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**Health risk factors
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**Carol Kee
Michelle Petersen
Kate Rockpool**

Health Status Monitoring, Epidemiology Unit
Population Health Group
ACT Department of Health and Community Care

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Health risk factors in the ACT

Summary

Certain risk factors are commonly recognised as contributing to poor health. A person may feel 'well' and have no ill-health symptoms, but if they are undertaking risky behaviour (eg smoking tobacco), they may be quietly developing disease (eg cancer) which will emerge over time. This publication examines the known risk factors to good health.

- The ACT has a high socioeconomic profile. In 1996, 10.3% (30,379) of Territorians were participating in post secondary education compared to the Australian average of 6%. The median weekly personal income for people aged 15 years and over was \$430 compared to the Australian median of \$292. Although, the ACT as a whole has a relatively high socioeconomic status, there are 'pockets' of people with low and very low socioeconomic status spread fairly evenly throughout the Territory.
- The ACT is fortunate in that its natural environment is conducive to good health. The area around Canberra is mainly mountainous and the ACT has good air and water quality. There are no heavy industries in the ACT.

Risk behaviour:

- In general, young male drivers consider themselves to be more competent than other road users, and more competent than they really. Males outnumber females in motor vehicle traffic accidents in the ACT in all age groups except children up to nine years old, 50-54 year olds and 80-84 year olds. The majority of accidents for both sexes occurred in the 15 to 29 age group. Young women are slightly more likely, and young men are slightly less likely, to die in a traffic accident, compared to Australians as a whole.
- The "Secondary Students, HIV/AIDS and Sexual Health" survey revealed a shift towards safer sex practices from 1992 to 1997, with the use of condoms slowly becoming the norm. For the ACT component of the survey, 37% of the sexually active students were using condoms only sometimes and 9% never used them. Condoms were the most commonly used form of contraception at 79%, but 11% were using withdrawal. Binge drinking is a key factor in students engaging in sexual risk behaviour. More than 30% had been binge drinking in the previous fortnight.
- It is generally accepted that a person's well being affects their health. Results from the ACT Quality of Life Surveys showed that older people (65+) are significantly more likely to have good mental health than those in the younger adult population, women tend to score lower (poorer health) than men, and full-time workers have better mental health than part-time workers. Those who were married or de facto and who had children were likely to have worse mental health than those who were married or de facto without children or who were single without children, people who were single with children had poorer mental health than married people (with or without children) and other single people, people with higher education levels (tertiary) reported better mental health than people with lower educational attainments, but people with only Year 12 attainments and trade/secretarial/business qualifications reported better general health than other people. These results follow the pattern for the general Australian population.
- Smoking: The National Health Survey 1995 reported that in the ACT, 21% of adults were smokers, 29% were ex-smokers and 49% had never smoked. These results compare

favourably with those for the rest of Australia (24%, 27% and 49% respectively). As women start to smoke younger their pattern of lifetime smoking is beginning to conform to that of men. As a result women smokers' survival prospects are becoming even less favourable than men's. The younger age group of ACT women contains far fewer people who have never smoked than does the corresponding Australian group. In contrast, ACT males conform fairly well to the Australian pattern overall. The results from the ACT Secondary Schools Survey 1996 show a clear relationship between age and the prevalence of cigarette smoking. Prevalence is lower in the younger years and increases substantially to a peak in students in years 11 and 12. Since 1984 across all year levels, the proportion of students who have ever smoked appears to have declined consistently by about 10%. Of all male and female respondents in 1996, more males are non-smokers (73%) than females (64%). There are more female occasional, light smokers and heavy smokers, but chain smokers are more likely to be males.

- Heavy alcohol consumption is associated with increased disease. Most ACT people were drinking within safe limits in the week prior to the National Health Survey. At hazardous drinking levels, far fewer females than males were represented in all age groups. However, at harmful drinking levels, females were on a par with or exceeding males. More ACT males and females in the 15-24 age group were drinking hazardously than in Australia overall.
- An emerging trend in Australia is for young people to have higher levels of illicit drug use compared with older Australians. Polysubstance use in particular has emerged as a characteristic of adolescent drug use. Adolescent males have a higher rate of using alcohol and illicit drugs than females. The most commonly used illicit drug is marijuana, although its use is less common than both alcohol and tobacco. The National Drug Strategy Household Survey 1995 showed that 42% of ACT people had at some time tried marijuana and 16% of those had used the drug in the last 12 months. The ACT Secondary Schools Students' Alcohol and Drug Survey 1996 showed an increase in the marijuana use of years seven to twelve students between 1991 and 1996.
- Regular moderate physical activity is health-protective with both physiological and psychological benefits. In 1995-96 and 1996-97, a national survey found that 34.2% of ACT residents surveyed reported being involved in physical activity across all age groups. There was a trend towards decreasing participation as age increased. Although ACT proportions were higher than those of Australia for all age groups, the percentage of ACT residents involved in sport and physical activity dropped between 1995-96 and 1996-97. This follows the national trend. The most popular organised sport for ACT residents was aerobics. The percentage of participants for the selected organised sports declined for all sports except swimming over the two years.
- Poor diet has been associated with the development of a number of medical conditions. The National Health Survey 1995 found that hypertension was the most widely reported diet-related condition in the ACT. This was slightly higher than the national average.
- Overweight and obesity are indicators of preventable morbidity and mortality. The National Health Survey 1995 found that across Australia the proportion of the population who were overweight or obese had increased slightly, from 34.7% to 38.6% since 1989. In the ACT the increase was from 31.8% to 39.2%. Females tended to maintain acceptable weight levels into middle age, while the number of males at acceptable weight dropped dramatically. The proportion of overweight ACT women remained below 30% across all age groups, while the proportion of overweight men increased to over 40%, after 25 years of age, and remained at that level.

- It is widely recognised that sun exposure can cause minor to serious skin conditions and cancers. While the incidence of some forms of preventable cancer is declining, the incidence of skin cancer is increasing at an alarming rate in countries with predominantly white populations, particularly Australia. Adolescence has been identified as a period of high risk for skin damage that could lead to skin cancer in later life. The ACT Secondary School Students' Alcohol and Drug Survey 1996 found that sunscreen was applied more often by females than males, but nearly 20% of females reported that they 'usually' wear less/briefer clothes in the sun; only 1-in-5 females and less than 1-in-10 males wore sunglasses if they were out in the sun; hat wearing was more prevalent among males than females, but around 10% of both males and females reported that they 'never' wear a hat.
- In the ACT from 1988 to 1997, breast cancer was the most common cancer in women over the age of 14 years. There were 40 deaths from this cause in 1996 in the ACT. The known risk factors for breast cancer are not easily modifiable, so the main scope for reducing mortality is through early detection. This is accomplished through breast examination and screening. In the target age group of 45-64 years, ACT rates for mammography were higher than those of Australia.
- Cancer of the cervix is the eighth most common cancer in Australian females. There were 5 deaths from cervical cancer in the ACT in 1996. Both incidence and deaths caused by cervical cancer are decreasing over time. The decrease is mainly, if not completely, due to the introduction of wide-spread Papanicolaou (Pap) smear screening tests and subsequent diagnosis and treatment. The National Health Survey 1995 showed that ACT women tended to have more Pap smear tests than other Australian women.
- Immunisation can break a disease's cycle of transmission. In order to break the cycle, there needs to be a high level of effective immunity in the community. For the period of 1993-1997, the coverage rate for ACT children who were fully vaccinated to the NHMRC schedule was 82% at 2 months, 78% at 4 months, 67% at 6 months and 74% at 12 months (MMR only). The proportion of children vaccinated 'on time' (within 30 days of scheduled due date) was 73% at 2 months, 62% at 4 months, 50% at 6 months and 50% at 12 months for the 1993-1997 birth cohort. It appears there is a decreased proportion of 'on time' vaccinations as children get older. Encouragingly there is a trend of increased vaccination rate over time for all schedules in the ACT over the period of 1993-1997, with a steady increase in the proportion of children vaccinated on time since 1995.



Health risk factors in the ACT

1. Introduction

The human and financial cost of illness and ill-health can be huge. Developing illness prevention measures and making the environment conducive to good health is a major goal for the ACT Department of Health and Community Care. Certain risk factors are commonly recognised as contributing to poor health. This report attempts to identify these factors, and add to the understanding of how they may impact on health. It examines what measures could be established to assist in the reduction of risk and therefore, ill-health in the ACT. It is recognised that a person may feel 'well' and have no ill-health symptoms, but if they are undertaking risky behaviour (eg smoking tobacco), then they may be developing disease (eg cancer) which will emerge over time. It is also recognised that risk factors span the whole health continuum from unhealthy exposure to morbidity to death. The risk factors may change in degree over the life stages. Furthermore, it is not always possible to determine whether the 'risk factor' (eg. poor socio-economic status) preceded the ill-health or whether it was the ill-health which caused the 'risk factor'.

This report uses the broad World Health Organisation's definition of health, since it encompasses health as a positive experience, one in which social as well as biological issues are considered: *A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.*

Risk factors are defined as *features or exposures associated with a greater risk of ill-health in an individual*¹.

The attainment and maintenance of good health are not solely dependent on appropriate health and medical services. While these are important, other factors such as healthy lifestyle, clean and well ventilated housing, education, an adequate income, a feeling of well-being and safety contribute in a major way to good health. This report explores the major issues, emerging research and baseline data available to develop a profile of risk factors affecting residents in the Territory. It will assist government and health service planners in the pursuit of appropriate services to maximise both community and individual health and well-being.

This report relies to a great extent on data derived from national collections, the ACT Hospital Morbidity Data Collection and other Departmental collections. Readers should note that data are prone to fluctuations due to the small numbers in the ACT. Where possible, time series are used to show overall trends in health status and the existence of risk factors.

1.1 Risk factors for disease

Risk factors have varying impacts on individuals, their health and life quality. They include various age, sex, environmental, socio-economic, birthplace factors as well as behavioural factors. Major impacts for behavioural factors are outlined below.

Table 1: Major possible impacts of risk factors on individuals

Risk factors	Impact on health, disability & mortality
<i>Behavioural:</i>	
Smoking	Coronary heart disease, cancers (eg lung, mouth, cervix), stroke, chronic lung disease
Excessive alcohol consumption	Coronary heart disease, liver & pancreatic disease, stroke, high blood pressure, cancers of digestive system, accidents, mental illness,
Other drug abuse	AIDS, hepatitis, renal failure, mental illness, suicide, violence,
Poor diet & nutrition	Coronary heart disease, stroke, breast & digestive system cancers, non-insulin dependent diabetes mellitus, gallstones, osteoporosis, malnutrition, dental conditions
Inadequate physical activity	Coronary heart disease, stroke, non-insulin dependent diabetes mellitus, colon cancer, osteoporosis, bone fractures, falls, mental
Unprotected sexual activity	AIDS, hepatitis, cervical cancer, infertility, pelvic infection, venereal disease
Excessive sun exposure	melanoma & other skin cancers, premature ageing of the skin
<i>Physiological</i>	
Overweight & obesity	Coronary heart disease, non-insulin dependent diabetes mellitus, breast cancer, gallstones, degenerative joint disease, obstructive sleep apnoea
High blood pressure	Coronary heart disease, stroke
Raised blood cholesterol	Coronary heart disease, stroke

Source: Australian Institute of Health & Welfare, 1998, *Australia's health 1998: sixth biennial health report of AIHW*, Canberra

These will be discussed in this report.

1.2 ACT Population and environment

The ACT covers an area of approximately 2,400 km² and is surrounded on all sides by New South Wales². Consequently, the ACT provides some services to the surrounding NSW South East Subdivision as well as to its own residents.

Almost all ACT residents live in the metropolitan areas although about 85 percent of the Territory's land mass is devoted to national parks, nature reserves, pine plantations and rural properties. The area around the ACT is mainly mountainous. The ACT has no heavy industries and enjoys the benefits of good air and water quality.

There are slightly more males than females in the ACT. The ACT has a younger population than Australia generally with a median age of 31.3 years at June 30 1996, compared to 34.0 years for the Australian population³. This is reflected by the population composition. The ACT has 22.0 percent of its population aged 0-14 years (Australia has 21%)⁴ and only 7.3 percent aged 65 years and over (Australia has 12%). The populations of the ACT and Australia are ageing quite rapidly. Table 1 shows the small, constant growth in the ACT population over the past 10 years. Population growth in the ACT has slowed down in the last few years however, as a result of public service cuts.

Table 2: Estimated population, by sex, ACT, 1988-96

Sex	1988	1989	1990	1991	1992	1993	1994	1995	1996
Males	137 321	140 223	143 875	148 484	147 404	150 120	151 269	153 198	155 198
Females	136 213	138 482	141 202	145 047	146 755	148 771	149 598	150 866	152 313
Persons	273 534	278 705	285 077	293 531	294 159	298 891	300 867	304 064	307 511

Source: *Estimated Resident Population by Sex & Age States & Territories of Australia June 1988 to June 1996*, ABS Catalogue No. 3201.0

Aboriginal and Torres Strait Islander population

The health status of Aboriginals and Torres Strait Islanders is of particular concern, given the high morbidity and mortality suffered nationally by this group. They generally have a higher infant mortality rate (approximately 3 times that of non-Indigenous people), have more disorders of growth and nutrition and develop certain diseases disproportionate to their (Indigenous) population (eg diabetes mellitus, circulatory system and respiratory disorders, ear and eye diseases, certain communicable diseases, injuries⁵).

The 1996 Census data indicated that only a very small proportion of the ACT population (0.97%) identified as Aboriginal or Torres Strait Islanders. Of the 2,898 people identifying, 1,452 were male and 1,447 were female⁶. There has been a substantial increase in self-identification (79.3%) since the 1991 Census. This is probably due to an increase in willingness to self-identify rather than an influx of Indigenous people, although it is estimated that there has been some interstate migration to the ACT. However an examination of regional differences in the health status of Aboriginals and Torres Strait Islanders is still complicated by several factors such as small population size, high mobility and underenumeration of this group in data sets.

Table 3: Aboriginal and Torres Strait Islander population , ACT, 1986-96

		1986	1991	1996
Population	(number)	1,384	1,616	2,898
Proportion of ACT population	(%)	0.55	0.58	0.97

Source: ABS, *ACT in Focus 1997*, Catalogue No. 1307.8

Approximately 14 percent of the 2,898 live in Jervis Bay, 32 percent in Tuggeranong, and 22 percent in Belconnen. The suburbs of Narrabundah and Kambah had particularly high proportions of Indigenous people (2.6% and 1.6% respectively)⁷.

Table 4: Indigenous population in the ACT, by subdivisions, August 1996

Sex	North	Belconnen	Woden	Weston	Tuggeranong	South	Gungahlin	ACT
Males	211	326	135	98	468	178	34	3
Females	197	323	149	116	469	162	29	0
Persons	408	649	284	214	937	340	63	3

Note: does not include Jervis Bay

Source: ABS Census 1996, *Basic Community Profiles*, unpublished

The Indigenous community in the ACT has the highest education levels and labour force participation rates of all Indigenous people in Australia. Forty two percent of ACT Aboriginal families have a non-Aboriginal mother compared to the national figure of 30 percent⁸.

1.3 Socioeconomic status

The indicators of socioeconomic status are income, employment, and educational level. Other areas which may impact on status are family composition/partnership status, ethnicity, metropolitan/rural location, age and gender.

World-wide research over many decades confirms that people with low socioeconomic status experience overall poorer health, have higher death rates, are more likely to suffer disability, have serious chronic illnesses, are more likely to suffer recent illnesses, and are more likely to report only fair to poor health compared to people with higher socioeconomic status⁹. Many of the disorders which affect these people disproportionately are associated with particular

behaviours which are more prevalent in those of low socioeconomic status. The behaviours include smoking, being overweight, being inactive, and for children, not being breastfed. These behaviours are explored in other sections of this publication.

It is interesting to compare the ACT with Australia on major socioeconomic indicators in the development of a profile of the Territory. Table 4 outlines major factors. Since the ACT population makes up 1.7 percent of the Australian population, any ACT proportions over 1.7 percent indicate higher activity, and any proportions under 1.7 percent indicate lower activity than would have been expected. This expectation however, assumes that the ACT population has a similar composition to that of Australia, which is not a correct assumption. Many of the reasons for discrepancies concern differing demographics, in particular age differences, as discussed below.

Table 5: Selected socioeconomic indicators, ACT compared to Australia, 1996

	Unit	Date/period	ACT	ACT %
Rate of population growth (Aust. = 1.4)		to June '96	1.1	-
Births registered	no.	1995	4415	1.7
Deaths registered	no.	1995	1114	0.9
Marriages registered	no.	1995	1753	1.6
Divorces	no.	1995	1787	3.6
Permanent settlers	no.	1995-96	1021	1.0
Labour force, annual average	'000	1995-96	170.4	1.9
Unemployment rate (Aust. = 8.5%)	%	1995-96	7.6	-
Participation rate (Aust. = 63.7%)	%	1995-96	73.7	-
<i>Employed salary & wage earners:</i>				
private	'000	March '95	55.9	1.3
public	'000	March '95	74.1	4.7
<i>Mean weekly earnings in all jobs:</i>				
males (Aust. = \$680)	\$	November '96	770	-
females (Aust. = \$447)	\$	November '96	562	-
Industrial disputes, days lost	'000	1996	21.0	2.3
Trade union membership	'000	30 June '96	45.7	1.9
<i>Social:</i>				
Age pensions	'000	30 June '96	12.0	0.7
Disability support pensions	'000	30 June '96	4.3	0.9
Sole parents pensions	'000	30 June '96	4.8	1.4
Basic family payments	'000	30 June '96	52.3	1.5
Nursing homes - government	beds	1 January '97	86	0.8
- private	beds	1 January '97	433	0.7
Hostels (includes respite)	beds	1 January '97	789	1.2
<i>Medicare services:</i>				
General practitioners	'000	1995-96	1429	1.4
Specialists and others	'000	1995-96	237	1.3
<i>Education - student enrolment:</i>				
Government	'000	1996	39.9	1.8
Non-government	'000	1996	21.4	2.3
Technical and further education	'000	1995	18.8	1.0
Higher education	'000	1996	20.0	3.3
<i>Economy:</i>				
Gross domestic product	\$m	1995-96	10472	2.2
Average weekly household expenditure (Aust.= \$812)	\$	1993-94	1071	-

Note ACT % refers to the ACT proportion of total Australia
Source: *ACT in Focus 1997*. ABS Catalogue No. 1307.8

The above table shows that the ACT has considerably higher activity than the national average in public employment and higher education. It has considerably less activity in proportion of deaths, pensions, nursing home residence (all due to a younger age profile in the

ACT), and technical and further education (offset by a high activity in other higher education). The ACT contributes proportionately more to gross domestic product than Australia generally.

The 1996 Census results confirm that the ACT has a high socioeconomic profile. It was found that 10.3 percent (30,379) of Territorians were participating in post secondary education compared to the Australian average of 6 percent. The median weekly personal income for people aged 15 years and over was \$430 compared to the Australian median of \$292. In the ACT, 29.5 percent of homes were fully owned by their occupants compared to 40.9 percent of homes in Australia generally. However, the ACT recorded the highest proportion of dwellings being purchased (34.5%). Median housing loan repayments were considerably higher in the ACT than for Australia generally (\$923 per month compared to \$780).

Clearly, the ACT as a whole has a relatively high socioeconomic status, but it is important to acknowledge that there are 'pockets' of people with low and very low socioeconomic status spread fairly evenly throughout the Territory. The ACT government policy of distributing government housing and flats into nearly all suburbs has assisted in ensuring that 'ghettos' of disadvantaged people have not developed to the extent of other cities in Australia. Any health service planning should take into account the location of areas within suburbs and subdivisions where disadvantaged people live.

1.3.1 Ethnicity, income and housing

The 1996 Census showed marked differences between suburbs, but not subdivisions in the ACT with regard to socioeconomic status¹⁰. These are tabulated at Tables 5 (above) and 6.

Table 6: Birthplace, spoken language, housing status, by subdivisions, ACT, August 1996

	North Canberra	Belconnen	Woden Valley	Weston Creek	Tuggeranong	South Canberra	Gungahlin	ACT balance
Australian born (%)	70.5	74.7	69.1	74.7	78.4	71.1	74.3	81.8
UK,Ireland,NZ born (%)	7.9	7.2	9.4	8.7	6.8	8.5	5.4	5.6
Other born (%)	16.1	15.4	18.0	13.1	12.3	14.9	17.7	7.8
Indigenous origin (%)	1.0	0.8	0.9	0.9	1.1	1.5	0.5	0.8
Other language at home (%)	13.3	13.8	14.8	10.2	10.9	11.7	18.7	10.4
Median personal weekly income (\$)	336	404	460	448	460	481	503	294
Owns dwelling (%)	28.6	32.4	36.4	38.2	22.6	32.6	15.0	15.2
Buying dwelling (%)	19.3	34.4	23.5	32.4	49.4	18.1	56.9	8.9
Renting dwelling (%)	48.1	30.4	36.6	26.1	25.4	44.3	25.7	70.5
Total private dwellings (No.)	14,460	28,553	12,789	8,759	28,499	8,945	4,569	112
Median weekly rent (\$)	126	150	150	150	150	150	155	70

Note: 1. In accordance with ABS Census procedures, calculations of proportions include 'not stated' in the denominator.

2. 'Private dwelling' includes Government housing.

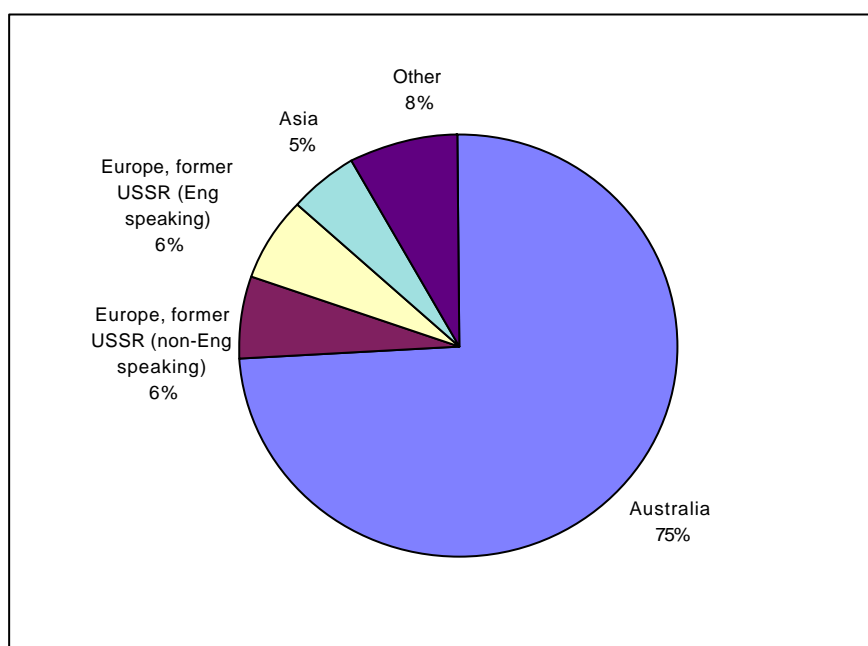
Source: ABS, *Social & housing characteristics for SLAs, ACT, 1996*, Catalogue No. 2015.8

In summary¹¹, the proportion of people born overseas ranged from 19.1 percent in Tuggeranong to 27.4 percent in Woden Valley. Suburbs with the highest proportion included O'Malley (37%), Turner (33%) and Hughes (32%). Suburbs with high concentrations of people who speak a language other than English at home include those with many overseas student residents such as Turner (22%) and Belconnen Town Centre (22%) and other areas such as O'Malley (39%), McKellar (28%), Palmerston (26%) and Florey (23%). South Canberra and Tuggeranong had the highest proportions of Indigenous residents with the

suburbs of Narrabundah (2.6%) and Kambah (1.6%) having the highest percentages.

The ethnic composition of the ACT is varied, with 25.7 percent coming from overseas. It has been reported that people coming from non-English speaking backgrounds and who speak another language at home have fewer serious recent or chronic illnesses¹². Approximately 50,000 ACT residents come from non-English speaking countries, but many of these probably do not speak their native tongue at home.

Figure 1: Ethnic composition of the ACT, August 1996



Source: ABS, *ACT in Focus 1997*, Catalogue No. 1307.8

With regard to income (refer Table 5), Gungahlin-Hall recorded the highest median weekly income (\$503) per household. Suburbs where high incomes were recorded include City (\$762), Forrest (\$683), Kingston (\$593) and Phillip (\$568). Areas recording low incomes include those with high concentrations of students such as Turner (\$279), Belconnen Town Centre (\$275), Braddon (\$272) as well as Oaks Estate (\$252) and O'Connor, Ainslie, Charnwood and Narrabundah (all being in the low \$300's).

Areas with high proportions of home ownership include most of Woden Valley, especially O'Malley (61%) and Isaacs (45%); most of Weston Creek-Stromlo and of Belconnen; most of Hall; and some of South Canberra. The areas with high proportions of rented dwellings were mainly located near town centres and Parliament House, although in Tuggeranong, only Greenway had a high proportion (65%)¹³.

Households

Since being single or part of a single parent family is associated with higher standardised death rates, more self-reported poor health and greater prevalence of risk factors, it is important to determine household structure in an examination of socioeconomic status¹⁴. Of the 231,521 ACT people over the age of 15 years counted at the Census in August 1996, the following partnership status was recorded:

Table 7: Registered partnership status, ACT, 1996

Married		Separated		Divorced		Widowed		Never married	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
58619	59076	3412	4421	6008	9368	1680	7539	43485	37913
52%	50%	3%	4%	5%	8%	1%	6%	38%	32%

Percents refer to proportion of total for the sex. As figures are rounded, they do not necessarily total 100%
Source: ABS, *Social & Housing Characteristics for SLAs, ACT*, Catalogue No. 2015.8

As with the national trend, females outnumber males in the categories of not presently married. They are therefore more likely to be living alone or in a single parent household. The marriage rate in the ACT (5.8 per 1,000 population) was the second lowest of all states and territories in 1995. ACT residents also tended to marry later than in previous years (29.2 years for males, 26.7 years for females). ACT divorce rate is increasing slightly and is higher than for Australia ¹⁵.

Most people (240,976) lived in separate houses although 14,788 lived in flats. There were 583 people living in self-care accommodation for the retired or aged ¹⁶. Only 396 people lived in the 'ACT Balance' subdivision (ie rural setting), 253 of whom were male ¹⁷.

1.3.2 Educational and employment status

With regard to educational and employment status, Table 8 details subdivisional information. Since there is a marked difference in the populations of each subdivision, it is inappropriate to compare numbers between subdivisions. Belconnen (28% of total ACT population) and Tuggeranong (29%) for instance make up over half the total ACT population, so it would be expected that they would have proportionally higher numbers in the various categories. When expressed as percentages of total unemployment (seeking full or part-time work), North Canberra and Belconnen have slightly higher proportions and Tuggeranong a slightly lower proportion than would be expected, given their population proportions. This is mainly due to the older population in North Canberra and Belconnen and the younger one in Tuggeranong. Other subdivisions have roughly the same proportion of unemployment as their populations would indicate. Youth unemployment (16-18 years) as a proportion of total unemployment, varies little across the subdivisions.

Similarly, for the proportions of people not in the workforce (ie not in nor seeking employment), North Canberra has a higher than expected proportion and Tuggeranong a lower than expected proportion of people. Again, the concentration of older and younger populations in these subdivisions would account for these differences.

All subdivisions have proportions of employed people (ie. employees and employers) which are consistent with their population sizes. Clearly, there are differences between suburbs within each subdivision, but the differences even out for the total subdivision.

Table 8: Labour force status, by age, by subdivisions, ACT, August 1996

	North Canberra	Belconnen	Woden Valley	Weston Creek	Tuggeranong	South Canberra	Gungahlin	ACT balance
<i>Still at school</i>								
Employee	300	1354	335	426	1327	193	132	3
Employer	0	6	3	0	9	0	0	0
Unemployed, seeking FT	3	14	6	4	15	3	0	0
Unemployed, seeking PT	58	192	60	63	216	41	20	6
Not in labour force	747	2728	834	746	2570	734	242	11
<i>Never attended school</i>								
Employee	11	47	12	13	39	12	12	0
Employer	0	0	0	0	3	0	0	0
Unemployed, seeking FT	4	16	3	3	12	0	0	0
Unemployed, seeking PT	6	4	0	0	0	3	0	0
Not in labour force	86	158	74	26	123	42	28	0
<i>16 years & under</i>								
Employee	4166	13149	4299	3894	15157	2583	2065	57
Employer	87	271	123	86	272	73	31	0
Unemployed, seeking FT	537	1086	329	247	1030	260	109	6
Unemployed, seeking PT	125	260	80	68	232	69	22	0
Not in labour force	5255	7568	3869	2413	6312	2998	664	37
<i>17 years</i>								
Employee	6313	11168	4795	3567	10806	3651	1866	42
Employer	66	117	70	53	129	95	24	0
Unemployed, seeking FT	286	570	202	129	416	147	76	0
Unemployed, seeking PT	202	252	60	40	131	55	31	0
Not in labour force	2147	2534	1384	792	1842	1029	265	3
<i>18 years</i>								
Employee	5466	10988	4380	3112	10382	2879	2099	41
Employer	62	123	55	36	126	82	22	3
Unemployed, seeking FT	319	601	227	137	450	127	72	0
Unemployed, seeking PT	238	284	80	40	156	60	26	3
Not in labour force	1947	2552	1145	625	1616	772	258	7
<i>19 years & over</i>								
Employee	855	2046	806	561	2204	461	466	0
Employer	18	31	12	3	34	24	5	0
Unemployed, seeking FT	111	192	85	47	141	39	26	0
Unemployed, seeking PT	36	76	16	14	36	14	5	0
Not in labour force	597	829	395	202	520	233	105	0

Note: Cells in the table have been randomly adjusted to avoid release of confidential data

Source: ABS, *Census population & Housing 1996*, unpublished data

Schooling

Of the 93,093 people attending educational institutions full or part-time, approximately half were male (46,988).

At the 1996 Census count, there were 192,909 people in the ACT who left school at age 18 or under with 82,918 of these leaving at age 16 years or less.

1.4 Regions surrounding the ACT

Since the ACT acts as a service centre for many of the surrounding areas, any consideration of health service development should include an understanding of the population in the lower South Coast, the Snowy Mountains and the Southern Tablelands. Major towns in this area include Bombala, Boorowa, Cooma, Crookwell, Goulburn, Gunning, Harden, Queanbeyan, Yass and Young (ABS 1997)¹⁸. The area has an estimated 178,740 residents with varying proportions of aged persons. The places with the largest concentration of people 65 years and over are Eurobodalla (20.8% of its population), Bega Valley (15.5%), and Shires such as Tallaganda (16.1%), Crookwell (15.7%), Harden (14.8%) and Boorowa (14.5%). Queanbeyan (7.0%) and Snowy River (7.2%) have low proportions of people aged 65 and over.

The ACT and Queanbeyan provide 69.5 percent of employment for the ACT and its surrounding regions. Unemployment rates were highest in Eurobodalla (14.1%), Bega Valley (10.2%), the ACT (7.2%), Bombala (7.1%), Young (6.8%) and Queanbeyan (6.7%).



2. Environment

The environment in which people live has a major impact on the risk of injury and development of mental disorders. Social, environmental and health planners need to strive towards the development of a safe living and working environment for people, one in which services are appropriate and accessible.

As mentioned in 1.1, the ACT is fortunate in that its natural environment is conducive to good health. The area around Canberra is mainly mountainous and the ACT has good air and water quality. There are no heavy industries in the ACT.

2.1 Falls

Falls can be accidental, but could be the symptom of an underlying disease. Falls, particularly in the elderly community, can result in serious injury which impedes mobility, daily functioning and quality of life¹⁹. There were 7 deaths as a result of falls in 1996 (4 males, 3 females: 5 of whom were over 75 years of age).

Morbidity

A secondary analysis of the 1989-90 National Health Survey and a population-based multi-stage and sample survey of the Australian population found that GPs are treating many more injured patients than had previously been recognised and that GPs in fact, have an important part to play in the initial (as well as continued) management of injuries in the Australian community²⁰. It found that 60 percent of all medically treated injuries receive primary care in general practice. In terms of reduced activity days the injuries treated were of similar severity as those treated in emergency departments of hospitals, but there were marked differences in the types of people treated. Differences were in age, employment status and place of most recent accident, but there were no differences in sex or country of birth. Injured patients presenting to general practice tended to be older and in employment. Injured patients presenting to emergency departments of hospitals tended to have their accidents occur in places of sport or recreation more often than other injured people. Injuries occurring in the

home were the most common. This trend has implications for reducing risk of falling in a person's everyday environment.

Although detailed data for injury caused by falls are unavailable from general practitioners, physiotherapists etc, available hospital morbidity data give an indication of *acute* morbidity for this cause. There were 1,113 separations due to falls in the ACT in 1996-97:

Table 9: Separations for falls, by place of occurrence, by age, by sex, ACT residents, 1996-97

Age group	Sex	Home	Farm	Mine	Industrial	Sport/ Rec	Street/ Highway	Public Building	Institutional Residence	Other place specified	Other place unspecified	Missing	Total
<1 yr	M	2											2
	F	6											6
1-14 yrs	M	62			1	25	1	16		1	62	2	170
	F	35				18		14			33		100
15-24 yrs	M	23			1	3	2	4	1	3	24	21	82
	F	11									10	6	27
25-44 yrs	M	27			5	3	1	4		5	42	9	96
	F	12								1	23	4	40
45-54 yrs	M	11			4			1	1		15	4	36
	F	21								4	10	1	36
55-64 yrs	M	7			4			1	2		15	4	33
	F	18		1					3		16	4	42
65-74 yrs	M	12				2	1	1	6		11	2	35
	F	35					1	5	12	1	15	10	79
75-84 yrs	M	36				1			12	1	11	6	67
	F	62		1			3	2	26	1	15	15	125
85+ years	M	11				1		2	5		3	2	24
	F	53	1	1		3		1	25	1	10	18	113
Total	M	191	0	0	15	35	5	29	27	10	183	50	545
	F	253	1	3	0	21	4	22	66	8	132	58	568

Source: ACT hospitals morbidity dataset, 1996-97

From the table above, it can be seen that nearly a third of falls resulting in hospitalisation occurred for people over 75 years (29.6%) and nearly a quarter for children aged 1-14 years (24.3%). Males had more falls than females to age 45, but women more falls in all later age groups. Regarding place of occurrence, most falls occurred in the home (64.3% of separations where place of occurrence was nominated). It must be noted, that these data refer to people hospitalised only, and may not be applicable to people who fall but do not require such treatment.

Given these data, and taking into consideration an ageing population in the ACT, the incidence of falls can be expected to increase. A report by the National Health and Medical Research Council in November 1993²¹ notes that:

- * at least one third of people over 65 years of age fall one or more times a year;
- * the causes of falls are usually multifactorial involving combinations of age-related physiological decline, chronic disease, medication and environmental factors;
- * the risk factors for men are decreased physical activity, stroke, arthritis of the knees, gait abnormality and increased static sway;
- * the risk factors for women are muscle weakness, standing systolic blood pressure of less than 110, psychotropic drugs and medication liable to cause postural hypotension;
- * psychological sequelae, such as fear, occur frequently and may lead to increased dependence;
- injuries cause physical, psychosocial and financial costs to the injured person and their carers and financial costs to the community.

Since falls are a common problem for older people (especially women) and since the causes are multifactorial, preventative measures also need to be multidisciplinary in approach. Medications and environmental dangers are potentially remediable, and impaired balance may respond to rehabilitation. Education programs such as the one recently undertaken by the ACT Division of GPs²², will be important in any preventative strategy.

There is considerable evidence regarding the relationship between falls resulting in bone breaks or fractures, and osteoporosis. Continued education programs to ensure people, especially children and young adults, follow a balanced diet with appropriate levels of calcium intake, is indicated (Refer Section 8).

2.2 Safety in the home

Since the major sites for accidents and injury are in and around the home, it is important to make the home environment as safe as possible. People with low mobility, poor eye-sight, hearing and reflexes are particularly at risk (eg babies and elderly people). It is important to eliminate slippery or uneven surfaces, loose cords or carpets, hazards on pathways, poor lighting, fire or electricity hazards. Furniture should be easy to get into and out of. Dangerous sharp instruments, cleaners and medications should be well labelled and stored in a safe place. These are just a few of the items on a home safety check list. Organisations such as Kidsafe and Council on the Ageing (COTA ACT) offer programs to educate the community on home risks.



3. Risk Behaviour

Risk taking includes any lifestyle choice that increases the potential for physical and/or psychological harm to the individual. This definition includes both intentional and unintentional risk taking²³. There is evidence to suggest that individuals are willing to take risks 1000 times more in a voluntary activity such as a hobby or sport than in an imposed, involuntary activity²⁴. The way in which risk behaviours are expressed also depends on environmental and socio-economic factors. Hewitt et al report that adolescents with access to money are likely to take risks while, for example, bungee-jumping or skiing, while adolescents without such opportunities may steal a car to go on a joy ride.

Unsafe behaviour may be adopted because the contingencies of the behaviour are unknown. (the individual does not see the behaviour as risky). Alternatively, unsafe behaviour may be adopted because the consequence of the behaviour is either *extrinsically* rewarding, for example “speeding saves time”, “unprotected sex is more pleasurable”, or because the behaviour is *intrinsically* rewarding (ie. the risk-taking itself provides a thrill: Hewitt et al).

There is a strong consensus that risk-taking is predominantly done by males. However, young females are taking more risks than previously (eg. unprotected sex, smoking & alcohol use)²⁵.

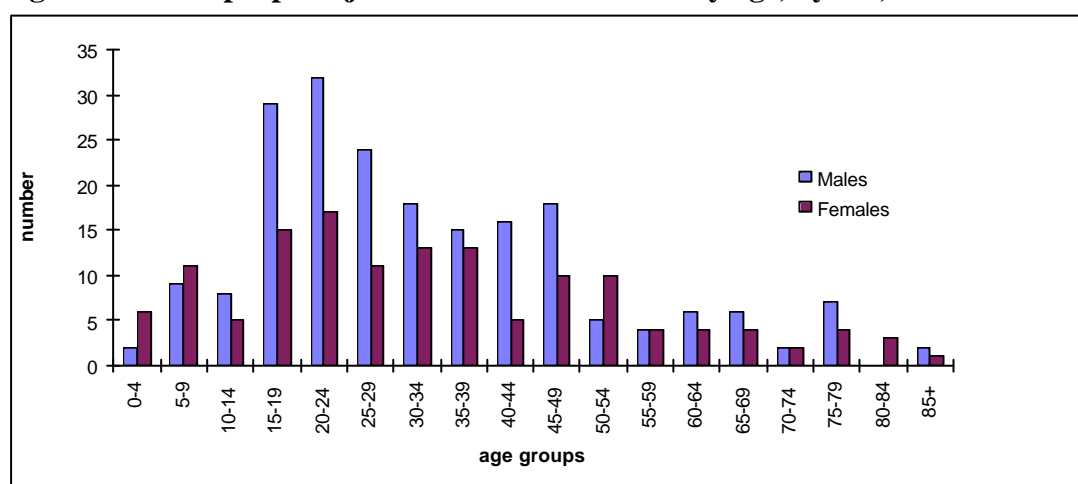
Among 15-24 year olds, intentional risk behaviours are in a minority. Many injuries result from inexperience rather than from the very small number of ‘problem’ young people who exhibit a range of risky behaviours. A study commissioned by the National Health and Medical Research Council on unintentional injury in young males confirmed many of Hewitt

et al's findings, including that low socio-economic status is linked to risk-taking behaviour. Factors which influence this correlation are increased stress (risk-taking can be an escape from stress), riskier occupations, quality of recreational equipment (eg less crash-worthy cars) and access and attitudes to health care²⁶.

3.1 Vehicle accidents

Human behaviour is a contributing factor in 90 percent of vehicle accidents. The age and gender of drivers, their physical health (eg eyesight, reflexes), and the influence of alcohol are important elements²⁷. Lack of seatbelt use is linked to carrying more passengers and to using alcohol and other drugs. It is also linked to being male, less-educated and younger. As such, this forms part of a pattern of attitudes rather than an isolated behaviour that can be targeted directly²⁸. In terms of policy directions, emphasising the high incidence of, for example, vehicle accidents in order to make people more cautious, may have the opposite effect. If accidents are common, and the individual has not yet been involved in one, it may reinforce the idea that "accidents do not happen to me"²⁹. In general, young male drivers consider themselves to be more competent than others, and more competent than they really are³⁰. Figure 2 shows that males outnumber females in all age groups with the exception of children 9 years, 50-54 & 80-84 year olds. Most accidents for both sexes occurred in the 15- 29 age group.

Figure 2: No. of people injured in traffic accidents by age, by sex, ACT 1996-97



Source: ACT Morbidity data 1996-97

People aged 15-24

In the ACT, males aged 15 to 24 had the highest number of injuries from vehicle accidents in 1996-97. Females, however, are becoming more commonly involved in crashes over time.

Table 10: Deaths from motor vehicle traffic accidents by sex, 15-24 year olds, ACT and Australia, late 1980s (age standardised rates and rate ratios)

	females	deviation	males	deviation
Aust. average	17.72	(1.00)	56.2	(1.00)
ACT	18.54	(1.05)	51.34	(0.91)

Source: *Health differentials among young Australian adults*, AIHW 1996:116

This table suggests that young women in the ACT are slightly more likely to die in a traffic accident, compared to Australians as a whole, while ACT young men are at slightly less risk of death from a traffic accident. The rate of injuries, however, is higher for males. Whether

the accidents are more the result of inexperience than of risk taking per se is difficult to determine.

Young drivers, who tend to drive more at night and on the weekends, are more exposed to risk. Furthermore, carrying more passengers increases risk behaviour through distraction or encouragement to drive faster³¹.

People aged 25 to 64

Figure 2 shows that in the ACT, more than 50 percent of all those injured in 1996-97 were people 30 years of age or younger. The incidence of injury from traffic accidents, after peaking as noted above around the 15-24 age bracket, has another, lesser peak in the 40-50 age group for men and the 45-55 age group for women. In the 25-64 age group across Australia, men are 2.7 times more likely to die in a motor vehicle accident than women³². As regards the ACT, both men and women aged 25-64 are significantly less likely to die in motor vehicle traffic accidents than other Australians³³.

People aged 65 and over

Figure 2 demonstrates that men and women over 65 in the ACT have comparable numbers of injuries from traffic accidents, totalling 17 males injured and 14 females. This is despite the fact that there are fewer men over 65 than women, which indicates that men are still over-represented in the traffic injury statistics in this age group.

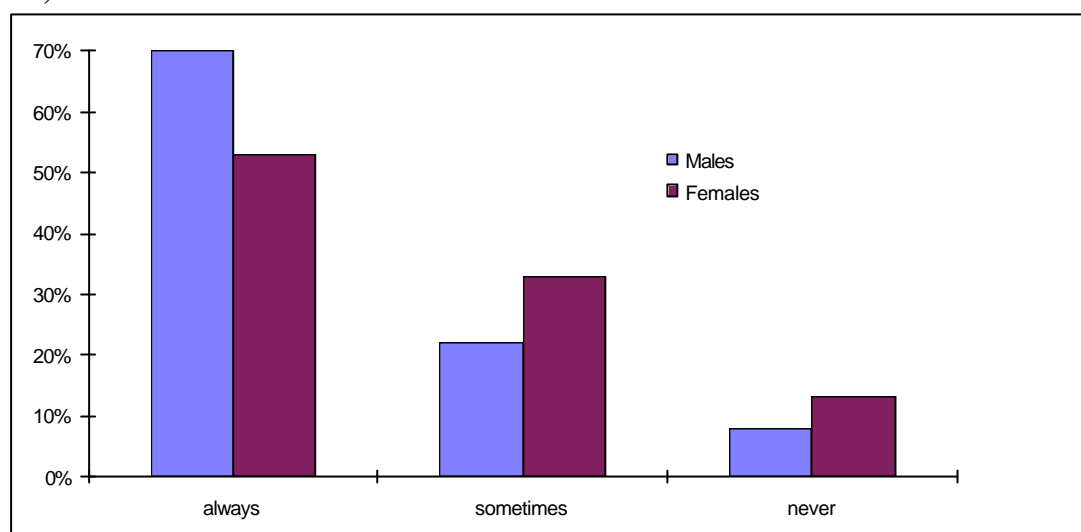
3.2 Sexual risk behaviours

The reduction in the incidence of diseases transmitted by sexual contact (and by injecting drugs) is of key importance to the ACT government. The achievement of this goal will be assisted by obtaining baseline information on unsafe sex (and unsafe injecting) in the ACT, so as to better target education campaigns³⁴.

Rosenthal and Reichler state that “to practise safe sex, a young person may need to behave in a way that is seen as inappropriate for their gender”³⁵. For example, for a young woman to bring up the subject of condoms may feel embarrassingly forward. A young man may identify impetuosity and risk taking with dominant masculine gender roles³⁶. The “Secondary Students, HIV/AIDS and Sexual Health’ survey (refer Glossary) revealed a shift towards safer sex practices from 1992 to 1997, with the use of condoms slowly becoming the norm. The study included 175 students from the ACT. A total of 37 percent of the sexually active students surveyed were using condoms only sometimes and 9 percent never used them³⁷. There were no differences in rates of condom use between students from non-English-speaking and English-speaking backgrounds³⁸.

Condoms were the most commonly used form of contraception at 79 percent, however 11 percent of students were using withdrawal. Since respondents could mark as many forms of contraception as applied, withdrawal might have been used in addition to other methods, for example, condoms³⁹.

Figure 3: Secondary students, frequency of condom use with casual partners by sex, Australia 1997



Source: Secondary Students, HIV/AIDS and Sexual Health 1997

There was a slight reduction in condom use when respondents were having sex only with a steady partner⁴⁰. The number of students using a condom the last time they had sex (with any partner) has increased since 1992 (refer Table 11).

Table 11: Students reporting condom use when last had sex, Australia 1992-1997

	1992	1997
Females	41.9%	66.2%
Males	72.8%	77.1%

Source: Secondary students HIV/AIDS and sexual health 1997: 37

Reasons for not using a condom the last time they had sex were twofold; those who felt one was not needed (since they used other contraception or they had a steady partner), and those who were not prepared for sex because they were too drunk or high at the time⁴¹.

Participation in binge drinking is a key factor in students engaging in sexual risk behaviour. More than 30 percent of students interviewed had been binge drinking in the previous fortnight (refer Table 12).

Table 12: % of students binge drinking in previous fortnight, by sex, by no. of binge drinking episodes, Australia, 1997

Number of binges	males	females
none	53.2	48.5
one	19	23
two	13	16
three	13	11.5

Source: Secondary students HIV/AIDS and sexual health 1997

The Youth Drug Use Survey conducted in the ACT by ADDINC in 1996 revealed that 51 percent of those surveyed reported that they never, or only sometimes, used a condom. However, the sample size of this study was small, and represents only the clients of ADDINC rather than the broader community⁴². In addition, these findings can be tempered by research in California which shows that there are significantly increased transmission rates for STDs in couples who inject drugs, even controlling for other factors such as condom use⁴³. This would suggest that ADDINC's findings, while worrying in relation to young people who identify as

having alcohol and drug problems, are not an accurate representation of sexual risk behaviours across the ACT community.

3.3 General injuries

Some generally accepted societal views do not assist in the reduction of injuries, especially among young men. A culture which accepts risk, and often refers to injuries as ‘accidents’, contributes to the prevailing notion of the unavailability of many injuries⁴⁴. The male gender role which encourages fearlessness and acceptance of injury as inevitable is a key factor in the risk taking behaviour of young men. The glorification of risk (for example in sporting activities and in some industries), and the normalisation of injury are perceived as masculine attitudes. Alcohol is a major risk factor for injury in both adults and adolescents. Drinking contributes to individuals engaging in riskier behaviour as well as making familiar behaviour more risky by reducing visual acuity and coordination.

3.3.1 Drowning and water safety

A study in 1995 showed that the proportion of drownings in Australia attributable to alcohol is 32 percent for males aged 15-24, and as high as 50 percent for males aged 30-44 years⁴⁵. The consumption of alcohol is common during aquatic activities and may encourage swimming or boating in riskier conditions. Alcohol also contributes to drowning through depression of the central nervous system, reduction in body temperature and impaired swimming ability.

As Table 13 shows, figures on drowning in the ACT do not reflect a pattern of conscious excessive risk taking while boating or swimming. This is most probably because in the ACT there exist none of the rough surf or unpredictable weather conditions which lead to many small boats being lost. Nevertheless, information about the link between alcohol, risk-taking and drowning is useful since it may impact on ACT residents who holiday at the coast.

Table 13: No. of people hospitalised for drowning, by age, ACT 1994-97

	94-95	95-96	96-97
under 14	3	3	3
15 to 24	1	0	0
25 to 64	0	0	0
65 and over	0	0	1

Source: ACT Hospital Morbidity Data Collection

3.3.2 Indigenous Australians

The high rates of injury from risk-taking in the Indigenous community are associated with socio-economic disadvantage as described earlier, and with alcohol consumption. A higher proportion of Indigenous than non-Indigenous people are non-drinkers, but those who do drink are more likely to drink heavily⁴⁶. Indigenous people in all age groups have an injury rate three times higher than that of other Australians⁴⁷. Unfortunately, since Indigenous identification procedures have not captured reliable data to date, it is not possible to detail ACT-specific data. However, since there are about 3,000 Indigenous Australians living in the ACT⁴⁸, it will be important to improve data collection in order to plan appropriate services. This process has begun.

3.3.3 Educating about risks

People who tend not to readily change their behaviour in response to public health programs include those from non-English-speaking, Indigenous and/or low-literacy backgrounds⁴⁹. To reduce injuries in all contexts, account must be taken of local resources, specific situations, and the important sociocultural determinants of injury. The participation of target groups is imperative in creating prevention strategies which will work⁵⁰. For a given community to take part in solving problems and providing resources, the benefits must be seen as relevant. This requires the creation of a climate of knowledge and commitment, in which interventions may be tailored to the target group's specific circumstances. Some questions which might be asked in designing effective interventions are:

How is the identity of the group determined and its boundaries set?
Who are the key figures to involve?
What socioeconomic factors might influence the uptake of the intervention?⁵¹

Following the success of several injury-prevention programs in Australia it is hoped that risk-taking will lose its social value and that community safety will become a tradition.



4: Well being

A person's well being depends on how they view themselves, whether they feel that they are living a satisfactory kind of life, whether they feel safe and accepted by the people they most value, and whether their needs are being met. Since perception of needs and values differ between people, so also their perception of well being differs. What is generally accepted however, is that a person's well being affects their health, just as their health affects their well being. They are interrelated.

4.1 ACT Quality of Life Surveys

The ACT Quality of Life Surveys give some insight into people's perceptions of some aspects of their well-being (refer Glossary). Results from the project (1994-97) show that within the ACT population there are some interesting findings with regard to the mental health score.

- Older people (65+) are significantly more likely to have good mental health than those in the younger adult population (18-44 and 45-65 yrs);
- Women tend to score lower (poorer health) than men for scales significantly related to mental health. The exception is general health, with women scoring better than men. These results follow the pattern for the general Australian population;
- Workers who are full-time have higher significant mean scores than part-time workers for mental health scales. In fact, using multivariate analyses, employment status had the strongest influence on the mental health dimension;
- Those who were married or de facto and who had children were likely to have worse mental health than those who were married or de facto without children or who were single without children. People who were single with children had poorer mental health

- than married people (with or without children) and other single people;
- People with higher education levels (tertiary) reported better scores than people with lower educational attainments in physical and role functioning, but people with only Year 12 attainments and trade/secretarial/business qualifications reported better general health than other people;
- Interestingly, all scales except the mental health measure were significantly associated with disability status in the first two surveys, but in the 1997 Survey there was a strong association between *all* the scales.

4.2 National Health Survey 1995

The National Health Survey (refer Glossary) asked people to rate their overall health. Results showed that ACT residents rated their health higher than Australians generally.

Table 14: Self-assessed health status, by rate, ACT & Australia

Self-assessed health status	ACT 1995	Aust 1995
Excellent	205	195
Very good	386	354
Good	270	284
Fair	110	126
Poor	30	40

Note: rate per 1,000 population

Source: *National Health Surveys 1989-90 and 1995*, ABS. Catalogue No. 4364

4.3 Mental disorders

Since mental health relates to emotions, thoughts and behaviour, it is appropriate to analyse ACT mental health status in order to address well-being status. The economic and personal costs of mental illness are major social and public health issues⁵².

The National Survey of Mental Health 1997 (refer Glossary) estimated that the ACT had approximately 46,100 people with a mental disorder of some type. This equates to 21.1 percent of the ACT population, or 1 in 5 people. This estimation is in line with national trends.

Males outnumber females in mental disorder prevalence in the ACT. A large proportion of males (nearly 60% of males with mental disorders) and females (53% of females with mental disorders) were in the 18-34 year age range.

With regard to type of disorder, males accounted for the majority of substance use disorders (80%), but there were slightly more women with anxiety disorders (58%) and affective disorders (56%). The older age groups experienced less mental disorder than younger groups for both males and females.

Table 15: Prevalence (%) of mental disorders, by sex, by age, ACT, 1997

	Age group (years)						Total
	18-24	25-34	35-44	45-54	55-64	65+	
Males							
Mental disorders							
Anxiety disorders	*10.4	*10.8	*12.0	*13.7	*7.8	—	10.5
Affective disorders	*8.5	*9.8	*5.0	*12.1	—	—	7.4
Substance use disorders	33.0	30.3	*9.4	*7.3	*10.4	—	17.0
<i>Total mental disorders</i>	<i>38.7</i>	<i>35.7</i>	<i>20.1</i>	<i>21.5</i>	<i>*14.3</i>	—	<i>24.9</i>
No mental of physical	48.1	59	70.6	60.5	32.8	*31.4	54.9
Total males ('000)	18.0	23.9	23.3	20.5	10.7	9.2	105.6
Females							
Mental disorders							
Anxiety disorders	*10.5	20.3	12.0	*12.6	*8.2	*12.1	13.4
Affective disorders	17.0	*9.5	*5.7	*8.2	—	**3.6	8.6
Substance use disorders	—	*6.8	*7.5	—	—	—	4.3
<i>Total mental disorders</i>	<i>25.8</i>	<i>21.8</i>	<i>14.5</i>	<i>15.1</i>	<i>*8.2</i>	<i>*14.1</i>	<i>17.5</i>
No mental of physical	49.5	61.3	58.0	45.3	47.9	*24.7	50.5
Total females ('000)	18.7	25.6	25.2	21.3	10.5	11.9	113.3

Note: Subject to sampling variability between 25% & 50%. (a) During the 12 months prior to interview. (b) A person may have more than

one mental disorder with or without a physical condition. The components when added may therefore be greater than the total.

Source: ABS. *Survey of mental health and well being, 1997* (unpublished data).

4.4 Eating disorders

Poor dietary habits and a lack of a sense of well-being can lead to serious eating disorders. These disorders mainly affect women. They affect people in all sections of the community and types of families. Reasons for developing such disorders can include feelings of inadequacy (even if they are high achievers), anxiety, society's presentation of the ideal body (pressure to conform), lack of self-esteem, poor body image, child and adolescent development problems, emotional, sexual and physical abuse, other life crises, family relationships, psychological and biological factors. Whereas men are more likely to use violence as their outlet for lack of well-being, women are possibly more likely to use their own bodies to either punish themselves, make themselves less attractive (so that abuse might stop), to take their minds off other problems or to attempt to fulfil a societal ideal body in order that they may be attractive to others. All these reasons involve lack of feeling safe, lack of feeling accepted and acceptable - in short, negative feelings of well-being.

The two major eating disorders are anorexia nervosa and bulimia:

Anorexia nervosa presents as an intense preoccupation with body size and image resulting in a deliberate restriction of calorie intake and often a tendency to exercise obsessively, which leads to substantial loss of body weight. People with anorexia often stop menstruating (females), have severe sensitivity to the cold, grow down-like hair over their bodies and have difficulty thinking rationally and in concentrating. Even when emaciated, people suffering from anorexia feel fat and unable to eat⁵³. About 40 percent of anorexics develop bulimia later. The disorder affects about one percent of young women and a very few men. Young women generally present for assistance around 13 or 14 years of age⁵⁴. People with acute anorexia may be hospitalised for treatment. Table 16 shows separations over a 4 year period in the ACT. It can be seen that it is mainly females who are admitted to hospital. There is no apparent rise in these acute cases over time.

Bulimia also presents as an intense concern with body image and attractiveness, but it results in eating cycles (food restriction to binge eating to vomiting and use of laxatives), often several times a day. As opposed to the people with anorexia (who feel they control food intake), people with bulimia tend to feel out of control where food is concerned. Since body weight does not

alter dramatically, people with bulimia can hide their disorder over a long period of time. Bulimia often starts with a rigid diet followed by inadequate nutrition (through inappropriate dieting and nutrient loss from laxatives). The person with bulimia experiences chemical imbalances in the body which result in lethargy, depression and confused thinking. The disorder is often diagnosed when these people develop physical problems such as tooth decay and abdominal problems. Bulimia affects about 7 percent of young women and virtually no men. Young women generally present with problems in their late teens or early twenties. Hospitalisation is very rare (refer Table 16).

Table 16: Hospital separations for eating disorders, by sex, ACT 1993-97

	1993-94		1994-95		1995-96		1996-97		
	Male	Female	Male	Female	Male	Female	Male	Female	
<i>Principal diagnosis</i>									
Anorexia nervosa		1	9	1	14		15	1	12
Bulimia			2		1		2		1
<i>Secondary diagnosis</i>									
Anorexia nervosa		1	4		5		4	1	6
Bulimia			1		5		16		2

Note: in 1996-97 1 female with a principal diagnosis of anorexia nervosa had a secondary diagnosis of bulimia

Source: ACT hospitals morbidity dataset, 1993-97

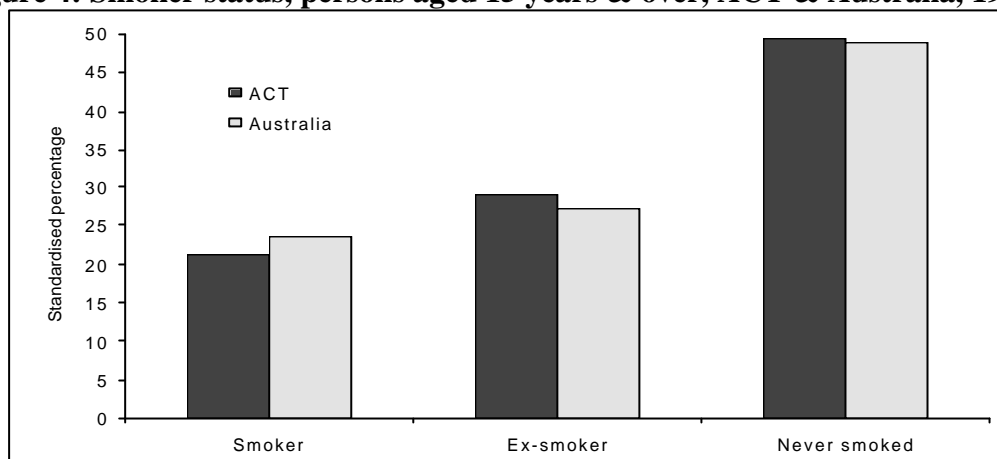
Since eating disorders affect people both physically and mentally, a range of health practitioners may be involved in treatment. Treatment may include psychotherapy, family therapy, drug therapy, reality therapy, hypnosis and education. There are support groups for sufferers and their families. These may be contacted through the ACT Mental Health Intake Line (24 hr free call) on 1800 629354 or Calvary Hospital on 6201 6111.



5. Tobacco smoking

The National Health Survey 1995 (refer Glossary) reported that in the ACT, 21 percent of adults were smokers, 29 percent were ex-smokers and 49 percent had never smoked. These results compare favourably with those for the rest of Australia, which were 24 percent, 27 percent and 49 percent respectively (refer Figure 4). In Australia the proportion of adults who smoke has decreased over the period from 1977 to 1995, while the number of ex-smokers has increased. The proportion of those never taking up smoking has remained similar during the same period⁵⁵.

Figure 4: Smoker status, persons aged 15 years & over, ACT & Australia, 1995

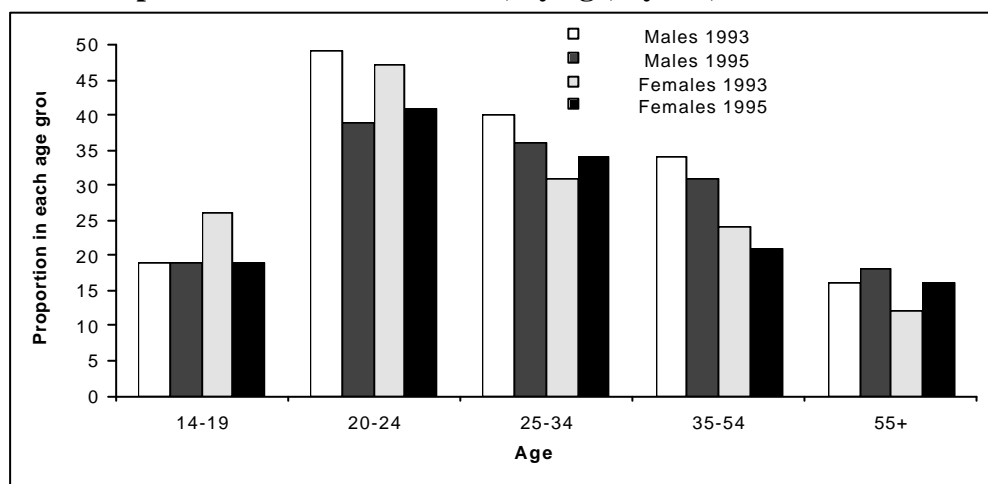


Source: ABS *National Health Survey*, Confidentialised Unit Record File, Cat.No.4364.0

5.1 Gender and age-specific status

The overall pattern of current female smokers in 1993 and 1995 was similar to that of male smokers. The exceptions were a decline in the proportion of current female smokers in the 14-19 years age group and an increase in the 25-34 years age group from 1993 to 1995 (Figure 5). Recent research suggests that women smokers may be at greater risk of early death from smoking than males⁵⁶. As women start to smoke younger their pattern of lifetime smoking is beginning to conform to that of men. As a result women smokers' survival prospects are becoming even less favourable than men's. Refer also Figure 6 for gender information.

Figure 5: Proportion of current smokers, by age, by sex, Australia 1993 & 1995



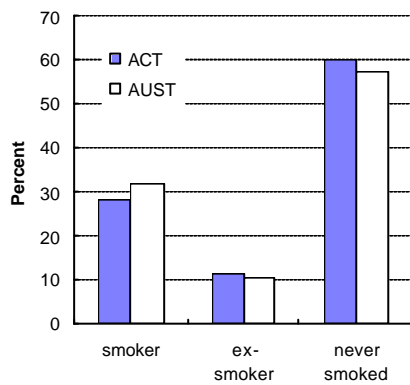
Source: National Drug Strategy Household Survey, 1995

The pattern of cigarette smoking is not uniform across the age groups. According to the National Drug Strategy Household Survey (refer Glossary), the proportion of current male smokers in the 14-19 year age group remained the same in 1993 and 1995, while in all other age groups until the 55 plus age group the proportion of current smokers declined (Figure 5). Males and females 55 years and older increased their proportion of current smokers over the two year period. Females 25-34 years had an increase in current smokers from 1993 to 1995. Figure 6, detailing National Health Survey 1995 results, illustrates that smoking status varies little between males and females except in the older age group (65 and over). In 18 to 24 yr olds in particular the proportions of

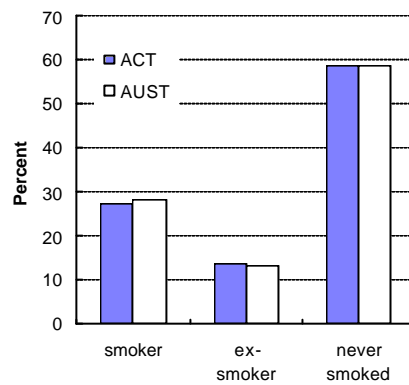
smokers, ex-smokers and non-smokers for females are very similar to those proportions for males. This suggests that young women are taking up smoking more than their older counterparts. As evidenced below, the younger age group of ACT women contains almost the same proportion of people who have never smoked as does the corresponding Australian group. In contrast, ACT males in the 18 to 24 age group include fewer smokers and more people who have never smoked. A higher proportion of ACT males than Australian males generally have given up smoking. In the 25 to 64 age group, the ACT has a higher proportion of male ex- or never-smokers and a smaller proportion of smokers than does Australia overall. Comparison of the different age groups shows that across the ACT and Australia, more younger women are smoking than older women, and they are not giving up at the same rate as are men.

Figure 6: Smoking status by age and sex, ACT & Australia, 1995

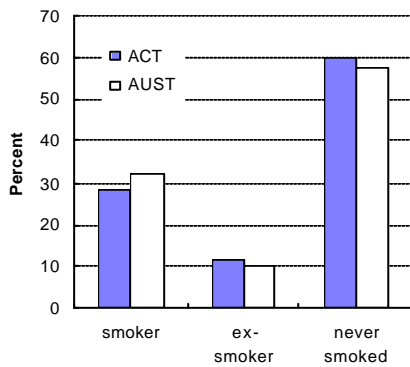
Males aged 18 to 24



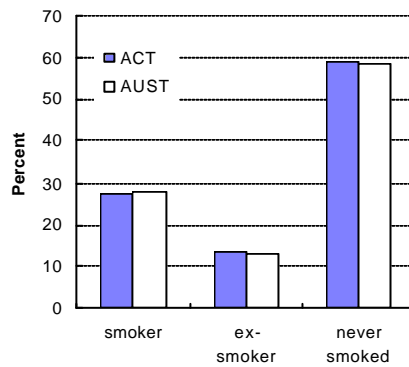
Females aged 18 to 24



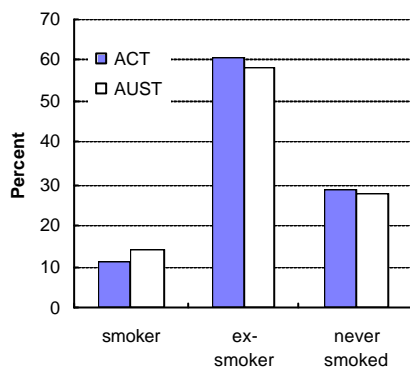
Males aged 25 to 64



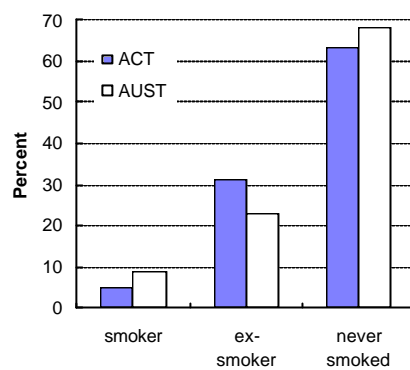
Females aged 25 to 64



Males aged 65 and over



Females aged 65 and over

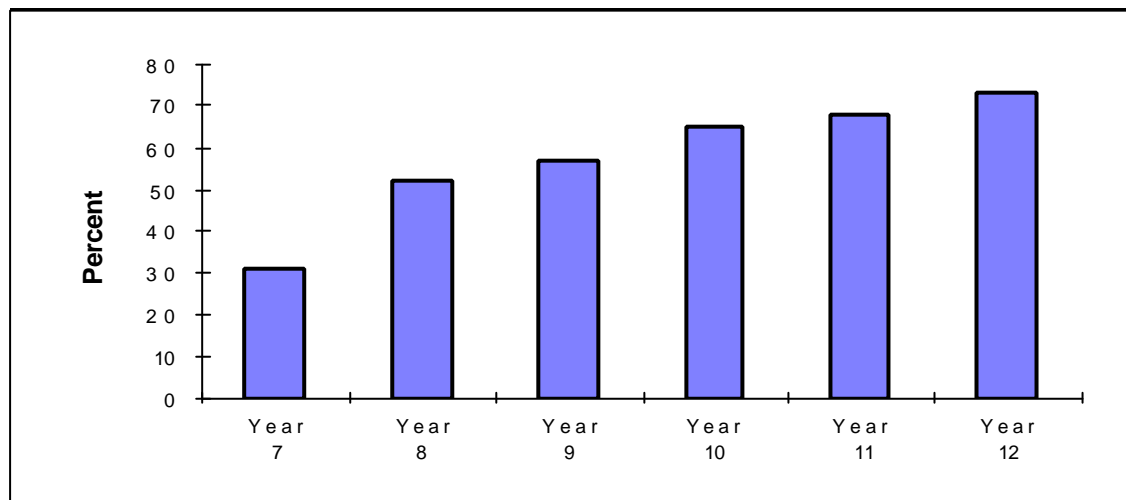


Source: ABS *National Health Survey* Confidentialised Unit Record 1995

People aged 0 to 14 years

There is little data available on smoking levels in children, especially regarding the ACT. Data from the ACT Secondary Schools Survey reproduced below (Figure 7) give some indication of smoking behaviour.

Figure 7: Ever smoked by year level, 1996, ACT



Source: ACT Secondary Schools Survey, 1996

The Survey results show a marked increase in the proportions of students smoking as they progress through the years of schooling.

A study of South Australians revealed that 65.5 percent of smokers with children allowed smoking in their car. The effects on children of passive smoking in such confined spaces could be considerable, and the authors propose the prohibition of smoking in private vehicles⁵⁷. One US study found that having both parents smoke increases a child's likelihood of smoking. However, if parents are current smokers, but talk to the child about not smoking and don't allow smoking in the house, the child's chance of taking up smoking is substantially reduced (Jackson and Henriksen 1997)⁵⁸.

The Australian and New Zealand Journal of Public Health reports that from 1990 to 1993,

Australian state government revenue from sales of cigarettes to minors increased 97 percent. Over the same period, state expenditure on anti-smoking campaigns directed at minors increased 24 percent. These figures equate to only 7.7 percent in 1990 and 5.1 percent in 1993 of revenue from cigarette smoking by those under the legal age being spent on preventing adolescent smoking⁵⁹. The article concludes that in real terms, the amount of money available for prevention campaigns has decreased.

People aged 15 to 24 years

The results from the ACT Secondary Schools Survey 1996 show a clear relationship between age and the prevalence of cigarette smoking. Prevalence is lower in the younger years and increases substantially to a peak in students in years 11 and 12. For older students, the prevalence of smoking is significantly more than for younger students. Although in year 7 only 32 percent of students had ever smoked cigarettes in their lives, this proportion had increased to 74 percent by Year 12. However, since 1984 across all year levels, the proportion of students who have ever smoked appears to have declined consistently by about 10 percent (Figure 7). The survey also found that of all male and female respondents in 1996, more males are non-smokers (73%) than females (64%). There are more female occasional, light smokers and heavy smokers, but chain smokers are more likely to be males. The higher prevalence of smoking among girls is similar throughout Australia, and may be due to factors such as a greater tendency for girls to be concerned about being slim as a response to the imagery of advertising, compared with boys' greater concern with fitness⁶⁰. The Quit campaign fact sheet on adolescent smoking notes that only 7 percent of respondents to the NSW Primary School Survey believed that "a few cigarettes a day are not harmful", and that even among adolescents who smoke, the majority of young people surveyed had very negative views about smoking. Nevertheless, young people still take up smoking, perhaps as an expression of rebelliousness or to help create an identity⁶¹.

People aged 25 to 64 years

In 1995 males across Australia aged 35 years or less, reported higher rates of smoking than males in older age groups. In addition, men 25-64 years were 1.32 times more likely to smoke than women⁶². In the 25-64 year age group, more women had never smoked than men, both in the ACT and nationally. In this age group, ACT males were less likely to be smokers than Australian males generally.

This age group contains the majority of child-bearing women. A recent South Australian study may assist in developing strategies to reduce smoking in pregnant women. It demonstrated that a smoking cessation program, as part of a public hospital antenatal clinic, was more effective at reducing maternal smoking when the women's partners also quit smoking. In addition, one commonly cited deterrent to trialling such an intervention is that women who didn't succeed in quitting would feel too much pressure and guilt. This study showed that participation in the smoking cessation program was not associated with increased psychological distress⁶³.

People aged 65 and over

In the older age group, more ACT women had ceased smoking than Australian women, and for both the ACT and Australia more women than men had never smoked. As with men in the younger age groups, the ACT reported more men who had given up smoking or never smoked than in the rest of Australia.

5.2 Aboriginal and Torres Strait Islander tobacco use

The only available data are detailed in Table 17 (data for Indigenous Australians was collected in 1994, but not in 1993 or 1995). This table allows some comparison between Indigenous and non-Indigenous Australians, especially considering the dramatic difference in the prevalence of smoking between the two groups.

Table 17: Prevalence of tobacco smoking, Indigenous & non-Indigenous people, Australia, 1993-95

	<i>Non-Indigenous 1993</i>	<i>Indigenous 1994</i>	<i>Non-Indigenous 1995</i>
daily user(%)	24	47	23
occasional user(%)	4	7	3
ex-smoker(%)	43	22	36
never smoked(%)	25	23	34

Source: *National Drug Strategy: key national indicators 1997*

The table above demonstrates that the prevalence of tobacco smoking is much higher among Aboriginal and Torres Strait Islanders than in the wider Australian community. Over half of the non-Indigenous people surveyed in the National Drug Strategy Household Survey were ex-smokers, compared to only one in four Indigenous Australians (Williams 1997)⁶⁴. Estimation of ACT prevalence is difficult due to lack of data, but would probably concur with these findings.

5.3 Harm minimisation strategies

The epidemiological evidence re smoking can be summarised thus: of 1000 average young men who smoke regularly, about one will be murdered, about 6 will die in traffic accidents and about 250 will be killed as a result of tobacco use before they reach their seventies⁶⁵. A study of UK residents' response to this statistic showed that there is no evidence that smokers deny the health risks of smoking or are less knowledgeable about the risks than non-smokers⁶⁶. Interestingly, the greater the respondents' age (whether smokers or non-smokers), the more they underestimated the risk of smoking. This has implications for the direction of education campaigns and anti-smoking interventions.

The 1998-99 Federal Budget provides \$6.1 million over 3 years for the implementation of tobacco harm minimisation initiatives. These initiatives include a national response to passive smoking and tobacco education programs which aim to reduce the harm caused by tobacco consumption⁶⁷.

In the ACT, Healthpact has a sponsorship agreement with the Canberra Capitals and the Canberra Cannons basketball teams to promote the ACT Anti-Smoking Program. Games and game day promotions provide high-profile exposure through popular youth role models. The ACT Quit program is particularly focused on preventing young people from taking up smoking. Anti-smoking initiatives comprised 17 percent of Healthpact's 1996-97 funded health messages⁶⁸.



6. Alcohol and other drugs

6.1 Alcohol

Heavy alcohol consumption is associated with increased cardiovascular disease, high blood pressure, coronary heart disease, stroke, liver disease and risk of hard substance abuse. Although there is some epidemiological evidence to suggest that a light to moderate intake of alcohol is beneficial, the National Health and Medical Research Council has stressed that the issue should remain an open question⁶⁹. As well as being a health risk factor in its own right, alcohol significantly increases other risk behaviours, such as unprotected sex.

The following table illustrates the way the levels of risk are defined for the purposes of this publication. Note that in the last column, the number of drinks per week is calculated without allowing for the fact that two days per week of abstinence are recommended for all people⁷⁰. A standard drink contains 10 grams of alcohol⁷¹, which is equal to 12.5 ml of alcohol at 20 degrees⁷².

Table 18: levels of risk by amount of alcohol consumed

Level of risk	Sex	no. of ml /day	= no. of standard drinks/day	= no. of standard drinks/week
Low risk	<i>Males</i>	less than 50	up to 4	up to 28
	<i>Females</i>	less than 25	up to 2	up to 14
Hazardous	<i>Males</i>	50 to 75	4 to 6	28 to 42
	<i>Females</i>	25 to 50	2 to 4	14 to 28
Harmful (severe dependence)	<i>Males</i>	more than 75	more than 6	more than 42
	<i>Females</i>	more than 50	more than 4	more than 28

Source: NHMRC *Is there a safe level of daily consumption of alcohol for men and women?* AGPS, 1992

As a general rule, the metabolism of men can deal with a greater amount of alcohol than that of women. However, in Australian society the equation of drinking with enjoying sport, unwinding after work, celebration, and as a rite of passage for masculinity leads to men consuming more, and more hazardously, than do women⁷³. In addition, male coping styles often involve the suppression of feelings and hence stressful situations can be dealt with by using alcohol instead⁷⁴. Drinking heavily or continuously for a number of days, or drinking to a level of acute intoxication in a single night, are both classified as binge drinking. Abstinence on any day should not be seen as balancing over-consumption on another day⁷⁵.

Women in general have a lower tolerance for alcohol than men. Consuming the same amount of alcohol as a man can lead to neuroadaptation (the brain becoming chemically accustomed to alcohol) and dependence. However, it is thought that strong social sanctions against women drinking heavily mean that women are at less risk of developing dependence. Conversely, women's increased levels of education and participation in the workforce have contributed to an increase in alcohol use⁷⁶. This is related particularly to occupations in medicine, law and other professions requiring long hours and a strong commitment to the problems of others⁷⁷. Binge drinking is increasingly becoming an issue for young women⁷⁸. The table below shows that the vast majority of ACT people were drinking within safe limits in the week prior to the National Health Survey.

Table 19: drinking levels by sex, by age, ACT 1995

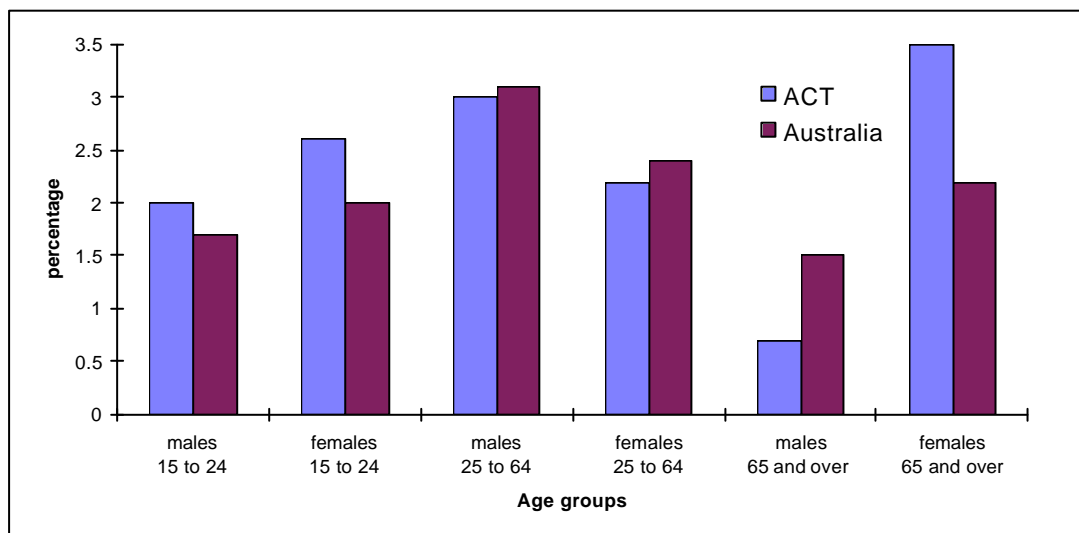
	age group	low risk	hazardous	harmful
males	0-14	100.0	0	0
females	0-14	100.0	0	0
males	15-24	94.9	3.0	2.0
females	15-24	96.5	0.9	2.6
males	25-64	93.9	3.1	3.1
females	25-64	97.2	0.6	2.2
males	65 and over	97.1	2.2	0.7
females	65 and over	95.3	1.2	3.5

Source: *National Health Survey 1995, Confidentialised Unit Record File* Australian Bureau of Statistics 1997, Cat. No. 4364.0

The ACT results for hazardous and harmful drinking are compared with the Australian results in the figures below. At hazardous drinking levels, far fewer females than males are represented in all age groups. However, at harmful drinking levels, females are on a par with or exceeding males. It should be noted that the differences between Australia and the ACT were not found to be statistically significant.

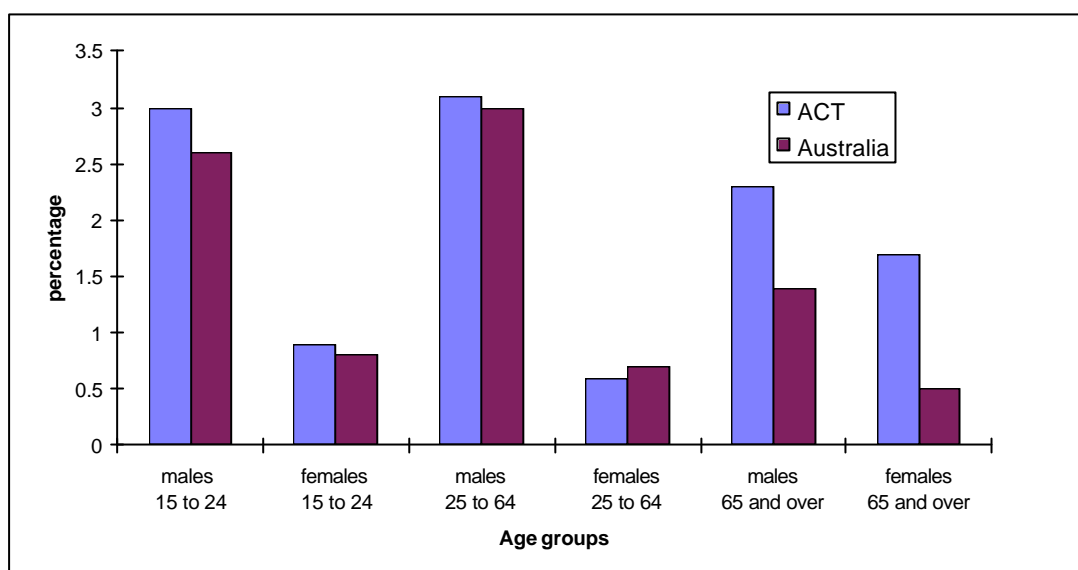
The figures illustrate that more ACT males and females in the 15 to 24 age group are drinking hazarously than in Australia overall. This is echoed to a lesser extent in the results for harmful drinking levels. The comparatively high level of hazardous and harmful drinking in ACT females aged 15 to 24 could be linked to the relationship between higher education levels and increased alcohol consumption. As noted previously, participation in the professions is a risk factor for over-consumption, and the ACT has higher education levels compared to Australia overall. The high levels of drinking in the female, over 65 group is probably related to the small sample size.

Figure 8: Hazardous drinking by age and sex, ACT and Australia 1995



Source: *National Health Survey, 1995, Confidentialised Unit Record File* ABS 1997, Cat. No. 4364.0

Figure 9: Harmful drinking by age and sex, ACT and Australia 1995



Source: *National Health Survey, Confidentialised Unit Record File, 1995*, ABS, 1997, Cat. No. 4364.0

People aged 15 to 24

Peer preference has a significant influence on alcohol consumption for the 15 to 24 year age group, and drinking behaviour tends to be modelled on parents' use of alcohol⁷⁹.

Alcohol *abuse* tends to decline as adolescents get older, possibly as people become more certain of their identity or position in a peer group. As the ACT School Survey found, the number of people describing themselves as non-drinkers declined from year 7 to year 12. People describing themselves as party drinkers increased but not as steeply, suggesting an end result in adulthood of moderate drinking for the vast majority. Most respondents disagreed or strongly disagreed with the statement that drinkers are more popular than non-drinkers. Over half the female respondents and over one third of the male respondents strongly disagreed with the statement that if they are not drinking they are not part of a group⁸⁰. Interestingly, students who have never used alcohol see it as dangerous even at low levels of use, while students who use alcohol heavily see it as 'not dangerous'. These findings will have implications for education program designs.

People aged 25-64

As illustrated in the Figures 8 and 9, 3 percent of ACT males and up to around 2 percent of ACT females aged 25 to 64 are drinking at hazardous or harmful levels. This age group has the highest percentage of male risk drinkers, for the ACT and Australia. However, when compared with results from the late 1980s, the ACT's risk alcohol consumption for both men and women has decreased⁸¹. The earlier results indicated that ACT women in this age group engaged in risk drinking at a rate 1.24 times that of Australian women. Currently, they are drinking at risk levels, amounting to an average of 1.41 percent (1.50% for Australia as a whole).

People aged 64 and over

The somewhat surprising level of hazardous drinking for ACT females 65 and over could be explained by the small sample size for this group. As noted before, these results are not statistically significant considering the number of people surveyed. The results shown in the

figures above are only partially borne out by those found in the late 1980s for this age group⁸², which indicated that ACT males had a high alcohol intake risk 0.38 times that of Australians as a whole, while ACT females had a high alcohol intake risk 1.11 times that of other Australians.

6.2 Other drug use

The major reason for hospitalisation due to the effects of drugs between 1991-92 and 1995-96 was the adverse effects of drugs in therapeutic use. The second most common reason was attempted suicide and other self-inflicted poisoning and third was accidental poisoning⁸³ (Note that ambulance calls that did not require hospitalisation are not included in morbidity statistics). This pattern of hospitalisation contrasts with causes of death. While adverse effects of drugs in therapeutic use were the main cause of hospitalisation, the main cause of death was accidental poisoning by drugs and medicinal substances. Very few people were recorded as dying as a result of adverse effects of drugs used therapeutically. According to the Youth Drug Use Survey ACT 1996, there has been an increase among young people in the ACT in the daily use of heroin (63% increase) and alcohol (33% increase). These figures are based on a survey of people voluntarily accessing Assisting Drug Dependents Inc. Daily use of marijuana has remained stable and the use of speed and of benzodiazepines has decreased markedly (84% decrease and 54% decrease respectively)⁸⁴. The increase in heroin use might be attributable to the relative affordability of heroin in recent years, which would also account for the decrease in speed (amphetamine) use.

6.2.1 Adverse effects of therapeutic use

For drugs in therapeutic use, the drugs causing the highest volume of hospitalisations were antineoplastic and immunosuppressive drugs. There were 260 hospitalisations between 1991-92 and 1995-96 as a result of adverse affects in therapeutic use of these drugs. Of these hospitalisations, 143 were males and 117 females with an average age of 40 and 47 years of age respectively. Overall the average age was 43. There were no recorded deaths attributed to this cause.

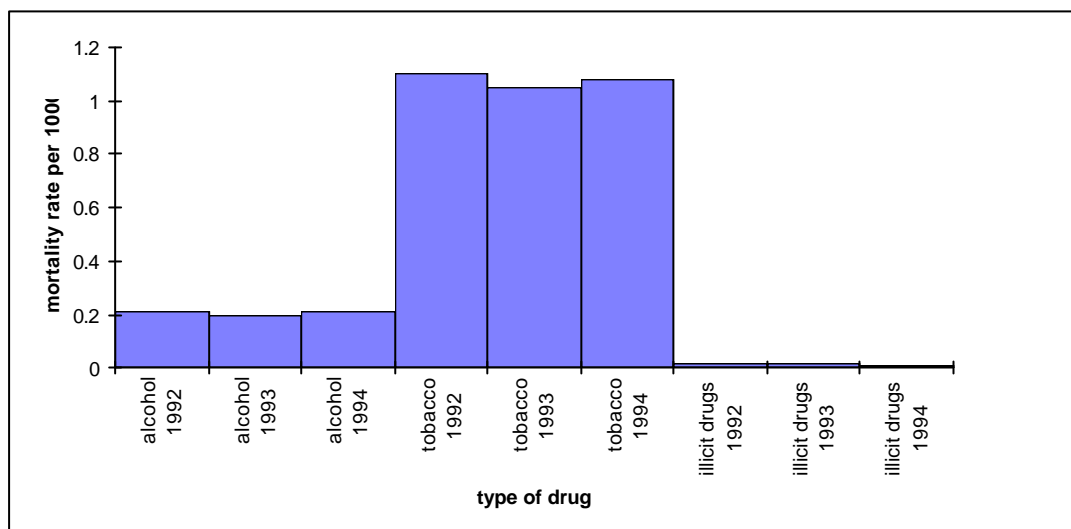
The type of drugs causing the second highest volume of hospitalisations in therapeutic use were anticoagulants. There were 126 hospitalisations between 1991-92 and 1995-96, primarily due to this cause. The number of males and females hospitalised was the same. The average age of those hospitalised was also similar at 64 years of age. There were no deaths recorded from this cause.

6.2.2 Illicit drug use

The illicit drugs category normally contains both drugs which are prohibited and drugs which can be prescribed but are not used in the prescribed way. From the available hospital morbidity and causes of death data it is not possible to tell whether drugs which can be prescribed have been used correctly or not. Therefore, these data will only be used for describing prohibited drugs. Use of alcohol is strongly associated with use of other drugs, and is a contributing factor in some adverse effects of illicit drug use.

As Figure 10 shows, mortality rates attributed to alcohol, tobacco or illicit drugs have remained stable during the period 1992 to 94.

Figure 10: Mortality rate caused by alcohol, tobacco & illicit drugs, Australia 1992-94



Note: Rate per 1000 population

Source: *Australian Illicit Drug Report 1995-96*, Australian Bureau of Criminal Intelligence 1996

The figure above illustrates that while deaths are certainly caused by illicit drugs, it is appropriate that national policy on drug-related issues focuses on hazardous alcohol intake and tobacco smoking⁸⁵. These, rather than illicit drugs, are the priority in limiting the number of deaths caused by drug intake.

People 15 to 24

An emerging trend in Australia is that young people have higher levels of illicit drug use compared with older Australians. Polysubstance use in particular has emerged as a characteristic of adolescent drug use⁸⁶. Adolescent males have a higher rate of using alcohol and illicit drugs than females. Use of illicit drugs in the family or peer group is another significant factor associated with illicit drug use. Only a small minority of drug users ultimately experiment with amphetamines, barbiturates or cocaine. A survey of secondary students across Australia revealed that 90% of the year twelve students drank alcohol, while only 2% of all students surveyed had ever injected drugs⁸⁷.

Among young people accessing the Drug Referral and Information Centre in the ACT, 93 percent reported using more than one drug in the past year⁸⁸.

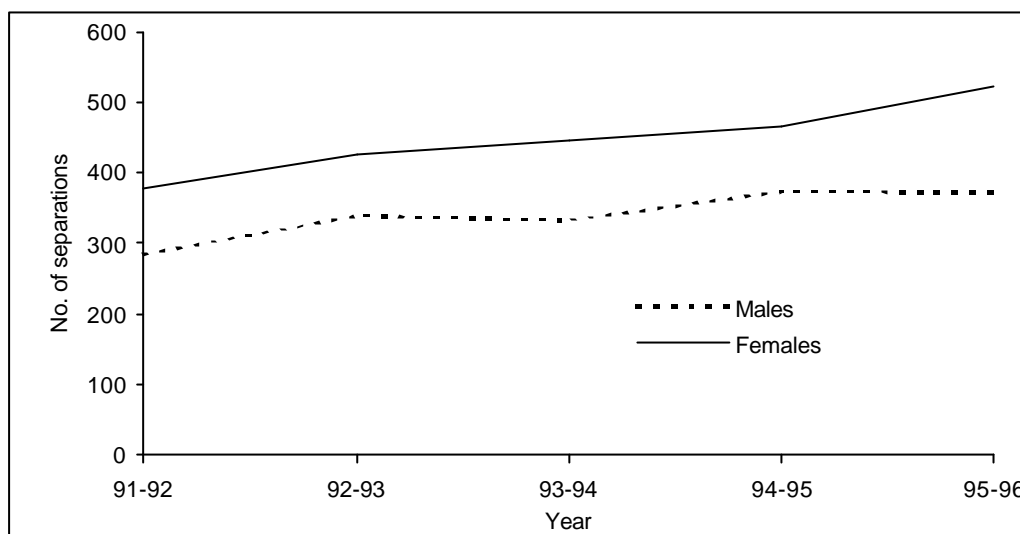
6.2.3 Self-inflicted poisoning, tranquillisers

Although drugs used therapeutically were the main cause of hospitalisation⁸⁹, when specific drug use is analysed, the highest volume of hospital separations occurred from self inflicted poisoning by tranquillisers and other psychotropic substances. Females were more likely than males to be hospitalised for poisoning by prescription drugs. The average age of males and females hospitalised was 35 years. Despite this large number of hospitalisations however, there were only six deaths between 1993 and 1995 due to suicide by tranquillisers and other psychotropic substances.

The second highest volume of hospitalisations from self inflicted injury was due to use of analgesics, antipyretics and antirheumatics. This group of drugs includes opiates, aspirin and paracetamol. Because the particular drug is not specified in the data available, it is not possible to determine whether the drug used was a prohibited substance or not. (ie the drug used could have been, for example, aspirin or heroin). There were 204 males and 96 females

admitted to hospital for the above cause. The average age of those admitted was 27 years of age - in this instance the age of females was slightly younger.

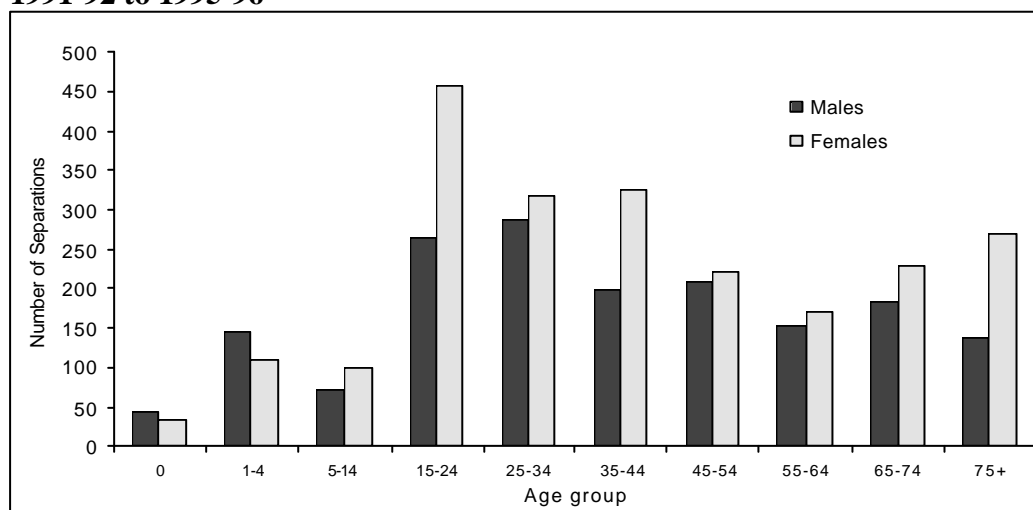
Figure 11: hospital separations for external injury related to drugs & chemicals by sex, ACT, 1992-96



Source: ACT Hospital Morbidity Data Collection 1991-92 to 1995-96
 Note: These codes include alcohol, tobacco, illicit and prescription drugs

The data in Figure 11 are further disaggregated in Figure 12 into age groups. By far the largest group was that of females between the ages of 15 and 24 years. One of the major reasons why people were admitted to hospital for drug poisoning was because of a suicide attempt. The larger proportion of female hospitalisations than male hospitalisations may reflect in part, the fact that males tend to use more violent methods for suicide attempts and therefore complete it more often than females.

Figure 12: ACT hospital separations related to drugs and chemicals, by sex, by age, 1991-92 to 1995-96



Note: These codes include alcohol, tobacco, illicit and prescription drugs.
 Source: ACT Hospital Morbidity Data Collection 1991-92 to 1995-96

6.2.4 Benzodiazepines

Benzodiazepines are recognised by the Medical and Pharmacy Boards in the ACT as being excessively and sometimes inappropriately prescribed⁹⁰. Assisting Drug Dependents Incorporated reported an increase of 119% in Benzodiazepine use between 1994 and 1996⁹¹. One survey found that in Australia, up to 37 percent of injecting drug users had used benzodiazepines in the preceding month⁹². Guidelines for the management of benzodiazepine dependence, issued by the NHMRC, suggest that all patients should be treated as potentially dependent, and that benzodiazepines should be prescribed for the least amount of time possible⁹³.

6.2.5 Marijuana

The most commonly used illicit drug is marijuana, although its use is less common than both alcohol and tobacco. The National Drug Strategy Household Survey 1995 (refer Glossary) showed that 42 percent of ACT people have at some time tried marijuana and 16 percent of those had used the drug in the last 12 months. The ACT has the second highest rate in Australia (equal to Western Australia). The highest usage rate is in the Northern Territory, where 52 percent have used and 21 percent have used in the past twelve months, while in Queensland only 26 percent have ever used marijuana and 10 percent have used it in the past twelve months. It must be noted however that these rates are not age standardised. Because people who use marijuana are generally of a younger age group, those states and territories with younger populations, such as the ACT, will tend to show higher usage rates. The ACT Secondary Schools Survey 1995 (refer Glossary) showed an increase in the marijuana use of years seven to twelve students between 1991 and 1996. For example, 19 percent of year 10 females reported using marijuana within the last week in 1991 (Increased to 26 percent in 1996). For year 10 males the reported use of marijuana rose from 24 percent in 1991 to 30 percent in 1996⁹⁴.

In the ACT, there was a small number of hospitalisations whose primary diagnosis was cannabis abuse, either dependent or non-dependent. Complications experienced by these people included paranoia, personality disorders, certain types of schizophrenia and alcohol abuse, both dependent and non-dependent. It is not possible to determine whether these problems existed before or after the cannabis use. There were no recorded deaths directly attributed to cannabis in the ACT between 1993 and 1995⁹⁵.

In Australia, more males (37%) than females (24%) have ever used marijuana. Of those who have used the drug in the past 12 months, 18 percent were male and 8 percent were female. The greatest proportion of marijuana users across Australia are in the 14 to 34 year age group. Between 27 and 28 percent of this age group has used marijuana in the past 12 months. Usage rates drop off quickly as age rises and for the 35 to 54 year age group only 5 percent have used marijuana in the past 12 months⁹⁶. There is considerable confusion about marijuana laws in the ACT with 55 percent of respondents thinking possession of small amounts of cannabis is legal and 38 percent thinking it is illegal (7 % did not know)⁹⁷. In fact, the law is that the possession of cannabis in small amounts is a civil, not criminal, offence.

6.2.6 Hallucinogens

Apart from the non-medical use of analgesics, LSD is the next most frequently used illicit drug across Australia, with 7 percent having ever tried the drug and 2 percent having used it in the past 12 months. Approximately twice as many males as females use hallucinogens and usage is highest among the 20 to 24 year age group, of whom 16 percent have ever tried the drug. This compares with 7 percent for 14 to 19 year olds and 4 percent for 30 to 54 year olds⁹⁸.

There was a small number of people who were hospitalised with a primary diagnosis of hallucinogen abuse. Some of these hospitalisations were due to a suicide attempt. Others were accidental poisoning with hallucinogens plus other drugs including alcohol. Research indicates that there may also be an association between hallucinogens and drug induced mental disorders. There were no recorded deaths attributed to hallucinogens between 1993 and 1995 in the ACT.

6.2.7 Amphetamines and other psychostimulants

Amphetamines were the next most tried drug after hallucinogens. Six percent of people had tried these drugs and 2 percent had used them in the last 12 months. Over twice as many males as females had ever tried the drug or used it in the last 12 months⁹⁹. The use of speed (amphetamines) on a regular basis declined in the ACT between 1994 and 1996.

23 people were hospitalised in the ACT with a primary cause of dependent and non-dependent amphetamine abuse. A large proportion of these were due to suicide attempts. Many of those hospitalised suffered from mental disorders such as depressive, anti-social and drug-induced mental disorders. Other drugs such as alcohol, cannabis, hallucinogens and benzodiazepines were sometimes associated with the hospitalisation of these patients. Heart problems, abdominal pains and migraines were also experienced.

There were no recorded deaths as a direct result of amphetamine poisoning in the ACT between 1993 and 1995.

6.2.8 Heroin/ opioids

Other illicit drugs such as designer drugs, cocaine and heroin have ever been used by less than 3 percent and used in the last 12 months by less than one percent of the Australian population¹⁰⁰. In the ACT there were 77 hospitalisations of people with a primary diagnosis of opioid dependence or poisoning between 1991-92 and 1995-96. However, it is not always possible to determine from the data available, whether this was illicit or licit opioid use. Other problems related to such hospitalisations were other drug dependence or polydrug use, including sedatives, hypnotics and alcohol. Associated symptoms included migraine, depressive disorders, viral infections such as hepatitis B and C, respiratory and circulatory disorders. Although opioids are used by only a small percentage of the population, they tend to cause more hospitalisations than other illicit drugs.

There were at least 21 deaths attributed to opioid abuse between 1993 and 1995. Sixteen of these deaths (more males than females) were due to heroin poisoning. There were no hospitalisations or deaths registered in the ACT with regard to cocaine use.

6.2.9 ACT services

The Alcohol and Drug Service (part of ACT Community Care) provides direct services to individuals, families and groups with the aim of minimising the harm related to alcohol and drug use. The service offers interventions to assist those who continue to use alcohol and other drugs, to minimise health and safety risks associated with that use. Other interventions are designed to assist those clients who choose to abstain from alcohol and drugs to do so.

Table 20 illustrates that there has been a reduction in the number of bed days in the detox unit, but an increase in the activity of the methadone program.

Table 20: Alcohol and Drug Service, ACT: no. of contacts 1993-95

	1993-94	1994-95
Detoxification unit		
-occupied bed days	3519	3247
Methadone program		
-average number of clients	301	330
-take-away doses	24 474	27 593

Source: Jacobs, Dalma *ACT in Focus, 1996* Australian Bureau of Statistics 1996:57

In order to develop a strategy to minimise the harm caused to the community by illicit drug use, the ACT Government has initiated research into the incidence and nature of drug use in the ACT. Stage one of this research project, called *Limiting the impact of illicit drug use*, will measure the impact of illicit drugs on the criminality, health and welfare of users and the community in general. In the second phase of the strategy, responses to stage one will be determined. The research and the coordination of agency data about drug use, should be completed by the end of September 1998.

The 1998-99 ACT Budget includes significant funding for alternative drug treatments in the Territory. Two new treatment trials for drug users will begin in the ACT in August 1998. They involve withdrawal from heroin using buprenorphine for withdrawal and naltrexone for maintenance; and accelerated detoxification from methadone using naltrexone. The National Centre for Epidemiology and Population Health (NCEPH) has been contracted by the Department of Health and Community Care to conduct the withdrawal from heroin trial. The withdrawal from methadone trial will be managed by Professor Nick Glasgow of the ACT Clinical School, with the assistance of the ACT Drug and Alcohol Service and NCEPH.

In 1997, the Government announced significant reforms to the Needle and Syringe Exchange Program. These reforms included the introduction of Safety Packs (evaluation due at end of 1998), expansion of the Sharps Hotline, discussions with the Pharmacy Guild to expand the needle exchange program to include greater pharmacy involvement, and a community education and information campaign.

Assisting Drug Dependents Incorporated has recently completed a six-month trial of a late night drug referral and information centre. This service, funded by the ACT Government, provided an innovative service for young drug users on Friday and Saturday nights called Late Night DRIC.



7. Exercise

It is now universally accepted that regular moderate physical activity is health-protective with both physiological and psychological benefits¹⁰¹. Inactivity is seen as a risk factor for several conditions such as heart disease and diabetes. The significance of a lack of physical activity as a risk factor for disease led to National Health Goals and Targets being established. The Australian target is to reduce the percentage of adults not engaged in physical activity in a 2 week period to 25 percent for all adults. The baseline data (1989-90 ABS National Health Survey) showed that 35.6 percent of men and 36 percent of women had not participated in physical activity in the past 2 weeks¹⁰². The 1995 Survey results are outlined in this section.

Physiological Benefits

The physiological benefits available from an active lifestyle are many¹⁰³. They include:

- Decreased risk of coronary heart disease
- Lower cholesterol levels
- Decreased risk of hypertension
- Lower likelihood of overweight or obesity
- Reduced risk of diabetes (non-insulin dependent)
- Maintenance of bone density - reducing the risk for osteoporosis
- Reduced risk for colon cancer¹⁰⁴.

Psychological Benefits

Being involved in physical activity has a number of beneficial psychological effects which include:

- Aids some people suffering with depression
- Aids better sleep
- Helps reduce anxiety
- Creates a greater feelings of wellbeing¹⁰⁵.

Societal Benefits

Added to the benefit for the individual, society gains from the participation of its members in physical activity. Benefits include:

- Improved community health
- Stronger social fabric via community development
- Enhanced non-family support networks
- Decreased anti-social behaviour
- Increased community self reliance and identity
- Economic gains related to having a healthier population¹⁰⁶.

7.1 Physical Activity in the ACT

Two ABS surveys estimating physical activity are detailed below:

ABS Population Survey Monitor (PSM)

In 1995-96 and 1996-97 the survey (refer Glossary) gathered information on participation in organised sport and physical activity in the two weeks prior to interview. In 1996-97, 34.2

percent of ACT residents surveyed reported being involved in physical activity across all age groups. Table 20 outlines survey results.

Table 21: Percentage of participants in organised sport & physical activities by age, ACT & Australia, 1995-97

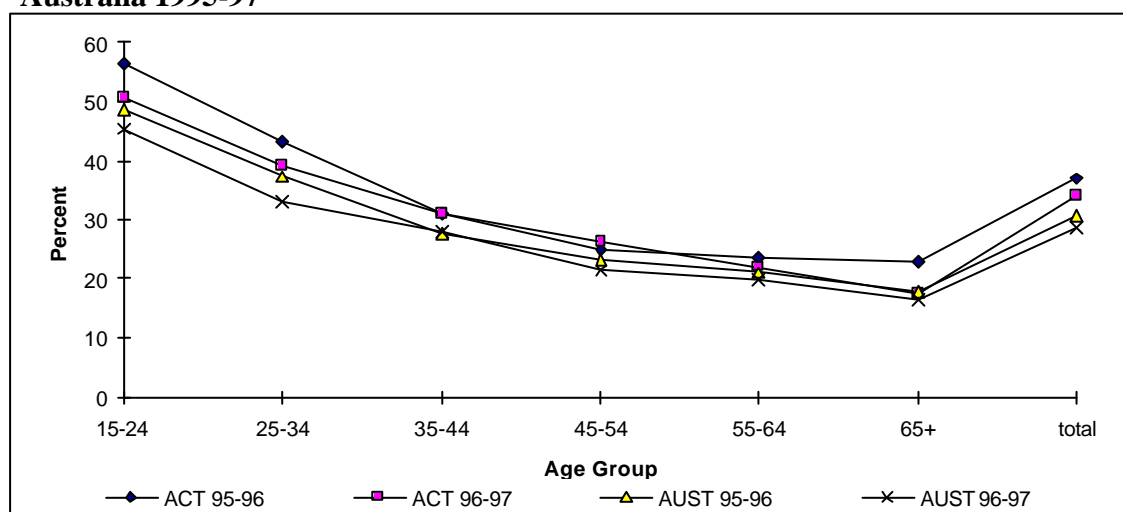
Age Group	ACT 95-96	AUST 95-96	ACT 96-97	AUST 96-97
15-24	56.3	48.5	50.6	45.5
25-34	43.2	37.3	39.1	33.1
35-44	31	27.6	31	28
45-54	25.1	23.2	26.4	21.4
55-64	23.7	21.2	22.2	19.8
65 and over	23.1	17.7	17.6	16.6
total	36.9	30.7	34.2	28.6

Note: participants are defined as those physically active in the sport & excludes coaches, umpires, instructors & committee members
Source: ABS Participation in sport and physical activities 95-96 and 96-97 Cat. no. 4177.0

Table 21 shows a trend towards decreasing participation as age increases. Although ACT proportions were higher than those of Australia for all age groups, the percentage of ACT residents involved in sport and physical activity dropped between 1995-96 and 1996-97. This follows the national trend.

The survey also looked at the type of organised sports and activities in which people were engaged. The most popular sport for ACT residents was aerobics. The percentage of participants for the selected organised sports has declined for all sports except swimming over the two years.

Figure 13: Percentage of participants for selected organised sports, ACT & Australia 1995-97



Source: ABS Participation in sport and physical activities 95-96 and 96-97 Cat. no. 4177.0

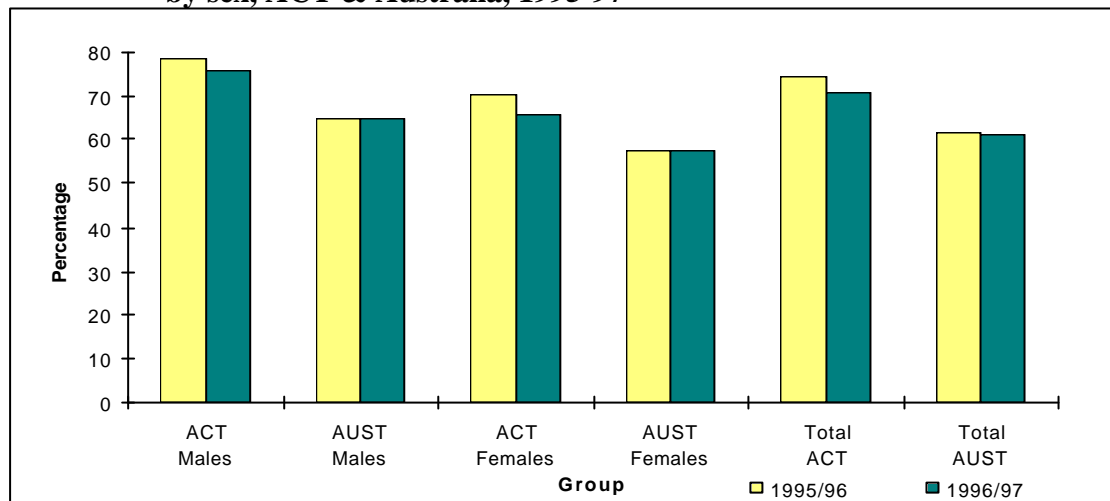
This trend was also seen at the national level with most organised sports and physical activities having declining levels of participation. It is important to note that the figures that represent a decline in rates of participation may not be statistically significant. The figures do not represent the level of participation in non-organised physical activity.

Children

Data from the ABS PSM includes some information on the physical activity of children 5-14 years. Figure 14 shows that ACT males 5-14 years have a higher percentage of involvement in organised physical activity when compared with Australia but that the percentage dropped between 1995-96 and 1996-97. A similar pattern is seen for ACT females 5-14 years.

Overall, while the percentage of children 5-14 years participating in organised physical activity was higher in the ACT than for Australia in both 1995-96 and 1996-97, the ACT percentage dropped between those years whilst the percentage for Australia remained similar. This information may indicate a trend of the ACT average decreasing towards the national average. There is insufficient data available to ascertain whether the results are statistically significant however.

Figure 14: Percentage of Children aged 5-14 involved in organised physical activity, by sex, ACT & Australia, 1995-97



Source: ABS Participation in sport and physical activities 95-96 and 96-97 Cat. no. 4177.0

Table 22 below shows the percentage of children who reported being involved in out of hours school activities and club organised activities by age group for Australia.

There has been a marginal increase in reported participation in organised activities for 12-14 year olds between 1995-96 and 1996-97 and a slight decrease for 5-8 year olds and 9-11 year olds. Again, from the data available it can not be determined if the difference between the years is statistically significant.

Table 22: Percentage of Australian children (5-14 years) involved in organised physical activities, by sex, 1995-97

Age Group	School	Club	Total	Total	Total	Total
5-8 years	8.8	44.4	50.3	47.1	48.7	49.2
9-11 years	27.5	59.3	76.5	64.3	70.4	71.0
12-14 years	29.6	59.2	72.9	64.4	68.8	68.4
Total	20.6	53.2	64.7	57.4	61.1	61.5

(a) After School Hours. Sums of components do not add to total as children may do both school and club organised activities.

Source: ABS Participation in sport and physical activities 95-96 and 96-97 Cat. no. 4177.0

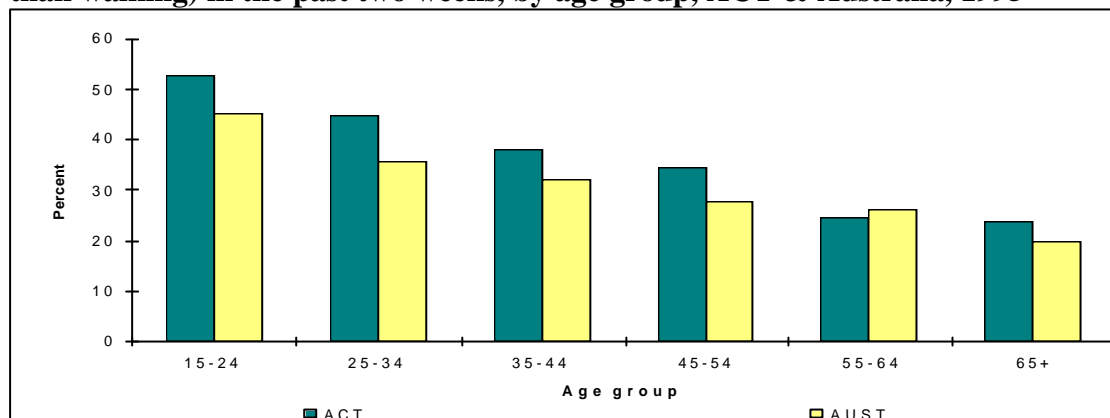
ABS National Health Survey (NHS)

The National Health Survey conducted by the Australian Bureau of Statistics in 1995 contained questions relating to physical activity. It is known that physical activity tends to decline with age¹⁰⁷ and that male and female patterns need not necessarily be the same¹⁰⁸. Taking this into account, analysis of the NHS questions has been broken down by age and sex. The National Health Survey did not ask children about their physical activity.

Figure 15 shows that the ACT had a higher than Australian proportion of women participating in moderate exercise (other than walking) in the following age groups: 15-24 ($t=3.26$, $p<0.01$), 25-34 ($t=4.2$, $p<0.01$), 35-44 ($t=2.78$, $p<0.01$) and 45-54 ($t=2.93$, $p<0.01$) For the other age groups

(55-64 and 65+), the percentage of ACT women involved in moderate level physical activity in the previous two weeks was not significantly different to the percentage for Australia (refer Appendix 1 for methodology).

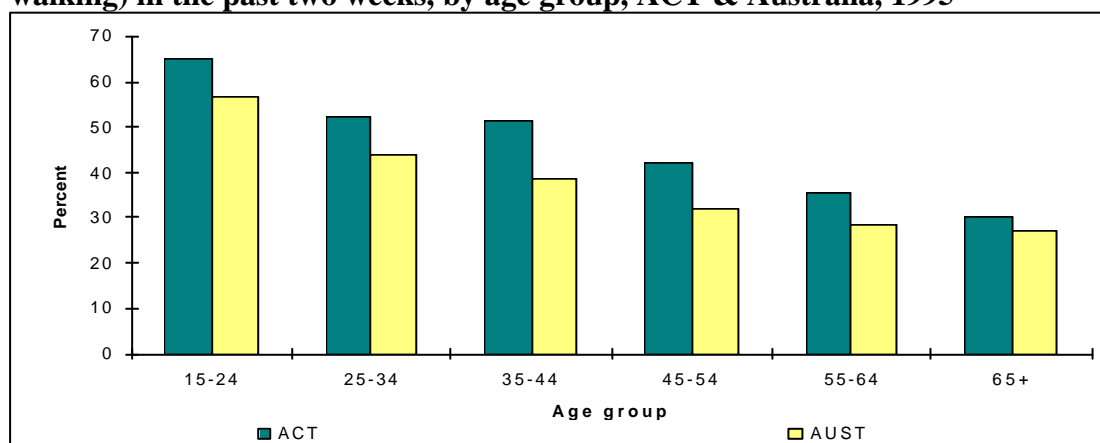
Figure 15: Percentage of females who reported doing moderate activity (other than walking) in the past two weeks, by age group, ACT & Australia, 1995



Source: ABS National Health Survey 1995 Confidentialised Unit Record File (CURF)-Australia.

From Figure 16 it can be seen that the ACT had a higher than expected number of men participating in moderate exercise (other than walking) in the following age groups: 15-24 ($t=3.49$, $p<0.01$), 25-34 ($t=3.73$, $p<0.01$), 35-44 ($t=5.51$, $p<0.01$), 45-54 ($t=4$, $p<0.01$) and 55-54 ($t=2.03$, $p<0.05$). For the oldest age group the percentage of ACT men involved in moderate level physical activity in the previous two weeks was not significantly different to the percentage for Australia.

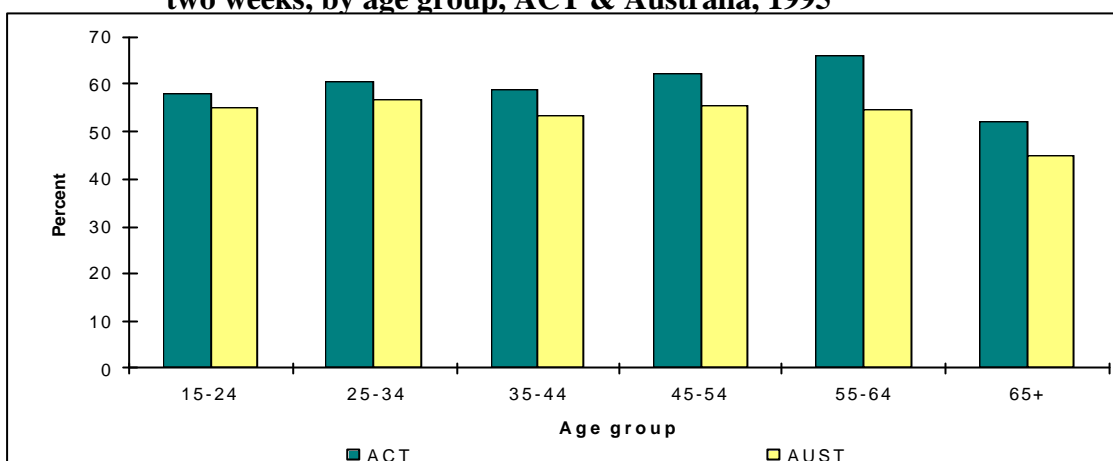
Figure 16: Percentage of males who reported doing moderate activity (other than walking) in the past two weeks, by age group, ACT & Australia, 1995



Source: ABS National Health Survey 1995 Confidentialised Unit Record File (CURF)-Australia.

The percentage of ACT women who reported doing walking exercise in the two weeks prior to the survey was higher than expected for the age groups: 35-44 ($t=2.21$, $p<0.05$), 45-54 ($t=2.34$, $p<0.05$), 55-54 ($t=2.48$, $p<0.05$) and 65+ ($t=2.10$, $p<0.05$). For the younger age groups (15-24 and 25-34) no significant differences were observed between women in the ACT and Australia.

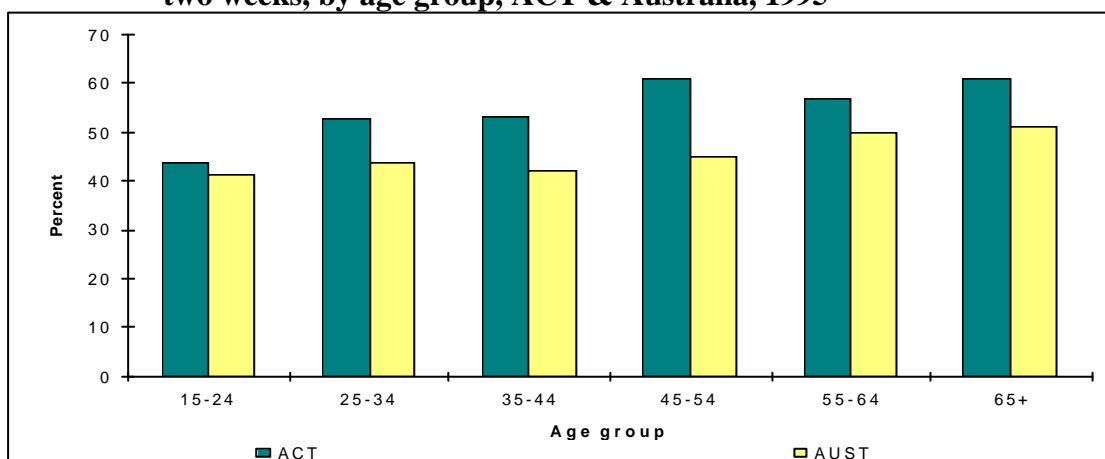
Figure 17: Percentage of females who reported doing walking exercise in the past two weeks, by age group, ACT & Australia, 1995



Source: ABS National Health Survey 1995 Confidentialised Unit Record File (CURF)-Australia.

The percentage of ACT men who reported doing walking exercise in the two weeks prior to the survey was higher than expected for the age groups: 25-34 ($t=3.96$, $p<0.01$), 35-44 ($t=4.56$, $p<0.01$), 45-54 ($t=5.58$, $p<0.01$) and 65+ ($t=2.14$, $p<0.05$). For the other age groups (15-24, and 55-64) no significant differences were observed between men in the ACT and Australia.

Figure 18: Percentage of males who reported doing walking exercise in the past two weeks, by age group, ACT & Australia, 1995



Source: ABS National Health Survey 1995 Confidentialised Unit Record File (CURF)-Australia.

7.2 Barriers to Physical Activity

Although most people are aware of the health benefits of exercise, perceived or real barriers affect the taking up, maintenance and resumption of physical activity. A report by the Department of the Environment, Sport and Territories notes that the main reason for people not being involved in regular physical activity - or increasing their current level of physical activity - was time. It also reported that socioeconomic factors were important in determining participation in physical activity. For inactive people, younger persons were more likely to cite lack of time or motivation as barriers, and older persons were more likely to identify illness and disability as barriers to physical activity¹⁰⁹.

These findings coincide with the ABS PSM survey. The main reason why Australians discontinued participation in organised sport and physical activity was lack of time followed

by injury and health problems. It is interesting to note that loss of interest is decreasing as a reason, over time.

Figure 19: Main reason why organised sport and physical activities discontinued, adults, Australia, 1995-97

Reason	95-96 (%)	96-97 (%)
No time/too busy	25.7	27.3
Injury/health problems	19.7	20.8
Lost interest	14.6	10.2
Moved away from club	9.6	11.2
Too expensive	6.5	8.8
Change in employment	3.1	3.3
Child care problems	1.9	2.0
Other /Don't know	18.9	16.5
Total	100	100

Note: (a)Results are for persons aged 18 years or over (b) During the previous 2 years
Source: ABS Participation in sport and physical activities 95-96 and 96-97 Cat. no. 4177.0

Addressing Barriers

Health benefits from physical activity can be gained from 30 minutes of moderate activity on most days. The 30 minutes can be broken down into three 10 minute slots. This message is being encouraged by the Active Australia Campaign which is described in the next section. The campaign also makes the point that physical activity need not be expensive or limited to one physical location - such as a sports centre. It need not involve organised sports or activities but can be achieved personally or with a few friends.

The National Health and Medical Research Council (NHMRC) in its report *Exercise and the Older Person* - defines exercise as 'a time commitment to motor activity that is hopefully pleasurable and beyond the level usually applied to the routines of daily life'. This makes exercise possible for all persons. The NHMRC advocates the participation of elderly people in physical activity because of its ability to improve cardiac and respiratory fitness as well as providing a capacity to better recover from debilitating illness. Of course, an exercise program that takes into account current physical capabilities is required¹¹⁰.

7.3 Promotion of Physical Activity



ACTIVE AUSTRALIA

Active Australia is a national campaign that promotes the benefits of physical activity as well as developing the sport and recreation industry to be sufficiently skilled, educated and qualified to be able to offer the activity programs the community is demanding. It is supported by all State and Territory governments, the Federal Government, local government, Federal Department of Health, sport and recreation

industry groups and the Australian Sports Commission.

The vision of Active Australia is *all Australians actively involved in sport, community recreation, fitness, outdoor recreation and other physical activities.*

Its goals include:

- To increase and enhance lifelong participation in sport and recreation;
- To develop quality infrastructure, opportunities and services to support participation in sport and recreation;
- To realise social, health and economic benefits of participation in sport and recreation¹¹¹.

The Active Australia physical activity message is 'Exercise: You only have to take it regularly, not seriously'. The campaign shows that participation in physical activity need not be costly in monetary or time terms - and is good for you.



ACTIVE AUSTRALIA & THE BUREAU OF SPORT AND RECREATION

The Bureau is committed to its mission of creating an Active Capital Territory using the Active Australia initiative.

To achieve these goals the Bureau developed a marketing plan in mid 1997 for the implementation of Active Australia in the ACT. The plan has six key elements:

- *Awareness* - create a series of fun events and activities to attract community involvement and interest
- *Promotion* develop existing partnerships to assist with the promotion of the social, health and economic benefits
- *Motivation* - encouragement of all non active people to become more physically active
- *New products* - develop a range of new physical activity products for the community
- *Evaluation* - ongoing monitoring to maintain quality programs and services
- *Accreditation and Training* - to ensure safe, quality, diverse accessible and enjoyable sport and recreation experiences.

Significant progress has been made in the implementation of the plan. For example, the staging of numerous community events, TV commercials aired over 8 weeks in early 1998, every GP in the ACT receiving information on physical exercise ,1000 Active Australia Leaders trained and an ACT Information Line - (02) 6205 4000 established. Also, the first five Active Australia Providers in Australia are from the ACT.



8. Nutrition

8.1 Guidelines to nutrition

It has been reported that “unbalanced nutrition ranks with smoking and high alcohol consumption as one of the three major risk factors for premature death in Australia”¹¹². Poor diet has been associated with the development of a number of medical conditions including coronary heart disease, high blood pressure, stroke, non-insulin dependent diabetes mellitus, gall bladder disease and some cancers. Eating the ‘right foods’ is important for receiving vitamins and minerals necessary for body function. In Australia the majority of health problems are the result of over consumption of fat, sugar and salt combined with a sedentary lifestyle¹¹³.

National Dietary Guidelines and Recommended Nutrient Intakes

In 1992 the National Health and Medical Research Council (NHMRC) developed dietary guidelines for healthy adults¹¹⁴.

<p>Revised Guidelines for adults</p> <ol style="list-style-type: none"> 1. Enjoy a wide variety of nutritious foods. 2. Eat plenty of breads and cereals (preferably wholegrain), vegetables (including legumes) and fruits. 3. Eat a diet low in fat and, in particular, low in saturated fat. 4. Maintain a healthy body weight by balancing physical activity and food intake. 5. If you drink alcohol limit your intake. 6. Eat only a moderate amount of sugars and food containing added sugars. 7. Choose low-salt foods and use salt sparingly. 8. Encourage and support breastfeeding. <p>Guidelines for specific nutrients</p> <ol style="list-style-type: none"> 9. Eat foods containing calcium. This is particularly important for girls and women. 10. Eat foods containing iron. This applies particularly to girls, women, vegetarians and athletes.
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In 1995 the NHMRC released *Dietary Guidelines for Children and Adolescents*¹¹⁵.

<p>Dietary guidelines for children and adolescents</p> <ol style="list-style-type: none"> 1. Encourage and support breastfeeding. 2. Children need appropriate food and physical activity for normal growth and development. Growth should be checked regularly. 3. Enjoy a wide variety of nutritious foods. 4. Eat plenty of breads and cereals (preferably wholegrain), vegetables (including legumes) and fruits. 5. Low fat diets are not suitable for children. For older children, a diet low in fat and in particular, low in saturated fat, is appropriate. 6. Encourage water as a drink. Alcohol is not recommended for children. 7. Eat only a moderate amount of sugars. 8. Choose low-salt foods. <p>Guidelines for specific nutrients</p> <ol style="list-style-type: none"> 9. Eat foods containing calcium. 10. Eat foods containing iron.

The NHMRC publication *Recommended dietary intakes for use in Australia*¹¹⁶ specified the levels of intake of certain nutrients that were regarded as necessary for the maintenance of good health in healthy adults. They were based on the average needs of individuals in certain age and sex groups.

The Core Food Groups

The development of the *Dietary Guidelines for Australians* and *Recommended dietary intakes for use in Australia* emphasised the need for a revised educational tool which reflected current nutritional and educational thought. Since the idea of having five food groups was 20 years old¹¹⁷ and there were concerns about diseases related to over consumption, *The Core Food Groups* was developed (Cashel & Jefferson, 1995)¹¹⁸. An outline of the recommendations from *The Core Food Groups* for different ages is given below.

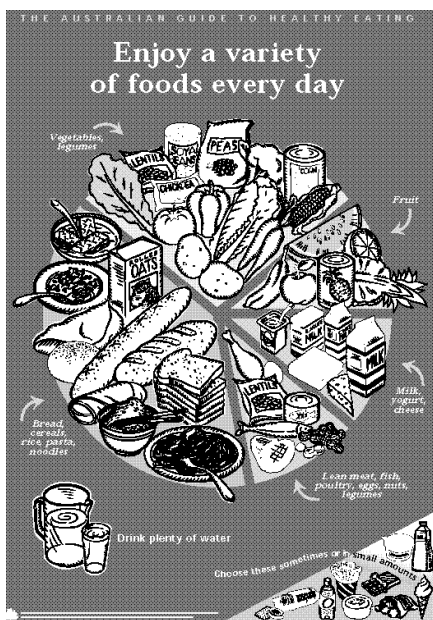
Table 23: Core Food Group recommendations by age

Group\Age	4-7	8-11	12-18	19+	Pregnant	Lactating
Cereals (grams)	120	180	180-210	210	240	330-360
Fruit (grams)	150	150	300-450	300	600	750
Vegetables (grams)	150	225	300	300-375	375	525-600
Meat (grams)	35	65	85	85	125	190
Milk (millilitres)	400	450	500-600	450	450	450-600

Source: Cashel, K & Jefferson S *The Core Food Groups* (1995) p20.

The Core food groups are the basis of the newly developed *Australian Guide to Healthy Eating*¹¹⁹. The development of the *Guide* was an important part of the Commonwealth Government's Food and Nutrition Policy. The *Guide* provides information about the amounts and kinds of food that are needed each day to get enough of the nutrients essential for good health.

The main message of the *Guide* is that you should:



1. Eat enough of the five food groups (Fruit, vegetables, cereals, milk and meat) .

2. Choose different varieties of foods from within each of the five food groups from day to day, week to week and at different times of the year.

3. Eat:

- plenty of plant foods (bread, cereal, rice, pasta, noodles, vegetables, legumes and fruit);
- moderate amounts of animal foods (milk, yogurt, cheese, meat, fish, poultry, eggs) in the proportions shown in the *Guide*;
- drink plenty of water to quench your thirst.

More information on the *Guide* is available from the Commonwealth Department of Health and Family Services.

Equity factors

Although the development of the *Guide* as an educational tool is essential, there is recognition that all subsections of the community are unable to act on this information equally. Particular groups 'may be restricted in their choice of food purchases'¹²⁰ for a variety of reasons. A fundamental aim of the Commonwealth's Food and Nutrition Policy is to:

- Increase the availability of nutritious foods, especially in remote areas,
- Increase the affordability of nutritious foods for economically disadvantaged people, and
- Increase the understanding of good nutrition and foods

(Commonwealth Department of Health, Housing and Community Services, 1992)¹²¹.

Groups that are considered most at risk for poor nutrition are sole parents and their dependents, people living in rural areas, migrant groups, people of Aboriginal and Torres Strait Islander origin and women - who may compromise their own nutrition for the sake of their family^{122 123}.

ABS National Nutrition Survey (NNS) 1995

The National Nutrition Survey was conducted by the ABS in 1995 (refer Glossary). The survey was designed to look at nutrient intake but also asked about the ability to pay for food. The table below gives the percentage of Australian persons by selected age groups who had run out of food and had no money to pay for more. (ACT data is unavailable). It appears that almost 10 percent of persons between 19-24 years had been in this situation in the previous year. This compares with just greater than one percent of persons 65 and over.

Table 24: Percentage of persons 16 and over: whether ran out of food and had no money to buy more at any time in the last 12 months, Australia, 1995

	Age Groups					
	16-18	19-24	25-44	45-64	65 +	19+
Ran out of food and had no money	6.4	9.9	6.4	2.7	1.1	5.0
Didn't run out of food	87.9	90.0	93.4	97.0	97.5	94.7
Not applicable/not stated	5.7	0.1	0.2	0.3	1.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Nutrition Survey Highlights Australia 1995 Catalogue no. 4802.0

8.2 Nutrition status

Together with mortality patterns, morbidity (illness) patterns provide an insight into the health profile of ACT residents. An outline of diet-related hospitalisations and deaths in the ACT follows.

8.2.1 Morbidity

Please note that caution must be taken when trying to extrapolate from the number of hospitalisations the rate of disease in the community¹²⁴. Hospitalisations usually only reflect acute episodes of illness.

Leister¹²⁵, gives a list of a number of diet related diseases and their International Classification of Disease version 9 (ICD9) code. From the table below, the level of diet related disease hospital separations - as a percentage of total hospital separations - has stayed around the 9 percent mark. The most common diet related hospital separation for the same period (1993-97) was due to ischaemic heart disease. Ischaemic heart disease accounted for just over 2 percent of all hospital separations.

Table 25: Hospital separations (%) with a primary diagnosis due to diet related diseases, ACT, 1993-97

ICD9	Condition	1993-94	1994-95	1995-96	1996-97
410-414	Ischaemic heart disease	2.44	2.36	2.60	2.45
574-575	Gall bladder disorders	1.14	1.10	1.00	1.24
430-438	Cerebrovascular disease	0.66	0.60	0.55	0.60
428-429	Cardiovascular disease (excl. CHD)	0.46	0.42	0.47	0.46
558	Non-infective gastroenteritis & colitis	0.53	0.56	0.35	0.19
455	Haemorrhoids	0.70	0.73	0.54	0.57
562.1	Diverticular disease	0.36	0.36	0.33	0.29
820-821	Fracture of neck of femur	0.43	0.35	0.35	0.40
174-175	Cancer of breast	0.29	0.36	0.37	0.34
783	Symptoms concerning nutrition	0.07	0.09	0.05	0.08
521	Dental Caries	0.20	0.22	0.28	0.32
401-405	Hypertensive disease	0.11	0.08	0.09	0.08
153	Cancer of the colon	0.18	0.20	0.15	0.18
250	Diabetes Mellitus (NIDDM)	0.46	0.34	0.36	0.29
560.0,7	Constipation	0.15	0.17	0.17	0.15
443,459	Peripheral Vascular disease (excl. athero)	0.18	0.07	0.06	0.03
154	Cancer of the rectum	0.16	0.13	0.12	0.11
291	Alcoholic psychoses	0.04	0.03	0.02	0.02
151	Cancer of the stomach	0.06	0.07	0.06	0.07
733.1	Vertebrae collapse	0.05	0.06	0.08	0.10
440	Atherosclerosis	0.24	0.35	0.40	0.45
182	Cancer of the endometrium	0.04	0.04	0.02	0.03
003-005	Intestinal infectious disease	0.04	0.02	0.02	0.02
733	Osteoporosis	0.31	0.36	0.33	0.34
303	Alcohol dependence syndrome	0.04	0.03	0.01	0.02
156	Cancer of the gall bladder	0.02	0.01	0.01	0.02
278	Obesity	0.02	0.02	0.02	0.01
260-269	Nutritional deficiencies	0.01	0.00	0.01	0.01
281	Other deficiency anaemias	0.02	0.02	0.02	0.03
152	Cancer of the small intestine	0.01	0.01	0.01	0.01
988	Toxic effect of noxious substance taken as food	0.00	0.00	0.00	0.01
366.41	Diabetic cataract	0.00	0.00	0.00	0.00
270.1,	Other nutritional disorders	0.00	0.00	0.00	0.00
280	Iron deficiency anaemias	0.20	0.20	0.22	0.22
	Percentage of total separations due to diet	9.63	9.36	9.04	9.13
Total	All diet related disease separations	6,201	7,016	6,588	6,905
	All other disease separations	58,216	67,925	66,253	68,758
	All separations	64,417	74,941	72,841	75,663

Source: ACT hospital morbidity data 1993/94 - 1996/97.

Information about the level of morbidity in the community can be gleaned from community based surveys such as the ABS National Health Survey 1995. From the results below, hypertension was the most widely reported diet-related condition. This was slightly higher than the national rate.

Table 26: National Health Survey: Selected types of reported recent and/or long term conditions, ACT & Australia, 1995

	ACT	Aust.
Diabetes (NIDDM)	*4.4	8.0
Obesity	*2.4	2.8
High cholesterol	55.4	51.3
Hypertension	107.6	106.8
Heart disease	26.7	27.9
Stroke (inc. after effects of)	*5.0	6.1
Atherosclerosis	*1.8	1.4
Constipation	64.3	50.6
Cancer of the breast	**0.2	2.0
Osteoporosis	14.9	16.8

Note: Rate per 1,000 population. Age & sex standardised to the Australian population

* Relative std error 25-50%

** Relative std error over 50%

Source: ABS National Health Survey (1995) Summary Results: Australian States & Territories Catalogue No. 4368.0

8.2.2 Mortality

A summary of deaths due to *possibly* diet-related diseases follows. (More details may be found in Health Series Number 13).

Cardiovascular disease

In the ACT, cardiovascular disease accounted for 40 percent of all deaths in 1996. 27.4% of all deaths were caused by coronary heart disease and 10.3% of all deaths by cerebrovascular disease.

Table 27 shows that ACT males have a considerably lower death rate than Australian males and ACT females a favourable rate to Australian females for ischaemic disease. 1996 standardised rates for cerebrovascular disease have similar fluctuations to those for ischaemic heart disease. ACT rates were slightly higher than those for Australia.

(Note: There are genetic conditions which predispose persons to heart disease and myocardial infarction. Those cases are therefore not exclusively diet-related).

Table 27: Standardised mortality rates for ischaemic heart disease and cerebrovascular disease, by sex, ACT & Australia, 1996.

	Ischaemic Heart Disease (ICD9 410-414)	Cerebrovascular Disease (ICD9 430-438)
ACT Males	151.27	53.49
Aust. Males	161.23	51.50
ACT Females	115.10	84.00
Aust Females	135.64	75.76

Note: Standardised to the Australian 1991 population. Rate per 100,000 population.

Source: ABS *Causes of Death Australia* 1996 Catalogue No. 3303.0

Cancer

Mortality due to malignant neoplasms (cancers) in the ACT fluctuates over time due to the relatively small number of persons and deaths. To account for these fluctuations the results from a number of years may be added together.

Table 28 compares the age standardised death rates for the ACT (1988-1992) with results from

NSW (1992) for a number of different cancers which *may* have a diet-related origin. Some may be more genetically (as opposed to nutritionally) based (eg breast cancer). There appears to be very little difference between the age standardised death rates due to diet related cancers in the ACT and NSW. The NSW results all fall within the 95 percent confidence interval around the ACT results.

Table 28: Age standardised death rates for diet-related cancers, ACT (1988-1992) & NSW (1992).

ICD 9 Code	Cancer type	ACT Females	NSW Females	ACT Males	NSW Males
153	Colon	9.7 (7.4-12.1)	9.7 (8.8-10.6)	12.2 (9.3-15.2)	12.5 (11.4-13.7)
174	Female breast	20.5 (17.1-24.0)	19.6 (18.3-21.1)	na	na
151	Stomach	3.2 (1.9-4.5)	2.7 (2.2-3.2)	8.6 (6.1-11.0)	10.7 (9.5-12.1)
154	Rectum & anus	4.2 (2.6-5.7)	3.2 (2.7-3.8)	8.1 (5.6-10.6)	8.0 (7.1-8.9)
156	Gallbladder	0.9 (0.2-1.6)	1.4 (1.0-1.8)	1.4 (0.3-2.5)	1.6 (1.2-2.0)
182	Uterus	1.0 (0.3-1.8)	1.4 (1.1-1.9)	na	na
152	Small intestine	0.5 (0-1.1)	0.3 (0.2-0.5)	0.7 (0-1.3)	0.2 (0.1-0.4)

Note: Standardised to world population. ACT rates per 100,000 are for 1988-1992.

Source: Briscoe N *Cancer in the Australian Capital Territory 1983-1992* ACT Government Printer, Canberra 1996 and Coates M, Day P, McCreddie M & Taylor R *Cancer in NSW: Incidence & Mortality 1992* NSW Central Cancer Registry Sydney 1995.

Diabetes mellitus

From the table it can be seen that for Australia, deaths due to diabetes have been stable at around 14 deaths per 100,000 population. Apart from 1994, the ACT had lower yearly death rates due to diabetes for the period 1993 to 1996. Results from the ACT are more disparate. The fluctuations shown in the ACT rates could be expected to occur by chance simply because of the low number of deaths in the ACT.

Table 29 : Standardised mortality rates for diabetes, ACT & Australia, 1993-1996.

	1993	1994	1995	1996
ACT	7.35	16.33	8.97	12.05
Aust.	14.12	14.70	14.12	14.43

Note: Standardised to the Australian 1991 population. Rate per 100,000 population.

Source: ABS *Causes of Death Australia* 1993-1996 Catalogue No. 3303.0 & *Causes of Death (ACT)* unpublished data.

8.2.3 National Nutrition Survey 1995

The National Nutrition Survey run by the ABS in 1995 as a subsection of the National Health Survey (NHS) surveyed community eating patterns and levels of food intake.

The table below shows that ACT men and women eat more cereal products per capita than the Australian average. ACT women eat less vegetables but ACT men eat about the same as the national average. In relation to milk products, ACT women consume about the same and males more than, the national average. ACT men and women eat more meat and meat products compared to the national average. ACT women drink more alcohol than the national average, but

ACT men drink less alcohol than the national average. ACT men and women eat more confectionary than the national average.

Table 30: Mean daily food intake (grams) for persons aged 19 and over: Major food groups, by sex, ACT & Australia

Major food Groups	ACT Females	Aust. Females	ACT Males	Aust. Males
Cereals and cereal based products				
Cereals and cereals products	225.8	181.2	290.1	250.2
Cereal based product and dishes	108.0	100.1	115.1	154.1
Fruit products and dishes	140.1	145.7	134.5	141.3
Vegetables and legumes				
Vegetable products and dishes	222.9	234.9	284.3	283.4
Legume and pulse products and dishes	10.2	7.5	14.0	12.2
Milk products and dishes	255.6	257.7	360.4	321.9
Meat, poultry and game products and dishes	144.5	116.1	224.0	199.9
Fish and seafood products and dishes	25.3	22.6	28.2	28.9
Egg products and dishes	9.3	11.2	9.2	16.3
Snack foods, sugar and confectionery				
Snack foods	4.3	3.2	3.6	3.8
Sugar products and dishes	13.9	15.1	25.8	23.3
Confectionary	12.7	8.5	13.0	9.1
Other foods				
Seed and nut products and dishes	4.4	3.6	5.0	5.1
Fats and oils	9.1	9.7	13.3	14.8
Soups	66.3	57.9	71.4	51.5
Savoury sauces and condiments	25.6	25.5	34.1	33.0
Beverages				
Non alcoholic beverages(a)	1823.6	1916.7	1919.2	2052.3
Alcoholic beverages (b)	120.1	102.2	359.8	410.1
Total (c)	3224.2	3221.1	3907.0	4013.7
Total persons ('000)	92.1	6703.6	108.9	6501.6

Note: (a) Includes plain drinking water. (b) Includes all alcoholic beverages containing alcohol & does not indicate the amount of pure alcohol consumed. (c) Total includes infant formulae & food, special dietary foods & miscellaneous foods.

* Relative std error 25-50% ** Relative std error over 50%

Source: ABS National Nutrition Survey (1995) Catalogue No. 4802.0

Dieting

The NNS surveyed the level of dieting in the community. A general trend seems to be that the percentage of persons on a special diet increases with age (Refer Table 31). Women are more likely than men to be vegetarian (4.9% compared with 2.6%). The highest rate of self reported adherence to a vegetarian diet was in the 19-24 yr age group (4.3%). It stays at around 4% until the age group 65 plus.

Women are more likely to be on a weight reduction diet (7.6 % compared with 2.5% for males). The highest rate of self reported weight reduction diets was found for females 25-44 (8.7%) although a steady increase starting with the 16-18 years age group is observed. The highest reported rate for males on a weight loss diet was in the 45 to 64 age group.

As would be expected the level of adherence to a diabetic diet was similar for both men and women (around 2%) and was highest amongst those over 65.

Table 31: Self reported type of diet, by age, Australia, 1995

Type of diet	Age Groups							
	2-11	12-15	16-18	19-24	25-44	45-64	65 +	19+
Males (Percent)								
No special Diet	88.9	90.3	85.9	82.7	74.9	64.0	62.5	71.0
Vegetarian	2.2	*1.3	*0.6	2.4	2.9	2.6	1.9	2.6
Weight reduction	**0.1	**0.3	*1.9	*1.0	2.5	3.3	2.0	2.5
Diabetic	*.03	*0.7	-	*0.4	0.7	2.6	5.4	1.9
Fat modified	1.8	*1.5	*0.9	4.6	8.6	18.7	22.7	13.1
Other (a)	5.9	5.9	10.2	8.9	10.4	8.5	5.1	8.9
Total (b)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females (Percent)								
No special Diet	88.1	87.7	80.8	72.4	61.4	49.0	53.5	57.9
Vegetarian	2.3	*1.3	5.1	6.2	5.2	4.9	3.1	4.9
Weight reduction	*0.3	2.2	5.9	7.6	8.7	8.5	3.6	7.6
Diabetic	**0.1	-	-	*0.5	1.0	2.5	5.9	2.2
Fat modified	1.4	3.0	*0.7	4.4	9.1	23.1	26.4	15.6
Other (a)	7.5	5.8	7.5	8.8	14.5	11.9	7.3	11.8
Total (b)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons (Percent)								
No special Diet	88.5	89.0	83.4	77.7	68.2	56.6	57.4	64.3
Vegetarian	2.3	1.3	2.8	4.3	4.0	3.8	2.6	3.7
Weight reduction	*0.2	1.2	3.9	4.2	5.6	5.9	2.9	5.1
Diabetic	*0.2	*0.4	-	*0.5	0.8	2.6	5.7	2.1
Fat modified	1.6	2.2	*0.8	4.5	8.9	20.9	24.8	14.3
Other (a)	6.7	5.8	8.9	8.9	12.4	10.2	6.3	10.3
Total (b)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: (a) Includes other forms of diet such as salt reduced/free, body building, more fruit & vegetables, less red meat, etc.

(b) Total includes 'not stated' category.

* Relative std error 25-50%. ** Relative std error over 50%.

Source: ABS National Nutrition Survey (1995) Catalogue No. 4802.0

8.3 Breastfeeding

One of the dietary guidelines put forward by the National Health and Medical Research Council (NHMRC) is the promotion of breastfeeding. It contends that breastfeeding is 'recognised by health authorities as the most appropriate method for feeding infants and [is thought] to be closely related to infant health. Breast milk from a healthy well-nourished mother is adequate as the sole source of nutrients from birth until 4-6 months of age'. The NHMRC recognises the immunological, nutritional and economic benefits of breastfeeding¹²⁶.

The current quality of modern breast milk substitutes is "such that they are recognised as adequate where breastfeeding is not possible¹²⁷, but they incur an economic cost.

The Health Targets and Implementation Committee Report to health ministers suggested a target 'to increase the level of breastfeeding at 3 months of life to 80 percent or more by the year 2000' be set¹²⁸.

8.3.1 ABS National Health Survey (NHS) 1995

The National Health Survey 1995 indicated that the ACT had the highest proportion of children under 3 years who had been breastfed. The percentage of those breastfed for 6 months or longer was 52 percent. This compares with 47 percent for Australia.

Table 32: Percentage of children (0-3 years): whether ever breastfed & time breastfed, ACT & Australia, 1995

	ACT	Aust.
Currently being breastfed	14.9	14.0
Previously been breastfed		
Period breastfed		
Less than one week	*2.8	2.2
1 week to less than 1 month	5.5	7.1
1 month to less than 3 months	14.8	13.2
3 months to less than 6 months	13.8	15.3
6 months to less than 9 months	14.2	12.1
9 months to less than 1 year	10.0	8.7
1 year or more	16.8	12.9
Child is less than one month old	**0.5	**0.1
Not stated	-	0.7
Total previously breastfed	78.4	72.2
Total breastfed	93.2	86.2
Never breastfed	6.8	13.8
Total	100.0	100.0

Note: * Relative std error 25-50% ** Relative std error over 50%

Source: ABS National Health Survey (1995) Summary Results: Australian States & Territories Catalogue No. 4368.0

General information and practical advice on breastfeeding is available from the Queen Elizabeth II Family Centre (phone: (02) 6205 2333) and the Nursing Mothers Association of Australia (phone: (02) 6258 8928).

8.4 ACT Nutrition Programs

ACT Community Care, particularly through the Child Family and Youth Health Program, conduct nutrition promotion programs, both regionally and ACT wide. Some of the 1997-98 programs being run include: *Promotion of Healthy eating* targeted at families and children, *Nutrition Training* for disability support workers, *Nutrition in Children's Daycare*, *Heart Health* and *Healthy Lifestyle* Programs, *Weight Issues* and *Body Image* and *Food skills* and *budgeting* programs. More program information and information on nutrition and healthy eating is available from Community Nutritionists based at regional health centres.

Healthpact, a statutory authority established through the Health Promotion Act (1995), is funded by the Tobacco Franchise Fee. The authority funds community organisations to undertake health promotion. In 1997-98 the target level of funding was \$300,000 for its nutrition program. Programs funded include sponsorship of the Heart Foundation's Supermarket tours, the Women's Centre for Health's Body image and eating project and the AXYS Youth services (YWCA of Canberra) Breakfast Club project.



9. Body Mass

9.1 Overweight and obesity

Overweight and obesity are indicators of preventable morbidity and mortality, due to diseases such as cardiovascular disease, hypertension and non-insulin-dependent diabetes mellitus. The costs of obesity in regard to these diseases have been estimated at \$840 million per year, of which 63 percent were direct costs within the health system. In addition, Australian consumers spend \$500 million per year on weight loss programs¹²⁹. The proportion of the population that is overweight is increasing, largely due to the marketing of food as a source of fun, comfort and pleasure while lifestyles become more sedentary¹³⁰. Although total energy intake has not increased significantly in the Australian diet, the proportion eaten as fat has increased¹³¹. The other important factor is the reduction in levels of physical activity. A 1989 study by the Heart Foundation showed that 32 percent of the Australian population is sedentary and 36 percent do low energy or infrequent exercise¹³². (Refer Section 7 on exercise).

A 1994 study of beliefs about obesity and overweight in ACT residents showed that these health risk factors were recognised as being common, and as leading to heart and blood pressure problems¹³³. Furthermore, participants in the study proposed that although more men than women were overweight, it was socially less acceptable for a woman to be overweight.

9.1.1 Body Mass Index

The National Health Survey 1995, compared with an earlier National Health Survey in 1989-90, shows that across Australia the proportion of the population who are overweight or obese has increased slightly, from 34.7 percent to 38.6 percent. In the ACT the increase was from 31.8 percent to 39.2 percent. These descriptions of weight levels are calculated using a body-mass index (BMI), derived by dividing self-reported weight by the square of height¹³⁴. Levels are as follows:

Under weight:	BMI less than 20
Acceptable weight:	BMI 20 to 25
Overweight:	BMI greater than 25 to 30
Obese:	BMI greater than 30

Body mass index does not give a direct measure of what proportion of a person's weight is fat. It is adipose tissue around the waist that is of most concern, as it is particularly associated with hypertension and non-insulin-dependent diabetes mellitus¹³⁵. Distribution of adipose tissue can not be inferred from a body mass index, however the index is mainly used to give an overview of weight levels in different individuals.

9.1.2 Body mass in Australia and the ACT

The table below illustrates that the ACT has come more into line with the rest of Australia regarding the proportion of people who are overweight or obese over the last five years. For both the ACT and Australia, the percentage of people at or under an acceptable weight has decreased, while the percentage who are overweight has increased. The proportion of overweight people has increased more steeply in the ACT than nationally. Unfortunately, the increase in the proportion of 'not stated' responses makes comparison difficult.

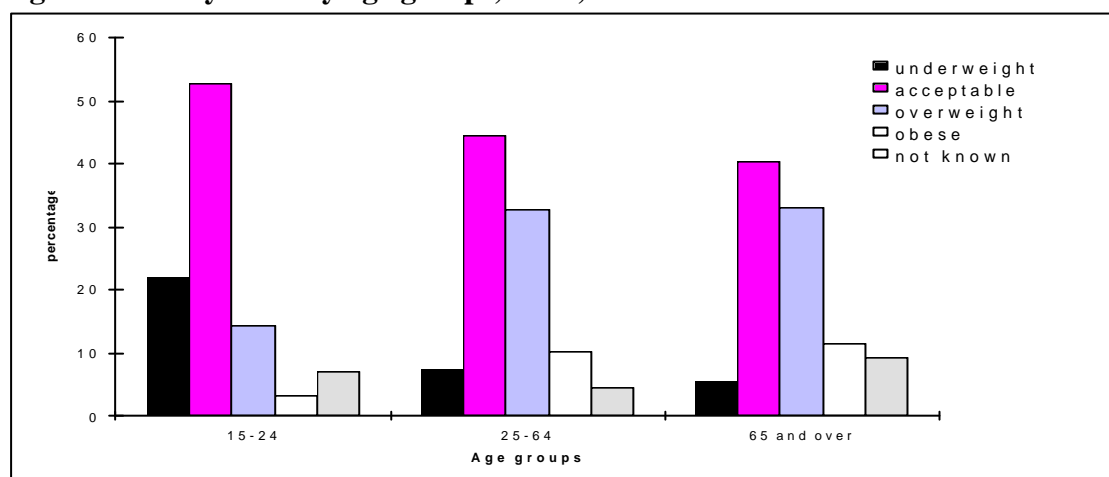
Table 33: Body mass groupings, ACT and Australia, 1989-90 to 1995

	1989-90		1995	
	ACT (%)	Australia (%)	ACT (%)	Australia (%)
underweight	12.7	13.4	9.5	9.9
acceptable weight	52.5	47.9	45.5	41.6
overweight	23.8	26.5	29.8	28.2
obese	7.1	8.2	9.4	10.3
not stated	3.5	3.8	5.6	9.7

Source: National Health Survey 1995, Summary Results, ABS Cat. no. 4368.0, 1997

Figure 20 shows the relative weight levels of ACT residents at different ages. It can be seen that the proportion of people at acceptable weight decreases with age, which corresponds to increases in overweight and obesity with age. The overall proportion of the ACT population who are obese is 6.9 percent (The calculation of this percentage includes people aged 0 to 14 years, not shown in this figure, for whom the body mass index calculation is not applicable).

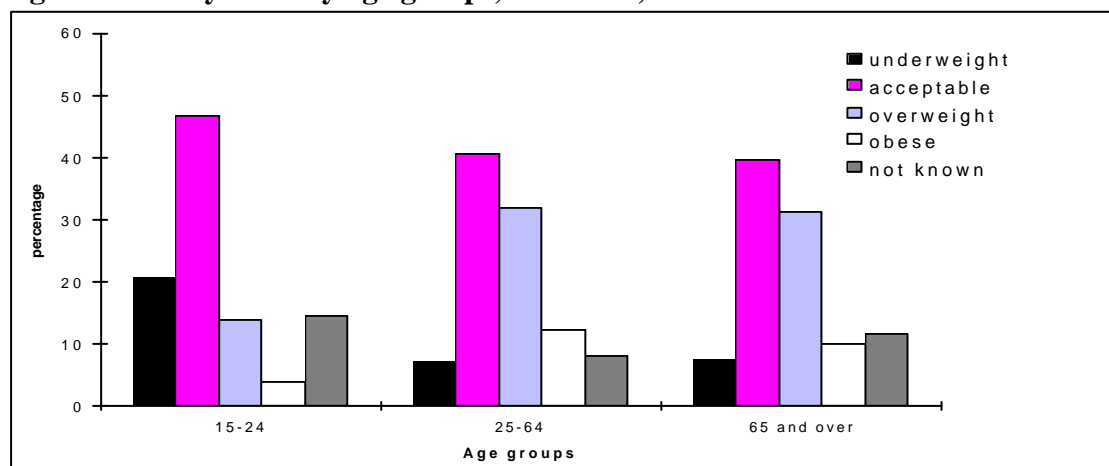
Figure 20: Body mass by age groups, ACT, 1995



Source: National Health Survey 1995, Confidentialised Unit Record ABS 1997

Figure 21 shows that Australia as a whole has fewer 15 to 24 year olds of acceptable weight than the ACT (46.8% as opposed to 52.9%). However, this section of the Australian population returned a higher number of 'not known' responses than did their ACT counterparts, so this result may not be representative.

Figure 21: Body mass by age groups, Australia, 1995



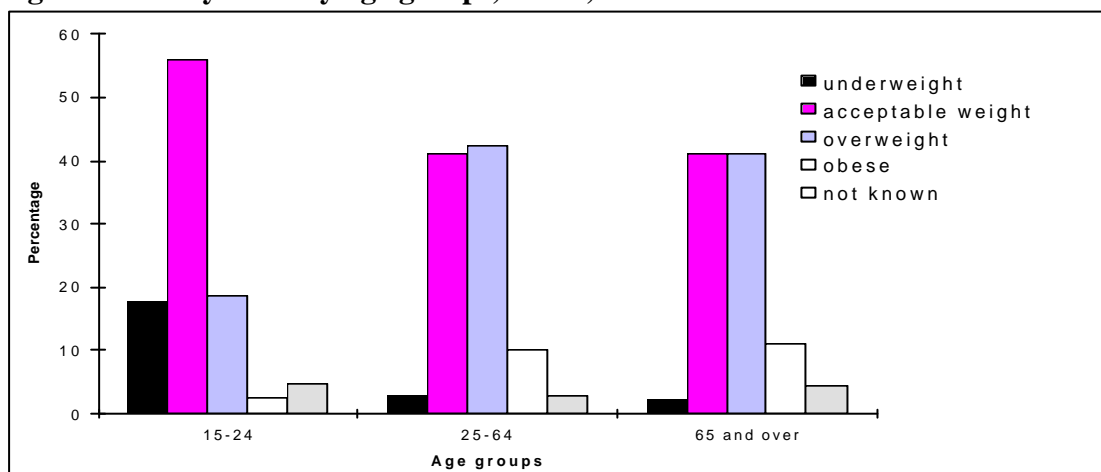
Source: National Health Survey 1995 Confidentialised unit Record ABS 1997

In the ACT, the 25 to 64 year old age group showed a higher level of acceptable weight than did this group across Australia (44.6% compared to 40.7%). However, the 65 and over age group in the ACT showed more obese people than in Australia overall (11.7% compared to 9.9%). For all age groups, the survey in the ACT returned fewer 'not known' results than it did across Australia. Interpretation of these results must allow for this unknown factor.

9.1.3 Gender and weight levels

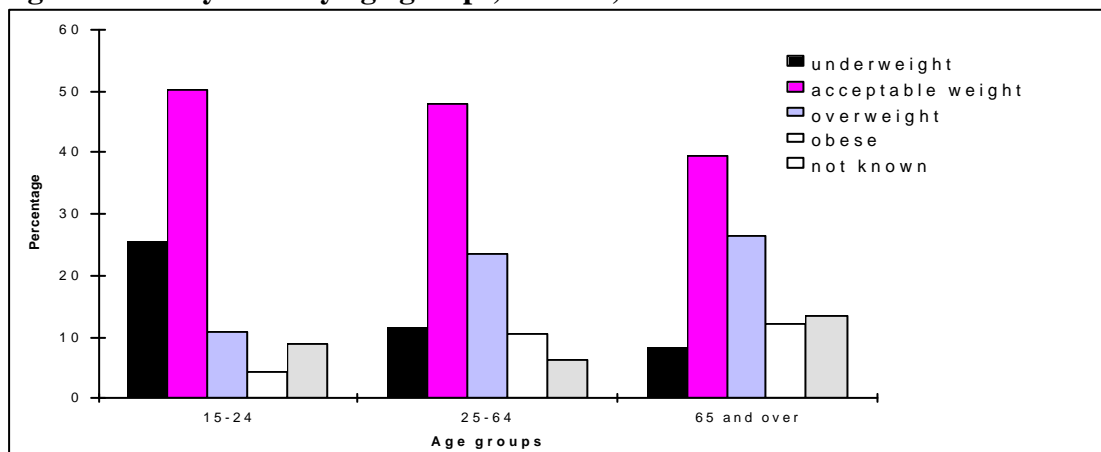
Figures 22 and 23 illustrate the relationship of gender to weight level in the ACT population. They show that females tend to maintain acceptable weight levels into middle age, while the number of males at acceptable weight drops dramatically. The proportion of overweight women remains below 30 percent across all age groups, while the proportion of overweight men increases to over 40 percent, after 25 years of age, and remains at that level. It is interesting to note the high number of 'not known' responses for females over 65 years, compared to other groups. The reason for this is not clear. Levels of obesity do not vary widely between men and women, and in comparison with overweight, do not vary greatly across age groups. However, both groups do increase steeply in proportions of obesity, from 14 to 24 years to other age groups.

Figure 22: Body mass by age groups, males, ACT 1995



Source: National Health Survey 1995 Confidentialised Unit Record ABS 1997

Figure 23: Body mass by age groups, females, ACT 1995



Source: National Health Survey 1995 Confidentialised Unit Record ABS 1997

9.1.4 Public health implications

The tendency to overweight is inherited, but lifestyle changes may compound or accentuate this tendency. Such changes include increased fat intake and reduced daily activity. Awareness of excess eating may not have much effect on obesity, since it is difficult to reduce intake. An alternative might be to change the type of foods consumed, so that low-fat, high carbohydrate foods would be eaten freely. An increase in day-to-day physical activity, such as walking, home chores, or taking the stairs instead of the elevator, should have a major impact on obesity prevention. These activities may even prove more beneficial than planned exercise regimes, as they become incidental and hence don't require particular motivation¹³⁶.

ACT Health and Community Care, through Healthpact, supports the *Be Active for Life* campaign, which has links to the Australia wide *Active Australia* campaign (Refer Section 7). *Be Active for Life* is one of the Heart Foundation's major initiatives in Heart Health. In addition, \$165,700 was distributed through the National Heart Foundation's Nutrition Program, promoting messages such as "Eat More Fruit and Veg". Another \$229,000 will be provided over two years to the Masters Games.

Anorexia and Bulimia nervosa

Very few people who diet go on to develop an eating disorder, but the combination of dieting with low self-esteem or personal problems could lead to disturbed eating behaviours¹³⁷. (Refer Section 4 for discussion).



10. Sun protection

It is widely recognised that sun exposure can cause minor to serious skin conditions and cancers in humans. It is the leading cause of skin cancer (melanocytic and non-melanocytic), certain cataracts and pterygium in Australia¹³⁸. Australia has the highest rate of skin cancer in the world, and this rate is rising¹³⁹. While the incidence of some forms of preventable cancer is declining, the incidence of skin cancer is increasing at an alarming rate in countries with predominantly white populations, particularly Australia¹⁴⁰. Since skin cancer is preventable, this is a national tragedy.

Melanoma of the skin is far more prevalent in Australia than in any other country and melanoma rates are increasing at an average annual rate of four to six percent. Nearly all of these are caused by exposure to the sun (over 90%). Living in Australia for the first fifteen years of life contributes roughly two-thirds of a life-time risk of melanoma for those living in Australia all their lives¹⁴¹.

The incidence rate of the less fatal non-melanocytic skin cancer is not available, but it has been estimated that in 1995 it was in the order of 1,374 per 100,000 males and 857 per 100,000 females¹⁴².

Thus, skin cancers are a serious problem, with approximately 800 Australians dying each year from melanomas and 200 from nonmelanocytic skin cancer¹⁴³. This number is increasing.

ACT mortality data is outlined below. All deaths were for people aged more than 25 years, and most were for older age groups.

Table 34: Mortality from melanoma causes, ACT, 1992-96

	1992		1993		1994		1995		1996	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total	8	3	4	2	6	2	5	6	4	5

Source: ABS *Causes of Death 1992-96*, Cat. No. 3303.0

Briscoe¹⁴⁴ reported that for the period 1988-92, the relatively high incidence of melanoma is not reflected in the death rate (crude incidence of 27 per 100,000 compared to 4 deaths per 100,000 population). She also noted that males tended to die at a higher rate than females (possibly due to men's reluctance to seek medical attention until the cancer is life-threatening), and that the ACT age-standardised incidence rates for melanoma were consistent with those of Australia generally (and NSW in particular).

Adolescence has been identified as a period of high risk for skin damage that could lead to skin cancer in later life¹⁴⁵. A major factor contributing to this susceptibility is that Australian adolescents tend to spend more time in the sun than adults¹⁴⁶ which results in adolescents potentially receiving three times the ultraviolet radiation dose¹⁴⁷. Since the critical period for sustaining damaging levels of sun exposure occurs through the school years, schools have the potential to have a major impact on the level of sun exposure that children and adolescents sustain, and therefore on the risk of developing skin cancer¹⁴⁸.

10.1 Barriers to sun protection

A number of barriers to effective sun protection have been identified in Australian adolescents. They have been shown to value and desire a suntan, they believe they fit in with their peers more easily with a suntan, and they see a suntan as healthy and attractive¹⁴⁹. Lowe et al found that secondary school students in Qld. commonly dislike wearing long trousers or long-sleeved shirts in the sun, and 40 percent think covering up in the sun is a hassle¹⁵⁰. They also found that hat use was more favoured by students in lower grades, but students in older grades preferred the sun.

However, there are gender differences in health beliefs and behaviour. It appears that females have a higher level of knowledge of skin cancer and sun protection, believe they are more susceptible to skin cancer and have fewer barriers to covering up, than males. They are also more likely to use sun screens regularly, engage in more skin protection behaviours and perceive a lighter tan to be more attractive than a darker one. Lowe et al found that girls were more likely than boys to feel that their friends liked to have a suntan and looked better with a tan, that their friends would react negatively if they used sun protection on the beach, and that hats look "daggy"¹⁵¹.

10.2 The 1996 ACT Secondary School Students' Survey

The findings from this survey (refer Glossary) complement the attitudes and behaviours outlined in the literature. It was found that:

- Sunscreen was applied more often by females than males, with 37% and 38% of female students reporting that they 'always' or 'usually' wore SPF15+ between 11am-3pm on a sunny summer day respectively. However nearly 20% of females reported that they 'usually' wear less/briefer clothes in the sun.
- Only 1-in-5 females and less than 1-in-10 males wore sunglasses when out in the sun (11am-3pm).
- Hat wearing was more prevalent among males than females, with a 'cap' being the most preferred type for both sexes. Around 10% of both males and females reported that they 'never' wear a hat.
- Females reported more concern about skin cancer than males.

These findings will assist in the development of appropriate and well-targeted prevention strategies.

10.3 Morbidity from sun-related conditions

There is little information as to the morbidity caused by adverse effects from the sun. People suffering from most sun burns or sun-stroke do not visit medical practitioners or hospitals. However there are some data regarding serious cases, especially where a cancer has developed. Table 35 details ACT hospital separations for sunburn and melanomas (malignant tumours). Males outnumber females in all years and in most age groups for melanoma and there appears to be a trend of increase in hospitalisation for melanomas over the years (1995-96 and 1996-97 both had four fold the number hospitalised in 1993-94). The proportion of females is also increasing (in 1993-94, females represented 38% of hospitalisations, in 1996-97 they represented 49%).

With regard to sunburn severe enough to warrant hospitalisation, only 4 cases (3 male, 1 female) were recorded over the 4 years.

Table 35: Hospital separations for melanoma & sunburn, by sex, by age, ACT, 1993-97

Age (years)	1993-94		1994-95		1995-96		1996-97	
	Males	Females	Males	Females	Males	Females	Males	Females
Principle diagnosis melanoma								
15-24	0	0	0	3	0	2	1	0
25-34	3	0		3	8	5	1	11
35-44	1	0	2	2	6	10	8	5
45-54	3	4	10	6	11	7	15	10
55-64	1	2	7	5	9	7	13	9
65-74	3	0	9	4	18	8	9	6
75-84	4	2	8	5	7	5	0	5
85+	0	1	0	1	0	1	3	2
Total	15	9	36	29	59	45	50	48
Secondary diagnosis melanoma								
15-24	0	0	0	1	0	0	1	0
25-34	0	0	0	0	0	0	0	0
35-44	1	0	0	2	0	0	0	1
45-54	0	1	0	2	7	2	8	1
55-64	0	0	2	0	0	1	1	1
65-74	2	0	1	2	0	0	1	
75-84	0	1	1	0	2	0	2	3
85+	0	0	0	0	1	0	0	0
Total secondary melanoma	3	2	4	7	10	3	13	6
Sunburn (principle or secondary diagnosis)	1	1	0	0	1	0	1	0

Source: ACT hospitals morbidity dataset, 1993-97



11. Screening

11.1. Breast screening

With the exception of skin cancers, breast cancer is the most common cancer detected in Australian women¹⁵². The incidence of breast cancer is rising from an age-standardised incidence rate of 100.9 per 100,000 women in 1994 to an expected 112.2 cases in 1999. This rise has in part, been due to improved and earlier detection of breast cancer although some proportion of the increase may be attributable to a real increase in the disease rate¹⁵³. In the ACT from 1988 to 1997, breast cancer was the most common cancer in women over the age of 14 years¹⁵⁴. In 1994-96, the age-standardised incidence rate was 96 per 100,000 population.

The ACT had a similar breast cancer death rate (26.3 per 100,000 women in 1996) to Australia as a whole. There were 40 deaths from this cause in 1996 in the ACT.

The known risk factors for breast cancer are not easily modifiable, so the main scope for reducing mortality is through early detection. This is accomplished through breast examination and screening. Early detection has a significant impact on survival. The chance of survival for over five years when the cancer has been detected as a localised cancer in the breast is more than four times greater than if the cancer had spread beyond the breast when detected.

The National Health Survey in 1995 surveyed women on their use of breast cancer screening. The results are shown below:

Table 36: Rate of use of breast cancer screening, women aged 18 yrs or more, by age, ACT, 1995

	Age (years)						Total
	18-24	25-34	35-44	45-64	65-74	75+	
Breast examinations							
By doctor/medical assistant	313.9	702.4	845.1	882.9	779.8	649.4	711.3
Regularly examines own breasts	492.1	635.6	696.3	673.7	719.7	460.9	630.1
Period since last mammogram							
Less than 1 year	*18.3	*26.2	95.8	346.1	190.4	*106.5	134.4
1 year to less than 2 years	**	*17.4	72.2	243.1	131.3	*44.4	97.4
2 years to less than 3 years	**	*14.6	60.9	42.2	*107.5	**	34.3
3 years to less than 4 years	**	*19.3	36.7	*13.5	**	**	16.3
4 years to less than 5 years	**	**	*16.6	*19.1	*48.2	**	11.5
5 or more years	**	*23.6	59.6	32.5	*67.4	*112.1	37.3
No mammogram	910.5	869.1	630.0	244.9	309.9	737.0	626.1
Not stated	59.4	*11.3	*17.7	47.4	**	**	30.7

Note: Estimates are based on the 97.1% & 92.5% of eligible women who responded to this Survey section in 1989-90 & 1995

Rate per 1,000 women of same age.

* refers to data being subject to variability between 25% and 50%

** refers to data being subject to high relative standard error.

Source: *National Health Survey First Results 1995*. ABS Catalogue No. 4392.0

When these results are compared with the findings in the 1989-90 survey, there is a slight trend for women to undertake breast self-examination (from 586.7 to 630.1) rather than relying on doctors (from 720.1 to 711.3). There are considerably more women, especially over 45 years who have had a mammogram in the past two years (from approximately 54 to 116 per 1,000 population). This is probably due to the Mammography Screening Program introduced after the 1989-90 Survey.

With regard to a comparison between the ACT and Australia generally, ACT women tended to have fewer mammograms than other Australian women, in the first 3 categories (less than 1 year

to less than 3 years). In the target age group of 45-64 years however, ACT rates for mammography were higher than those of Australia.

The ACT Department of Health and Community Care administers a Women's Health Program which offers free mammography to women. Women between 50-69 years are particularly encouraged to use the service regularly (every 2 years). Table 37 shows activity over a four year period.

Table 37: Breast cancer screening, ACT Women's Health Program, 1993-97

	1993-94	1994-95	1995-96	1996-97
ACT	7,998	8,887	10,073	10,177
NSW	1,059	2,050	5,011	6,116
Total	9,057	10,937	15,084	16,293

Source: ACT Breast Screening Program

11.2. Cervical screening

Cancer of the cervix is the eighth most common cancer in Australian females. It generally affects women over the age of 30 years. In the ACT, the incidence rate (1991-94) was 10.3 per 100,000 women (compared to 12.0 for Australia) and the death rate (1991-96) was 3.2 per 100,000 women (compared to 2.9 for Australia)¹⁵⁵. There were 5 deaths from cervical cancer in the ACT in 1996.

Both incidence and deaths caused by cervical cancer are decreasing over time. The decrease is mainly, if not completely, due to the introduction of wide-spread Papanicolaou (Pap) smear screening tests and subsequent diagnosis and treatment of precancerous abnormalities.

The National Health Survey in 1995 surveyed women on their use of cervical cancer screening. The results are shown below:

Table 38: Rate of use of cervical cancer screening, women 18 yrs or more, by age, ACT, 1995

	Age (years)						Total
	18-24	25-34	35-44	45-64	65-74	75+	
Period since last Pap smear test							
Less than 1 year	327.7	476.2	458.4	339.4	130.1	**	370.9
1 year to less than 2 years	179.7	282.0	239.0	321.1	186.4	**	246.3
2 years to less than 3 years	61.5	76.2	122.8	95.7	*92.1	*68.3	89.6
3 years to less than 4 years	*12.9	**	45.8	*17.4	131.5	**	26.2
4 years to less than 5 years	**	**	*23.5	*15.2	*32.3	**	12.8
5 or more years	**	*20.6	67.5	105.1	226.9	314.8	73.8
No Pap smear test	390.4	112.7	*19.3	54.4	175.3	465.4	146.8
Not stated	*27.6	*22.2	*23.8	30.5	**	**	24.5
Has had a hysterectomy	**	*20.5	141.3	263.0	155.1	429.0	132.1

Note: Estimates are based on the 97.1% and 92.5% of eligible women who responded to this section of the Survey in 1989-90 and 1995 respectively.

Rate per 1,000 women of same age.

* refers to data being subject to variability between 25% and 50%

** refers to data being subject to high relative standard error.

Source: *National Health Survey First Results 1995*. ABS Catalogue No. 4392.0

When these results are compared with the findings in the 1989-90 survey, it can be seen that the rate of hysterectomy had increased (from 65.3 to 132.1 per 1,000 population).

A comparison between the ACT and Australia showed that ACT women tended to have more Pap smear tests than other Australian women. ACT women had fewer hysterectomies (132.1 per 1,000 women compared to 155.4 for Australian women).

The ACT Department of Health and Community Care administers a Women's Health Program which offers free cervical screening to women. Table 30 shows activity over two years.

Table 39: Cervical cancer screening, ACT Women's Health Program, 1993-97

	1995-96	1996-97
Cervical cancer screening	33,038	35,663

Source: ACT Women's Health Program

12. Other issues

12.1 Infectious diseases and immunisation

Earlier this century, the primary causes of death were infectious diseases, but nowadays, people are more likely to die from chronic or 'lifestyle' diseases such as cancer or heart disease¹⁵⁶. Main reasons for this shift include a greater understanding of how different infectious agents are transmitted, the implementation of effective public health measures which help ensure safe water and food supplies and a public health campaign to encourage wide coverage of immunisation¹⁵⁷.

Active immunity against infectious diseases has benefits for the individual and society. People are less susceptible to the conditions for which they are vaccinated. If they come in contact with the infectious agent, they are protected or suffer milder forms of the condition¹⁵⁸. Immunised people help protect unimmunised people by breaking the disease's cycle of transmission¹⁵⁹. In order to break the cycle, there needs to be a high level of effective immunity in the community. This is often referred to as 'crowd' or 'herd' immunity. For most diseases the level of effective immunity needs to be greater than 90 percent in a community in order to protect unimmunised people¹⁶⁰.

The National Health and Medical Research Council (NHMRC) has a recommended vaccination schedule for children which includes vaccination against diphtheria, tetanus, poliomyelitis (polio), pertussis (whooping cough), measles, mumps, rubella, *Haemophilus influenzae* type b and recently hepatitis B. All these conditions are notifiable. The ACT Department of Health and Community Care must be informed by general practitioners, pathologists and for some conditions, child care coordinators and school principals if they become aware of the condition. In 1996 there were 137 notifications of vaccine preventable diseases in the ACT and 6 persons were admitted to ACT public hospitals with a primary diagnosis of a vaccine preventable disease.

Details of immunisation practices and illnesses caused by vaccine-preventable diseases in the ACT from 1993-97 can be found in a recent publication from the Epidemiology Unit¹⁶¹. In summary, there was a marked increase in the notifications of pertussis and measles in the ACT from 1996 to 1997. For 1997, there were 117 cases of pertussis, 79 cases of measles, 8 cases of whooping cough, 7 cases of mumps, 32 cases of rubella and one case of haemophilus influenzae type b (Hib) meningitis.

For the period of 1993-1997, the coverage rate for children who were fully vaccinated to the NHMRC schedule was 82% at 2 months, 78% at 4 months, 67% at 6 months and 74% at 12 months (MMR only).

The proportion of children vaccinated 'on time' (within 30 days of scheduled due date) was 73% at 2 months, 62% at 4 months, 50% at 6 months and 50% at 12 months for the 1993-1997 birth cohort. It appears there is a decreased proportion of 'on time' vaccinations as children get older. The 1997 birth cohort results were 84% at 2 months, 70% at 4 months, 60% at 6 months and 43% at 12 months.

Encouragingly there is a trend of increased vaccination rate over time for all schedules in the ACT over the period of 1993-1997, with a steady increase in the proportion of children vaccinated on time since 1995.

ACT and Commonwealth governments have recognised the value of immunisation as a public health measure. Both have set plans to increase immunisation levels and thereby decrease the harm caused by vaccine-preventable diseases.

The Commonwealth Government has a seven point plan - 'Immunise Australia'¹⁶², launched in 1997. This is complemented by the ACT government's own 5 point plan launched late in 1997¹⁶³.

12.1.1 ACT 5 point plan (Simply Protecting Our Tots)

The ACT plan, titled SPOT, ('Simply Protecting Our Tots') has 5 initiatives, which extend the current ACT immunisation program. They are as follows:

- Mobile Immunisation Clinic: Commissioned in October 1997, the ACT's first mobile immunisation clinic is a purpose built mobile van which aims to promote and provide 'on-the-spot' immunisations in public places.
- Free vaccine delivery service to GP surgeries: Since February 1998, an ACT government funded program provides free vaccine delivery to GP surgeries. The existing stocks of vaccines are checked for their effectiveness. Information and advice is also given to GPs on the storage and maintenance of vaccines to help reduce wastage.
- Access initiatives: A number of initiatives aimed at increasing the accessibility of immunisation services are being put in place. These include extended operating hours being trialed for health care clinics; community nurses to reach pre-schoolers by offering immunisation services at all preschools; an immunisation nurse coordinator has been appointed within the Paediatrics and Maternity sections of The Canberra, Calvary and John James Hospitals to increase the prevalence of opportunistic vaccinations; a GP spokesperson has been appointed by the ACT Division of General Practice; and collaboration is underway with a Commonwealth funded program about the proposed trialing of the provision of immunisation services by pharmacists.
- Information, communication and awareness: The information and communication strategy supports all areas of the campaign and ensures that there is minimal duplication of the Commonwealth's efforts. The promotions for SPOT target GPs as family care practitioners. They also target families by using a television advertising campaign. 90,000 Canberra milk cartons promoting immunisation have been released.
- Phone information/Inquiry line: A one-stop immunisation telephone number (02) 6205 2300 has been established and is attended during normal office hours. It provides secure information services to doctors, parents and guardians.

12.2 Babies and SIDS

Sudden Infant Death Syndrome (SIDS) is commonly known as 'cot death'. It refers to the sudden, unexpected death of a baby from no apparent cause. Approximately 80 percent of babies dying from this cause are under the age of 6 months. Fortunately, there has been a dramatic decrease (by over 50%) in SIDS deaths since a national program of prevention was introduced in July 1991.

It is still not clear as to what exactly causes SIDS, although the use of several prevention measures has apparently accounted for the decrease in deaths. These measures include:

- Not sharing a bed with a baby - especially if you smoke or take other drugs;
- Keeping baby comfortably warm, never too hot or too cold;
- Putting baby on its back to go to sleep. They should not be on their stomachs;
- Making sure baby's head is uncovered when asleep;
- Never smoking near babies.

In the ACT, there were 2 deaths (male) in 1994, 3 (1 male, 2 female) in 1995 and 3 (1 male, 2 female) in 1996, attributed to SID.



13. Glossary

13.1 Survey of Disability, Ageing and Carers 1993

This survey was the third in a series conducted by the ABS. It provides estimates of the numbers and main characteristics of persons with disabilities and/or handicaps, persons aged 60 years or more and carers. It was conducted in private and special dwellings, and establishments such as hospitals, hostels, retirement villages and nursing homes. The ACT sample of respondents numbered 3,777, which is a large enough sample on which to base valid analyses.

A person was identified as having a disability if they had one or more of a group of selected limitations, restrictions or impairments which had lasted, or would be likely to last, for six months or more. A person was identified as having a handicap if they had limitations in performing one or more selected tasks of daily living. Children aged less than 5 years with a disability were deemed to all have a handicap, but the area and severity of that handicap was not determined.

13.2 National Health Surveys

The Australian Bureau of Statistics (ABS) conducts a five yearly National Health Survey which collects data from approximately 54,000 people living throughout Australia. It is designed to obtain national benchmark information on a range of health-related issues and to enable the monitoring of trends in health, over time. The sample is designed so that the states and territories can be separately analysed. However:

- Until the 1995-96 survey, the sample size of respondents was very small in the ACT. This resulted in fluctuations in results and reduced reliability of findings.
- When responses were broken down into sub-groups (eg people aged under 18), the sample became even smaller resulting in more inaccuracies.
- The Survey utilises a self-reporting format. Results represent respondents' perceptions, not necessarily health professionals' findings. It also depends in part, on the literacy of the respondents and their ability to understand English.

The most recent Survey was conducted in the twelve months from January 1995 to January 1996. Preliminary results were released in late December 1996.

Some 2,156 dwellings (1 in 50) in the ACT were surveyed. This is an increase on the previous Survey (1989-90) and will allow for more relevant analysis. It should be noted however, that some sections of the survey were only administered to half of the sample. This includes sections on women's health, alcohol consumption, general health and well-being.

13.3 Short Form 36 (SF-36)

The SF-36 was developed in 1988 by the RAND Corporation as part of its Medical Outcomes Study carried out in the USA. It was constructed to yield a profile of scores that would be useful in understanding population differences in physical and mental health statuses, the burden of chronic disease, other medical conditions and the effect of treatments on general health status¹⁶⁴. Additionally, the SF-36 was designed '... to achieve minimum standards of precision necessary for group comparisons across eight conceptual areas'. The subscales most sensitive to measuring physical health are;

- Physical function (PF)
- The impact of physical health on role performance (RP)
- Bodily pain (BP)
- General health perceptions (GH)

The subscales most sensitive to measuring mental health are;

- General mental health (MH)
- The impact of emotional health on role performance (RE)
- Social functioning (SF)
- Vitality (VT)

The subscales of PF, RP, BP, SF, and RE range from 0-100 with a score of 100 indicating better health status or absence of limitation or disabilities. The subscales of GH, VT, and MH are bipolar in nature with a range of 0 to 100. A score of 100 indicates when ‘... respondents report positive states and evaluate their health favourably’. For more detailed information, refer Health Series No. 9, *Health Related Quality of Life in the ACT: 1994-95*.

13.4 ACT Quality of Life Surveys

The Quality of Life Project is a collaborative project between the Epidemiology Unit in the Department of Health and Community Care and the Cultural Heritage Management program at the University of Canberra. It has operated for three years and to date, has surveyed randomly selected ACT people, asking them to rate their health-related quality of life using the Medical Outcomes Study’s Short Form 36 (SF-36).

13.5 National Survey of Mental Health and Well-being of Adults, 1997

This survey was an initiative of the National Mental Health Strategy. Approximately 10,600 people over 18 years were interviewed throughout Australia regarding prevalence of mental illness. Part of the interview included a Composite International Diagnostic Interview (from the World Health Organisation) which enabled diagnosis of reported symptoms into ICD-10 codes.

Since only 604 people were interviewed in the ACT, analysis should be treated with caution.

13.6 National Nutrition Survey

The National Nutrition Survey (NNS) was conducted by the Australian Bureau of Statistics over the period from February 1995 to March 1996. Approximately 13,800 people from rural and urban areas, including 663 persons in the ACT were interviewed. The survey was conducted on a sub-sample of the National Health Survey (1995) respondents.

The overall objective of the survey was to provide food and nutrient data to assist in the implementation of Australia’s *Food and Nutrition Policy*. More specific objectives were to collect data on food intake for comparison with dietary guidelines and nutrient intake information for comparison with recommended dietary intakes (RDIs).

13.7 Secondary Students, HIV/AIDS and Sexual Health Survey 1997

The survey is a follow-up of the survey carried out in 1992 by the National Centre in HIV Social Research. It was conducted by the Centre for the Study of STDs at Latrobe University. It conducted questionnaires with 3550 year 10 and 12 students from 118 schools across Australia, focussing on knowledge, attitudes and practices concerning HIV and related diseases.

13.8 ACT Secondary Students’ Survey 1996

The methods of sampling and data collection followed were the same as those reported from a previous

national survey by Hill et al, reported in the Medical Journal of Australia, No. 146, 1987. A random sample of schools was drawn from the total population of all government and non-government schools and colleges in the ACT, covering Years 7 to 12. The ACT had 100% rate of schools' participation, comprising 18 High Schools (12 Government, 3 Catholic, 3 Independent) and 8 Colleges (4 Government, 2 Catholic and 2 Independent).

13.9 National Drug Strategy Household Survey 1995

The survey was conducted by the National Drug Strategy. It utilised face-to-face household interviews nationally with people aged 14 years and over (one person per household). In conjunction with the main interview, a 'sealed' questionnaire was self-completed by all respondents. 3500 interviews were conducted across Australia in 1995. A stratified random sample was used, which deliberately over-represented the smaller states and territories in order to allow meaningful state by state comparisons.

13.10 Youth Drug Use Survey ACT 1996

This survey was conducted by Assisting Drug Dependents Inc, and focussed on obtaining an under 25 drug user profile in terms of age and gender, revealing current trends in drug use and lifestyle behaviour, and comparing behaviour with results from the same survey two years previously. The survey questionnaire was available to all clients of the Drug Referral and Information Centre who were 25 years or under, and was self-administered. The sample size was 100.

13.11 Population Survey Monitor

Population Survey Monitor is a household survey conducted quarterly by the ABS. The topics that the survey covers are influenced by the government departments who fund questions on their areas of interest. The questions were funded by the Department of Environment Sport and Territories and the Australian Sports Commission. The number of people surveyed in the ACT was around 1,000 in 1995-96 and around 1,500 in 1996-97.

13.12 ACT Morbidity data

The majority of hospital services in the ACT are provided by The Canberra Hospital (TCH) and Calvary Public Hospital. In addition, there are 2 private hospitals - Calvary Private and John James Memorial. The morbidity data collected from all of these hospitals provides information on sex, age, usual place of residence, medical conditions/procedures and length of stay in hospital.

Hospital morbidity data are generally expressed in terms of hospital separations, that is, those who have left the hospital in the given time period. This ensures diagnosis data are as accurate as possible.

13.13 Definitions

Affective disorders - mood disturbances including mania, hypomania, bipolar affective disorder, depression and dysthymia.

Age-sex standardisation - demographic technique for adjusting for the effects of age and sex between populations which allows comparisons between populations (ABS definition).

Age-sex standardised death rate - the overall death rate that would have prevailed in a standard population (eg the 1991 Australian population) if it had experienced at each stage the death rates of the population being studied (ABS definition).

Age-sex standardised ratio - The expected number of events is given by calculating the number of events which would have occurred if the rates for each age/sex group in a given population (the

standard) were applied to the population of interest¹⁶⁵.

Age-specific birth rates - the number of births per thousand women of a specific age group in the population (ABS definition).

Anxiety disorders - feelings of tension, distress or nervousness. Includes agoraphobia, panic disorder, obsessive-compulsive disorder, post-traumatic stress.

Cardiovascular diseases (CVD) can be described as diseases relating to the heart and blood vessels. They are diseases of the circulatory system.

Crude birth rate is the number of live births per 1,000 population in a given year (ABS definition).

Crude death rate is the number of deaths per 1,000 population (unless otherwise stipulated) in a given year (ABS definition).

Dementia is a syndrome caused by brain disease in which the person experiences confused thought and behaviour, most prevalent in people of old age¹⁶⁶.

Fertility rate refers to the number of children one woman would expect to bear if the age-specific rates of the year shown continued during her child-bearing lifetime (ABS definition).

ICD-9-CM refers to the International Classification of Diseases, ninth revision as developed by the World Health Organisation.

Incidence refers to the number of instances of illness commencing, or of persons falling ill, during a given period in a specified population¹⁶⁷.

Ischaemic heart disease is coronary heart disease.

Labour force (in employment) refers to those persons employed and those unemployed seeking employment.

Median is a measure of central tendency. It refers to the point between the upper and lower halves of the set of measurements.

Mortality is the relative number of deaths, or death rate, as in a district or community.

Morbidity is the proportion of sickness in a locality.

Neoplasm is a diverse group of diseases characterised by the proliferation and spread of abnormal cells. They may be malignant or benign. Malignant neoplasms are called cancers.

Pertussis (whooping cough) is a childhood communicable disease.

Potential Years of Life Lost (PYLL) is a measure of the relative impact of various diseases and lethal forces on society. PYLL highlights the loss to society as a result of youthful or early deaths. The figure for PYLL due to a particular cause is the sum, over all persons dying from that cause, of the years that these persons would have lived had they experienced normal life expectation.

Prevalence refers to the number of instances of a given disease or other condition in a given population at a designated time.

Relative survival ratio for (eg cancer) patients is the ratio between the proportion of (cancer) patients surviving five years and the proportion of an age and sex matched population surviving five years.

Schizophrenia is a psychotic disorder characterised by distortions of thinking, speech and perception, which is usually accompanied by inappropriate or "blunted" emotions¹⁶⁸.

Separation (from hospital) refers to when a patient is discharged from hospital, transferred to another hospital or other health care accommodation, or dies in hospital following formal admission (ABS definition).

Sex differentials are the differences in rates between males and females.

Socioeconomic disadvantage score summarises information available from a number of variables related to education, occupation, family structure, ethnicity, housing conditions and costs, and economic resources (ABS definition). If interpreted carefully, it can assist in interpreting trends and predicting health risks in a population.

Standardised death rate is the overall death rate that would have prevailed in a standard population, in this case the 1991 Australian population, if it had experienced at each stage the death rates of the population being studied (ABS definition).

Statistically significant infers that it can be concluded on the basis of statistical analysis that it is highly probable.

Substance use disorders involve harmful use and/or dependence on drugs and/or alcohol. The drugs may be by prescription or illegal and include sedatives, stimulants, marijuana and opioids.



Appendix 1: Methodology

Rates

Rates per 100,000 are calculated as follows:

Rate = $N/P \cdot 100,000$ (where N = number of events and P= population at risk of experiencing the event).

Three year moving averages

The three year moving averages were calculated by taking the rate over three years.

$$\text{Rate } Y_2 = \frac{(N_1+N_2+N_3)}{(P_1+P_2+P_3)}$$

where N_i = number of events year i

where Y_i = year i

and P_i = population at risk year i

For end years the average of 2, rather than 3, years was taken.



Appendix 2: Data Limitations

Overall data

- Generally, data sets contain small numbers of occurrences of particular events. The smaller the numbers, the more likely there is to be inexplicable fluctuations in results. One extra death may alter statistics dramatically in a small area like the ACT. Where changes in pattern from year to year are noted, time series and moving averages are utilised to ensure a more reliable analysis;
- There is no ACT supplementary morbidity collection for diseases that can be treated outside the hospital system (eg by a GP or Emergency Department). Thus there is a heavy reliance on survey data;
- Relying on available survey data means that some information is updated infrequently. Disease profiles may not be static with an everchanging ACT population and important information may be lost during the period where data is not collected.

Mortality data

- There are inconsistencies in recording of cause of death (eg. a person may be recorded as dying from suicide rather than from the severe mental illness which caused the suicide);
- When looking at disease-specific rates over time it was not possible to age and sex standardise for some prior years. Thus, crude rates were used and extrapolated to the nominated year's findings.

Hospital separations data

- There are inconsistencies in coding hospital admissions (eg. a person may be coded as attempting suicide, but that condition could have been caused by mental illness - a different coder may have coded principal diagnosis as "mental illness" with the suicide attempt as the secondary diagnosis);
- Hospital separations data only focus on acute or chronic conditions which require patients to be admitted to hospital;
- As there is a high proportion of non-ACT residents ($\approx 20\%$) separated from ACT hospitals it is difficult to look at hospital separations rates, as we cannot use the ACT population to calculate rates.
- Inpatients and re-admissions can only be identified within a hospital, not between hospitals.
- ACT hospital data includes newborns in its separations data.

National Health Surveys

- Until the 1995-96 survey, the sample size of respondents was very small in the ACT. This resulted in fluctuations in results and reduced reliability of findings.
- When responses were broken down into sub-groups (eg people aged under 18), the sample became even smaller resulting in more inaccuracies.
- It should be noted that the Survey utilises a self-reporting format. Results represent respondents' perceptions, not necessarily health professionals' findings. It also depends in part, on the literacy of the respondents and their ability to understand English.

The most recent Survey was conducted in the twelve months from January 1995 to January 1996. Preliminary results were released in late December 1996.

Survey of Disability, Ageing and Carers 1993

In 1991 the ABS conducted a Survey of Handicapped Persons, followed by a Survey of Disabled and Aged Persons in 1988 which had comparable questions to the 1981 survey. The most recent survey, titled the Survey of Disability, Ageing and Carers, conducted in 1993, contained a larger sample of ACT respondents from previous samples, on which to base analysis (3,777 people). The surveys are based on self-reported answers to questionnaires, so the results represent respondents' perceptions, not necessarily health professionals' findings. They also depend in part, on the literacy of the respondents and their ability to understand English. This may be particularly relevant to people with intellectual disabilities.

Tables used in this publication use 'rounded' numbers, so totals may not be accurate. There are also many asterisks highlighting the fact that numbers are so small as to result in high sampling variation or high relative standard error. Survey results should therefore be treated with caution.



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Health Series Publications

The Epidemiology Unit of the Department of Health and Community Care has developed an on-going health series of publications to inform health professionals, policy developers and the community on health status in the Territory. Information contained therein will assist in the development of appropriate policy and service delivery models, the evaluation of programs, and an understanding of how the ACT compares with Australia as a whole with regard health status.

- Number 1: *ACT's Health: A report on the health status of ACT residents*
Carol Gilbert, Ursula White, October 1995
- Number 2: *The Epidemiology of Injury in the ACT*
Carol Gilbert, Chris Gordon, February 1996
- Number 3: *Cancer in the Australian Capital Territory 1983-1992*
Norma Briscoe, April 1996
- Number 4: *The Epidemiology of Asthma in the ACT*
Carol Gilbert, April 1996
- Number 5: *The Epidemiology of Diabetes Mellitus in the ACT*
Carol Gilbert, Chris Gordon, July 1996
- Number 6: *Developing a Strategic Plan for Cancer Services in the ACT*
Kate Burns, June 1996 (Out of print)
- Number 7: *The First Year of The Care Continuum and Health Outcomes Project*
Bruce Shadbolt, June 1996
- Number 8: *The Epidemiology of Cardiovascular Disease in the ACT*
Carol Gilbert, Ursula White, January 1997
- Number 9: *Health Related Quality of Life in the ACT: 1994-95*
Darren Gannon, Chris Gordon, Brian Egloff, Bruce Shadbolt, February 1997
- Number 10: *Disability and Ageing in the ACT: An Epidemiological Review*
Carol Gilbert, April 1997
- Number 11: *Mental Health in the ACT*
Ursula White, Carol Gilbert, May 1997
- Number 12: *Aboriginal and Torres Strait Islander Health in the ACT*
Norma Briscoe, Josie McConnell, Michelle Petersen, July 1997
- Number 13: *Health Indicators in the ACT: Measures of health status and health services in the ACT*
Carol Kee (Gilbert), George Johansen, Ursula White, Josie McConnell, January 1998
- Number 14: *Health status of the ACT by statistical sub-divisions*
April 1998
- Number 15: *Results from the 1996 ACT Secondary School Students' Survey*
Hai Phung, George Bodilsen, Allison Webb, Norma Briscoe, June 1998
- Number 16: *Childhood Immunisation & Preventable Diseases in the ACT 1993-97*
Hai Phung, Michelle Petersen, June 1998
- Number 17: *Health Related Quality of Life in the ACT 1994-97*
Hai Phung, Ursula White, Brian Egloff, June 1998
- Number 18: *Maternal and Perinatal Status in the ACT*
Maureen Bourne, Carol Kee, September 1998
- Number 19: *Health risk factors in the ACT*
Carol Kee, Michelle Petersen, Kate Rockpool, October 1998
- Number 20: *Young People in the ACT*
Linda Halliday, Josie McConnell, October 1998
- Number 21: *Communicable Diseases in the ACT*
Linda Halliday, Michelle Petersen, November 1998

