8%), that they were not able to pay electricity, gas or telephone bills on time (6%), or that they had spent more money than they had earned in the past 12 months (6%).

In 1998–99, the proportions of households experiencing higher stress (i.e. reporting five or more stress indicators) were much higher for households in the lower income quintiles. In the two lowest household income quintiles 26% and 21% experienced higher levels of financial stress, respectively. This dropped to 10% in the third income quintile. Almost no households in the highest income quintile had higher levels of financial stress. Further, comparatively high proportions of households with low incomes reported the more severe financial stress indicators, compared with those households with higher incomes. These indicators included pawning or selling something (reported by 9% of households in the lowest quintile), seeking assistance from welfare or community organisations (8%), going without meals (5%), and not being able to heat the home (5%). For households with higher incomes (i.e. the highest three income quintiles combined), 2% or less reported these stress indicators.

Life-cycle groups

The composition, needs and wealth of households change over time, as household members join or leave the workforce, children are born and grow towards adulthood, and assets are accumulated (for example, paying off a mortgage or contributing to superannuation savings). These changes often affect the ability of a household to cope financially, and the proportion of households in different life-cycle groups who are in financial stress largely reflects the impact of these changes. For example, in 1998–99, 72% (276,200) of lone-parent households with dependent children experienced financial stress, with 41% experiencing higher levels of financial stress. This is consistent with the low average incomes and the low rates of home ownership (resulting in proportionately high housing costs) of these households, compared with other life-cycle groups. Similarly, a comparatively high proportion of households containing a lone person aged under 35 years were in financial stress (43%). As with lone parents, this life-cycle group tends to have low income and high housing costs.

In contrast, comparatively low proportions of households where the reference person was aged 65 years or over had financial stress (20% for couple households and 25% for lone person households). While these households tend to have incomes in the lower income quintiles, they also have higher proportions of outright home ownership (and therefore

lower average housing costs) compared with other life-cycle groups. Many households with reference people aged 65 years and over are eligible for a range of concessions, which further lower their general living expenses.

In 1998–99, the proportion of households containing couple families with dependent children only which experienced financial stress, was higher than average (38% compared with 34% of all households). Because of the large number of households in this life-cycle group compared with others, these households comprised more than a quarter (27% or 648,300) of households in financial stress. While more than half of couple families with dependent children only have both parents employed (consistent with a much lower proportion in financial stress compared with lone parents with dependent children), they also have the costs associated with providing for children and most commonly have mortgages which can result in high housing costs.

Employee superannuation

SOURCES OF INCOME

In 2000, 91% of employees aged 15–64 years had superannuation, compared with 55% in 1988.

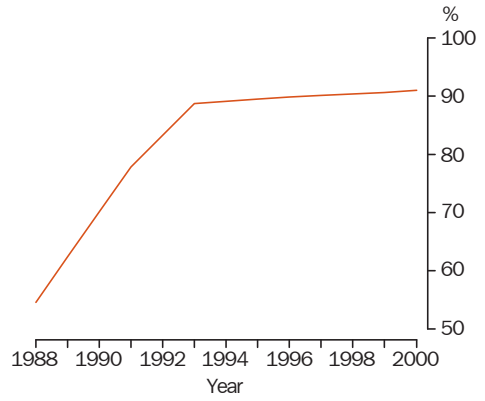
Australians today are living longer and retiring earlier than those of previous generations. They are also looking to lead full and active lives in retirement.[1] As a result, many people will require more income in retirement than their parents or grandparents.

The age pension is currently the primary source of income for the majority of retired people in Australia. In 1999–2000, 78% of people aged 65 years and over who were not in the labour force relied on a government pension, while around 8% relied on superannuation.[2] Property investments were the primary source of income for 12% of people aged 65 years and over and not in the labour force.

The first of the 'baby boomers' (those people born between 1946 and 1965) will reach 65 years of age in 2011 and in 30 years time the population aged 65 years and over is projected to more than double its present size. Given these demographic changes and Australians' retirement aspirations, there have been concerns about Australia's reliance on a 'pay as you go' approach to funding retirement.

Australian governments have introduced a number of policies to address this issue. For example, the Superannuation Guarantee Charge (SGC) was introduced in 1992, with the aim of ensuring that employees would accrue enough superannuation over the course of their working life to provide them with a retirement income. In 2000, employees made up a large proportion of jobholders (86%).

Proportion of employees aged 15–64 years with superannuation coverage



Source: Superannuation, Australia, 1988, 1991, 1993 and 1995 (ABS Cat. no. 6319.0) and ABS 2000 Survey of Employment Arrangements and Superannuation.

Information on superannuation

Most of the statistics presented in this article are from the ABS Survey of Employment Arrangements and Superannuation (SEAS), conducted in mid-2000. The survey collected information about superannuation provisions of people aged 15–69 years.

Superannuation refers to a long-term savings arrangement which operates primarily to provide income for retirement.

Employer or business contribution is the amount contributed to an employee's superannuation fund by their employer or business. Employers are obliged by law to make superannuation contributions for most employees. Exceptions include, but are not limited to, those employees who are:

- paid less than $450 per month;
- aged 70 years and over; or
- aged under 18 years working 30 hours or less per week.[3]

Personal contribution is the after-tax contribution made by a person to their superannuation account. Personal contributions are usually voluntary but are compulsory in most parts of the public sector.

Employees are those who work for a public or private employer and receive remuneration in wages, salary, a retainer fee by their employer while working on a commission basis, tips, piece rates or payment in kind, or operate their own incorporated enterprise with or without hiring employees.

Superannuation coverage

The introduction of compulsory employer superannuation contributions means that most employees in Australia have superannuation. In 2000, the majority of employees aged 15–64 years had superannuation (91%) compared with just over half (55%) in 1988.[4]

In general, the small proportion of employees who have no superannuation are exempt from compulsory employer contributions. These people tend to be young, earning a low income, or both. In 2000, employees aged 15–19 years and those earning between $1 and $19,999 per year had relatively low superannuation coverage (49% and 71% respectively).

Personal superannuation contributions

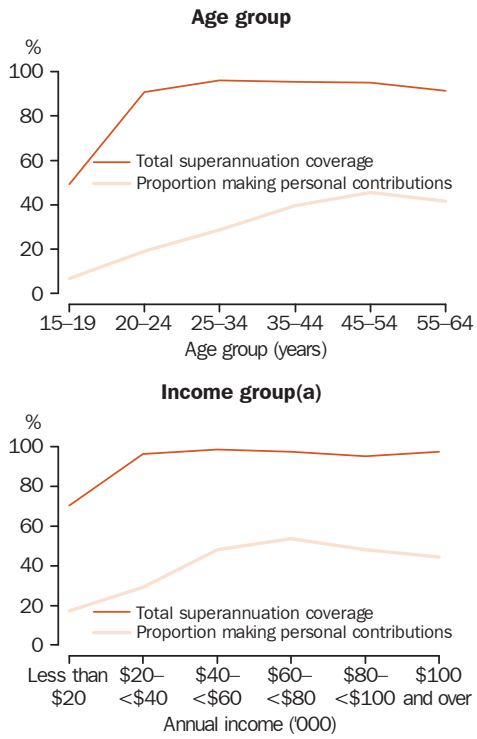
In addition to employer contributions, employees can make personal superannuation contributions. Personal contributions are voluntary in most industries, although employees of the Commonwealth Public Service for example, are obliged to make contributions to their superannuation. In 2000, one-third of all employees aged 15–64 years made personal superannuation contributions.

The proportion of people making personal contributions was higher for older employees than younger employees. It ranged from 7% of those aged 15–19 years to 46% of those aged 45–54 years, falling slightly to 42% of employees aged 55–64 years.

The proportion of employees making personal contributions also varied with income. Employees on low incomes (earning between $1 and $19,999 per year) were less likely to make personal contributions than those on higher incomes. That said, employees on the highest incomes were not the most likely to make personal contributions. The proportion of employees making personal contributions peaked at 54% for those earning between $60,000 and $79,999 per year, dropping to 44% for those earning $100,000 or more. This may relate to employees on higher incomes having other financial investments to supplement their superannuation in retirement.

The most common reason employees gave for not making personal contributions to their superannuation (provided by 38% of employees who did not make personal contributions) was the cost of contributing — they could not afford it. The second most common reason was that they had not bothered, not thought about it or were not interested (18%). About 7% of employees said that they had employer contributions but were not currently eligible to make personal contributions (some superannuation funds have waiting periods before new employees are eligible to make personal contributions). For 6% of employees not making personal contributions, the reason given was that they held other investments.

Proportion of employees with superannuation — 2000



(a) For employees aged 15–64 years excluding those who indicated nil or negative income or not stated.

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

Australia's retirement income system[5]

The age pension has been in place for much of the 20th century. It is currently available to men aged 65 years and over and women aged 62 years and over. The qualification age for women is gradually increasing to 65 years, affecting all women born after mid-1935.[6] Eligibility for the age pension is also subject to means and income testing. The full pension is set at 25% of average male weekly ordinary time earnings for a single person or 40% for a couple.

Although superannuation was introduced in Australia in the mid-1800s, it did not affect the majority of Australians until the mid-1980s when Award Superannuation was introduced. This provided a 3% employer superannuation contribution to employees in lieu of a 3% wage increase. Superannuation coverage increased in the early 1990s with the introduction of the Superannuation Guarantee Charge. Compulsory employer contributions, initially set at 3%, are planned to rise to 9% by 2002–03. Personal superannuation contributions are still voluntary in most industries, although in most areas of the public sector a minimum of 2% must be contributed by employees.

The value of superannuation contributions

Compulsory employer contributions are a proportion of earnings (7% in 2000) and therefore, the higher an employee's earnings the higher their employer's contribution. However, earnings and age are often closely related, so employer contributions tend to increase with age. In 2000, employer

Main reasons given by employees aged 15–64 years for not making personal contributions — 2000

	Persons
	%
Cost/cannot afford to make contributions	37.5
Have not bothered/never thought about or not interested in superannuation	18.1
Have employer contributions, but are not currently eligible to make contributions	7.4
Have other investments besides superannuation	6.2
Already covered by employer superannuation	4.7
Paying off mortgage	4.6
Too old/too young	4.5
Erosion of funds/return not worthwhile	3.7
Other	13.3
Total employees not making personal superannuation contributions	**100.0**
	'000
Total number of employees not making personal superannuation contributions	**5 418.8**
Total number of employees	**7 460.6**

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

contributions were higher for employees aged 25–34 years than for employees aged 15–24 years (a median of $41 per week compared with $27). However, employer contributions were similar for employees aged 25–64 years.

As opposed to employer contributions, personal contributions are usually voluntary and so vary according to individual differences. In 2000, older employees made larger personal contributions than younger employees, with contributions made by employees aged 55–64 years being the highest (median contribution of $45 per week).

Personal contributions tended to be lower than employer contributions for employees under the age of 45 years. In contrast, employees aged 45 years and over made higher personal contributions than their employer contributions. This may be associated with higher income and increasing motivation and capacity for employees approaching retirement to save than for younger employees.

Superannuation balances

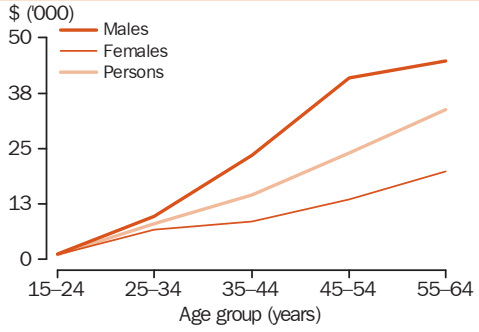
The amount of superannuation held is closely related to the value of contributions made to superannuation over time, and therefore will

Median value of employee weekly superannuation contributions — 2000

(a) For employees who have been receiving employer contributions for two years or more.
(b) For employees making personal contributions for two years or more.

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

Median superannuation balance for employees with superannuation — 2000



Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

Superannuation balances of employees aged 15–64 years with superannuation — 2000

	Median account balance
	$
Sex	
Males	14 801
Females	7 037
Annual cash income (per year)	
$1 to less than $20 000	1 816
$20 000 to less than $40 000	7 400
$40 000 to less than $60 000	22 114
$60 000 to less than $80 000	48 104
$80 000 to less than $100 000	40 190
$100 000 or more	55 739
Personal contributions	
Making personal contributions	35 177
Not making personal contributions	6 067
Total	**10 240**

Source: ABS 2000 Survey of Employment Arrangements and Superannuation.

increase with age. Even people who are not working often have substantial amounts held in superannuation funds as a result of contributions made over time and the compounding nature of superannuation.

In 2000, the median total superannuation balance for employees aged 15–64 years with superannuation was $10,200. The median balance for male employees was more than double that of female employees ($14,800 compared with $7,000). The difference between the superannuation balances of male and female employees increased with age to the point where male employees of retirement age (55–64 years) had more than twice the amount of superannuation of female employees ($44,700 compared with $19,800). Women leaving work, or working part-time, to care for children are likely to be a contributing factor to this pattern.

The close association between age, income and the choice to make personal superannuation contributions is reflected in superannuation balances. Employees on higher incomes tended to have higher superannuation balances in 2000, as did those employees making personal contributions. The median superannuation balance for employees earning between $1 and $19,999 per year was $1,800 compared with $55,700 for employees earning $100,000 or more. However, it is likely that the majority of employees on lower incomes were young with only a few years to accrue superannuation, while the majority of employees on higher incomes were older and had accrued their superannuation over a longer working period. In a similar way, employees making personal contributions to their superannuation had accrued almost six times the amount of superannuation of employees who received only employer superannuation contributions ($35,200 and $6,000 respectively).

Superannuation balance data

The Survey of Employment Arrangements and Superannuation (SEAS) captures about half of the total value of superannuation assets of Australian households. However, the values provided by the survey indicate the relative superannuation entitlements of people with different characteristics. Care should be taken when interpreting superannuation balance information provided by SEAS, particularly in relation to assessing the adequacy of superannuation balances in the community. For further information, see *Superannuation: Coverage and Financial Characteristics, Australia, April to June 2000* (ABS Cat. no. 6360.0).

Factors affecting the ability to accrue superannuation

The link between superannuation savings, employment and income level means that many people may not accrue enough superannuation savings over the course of their working life to last them through their retirement. Factors such as the number of hours people work, the continuity of their employment, income level and their retirement age all impact on the amount of superannuation saved. Factors which limit these savings tend to affect women more than men, as men tend to have a stronger attachment to the labour force than women, and are more likely to work full-time.

In 2000, 77% of men aged 15–64 years were working compared with 62% of women of the same age. Approximately two-thirds of men aged 15–64 years were working full-time compared with one-third of women. Reflecting this, the average weekly total earnings for men in this age group was $560 compared with $299 for women.

As employer superannuation contributions are a proportion of employee earnings, and female employees tend to earn less than male employees, women generally receive smaller employer contributions. They also have less personal income to contribute to superannuation than men resulting in lower superannuation savings overall. Together with women's generally younger retirement age and longer life expectancy, women may

Selected indicators relating to superannuation savings for people aged 15–64 years — 2000

	Units	Year	Males	Females	Persons
Labour force status(a)					
Working	%	2000	77.2	61.5	69.4
Full-time	%	2000	67.7	34.9	51.4
Part-time	%	2000	9.5	26.7	18.0
Not working	%	2000	22.8	38.5	30.6
Average weekly total earnings(b)	$	1999	560	299	430
Earning less than $5,400 per year	%	1999	28.9	45.5	37.2
Age at retirement from full-time work					
Less than 45 years	%	1997	7.0	54.5	35.3
45–54 years	%	1997	17.4	21.6	19.9
55–64 years	%	1997	53.3	21.0	34.0
Average life expectancy	years	2000	76.6	82.0	n.a.

(a) Estimates are calendar year annual averages and relate to labour force status at time of survey.
(b) Includes those who were not working.

Source: ABS 2000 Labour Force Survey; ABS 1999 Income Survey; *Retirement and Retirement Intentions, Australia*, 1997 (ABS Cat. no. 6238.0); *Deaths, Australia,* 2000 (ABS Cat. no. 3302.0).

need to accrue more superannuation savings than men to maintain a similar standard of living throughout their longer retirement years.

That said, on the whole people who live in couple households accumulate assets together and have access to their combined benefits. In addition, recent legislative changes mean that superannuation is treated as an asset during divorce and is split accordingly.[7]

Endnotes

1 Fraser, B. 2001, Conference on Superannuation, September 2001 — from the Canberra Times 7 September 2001.

2 Australian Bureau of Statistics, 1999–2000 Survey of Income and Housing Costs.

3 Australian Taxation Office (ATO) 2000, *Superannuation Guarantee: How to understand and meet your Superannuation Guarantee obligations*, ATO, Canberra.

4 The source for 2000 data in this comparison was the ABS 2000 *Survey of Employment Arrangements and Superannuation* while for 1988, data came from Australian Bureau of Statistics 1989, *Superannuation, Australia*, Cat. no. 6319.0, Australian Government Printing Service, Canberra.

5 Harris, P. 2001, Looking back, looking forward: Australian pension and superannuation policy, *Just Policy: a journal of Australian social policy*, 22, pp. 3–13.

6 Centrelink 2001, *How do I qualify for an age pension?*, <URL:http://www.centrelink.gov.au/internet/internet.nsf/payments/qual_how_agepens.htm> (accessed 31 October 2001).

7 Family Law Legislation Amendment (Superannuation) Act 2001, No. 61, 2001.

Household debt in the 1990s

EXPENDITURE

In 1998–99, almost half (46%) of all Australian households were repaying one or more loans on owner-occupied housing or consumption spending on such things as cars, holidays, household and personal items. The amount of principal outstanding on these loans averaged $57,000 per household.

Borrowing and lending are intrinsic to our economy and way of life. At any given time most households are either borrowers (e.g. repaying loans for housing or other large purchases) or lenders (e.g. via interest bearing cash deposits, stocks or bonds). Many households are both lenders and borrowers at the same time, though the balance between the two varies considerably over life stages.

Household debt is not, in itself, a cause for concern. Incurring a debt presents opportunities as well as risks. For example, people can borrow money to buy a house and enjoy the benefits of living in their own home while repaying the loan, rather than saving for a substantial part of their working lives to buy a home outright in later years.

However, household debt increased rapidly during the 1990s, more rapidly than household incomes.[1] This reflected rapid growth in both the numbers of households borrowing money and the average amounts borrowed. The growth in household borrowing was largely driven by falling interest rates, increased competition between lenders, and rising house prices in some areas.

The bulk of household borrowing is associated with the acquisition of assets, mainly the family home, so the increase in household debt during the 1990s was accompanied by an increase in the value of household assets. At the same time, falling interest rates contributed to a decline in the proportion of household income needed to

Household debt

This article draws on data from the ABS 1998–99 Household Expenditure Survey to examine several measures related to household debt. These include the average amount of principal outstanding on household loans (for owner-occupied housing and consumption) and average interest payments on household loans and credit card accounts.

The *principal outstanding on household loans* for owner-occupied housing and consumption comprises the bulk of household debt and is the primary measure used in this article to analyse household debt through life-cycle stages. For any group of households with loans, the *outstanding loan principal to income ratio* is the average amount of principal outstanding on household loans expressed as a proportion of the average annual household income of the group.

Household loans are monies advanced to a household borrower to be repaid at a later date, usually with interest. Loans from any type of creditor including banks, finance companies, government departments, friends, relatives and others are included, as are hire purchase, lease/purchase arrangements and revolving credit facilities (except credit cards which are excluded). Loans for business or investment purposes are excluded.

Weekly household income is the sum of each household member's usual weekly income from all sources (before deductions for income tax or any other purposes). Children's income is included. *Annual household income* is derived by multiplying weekly household income by 52.

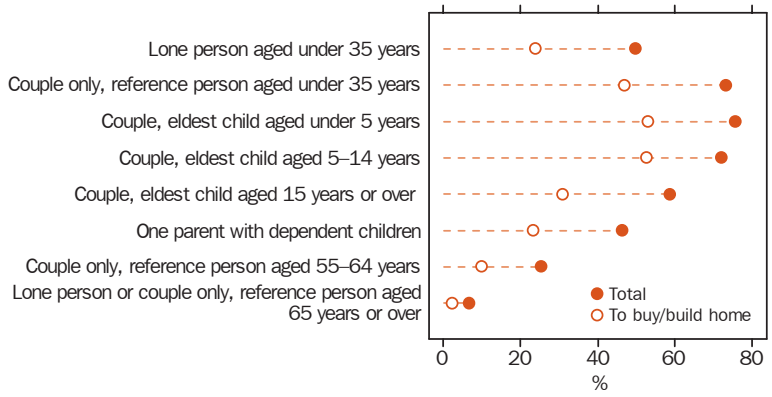
Households with one or more loans — 1998–99

Main purpose of loan(s)	*Number* '000	*Proportion* %	*Average principal outstanding(a)* $'000
Buy/build home	1 922.5	27.0	77.4
Alterations/additions to home	196.3	2.8	25.3
Buy/build other property	185.9	2.6	71.7
Alterations/additions to other property	27.0	0.4	24.7
Motor vehicle(s)	1 243.9	17.5	12.5
Holiday(s)	59.4	0.8	10.4
Other purposes	661.4	9.3	6.9
Total households with loan(s)(b)	*3 296.4*	*46.3*	*57.2*
Total households	**7 122.8**	**100.0**	**. .**

a) For each purpose, the average amount of principal outstanding on loans mainly for that purpose per household with one or more loans for that purpose.
(b) Some households had more than one type of loan and therefore components do not add to total.

Source: ABS 1998–99 Household Expenditure Survey.

Proportion of households with loan(s) — 1998–99



Source: ABS 1998–99 Household Expenditure Survey.

service household debt. Even so, questions remain about whether households are over-committing themselves and whether they could continue to service current levels of debt should interest rates rise rapidly.

Household loans

In 1998–99, almost a half (46%) of Australian households were repaying one or more loans on owner-occupied housing or consumption spending on such things as cars, holidays, and household or personal items. The amount of principal outstanding on these loans averaged $57,000 per household, about the same as the average gross annual household income for all households with loans. The most common purpose of household loans was to buy or build a home. Over half of all households with loans reported this as the main purpose of one or more of their loans. The principal outstanding on these home loans averaged $77,400 per household and accounted for 79% of the total principal outstanding on all household loans. The second most common purpose of household loans was to buy a motor vehicle but the principal outstanding on such loans (averaging $12,500 per household) accounted for only 8% of the total principal outstanding on all household loans.

The proportion of households with loans in 1998–99, and the average amount of principal outstanding, varied across life-cycle groups. This was largely a reflection of home buying patterns through life-cycle stages (see *Australian Social Trends 2001,* Housing experience through life-cycle stages, pp. 177–181).

Half of all young lone-person households (reference person aged under 35 years) had loans. The average amount owed by this group ($46,000) was considerably less than the national average, reflecting relatively low home buying rates for this group. Among the prime home buying groups, i.e. young couple-only households and couples with young children (eldest aged under 5 years), the proportion of households with loans reached 73% and 76% respectively and the principal outstanding on these loans averaged just over $75,000. The proportion of households with loans, and the average amount outstanding, then declined steadily among subsequent life-cycle groups as home mortgages were reduced or discharged altogether. However, among one-parent households with dependent children, the relatively low proportion of households with loans (46%) and relatively low average

Principal outstanding and interest payments on household loans — 1998–99

Selected life-cycle groups	*Average principal outstanding on loans(a)* $'000	*Outstanding loan principal to income ratio* ratio	*Average weekly interest on loans(b)* $
Lone person, aged under 35 years	45.6	1.2	63.50
Couple only, reference person aged under 35 years	75.9	1.1	102.00
Couple, eldest child aged under 5 years	75.2	1.3	99.20
Couple, eldest child aged 5–14 years	71.8	1.2	92.00
Couple, eldest child aged 15 years or over	53.2	0.7	70.70
One parent with dependent children	43.0	1.2	57.00
Couple only, reference person aged 55–64 years	31.9	0.8	44.10
Lone person or couple only, reference person aged 65 years or over	9.8	0.6	13.30
All households(c)	**57.2**	**1.0**	**78.40**

(a) For each life-cycle group, the average amount of principal outstanding on loans per household with one or more loans.
(b) Average weekly interest payments for households with one or more loans.
(c) Includes life-cycle groups not defined above.

Source: ABS 1998–99 Household Expenditure Survey.

amount of principal outstanding on these loans ($43,000) was associated with low rates of home ownership rather than with the advanced levels of loan repayment and high rates of outright home ownership characteristic of older households.

In relation to their average annual incomes, younger households owed more than older households. In the case of young couple-only households and couples with younger children (the eldest aged under 15 years), relatively high outstanding loan principal to income ratios of between 1.1 and 1.3 were associated with relatively high levels of principal outstanding on household loans (averaging over $70,000) and relatively high average incomes. While one-parent households with dependent children and young lone-person households owed a little over half as much, their relatively low incomes meant that they still had above average loan principal to income ratios of 1.2. Older lone-person and couple-only households (reference person aged 65 years or over) had by far the lowest average principal outstanding on household loans ($9,800) but this nonetheless represented over half (0.6) of the average annual income for this group.

Interest payments on household loans varied across life-cycle groups reflecting differences in the amounts of principal still owing on their loans. In 1998–99, young couple-only households and couples with young children (the eldest aged under 15 years) had the highest interest payments, averaging more than $90 per week. Average weekly interest payments then declined steadily across the older life-cycle groups. Older lone-person and couple-only households (reference person aged 65 years or over) had the lowest interest payments on household loans, averaging $13 per week.

Credit cards

Credit cards are any type of charge account with credit cards that are in current use. Included are credit cards offered by stores, petrol companies, etc. as well as those issued by banks and credit card agencies. Any form of charge account which does not use a credit card is excluded (e.g. bank overdrafts or monthly accounts with specific traders such as newsagents or milk vendors). Also excluded are any credit cards or accounts not used in the past 12 months, or used solely for business or investment purposes. Debit cards and smart cards are also excluded.

Credit card use

More people are using credit cards more often. Two-thirds (66%) of Australian households had one or more credit cards in current use in 1998–99, compared with 59% in 1988–89. Reserve Bank of Australia statistics on bank-issued credit cards show that the number of transactions per account per month increased from 2.9 in 1994–95 to 6.6 in 2000–2001.[2]

Credit card use varies across life-cycle groups. In 1998–99, couple households (with or without children) were more likely than one adult households (one-parent or lone-person households) to have one or more credit cards in current use. Within these two groups,

Households with credit cards in current use and credit card interest payments — 1998–99

	Proportion of households:		Average weekly credit card interest(a)
	With credit cards in current use	With credit card interest	
Selected life-cycle groups	%	%	$
Lone person, aged under 35 years	59.8	33.8	6.00
Couple only, reference person aged under 35 years	77.7	48.3	7.40
Couple, eldest child aged under 5 years	75.0	47.0	6.10
Couple, eldest child aged 5–14 years	77.5	47.0	7.00
Couple, eldest child aged 15 years or over	78.2	45.0	8.90
One parent with dependent children	46.2	31.1	6.10
Couple only, reference person aged 55–64 years	68.4	31.2	6.20
Lone person or couple only, reference person aged 65 years or over	46.2	11.8	4.80
All households(b)	**65.7**	**35.6**	**7.30**

(a) Average weekly interest payments for households which incurred credit card interest.
(b) Includes life-cycle groups not defined above.

Source: ABS 1998–99 Household Expenditure Survey.

Total interest payments on loans and/or credit cards — 1998–99

Selected life-cycle groups	Average weekly payments(a) $	Proportion of income(b) %
Lone person, aged under 35 years	51.30	7.6
Couple only, reference person aged under 35 years	91.40	7.3
Couple, eldest child aged under 5 years	92.70	8.7
Couple, eldest child aged 5–14 years	86.00	7.6
Couple, eldest child aged 15 years or over	62.30	4.3
Lone parent with dependent children	46.50	7.3
Couple only, reference person aged 55–64 years	27.70	3.7
Lone person or couple only, reference person aged 65 years or over	8.60	2.3
All households with interest payments(c)	**65.30**	**6.1**

(a) Average weekly interest payments for households with household loans and/or credit card interest.
(b) Average weekly household income of households with household loans and/or credit card interest.
(c) Includes life-cycle groups not defined above.

Source: ABS 1998–99 Household Expenditure Survey.

younger households were generally more likely than their older counterparts to have credit cards.

The Household Expenditure Survey did not collect any data on the amount of credit used on credit card accounts each month. However, it is possible to estimate the average amount of credit card debt that households carried over from one month to the next. Based on an average weekly expenditure of $7 on credit card interest, and on average annual credit card interest rates of around 15% during 1998–99[1], the average credit card debt carried over was about $580 per household.

Just over a third (36%) of all households with credit cards in current use in 1998–99, incurred interest on their credit card accounts. Young couple-only households and couples with dependent children were the most likely to have credit card interest (around 47%). Older lone-person and couple-only households were the least likely to have credit card interest (12%). Average weekly interest payments on credit card accounts ranged from $5 for older lone-person and couple-only households to $9 for couples with older children.

Despite the increased use of credit cards during the 1990s, there was little change in the proportion of households that incurred interest on their credit card accounts — 34% in 1988–89 and 36% in 1998–99. The proportion of weekly household income that these households paid in credit card interest also remained about the same (0.7%) even though the decline in credit card interest rates was less than on other household loan products.[1]

This suggests that people are increasingly using their credit cards as an alternative to cash or cheques to make payments, rather than for longer-term finance. Incentives such as reward schemes and the convenience of being able to make payments by phone or over the Internet may have contributed to the increased use of credit cards.[1]

Total interest payments on loans and credit cards

Average weekly total interest payments (on household loans and credit cards combined) differed widely across life-cycle groups, from $9 for older lone-person and couple-only households to more than $90 for young couple-only households and couples with young children (the eldest aged under 5 years). The distribution of total interest payments basically mirrored the distribution of interest on household loans, which was by far the largest component of total interest payments in all life-cycle groups.

The proportion of household income spent on interest payments also varied across life-cycle groups, ranging from 7% to 9% of the average weekly incomes of younger households (including one-parent households with dependent children) and from 2% to 4% of the average weekly incomes of older households.

Overall, households allocated 6% of their average weekly incomes to interest payments in 1998–99. Despite the fact that the average size of new loans grew faster than average household incomes during the 1990s (see *Australian Social Trends 2001,* Housing finance, pp. 190–193), this was considerably less than the 9% of average household income allocated to interest payments 10 years earlier in 1988–89. This was largely due to the sharp decline in interest rates on home loans and secured personal finance during the period.[1]

Endnotes

1 Reserve Bank of Australia 1999, 'Consumer credit and household finances' in RBA *Bulletin,* June 1999, pp. 11–17.

2 Reserve Bank of Australia 2001, RBA *Bulletin,* December 2001 and June 1998.

Housing

Housing: national summary

HOUSING STOCK	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of occupied private dwellings	'000	6 173	6 302	6 446	6 579	r6 668	r6 762	r6 910	r7 015	r7 127	7 250	n.y.a.
Public sector dwellings completed	'000	11.5	9.7	11.1	9.9	7.8	6.8	6.0	4.4	5.4	4.8	3.8
Private sector dwellings completed	'000	122.9	123.0	145.2	157.3	162.4	129.1	113.4	127.2	136.7	150.5	130.1
Housing utilisation												
Average persons per household	no.	2.8	2.7	n.a.	2.6	2.6	2.6	2.6	2.6	2.6	2.6	n.y.a.
Average bedrooms per dwelling	no.	2.9	n.a.	n.a.	2.9	2.9	2.9	2.9	3.0	3.0	3.0	n.y.a.
Households with two or more spare bedrooms	%	n.a.	n.a.	n.a.	31.7	n.a.	n.a.	n.a.	n.a.	37.3	n.a.	n.a.
Households with insufficient bedrooms	%	n.a.	n.a.	n.a.	6.5	n.a.	n.a.	n.a.	n.a.	4.6	n.a.	n.a.
Dwelling structure(a)												
Separate house	%	n.a.	78.2	n.a.	79.4	79.3	78.6	79.5	78.8	79.5	79.3	n.y.a.
Semidetached/townhouse	%	n.a.	7.0	n.a.	7.9	7.9	8.1	7.9	8.8	8.9	9.9	n.y.a.
Flat/apartment/unit	%	n.a.	12.5	n.a.	12.5	11.9	12.4	11.9	11.7	11.1	10.1	n.y.a.
Tenure type(b)												
Owner without a mortgage	%	n.a.	41.6	n.a.	41.8	41.3	41.7	40.9	39.4	38.8	38.4	n.y.a.
Owner with a mortgage	%	n.a.	27.6	n.a.	28.3	29.8	28.2	28.0	30.4	31.3	32.2	n.y.a.
State housing authority renter	%	n.a.	5.6	n.a.	6.2	4.9	5.9	5.4	5.6	5.1	5.6	n.y.a.
Private landlord renter	%	n.a.	18.9	n.a.	19.0	17.8	20.0	21.0	20.5	20.3	20.1	n.y.a.

HOUSING COSTS	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Housing interest rate	%	15.1	11.9	9.9	8.9	10.0	10.3	8.3	6.7	6.6	7.0	7.6
Affordability index	index no.	111.7	133.9	152.1	162.8	140.9	141.7	169.0	169.0	164.8	145.9	159.6
Households with affordability problems	%	n.a.	n.a.	n.a.	n.a.	10.6	10.5	10.6	11.3	n.y.a.	n.y.a.	n.y.a.
Renting households with affordability problems	%	n.a.	n.a.	n.a.	n.a.	5.8	5.9	6.2	6.8	n.y.a.	n.y.a.	n.y.a.
First home buyers: average loan size	$'000	n.a.	73.3	78.5	86.3	92.9	94.6	104.6	109.9	127.6	133.1	124.8
Average weekly earnings index	index no.	106.6	111.5	113.5	116.9	121.7	127.2	132.1	137.6	142.7	147.4	155.2
Mean weekly public rent	$	n.a.	66	n.a.	62	59	62	64	63	r68	r71	n.y.a.
Mean weekly private rent	$	n.a.	127	n.a.	141	138	148	153	157	r167	r166	n.y.a.
Rental cost index(c)	index no.	104.8	106.7	107.2	107.9	108.9	111.7	115.1	118.5	122.0	125.4	129.3
Project home price index	index no.	102.1	102.1	103.0	105.8	108.1	109.5	109.2	110.3	113.1	120.7	134.9
Established house price index	index no.	100.8	104.6	106.0	109.1	112.6	112.7	115.1	122.8	130.4	142.3	152.8
Materials used in house building price index	index no.	104.6	104.9	106.9	112.0	115.4	115.7	116.1	118.2	119.5	122.8	124.4
Finance commitments												
Number for construction or purchase of new dwellings	'000	80	94	111	124	103	85	89	97	94	94	71
Value for construction or purchase of new dwellings	$m	5 142	6 466	8 200	10 524	9 502	8 263	9 302	11 287	12 158	13 456	10 131
Number for purchase of established dwellings	'000	214	285	342	420	348	366	393	385	395	455	484
Value for purchase of established dwellings	$m	15 634	22 071	28 579	37 311	32 808	35 416	40 677	43 374	49 344	61 496	64 293
Value for alterations and additions	$m	981	1 359	1 641	2 899	3 477	3 510	3 039	2 779	2 821	3 321	3 109

HOUSING ASSISTANCE	Units	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Public sector rental dwelling stock	'000	362	370	377	384	389	393	400	381	386	363	359
Applicants on housing waiting lists	'000	202	216	232	235	235	236	221	218	184	213	222
Applicants accommodated	'000	52	49	54	55	53	51	47	42	41	41	40
Persons receiving private rental assistance	'000	646	868	941	976	931	1 042	1 049	979	1 016	992	1 029

(a) Components do not total 100% because other dwellings (caravans or cabins in a caravan park, houseboats and houses or flats attached to shops) are not included.
(b) Components do not total 100% because other renters (paying rent to the manager of a caravan park, an employer, a housing cooperative, or a church or community group), as well as other types of tenure (rent free and others), are not included.
(c) The 14th series CPI, introduced in September 2000, combined privately-owned and government-owned dwelling rents from the 13th series.

Reference periods: Data are for the year ending 30 June except: average number of persons per household and bedrooms per dwelling; structure; tenure type; mean weekly rent and applicants on housing waiting lists, which vary according to the timing of the surveys within each year. Data for average loan size of first home buyers are at June 30.

Housing: State summary

HOUSING STOCK	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Number of occupied private dwellings	'000	2000	2 414.0	1 771.1	1 357.7	613.1	717.8	188.8	66.4	121.0	7 249.9
Number of dwellings completed	'000	2001	41.6	37.9	24.8	7.7	17.4	1.4	1.1	2.0	133.9
Housing utilisation											
Households with two or more spare bedrooms	%	1999	34.8	36.2	39.1	37.9	43.1	36.4	25.6	48.6	37.3
Households with insufficient bedrooms	%	1999	*6.0	*4.9	*3.5	**3.2	**2.7	**2.7	*13.1	**3.9	4.6
Dwelling structure(b)											
Separate house	%	2000	75.4	81.7	83.3	77.5	79.3	86.7	70.0	78.4	79.3
Semidetached/townhouse	%	2000	9.6	9.2	7.1	12.9	15.1	7.6	*11.0	11.6	9.9
Flat/apartment/unit	%	2000	14.4	8.6	8.0	8.8	5.4	4.6	*15.5	9.5	10.1
Tenure type(c)											
Owner without a mortgage	%	2000	39.8	43.6	34.6	37.5	31.5	41.7	*17.7	25.8	38.4
Owner with a mortgage	%	2000	30.5	32.0	31.7	32.0	37.9	30.3	38.3	42.4	32.2
State housing authority renter	%	2000	5.9	4.1	4.7	9.5	5.4	6.5	*9.4	10.2	5.6
Private landlord renter	%	2000	21.0	17.0	24.7	16.7	20.0	17.0	22.4	19.4	20.1

HOUSING COSTS	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
Affordability index(d)	index no.	2001	96.5	137.4	175.9	212.1	186.2	268.0	n.a.	163.3	159.6
Households with affordability problems	%	1998	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.
Renting households with affordability problems	%	1998	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.
First home buyers: average loan size	$'000	2001	155.5	122.8	111.0	90.7	110.8	73.9	112.9	123.8	124.8
Mean weekly public rent	$	2000	r67	r75	r75	r71	r68	r64	r114	r73	r71
Mean weekly private rent	$	2000	r199	r161	r148	r137	r136	r117	r193	r169	r166
Rental cost index(e)	index no.	2001	136.2	130.9	115.1	125.3	115.9	117.2	123.1	122.0	129.3
Project home price index(d)	index no.	2001	138.4	136.9	132.0	141.9	126.2	140.7	156.8	153.5	134.9
Established house price index(d)	index no.	2001	163.8	159.1	149.4	131.1	133.9	134.2	198.7	149.1	152.8
Materials used in house building price index(d)	index no.	2001	130.0	123.1	120.6	129.6	118.8	126.0	n.a.	n.a.	124.4
Finance commitments											
Number for construction or purchase of new dwellings	'000	2001	18.1	21.2	13.2	5.2	10.4	1.0	0.4	0.9	70.7
Value for construction or purchase of new dwellings	$m	2001	3 246	2 876	1 798	603	1 316	86	43	138	10 131
Number for purchase of established dwellings	'000	2001	171.1	105.2	82.4	41.6	60.2	11.4	3.7	7.9	483.6
Value for purchase of established dwellings	$m	2001	27 551	13 792	9 738	4 063	6 929	830	386	1 007	64 293
Value for alterations and additions	$m	2001	1 157	937	375	183	330	53	15	49	3 109

HOUSING ASSISTANCE	Units	Years	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Public sector rental dwelling stock	'000	2001	128.2	65.3	50.7	51.8	32.6	13.2	6.0	11.5	359.3
Applicants on housing waiting lists	'000	2001	101.6	42.0	24.4	32.6	14.3	2.1	1.8	3.0	221.6
Applicants accommodated	'000	2001	11.6	7.2	7.5	4.7	4.6	2.0	0.9	1.2	39.7
Persons receiving private rental assistance	'000	2001	348.0	220.8	259.1	69.3	91.7	24.9	6.5	8.6	1 029.1

(a) Estimates for dwelling structure, tenure type and mean weekly public and private rent for Northern Territory relate to mainly urban areas only.
(b) Components do not total 100% because other dwellings (caravans or cabins in a caravan park, houseboats and houses or flats attached to shops) are not included.
(c) Components do not total 100% because other renters (paying rent to the manager of a caravan park, an employer, a housing cooperative, or a church or community group), as well as other types of tenure (rent free and others), are not included.
(d) State and Territory data refer to capital cities only.
(e) The 14th series CPI, introduced in September 2000, combined privately-owned and government-owned dwelling rents from the 13th series.

Reference periods: Data are for year ended 30 June. Data for average loan size of first home buyers are at June 30.

Housing definitions and references

Affordability index
the ratio of average household income to the average income needed to meet the repayments for an average established dwelling purchased by a first home buyer. A value of 100 indicates that a household with average income would meet the average income requirements to service the average mortgage. An increase in the index represents an improvement in affordability.
Reference: Commonwealth Bank of Australia and the Housing Industry Association, *Housing Report.*

Affordability problems
proportion of households in the bottom 40% of the income distribution with housing costs above 30% of their disposable income. The income distribution ranks households into equivalised income groups to take account of the different size and composition of households and thus their different income needs. Housing costs — including rent, mortgage and rate payments — are calculated as a proportion of the household's unequivalised disposable income. For more information, see *Measuring Australia's Progress* (ABS. Cat. no. 1370.0).
Reference: *Surveys of Income and Housing Costs, Australia*. (ABS Cat. no. 6553.0).

Alterations and additions
all approved structural and non-structural changes which are integral to the functional and structural design of the dwelling, e.g. garages, carports, pergolas, reroofing, recladding etc., but excluding swimming pools, ongoing repairs, landscaping, and maintenance and home improvements not involving building work.
Reference: *Housing Finance for Owner Occupation, Australia* (ABS Cat. no. 5609.0).

Applicants accommodated
the number of public rental applicants (households) accommodated in a year.
Reference: Department of Family and Community Services, *Housing Assistance Act 1996 Annual Report*. For data after 1998 Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP) 2002, *Report on Government Services 2002,* Ausinfo, Canberra.

Applicants on housing waiting lists
the number of applicants (households) waiting for public rental accommodation on 30 June.
Reference: Department of Family and Community Services, *Housing Assistance Act 1996 Annual Report*. For data after 1998, SCRCSSP.

Average number of bedrooms per dwelling
the average number of bedrooms in occupied private dwellings.
Reference: Income and Housing Surveys; 1991 Census of Population and Housing; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Average number of persons per household
the average number of usual residents in occupied private dwellings.
Reference: Income and Housing Surveys; 1991 Census of Population and Housing; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Average weekly earnings index
the total weekly ordinary time (before tax) earnings of full-time adult employees divided by the total number of full-time adult employees and expressed as an index, with base year 1989–90=100.
Reference: *Average Weekly Earnings, States and Australia* (ABS Cat. no. 6302.0).

Canadian National Occupancy Standard
measures the bedroom requirements of a household by specifying that: there should be no more than 2 people per bedroom; children 5 years and over of opposite sex should not share a bedroom; and household members 18 years and over should have a separate bedroom, as should parents or couples.
Reference: *Australian Housing Survey.* (ABS Cat. no. 4182.0).

Established house price index
the price of detached residential dwellings on their own block of land, regardless of age (i.e. including new houses sold as a house/land package as well as established houses) expressed as an index, with base year 1989–90=100. Price changes therefore relate to changes in the total price of dwelling and land.
Reference: *House Price Indexes: Eight Capital Cities* (ABS Cat. no. 6416.0).

Finance commitments
firm offers to provide finance for owner-occupation or alterations and additions which have been, or are normally expected to be, accepted. Commitments to provide housing finance to employees and commitments accepted and cancelled in the same month are included. Owner-occupied dwellings being purchased can be either established (completed for more than 12 months or previously occupied) or new (completed for less than 12 months with the borrower being the first occupant).
Reference: *Housing Finance for Owner Occupation, Australia* (ABS Cat. no. 5609.0).

First home buyers: average loan size
first home buyers are persons entering the home ownership market for the first time. Their average loan is calculated by dividing the total value of lending commitments per month by the total number of dwellings financed per month.
Reference: *Housing Finance for Owner Occupation, Australia* (ABS Cat. no. 5609.0).

Flat, unit or apartment
Includes all self-contained dwellings in blocks of flats, units or apartments. These dwellings do not have their own private grounds and usually share a common entrance foyer or stairwell. This category includes houses converted into flats and flats attached to houses such as granny flats. A house with a granny flat attached is regarded as a separate house.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Household
a person living alone or a group of related or unrelated people who usually reside and eat together.

Households with insufficient bedrooms
households living in dwellings that do not have enough bedrooms to meet the requirements of community standards. See Canadian National Occupancy Standard.
Reference: Household Expenditure Survey.

Households with two or more spare bedrooms
households living in dwellings that have two or more bedrooms that are unoccupied or that are used for other purposes. See Canadian National Occupancy Standard.
Reference: Household Expenditure Survey.

Housing interest rate
the financial year annual average of the interest rate applicable on the last working day of each month to standard variable rate loans for owner-occupation extended by large bank housing lenders. It is the predominant or representative rate of major banks, although some banks may quote higher or lower rates.
Reference: *Reserve Bank of Australia, Bulletin*.

Housing definitions and references continued

Materials used in house building price index
prices of selected materials used in the construction of dwellings expressed as an index, with base year 1989–90=100. Data for national total are a weighted average of the six state capital cities.
Reference: *Price Index of Materials Used in House Building, Six State Capital Cities* (ABS Cat. no. 6408.0).

Mean weekly public/private rent
the average weekly rent paid by renters of public/private dwellings.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Occupied private dwellings
the premises occupied by a household. For population estimation purposes, the total number of occupied private dwellings is treated as being equal to the total number of households of the usually resident population.
Reference: *Australian Demographic Statistics* (ABS Cat. no. 3101.0).

Owner with a mortgage
a household where the reference person or partner owes an amount on a mortgage or loan secured against the dwelling. Includes persons who have an outstanding mortgage amount but who are not making any payments. Prior to 1995 known as 'being purchased', and excluded dwellings with mortgages for alteration/addition or other purposes.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Owner without a mortgage
a household where the reference person or partner does not owe any amount on a mortgage or loan secured against the dwelling. Includes persons who have repaid a mortgage or loan but have not formally discharged the associated mortgage. Prior to 1995 known as 'owned', and included dwellings whose only mortgage was for alteration/addition or other purposes.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Persons receiving private rental assistance
persons on low incomes who pay rent or similar payments for private accommodation and receive a rental assistance payment from the government. Rental assistance may be payable to pensioners without children, families receiving above the minimum family payment and people already receiving a government allowance or benefit.
Reference: Survey data from Centrelink.

Private/public sector dwellings completed
when building activity has progressed to the stage where the building can fulfil its intended function. The ABS regards buildings as completed when notified as such by the respondents (builders) to the survey.
Reference: *Building Activity, Australia* (ABS Cat. no. 8752.0).

Private landlord renter
a household paying rent to a landlord who is: a real estate agent; a parent or other relative not in the same household; or another person not in the same household, to reside in the dwelling.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Project home price index
the price of dwellings available for construction on a client's block of land expressed as an index, with base year 1989–90=100. Price changes therefore relate only to the price of the dwelling (excluding land).
Reference: *House Price Indexes: Eight Capital Cities* (ABS Cat. no. 6416.0).

Public sector dwelling stock
those rental dwellings held by State and Territory housing authorities.
Reference: Department of Family and Community Services, *Housing Assistance Act 1996 Annual Report*. For data after 1998 Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP) 2002, *Report on Government Services 2002,* Ausinfo, Canberra.

Rental cost index
the average rent paid by private households for privately and government owned rental properties, expressed as an index, with base year 1989–90=100.
Reference: *Consumer Price Index, Australia* (ABS Cat.no. 6401.0).

Semi-detached/row or terrace house/townhouse
occupied private dwellings with their own private grounds and no dwelling above or below. A key feature is that they are attached in some structural way to one or more dwellings, or separated from neighbouring dwellings by less than half a metre.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Separate house
occupied private dwellings which are self-contained and separated from other structures by a space of at least half a metre to allow access on all sides. Includes houses with an attached flat.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

State housing authority renter
a household paying rent to a State or Territory housing authority or trust to reside in the dwelling.
Reference: Income and Housing Surveys; 1992 Family Survey; 1999 Australian Housing Survey; and Surveys of Income and Housing Costs.

Home renovation

In 1999, 58% of owner occupiers stated that renovations had been carried out on their current dwelling in the previous 10 years.

Renovations are a way of achieving desired housing outcomes without moving. People may choose to renovate (rather than move) because they like their house or location, because it is cheaper than moving or to add value to their home.[1,2] In addition, upgrading older housing stock after purchase may be a way of entering the housing market in more expensive, established areas. In the last two decades of the 20th century, renovating — whether adding or changing a feature, restoring or extending the house — made an increasingly important contribution to the building industry, which suggests a growing trend towards home renovation.[3]

In 1999, 58% of owner occupiers stated that some renovations had been carried out on their current dwelling in the previous 10 years (a total of 2.9 million dwellings), while 27% stated that renovations had been carried out on the dwelling in the previous two years (1.3 million dwellings). The relatively high proportion of dwellings renovated in the previous two years reflects in part the beginning of a boom in the building industry prior to the introduction of the GST in July 2000.[4] It may also reflect an increase in the popularity of renovating, the likelihood for an individual dwelling to undergo multiple renovations over time, or people's lower awareness or recollection of renovations which have occurred over a longer period.

This article is restricted to owner occupiers. While renovations are conducted on the dwellings of renter households, they were less common (29% of renter households reported that they lived in renovated dwellings, compared with 58% of owner occupiers). Because they tend to be carried out and paid for by the property owner, the current tenants are less likely to be aware of the costs or nature of renovations carried out either prior to or during their tenancy.

Households in renovated dwellings(a) — 1999

Selected characteristics	*Households in renovated dwellings* '000	*As a proportion of all households with selected characteristic* %
Tenure type		
Owner		
With a mortgage	1 476.1	65.4
Without a mortgage	1 465.9	52.3
Household composition		
Couple only	786.7	56.6
Couple with children	1 314.8	67.6
Lone parent	179.1	59.2
Lone person	488.5	44.8
Income quintile		
Lowest two quintiles	827.8	46.5
Highest two quintiles	1 557.1	65.2
Period of residence		
10 years or less	1 683.0	60.1
More than 10 years	1 259.1	55.9
All households	**2 942.0**	**58.2**

(a) Owner-occupied dwellings renovated in the 10 years to 1999.

Source: ABS 1999 Australian Housing Survey.

Renovating by owner occupiers

The main source of data for this article is the ABS 1999 Australian Housing Survey (AHS) conducted between September and December 1999, which collected information on renovations carried out on residential dwellings in the previous two and 10 years, as well as other household and dwelling characteristics (see *Australian Housing Survey: Housing Characteristics, Costs and Conditions, 1999*, ABS Cat. no. 4182.0).

Renovations include alterations and additions, but exclude repairs and maintenance to the dwelling (see *Australian Social Trends 2002*, Housing condition and maintenance, pp. 199–202). This article refers to renovations which were carried out (to the knowledge of the current residents) in the two years preceding the survey (1997–99) and the 10 years preceding the survey (1989–99). These renovations may or may not have been carried out by the current residents.

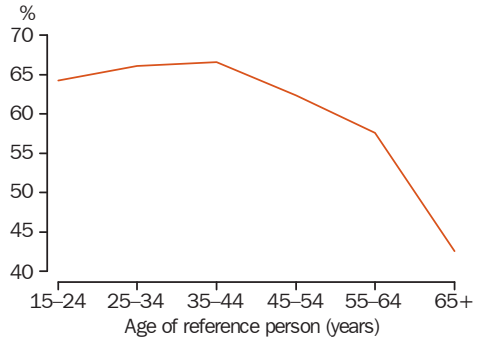
This article is restricted to *owner occupiers* — households whose dwelling was owned by one or more resident, either with or without a mortgage.

Renovated dwellings (homes) are owner-occupied dwellings which in 1999 had, to the owner's knowledge, undergone some type of renovation(s) in the previous 10 years.

The reference person for each household is chosen using the following criteria, in order of precedence:

- the person with the highest tenure type ranked in order of owner without a mortgage, owner with a mortgage, renter and other tenure;
- the person with the highest income; and
- the eldest person.

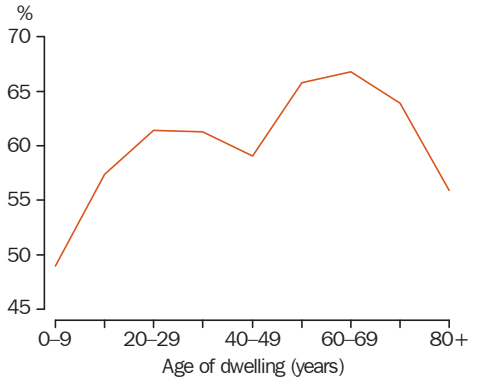
Age of reference person in renovated dwellings(a) — 1999



(a) Owner-occupied dwellings renovated in the 10 years to 1999.

Source: ABS 1999 Australian Housing Survey.

Age of renovated dwellings(a) — 1999



(a) Owner-occupied dwellings renovated in the 10 years to 1999.

Source: ABS 1999 Australian Housing Survey.

People living in renovated homes

In 1999, 62% of family households (compared with 50% of non-family households) lived in dwellings which had undergone some type of renovation in the previous 10 years. Of all family households, couples with children were most likely to live in a renovated home (67%).

Higher income households were more likely to live in renovated dwellings than lower income households (65% of households in the top two income quintiles, compared with 47% in the lowest two). This is consistent with higher income households being more able to afford either renovations or the purchase of recently renovated (and therefore more expensive) dwellings.

In 1999, approximately 63% of all households where the reference person was of workforce age (15–64 years) lived in a dwelling which had been renovated in the last 10 years. Households with a reference person aged 25–44 years were the most likely to live in a renovated dwelling (66%), while those with a reference person aged 65 years or over (retirement age) were the least likely to live in a renovated dwelling (43%). The higher propensity for households with a reference person of workforce age to live in a renovated dwelling in 1999 is linked with the higher incomes of households living in renovated dwellings, as household income is usually highest when its members are employed.

Many owners buy a house with the intention of making changes.[1] In keeping with this, most home owners renovated their homes within a relatively short period of acquiring them. Alternatively, many owners purchase a recently renovated dwelling, usually to either obtain an up-to-date older home or reflecting sellers' marketing strategies of renovating their home before selling it to increase the sale price. In 1999, dwellings which had been occupied by the current owners for up to 10 years were somewhat more likely to have been renovated in the previous decade than those which had been occupied by the current owners for more than 10 years (60% and 56% respectively).

People who participated in home renovations often put considerable time into this activity. In all tenure types in 1997, the 2% of men who participated in home renovating spent an average of almost 3 hours per day on renovations, while the 1% of women who participated in home renovating spent 1 hour and 40 minutes per day on renovating their home.[5] This reflects the fact that many renovations are not undertaken by residents of the dwelling.

Renovated dwellings(a) — 1999

	Households in renovated dwellings	*As a proportion of all households with selected characteristic*
Selected characteristics	'000	%
Dwelling structure		
Separate house	2 697.6	59.4
Semidetached	142.9	51.9
Flat	88.8	40.1
Age of dwelling		
20 years and over	1 906.2	61.0
50–79 years	411.1	65.6
80 years and over	259.6	55.9
All households	**2 942.0**	**58.2**

(a) Owner-occupied dwellings renovated in the 10 years to 1999.

Source: ABS 1999 Australian Housing Survey.

Types of renovations carried out(a) — 1999

Type of renovation	Households in renovated dwellings '000	As a proportion of all households in renovated dwellings %
Kitchen	1 133.4	38.5
Bathroom	969.7	33.0
Other internal renovations	1 012.4	34.4
Dwelling extension	396.0	13.5
Swimming pool	241.5	8.2
Security doors/screens etc.	845.6	28.7
Pergola/deck/verandah/patio	1 082.6	36.8
Carport/garage	606.2	20.6
Other external renovations	616.8	21.0
All households(b)	**2 942.0**	**100.0**

(a) On owner-occupied dwellings in the 10 years to 1999.
(b) More than one answer is possible and therefore components do not add to total.

Source: ABS 1999 Australian Housing Survey.

Renovated dwellings

In 1999, separate houses were the most likely of all dwelling types to have undergone renovations (59%, compared with 52% of semidetached houses and 40% of flats) during the previous decade. Renovations were also more likely to have been carried out on older dwellings, with 61% of dwellings aged 20 years and over having been renovated in the previous decade, compared with 49% of those aged less than 10 years. Renovations (especially kitchens, bathrooms and extensions) are often carried out on older homes to upgrade amenities (see *Australian Social Trends 2001,* Household amenities, pp. 182–185) and to meet the lifestyle and needs of the current owners.[1] Additionally, they may reflect the design, tastes and innovations incorporated into newer homes.

With the exception of very old houses, the older a house is, the more likely it is to be renovated. In 1999, 66% of dwellings built between 1920 and 1949 had been renovated over the 10 year period to 1999. In addition to older homes being more likely to need renovating than newer ones, some home owners may be willing to purchase an older dwelling which is in need of renovation.[1]

In 1999, Australian households indicated that almost 7 million renovations had been carried out on the dwellings of 2.9 million households in the previous decade. This meant that, on average, renovated dwellings had undergone two or more types of renovations over the period. This is consistent with older dwellings being in need of overall upgrading, hence requiring more than one type of renovation.

Types of renovations

In 1999, 2.9 million households' dwellings had been renovated at least once during the previous decade. The most common types of renovations carried out over this period were kitchen upgrades (1.1 million), pergolas or similar constructions (1.1 million) and bathroom upgrades (almost 1 million). A further 1 million dwellings had undergone other internal renovations.

Kitchen and bathroom renovations are likely to be common because these are high-utility areas which suffer from wear and tear, and tend to date (such renovations were most often carried out on older dwellings). While many rooms can be changed or updated with furniture or a different coat of paint, kitchens and bathrooms are more likely to require the removal and replacement of old fixtures, and may involve tiling, plumbing and new appliances.[2]

Pergolas and similar constructions are likely to be common renovations because they enhance the possibilities for outdoor living and some provide shade around the house to help with insulation. The addition of security doors or screens to 846,000 dwellings in the decade to 1999 may indicate an increased concern about household security and is in keeping with the promotion of home security in the form of lower insurance premiums.

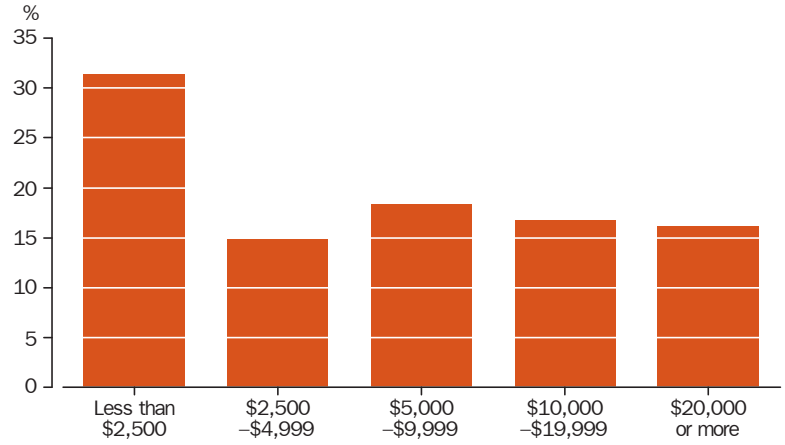
Renovation costs and financing

The increasing contribution made by renovations to the building industry has led to an expectation that expenditure on home renovations may exceed expenditure on new dwellings by 2002.[3] In the year to June 2001, Australians spent $14,321 million on alterations and additions (renovations) to residential dwellings.[6] During the same period, new finance commitments for home renovations totalled $3,109 million.[7]

The 1998–99 Household Expenditure Survey shows an average weekly expenditure of $36 by owner occupier households on housing renovations. This represented approximately 5% of their total expenditure on goods and services.[8]

The 1999 Australian Housing Survey asked owner-occupier households about their expenditure on home renovations in the previous two years. On average, households which had renovated their current dwelling and incurred associated costs had spent $12,100 on renovations during that period. This average expenditure was double the average cost of renovations ($5,800) and is in keeping with many dwellings undergoing more than one renovation.

Cost of renovations in previous 2 years(a) — 1999



(a) For owner-occupier households whose dwelling had been renovated in the previous 2 years.

Source: Housing Characteristics, Costs and Conditions, Australia, 1999 (ABS Cat. no. 4182.0).

In 1999, households in the upper income quintiles spent more on their renovations than those in the lower quintiles (averages of $19,100 and $5,800 respectively). While almost a third (31%) of all households who had renovated had spent under $2,500 on these activities, one-third (33%) had spent over $10,000 on their renovations, including 16% who had spent over $20,000.

Renovations which cost the most were dwelling extensions, with households undertaking these renovations spending an average of $30,000 on extensions in the previous two years. Three-quarters of those who had extended their dwelling had spent over $20,000. Renovations such as adding security doors and screens were the cheapest, at an average of $1,200.

Income quintiles

Income quintiles are formed by ranking all households in ascending order by income, then dividing them into five groups (or quintiles), each containing 20% of households.

Of households whose dwelling had been renovated in the previous 10 years, 4% had a loan for which the main purpose was the renovation of their current home. A further 2% had refinanced their mortgage in the previous three years in order to renovate their home (this refers only to new loan agreements and excludes those who make use of the equity in their home or a redraw facility to add to their loan). These figures increased to 6% and 4% respectively for those who had renovated in the previous two years. It should be noted that this includes only those who either took out a loan or refinanced specifically for the purpose of renovating their family home.

Endnotes

1 Baum, S. and Hassan, R. 1999, 'Home owners, home renovation and residential mobility', *Journal of Sociology*, vol. 35, no. 1, pp. 23–41.

2 Archicentre Ltd 2001, *Australian Renovation Trends 2001–2002*, Archicentre Ltd (a division of the Royal Australian institute of Architects).

3 BIS Shrapnel, <URL:http://www.bis.com.au/bc3> (accessed 24 January 2002).

4 Australian Bureau of Statistics 2000, *Building Activity, June quarter 2000*, Cat. no. 8752.0, ABS, Canberra.

5 Australian Bureau of Statistics 1997, *How Australians Use Their Time,* Cat. no. 4153.0, ABS, Canberra.

6 Australian Bureau of Statistics 2001, *Australian National Accounts: National Income, Expenditure and Product, December Quarter 2001,* Cat. no. 5206.0, ABS, Canberra.

7 Australian Bureau of Statistics 2001, *Housing Finance, July 2001,* Cat. no. 5609.0, ABS, Canberra.

8 Australian Bureau of Statistics, 1998–99 Household Expenditure Survey.

Renter households

HOUSING ARRANGEMENTS

In 1999, a quarter of all Australian households rented their home. The majority of renter households were renting from a private landlord.

Renting, especially privately, is sometimes viewed as a transitory phase between leaving the parental home and purchasing one's own. Many renters aspire to home ownership because it can provide greater security of tenure, improved lifestyle and an investment for the future.[1] Despite this, the rental sector grew at a faster rate than home ownership between 1986 and 1996.[2]

Young people are now likely to start their housing career later in life and to remain renting for a longer period than in the past.[3] This can be attributed to factors such as the delay in family formation as well as longer periods spent studying, compulsory Higher Education Contribution Scheme (HECS) repayments, increased superannuation payments and reduced job stability, all of which result in lower incomes and a reduced ability to save towards a home deposit.[1]

There has been a decline in the affordability of home purchase in recent decades.[4] Associated with this is an increased reliance on dual incomes to afford home purchase, at a time when lone-person and lone-parent households (which are characterised by single incomes) are becoming more common. Government policy encourages home ownership through, for example, grants and tax benefits, but also provides rental assistance for those in need. While 5% of households rent from State housing authorities, increasingly rental assistance is provided in the form of income support rather than provision of government (State housing authority) housing.[4]

In addition, a small but increasing proportion of people rent through choice. Some influencing factors include a shift to reliance on superannuation, rather than one's home, as the main source of investment for retirement, and increased job mobility.[1]

Housing and tenure type

Data in this article come from the 1999 ABS Australian Housing Survey.

Private renter households are those which pay rent to a private landlord (who is either a real estate agent or another person not in the same dwelling).

State housing authority renter households are those which pay rent to the government housing authority in their State or Territory.

Other renter households are those which pay rent to the owner or manager of a caravan park; their employer, a housing co-op, community or church group; or another landlord not included elsewhere.

The reference person for each household is chosen by using the following criteria, in order of precedence:

- the person with the highest tenure type ranked by renter then other tenure; then
- the person with the highest income; and
- the eldest person.

Tenure and landlord types — 1999

	All households	
	'000	%
Tenure type		
Owner(a)	5 056.4	70.1
Renter	1 966.6	27.2
Other	193.9	2.7
All households	**7 216.9**	**100.0**
Landlord type(b)		
Private	1 463.2	74.4
State housing authority	368.8	18.8
Other	134.6	6.8
All renter households	**1 966.6**	**100.0**

(a) Includes owners with and without a mortgage.
(b) Includes renter households only.

Source: Australian Housing Survey: Housing Characteristics, Costs and Conditions, 1999 (ABS Cat. no. 4182.0).

Renter households

There were nearly 2.0 million renter households in Australia in 1999, representing a quarter of all households. This article focusses on private renter households (almost 1.5 million) and those renting from a State housing authority (369,000) which together account for 93% of all renter households. The remaining 7% (134,600 households) include those renting from other landlords.

Private renter households represented 20% of all households and 74% of all renter households in 1999. In the same year, those renting from State housing authorities represented 5% of all households and 19% of renter households. In recent decades, households renting privately have represented a slowly increasing proportion of all households, while the proportion of State housing authority renters has remained relatively stable.

Age

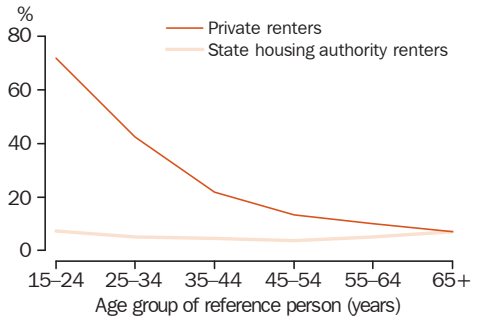
Households where the reference person was aged under 35 years made up over half of all private renter households in 1999. Just over 70% of households with a reference person aged 15–24 years rented privately. This dropped to 22% of households with a reference person aged 35–44 years, and 7% of those where the reference person was aged 65 years or over. The age profile of private renters supports the notion that renting is often a transitory phase. In contrast, similar proportions (between 4% and 7%) of all age groups rented from a State housing authority.

Renting through life-cycle stages

The age of a household's reference person is generally linked to its life-cycle stage. As households progress through the life cycle, their composition and the needs of their members change. Their financial situations also tend to vary with these changes, as do their tenure types (see *Australian Social Trends 2001*, Housing experience through life-cycle stages, pp. 177–181).

As with households which had young reference persons, those in the early life-cycle stages were the most likely to be renting privately. Group households were the most likely to be renters, with 68% renting from a private landlord. Over half of all young (under 35 years) lone-person households also rented privately. The high proportion of renters for these life-cycle groups reflects other characteristics of these households, such as their below-average incomes and the higher proportion of household members who are studying. In contrast, few young lone-person (2%) or group households (5%) rented from a State housing authority.

Age of reference person in renter households(a) — 1999



(a) As a proportion of all households in this age group.

Source: ABS 1999 Australian Housing Survey.

The next stages in the life cycle are linked with the formation and growth of families. Associated with this is a decrease in the proportion who rent privately, as home ownership increases. Young couple-only households were more likely than couple households with small children to rent privately (41% and 25% respectively). However, couples with children aged 15–24 years were unlikely to be renting privately (9%). As with the earlier life-cycle stages, a small proportion of each group rented from a State housing authority.

Lone-parent households tend not to follow the general pattern of progressing through renting to home ownership, because of their reduced incomes, as frequently they have been disrupted by the breakdown of a marriage and the division of household assets. The 22% of lone parents who rented from a State housing authority was higher than for any other group. In addition, a high proportion (38%) were private renters.

Couple households in the later life-cycle stages were the most likely to have purchased their own home and so were less likely to be renting. Older couple-only households were the least likely to be renting privately (3%) while older lone-person households were somewhat more likely (7%). Older lone-person households were also the second most likely (after lone-parent households) to rent from a State housing authority (10%), reflecting their lower (single) incomes.

Renter households and life cycle — 1999

	Landlord type	
	Private	*State housing authority*
Selected life-cycle groups	%(a)	%(a)
Group households	68.1	2.1
Lone person under 35 years	52.3	4.9
Couple only, reference person under 35 years	41.0	0.7
Couple with eldest child under 5 years	25.3	1.5
Couple with dependent children only, eldest child 15–24 years(b)	8.7	1.5
Lone parent with dependent children	37.5	21.6
Couple only, reference person 65 years or over	3.2	3.3
Lone person 65 years or over	7.1	10.0
All households(c)	**20.3**	**5.1**

(a) As a proportion of all households in this life-cycle group.
(b) Dependent children are aged under 15 years or full-time students aged 15 to 24 years.
(c) Includes life-cycle groups not defined above.

Source: ABS 1999 Australian Housing Survey.

Income and renting costs

The amount of rent a household pays generally increases with income. On average, privately renting households paid more than

those renting from a State housing authority. However, renter households spent a similar proportion of their income on rent regardless of landlord type (on average, about 19%).

Households renting from a State housing authority spent an average of $66 per week on rent, or 18% of their total income. They were more likely to be in the lower income quintiles, in keeping with the eligibility requirements for housing assistance.

Private renters were more evenly spread across the income quintiles, with a slight concentration around the middle quintiles. Their average weekly rent increased from $125 for households in the lowest income quintile to $240 for those in the highest. While rent payments increased with income, the proportion of income spent on rent decreased, with 64% for those in the lowest income quintile and 11% for those in the highest income quintile. The lower costs for households in the lower quintiles are related to their renting at the lower end of the rental market. For the one-third of private renters who received rental assistance, this does much to balance the differences in the proportion of income spent on housing costs.

The comparatively high proportion of income spent on rent by low income households can pose affordability problems. Those in the lowest two income quintiles who spent more than 30% of their income on rent can be said to be suffering from housing-related income stress (see *Australian Social Trends 2000,* Housing costs, pp. 171–174). In 1999, 28% of private renters (or 68% of those in the lowest two quintiles) and 8% of State housing authority renters were in this group.

Renter households and income quintiles — 1999

	Mean weekly rent	*Rent as a proportion of income*	*Number of households*
	$	%	'000
Private renter households			
Income quintiles(a)			
Lowest	125	64.4	248.5
Second	143	32.0	345.7
Third	156	20.2	373.8
Fourth	175	14.7	284.6
Highest	240	11.3	210.6
All private renter households	**163**	**18.7**	**1 463.2**
All State housing authority renter households	**66**	**18.4**	**368.8**

(a) Income quintiles are formed by ranking all households in ascending order by level of income, then dividing them into five groups, each containing 20% of the population.

Source: Australian Housing Survey: Housing Characteristics, Costs and Conditions, 1999 (ABS Cat. no. 4182.0).

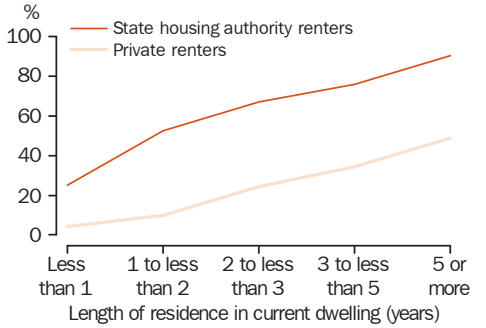
The likelihood of a change to rent payments since a household first occupied its current dwelling increased with their length of residence. In 1999, privately renting households were less likely than those renting from a State housing authority to have experienced a change in rent since they occupied their current dwelling. This is partly due to the shorter period of residence of private renter households. Rent payments had changed for 16% of private renters and 72% of State housing authority renters. Most of these changes were increases. The most common reasons identified for changes to private renters' payments were a new lease (17%) or a tight rental market (11%). In contrast, for State housing authority renters it was a change in income (68%) as their rents are regularly adjusted according to their income (hence the greater overall propensity for their rent to change).[4]

Rental arrangements and changes

Renters, especially those renting from a private landlord, tend to be more mobile than owners. Further, renting privately is also closely linked with younger people, who are themselves experiencing many changes, such as completing study, finding employment and forming partnerships. On the other hand, households renting from a State housing authority are less likely to contain young adults, are less mobile and, once in a dwelling, are unlikely to move unless they move out of government housing. In 1999, 717,000 households who had at some stage rented from a State housing authority, were currently living in other tenures.

Nearly half of private renter households had a fixed term lease and one-quarter had a month-by-month lease. In comparison, 83% of households renting from a State

Renter households whose rent had changed(a) — 1999



(a) Since members first occupied their current dwelling.

Source: ABS 1999 Australian Housing Survey.

Characteristics of renter households — 1999

	Landlord type	
	Private	State housing authority
	%	%
Had a fixed-term lease	47.6	5.9
Had a month-by-month lease	25.1	6.6
Had indefinite tenure	22.5	82.6
Satisfied with security of tenure	86.0	94.4
Satisfied with service provided by landlord	76.0	72.0
Change to household composition in previous year	33.6	14.5
Had lived in current dwelling for less than 1 year	47.7	15.9
Had lived in current dwelling for 5 years or more	12.4	51.7
Tenure of previous dwelling same as current dwelling	59.4	35.8
Owned another residential dwelling	11.0	**

Source: ABS 1999 Australian Housing Survey.

housing authority had indefinite tenure. In keeping with this, a higher proportion of State housing authority renters were satisfied with their security of tenure (94% compared with 86% of private renters). However, they were slightly less likely to be satisfied with the service provided by their landlord (72% compared with 76%).

In 1999, almost half of private renter households had lived in their current dwelling for less than one year and 88% had moved in the previous five years. They were also more likely than State housing authority renters to have experienced changes to the composition of their household in the previous year (34% compared with 15%). The higher propensity for change is associated with the high proportions of private renters who are in the early life-cycle stages and living in group households, both of which are characterised by change (see *Australian Social Trends 2002*, Transitions in living arrangements, pp. 52–56).

In keeping with the high proportion of households renting from a State housing authority who had indefinite tenure, in 1999 52% had lived in their current dwelling for more than five years, with just 16% having been there for less than one year. Households renting from a State housing authority were more likely to have had the same household composition over the last year (86%) than private renter households (66%).

Of private renters who had moved in the past eight years, over half had rented their previous dwelling privately, while a smaller proportion had owned their previous dwelling. Of those currently renting from a State housing authority who had moved in the past eight years, 36% had remained in government housing, while a slightly larger group (37%) had rented their previous dwelling privately .

There is a relatively small group of private renters who have made a decision to rent, for lifestyle, financial or other reasons. The fact that in 1999, 11% of private renters owned a residential dwelling other than their current home, supports this notion.

Geography

There was some variation between the States and Territories in the proportion of households who rented in 1999. Victoria had the lowest proportion of renters (22%), while the two Territories had the highest proportions – 50% in the Northern Territory and 31% in the Australian Capital Territory. Australia-wide, similar proportions of capital city and balance of State residents were renters (28% and 26% respectively).

Distribution of renters — 1999

	%	'000
State/Territory		
New South Wales	28.3	684.2
Victoria	22.4	394.0
Queensland	29.8	399.2
South Australia	27.6	169.8
Western Australia	28.6	206.4
Tasmania	26.2	49.4
Australian Capital Territory	30.5	36.9
Northern Territory	50.4	26.7
Area		
Capital city	27.7	1 269.4
Balance of State	26.5	697.2
Australia	**27.3**	**1 966.6**

Source: ABS 1999 Australian Housing Survey.

Endnotes

1 Baum, S. and Wulff, M. 2001, *Housing aspirations of Australian households: Positioning paper*, Australian Housing and Urban Research Institute.

2 Australian Institute of Health and Welfare 2001, *Australia's Welfare 2001*, AIHW, Canberra.

3 Committee for Economic Development of Australia 2001, *Future Directions in Australian Social Policy*, Committee for Economic Development of Australia.

4 Wulff, M. 2000, 'Changing families, changing households: Australian housing assistance policy', in *Reshaping Australian Social Policy: Changes in Work, Welfare and Families*, Committee for Economic Development of Australia.

Housing condition and maintenance

HOUSING STOCK

In 1999, over half (57%) of all occupied dwellings in Australia were reported to be in need of some repairs, with 2% in need of essential and urgent repairs.

A dwelling's physical condition can affect the wellbeing of its occupants. Major structural problems such as cracks in walls and floors, sinking or moving foundations, rising damp and electrical or plumbing faults can reduce the amenity of a dwelling and may present health or safety risks to occupants. Even the need for repainting or minor repairs, like replacing tap washers, can impair the comfort and enjoyment of occupants if not carried out reasonably promptly. If, over time, more serious problems are not addressed through repairs and maintenance, the condition of a dwelling may deteriorate, leaving households living in poor condition housing.

Repairs and maintenance

In 1999, over half (57%) of all occupied dwellings in Australia were reported to be in need of repairs. In all, 45% of dwellings needed external repairs. A similar proportion (44%) needed internal repairs, while almost a third (31%) of all occupied dwellings needed both internal and external repairs. Of all householders, 41% rated the need for repairs on their dwelling as low, 19% reported a moderate need, 6% reported a need for essential repairs and 2% reported a need for essential and urgent repairs.

Australian Housing Survey

This article draws on data from the ABS Australian Housing Survey, most recently conducted between September and December 1999. The survey collected information from persons in private dwellings throughout Australia and covered a range of housing related topics including major structural problems, need for repairs, and the types and cost of repairs undertaken in the previous 12 months. Data on the need for repairs and major structural problems were based on respondent perception.

Repairs or maintenance involve any work undertaken with the purpose of either preventing deterioration or repairing something to its original condition or functionality. They exclude work carried out as part of alterations or additions. Repairs or maintenance comprise:

- *external repairs* which are repairs to the outside structure of the dwelling (e.g. roof, tiles, external window frames) and other external structures such as fences; and
- *internal repairs* which are repairs to the internal structure of the dwelling (e.g. floors, walls, plumbing and electrical fixtures) excluding repairs to internal amenities such as cupboards or built-in robes.

Major structural problems are those which relate to the main physical structure of the dwelling such as the walls, floors, foundations, roof, electrical wiring and plumbing.

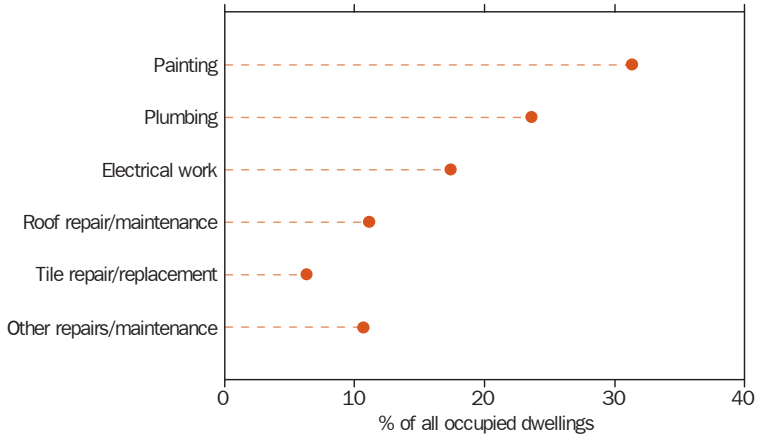
Condition and maintenance of dwellings — 1999

	Number of dwellings '000	*Proportion of all occupied dwellings* %
Need for repairs		
Both external and internal	2 259.5	31.3
External only	956.7	13.3
Internal only	879.8	12.2
Total in need of repairs	*4 096.0*	*56.8*
Need for repairs		
Desirable but low need	2 964.8	41.1
Moderate need	1 382.3	19.2
Essential need	425.5	5.9
Essential and urgent need	141.7	2.0
Total in need of repairs(a)	*4 096.0*	*56.8*
Repairs or maintenance undertaken in the previous year	4 004.7	55.5
With major structural problems	1 369.3	19.0

(a) Components do not add to totals because some dwellings in need of both external and internal repairs are counted in two different categories.

Source: ABS 1999 Australian Housing Survey.

Types of repairs or maintenance undertaken in previous year — 1999



Source: Australian Housing Survey: Housing Characteristics, Costs and Conditions (ABS Cat. no. 4182.0).

Over half (56%) of dwellings in 1999 had received some kind of repairs and/or maintenance work in the previous year. This excluded any work carried out as part of alterations or additions. (For information about alterations and additions, see *Australian Social Trends 2002,* Home renovation, pp. 191–194). Painting, plumbing and electrical work were the most common types of repairs or maintenance work carried out.

Major structural problems

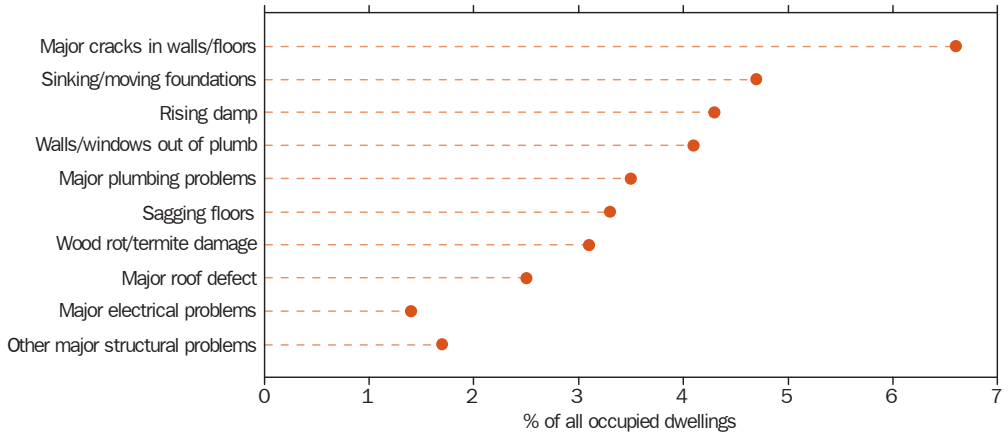
In 1999, 19% of dwellings were reported to have one or more major structural problems, despite only 8% of households reporting their dwelling as being in need of either essential or essential and urgent repairs. However, not all major structural problems need immediate repair or can be repaired. The most common structural problem was major cracks in walls or floors (reported in 7% of all dwellings). Sinking or moving foundations were reported in 5% of dwellings, followed by rising damp, walls or windows out of plumb, and major plumbing problems (around 4% each). The least common type of structural problem was major electrical problems, reported in around 1% of all dwellings.

Age of dwellings

In 1999, 18% of Australia's housing stock was less than 10 years old, and over half (55%) was less than 30 years old. Around 12% of all occupied dwellings were aged 60 years and over. In general, the effects of wear and tear and weathering over time mean that the physical condition of dwellings tends to deteriorate, and the need for repairs to increase, as dwellings age. While older dwellings were more likely than newer dwellings to have had repairs or maintenance carried out in the previous year, and to have had more spent for this purpose, the most common types of repairs or maintenance (i.e. painting, plumbing and electrical work) were the same for all dwellings regardless of age.

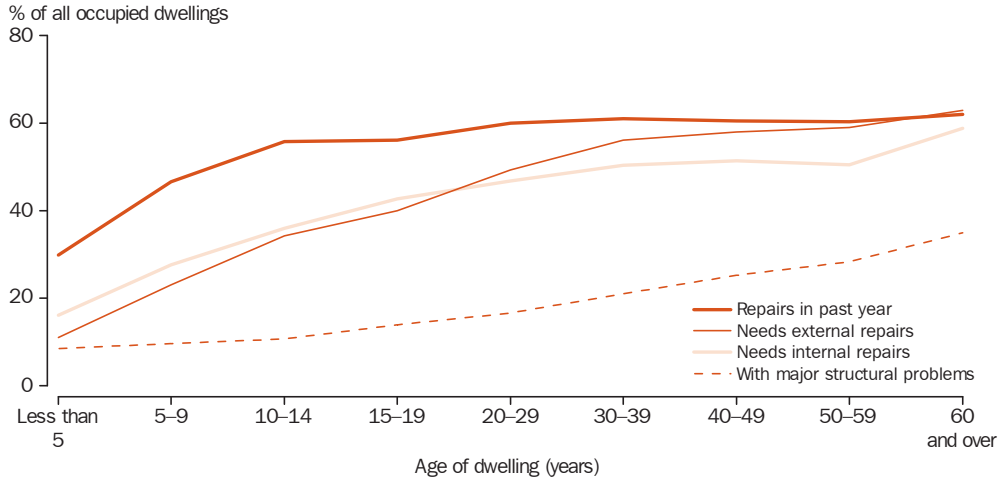
In 1999, fewer than 10% of dwellings aged less than 10 years had major structural problems, compared with almost 30% of dwellings aged 30 years and over. More than a third (35%) of dwellings aged 60 years and over had major structural problems. All types of major structural problems increased with the age of the dwelling and, for the most part, older dwellings had the same types of problems as newer dwellings. For example, major cracks in walls or floors was the most common type of problem in all dwellings regardless of age, and major electrical

Types of major structural problems — 1999



Source: Australian Housing Survey: Housing Characteristics, Costs and Conditions (ABS Cat. no. 4182.0).

Physical condition and age of dwelling — 1999



Source: ABS 1999 Australian Housing Survey.

problems was the least common type of problem in all dwellings except those less than 5 years old.

In 1999, the proportion of dwellings in need of external repairs ranged from 11% of dwellings under 5 years old to 63% of dwellings aged 60 years and over. The proportions of dwellings in need of internal repairs were similar and ranged from 16% of dwellings under 5 years old to 59% of dwellings aged 60 years and over. The proportion of dwellings that had received repairs or maintenance work in the previous year ranged from 30% of dwellings less than 5 years old to around 60% of dwellings aged 20 years and over.

For owner households which had undertaken repairs or maintenance work on their homes in the previous year, the average amount spent for this purpose ranged from $1,070 for those in dwellings less than 5 years old to $3,230 for those in dwellings aged 60 years and over. A comparable figure is not available for renter households, as the bulk of costs associated with repairs and maintenance is incurred by the landlord (and therefore the resident household is unlikely to have knowledge of the amounts spent).

Tenure and income

Renters are more likely than owners to report their dwelling as being in need of repair. In 1999, 64% of renter households indicated their dwelling needed repair, compared with 54% of owner households. Further, the proportion of renter households in dwellings in need of essential or essential and urgent repairs (14% combined) was almost three times that for owner households (5%). Renters were also more likely to report major structural problems than owners (32% compared with 14%).

The proportion of owner households which reported their dwelling as being in need of repair increased slightly with the income of the household (from 49% of households with incomes in the lowest 20% to 55% of those with incomes in the highest 20%). The proportion of renter households which

Housing condition and tenure type — 1999

	Tenure type of household		
	Owner(a)	*Renter*	*Total(b)*
Proportion of occupied dwellings	%	%	%
In need of repairs(c)	53.7	64.1	56.8
In need of essential/essential and urgent repairs(c)	5.0	13.7	7.5
With major structural problems	13.6	32.1	19.0

(a) Comprises owners with or without a mortgage.
(b) Includes rent-free and other tenure arrangements.
(c) External and/or in internal repairs.

Source: ABS 1999 Australian Housing Survey.

Households in dwellings which had repairs or maintenance in previous year: household income and tenure type — 1999

	Gross weekly household income quintiles					
	Lowest	*Second*	*Third*	*Fourth*	*Highest*	*Total*
Tenure type	%	%	%	%	%	%
Owner(a)	*45.4*	*50.7*	*56.5*	*58.0*	*61.9*	*55.1*
Renter	*50.6*	*57.9*	*60.5*	*59.6*	*59.4*	*57.2*
Total(b)	**47.1**	**52.7**	**57.7**	**58.3**	**61.6**	**55.5**

(a) Comprises owners with or without a mortgage.
(b) Includes rent-free and other tenure arrangements.

Source: ABS 1999 Australian Housing Survey.

reported their dwelling as being in need of repair increased from 51% of those whose income was in the lowest 20% to around 60% of those in the higher income groups.

In 1999, the dwellings of renter households were slightly more likely than those of owner households to have undergone some repairs or maintenance in the past 12 months (57% compared with 55%). The likelihood of repairs having been undertaken during this period tended to increase with household income for both renter and owner households, although the tendency was more evident for owners. The proportion of dwellings of owner households which had undergone some repairs or maintenance in the 12 months to 1999 increased from 45% of households with incomes in the lowest 20%, to 62% for those households with incomes in the highest 20%. This is in keeping with high income home owners being more able to afford repairs and maintenance than low income home owners.

Cost of repairs and maintenance

In 1999, 52% of owner households had incurred costs associated with repairs and maintenance in the past 12 months, a similar proportion to those who had undertaken repairs and maintenance (55%). In contrast, less than 6% of renter households reported paying for repairs and maintenance in the past 12 months, even though 57% of them lived in dwellings where repairs or maintenance had been undertaken during the period. This reflects that most costs associated with repairs and maintenance on rental dwellings are paid for by the landlord.

Household income quintiles

Household income quintiles are formed by ranking all households in the population in ascending order by income (in this case gross weekly income), and then dividing them into five groups (or quintiles), each containing 20% of households.

For those owner households which had spent money on repairs and maintenance for their dwelling in the past 12 months, the average amount spent was $1,960. The average amount spent tended to increase with income for owner households. In 1999, households with incomes in the highest 20% spent an average of $2,800 on repairs and maintenance over a 12 month period, compared with an average of $1,350 for owner households with incomes in the lowest 20%.

Owner households(a): expenditure on repairs or maintenance — 1999

Gross weekly household income quintiles	*Average amount spent(b)* $
Lowest	1,348
Second	1,716
Third	1,864
Fourth	1,622
Highest	2,797
Total	**1,959**

(a) Comprises owners with or without a mortgage.
(b) Average amount per household with expenditure on repairs or maintenance in the previous year. Excludes expenditure by someone outside the household.

Source: ABS 1999 Australian Housing Survey.

Energy efficiency in the home

Despite moves to make homes more energy efficient, Australians increased their residential energy consumption from 18 gigajoules per person in 1980 to 20 gigajoules per person in 1999.

A current major environmental issue is the possibility of global climate change due to the increasing level of greenhouse gases in the air. The main cause of this increase is the production of carbon dioxide by the combustion of fossil fuels. In Australia, we obtain nearly all our energy needs from fossil fuels: oil, coal and gas. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) has suggested the following impacts, should global warming prove to be a long-term change — variations to rainfall patterns, an increase in sea level, and changes in the incidence and severity of extreme events such as tropical cyclones and occurrences of the El Niño Southern Oscillation.[1]

Although the proportion of energy directly consumed in the home is relatively small (8% of the energy consumed in Australia in 1998–99), all energy saved helps reduce greenhouse gas emissions. An energy efficient household can make substantial financial savings compared with an energy inefficient household, with the main benefits coming from insulation and solar water heating.[2] In addition to financial savings, insulation and energy efficient design initiatives can also improve the physical comfort of a home. Most households that had installed insulation did so to improve comfort (87%) or reduce energy costs (9%), rather than to save energy (2%).[3]

Despite homes becoming more energy efficient, Australians are using increasing amounts of energy in the home: 20GJ per person in 1999 compared with 18GJ per person in 1980. Current residential energy efficiency measures are projected to only slow the rate at which our residential energy consumption increases.[4] Increasing per capita energy consumption in the home may be related to the trend towards smaller households with larger houses[5] (see *Australian Social Trends 1998*, Smaller households, larger dwellings, pp. 157–159). Another factor may be the increasing standard of material wellbeing enjoyed by most Australians, reflected in the plethora of electrical appliances on shop shelves.

Household energy consumption

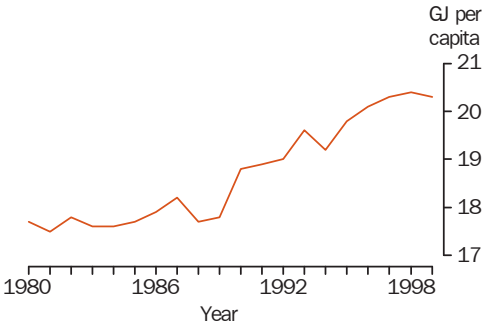
The data in this article are from the ABS publications, *Environmental Issues: People's Views and Practices, March 1999*, and *June 1994* (Cat. no. 4602.0).

This article concentrates on some of the factors and behaviours that influence household energy consumption in Australia. It does not take into account the energy that was used to make the raw materials of the house, its fittings and appliances, nor does it count the energy used in construction.

Residential energy consumption only includes direct consumption of primary (e.g. oil and gas) and secondary (e.g. electricity) energy in the home. It does not include energy consumed indirectly in the manufacture of goods used in the home, nor does it include energy used in transport to and from the home.

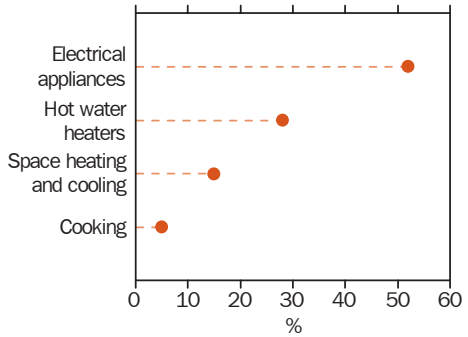
Energy consumption in this article is measured in joules (J). A gigajoule (GJ) is one thousand million joules of energy (10^9).

Australian residential energy consumption per capita



Source: ABARE historical spreadsheets and ABS Estimated Resident Population.

Greenhouse gases emissions attributable to energy use in Australian residences — 1998



Source: Australian Greenhouse Office, *Australian Residential Building Sector Greenhouse Gas Emissions 1990–2010: Executive summary report 1999*.

Construction factors

Dwelling with...	1999 NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust. 1994	Aust. 1999
	%	%	%	%	%	%	%	%	%	%
Living area(a) that receives winter sunlight	56.3	63.6	47.6	53.6	49.5	77.3	31.0	70.9	56.4	56.1
Roof insulation	46.3	70.4	30.8	69.7	56.9	62.3	44.0	74.9	50.7	53.2
Wall insulation	11.4	22.5	8.6	19.4	4.4	17.1	*7.2	30.2	12.8	14.0
No insulation	52.4	28.7	67.0	29.2	42.7	35.9	55.2	24.2	47.9	45.5

(a) Lounge, living room and/or family room.

Source: Environmental Issues: People's Views and Practices, March 1999, (ABS Cat. no. 4602.0).

Building Policy

The need to reduce greenhouse gas emissions has led to policies directed at increasing energy efficiency in new residential housing. Currently, the Australian Greenhouse Office and the Australian Building Codes Board are working together to incorporate principles of energy efficiency into the building code.[6]

In Victoria, the Australian Capital Territory and in some New South Wales councils, mandatory energy efficiency regulations have been introduced. These regulations are often based around awarding 'stars' to homes that meet specific energy efficiency requirements and specifying a minimum star level for new homes. In the Australian Capital Territory all homes offered for sale must advertise their officially determined energy efficiency star rating.[7] However, the overall level of energy efficiency in Australian homes will be slow to increase because new houses make up a small proportion of the housing stock.

Construction factors

The greatest energy savings can be made when a house is designed and built specifically to be energy efficient. The most important design factors are the construction materials used, the building's design and orientation relative to the sun, and the inclusion of insulation and high performance glazing. These factors reduce the energy costs of maintaining a comfortable home throughout the year. However, most of Australia's housing stock predates concern about energy efficient design and cannot be improved without modifications.

In 1999, 56% of Australian dwellings were sited such that they received winter sunlight into their main living area. Because of the difference in climate between the north and south of Australia, dwellings in the southern States were more likely to be sited to receive winter sunshine. Tasmania (77%), the Australian Capital Territory (71%), and Victoria (64%) all had a markedly higher than average proportion of dwellings receiving winter sunlight in their living area. The Northern Territory had the smallest proportion (31%), reflecting the need to exclude the sun's heat to reduce energy usage in cooling even in the winter months.

Insulation can help maintain a comfortable inside temperature in both hot and cold climates. On a typical brick veneer house, ceiling insulation can save about 25% of heating costs, and wall insulation a further 14%.[8]

In 1999, nearly half of Australian dwellings had no insulation (46%), although that proportion had declined slightly from 48% in 1994. Although medium and high density dwellings were more likely not to have insulation (63% and 85% respectively), 38% of separate houses did not have insulation. Again, climate had an influence. Dwellings in Queensland and the Northern Territory had the highest proportion with no insulation (67% and 55% respectively). New South Wales (52%) also had an above average

Green Power

Green Power is a relatively recent innovation, developed in 1997 by the Sustainable Energy Development Authority of New South Wales (SEDA), which allows consumers to choose how their electricity is produced.

When households opt for Green Power, they pay a small amount extra for their power which enables their electricity supplier to purchase or produce electricity equivalent to that household's use from a renewable source. The renewable sources commonly used include wind generators, small-scale hydro-electric generators, solar panels, the burning of sugar cane waste, and the burning of waste gases from landfill sites.

Currently the number of subscribers to Green Power is relatively small. At July 2001, SEDA reported 60,250 Green Power customers across Australia.[9]

Fittings

	1999								Australia	
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	1994	1999
Dwelling with...	%	%	%	%	%	%	%	%	%	%
Outside awnings or shutters fitted	27.4	39.8	30.4	39.9	24.1	7.7	*15.6	30.4	27.8	31.2
Boxed pelmet curtains or blinds	22.7	33.0	24.7	26.2	23.8	28.2	*13.2	24.0	19.5	26.1
Solar hot water heating	2.7	0.9	6.0	2.6	19.6	*0.9	43.7	*3.4	4.9	4.8
Gas hot water heating	20.8	64.6	13.4	47.1	56.3	*1.4	*2.4	29.2	33.6	35.4
Space heating	*82.2*	*98.8*	*39.9*	*92.8*	*83.2*	*98.9*	*10.5*	*99.1*	*83.8*	*79.6*
had gas space heating	26.9	71.6	6.5	34.6	46.5	*6.1	*32.7	51.5	38.0	41.2
had reverse cycle air conditioner	12.3	1.9	11.6	19.4	5.1	*3.3	*14.5	*5.7	n.a.	8.6

Source: Environmental Issues: People's Views and Practices, 1994 and 1999 (ABS Cat. no. 4602.0).

proportion with no insulation. Among households that had no insulation, cost was most commonly cited as the main reason for not having insulation (27%), and climate was the next most frequent reason (16%).

Dwellings with roof insulation were more common in the south. The highest proportion was in the Australian Capital Territory where three-quarters of dwellings had roof insulation. Above average proportions were also reported in Victoria, South Australia (both 70%), Tasmania (62%) and Western Australia (57%). A similar pattern prevailed among the 14% of dwellings with wall insulation.

Fittings

The choice of fittings such as water and space heating, and curtains and blinds, is generally made near the time of construction and then changed only infrequently. Water and space heating are usually the largest consumers of energy in a house, accounting for about 27% and 42% respectively of an average household energy bill.[8] Consequently, the type of water and space heating used in a dwelling has a considerable influence on energy costs and associated greenhouse gas emissions.

Natural gas is considered to be environmentally preferable to electricity as it produces less greenhouse gas emissions when burnt than a comparable unit of electrical energy generated by burning coal. However, because the majority (60% in 1999) of hot water services are electric and nearly all homes have a hot water service, water heating was responsible for about 28% of greenhouse emissions attributable to homes in 1998. Space heating and cooling were estimated to produce about 15% of greenhouse emissions attributable to energy consumption in homes.[4]

In 1999, 35% of homes had gas hot water heating, a similar proportion to 1994 (34%). Geographical differences probably reflect the availability of reticulated gas at the time of installation. For example, Tasmania had a very low proportion of dwellings with a gas hot water service since there is no reticulated natural gas supply there. The above average proportion in Victorian (65%), Western Australian (56%) and South Australian (47%) dwellings reflects the long-established gas supply network in the capital cities of these States.

Solar water heating also reduces a household's contribution to greenhouse gas emissions — albeit at a high capital cost. Some State Governments offer one-off subsidies to assist households to buy solar water heaters. For example, some councils in New South Wales offer a $500 rebate on solar hot water heaters.[10] Although only 5% of dwellings in Australia had solar water heaters in 1999, the proportion varied from 44% in the Northern Territory and 20% in Western Australia, to 1% in Victoria and Tasmania. The investment in a solar water heater is recovered faster in the north, where the sun remains quite high even in winter.[10]

Between 1994 and 1999, among dwellings that had space heating, the proportion of dwellings that had gas space heating increased from 38% to 41%. Geographical differences between States may relate to both climate and the time over which a reticulated gas supply has been available. Cold areas such as Victoria and the Australian Capital Territory had high proportions of dwellings with gas space heating (72% and 52% respectively of dwellings with heating). Western Australia also had an above average proportion of 47% of dwellings with gas space heating. Again, Tasmania had a low proportion, reflecting the lack of reticulated natural gas supply.

Electrical appliances

Dwelling with...	1994 %	1999 %
Refrigerator	99.7	99.7
Washing machine	*94.2*	*94.7*
Washing machine: front loader	5.1	6.5
Washing machine: used cold water	61.2	64.4
Clothes dryer	*51.7*	*53.0*
Clothes dryer: used at least once a fortnight	23.9	20.3
Clothes dryer: used occasionally or depending on weather	71.7	71.4
Separate freezer	44.9	40.1
Air conditioner	32.5	34.7
Dishwasher	*25.1*	*30.1*
Dishwasher: proportion that used them daily	31.9	35.4

Source: Environmental Issues: People's Views and Practices, 1994 and 1999 (ABS Cat. no. 4602.0).

Reverse cycle airconditioners can heat and cool. Their alternative name, heat pumps, describes their function of moving heat from one space to another. They are more energy efficient than other types of electrical heater because electricity is only consumed to transfer heat from the air outside to the air inside. Among Australian dwellings with space heating, 9% had a reverse cycle air conditioner. The States that had an above average proportion — South Australia (19%), New South Wales and Queensland (both 12%) — can have hot summers, suggesting they were primarily purchased for cooling rather than heating.

Heat can be lost by conduction, or gained by transmission and conduction through glass windows. Depending on the area of glass, about 6% of heating costs can be saved by insulating windows with pelmeted curtains or blinds.[8] In summer, outside blinds and awnings help keep sunshine out of rooms. Nearly a third of Australian dwellings had outside blinds or shutters. They were most common on Victorian and South Australian dwellings (both 40%) and least common on Tasmanian dwellings (8%).

About a quarter of Australian dwellings had box pelmet curtains or blinds. Victorian and Tasmanian dwellings had above average proportions (33% and 28% respectively) and the Northern Territory was well below average (13%). These differences reflect climatic regions but may also be influenced by fashions trending towards pelmetless curtains in newer dwellings.

International comparison

Residential energy consumption varies with climate, energy prices, housing types, cultural attitudes and standard of living.

Selected OECD countries: residential energy consumption, 1997–98

	GJ per capita
Canada	39.4
Sweden	38.7
United States of America	37.9
United Kingdom	29.9
France	27.5
Italy	24.7
Australia	**19.6**
Greece	17.1
Japan	15.9
New Zealand	14.3

Source: International Energy Agency, *Energy Balances of OECD Countries 1997–1998*, 2000.

Electrical appliances

A study commissioned by the Australian Greenhouse Office estimated that 52% of greenhouse gas emissions attributable to the residential sector were due to electrical appliances.[4] In 1999, nearly all dwellings had a refrigerator, and most had a washing machine (95%). Both are seen as essential appliances. Less common were clothes dryers (53%) and dishwashers (30%). These appliances, which were once luxury items, have become more common in Australian homes. Separate freezers, which were in 45% of households in 1994, have become less common, with 40% of households in 1999 reporting owning one (see *Australian Social Trends 2001*, Household amenities, pp. 182–185).

The proportion of households with a dishwasher increased from 25% to 30% between 1994 and 1999. The proportion of

households with a dishwasher that reported using it everyday also increased, from 32% in 1994 to 35% in 1999.

Front loading washing machines generally use less water and electricity than top loading machines. In 1999, among households that had a washing machine, 7% had a front loader. Another way to decrease energy consumption and associated costs when washing clothing is to use cold water rather than hot water. Among households with washing machines, nearly two-thirds (64%) used cold water to wash their clothes: an increase from 61% in 1994.

While hanging clothes outside to dry is the most energy efficient option, just over half of households had a clothes dryer. However, the majority (71%) of these households used them only occasionally or depending on the weather. One in five households with a dryer used it at least once a fortnight, a decrease from almost one in four in 1994.

Most major household appliances on sale are required to display an energy rating, expressed in stars, to indicate the amount of energy they are likely to consume in a year of average use compared with similar products (for more information see <URL:http:/www.energyrating.gov.au>). However, purchasers did not place a high priority on this facility. Only 34% of households that had purchased major appliances in the past year had considered the energy star rating — the most common consideration was cost (59%).

Endnotes

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9 Sustainable Energy Development Authority NSW 2001, *Trends in Green Power Customer Numbers (as of July 2001)* URL:http://www.greenpower.com.au/download.shtml> (accessed 6 August 2001).

10 Australian Consumer Association 1999. *Hot water from the sun and air,* Choice, December 1999.

International comparisons

Caution

Statistics presented in this chapter have been reproduced from international statistical compendia. National statistical systems differ from country to country and therefore caution should be exercised when comparing international data. Details of national differences can be found in the country notes in the source publications.

Population composition

Country	*Reference year*	*Total population*	*0–14 years*	*15–59 years*	*60 years and over*
		'000	%	%	%
Australia	**2000**	**19 138**	**21**	**63**	**16**
Canada	2000	30 757	19	64	17
China (excludes SARs and Taiwan Province)	2000	1 275 133	25	65	10
France	2000	59 238	19	61	21
Greece	2000	10 610	15	62	23
Hong Kong (SAR of China)	2000	6 860	16	69	14
Indonesia	2000	212 092	31	62	8
Italy	2000	57 530	14	62	24
Japan	2000	127 096	15	62	23
Korea (Republic of)	2000	46 740	21	68	11
Malaysia	2000	22 218	34	59	7
New Zealand	2000	3 778	23	62	16
Papua New Guinea	2000	4 809	40	56	4
Singapore	2000	4 018	22	68	11
Sweden	2000	8 842	18	59	22
United Kingdom	2000	59 415	19	60	21
United States of America	2000	283 230	22	62	16
Viet Nam	2000	78 137	33	59	8

Source: United Nations 2000, *World Population Prospects: The 2000 Revision.*

Population growth

Country	Reference year	Annual average growth rate	Crude birth rate(a)	Crude death rate(a)	Total fertility rate
		%	rate	rate	rate
Australia	**2000–2005**	**1.0**	**13**	**8**	**1.8**
Canada	2000–2005	0.8	11	8	1.6
China (excludes SARs and Taiwan Province)	2000–2005	0.7	15	7	1.8
France	2000–2005	0.4	12	10	1.8
Greece	2000–2005	0.0	9	10	1.2
Hong Kong (SAR of China)	2000–2005	1.2	10	6	1.2
Indonesia	2000–2005	1.2	20	7	2.3
Italy	2000–2005	–0.1	9	11	1.2
Japan	2000–2005	0.1	10	9	1.3
Korea (Republic of)	2000–2005	0.7	14	7	1.5
Malaysia	2000–2005	1.7	22	5	2.9
New Zealand	2000–2005	0.7	14	8	2.0
Papua New Guinea	2000–2005	2.2	30	9	4.3
Singapore	2000–2005	1.7	13	5	1.5
Sweden	2000–2005	–0.1	10	11	1.3
United Kingdom	2000–2005	0.2	11	11	1.6
United States of America	2000–2005	0.9	13	9	1.9
Viet Nam	2000–2005	1.3	20	6	2.3

(a) Per 1,000 population.

Source: United Nations *World Population Prospects: The 2000 Revision*.

Population projections(a)

Country	Population			Median age			0–14 years			65 years and over		
	2005	2020	2050	2005	2020	2050	2005	2020	2050	2005	2020	2050
	million	million	million	years	years	years	%	%	%	%	%	%
Australia(b)	**r20.1**	**r22.7**	**26.5**	**r36.4**	**r39.6**	**r41.9**	**19.6**	**r17.8**	**r17.7**	**r12.7**	**r16.9**	**r22.4**
Canada	r32.0	r35.6	40.4	r38.8	r42.2	r44.0	r17.7	r16.0	r16.4	r13.1	18.2	r24.3
China (excludes SARs and Taiwan Province)	r1 321.4	r1 446.1	1 462.1	32.4	r37.4	r43.8	r21.8	19.1	16.3	7.5	11.5	r22.7
France	r60.3	r62.4	61.8	39.0	r42.5	r45.2	r18.1	r16.9	r16	16.4	r20.5	r26.7
Greece	10.6	r10.3	9.0	r40.9	46.6	r52.3	r14.1	r12.3	r13.1	r19.1	r22.6	r34.1
Hong Kong (SAR of China)	7.3	r8.4	9.6	r38.4	r44.3	r47.9	r14.8	r13.8	r13.8	r11.4	r16.2	r29.2
Indonesia	r225.3	r261.9	311.3	r26.4	r31.5	38.0	r28.4	r23.7	19.9	r5.4	7.2	r16.4
Italy	r57.2	53.9	43.0	r42.2	r48.7	r54.1	r13.8	r11.3	r11.4	r19.6	r23.9	r35.9
Japan	r128.0	r126.0	109.2	r42.8	r48.0	r53.1	r14.1	r12.7	r12.5	r19.6	r27.9	r36.4
Korea (Republic of)	r48.3	r51.4	51.6	r34.3	r41.2	r45.7	r19.6	r16.4	r16.5	r8.7	r13.5	r27.4
Malaysia	24.2	r29.6	37.9	r24.5	r29.4	r37.8	r32.5	r24.8	r19.9	4.7	r7.5	r15.4
New Zealand	r3.9	r4.2	4.4	r36.0	r39.6	r44.0	r21.7	r17.8	r17.0	r12.0	r16.3	r23.0
Papua New Guinea	5.4	r7.3	11.0	r20.3	r22.9	r31.2	r39.5	r34.6	r23.2	r2.6	r3.4	r8.3
Singapore	r4.4	r4.9	4.6	r37.3	r44.6	r49.7	r19.9	r13.4	r13.9	r8.4	r16.9	r28.6
Sweden	r8.8	r8.6	7.8	r41.4	r46.3	r51.2	r16.0	r12.7	r14.0	r17.9	r23.9	r30.4
United Kingdom	r59.9	r60.9	58.9	r39.5	r44.0	r47.4	17.7	r14.9	r14.9	r16.1	r20.2	r27.3
United States of America	r296.1	r334.2	397.1	r36.6	r38.6	r40.7	r20.6	r18.5	r18.6	r12.3	r16.3	r21.1
Viet Nam	r83.4	r100.2	123.8	25.0	30.9	r38.2	r29.3	r24.6	r19.8	5.4	r6.5	r17.1

(a) Medium-variant projection.
(b) United Nations projections for Australia may not agree with ABS projections owing to differences in assumptions and methodology.

Source: United Nations *World Population Prospects: The 2000 Revision*.

Health status

Country	Reference year	Infant mortality rate(a)	Life expectancy at birth		Reference year	Healthy life expectancy at birth(b)	
			Males	Females		Males	Females
		rate	years	years		years	years
Australia	**2000–2005**	**5**	**76.0**	**81.6**	**2000**	69.6	73.3
Canada	2000–2005	5	76.6	82.3	2000	68.3	71.7
China (excludes SARs and Taiwan Province)	2000–2005	37	69.1	73.5	2000	60.9	63.3
France	2000–2005	5	75.0	82.5	2000	68.5	72.9
Greece	2000–2005	6	76.1	81.2	2000	69.7	72.3
Hong Kong (SAR of China)	2000–2005	4	76.6	81.9	..	n.a.	n.a.
Indonesia	2000–2005	40	65.3	69.3	2000	56.5	58.4
Italy	2000–2005	5	75.8	81.7	2000	69.5	72.8
Japan	2000–2005	3	77.2	83.3	2000	71.2	76.3
Korea (Republic of)	2000–2005	7	70.0	77.0	2000	63.2	68.8
Malaysia	2000–2005	10	71.1	75.5	2000	59.7	63.4
New Zealand	2000–2005	6	74.9	80.5	2000	69.5	72.1
Papua New Guinea	2000–2005	62	59.2	60.7	2000	46.6	47.1
Singapore	2000–2005	5	75.9	80.3	2000	66.8	68.9
Sweden	2000–2005	3	77.1	81.6	2000	70.1	72.7
United Kingdom	2000–2005	5	75.3	80.6	2000	68.3	71.4
United States of America	2000–2005	7	74.2	80.6	2000	65.7	68.8
Viet Nam	2000–2005	34	66.9	71.6	2000	58.2	59.7

(a) Per 1,000 live births.
(b) Healthy life expectancy at birth summarises the expected number of years to be lived in what might be termed the equivalent years of 'full health'.

*Source:*United Nations *World Population Prospects: The 2000 Revision*; United Nations *World Population Prospects: The 1998 Revision;* World Health Organisation Statistical Information System <URL:http://www.who.int/whosis >, (accessed 28 March 2002).

Standardised death rates(a) for selected causes of death

Country	Reference year	Malignant neoplasms (cancer)	Ischaemic heart disease	Cerebro-vascular disease (stroke)	Motor vehicle traffic accidents	Suicide and self-inflicted injury(b)	All causes
		rate	rate	rate	rate	rate	rate
Australia	**1995**	**139.5**	**110.9**	**45.6**	**10.2**	**11.3**	**503.2**
Canada	1997	142.1	94.9	33.3	9.3	11.3	497.6
China (rural) (excludes SARs and Taiwan Province)	1994	111.9	26.5	110.2	13.8	25.8	698.7
China (urban) (excludes SARs and Taiwan Province)	1994	119.4	57.6	125.0	10.1	5.9	594.7
France	1996	147.2	39.8	33.1	12.5	16.0	489.3
Greece	1997	124.6	68.8	84.0	19.9	3.0	516.9
Hong Kong (SAR of China)	1994	125.9	40.0	39.8	4.5	10.3	392.9
Indonesia	..	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Italy	1995	145.0	65.2	55.2	12.4	6.1	512.6
Japan	1997	125.4	30.0	56.7	8.3	14.4	405.6
Korea (Republic of)(c)	1995	123.1	14.6	90.9	36.2	9.8	585.8
Malaysia	..	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
New Zealand	1996	157.1	127.3	48.1	14.2	14.2	569.2
Papua New Guinea	..	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Singapore	1997	148.4	116.6	61.0	9.4	10.8	550.3
Sweden	1996	122.6	110.1	45.2	4.9	11.8	484.2
United Kingdom	1997	151.7	122.0	51.8	6.0	6.4	564.3
United States of America	1997	143.4	106.5	34.8	15.3	10.5	577.7
Viet Nam	..	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

(a) Standardised death rates are the overall death rates per 100,000 population that would have prevailed in a standard population if it had experienced at each age the death rates of the population being studied. The standard population used in this table is the World Health Organisation world standard population. Standardised death rates for Australia presented in the Health chapter of this publication or elsewhere in ABS publications are not comparable owing to the use of a different standard population and different reference periods.

(b) It is generally acknowledged that suicides are under-reported as a cause of death. The degree of under-reporting varies from country to country, partly for social and cultural reasons, but also because of differences in legal requirements and administrative procedures in arriving at a verdict of suicide.

(c) Causes of death have been coded to the tenth edition of the International Classification of Diseases (ICD–10). For all other countries, causes of death have been coded to the ninth edition (ICD–9).

Source: World Health Organisation *1997–1999 World Health Statistics Annual* <URL:http://www.who.int/whosis >, (accessed 12 April 2002); World Health Organisation *World Health Statistics Annual 1996;* World Health Organisation *World Health Statistics Annual 1995*.

Health services and expenditure

Country	Reference year	Health expenditure as % of GDP	Health expenditure per capita at PPP(a)	Reference year	Doctors per 1,000 population	Reference year	Acute hospital beds per 1,000 population
		%	$US '000		no.		no.
Australia	**1998**	**r8.6**	**r2.1**	**1998**	**2.5**	**1999**	**3.8**
Canada	2000	9.2	2.6	1999	2.1	1998	3.2
China (excludes SARs and Taiwan Province)	..	n.a.	n.a.	..	n.a.	..	n.a.
France	1999	r9.3	2.1	1998	3.0	1998	4.3
Greece	1998	r8.4	1.2	1997	4.1	1997	4.0
Hong Kong (SAR of China)	..	n.a.	n.a.	..	n.a.	..	n.a.
Indonesia	..	n.a.	n.a.	..	n.a.	..	n.a.
Italy	1999	r7.9	1.8	1999	5.9	1998	4.9
Japan	1998	r7.5	1.8	1998	1.9	..	n.a.
Korea (Republic of)	1999	5.4	0.9	1999	1.3	1999	4.9
Malaysia	..	n.a.	n.a.	..	n.a.	..	n.a.
New Zealand	1999	8.1	1.5	2000	2.2	1991	7.0
Papua New Guinea	..	n.a.	n.a.	..	n.a.	..	n.a.
Singapore	..	n.a.	n.a.	..	n.a.	..	n.a.
Sweden	1998	r7.9	r1.7	2000	3.1	1999	2.5
United Kingdom	1999	r6.9	1.6	1999	1.8	1998	2.4
United States of America	1999	r12.9	4.4	1998	2.7	1999	3.0
Viet Nam	..	n.a.	n.a.	..	n.a.	..	n.a.

(a) PPP (purchasing power parities) are the rates of currency conversion which eliminate the differences in price levels between countries.

Source: Organisation for Economic Co-operation and Development (OECD) 2001. *OECD Health Data 2001: A comparative analysis of 30 countries* [CD-ROM], OECD, Paris

Distribution of persons aged 25–64 years by level of educational attainment

Country	Reference year	Below upper secondary education(a)	Upper secondary education and post-secondary non tertiary education(b)	Tertiary type B education(c)	Tertiary type A and advanced research programs(d)	Total
		%	%	%	%	%
Australia	**1999**	**43**	**31**	**9**	**18**	**100**
Canada	1999	20	41	20	19	100
China (excludes SARs and Taiwan Province)	..	n.a.	n.a.	n.a.	n.a.	100
France	1999	38	41	10	11	100
Greece	1999	50	32	6	12	100
Hong Kong (SAR of China)	..	n.a.	n.a.	n.a.	n.a.	100
Indonesia	1999	77	18	2	3	100
Italy	1999	57	34	(e)	9	100
Japan	1999	19	49	13	18	100
Korea (Republic of)	1999	34	44	6	17	100
Malaysia	1998	65	27	—	8	100
New Zealand	1999	26	46	14	13	100
Papua New Guinea	..	n.a.	n.a.	n.a.	n.a.	100
Singapore	..	n.a.	n.a.	n.a.	n.a.	100
Sweden	1999	23	48	16	13	100
United Kingdom	1999	18	57	8	17	100
United States of America	1999	13	51	8	27	100
Viet Nam	..	n.a.	n.a.	n.a.	n.a.	100

(a) International Standard Classification of Education (ISCED) levels 0, 1 and 2. For Australia this includes Preschool, Primary School and lower Secondary School levels as well as the Basic Vocational level.
(b) International Standard Classification of Education (ISCED) levels 3 and 4. For Australia this includes Year 12 completion as well as the Skilled Vocational level.
(c) International Standard Classification of Education (ISCED) level 5B. For Australia this includes Associate Diplomas and Undergraduate Diplomas.
(d) International Standard Classification of Education (ISCED) levels 5A and 6. For Australia this includes Bachelor degree level or higher.
(e) Data are included in another column of the table.

Source: Organisation for Economic Co-operation and Development (OECD) 2001, *Education at a Glance: OECD Indicators, 2001*, OECD, Paris.

Educational participation(a) and expenditure

Country	Reference year(b)	Enrolment rates by age group (years) 15–19	20–29	30–39	40 and over	Reference year(b)	Total public expenditure as a proportion of GDP(c)	Total public and private expenditure as a proportion of GDP(d)
		%	%	%			%	%
Australia	**1999**	**80.3**	**27.3**	**14.0**	**6.0**	**1998**	**4.3**	**5.5**
Canada	1999	75.3	20.3	4.4	1.2	1998	5.5	6.2
China (excludes SARs and Taiwan Province)	..	n.a.	n.a.	n.a.	n.a.	..	n.a.	n.a.
France	1999	87.2	18.9	1.8	(e)	1998	5.9	6.2
Greece	1999	82.0	15.9	—	—	1998	3.4	4.8
Hong Kong (SAR of China)	..	n.a.	n.a.	n.a.	n.a.	..	n.a.	n.a.
Indonesia	2000	37.0	2.6	—	—	1999	1.4	2.0
Italy	1999	70.7	16.9	1.6	0.1	1998	4.8	5.0
Japan	..	n.a.	n.a.	n.a.	n.a.	1998	3.6	4.7
Korea (Republic of)	1999	81.2	21.9	1.2	0.3	1998	4.1	7.0
Malaysia	1998	r44.4	r5.6	r0.2	—	1998	4.5	n.a.
New Zealand	1999	72.5	20.4	8.7	2.9	1998	6.1	n.a.
Papua New Guinea	..	n.a.	n.a.	n.a.	n.a.	..	n.a.	n.a.
Singapore	..	n.a.	n.a.	n.a.	n.a.	..	n.a.	n.a.
Sweden	1999	86.2	33.7	15.5	3.3	1998	6.6	6.8
United Kingdom	1999	72.5	23.6	14.0	5.0	1998	4.7	4.9
United States of America	1999	78.1	20.4	5.9	2.3	1998	4.8	6.4
Viet Nam	..	n.a.	n.a.	n.a.	n.a.	..	n.a.	n.a.

(a) Participation rates are based on full-time and part-time enrolments.
(b) 1 January of the reference year is considered a good proxy for the mid-point of the school year except for New Zealand, Australia and Korea where 1 July is used as the mid-point of the reference period.
(c) Includes both purchases by the government agency itself on educational resources and also appropriations by the government agency to educational institutions which have been given responsibility to purchase educational resources themselves. Also includes public subsidies to households attributable for educational institutions, and direct expenditure on educational institutions from international sources.
(d) Public expenditure refers to the spending of public authorities at all levels. Private expenditure refers to expenditure funded by private sources i.e. households, private business firms and nonprofit organisations of religious, charitable or business and labour associations.
(e) Data are included in another column of the table.

Source: Organisation for Economic Co-operation and Development (OECD) 2001, *Education at a Glance: OECD Indicators, 2001,* OECD, Paris.

Labour force

Country	Reference year	Economically active population(a)	Reference year	Participation rate of persons aged 15 to 64 years: Total	Males	Females(a)
		'000		%	%	%
Australia	**2000**	**9 681.7**	**1999**	**72.9**	**82.1**	**63.9**
Canada	2000	15 999.3	2000	76.3	82.1	70.5
China (excludes SARs and Taiwan Province)	1990	647 244.7	1995	85.4	90.1	80.4
France	2000	26 226.4	2000	68.0	74.4	61.7
Greece	2000	4 437.4	1998	62.5	77.1	48.5
Hong Kong (SAR of China)	2000	3 382.8	1998	70.0	84.0	55.8
Indonesia	1999	95 793.2	1999	69.6	86.3	53.2
Italy	2000	23 721.0	1999	59.8	74.1	45.5
Japan	2000	67 680.0	2000	72.5	85.2	59.6
Korea (Republic of)	2000	21 951.0	1999	63.9	77.3	50.7
Malaysia	2000	9 616.1	1999	64.3	82.8	44.7
New Zealand	2000	1 892.3	1999	75.2	83.2	67.4
Papua New Guinea	..	n.a.	1995	79.1	88.7	68.7
Singapore	2000	2 192.5	1998	69.0	82.7	56.3
Sweden	2000	4 362.0	1999	78.5	80.9	76.0
United Kingdom	2000	29 411.7	1999	76.3	84.1	68.4
United States of America	2000	140 863.0	2000	77.2	83.9	70.8
Viet Nam	1989	29 525.5	1995	82.6	86.0	79.4

(a) Participation rates for women are frequently not comparable internationally since, in many countries, relatively large numbers of women assist on farms or in other family enterprises without pay. There are differences between countries in the criteria used to count economically active workers.

Source: International Labour Office, *Year Book of Labour Statistics* 1998, 2000 and 2001; International Labour Office, *Key Indicators of the Labour Market* 2001–2002.

Employment and unemployment(a)

Country	Reference year	Employment	Reference year	Unemployment	Unemployment rate
		'000		'000	%
Australia	**2000**	**9 009.6**	**2000**	**641.0**	**6.6**
Canada	2000	14 909.7	2000	1 089.6	6.8
China (excludes SARs and Taiwan Province)(b)	2000	711 500.0	2000	5 950.0	3.1
France	2000	23 261.5	2000	2 590.2	10.0
Greece	2000	3 946.3	2000	491.1	11.1
Hong Kong (SAR of China)	2000	3 214.4	2000	168.3	5.0
Indonesia	2000	89 824.0	2000	5 872.0	n.a.
Italy	2000	21 225.0	2000	2 495.0	10.5
Japan	2000	64 460.0	2000	3 200.0	4.7
Korea (Republic of)	2000	21 061.0	2000	889.0	4.1
Malaysia	2000	9 321.7	2000	294.4	3.1
New Zealand	2000	1 779.0	2000	113.4	6.0
Papua New Guinea	..	n.a.	..	n.a.	n.a.
Singapore	2000	2 094.8	2000	97.5	4.4
Sweden	2000	4 159.0	2000	203.0	4.7
United Kingdom	1999	27 442.3	2000	1 619.1	5.5
United States of America	2000	135 208.0	2000	5 655.0	4.0
Viet Nam	1997	36 994.0	..	n.a.	n.a.

(a) For most countries the employed and unemployed populations are aged 15 years and over. However, the age range varies for some countries: China and Viet Nam — Not specified; Malaysia — 15–64 years; Sweden — 16–64 years; UK and USA — 16 years and over. Definitions also vary in terms of the inclusion or exclusion of certain other segments of the population such as the armed forces.
(b) Employment relates to total economy; unemployment relates to urban areas only.

Source: International Labour Office, *Year Book of Labour Statistics* 2001.

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