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THE HEALTH OF THE PEOPLE OF NSW REPORT OF THE CHIEF HEALTH OFFICER

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The Chief Health Officer's Report on the Health of the People of New South Wales aims to provide a concise account of the health status of the population, with particular emphasis on specific subgroups and on high priority health problems. The report brings together data from epidemiologic surveillance, routine administrative systems, occasional surveys, and studies conducted to answer specific health questions. Some of the key findings are summarised here.

DEMOGRAPHY

The estimated resident population of NSW was 5,928,000 in 1991 and 6,044,391 in 1994. In 1991, about one person in four was born overseas, and one in five spoke a language other than English at home. Aboriginal and Torres Strait Islander peoples comprised around 1.2 per cent of the population. About one-third of the adult population had an annual individual income of less than \$12,000, and just over 11 per cent were unemployed.

HEALTH-RELATED BEHAVIOURS

Cigarette smoking is the single most important preventable cause of illness and death in NSW. The proportion of NSW adults reporting current smoking fell between 1977 and 1994, from 43 per cent to 27 per cent in men and 30 per cent to 22 per cent in women. Rates of current smoking also declined among secondary school students, in males from 22 per cent in 1983 to 17 per cent in 1993, and in females from 29 per cent to 22 per cent over the same period.

Excessive alcohol consumption contributes substantially to ill health, including motor vehicle crashes, other injuries and liver disease. In 1989-90, about 5 per cent of adults reported consuming alcohol at high risk level, and a further 7 per cent at medium risk level. Heavy alcohol use is common among young people: in 1992, 21 per cent of male and 17 per cent of female secondary school students reported drinking five or more alcoholic drinks in a row at least once in the preceding fortnight.

Lack of exercise is an important modifiable risk factor for coronary heart disease. In 1994, 60 per cent of men and 43 per cent of women reported exercising at moderate to high levels. Fifteen per cent of adults were classified as sedentary.

Obesity is well established as a risk factor for diabetes, hypertension and lipid abnormalities. In 1994, 48 per cent of men and 31 per cent of women were classified as overweight or obese, based on self-reported height and weight. This compares with 43 per cent and 29 per cent, respectively, in 1989-90 (Figure 1).

THE ENVIRONMENT

In urban areas, air quality is determined by the complex relationship between urban development, population growth, land use and transport. Studies of respiratory symptoms in asthmatics, hospital emergency department attendances, hospital admissions and deaths, which comprise the Health and Air Research Program (HARP), are due to be completed in mid 1996.

Water contaminants which are of most concern to public health include microbiological contaminants, by-products of disinfection, aluminium, heavy

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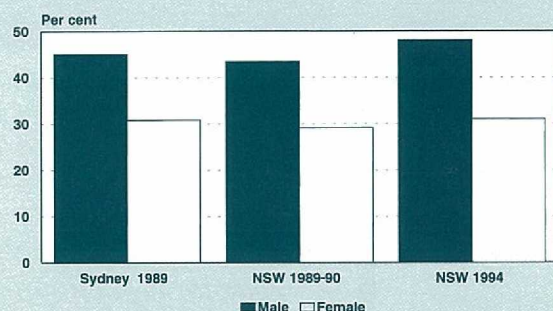
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FIGURE 1**PREVALENCE OF OVERWEIGHT/OBESITY BY SEX,
POPULATION SURVEYS**

Note: National Heart Foundation RFPs surveyed people aged 20-69 years; ABS National Health Survey and NSW Health Department Health Promotion Survey surveyed people 18 years and over.
Source: National Heart Foundation of Australia and Australian Institute of Health, Risk Factor Prevalence Study Survey No. 3, 1989, Cities Analysis, Canberra: NHFA and AIHW, 1991; Australian Bureau of Statistics, 1989-90 National Health Survey data; NSW Health Department Health Promotion Survey, 1994.

TABLE 1**POTENTIAL YEARS OF LIFE LOST (PYLL) BEFORE AGE 75,
BY SEX AND CATEGORY OF CAUSE OF DEATH, NSW 1992**

Category of cause of death	PYLL	
	Males	Females
Cancer	54,314	50,978
Lung	10,941	5,029
Breast	-	13,426
Colorectal	5,404	4,742
Melanoma	3,180	2,319
Cervix	-	2,374
Prostate	1,089	-
Injury and Poisoning	88,229	28,118
Suicide	29,872	6,070
Motor vehicle traffic accidents	28,092	10,274
Diseases of the Circulatory system	47,529	20,866
Ischaemic heart disease	32,922	9,398
Cerebrovascular disease	5,991	5,435
Conditions originating in the Perinatal period	24,362	18,652
Congenital Anomalies	17,924	12,262
Endocrine, Nutritional, and Metabolic Diseases and Immunity Disorders	16,701	4,163
Ill-defined Conditions	11,839	6,515
Diseases of the Respiratory system	7,609	6,147
Diseases of the Nervous system and Sense organs	7,760	4,794
Diseases of the Digestive system	8,222	3,669
Mental disorders	9,690	2,942
Infectious and Parasitic diseases	4,474	1,737
Diseases of the Genitourinary system	573	1,161
Diseases of the Musculoskeletal system and Connective tissue	229	1,113
Diseases of Blood and Blood-forming organs	631	387
Diseases of Skin and Subcutaneous tissue	76	158
Complications of Pregnancy, Childbirth and the Puerperium	-	339

Note: PYLL estimated from NSW life table, 1992.
Data source: Australian Bureau of Statistics mortality data (HOIST), Epidemiology Branch, NSW Health Department.

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metals, pesticides and blue-green algae. The NSW Health Department will soon have additional responsibilities to formally audit water quality in Sydney, through surveillance of the Sydney Water Corporation testing programs.

Lead exposure has re-emerged as a public health concern in NSW, due to the increasing evidence of the subtle effects of lead on the cognitive development of children. In November 1994 the NSW Lead Task Force outlined the lead management action plan to minimise environmental lead and human exposure to lead.

PATTERNS OF HEALTH AND ILLNESS

Between 1971 and 1993 life expectancy at birth increased from 68 years to 75 years for men, and from 74 years to 81 years for women.

Over the five years 1988-92, there were 43,757 deaths a year on average. Of these:

- 35 per cent were due to circulatory diseases;
- 19 per cent were due to cancer;
- 6 per cent were due to respiratory diseases; and
- 4 per cent were due to injury and poisoning.

Potential years of life lost (PYLL) before age 75 is a measure of premature mortality and emphasises conditions which cause death among younger people. Injury and poisoning accounted for the greatest number of PYLL in males up to the age of 75 years, with two-thirds due to suicide and motor vehicle traffic accidents. In females, the leading cause of PYLL was cancer, with about one-quarter due to breast cancer (Table 1).

In males, the most common reasons for hospitalisation were digestive diseases, followed by circulatory diseases and injury and poisoning. In females, the most common reasons were pregnancy, digestive diseases and genito-urinary diseases.

In 1989-90, 29 per cent of the population reported their health as excellent, 49 per cent as good, 17 per cent as fair and 5 per cent as poor. Seventy-one per cent reported that they had had an illness in the previous two weeks, and 64 per cent reported a long-term condition.

In 1993 it was estimated that 17 per cent of NSW people had a disability. Of these, 79 per cent had a handicap that limited their ability to perform certain tasks of daily living.

MOTHERS AND NEWBORNS

In 1994, 87,984 births were reported to the NSW Midwives Data Collection. More than one-quarter of all births in NSW occurred in the Western and South-Western Areas of Sydney. Seventeen per cent of confinements were among women born in non-English speaking countries. Thirteen per cent were among women aged over 35 years, compared with only 9 per cent in 1987.

In 1994, 2 per cent of mothers had prenatal diagnosis by amniocentesis or chorionic villus sampling. Onset of labour was spontaneous in 80 per cent of confinements. Seventy-one per cent of confinements followed normal vaginal deliveries, 17 per cent caesarean sections, and 11 per cent

instrumental deliveries (forceps or vacuum extraction), while 1 per cent followed vaginal breech deliveries.

In 1994, 6.3 per cent of infants were of low birthweight (less than 2,500 grams) and 6.4 per cent were premature (<37 weeks gestation). The perinatal mortality rate decreased from 11.5/1,000 total births in 1986 to 10.6/1,000 in 1992.

INFECTIOUS DISEASES

A total of 24,079 notifications of infectious diseases was received in 1994 under the Public Health Act 1991.

Of these, 3,235 were for vaccine-preventable diseases (see Table 2), predominantly measles (1,499 notifications) and pertussis (whooping cough) (1,419 notifications).

Notifications for *Haemophilus influenzae* type b (Hib) fell from 228 in 1992 to 61 in 1994, reflecting the introduction of Hib vaccines.

The 1989-90 Australian Bureau of Statistics National Health Survey reported that 52 per cent of NSW children aged less than six years were fully immunised. While there are no more recent comparable data, other surveys suggest that immunisation coverage has improved substantially since 1990.

From 1981 to 1994, 12,101 notifications for Human Immunodeficiency Virus (HIV) infection were received. In 1994 there were 435 notifications for HIV infection, the lowest annual number since HIV testing began. From 1981 to 1994, 3,398 cases of Acquired Immunodeficiency Syndrome (AIDS) were notified. These included 460 cases notified as having been diagnosed in 1994. Homosexual contact remains the most important risk factor for HIV infection and AIDS in NSW.

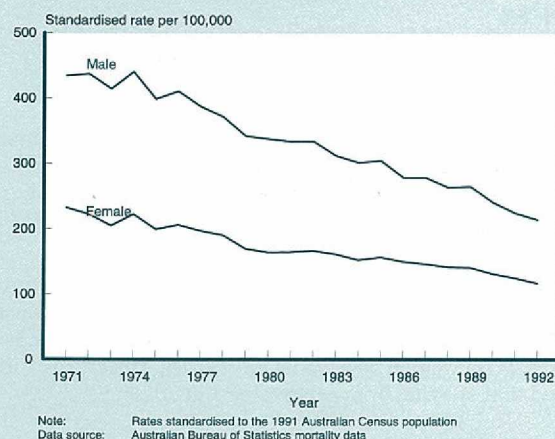
Since hepatitis C became notifiable late in 1991, there has been a dramatic increase in notifications for hepatitis C antibody (4,306 notifications in 1992, 6,342 in 1993 and 9,366 in 1994). The presence of hepatitis C antibody indicates exposure to hepatitis C virus only, and is not a conclusive indicator of continuing infection. However, it is clear that hepatitis C infection is a growing public health problem in NSW.

CARDIOVASCULAR DISEASES

Between 1971 and 1992 the age-standardised mortality rate for coronary heart disease (CHD) in males was more than halved, from 437/100,000 to 214/100,000. In females the rate was almost halved, from 221/100,000 to 118/100,000. Over the same time period the age-standardised mortality

FIGURE 2

AGE STANDARDISED MORTALITY RATES FOR CORONARY HEART DISEASE BY SEX AND YEAR, NSW 1971-92



rate for stroke fell in both sexes (from 176/100,000 to 68/100,000 in males and from 159/100,000 to 60/100,000 in females, see Figure 2).

Despite these reductions, cardiovascular disease remains a major cause of mortality in NSW. In 1992, 10,826 NSW residents died of CHD (5,874 men and 4,952 women), and 4,393 died following a stroke (1,778 men and 2,615 women).

In 1993-94, there were 133,776 separations from NSW hospitals with a principal diagnosis of cardiovascular disease. These included 52,576 separations for CHD and 16,337 separations for cerebrovascular disease. There has been a recent shift in the nature of CHD inpatients, with decreasing admissions for acute myocardial infarction and increasing admissions for assessment and management of non-infarct diagnoses, such as stable and unstable angina. This change is reflected by increasing numbers of coronary artery catheterisation/angiography procedures for the investigation of CHD and coronary revascularisation procedures.

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TABLE 2

TRENDS IN NOTIFICATIONS FOR VACCINE PREVENTABLE DISEASES, NSW 1985-94

Disease	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Diphtheria	—	—	1	—	—	—	—	—	—	—
<i>Haemophilus influenzae</i> type b	NN	NN	NN	NN	NN	NN	224	228	133	61
Measles	46	140	246	43	76	388	455	839	2,397	1,504
Mumps	NN	NN	NN	NN	NN	NN	7	23	14	11
Pertussis (whooping cough)	303	227	43	25	202	149	50	226	1,544	1,421
Poliomyelitis	—	—	—	—	—	—	—	—	—	—
Rubella	NN	NN	NN	NN	NN	NN	62	347	824	234
Tetanus	1	—	1	1	—	2	6	2	5	4

Notes: NN – Not a notifiable condition in NSW for the specified year

Data source: Infectious Diseases Surveillance System, AIDS/Infectious Diseases Branch NSW Health Department

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CANCER

In 1992 cancer accounted for 11,474 deaths (26 per cent of all deaths) in NSW. As a cause of death, cancer ranked second only to cardiovascular diseases.

In men, cancers of the prostate, lung and colon and rectum, and melanoma, accounted for 60 per cent of new cases of cancer and 54 per cent of cancer deaths. The lifetime risk (to age 74 years) of men developing any type of cancer was 1 in 3, and that of dying from cancer was 1 in 6.

In women, cancers of the breast, lung and colon and rectum, and melanoma, accounted for 56 per cent of all new cases of cancer and 48 per cent of all cancer deaths. The lifetime risk (to age 74) of women developing any type of cancer was 1 in 4, and that of dying from cancer was 1 in 10.

MENTAL DISORDERS

There is no information on the prevalence of mental disorders in NSW. This deficiency will be addressed by the planned 1996-97 National Mental Health Survey.

Although hospital care is only part of a range of services provided by NSW Health to people with mental disorders, it is the only form of service that is routinely monitored and reported.

Of the 61,407 hospitalisations (including day-only) for mental disorders in 1993-94, 27 per cent were for depression and related disorders, 14 per cent for schizophrenic disorders and 9 per cent for alcohol abuse and dependence. Estimated hospitalisation rates for mental disorders varied widely by gender, Aboriginality and ethnicity.

Over the period 1988-89 to 1993-94, the number of day-only hospital admissions for mental disorders increased, but the total number of hospitalisations and average length of hospital stay did not change substantially.

INJURY

Injury is a leading cause of preventable morbidity and mortality in NSW, accounting for 6 per cent of all deaths in 1992 and 10 per cent of all hospitalisations in the financial year 1992-93.

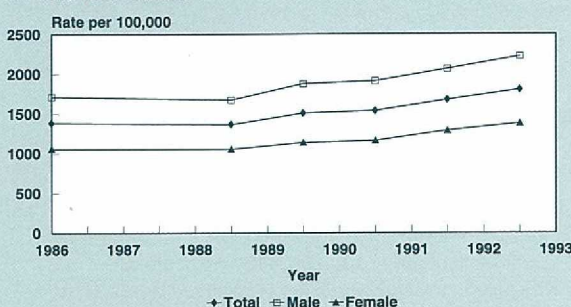
The mortality rate due to injury has been falling since the early 1970s, to 36.5/100,000 in 1992. The hospitalisation rate, however, increased from 1988 to 1992-93, to 18/1,000 population (Figure 3). Males had higher death and hospitalisation rates due to injury than females.

Regardless of intent, the most common causes of death due to injury were motor vehicle accidents and falls, followed by poisoning, suffocation and firearm injuries. The most common causes of hospitalisation due to injury were falls and poisoning, followed by sport-related injuries, injuries caused by being struck by an object and cutting and piercing injuries.

Of the deaths due to injury, 64 per cent were reported as accidental, 31 per cent as self-inflicted and 4 per cent as inflicted by others. Of the hospital separations due to injury, 91 per cent were reported as accidental, 4 per cent as self-inflicted and 5 per cent as inflicted by others.

FIGURE 3

AGE-STANDARDISED INJURY HOSPITAL SEPARATION RATES BY SEX, NSW 1972-92



Note: Rates standardised to the 1991 Australian population.
Data source: NSW Inpatient Statistics Collection and population estimates (HOIST), Epidemiology Branch, NSW Health Department.

ASTHMA

Asthma is an important clinical and public health problem, and is the most common cause of non-infectious, non-smoking-related chronic respiratory disease in NSW.

In 1989-90, 8 per cent of the NSW population (about 443,000 people) reported having asthma as a long-term condition. Children were more likely to have asthma than adults. In 1993-94 there were 20,371 hospitalisations due to asthma.

While asthma is a common condition, it is an uncommon cause of death. In 1992 there were 307 deaths due to asthma.

DIABETES MELLITUS

Diabetes mellitus is a common, chronic and costly condition. In 1989-90, 4.8 per cent of adults reported having diabetes or high blood sugar levels. It was estimated that, Statewide, 110,000 adults had diabetes and 88,500 had high blood glucose.

In addition to those people known to have diabetes, half as many people again may have undiagnosed diabetes.

Diabetes was recorded as the underlying cause of death in 684 people in 1992. As deaths related to diabetes are frequently caused by diabetic complications such as ischaemic heart disease, stroke and renal disease, mortality data underestimate the real contribution of diabetes to total mortality.

Diabetes was reported as the principal diagnosis in 5,115 hospitalisations in NSW in 1993-94.

People with diabetes experience both acute and long-term complications. They are 15 times more likely to have a lower extremity amputation than the population as a whole. Between 1989-90 and 1993-94, age-standardised hospitalisation rates for lower extremity amputations increased in males from 10.8/100,000 to 15.0/100,000 population and in females from 4.5/100,000 to 5.9/100,000.

Diabetic retinopathy is the leading cause of new cases of blindness. Up to 36 per cent of people with diabetes have retinopathy and 8-15 per cent have retinopathy which is vision-threatening.

THE HEALTH OF ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES

The NSW Aboriginal and Torres Strait Islander population was estimated at 80,437 in 1994. Compared with non-Aboriginal people, Aboriginal and Torres Strait Islander peoples had lower levels of education, employment and income.

In the period 1985-1992, Aboriginal and Torres Strait Islander peoples had higher mortality rates than non-Aboriginal people, after adjustment for differences in age distribution, and a lower overall life expectancy. Cardiovascular disease, injury and poisoning, cancer, liver disease and respiratory disease accounted for most of this excess mortality (Figures 4 and 5).

Aboriginal and Torres Strait Islander babies born in the period 1987-1990 were twice as likely as non-Aboriginal babies to be of low birthweight, and twice as likely to die in the perinatal period.

In 1994 it was estimated that the prevalence of diabetes in Aboriginal and Torres Strait Islander peoples was two and a half times that in the NSW general population. The Aboriginal and Torres Strait Islander population also had almost twice the prevalence of high blood pressure among people aged 45 years or older, and about four and a half times the prevalence of kidney disease among those aged 35 years and over. The prevalence of ear or hearing problems in Aboriginal and Torres Strait Islander children aged less than 15 years was more than five times that of the general population.

CHILDREN AND YOUNG PEOPLE

At the 1991 census children and young people under 25 years of age comprised 37 per cent of the NSW population.

Between 1982 and 1992 infant mortality (deaths before one year of age) decreased from 9.8/1,000 live births to 6.9/1,000 live births. The most common causes of infant mortality were congenital malformations and Sudden Infant Death Syndrome (SIDS). Between 1988 and 1992 the most common causes of death among children and young people up to the age of 24 years were injury (38 per cent) and cancer (5.6 per cent). The overall mortality rate was higher for males (1.0/1,000) than females (0.6/1,000).

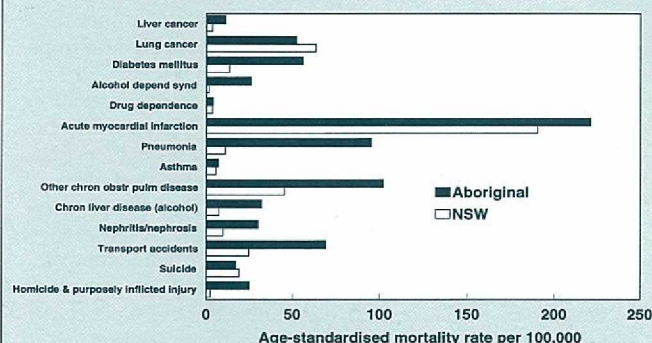
Deaths and hospitalisations due to injury were more common among males than females. Among children aged 0-4 years the most common causes of injury-related deaths were drowning and traffic accidents, while the most common causes of injury-related hospitalisation were falls and poisoning. Among those aged 5-24, most injury-related deaths were due to traffic accidents, and most injury-related hospitalisations to traffic accidents or falls.

Suicide accounted for 20 per cent of deaths among people aged up to 25 years, and 25 per cent of deaths in the 15-24 year age group. Eighty-five per cent of suicide deaths were in males. Hospitalisation for self-inflicted injury in this age group, however, was more common among females than males.

In 1994 more than 25,000 children under 15 years of age received the Child Disability Allowance. More than 8,000 school children were identified as having an intellectual disability.

FIGURE 4

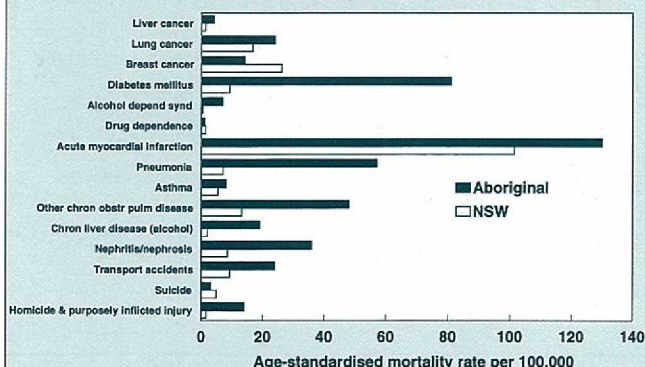
AGE-STANDARDISED MORTALITY RATES FOR SELECTED CONDITIONS, MALES, NSW ABORIGINAL AND NSW GENERAL POPULATIONS 1985-92



Note: Aboriginal mortality rates are average of NSW, SA, WA and NT.
Data source: Aboriginal data: Bhatia K, Anderson P. An overview of Aboriginal and Torres Strait Islander health: present status and future trends. Australian Institute of Health and Welfare, Canberra 1995.
NSW data: Australian Bureau of Statistics mortality data (HOIST), Epidemiology Branch, NSW Health Department.

FIGURE 5

AGE-STANDARDISED MORTALITY RATES FOR SELECTED CONDITIONS, FEMALES, ABORIGINAL AND NSW POPULATIONS 1985-92



Note: Aboriginal mortality rates are average of NSW, SA, WA and NT.
Data source: Aboriginal data: Bhatia K, Anderson P. An overview of Aboriginal and Torres Strait Islander health: present status and future trends. Australian Institute of Health and Welfare, Canberra 1995.
NSW data: Australian Bureau of Statistics mortality data (HOIST), Epidemiology Branch, NSW Health Department.

In 1994 there were more than 13,000 confirmed cases of abuse or neglect in children and young people.

OLDER PEOPLE

In 1993 people aged 60 years and over comprised 12 per cent of the population. This proportion is predicted to increase to between 20.5 and 22.0 per cent of the total population by the year 2041.

In 1989-90, the ABS estimated that 54 per cent of older people in NSW had cardiovascular conditions as a recent

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INFLUENZA IMMUNISATION RATES IN ADULTS, NSW 1993

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This article provides a preliminary report of influenza immunisation rates among adults, based on data from the NSW Health Promotion Survey, 1994 (HPS)¹. Influenza prevention depends on the yearly immunisation of people at risk of serious complications following infection. During major epidemics hospitalisation rates may increase between twofold and fivefold². It is estimated that more than 20,000 influenza-associated deaths occurred in each of 10 US epidemics between 1972 and 1990². A recent meta-analysis concluded that influenza immunisation of elderly people reduced respiratory illness by 56 per cent, pneumonia by 53 per cent, hospitalisation by 50 per cent and deaths by 68 per cent³. Influenza immunisation has been shown to be a more cost-effective intervention than treatment of hypertension in middle-aged men, oestrogen therapy in postmenopausal women, neonatal intensive care and hospital haemodialysis⁴, and probably among the most cost-effective medical interventions in the older adult population⁵.

The National Health and Medical Research Council has recommended annual influenza immunisation for people at high risk of serious complications. At the time of the HPS, these groups were⁶:

- all people over 65 years of age;
- people of any age with chronic debilitating disease; especially cardiac, pulmonary, renal and metabolic disorders (including asthma and diabetes);
- people receiving immunosuppressive therapy; and
- health care personnel if particularly at risk.

Immunisation was not recommended for people outside these groups, as serious complications are unlikely and infection is regarded as providing longer-lasting immunity for a wider range of antigenic types of influenza.

METHODS

The 1994 HPS was a telephone survey. It collected demographic information and data on a range of key health areas including injury, nutrition, sexual health, smoking and adult immunisation status. The study population included people 18 years of age or older in a household with a telephone number listed in the White Pages telephone directory (an estimated 93 per cent of NSW households have listed telephone numbers). One thousand interviews were conducted in each of 16 Health Areas or former Regions. All data presented here are estimates for the whole NSW adult population and have been produced by weighting for age, sex and geographic distribution using 1991 census data¹.

Respondents were asked whether they had been immunised for influenza the previous year (1993). Data collected on risk categories for influenza complications were limited to age and past diagnosis of asthma or diabetes. Information on other chronic debilitating diseases and immunosuppressive therapy was not collected.

RESULTS

Sixteen thousand interviews were conducted. The response rate for those approached to be interviewed was 73 per cent. The overall estimate of the 1993 immunisation rate for the adult population was 13.5 per cent (99 per cent CI 12.8-14.2), corresponding to about 570,000 doses of vaccine. Among those 65 or more years of age (16 per cent of the adult population), 46.5 per cent (44.2-48.8) reported being immunised. Of those aged 18-64 years with asthma and/or diabetes (10 per cent of the population) 14.7 per cent (12.5-17.0) reported being immunised. Of the remaining people without recorded risk factors (73 per cent of the population), 6.0 per cent (5.4-6.6) reported being immunised.

At least 67 per cent of the doses of vaccine administered were given to people in high risk groups. Of those immunised, 59 per cent reported they had requested the

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and/or long-term condition. In 1992, 52 per cent of deaths among older people were from cardiovascular diseases.

In 1992, 24 per cent of deaths among older people were from cancer. The most common sites for new cases of cancer in people aged 60 years and over were prostate, lung and colon cancer in men, and breast, colon and lung cancer in women.

In 1989-90, 89 per cent of older people reported an illness in the previous two weeks. The most commonly reported conditions were hypertension (34 per cent of older people) and arthritis (19 per cent). Ninety-four per cent of older people reported long-term conditions. Disorders of eyesight were reported by 62 per cent of older people and arthritis was reported by 37 per cent.

In 1993, 43 per cent of people aged 60-74 years had a disability, and 82 per cent of these had a handicap.

In those aged 75 years and over, 65 per cent had a disability, and 90 per cent of these had a handicap.

The report was compiled by the following present and former staff of the NSW Health Department's Public Health Division (in alphabetical order): Guncha Ansari, Gaston Arnolda, John Brown, Lucy Burns, Magnolia Cardona, Jennifer Chippis, Tim Churches, Glenn Close, Paul Corben, Stephen Corbett, Christine Cowie, Shing Chung Fung, Margaret Kelaher, Ed Kraa, Michael Levy, Cait Lonie, Wendy Manning, Rob Menzies, Helen Moore, Geoff Morgan, Ru Nguyen, Shanti Raman, Geoff Richards, Geoff Sayer, Gavin Stewart, Lyn Stoker, Lee Taylor and Margaret Williamson. The preparation of the report relied heavily on the Health Outcomes Information and Statistical Toolkit (HOIST), which was developed and is managed by Tim Churches and Peter Brandon. Copies of the report are available from: The Better Health Centre, 162 Blues Point Road, North Sydney NSW 2060, Australia. Phone: (02) 9954 1193; facsimile (02) 9955 5196. The report can be accessed via the Internet from the NSW Health Department's World-Wide Web site, at <http://www.health.nsw.gov.au/public-health/index.html>