2 Cardiovascular health

Primary goal:

“Improve cardiovascular health by reducing coronary heart disease and its impact on the population”

- Overview
- Highlights
- Priority indicators
- Priority indicators not reported due to incomplete information
- Strategies, initiatives and interventions

Overview

Cardiovascular disease (CVD) has a major impact on Australia's health in terms of burden of illness and economic costs. Far too many Australians are at high risk of developing the disease due to the presence of risk factors such as cigarette smoking, high blood pressure, high cholesterol levels, overweight and limited exercise.

In 1994, CVD accounted for 54,888 deaths, or 43.3% of deaths from all causes among Australians. Coronary heart disease (ischaemic heart disease), or CHD, was the major cardiovascular cause of death, accounting for 24.1% of deaths from all causes. Stroke (cerebrovascular disease) accounted for an additional 10.1% of all deaths, accompanied by deaths from heart failure (2.3% of all deaths) and peripheral vascular disease (1.7% of all deaths).

In 1991–92, there were an estimated 289,500 discharges from hospitals following admission for a non-fatal CVD episode (Boyle & Dobson 1995). Of these, 36% were due to CHD, 13% due to stroke, and 11% due to heart failure.

An estimated 14,700 males and 4,900 females aged 25–69 years suffered heart attacks in 1991–92 (Boyle & Dobson 1995). The number of non-fatal heart attacks in 1991–92 was estimated at 8,500 for males and 2,800 for females aged 25–69 years. Approximately 76% of all heart attacks were first heart attacks.

Data from the 1989–90 Perth Community Stroke Study indicate that 37,000 strokes occur in Australia each year (Anderson et al. 1993). The annual event rate for all strokes in 1989–90 was 190 per 100,000 males and 109 per 100,000 females. For first-ever strokes, the incidence rates were 132 and 77 per 100,000 for males and females respectively.

The total health care cost of cardiovascular disease in 1989–90 is estimated at $2.5 billion. This consists of $1.1 billion for hospital in-patient costs, $0.5 billion for nursing home costs, $0.4 billion for medical services, $0.4 billion for pharmaceuticals and $35 million for allied health professional services.

Trends and differentials

Australia has experienced a large decline in CVD mortality over recent decades. The downward trend in CHD death rates, which started in the late 1960s, is continuing with the current rate of decline estimated at 3.8% in males and 3.3% in females annually (Bennett et al. 1994). The death rate for heart attacks (acute myocardial infarction), the major contributor to coronary heart disease mortality, is declining slightly faster at an annual rate of 4.6% in men and 3.3% in women. Stroke death rates are also declining at an average of 4.6% per year among males and 4.7% among females.

The major modifiable risk factors associated with CVD are cigarette smoking, high blood cholesterol levels, high blood pressure, obesity and a sedentary lifestyle. Trend data indicate that rates of smoking, high blood pressure and physical inactivity are falling in Australia. However, the prevalence of obesity is increasing, and there was generally little change in the prevalence of high blood cholesterol levels during the 1980s.

Significant CVD health differentials exist in Australia. Males are more likely than females to die from CVD; this is true across most age groups, but the differentials between the sexes do decline with increasing age. Certain population groups, such as

Indigenous people, have significantly higher CVD death rates than others (Anderson et al. 1996). People of lower socioeconomic status are also more likely to die from CVD than those of higher socioeconomic status. People born in Australia similarly have higher CVD death rates than Australian residents who were born overseas.

Socioeconomic inequalities in CVD mortality widened in tandem with declining mortality during the 1970s. Recent analysis for Australian males suggests that this trend continued into the early 1980s, but has since stabilised (Bennett 1996). There are socioeconomic inequalities also associated with CVD risk factors, with prevalence rates generally higher among the socioeconomically disadvantaged.

Highlights

- Coronary heart disease is a major contributor to CVD mortality in Australia. Over 30,000 men and women died from coronary heart disease in Australia in 1994. Death rates, however, have been declining since the late 1960s.
- In order to meet targets set for the year 2000, death rates for coronary heart disease will need to decline by an average of 5.8% per annum. On current trends, the target is likely to be achieved.
- Coronary heart disease is a leading cause of death for Aboriginal and Torres Strait Islander peoples, with death rates significantly higher than those for other Australians. No clear trend emerges from the analysis of recent mortality data, but targets for the year 2000 are unlikely to be met.
- In Australia, almost one in three men and one in four women smoke regularly. Although there have been recent declines in the proportion of men and women smoking, the target of 20% smokers in both sexes by the year 2000 is unlikely to be met.
- Between 1989–90 and 1994–95, there has been a slight reduction in the proportion of adults not participating in regular physical activity. The rate reduction will need to be much higher if the target of 25% of adults aged 18 years and over is to be reached by year 2000.
- In Australia, one-third of total energy available from food is obtained through fat consumption. This proportion has not altered in recent years, but will need to do so in order to meet the target year 2000 proportion of 32% of total energy intake from fat.
- In 1989, some 15% of men aged 20–69 years, and 15.4% of women aged 20–69 years had a blood cholesterol level equal to or greater than 6.5 mmol/L. The target for the year 2000 is to reduce these proportions to 12% for both men and women. No trend data are currently available.
- In 1994–95, almost one in two men and one in three women aged 18 years and over were overweight. A continuing increase in the proportion of overweight men and women makes it unlikely that target year 2000 proportions of 40% of men and 25% of women being overweight will be achieved.
- In 1989, 13% of men and 6% of women aged 20–69 years had high blood pressure. The target for the year 2000 is to reduce these proportions to 8% of men and 5% of women. No trend data currently exist for monitoring progress.
- Although declining death rates for coronary heart disease are encouraging, NHPA targets for the year 2000 for a majority of CVD priority indicators are unlikely to be met if the recent trends continue.

Priority indicators

This section covers indicators for which adequate data are available for reporting progress:

2.1.1 Death rate for coronary heart disease among adults aged 25–74 years

2.2.1 Death rate for coronary heart disease among Indigenous people

2.3.1 Prevalence of regular smoking among adults

2.3.2 Prevalence of smoking among 15-year-old secondary school students

2.5.1 The percentage of adults not engaged in physical activity in a two-week period

2.6.1 The average contribution of fat as a proportion of total energy intake in the food supply

2.6.3 The contribution of saturated fat as a proportion of total energy intake among 25–64 year olds

2.7.2 The proportion of adults aged 20–69 years with high blood cholesterol

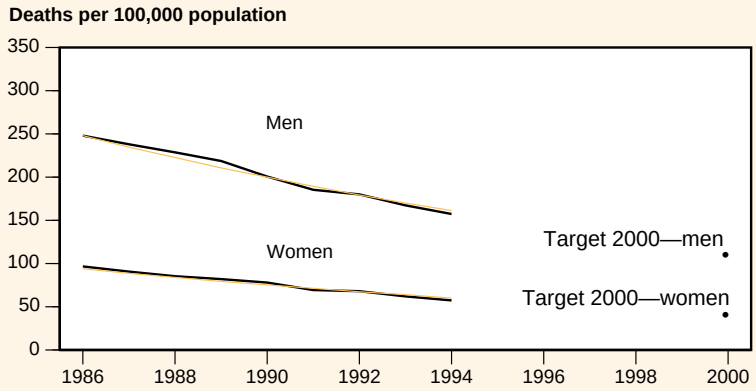
2.8.2 The proportion of adults who are overweight

2.9.3 The proportion of adults aged 20–69 years with high blood pressure

INDICATOR 2.1.1
Death rate for coronary heart disease among adults aged 25–74 years

Goal: Improve cardiovascular health by reducing coronary heart disease and its impact on the population

National trends



Adults aged 25–74 years	1986	1987	1988	1989	1990	1991	Baseline 1992	1993	1994	Target 2000
Men	248.0	237.8	228.9	218.8	200.5	185.1	179.9	167.6	157.3	110
Women	96.7	90.8	85.2	82.1	78.1	69.4	67.7	62.3	57.2	40

Note: Baseline figures in the Better Health Outcomes for Australians (BHO) report are given as 179.5 deaths per 100,000 men and 67.8 deaths per 100,000 women, aged 25–74 years.

Source: AIHW mortality database.

- Coronary heart disease is a major contributor to CVD mortality in Australia, with over 30,000 men and women dying from the disease in 1994.
- Since the late 1960s, mortality from coronary heart disease has been declining in Australia. Between 1986 and 1994, the death rate among men and women aged 25–74 years fell by an average of 5.7% and 6.2% per year respectively.
- Men are more likely to die prematurely, here defined as death before the age of 75, from coronary heart disease than women of the same age. Age-standardised, there were 256 premature male deaths for every 100 female deaths in 1986. This ratio is likely to increase to 275 for every 100 female deaths in the year 2000.
- In order to reach the targets set for the year 2000, death rates will need to decline by an average of 5.8% per annum for both men and women.

State comparisons

- Death rates for coronary heart disease do not show much variation among the States, but were significantly different from the national average for the two Territories. In 1992–94, the lowest and the highest death rates for the disease were recorded in the Australian Capital Territory and the Northern Territory respectively.
- The rate of change in death rates between the two periods (1986–88 and 1992–94) was similar for the States and the Australian Capital Territory compared with Australia as a whole, but was much lower in the Northern Territory.

Deaths per 100,000 population aged 25–74 years

State/Territory	Males aged 25–74 years			Females aged 25–74 years		
	Average 1986–88	Average 1992–94	Per cent change	Average 1986–88	Average 1992–94	Per cent change
NSW	252.3	172.7	–31.5	98.7	66.4	–32.7
VIC	220.6	157.0	–28.8	79.8	55.5	–30.5
QLD	240.8	176.4	–26.7	93.4	68.1	–27.1
WA	245.0	175.7	–28.3	93.2	61.2	–34.3
SA	219.5	157.7	–28.2	82.6	55.0	–33.4
TAS	257.1	174.1	–32.3	100.8	69.0	–31.5
ACT	188.0	136.5	–27.4	74.6	46.6	–37.5
NT	219.8	201.6	–8.3	99.5	89.2	–10.4
Australia	**238.2**	**168.3**	**–29.3**	**90.9**	**62.4**	**–31.4**

Source: AIHW mortality database.

Data issues

Definition

- Age-standardised number of deaths from coronary heart disease per 100,000 population aged 25–74 years

Data availability

- AIHW data based on information collected by State and Territory registrars of births, deaths and marriages

Data coverage

- Annual and national; State and Territories

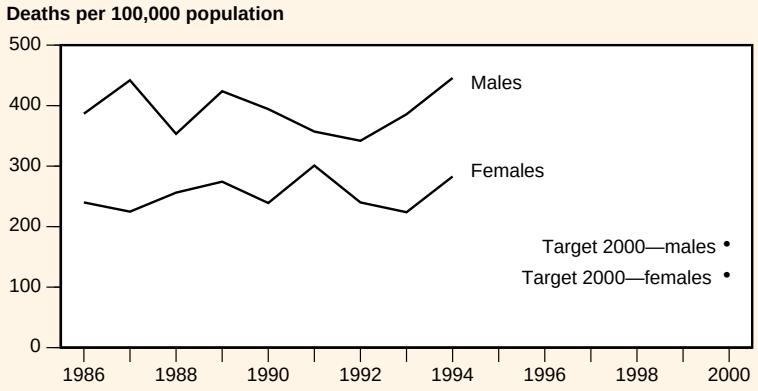
Data reliability

- Since 1993, the Queensland office of the Australian Bureau of Statistics (ABS) has been responsible for processing all cause of death data to ensure greater consistency in coding and improved data quality. Coding of death for coronary heart disease has been validated and found to be quite accurate (Boyle & Dobson 1995).

INDICATOR 2.2.1
Death rate for coronary heart disease among Indigenous people

Goal: Reduce the differences in cardiovascular health between identified priority populations and the wider Australian community

National trends



All ages	1986	1987	1988	1989	1990	1991	Baseline 1992	1993	1994	Target 2000
Males	387	442	353	424	394	357	342	386	446	**171**
Females	240	225	256	274	239	301	240	224	283	**120**

Notes
1. 1986, 1987 and 1988 figures include Western Australia and the Northern Territory only.
2. Baseline and target values were obtained using deaths data from South Australia, Western Australia and the Northern Territory.
3. 1994 figures were adjusted for deaths not yet registered, and are provisional estimates.

Source: Anderson et al. (1996).

- Coronary heart disease is a leading cause of death among Indigenous Australians. Age-standardised death rates for the disease among Indigenous people are significantly higher than those among non-Indigenous people (Bhatia et al. 1995). However, the proportion of Aboriginal deaths attributed to the disease is much lower when compared to the non-Aboriginal population, due mainly to high mortality from other causes.
- No clear trend is apparent in deaths from coronary heart disease among Indigenous Australians. The death rate for the disease fluctuated around 400 per 100,000 males and around 250 per 100,000 females between 1989–91 and 1992–94 (Anderson et al. 1996).
- In comparison, the death rate for coronary heart disease declined rapidly in non-Indigenous Australians, particularly among males, during the same period. These diverging trends have widened the gap between Indigenous and non-Indigenous death rates.
- The male death rate for coronary heart disease was 2.4 times higher for Indigenous males and 2.8 times higher for Indigenous females in 1989–91 when compared to their non-Indigenous counterparts. The standardised mortality ratio rose to 2.9 for both sexes in 1992–94 (Anderson et al. 1996).

Data issues

Definitions

- Age-standardised number of deaths from coronary heart disease per 100,000 Indigenous population
- Baseline death rates given in the BHO report, 238 deaths per 100,000 for Indigenous males and 200 deaths per 100,000 for Indigenous females, were based on deaths data for New South Wales, Victoria, South Australia, Western Australia and the Northern Territory. In view of the incompleteness of Indigenous deaths data from New South Wales and Victoria, new baseline values were obtained using deaths data from South Australia, Western Australia and the Northern Territory only. The target values for the year 2000 were also modified to reflect the revised database.

Data availability

- AIHW data based on information collected by State and Territory registrars of births, deaths and marriages

Data coverage

- Annual and national; States and Territories. Identification of deaths of Indigenous people in Queensland was introduced at the beginning of 1996.

Data reliability

- Only mortality data for Western Australia, South Australia, the Northern Territory and the Australian Capital Territory are considered to be of publishable standard by the Australian Bureau of Statistics and AIHW (Anderson et al. 1996).
- The analysis of trends in mortality is usually done by year of registration, rather than year of occurrence, in order to utilise data for the latest year of registration. For Australia as a whole this makes little difference because the proportion of deaths not registered in the year of occurrence is fairly constant from year to year. However, the proportion of Indigenous deaths not recorded in the year of occurrence varies by year and jurisdiction. Because an analysis of Indigenous mortality by year of registration could be misleading, the estimates used in this report are based on year of occurrence of death.

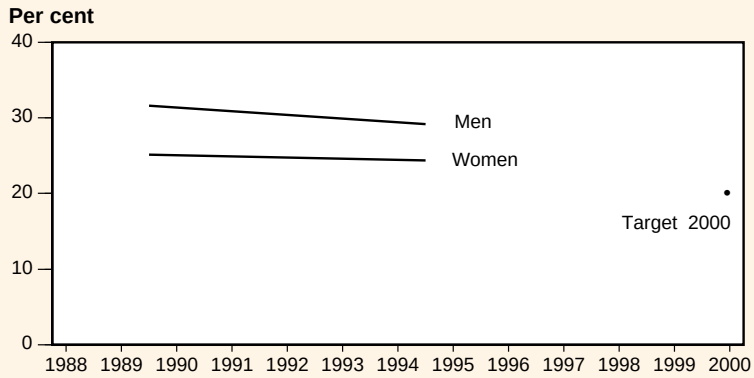
Data deficiencies

- Indigenous deaths data from New South Wales, Victoria and Tasmania are incomplete and of variable quality.

INDICATOR 2.3.1
Prevalence of regular smoking among adults

Goal: Reduce the prevalence of smoking among Australians

National trends



Adults aged 18 years and over	Baseline 1989–90	1994–95	Target 2000
Men	31.6	29.2	20.0
Women	25.1	24.4	20.0

Note: Baseline values differ slightly from those in the BHO report, given as 31.4% for men and 25.0% for women.

Sources: 1989–90 estimates were derived from the Australian Bureau of Statistics (ABS) National Health Survey; the 1994–95 estimates were obtained from the ABS Population Survey Monitor conducted in May, August and November 1994, and February and May 1995.

- Tobacco smoking is a major health risk factor, responsible for significant mortality, morbidity and poor quality of life world-wide. It is known to contribute to numerous diseases, the most prominent of which are cardiovascular diseases and cancer. Smoking during pregnancy has also been linked to lower birthweight babies.
- Tobacco smoking is also a major contributor to health costs, a large proportion of which are due to tobacco-related CVD. In 1989–90, tobacco-related CVD contributed 46% to the total cost of healthcare for tobacco-related diseases (AIHW 1996b).
- It has been estimated that some 15% of all deaths in Australia can be attributed to tobacco smoking (English et al. 1995). Active smoking led to the deaths of 18,920 Australians in 1992 and caused 88,266 person-years of life lost before age 70, at an average of 4.7 years of life lost per death.
- In Australia, almost one in three men and one in four women smoke tobacco regularly. Further, a large proportion are ex-smokers, leaving only two out of five men and three out of five women who have never smoked (ABS 1992).
- The distribution of smokers in the population varies, with people on lower incomes, those with low levels of education and unemployed people reporting higher rates of smoking. The prevalence of smoking is significantly higher among Indigenous people than among non-Indigenous people.
- Between 1989 and 1995, the proportion of men and women smoking decreased, with the decline being greater for men (8%) than for women (3.5%). However, more than one in four adults still smoked cigarettes in 1994–95.
- Recent declines notwithstanding, the target of 20% smokers in both sexes in the year 2000 is unlikely to be reached on current trends.

State comparisons

- There is not much difference between the States and Territories in the rates for tobacco smoking, except in the Northern Territory where the proportion of men who smoke regularly is higher.
- While the proportion of men smoking tobacco declined between 1989–90 and 1994–95 in all States and Territories except Western Australia, contrary trends were observed among women in South Australia and Tasmania.
- Decline in the proportion of smokers was the highest in the Australian Capital Territory, followed by the Northern Territory, both among men and women.
- Increases in the proportion of women smokers in South Australia and Tasmania have contributed to the relatively poor decline in the prevalence rates for women as a whole. The rate of decline for tobacco smoking among women in Victoria and Western Australia was also low between 1989–90 and 1994–95.

Per cent proportion of adults who regularly smoke cigarettes

	Men aged 18 years and over			Women aged 18 years and over		
State/Territory	1989–90	1994–95	Per cent change	1989–90	1994–95	Per cent change
NSW	32.0	27.4	–14.4	25.8	24.0	–7.0
VIC	30.8	29.1	–5.5	24.5	24.1	–1.6
QLD	31.7	31.4	–0.9	24.8	23.1	–6.9
WA	30.3	31.7	4.6	25.0	24.7	–1.2
SA	32.6	29.4	–9.8	23.6	26.8	13.6
TAS	31.2	29.3	–6.1	26.9	28.8	7.1
ACT	34.8	22.7	–34.8	21.9	20.0	–8.7
NT	43.3	34.9	–19.4	29.9	25.6	–14.4
Australia	**31.6**	**29.2**	**–7.6**	**25.1**	**24.4**	**–2.8**

Sources: 1989–90 estimates were derived from the ABS National Health Survey; the 1994–95 estimates were obtained from the ABS Population Survey Monitor conducted in May, August and November 1994, and February and May 1995.

Data issues

Definitions

- 1989–90 ABS National Health Survey: regular cigarette smoking was defined as smoking one or more cigarettes per day on average.

  ABS Population Survey Monitor: current smokers

Data availability

- ABS Population Survey Monitor; ABS National Health Surveys; National Heart Foundation Risk Factor Prevalence Surveys; National Campaign Against Drug Abuse (NCADA) National Household Surveys; Anti-Cancer Council of Victoria Patterns of Tobacco Smoking

Data coverage

- Five-yearly for the ABS National Health Surveys; national as well as States and Territories

Data reliability

- Self-reported data may produce underestimates of smoking prevalence and cigarette consumption.

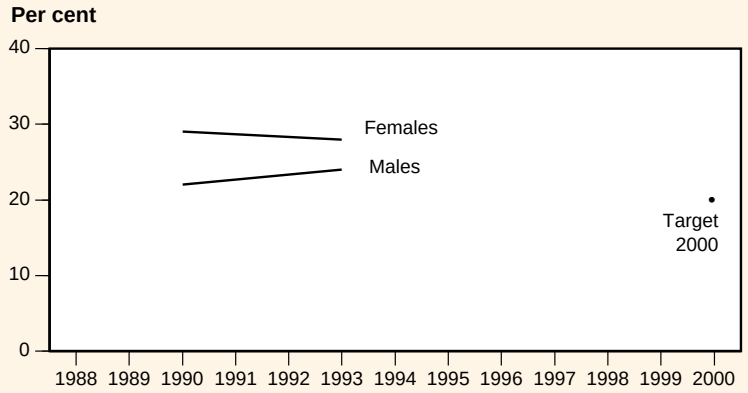
Data deficiencies

- There is a need to develop standard methods and definitions for monitoring smoking prevalence.

INDICATOR 2.3.2
Prevalence of smoking among 15-year-old secondary school students

Goal: Reduce the prevalence of smoking among Australians

National trends



15-year-old secondary school students	Baseline 1990	1993	Target 2000
Males	22	24	20
Females	29	28	20

Note: Baseline values in the BHO report for Australians are given as 25% for both males and females.
Sources: Hill et al. (1993, 1995).

- Most smokers experiment with smoking before they reach their mid-teens, and take up regular smoking by the age of 20. The earlier a smoker takes up the habit, and the longer their exposure to tobacco, the more likely it is that they will succumb to one or more of the known smoking-caused diseases. Young people aged 12–17 years are therefore a priority population for efforts to reduce tobacco smoking.
- About 70,000 Australian teenagers start smoking each year. Surveys conducted by the Australian Cancer Society in 1990 and 1993 show that more than one-fourth of 15-year-old secondary school students were current smokers. Girls were more likely than boys to have smoked at least one cigarette in the week before the interview (Hill et al. 1993, 1995).
- The prevalence of current smoking reached a peak of 29% among 15-year-old female students in 1990.
- Between 1990 and 1993, the proportion of 15-year-old male students who smoked in the week before the interview increased slightly, while the proportion of girls smoking in the week before the interview decreased slightly.
- Among current smokers, boys were heavier smokers than girls. A decline in the average number of cigarettes smoked per week by current 15-year-old smokers was also noted between 1990 and 1993 (Hill et al. 1993, 1995).

State comparisons

- Large variation exists in the proportion of current smokers among 15-year-old male students in various States and the Northern Territory than among female students.
- In parallel with the national trend, the proportion of 15-year-old male smokers increased in all States except Western Australia between 1990 and 1993. Particularly in Queensland, the proportion of 15-year-old smokers rose by 55.6% between 1990 and 1993.
- Wide variation was noted in the rate of change in the proportion of current smokers among female students in various States and the Northern Territory between 1990 and 1993. The proportion decreased almost 13 per cent points in the Northern Territory.

Per cent proportion of 'current smokers' among 15-year-old secondary school students

	Males			Females		
State/Territory	1990	1993	Per cent change	1990	1993	Per cent change
NSW	21	24	14.3	27	29	7.4
VIC	21	22	4.8	34	29	–14.7
QLD	18	28	55.6	22	26	8.2
WA	36	19	–47.2	32	26	–18.8
SA	24	26	8.3	29	30	3.4
TAS	28	32	14.3	26	30	15.4
ACT	na	na	na	na	na	na
NT	22	21	–4.5	37	24	–35.1
Australia	**22**	**24**	**9.1**	**29**	**28**	**–3.4**

Note: Estimates for some of the States and the Northern Territory are based on small sample sizes; the information provided here should be interpreted cautiously.

Sources: Hill et al. (1993, 1995).

Data issues

Definitions

- Age-specific smoking rate among 15-year-old secondary school students
- In both the 1990 and 1993 surveys, 'current smoking' was defined as having smoked at least one cigarette in the week preceding the survey.

Data availability

- Future data for monitoring will become available through surveys of smoking among school children by the Anti-Cancer Council of Victoria and the NCADA National Household Surveys (the 1993 Survey included persons aged 14 years and over).

Data coverage

- Frequency variable; national; States and Territories

Data reliability

- Self-reported data may produce underestimates of smoking prevalence and cigarette consumption.

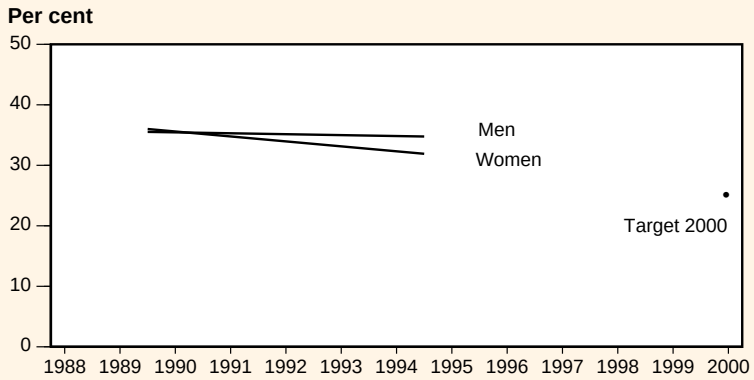
Data deficiencies

- There is a need to develop standard methods and definitions for monitoring smoking prevalence for use in the population surveys.

INDICATOR 2.5.1
The percentage of adults not engaged in physical activity in a two-week period

Goal: Increase participation in regular physical activity

National trends



Adults aged 18 years and over	Baseline 1989–90	1994–95	Target 2000
Men	35.6	34.8	25.0
Women	36.0	31.9	25.0

Note: The baseline figures are those given in the BHO report and are based on the 1989–90 ABS National Health Survey.

Sources: 1989–90 ABS National Health Survey; estimates for 1994–95 were derived from the ABS Population Survey Monitor, conducted in May, August and November 1994, and February and May 1995.

- Increasing participation in physical activity is becoming a public health priority in the developed world. Physical activity is important in preventing and managing a number of medical conditions such as coronary heart disease, hypertension, non-insulin-dependent diabetes mellitus, osteoporosis, obesity, and a number of psychological conditions such as depression and self-esteem.
- There is evidence that regular exercise may mitigate a number of cardiovascular risk factors, such as increase the levels of high density lipoproteins (HDL), lower the ratio of low density lipoproteins (LDL) to HDL, reduce plasma triglyceride levels, increase insulin sensitivity and lessen the risk of abdominal obesity.
- Between 1989–90 and 1994–95, there has been a slight reduction in the number of adults not participating in physical activity for sport or recreation. The number of women who had not participated in any physical exercise decreased from 36.0% to 31.9% between 1989–90 and 1994–95. Men, in comparison, experienced a small decline in inactivity, from 35.6% to 34.8%, attributable largely to an increase in participation in physical activity among men aged 35–64 years.

State comparisons

- Limited variation is found in the proportion of people who do not participate in some form of regular physical activity among States and Territories, except in the Australian Capital Territory where comparatively more men and women participate in some form of physical activity. Other than in Victoria and the Australian Capital Territory, men are less likely to engage in some form of physical activity on a regular basis than women.
- In the Northern Territory, the proportion of men and women reporting lack of participation in any form of moderate physical activity increased between 1989–90 and 1994–95. In comparison, the proportion of such persons decreased between the two periods in Victoria, South Australia, Tasmania and the Australian Capital Territory. In most cases, the proportion of women engaging in physical activity increased substantially.
- Opposing signs of change with respect to this health indicator were seen in New South Wales, Queensland and Western Australia. In all cases, the proportion of women reporting some type of physical activity in the two-week period prior to the surveys increased, but the proportion among men declined.

Per cent proportion of adults not engaged in physical activity in a two-week period

	Men aged 18 years and over			Women aged 18 years and over		
State/Territory	1989–90	1994–95	Per cent change	1989–90	1994–95	Per cent change
NSW	34.7	38.3	10.4	37.5	34.3	–8.5
VIC	35.7	32.0	–10.4	35.5	33.5	–5.6
QLD	37.1	37.5	1.1	36.7	33.3	–9.3
WA	33.2	34.8	4.8	32.4	29.6	–8.6
SA	38.9	35.1	–9.8	36.4	26.8	–26.4
TAS	36.4	35.4	–2.7	33.5	32.4	–3.3
ACT	29.8	22.9	–23.2	30.2	26.8	–11.3
NT	36.8	42.0	14.1	25.8	31.4	21.7
Australia	**35.5**	**34.8**	**–2.0**	**36.0**	**31.9**	**–11.4**

Sources: 1989–90 ABS National Health Survey; estimates for 1994–95 were derived from the ABS Population Survey Monitor, conducted in May, August and November 1994, and February and May 1995.

Data issues

Definitions

- The proportion of adults who did not engage in vigorous exercise, moderate exercise or walking for recreation or exercise over a two-week period
- Physical activity is defined as exercise undertaken for recreation, sport or health / fitness purposes, and does not include activity undertaken in the course of work.

Data availability

- ABS Population Survey Monitor; ABS National Health Surveys; NHF Risk Factor Prevalence Surveys; Australian Health and Fitness Survey; Department of the Arts, Sport, the Environment, Tourism and Territories Physical Activity Survey

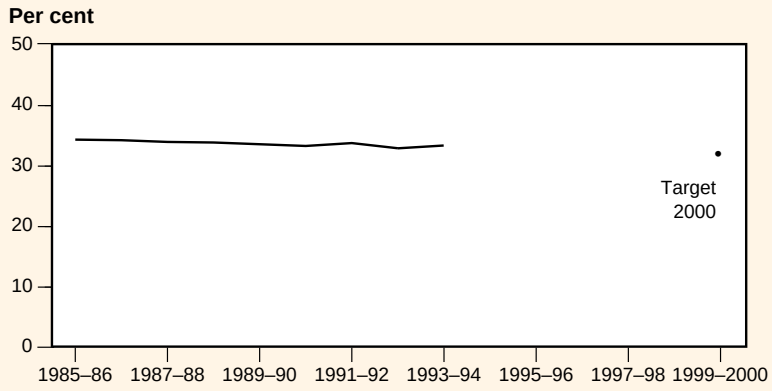
Data reliability

- Self-reported data reflects the respondent's perception of the activity undertaken, its intensity, his / her level of fitness, and so on.

INDICATOR 2.6.1
The average contribution of fat as a proportion of total energy intake in the food supply

Goal: Reduce early death, illness and disability from diet-related cardiovascular disease

National trends



Fat consumption	1985–86	1986–87	1987–88	1988–89	1989–90	Baseline 1990–91	1991–92	1992–93	1993–94	Target 2000
Proportion of total energy intake	34.4	34.3	34.0	33.9	33.6	33.3	33.8	32.9	33.3	32.0

Note: The baseline figure in the BHO report is given as 34.1%.
Source: ABS (1996b).

- High intake of fat, particularly saturated fat, is a major health risk factor for cardiovascular disease. However, information on trends over time for the dietary intake of energy and fat is not available at the population level. Apparent consumption data, derived from food supply information, are therefore used as surrogate indicators of energy and fat consumption.
- In Australia, one-third of total energy available from the food supply is obtained through fat consumption. This contribution of fat to the total supply of energy has not altered significantly since 1985–86.

Data issues

Definitions

- Apparent consumption of fat is interpreted here as a proportion of total energy supplied to the Australian market for human consumption.
- Energy (in kJ) contributed by fat as a percentage of total energy (in kJ) in the food supply:

  $E_f / E_t * 100$,

  where: E_f = energy in fat [fat (g) * 37 kJ], and
  E_t = total energy.

Data availability

- ABS, *Apparent Consumption of Foodstuffs and Nutrients*

Data coverage

- Annual and national

Data reliability

- The apparent consumption of edible fats and oils, other than butter and margarine, is not measured but is assumed to be 10 kg per person per year. This is equivalent to approximately 1,000 kJ/day, or 8% of the total energy intake. The proportion represents approximately one-quarter of the contribution of fat to total energy intake.

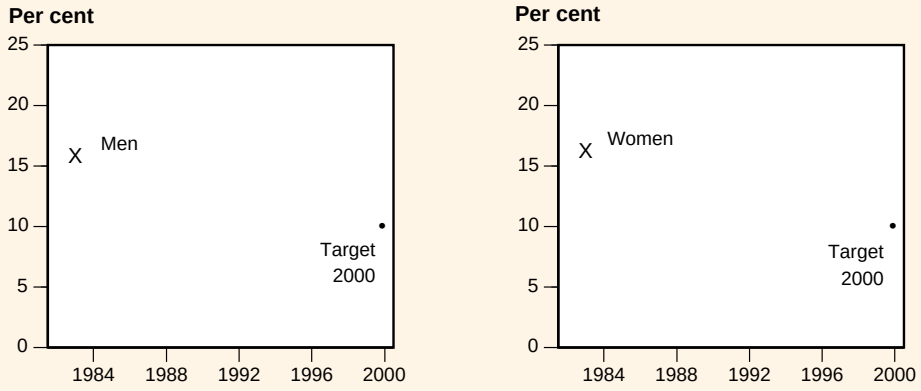
Data deficiencies

- Apparent consumption data are used as surrogate measures of food consumption because actual food consumption data are not currently available at the national level.
- Due to limitations in the apparent consumption data, estimates of consumption by type of fat (i.e. saturated or unsaturated) cannot be easily made.

INDICATOR 2.6.3
The contribution of saturated fat as a proportion of total energy intake among 25–64 year olds

Goal: Reduce early death, illness and disability from diet-related cardiovascular disease

National trends



Adults aged 25–64 years	Baseline 1983	Target 2000
Men	15.9	10.0
Women	16.3	10.0

Source: National Dietary Survey of Adults 1983 (DCSH 1987).

- Diets high in saturated fatty acids, particularly trans-fatty acids, tend to raise blood cholesterol levels, although not all saturated fatty acids are equally likely to cause hypercholesterolaemia. Certain mono- and poly-unsaturated fatty acids even have cholesterol-lowering properties.
- An association exists between trans-fatty acid intake and LDL cholesterol level. An inverse association with HDL cholesterol level has also been observed (Lester 1994).
- Diet can exert its effect not only through the types of food consumed, and the resultant energy intake, but also through different processes for its metabolism at different ages. The disease risk may also vary with sex.
- Baselines for the contribution of saturated fat as a proportion of total energy intake among 25–64 year olds (15.9% among men; 16.3% among women) were based on data from the 1983 National Dietary Survey of Adults commissioned by the (Commonwealth Department of Community Services and Health (DCSH) 1987). If the contribution of alcohol to the energy intake is excluded, then the baselines 17.0% and 16.8% in men and women respectively.
- Monitoring progress towards the year 2000 targets is not possible as information on trends over time for the dietary intake of saturated fat is not currently available. However, this information is likely to become available in 1997 from the analysis of the 1995 National Nutrition Survey, currently under way.

Data issues

Definition

- Energy (in kJ) contributed by saturated fat taken as a percentage of total energy (kJ) intake:

  $E_{sf} / E_t * 100$,

  where: E_{sf} = energy in saturated fat given as [saturated fat (g) * 37 kJ], and

  E_t = total energy.

Data availability

- 1995 National Nutrition Survey and future dietary surveys. The frequency of the National Nutrition Surveys is still to be determined.

Data coverage

- Frequency variable; State and Territory capital cities

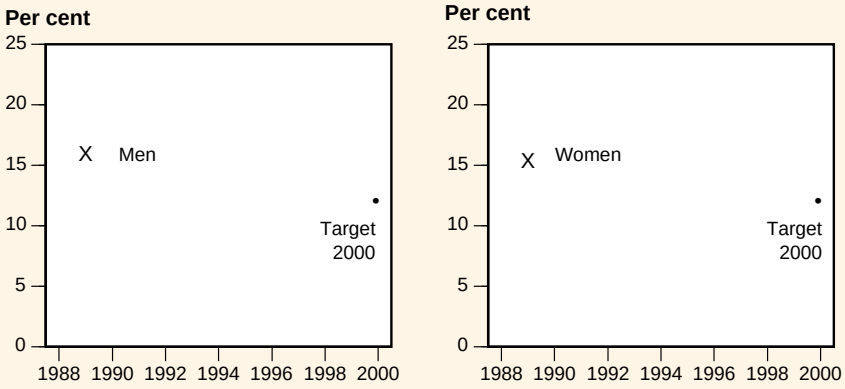
Data reliability

- Good

INDICATOR 2.7.2
The proportion of adults aged 20–69 years with high blood cholesterol

Goal: Reduce the prevalence of high blood cholesterol in adults

National trends



Adults aged 20–69 years	Baseline 1989	Target 2000
Men	16.0	12
Women	15.4	12

Note: High blood cholesterol was defined as total blood cholesterol of 6.5 mmol/L or greater.
Source: NHF & AIH (1990).

- There is overwhelming evidence from epidemiological, animal and clinical studies that high blood cholesterol levels are a major risk factor for CVD. The proportion of adults with plasma cholesterol levels equal to or greater than 6.5 mmol/L is a significant determinant of population risk for the disease.
- The prevalence of high blood cholesterol tends to increase with age, and is more common in men than women. Among Australia's immigrants, men and women from Italy have lower levels of total blood cholesterol than their Australian-born counterparts (Bennett 1993).
- To reduce the proportion of adults (20–69 years) with high blood cholesterol levels, a target of 12.0% for both men and women in the year 2000 was set. In the absence of any national data on the indicator since 1989, monitoring progress towards the targets is not currently possible.
- The 1989 Risk Factor Prevalence Survey, conducted by the National Heart Foundation, found that in State and Territory capital cities 16.0% of men (aged 20–69 years) and 15.4% of women (aged 20–69 years) had blood cholesterol levels of 6.5 mmol/L or more.
- National trends in blood cholesterol levels, determined from the Risk Factor Prevalence Surveys conducted in 1983, 1985 and 1989, have found that the proportion of men and women with high blood cholesterol did not change significantly during the 1980s (Bennett & Magnus 1994).

Data issues

Definition

- High blood cholesterol is defined as a level equal to or greater than 6.5 mmol/L.

Data availability

- There is no national data collection strategy for regular population monitoring of blood cholesterol levels.
- The latest data were provided by the 1989 Risk Factor Prevalence Survey conducted by the National Heart Foundation.

Data coverage

- Undetermined; State and Territory capital cities

Data reliability

- Good

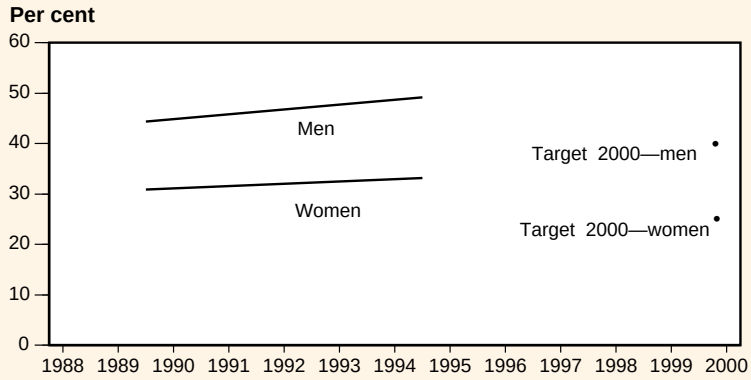
Data deficiencies

- Available data on adults aged 20–69 years living in the State or Territory capital cities only.

INDICATOR 2.8.2
The proportion of adults who are overweight

Goal: Reduce the prevalence of overweight among adults

National trends



Adults aged 18 years and over	Baseline 1989–90	1994–95	Target 2000
Men	44.4	49.2	40.0
Women	30.9	33.1	25.0

Note: Baseline figures in the BHO report are given as 44.2% for men and 30.6% for women.

Sources: 1989–90: ABS National Health Survey; 1994–95: ABS Population Survey Monitor conducted in February, May, August and November 1994 and February and May 1995.

- Overweight and obesity are important determinants of cardiovascular health. Severe overweight increases the risk of coronary heart disease (CHD) in both men and women.
- A greater proportion of men than women are overweight, especially in the younger (18–24 years) and older (65+ years) age groups. In 1989–90, the proportion of men with body mass index (BMI) exceeding 25.0 was 44.4%, at least 13% higher than the proportion among women.
- Despite favourable changes to the national diet, and apparent decreases in the proportion of individuals who do not engage in regular physical activity, it is clear that prevalence of overweight and obesity is rising in Australia. A steady increase in the proportion of men and women who are overweight was noted all through the 1980s.
- This trend has continued into the 1990s. Between 1989–90 and 1994–95, the proportion of overweight adults rose 4.8% among men and 2.2% among women. One out of two men and one out of three women are now overweight.
- This continuing increase in the proportion of overweight adults runs counter to the stated NHPA goal of reducing the prevalence of this risk factor among adults. On current indications, it is unlikely that the targets set for the year 2000 will be achieved.

State comparisons

- The proportion of overweight persons by sex does not vary significantly among States and Territories. Also, the proportion of overweight men is uniformly higher than women in all States and Territories.
- Between 1989–90 and 1994–95, an increase in the proportion of overweight men occurred in all States and Territories. However, the rate of change varied considerably, with large increases noted in Tasmania, the Australian Capital Territory and New South Wales.
- Varying changes were noted in the proportion of overweight women between 1989–90 and 1994–95.
- The proportion of overweight women increased substantially in the Australian Capital Territory between 1989–90 and 1994–95. Women in New South Wales, South Australia, Western Australia and Victoria also recorded notable increases between the two periods.

Per cent proportion of overweight men and women by State and Territory

	Men aged 18 years and over			Women aged 18 years and over		
State/Territory	1989–90	1994–95	Per cent change	1989–90	1994–95	Per cent change
NSW	43.5	50.1	15.2	29.9	33.0	10.4
VIC	45.5	49.1	7.9	32.1	34.4	7.2
QLD	44.5	49.2	10.6	31.0	31.8	2.6
WA	43.0	44.9	4.4	30.4	33.4	9.9
SA	47.2	51.8	9.7	32.1	35.4	10.3
TAS	44.5	52.9	18.9	31.4	32.0	1.9
ACT	42.2	49.4	17.1	25.6	30.5	19.1
NT	44.8	46.7	4.2	28.8	25.8	–10.4
Australia	**44.4**	**49.2**	**10.8**	**30.9**	**33.1**	**7.1**

Sources: 1989–90: ABS National Health Survey; 1994–95: ABS Population Survey Monitor conducted in February, May, August and November 1994 and February and May 1995.

Data issues

Definitions

- Overweight refers to persons with a body mass index (BMI) of 25.0, or higher.
- BMI is a person's weight in kilograms (kg) divided by the square of his or her height in metres (m).

Data availability

- ABS Population Survey Monitor; ABS National Health Surveys; ABS National Nutrition Survey
- Risk Factor Prevalence Surveys conducted by the National Heart Foundation in 1980, 1983 and 1989 provide the most recent estimates based on measured height and weight.

Data coverage

- National; States and Territories; capital cities; urban and rural

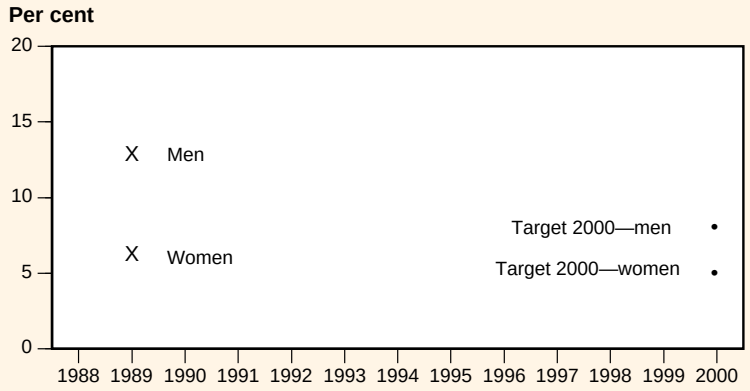
Data reliability

- Data from ABS surveys are based on self-reported estimates of height and weight, which underestimates the prevalence of overweight adults.

INDICATOR 2.9.3
The proportion of adults aged 20–69 years with high blood pressure

Goal: Reduce the prevalence of high blood pressure among adults

National trends



Adults aged 20–69 years	Baseline 1989	Target 2000
Men	12.9	8.0
Women	6.3	5.0

Source: NHF & AIH (1990).

- High blood pressure is one of the most common medical conditions in Australia, and a major independent risk factor for stroke, coronary heart disease and other cardiovascular diseases. On average, the risk of CVD is two to four times greater among hypertensive people than among non-affected people of the same age.
- During the 1980s, average blood pressure levels declined significantly in men and women at all ages (Bennett & Magnus 1994). The proportion of adults with high blood pressure also declined considerably.
- High blood pressure is more common in men than in women aged 20–59 years; however, the pattern is reversed among the 60–69 years age group. Overall, among 20–69 year olds, almost twice as many men as women suffer from high blood pressure.
- No information is currently available for this particular indicator to report progress toward the year 2000 targets. However, analysis of the 1995 National Nutrition Survey will provide point estimates for this indicator in 1997.

Data issues

Definition

- High blood pressure is defined as systolic blood pressure ≥ 160 mm Hg or diastolic blood pressure ≥ 95 mm Hg. Estimates of systolic and diastolic blood pressure are the average of two readings for each taken five minutes apart.
- Persons on treatment for high blood pressure are not included in this definition if their blood pressure is controlled.

Data availability

- 1995 National Nutrition Survey, as well as future surveys which include the measurement of blood pressure
- Risk Factor Prevalence Surveys conducted by the National Heart Foundation in 1980, 1983 and 1989 provide estimates for adults in capital cities.

Data coverage

- The frequency of the surveys is variable; State and Territory capital cities

Data reliability

- Blood pressure is especially liable to measurement error, dependent as it is upon observer skill in objective and accurate reading and recording. The effect of non-sampling errors can be minimised by training procedures and regular monitoring during data collection (Bennett 1994).

Priority indicators not reported due to incomplete information

Priority indicators for which the availability of data and/or the target status are presently incomplete, but which will be reported in future reports, are listed below.

Priority indicator		Data availability	Target status
2.1.2	Incidence of coronary heart disease	1997–98	Not set
2.2.2	Death rate for coronary heart disease among socioeconomically disadvantaged Australians	1997–98	Possible
2.2.3	Death rate for coronary heart disease among rural and remote residents of Australia	1997–98	Possible
2.2.4	Death rate for coronary heart disease among certain immigrant groups	Now	Possible
2.10.2	The proportion of GPs who adhere to management guidelines for high blood cholesterol and high blood pressure	1997–98	Not set
2.11.1	The average delay between the onset of chest pain and presentation for emergency care	1997–98	Not set
2.11.2	The proportion of people in the community, particularly those in the priority populations, who are able to recognise chest pain which could have a cardiac basis	1997–98	Not set
2.11.4	The proportion of people in the community trained in CPR techniques	1997–98	Not set
2.11.6	The time from presentation at emergency departments to clinical and electrocardiogram (ECG) assessment and administration of appropriate therapy	Not available by 1997–98	Not set
2.12.2	Survival times of people who have undergone medical or surgical treatment for CHD	1997–98	Not set
2.13.3	The proportion of cardiac patients who enter and complete a rehabilitation program	1997–98	Not set
2.13.4	The proportion of cardiac patients who adopt and maintain satisfactory health behaviours	Not available by 1997–98	Not set
2.13.5	The proportion of people with CHD re-admitted to hospital with another cardiac event	1997–98	Not set

Notes

1. Data availability: '1997–98'—monitoring data are expected to become available by 1997–98; 'Not available by 1997–98'—monitoring data will not become available by 1997–98, but the indicator is considered to be of a sufficiently high priority for future reporting.
2. Target status: 'Not set'—no target has been set, due to lack of baselines or trends data; 'Possible'—no target set, but is possible given available monitoring data (or the likelihood of these data becoming available soon).

Strategies, initiatives and interventions

The following section deals with a selection of the activities that are occurring at the Commonwealth, State and Territory levels with the broad aim of reducing the impact of cardiovascular disease on the community. The information below is far from comprehensive; rather, it gives a few examples of the activities that are considered to have contributed to, or to have the potential to contribute to, changed health status. It is provided to facilitate the exchange of information about activity which is deemed to be particularly useful, and which may have potential to be adapted for use by other States / Territories.

Prevention	Management	Maintenance	Research/Information
Active for Life Program and Physical Activity Strategy	Clinical guidelines on unstable angina	ACT HEART Program	National Cardiovascular Monitoring System
South Australian Food & Health Policy	Cardiac rehabilitation best practice	West Australian Emergency Services	
Queensland's Lighten Up Program	Improve emergency response to heart attack		
Territory Food Project			
Tasmanian Food and Nutrition Policy			

Prevention

Active for Life Program and Physical Activity Strategy

A large number of organisations are contributing to the Victorian effort to reduce the proportion of adult Australians who are sedentary to 25% by the year 2000. The Department of Human Services' principal contribution is through its Active for Life Program, initiated under the Cancer and Heart Offensive. It aims to encourage adults to include 30 minutes a day of moderate physical activity into their daily lives, in line with recent studies which indicate that 30 minutes of moderate-intensity aerobic exercise effectively prevents disease and promotes health and wellbeing.

The Department, the Victorian Health Promotion Foundation (VicHealth), the Heart Foundation and Vicfit are the major partners in Active for Life. The program has two main elements—a broad media campaign and a program of community-based and other activity, including sponsorships of high-profile events, a community grants scheme, local government grants, setting group activities, an Infoline and database of community physical activity opportunities. The main strategies involved in the program have been communication processes, community consultation and provision of activity opportunities. Over 140 small grants have been issued to community, sporting and local government organisations over the last two years to help specific population groups, particularly older people.

Victoria is in the very early stages of developing a Physical Activity Strategy to coordinate the many organisations and programs supporting physical activity in the State. Initially, the strategy will be a joint development of Sport and Recreation Victoria and the Department of Human Services. It will aim to support the National Health Priority Areas in reducing physical inactivity, with a focus on sustainable change through existing organisational structures.

South Australian Food & Health Policy

It is well known that dietary factors, particularly saturated fat intake, play a role in cardiovascular disease. The South Australian Food and Health Policy has been developed by the Health Promotion Unit of the South Australian Health Commission's Public and Environmental Health Service. The goal of the policy is to reduce the incidence of diet-related illness, disability and early death among South Australians from diseases such as cardiovascular disease. In addition to providing a framework for coordinated intersectoral action to improve and monitor food, the policy will serve as a guide for the direct allocation of human and financial resources. The action areas of the policy, where it is perceived that health gains can be made in relation to cardiovascular disease are—Aboriginal people, infants, children, young people and their families and older people.

Queensland's Lighten Up Program

The Lighten Up Program is a community-based weight management project that provides nutritional advice and structured exercise programs in order to reduce the risk of cardiovascular disease. Since commencing as a pilot in 1991, the program has expanded throughout the State. The program involves the coordination of weight management programs by community- and hospital-based nurses and relevant allied health staff. The program also produces, sells and distributes resources such as participants' handbooks and coordinators' packages.

Territory Food Project

The Territory Food Project is a collaborative initiative by the Aboriginal community, other health organisations and government agencies, and the food production and supply industry. The aims are to: improve the quality, quantity and affordability of the food supply in remote Aboriginal communities; encourage the food industry to adopt nutrition policies consistent with national nutrition guidelines; increase access to nutrition education for consumers, educators, and health professionals and for training the nutrition workforce; and develop a food and nutrition information system to monitor changes in the food supply and nutritional status in these communities.

In remote Aboriginal communities, the project is building on innovative research projects to implement a community development model and resource kit for Aboriginal communities. The guidelines focus on developing store food policies that provide options for healthy food choices, as well as improving Aboriginal community knowledge about food retailing and general store management in order to give the community greater control over food supplies.

A project to describe the food transport system in the Northern Territory and investigate issues of inequity in the food supply has been completed. It found that distance or freight costs themselves are not necessarily the prime reason for poor supply, poor food quality or high prices. The main issues affecting the supply of food to remote communities can be grouped into five areas:

- the attitudes, knowledge and behaviours of remote consumers;
- the quality of store management;
- service delivery and professionalism of transport operators;
- quality assurance on the part of the supplier; and
- the role of government in the context of 'freeing up' restrictions on remote communities, transport operators and local suppliers.

Tasmanian Food and Nutrition Policy

The Tasmanian Food and Nutrition Policy is an initiative that was endorsed by the Tasmanian State Government in May 1994. The policy aims to reduce the proportion of preventable early death, illness and disability that is diet-related. This includes cardiovascular disease, certain cancers and diabetes, as well as several other diet-related conditions.

The Tasmanian Food and Nutrition Policy recognises that food consumption patterns involve a complex mix of social, cultural, economic and physiological factors, including the available food supply and its costs. The policy uses a 'whole of population' approach, with intersectoral action being taken to bring about sustainable, structural changes in food supply. This is the first food and nutrition policy in Australia to specifically link all elements of the food system—from primary production and food manufacture through to the retail sector, the consumer and the export market, including aspects of nutrition, education and the environment.

The development of the policy was coordinated by the Department of Community and Health Services, and involved a long consultative process. Groups represented in this process included the Tasmanian Farmers and Graziers Association, the Confederation of Australian Food Technology Associations (Tasmania), the Tasmanian Confederation of Commerce and Industry, government agencies, the University of Tasmania, the Menzies Centre for Population Health Research, the Tasmanian Chamber of Retailers, the Public Health Association, and local food producers.

The Tasmanian Government has funded the Eat Well Tasmania campaign, as an initiative of the Tasmanian Food and Nutrition Policy, to:

- increase the demand for healthy foods;
- encourage ongoing intersectoral collaboration in nutrition promotion; and
- coordinate and raise the profile of projects, activities and campaigns consistent with the Nutrition Health Goals and Targets.

Management

Clinical Guidelines on Unstable Angina

The incidence of unstable angina appears to be increasing in Australia and, to date, its management has not been given the same attention as other areas of cardiology.

Guidelines have been adapted by the Commonwealth from the United States Association for Health Care Policy and Research Guidelines on Unstable Angina, and are expected to be finalised in December 1996. As well as providing systematically developed recommendations about each stage in the care of people with unstable angina, it is hoped that the implementation of the guidelines will improve coordination between the various stages of care and between the range of health care professionals.

The guidelines include:

- an overview, which includes definitions of terms and processes and background information about unstable angina;
- guidelines for the initial evaluation and treatment of unstable angina;
- guidelines for outpatient care;
- guidelines for intensive medical management and progression to non-intensive care;
- guidelines for non-invasive testing;
- guidelines for cardiac catheterisation and myocardial re-vascularisation; and
- guidelines for hospital discharge and post-discharge care.

In addition to the guidelines, a consumer guide for people with unstable angina and their families is being developed.

Cardiac rehabilitation best practice

A major project has been implemented by the Victorian Department of Human Services, and managed by the Heart Research Centre, to develop best practice guidelines for phase two cardiac rehabilitation and secondary prevention. The project is reviewing evidence of practice around the world, in order to develop detailed advice on optimal program content and operational arrangements, including a comparative study of different programs being conducted in Melbourne hospitals.

Guidelines and resource materials resulting from the project will be used to support the integration of programs into regular health service delivery and to assist professional development activities. Other activities being undertaken to support cardiac rehabilitation include efforts to implement standard client data and evaluation reports and to link program data with hospital inpatient data, so as to ascertain participation rates and assess where there are gaps in access or referral.

Improve emergency response to heart attack

NSW aims to establish the infrastructure for contributing to the definition of best practice and implementing best practice in the management of acute chest pain.

A quality review study (Cardiac Care Study) in relation to management of acute cardiac ischaemia in NSW is currently underway. This study will provide benchmarks for processes and outcome indicators, and inform the development of a clinical audit tool for ongoing local use.

The NSW Health Department is engaged in a joint initiative with the National Heart Foundation and Australian College of Emergency Medicine to disseminate and facilitate the implementation of guidelines for the emergency management of acute myocardial infarction (AMI). This initiative involves a series of regional workshops for relevant health personnel. The aim of the workshops is to provide the crucial educational component of the implementation of guidelines, and to promote the development of appropriate implementation strategies.

Maintenance

ACT HEART Program

The cardiology unit at the Canberra Hospital conducts a Heart Education And Rehabilitation Training (HEART) Program for patients during and after hospitalisation. A similar program is offered from Calvary Hospital. The unit is involved in several research projects.

The Canberra Hospital also provides health promotion services. A cardiothoracic unit will be established at the hospital during 1996–97. A specific health risk management service is available from the City Health Centre, and risk factor reduction activities are available from regional health centres.

The Alcohol and Drug Services and other agencies provide activities related to reducing risk. The ACT Division of General Practice has a program which provides GPs with resources related to cardiovascular disease and links GPs and their patients into hospital-based rehabilitation. Non-government organisations, including National Heart Support Australia, make a range of support activities available to people who are at risk of, or are affected by, cardiovascular disease.

The epidemiology unit in the ACT Department of Health and Community Care will shortly publish a report on the epidemiology of cardiovascular disease in the ACT.

Western Australian emergency services

An emergency services review has been undertaken in Western Australia to look at issues such as strategic location of emergency services, access, the role of hospitals and ambulance transportation protocols. One of the clinical areas under consideration is emergency cardiovascular conditions such as acute myocardial infarction and the identification of any factors that could delay definitive treatment. A report is currently being finalised.

Research/Information

National Cardiovascular Monitoring System

In recognition of the massive impact that cardiovascular disease has in Australia in terms of burden of illness and economic costs, and the need for national activity and monitoring, the Commonwealth has supported the establishment of a National Cardiovascular Monitoring System. The initial design of the system followed extensive consultation with representatives of government and non-government agencies, public health researchers and epidemiologists. Its infrastructure consists of a national centre, collaborating centres and an advisory committee.

The national centre, based at the Australian Institute of Health and Welfare, commenced operation in January 1996. The inclusion of collaborating centres recognises that, for the national monitoring system to be fully effective, it is important to integrate expertise that exists in key agencies and centres of excellence into the structure of the system. Its Advisory Committee includes representatives from Commonwealth, State and Territory Health Departments, the National Heart Foundation and medical colleges, and academics with expertise in the fields of cardiovascular disease, data collection and analysis.

The national system is actively engaged in: monitoring trends and differentials in the disease and its risk factors; monitoring progress towards national goals and targets; developing data sources for the evaluation of preventive, diagnostic and treatment interventions; providing data for use in planning and managing health services; contributing to the development and coordination of national data collections and databases; addressing gaps and deficiencies in data sources; supporting the development of monitoring methods; and promoting uniformity in statistical standards, methods and definitions.