

## 8. HEALTH STATUS

Monitoring the health status of a population helps to detect emerging patterns of illness and disease and provides information to inform policy and planning of health services. This section reports on self-rated health status, asthma, diabetes, mental health, oral health, overweight and obesity, vision, hearing, and injury (youth violence).

### Self-rated health status

#### Introduction

Self-rated health is a fundamental measure of health status and health outcomes, and is believed to principally reflect physical health problems (acute and chronic conditions and physical functioning) and, to a lesser extent, health behaviours and mental health problems.<sup>1,2</sup> Longitudinal studies have shown that self-rated health is a strong and independent predictor of subsequent illness and premature death.<sup>3</sup>

In the 1997 and 1998 New South Wales Adult Health Surveys, a single self-rated health question was asked of respondents aged 16 years and over: 'In general, would you say your health is excellent, very good, good, fair, or poor'. In 2002 this question was modified to 'Overall, how would you rate your health during the past 4 weeks? Was it excellent, very good, good, fair, poor or very poor'. In 2003 and 2004, 2 additional questions were also asked: 'During the past 4 weeks, how much difficulty did you have doing your daily work or activities? No difficulty at all, A little bit of difficulty, Some difficulty, Much difficulty, Could not do work or activities', and 'During the past 4 weeks, how much bodily pain have you generally had? No pain, Very mild pain, Mild pain, Moderate pain, Severe pain'.

#### Results

Overall, in 2004, 20.7 per cent reported their health as 'excellent', 29.9 per cent as 'very good', 28.9 per cent as 'good', 13.3 per cent as 'fair', 5.4 per cent as 'poor' and 1.7 per cent as 'very poor'. Responses of 'excellent', 'very good' and 'good' were combined into a 'positive' rating of health (79.4 per cent of the population). There was no difference between the proportion of males (79.8 per cent) and females (79.3 per cent) who gave a positive rating of their health.

A significantly higher proportion of the population aged 16–24 years (84.4 per cent) and a significantly lower proportion of people aged 75 years and over (68.6 per cent) gave a positive rating of their health, compared with the overall adult population.

The proportion of people giving a positive rating of their health did not differ significantly between urban areas and rural areas.

A significantly greater proportion of people in the least socioeconomically disadvantaged quintile (83.3 per cent) gave a positive rating of their health, compared with the overall adult population.

The proportion of people who gave a positive rating of their health decreased significantly from 1997 (85.0 per cent) to 2004 (79.4 per cent). This significant decrease has occurred in both males (85.0 per cent to 79.5 per cent) and females (85.1 per cent to 79.4 per cent).

Almost two-thirds of respondents (61.3 per cent) reported no difficulty with undertaking daily work or activities. However, 18.6 per cent reported a little difficulty, 13.2 per cent reported some difficulty, 4.6 reported much difficulty, and 2.4 per cent could not undertake daily work or activities. There was no difference in the proportion of females (59.4 per cent) and males (63.1 per cent) who reported that they had no difficulty with daily activities.

Over half of respondents reported that they had experienced no pain (37.7 per cent) or very mild pain (18.0 per cent) in the last 4 weeks. A further 23.1 per cent reported that they had experienced mild pain, 15.7 per cent reported moderate pain and 5.6 per cent reported severe pain in the last 4 weeks. There was no difference in the proportion of females (36.6 per cent) and males (38.7 per cent) who reported that they had no pain.

Figure 52 shows self-rated health status by sex. Figure 53 shows the proportion of people who rated their health status as excellent, very good, or good, by age. Figure 54 shows the proportion of people who experienced difficulty with doing work or an activity in the last 4 weeks. Figure 55 shows the proportion of people who experienced bodily pain the the last 4 weeks.

#### References

1. Krause NM and Jay GM. What do global self-rated health items measure? *J Med Care* 1994; 32: 930–942.
2. Cott CA, Gignac MA, Badley EM. Determinants of self rated health for Canadians with chronic disease and disability. *J Epidemiol Community Health* 1999; 53: 731–736.
3. McCallum J, Shadbolt B, Wang D. Self-rated health and survival: A 7-year follow up study of Australian elderly. *Am J Public Health* 1994; 84: 1100–1105.

**FIGURE 52**

**SELF-RATED HEALTH STATUS, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 53**

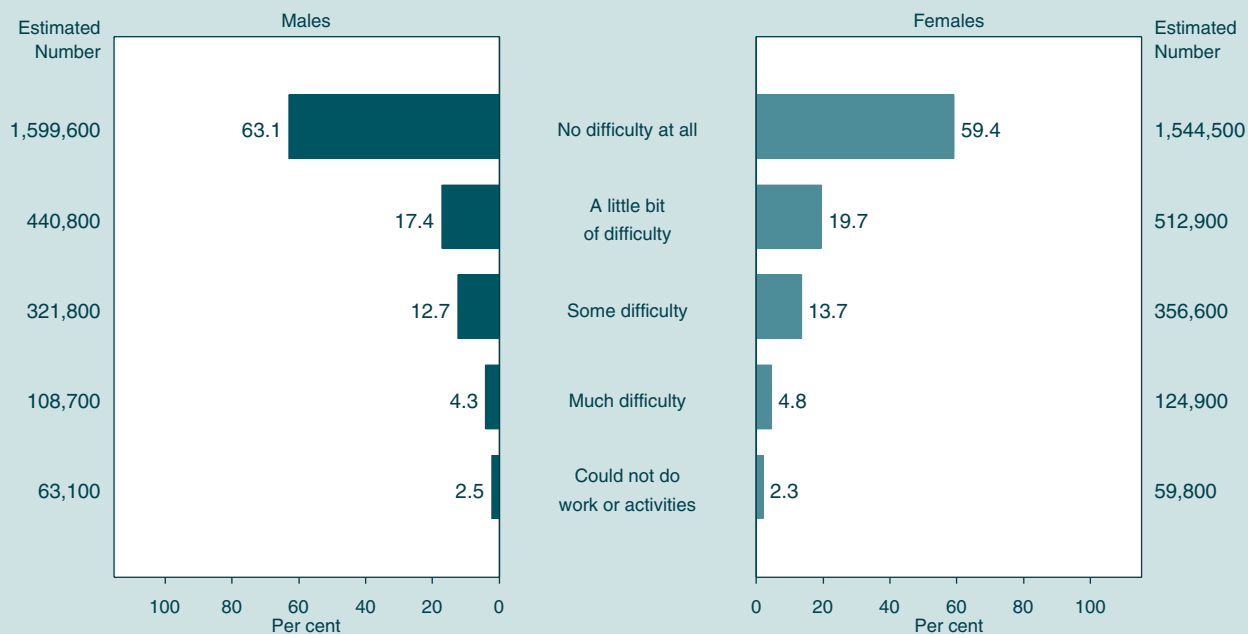
**EXCELLENT, VERY GOOD, OR GOOD SELF-RATED HEALTH STATUS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 54**

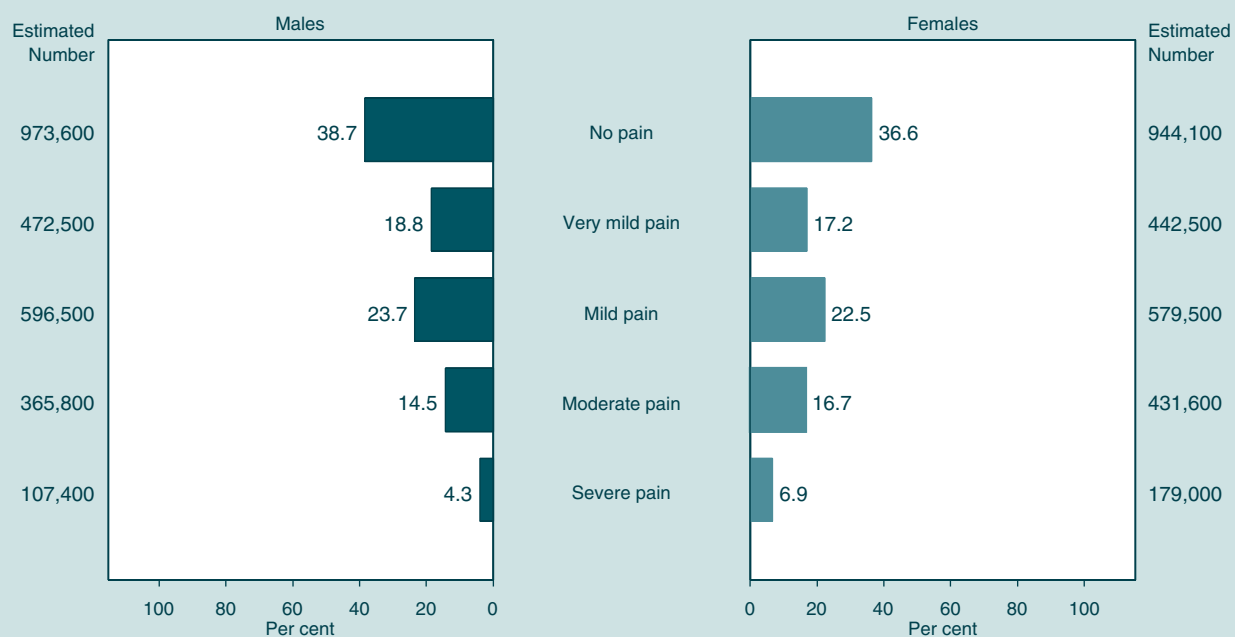
**DIFFICULTY DOING WORK OR ACTIVITY, PERSONS AGED 16 YEARS AND OVER, NSW, 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 55**

**BODILY PAIN IN THE LAST 4 WEEKS, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Asthma

### Introduction

Asthma is a chronic inflammatory disorder of the airways in which the airways narrow too much and too easily—in response to a wide range of triggers—resulting in episodes of wheeze, chest tightness, and shortness of breath. The prevalence of asthma is relatively high in Australia by international standards.<sup>1,2</sup> Based on data from several national and state based surveys, it is estimated that one in 9 adults and one in 7 children and teenagers currently have asthma.<sup>3</sup> While there was evidence of an increase in the prevalence of asthma between the 1980s and 1990s,<sup>4,5</sup> more recent studies in children show no further increase in the prevalence of asthma,<sup>6</sup> and possibly a decrease in the prevalence of asthma symptoms.<sup>7</sup>

The consequences of asthma can include impaired quality of life due to asthma symptoms and functional impairment, and severe episodes of asthma (exacerbations), which necessitate reduced work activity and, in some cases, urgent medical care. In Australia, in 1996, asthma accounted for 2.6 per cent of total Disability Adjusted Life Years (DALYs) (2.1 per cent for males and 3.1 per cent for females).<sup>8</sup>

In 2004, the New South Wales Population Health Survey included questions on health status, severity and management of asthma, and quality of life for people with asthma. Respondents were asked the following questions: 'Have you ever been told by a doctor or at a hospital that you have asthma?', 'Have you had symptoms of asthma or taken treatment for asthma in the last 12 months?', 'Have you had symptoms of asthma or taken treatment for asthma in the last 4 weeks?', 'Have you visited a general practitioner or local doctor for an attack of asthma in the last 4 weeks?', and 'Have you visited a hospital emergency department for an attack of asthma in the last 4 weeks?'.

### Results

#### *A lifetime prevalence of asthma*

In 2004, approximately one in 5 people (20.4 per cent) aged 16 years and over reported that they had ever been told by a doctor or at a hospital that they had asthma. A significantly greater proportion of females (22.7 per cent) than males (18.1 per cent) reported that they had ever had asthma.

The proportion of males who reported that they had ever been diagnosed with asthma was significantly greater among those aged 16–24 years (30.0 per cent), and significantly lower in males aged 55–64 years (12.4 per cent), compared to the overall adult male population. Among females, a significantly lower proportion of those aged 75 years and over (17.3 per cent) reported that they had ever been diagnosed with asthma, compared to the overall adult female population.

A significantly greater proportion of females in rural areas (26.3 per cent) reported ever-diagnosed asthma than

females in urban areas (21.7 per cent). The proportion of males in the Greater Southern Health Area with ever-diagnosed asthma (25.8 per cent) was significantly greater, compared to the overall adult male population.

The proportion of people reporting ever-diagnosed asthma did not vary significantly by level of socioeconomic disadvantage.

Self-reported ever-diagnosed asthma has increased significantly from 1997 (16.8 per cent) to 2004 (20.4 per cent). This increase has occurred predominantly in females (18.4 per cent to 22.7 per cent).

#### *Doctor-diagnosed current asthma*

Overall, 10.4 per cent of people aged 16 years and over reported that they had current doctor-diagnosed asthma. The proportion of females (11.9 per cent) with current asthma was significantly higher than males (8.8 per cent). In contrast to the findings for ever having asthma, there was no significant variation by age in the proportion of males and females with current asthma.

Of the people who reported having current asthma, 1.3 per cent had visited an emergency department and 13.2 per cent had visited a general practitioner or local doctor for an attack of asthma in the previous 4 weeks. Rates were similar in both sexes.

A significantly greater proportion of people in rural areas (12.4 per cent) reported current asthma than people in urban areas (9.8 per cent).

The proportion of people with current doctor-diagnosed asthma did not vary significantly by level of socioeconomic disadvantage.

The proportion of people with current doctor-diagnosed asthma did not change significantly from 1997 to 2004.

Figure 56 shows the proportion of people ever diagnosed with asthma by age. Figure 57 shows the proportion of people with current asthma by age. Figure 58 shows the proportion of people who visited a doctor or emergency department for an asthma attack in the last 4 weeks.

### References

1. The International Study of Asthma and Allergies in Childhood Steering Committee. Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema. *Lancet* 1998; 351: 1225–1232.
2. Anonymous. Variations in the prevalence of respiratory symptoms, self-reported asthma attacks, and use of asthma medication in the European Community Respiratory Health Survey. *Eur Respir J* 1996; 9(4): 687–695.
3. Australian Centre for Asthma Monitoring. *Asthma in Australia 2003*. Asthma Series no. 1. AIHW Catalogue no. ACM 1. Sydney: Australian Centre for Asthma Monitoring, 2003.
4. Peat JK, van den Berg RH, Green WF et al. Changing prevalence of asthma in Australian children. *BMJ* 1994; 308(6944): 1591–1596.
5. Wilson DH, Adams RJ, Appleton SL et al. Prevalence of asthma

and asthma action plans in South Australia: Population surveys from 1990 to 2001. *Med J Aust* 2001; 178: 483–485.

6. Robertson CF, Roberts MF, and Kappers JH. Asthma prevalence in Melbourne schoolchildren: Have we reached the peak? *Med J Aust* 2004; 180: 273–276.
7. Toelle BG, Ng K, Belousova E, Salome CM, Peat JK, and

Marks GB. Prevalence of asthma and allergy in schoolchildren in Belmont, Australia: Three cross sectional surveys over 20 years. *BMJ* 2004; 328(7436): 386–87.

8. Mathers C, Vos T, Stevenson C. *The burden of disease and injury in Australia*. Canberra: Australian Institute of Health and Welfare, 1999.

**FIGURE 56**

**EVER DIAGNOSED WITH ASTHMA BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 57**

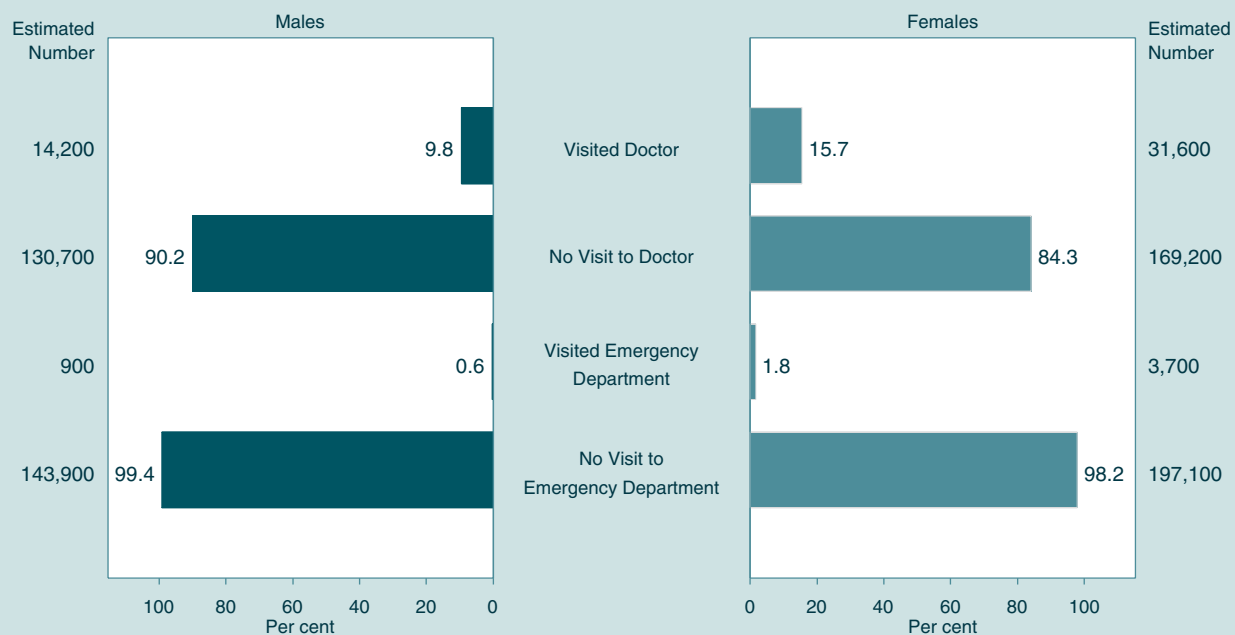
**CURRENT ASTHMA BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 58**

**VISITED DOCTOR OR EMERGENCY DEPARTMENT FOR ASTHMA ATTACK IN LAST 4 WEEKS, PERSONS WHO CURRENTLY HAVE ASTHMA AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Diabetes

### Introduction

Diabetes mellitus is a common disease characterised by disordered glucose and lipid metabolism. Diabetes affects a person's health in 2 ways: by direct metabolic complications, which can be immediately life threatening if not treated promptly; and by long-term complications involving the eyes, kidneys, nerves, and major blood vessels including those in the heart.

There are 3 main forms of diabetes: type 1, or insulin-dependent diabetes mellitus (IDDM), is characterised by a complete deficiency of insulin (10–15 per cent of people with diabetes); type 2, or non-insulin-dependent diabetes mellitus (NIDDM), is the most common form of diabetes (approximately 85 per cent of people with diabetes), affecting mainly people aged 45 years and over but is increasingly affecting younger people; and gestational diabetes, which occurs during pregnancy in less than 9 per cent of pregnancies<sup>1</sup> among women not previously known to have diabetes.

The management of diabetes depends on careful control of glucose levels, blood lipid levels (especially cholesterol levels), blood<sup>2</sup> pressure, and regular screening for complications.

Australia-wide, it is estimated that there are over 600,000 people with diabetes and this prevalence is increasing. It is estimated that there is an undiagnosed case of type 2 diabetes for every diagnosis, making the total estimated cases 1.2 million. Diabetes was the main cause of around 2 per cent of all deaths in New South Wales in 2002 and was a contributing cause of death in a further 6.6 per cent of all deaths.<sup>3</sup>

In 2004, the New South Wales Population Health Survey included questions on health status, type, and management of diabetes. Respondents were asked the following questions: 'Have you every been told by a doctor or at a hospital that you have diabetes?', 'Have you ever been told by a doctor or at a hospital that you have high sugar levels in your blood or urine?', 'What type of diabetes were you told you had?', 'How old were you when you were first told you had diabetes or high blood sugar?', 'What are you doing now to manage your diabetes or high blood sugar?'. If female, respondents were also asked 'Were you pregnant when you were first told you had diabetes or high blood sugar?' and 'Have you ever had diabetes or high blood sugar apart from when you were pregnant?'

### Results

#### *Prevalence of diabetes*

In 2004, 6.5 per cent of people aged 16 years and over reported that a doctor had ever told them that they had diabetes. A significantly greater proportion of males (7.8

per cent) than females (5.3 per cent) reported doctor-diagnosed diabetes.

The prevalence of diabetes increased with age, with a significantly lower proportion of females aged 16–44 years (1.5 per cent to 2.5 per cent) and males aged 16–34 years (1.0 per cent to 3.4 per cent), and a significantly greater proportion of males (11.7 per cent to 20.4 per cent) and females (8.7 per cent to 12.9 per cent) aged 55 years and over reporting doctor-diagnosed diabetes, compared with the overall adult male and female populations.

There was no significant variation in the proportion of people with doctor-diagnosed diabetes between rural areas and urban areas.

A significantly higher proportion of people in the most socioeconomically disadvantaged quintile (9.4 per cent) reported doctor-diagnosed diabetes, compared with the overall adult population.

Overall, the prevalence of doctor-diagnosed diabetes increased significantly from 1997 (4.7 per cent) to 2004 (6.5 per cent). In 2004, this significant increase was observed only in males (5.2 per cent to 7.8 per cent). Among females, there was a significant increase from 1997 (4.2 per cent) to 2003 (5.6 per cent) but a slight decrease in prevalence in 2004 (5.3 per cent) means there was no significant difference between 1997 and 2004.

Of those who reported doctor-diagnosed diabetes, 66.2 per cent reported following a special diet, 34.7 per cent reported taking medication, 24.1 per cent reported exercising most days, 16.0 per cent reported having insulin injections, 6.1 per cent reported losing weight, and 6.7 per cent reported not doing anything.

Figure 59 shows the proportion of people who reported diabetes or high blood sugar by age. Figure 60 shows the proportion of people with diabetes or high blood sugar by socioeconomic disadvantage. Figure 61 shows self-reported action to manage diabetes or high blood sugar.

### References

1. Diabetes Australia. *Minimising the impact of diabetes: Fact sheets*. Available online at [www.diabetesaustralia.com.au/\\_lib/doc\\_pdf/Diabetesfactsheet.pdf](http://www.diabetesaustralia.com.au/_lib/doc_pdf/Diabetesfactsheet.pdf).
2. Australian Centre for Diabetes. *National evidence based guidelines for the management of type 2 diabetes mellitus*. Sydney: Prince of Wales Hospital, 2001.
3. Population Health Division. *The health of the people of New South Wales: Report of the Chief Health Officer, 2004*. Sydney: NSW Department of Health, 2004.

**FIGURE 59**

**DIABETES OR HIGH BLOOD SUGAR BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 60**

**DIABETES OR HIGH BLOOD SUGAR BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**

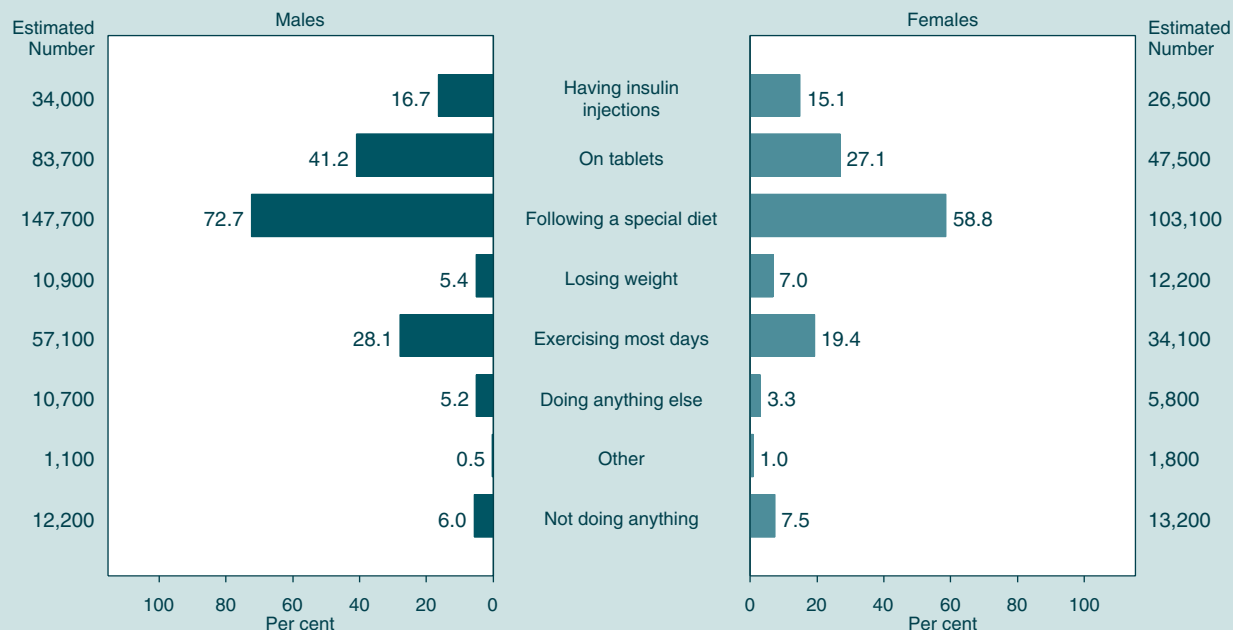


Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.



**FIGURE 61**

**ACTION TAKEN TO MANAGE DIABETES OR HIGH BLOOD SUGAR, PERSONS WITH DIABETES AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**Mental health**

**Introduction**

Psychological distress has a major effect on the ability of people to work, study, and manage their day-to-day activities. Mental health disorders account for nearly 30 per cent of the non-fatal burden of disease in Australia.<sup>1</sup> Affective disorders (including depression) are the most common,<sup>2</sup> followed by substance abuse and anxiety disorders.<sup>2</sup> Each year, approximately 18 per cent of Australian adults experience mental illness, and 38 per cent of these people use a health service for mental health related problems.<sup>3</sup>

The Kessler 10 or K10 scales were developed by Kessler and Mroczek between 1992 and 1994 at the Institute for Social Research, University of Michigan, and subsequently by Kessler at the Department of Health Care Policy, Harvard Medical School.<sup>4</sup> The measures were designed to form the mental health component of the ‘core’ of the annual United States National Health Interview Survey. The K10 is a 10-item questionnaire intended to yield a global measure of ‘non-specific psychological distress’, based on questions about the level of nervousness, agitation, psychological fatigue and depression in the most recent 4-week period.<sup>4</sup> The measure was developed to be informative about those levels of distress that are associated with impairment, in

the 90th to 99th percentile of the general population range. The resulting K10 score is then classified into 4 categories: ‘low psychological distress’ when the K10 score is 10–15; ‘moderate psychological distress’ when the K10 score is 16–21; ‘high psychological distress’ when the K10 score is 22–29; and ‘very high psychological distress’ when the K10 score is 30 or higher. The K10+ contains additional questions to assess functioning and related factors, and at the population level and the individual level it is regarded as a simple ‘thermometer’ that detects general distress without identifying its cause.

In 2004, the New South Wales Population Health Survey asked respondents the following K10 questions: ‘In the past 4 weeks, about how often did you feel tired out for no good reason?’, ‘In the past 4 weeks, about how often did you feel nervous?’, ‘In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?’, ‘In the past 4 weeks, about how often did you feel hopeless?’, ‘In the last 4 weeks, about how often did you feel restless or fidgety?’, ‘In the past 4 weeks, about how often were you so restless that you could not sit still?’, ‘In the past 4 weeks, about how often did you feel depressed?’, ‘In the past 4 weeks, about how often did you feel that everything was an effort’, ‘In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?’, ‘In the past 4 weeks, about how often did you feel worthless?’.

Those respondents aged 16 years and over, who scored 16 points and above, were also asked the additional questions that make up the K10+: 'In the last 4 weeks, how many days were you totally unable to work, study, or manage your day-to-day activities because of these feelings?', 'Aside from those days, in the last 4 weeks, how many days were you able to work, study, or manage your day-to-day activities, but had to cut down on what you did because of these feelings?', 'In the last 4 weeks, how many times have you seen a doctor or other health professional about these feelings?', 'In the last 4 weeks, how often have physical health problems been the main cause of these feelings?'

## Results

Overall, in 2004, 64.2 per cent of people were classed as having 'low' levels of psychological distress, 22.5 per cent as having 'moderate' levels of psychological distress, 9.8 per cent as having 'high' levels of psychological distress, and 3.5 per cent as having 'very high' levels of psychological distress. Therefore, in 2004, 13.3 per cent of respondents reported 'high or very high' levels of psychological distress. A significantly greater proportion of females (14.7 per cent) than males (11.9 per cent) reported high or very high levels of psychological distress.

A significantly lower proportion of females aged 65–74 years (9.8 per cent) had high or very high levels of psychological distress, compared with the overall adult female population. Among males, a significantly lower proportion aged 65 years and over (5.0 per cent to 6.0 per cent) experienced high or very high levels of psychological distress, compared to the overall adult male population.

The proportion of people reporting high or very high levels of psychological distress did not vary significantly between urban areas and rural areas.

A significantly higher proportion in the most socio-economically disadvantaged quintile (17.7 per cent) reported high or very high levels of psychological distress, compared with the overall adult population.

Reported rates of high and very high psychological distress rose significantly from 1997 (11.1 per cent) to 2004 (13.3 per cent).

Among people aged 16 years and over, the average number of days they were totally unable to work, study, or manage their day-to-day activities because of their psychological distress, was 0.71 days (0.79 days for males and 0.65 days for females). These respondents reported that they had to cut down on what they did because of their psychological distress on an average of 0.95 days (0.89 days for males and 1.0 days for females) over the last 4 weeks. On average, people aged 16 years and over saw a doctor or other health professional about their psychological distress 0.16 times (0.15 times for males and 0.16 times for females) in the past 4 weeks. Just over half (51.3 per cent) of the people who had moderate, high, or very high psychological distress said that the problems they had in the last 4 weeks were not mainly due to physical problems.

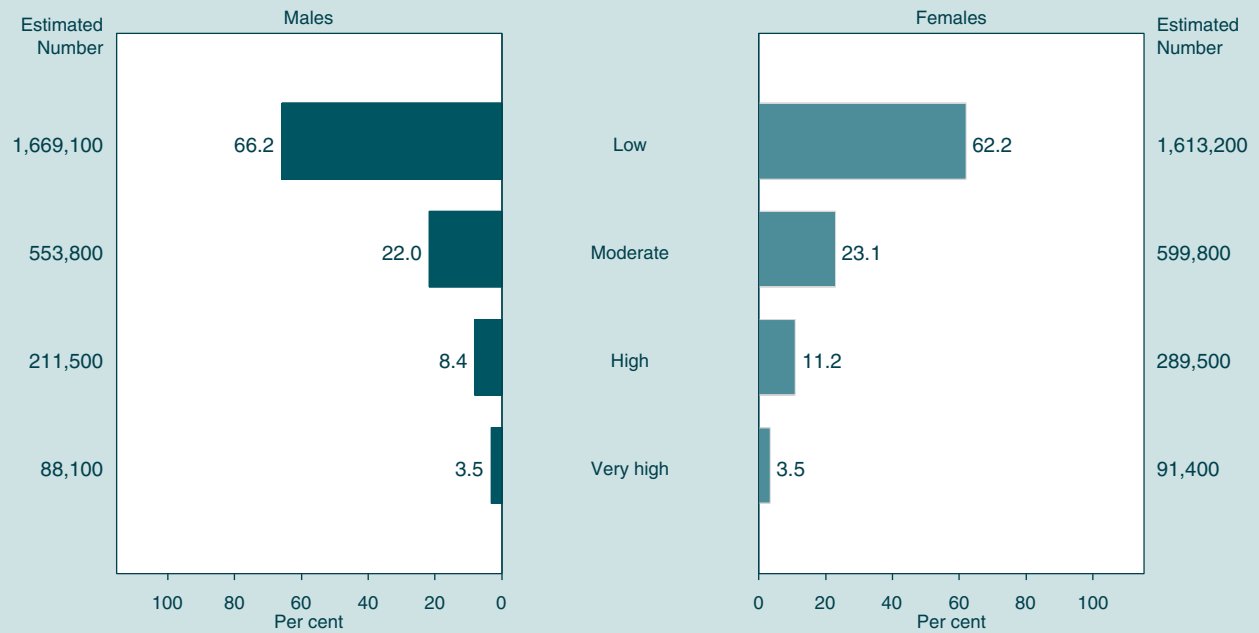
Figure 62 shows psychological distress by Kessler 10 categories. Figures 63 and 64 show the proportion of people with high and very high psychological distress by age and socioeconomic disadvantage. Figure 65 shows the number of times that physical problems have been the cause of psychological distress in the past 4 weeks. Table 8 shows the effect of psychological distress on daily activities.

## References

1. Mathers C, Vos T, and Stevenson C. *The burden of disease and injury in Australia*. Canberra: Australian Institute of Health and Welfare, 1999.
2. Australian Bureau of Statistics. *1997 National Survey of Mental Health and Wellbeing: Adult component, Australia*. Catalogue no. 4326.0. Canberra: ABS, 1998.
3. Australian Bureau of Statistics. *2001 National Health Survey: Summary of Results, Australia*. Catalogue no. 4364.0. Canberra: ABS, 2002.
4. Kessler RC, Andrews G, Colpe LJ, Hiripi E, Mroczek DK, Normand S-LT, Walters EE, Zaslavsky A. Short screening scales to monitor population prevalences and trends in nonspecific psychological distress. *Psychol Med* 2002, 32(6): 959–976.

**FIGURE 62**

**PSYCHOLOGICAL DISTRESS BY KESSLER 10 CATEGORIES, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 63**

**HIGH AND VERY HIGH PSYCHOLOGICAL DISTRESS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 64**

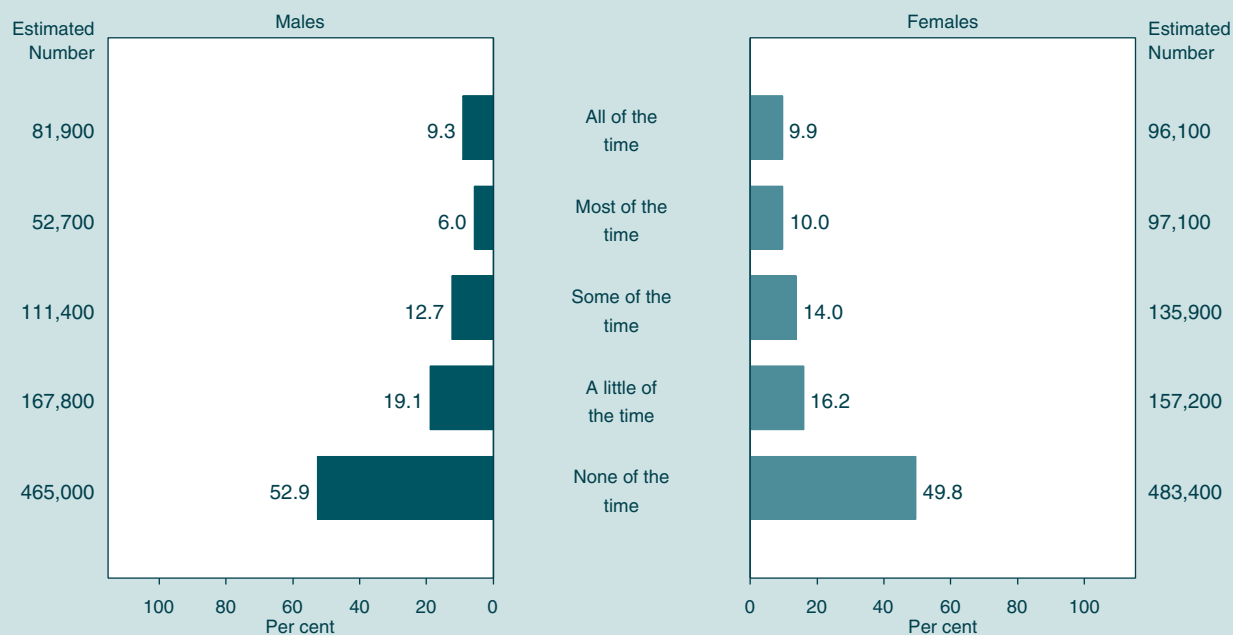
**HIGH AND VERY HIGH PSYCHOLOGICAL DISTRESS BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 65**

**TIMES THAT PHYSICAL PROBLEMS HAVE CAUSED PSYCHOLOGICAL DISTRESS IN PAST 4 WEEKS, PERSONS WITH MODERATE, HIGH OR VERY HIGH PSYCHOLOGICAL DISTRESS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

TABLE 8

## EFFECT OF PSYCHOLOGICAL STRESS ON DAILY ACTIVITIES IN LAST 4 WEEKS, PEOPLE AGED 16 YEARS AND OVER, NSW 2004

Effect	Males	95% CI	Females	95% CI	Persons	95% CI
Days unable to manage daily activities	0.79	(0.61–0.97)	0.65	(0.54–0.75)	0.71	(0.61–0.82)
Days cut down on daily activities	0.89	(0.72–1.06)	1.00	(0.89–1.12)	0.95	(0.85–1.05)
Times saw a health professional	0.15	(0.12–0.19)	0.16	(0.14–0.19)	0.16	(0.14–0.18)

Source: New South Wales Population Health Survey 2004 (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

## Oral health

### Introduction

Dental disorders are highly prevalent in Australia. In 1999 dental caries was estimated to be the most prevalent health problem, edentulism the third most prevalent, and periodontal diseases the fifth most prevalent health problem in Australia.<sup>1</sup> About 90 per cent of all tooth loss can be attributed to dental caries and periodontal disease, and because these conditions are preventable most of this tooth loss can be avoided.<sup>2</sup> The economic burden of dental diseases is also high, with an estimated \$3.7 billion spent on dental services in the financial year 2001–02, representing 5.4 per cent of total health expenditure.<sup>3</sup> Although Australians enjoy a relatively high standard of oral health, this is not distributed equally among different age and social groups. There is a strong link between socioeconomic status and patterns of oral health in Australia.<sup>4</sup>

Regular visits to a dental care professional (that is, at least once every 2 years) have a significant and positive effect on dental health. Those who visit a dental care professional regularly have significantly less severity and prevalence—and suffer fewer social and psychological effects—of dental health problems.<sup>5</sup> There is variation in the frequency of dental visits across the Australian population, and people who have a longer period of time between visits are more likely to visit a dentist because they have a problem rather than for a check up. Patterns of access for dental visits are uneven across the Australian population, with some socially disadvantaged groups in the community—including holders of health care cards, migrant groups, and indigenous populations—experiencing problems with access to oral health services.<sup>6</sup>

In 2004, the New South Wales Population Health Survey asked respondents: ‘Are any of your natural teeth missing?’, ‘Do you have dentures or false teeth?’, ‘In the last 12 months, how often have you had a toothache or other problem with your mouth or dentures?’, ‘In the last 4 weeks, how often have you had a toothache or other problem with your mouth or dentures?’, ‘What was the most recent problem you had?’, ‘What treatment did you receive for that problem?’, ‘When did you last see a dental professional about your teeth, dentures or gums?’, ‘Where was your last dental visit made?’, and respondents who had not seen a dental professional in the last 12 months were

asked ‘What are the main reasons for you not visiting the dentist in the last 12 months?’.

### Results

#### *Retention of natural teeth*

Overall, in 2004, 6.3 per cent of people reported that they had all of their natural teeth missing, 56.3 per cent reported that they had some natural teeth missing, and 37.5 per cent reported that they had none of their natural teeth missing.

A significantly greater proportion of females (7.8 per cent) than males (4.7 per cent) had all their natural teeth missing. The proportion of people who had all their natural teeth missing increased with age in both males and females. A significantly greater proportion of males aged 65 years and over (15.8 per cent to 24.8 per cent) and females aged 55 years and over (11.6 per cent to 38.2 per cent) had all their natural teeth missing, compared with the overall adult male and female populations. A significantly lower proportion of males aged 16–54 years (0.1 per cent to 2.7 per cent) and females aged 16–54 years (0.1 per cent to 3.3 per cent) had all their natural teeth missing, compared with the overall adult male and female populations.

The proportion of respondents reporting having all their natural teeth missing was significantly lower in urban areas (5.6 per cent) than in rural areas (8.7 per cent). A significantly lower proportion of males in the Northern Sydney and Central Coast Health Area (2.2 per cent) and a significantly greater proportion of females in the North Coast (11.3 per cent) and Greater Western (11.7 per cent) Health Areas had all their natural teeth missing.

A significantly lower proportion of people in the least socioeconomically disadvantaged quintile (3.4 per cent), and a significantly greater proportion in the most disadvantaged quintile (9.8 per cent), were likely to have all their natural teeth missing, compared with the overall adult population.

The proportion of people who had all their natural teeth missing decreased significantly from 1998 (8.2 per cent) to 2004 (6.3 per cent).

#### *Toothache and other oral health problems*

Overall, in 2004, 49.0 per cent of people reported that they ‘never’ had oral health problems, 29.3 per cent of people ‘hardly ever’ had problems, 15.2 per cent of people

'sometimes' had problems, 3.7 per cent 'often' had problems, and 2.8 per cent of people had oral health problems 'very often' in the last 12 months. The proportion of females (27.2 per cent) having oral health problems 'hardly ever' was significantly lower than males (31.3 per cent).

Of those who reported an oral health problem, 30.7 per cent did not see a dentist for the problem. Of those who did see a dentist, the most common treatments were dental fillings (25.3 per cent), tooth extractions (12.9 per cent), or simply a check up (12.0 per cent).

#### Frequency of visits to dental professionals

Overall, in 2004, 38.3 per cent of people had seen a dentist less than 12 months ago, 23.2 per cent had seen a dentist 1 to less than 2 years ago, 20.1 per cent had seen a dentist 2 to less than 5 years ago, 8.8 per cent had seen a dentist 5 to less than 10 years ago, 8.8 per cent had seen a dentist 10 years ago or more, and 0.9 per cent of people had never seen a dentist. A significantly lower proportion of males (33.6 per cent) than females (42.8 per cent) reported having seen a dentist in the last 12 months.

#### Dental providers used

In 2004, 87.9 per cent of people used a private dental provider, 10.3 per cent used a public dental clinic, and 1.8 per cent of people used other dental services.

Figures 66 and 67 show the proportion of people with all natural teeth missing by age and socioeconomic disadvantage. Figure 68 shows the frequency of oral health problems in the last 12 months by sex. Figure 69 shows the time since last dental visit by sex.

#### References

1. Mathers C, Vos T, Stevenson C. *The burden of disease and injury in Australia*. AIHW Catalogue no. PHE 17. Canberra: AIHW, 1999.
2. Australian Health Ministers' Advisory Council Steering Committee for National Planning for Oral Health. *Oral Health of Australians: National Planning for Oral Health Improvement*. Adelaide: South Australian Department of Human Services, 2001.
3. Australian Institute of Health and Welfare (AIHW) *Australia's Welfare 2003*. AIHW Catalogue no. AUS 41. Canberra: AIHW, 2003.
4. National Advisory Committee on Oral Health. *Healthy Mouths, Health Lives. Australia's National Oral Health Plan 2004-2013*. Adelaide: South Australian Department of Health, 2004.
5. Kay EJ. Do regular attenders have better oral health? *BMJ* 2002; 193(12): 695.
6. Spencer AJ. *Narrowing the inequality gap in oral health and dental care in Australia*. Sydney: Australian Health Policy Institute, University of Sydney, 2004.

**FIGURE 66**

**ALL NATURAL TEETH MISSING BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 67**

**ALL NATURAL TEETH MISSING BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 68**

**FREQUENCY OF ORAL HEALTH PROBLEM IN THE LAST 12 MONTHS, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 69**

**TIME SINCE LAST DENTAL VISIT, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Overweight or obesity

### Introduction

The prevalence of obesity is rising worldwide and New South Wales is no exception. Being overweight or obese increases the risk of a wide range of health problems, including cardiovascular disease, non-insulin-dependent diabetes mellitus, breast cancer, gallstones, degenerative joint disease, obstructive sleep apnoea, and impaired psychosocial functioning.<sup>1</sup> Weight gain and obesity develop when the energy intake from food and drink exceeds energy expenditure from physical activity and other metabolic processes.

In 2004, the New South Wales Population Health Survey asked respondents ‘How tall are you without shoes?’ and ‘How much do you weigh without clothes or shoes?’. These answers were used to estimate body mass index (BMI). The BMI provides the most useful and practical method for classifying overweight or obesity in adults. BMI is calculated by dividing a person’s weight (in kilograms) by their height (in metres squared). The resulting BMI is then classified into 4 categories: ‘underweight’ when the BMI is less than 18.5; ‘acceptable or ideal weight’ when the BMI is greater than or equal to 18.5 and less than 25; ‘overweight’ when the BMI is greater than or equal to 25 and less than 30; and ‘obese’ when the BMI is greater than or equal to 30.<sup>2</sup>

Studies have shown that relying on self-reported height and weight results in an underestimation of the true prevalence of overweight or obesity.<sup>3</sup>

### Results

Overall, in 2004, 3.7 per cent of the adult population were categorised as ‘underweight’, 47.8 per cent as ‘healthy weight’, 33.1 per cent as ‘overweight’, and 15.4 per cent as ‘obese’.

In 2004, 48.4 per cent of the adult population were classified as overweight or obese. A significantly greater proportion of males (56.2 per cent) than females (40.5 per cent) were classified as overweight or obese.

Among males, a significantly lower proportion of those aged 16–24 years (33.7 per cent) and 75 years and over (43.6 per cent), and a significantly greater proportion aged 45–74 years (64.9 per cent to 70.5 per cent) were classified as overweight or obese, compared with the overall adult male population. Among females, a significantly lower proportion of those aged 16–34 years (20.9 per cent to 33.1 per cent) and a significantly greater proportion of those aged 45–74 years (47.4 per cent to 57.9 per cent) were classified as overweight or obese, compared to the overall adult female population.

There was no significant geographic variation in the proportion of urban and rural residents classified as overweight or obese. Among females significantly lower proportion in the Northern Sydney and Central Coast Health Area (32.5 per cent), and a significantly greater proportion in the Hunter and New England (48.5 per cent) and Greater Western (48.4 per cent) Health Areas were overweight or obese, compared to the overall adult female population. Among males, a significantly greater proportion



in the Greater Western Health Area (65.2 per cent) were overweight or obese, compared to the overall adult male population.

The most socioeconomically disadvantaged quintile included a significantly greater proportion of overweight or obese people (53.7 per cent) than the overall adult population, while the least disadvantaged quintile included a significantly lower proportion of overweight or obese people (41.3 per cent) than the overall adult population.

The proportion of people classified as overweight or obese has risen significantly from 1997 (41.8 per cent) to 2004 (48.4 per cent). This increase has occurred in both males (49.3 per cent to 56.2 per cent) and females (34.2 per cent to 40.5 per cent).

In 2004, 15.4 per cent of the adult population were classified as obese. There was no significant difference in the proportion of males and females who were classified as obese. A significantly lower proportion of people aged 16–24 years (6.4 per cent) and 75 years and over (9.1 per cent), and a significantly greater proportion of people aged 45–74 years (20.6 per cent to 21.2 per cent) were classified as obese.

A significantly lower proportion of people in the quintile of least socioeconomic disadvantage (11.2 per cent), and a significantly greater proportion of people in the most disadvantaged quintile (20.4 per cent) were classified as obese, compared to the overall adult population. As

with overweight and obesity combined, these differences are almost totally explained by the differences between socioeconomic quintiles and level of obesity in women.

A significantly greater proportion of people in rural areas were classified as obese (18.0 per cent) compared to urban areas (14.7 per cent). Compared to the overall adult population, a significantly greater proportion of people in the Greater Western Health Area (21.1 per cent) were classified as obese.

Overall, the proportion of people classified as obese has increased significantly between 1997 (11.2 per cent) and 2004 (15.4 per cent).

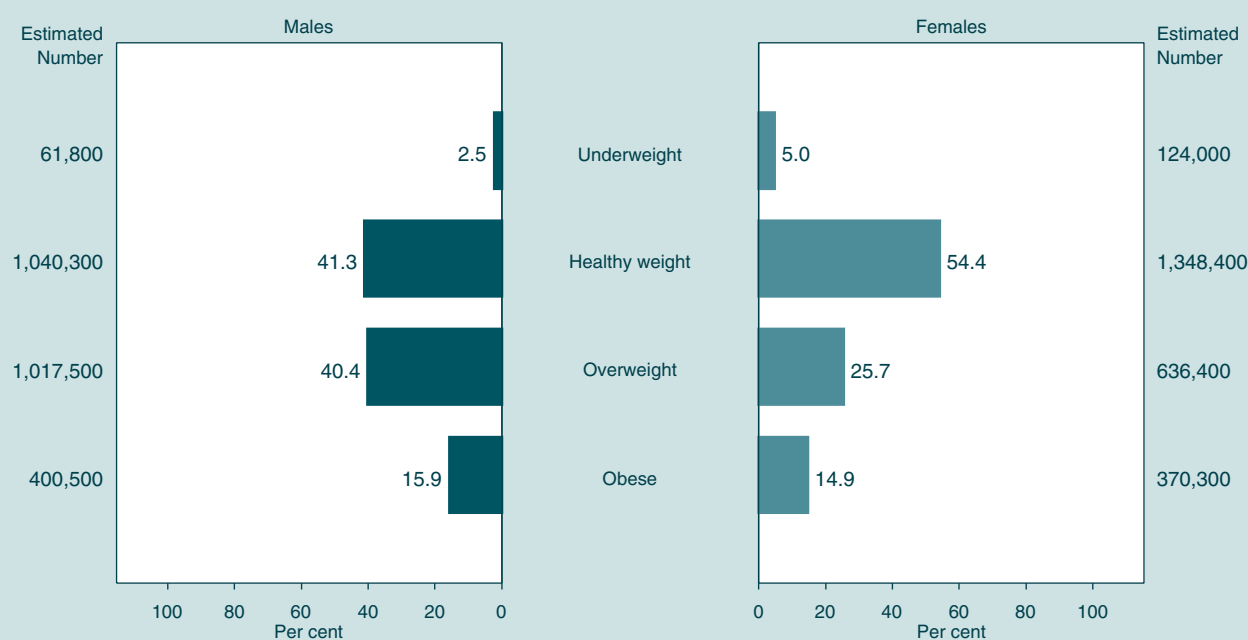
Figure 70 shows body mass index categories by sex. Figure 71 shows overweight and obesity by age. Figure 72 and Table 9 show overweight and obesity by health area. Figures 73 and 74 show obesity by age and socioeconomic disadvantage.

### References

1. NSW Centre for Public Health Nutrition. *Report on the weight status of NSW: 2003*. Sydney: CPHN, 2003.
2. World Health Organization. *Obesity: Preventing and managing the global epidemic: Report of a WHO consultation*. WHO Technical Report Series 894. Geneva: World Health Organization, 2000.
3. Flood V, Webb K, Lazarus R, Pang G. Use of self-report to monitor overweight and obesity in populations: Some issues for consideration. *Aust N Z J Public Health* 2000; 24: 96–99.

**FIGURE 70**

**BODY MASS INDEX CATEGORIES, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 71**

**OVERWEIGHT AND OBESITY BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**

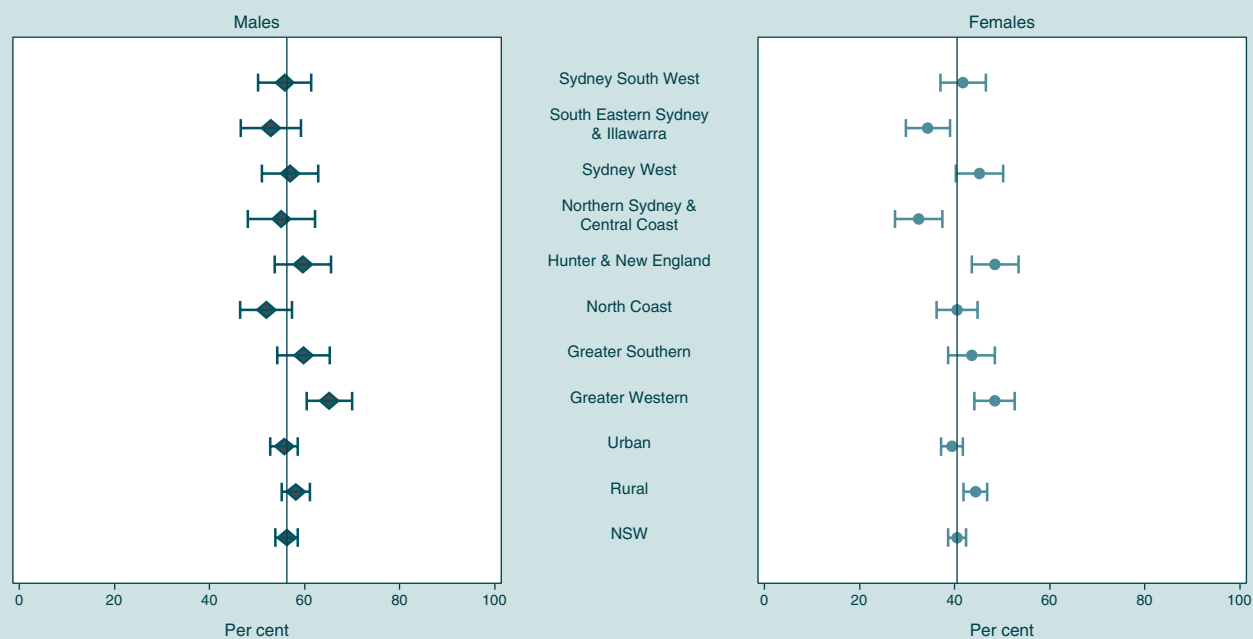


Note: Overweight and obesity is a Body Mass Index of 25 and over.

Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 72**

**OVERWEIGHT AND OBESITY BY HEALTH AREA AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Note: Overweight and obesity is a Body Mass Index of 25 and over.

Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**TABLE 9**

**OVERWEIGHT AND OBESITY BY HEALTH AREA AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**

Area	(no.)	Males			Females				Persons			
		LL95% CI	UL95% CI	(est. no.)	(no.)	LL95% CI	UL95% CI	(est. no.)	(no.)	LL95% CI	UL95% CI	(est. no.)
Sydney South West	55.8	50.2	61.4	275300	41.8	37.0	46.5	200200	48.9	45.1	52.6	475400
South Eastern Sydney & Illawarra	52.9	46.6	59.3	243400	34.4	29.7	39.0	152700	43.8	39.8	47.8	396100
Sydney West	56.9	51.0	62.9	216400	45.2	40.3	50.2	174800	51.0	47.2	54.9	391200
Northern Sydney & Central Coast	55.1	48.1	62.2	232100	32.5	27.5	37.5	138900	43.7	39.3	48.1	370900
Hunter & New England	59.6	53.7	65.6	183500	48.5	43.6	53.4	144900	54.2	50.3	58.0	328400
North Coast	51.9	46.5	57.3	89200	40.5	36.2	44.8	72800	46.1	42.6	49.5	162000
Greater Southern	59.8	54.2	65.3	105400	43.6	38.6	48.5	72300	51.9	48.1	55.7	177700
Greater Western	65.2	60.4	69.9	73300	48.4	44.2	52.6	52100	57.0	53.7	60.2	125400
Urban	55.7	52.8	58.6	1107200	39.5	37.2	41.7	774600	47.6	45.8	49.5	1881800
Rural	58.2	55.2	61.1	311300	44.4	41.9	46.9	234100	51.3	49.4	53.3	545400
NSW	56.2	53.9	58.6	1418600	40.5	38.6	42.4	1008600	48.4	46.9	49.9	2427200

Notes: Estimates are based on 9,363 respondents in NSW. 376 (4.02%) were 'not stated' (Don't know or Refused) for this indicator in NSW. The indicator includes those with a Body Mass Index (BMI) of 25 or higher. The questions used to define the indicator were 'How tall are you without shoes?' and 'How much do you weigh without clothes or shoes?'. The BMI is calculated as follows: BMI = weight(kg)/height<sup>2</sup>(m). Categories for this indicator include overweight (BMI between 25 and 29.9) and obese (BMI of 30 and over).  
 Source: New South Wales Population Health Survey 2004 (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 73**

**OBESITY BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**

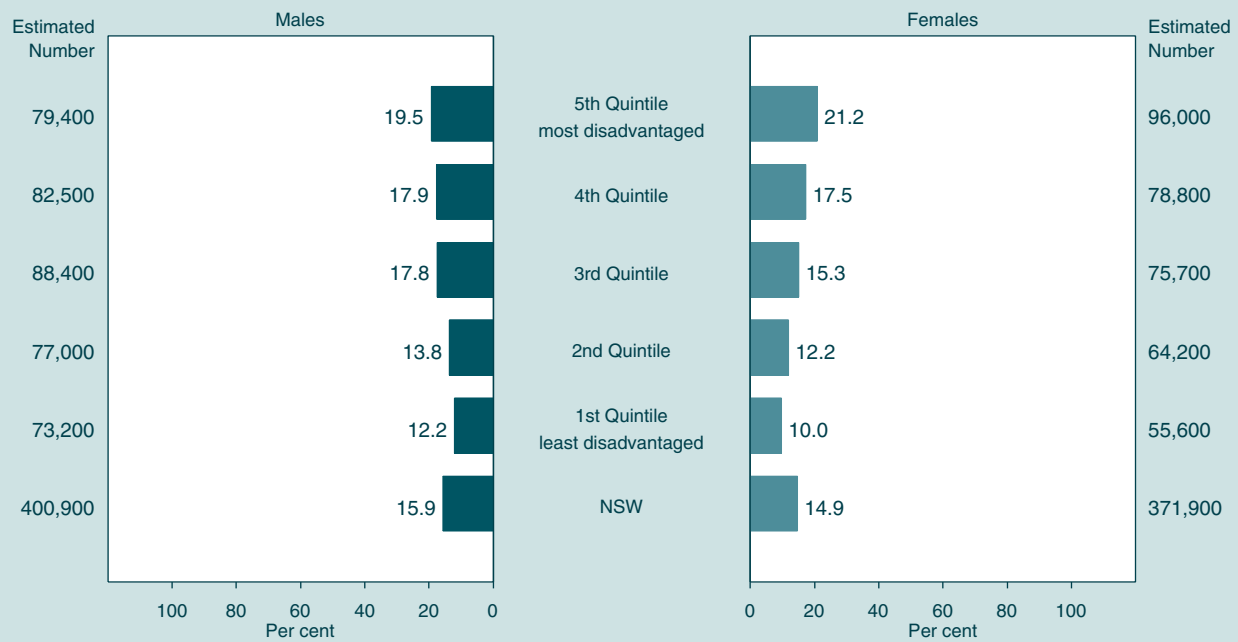


Note: Obesity is a Body Mass Index of 30 and over.

Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 74**

**OBESITY BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Note: Obesity is a Body Mass Index of 30 and over.

Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**Vision**

**Introduction**

Good vision is important to our daily lives. It is a key component of most basic activities as well as employment and education. Loss of vision is a contributor to decreased wellbeing, restricted personal independence, and reduced social and community participation. It is estimated that about 400,000 Australians are vision impaired. With an ageing population, the proportion of people with vision loss will rise in the next 20 years to over 600,000.<sup>1</sup>

Even mild to moderate visual impairment increases difficulty with daily living and reduces ease of social functioning. Poor vision contributes to significant morbidity by doubling the risk of falls and depression, and by increasing the risk of hip fractures fourfold.<sup>1</sup>

Over 80 per cent of vision impairment in Australia is caused by 5 conditions: refractive error (53 per cent), age related maculopathy (13 per cent), cataract (9 per cent), glaucoma (5 per cent), and diabetic retinopathy (3 per cent). Almost 50 per cent of blindness and 70 per cent of vision impairment is caused by conditions that are preventable or treatable or can have their affect mitigated with appropriate rehabilitation. Of the preventable or treatable conditions, over 50 per cent are caused by under-corrected refractive error, which can be corrected with glasses. For the remaining 50 per cent, severity and affect on quality of life can be reduced through early detection, treatment, and rehabilitation.<sup>1,2,3,4</sup>

Vision 2020: The Right to Sight is a global initiative designed to eliminate avoidable blindness by the year 2020. The initiative was established by an alliance including the World Health Organization and the International Agency for the Prevention of Blindness. A local initiative, Vision 2020 Australia, aims to implement the goals of the global initiative in Australia. Over 50 Australian organisations involved in vision and eyecare research, education, and community health came together to work in 3 areas: the general Australian population, the Aboriginal and Torres Strait Islander populations, and global eyecare. As a result, the National Eye Health Strategy was launched by Vision 2020 Australia in February 2002, with the aim of eliminating avoidable blindness and vision loss in Australia by 2020.<sup>5,6</sup> Eye screening ensures that vision impairment is prevented or appropriately treated.

There are a series of recommendations regarding the age at which to commence vision screening, and about the frequency of screening, from national and other organisations including Vision 2020 Australia,<sup>7,8</sup> the Lions Eye Health Program Australia,<sup>10</sup> and the Royal Australian College of Ophthalmologists.<sup>11</sup> These recommendations vary depending on age, risk level, and particular eye condition being screened for. Screening is recommended more often for high-risk groups such as people with diabetes, or people with a family history of glaucoma, or Aboriginal and Torres Strait Islander people.<sup>7,8</sup>

In 2004, the New South Wales Population Health Survey asked respondents aged 16 years and over the following

questions: 'When did you last have your eyesight checked?', 'As far as you know, do you have normal vision in both eyes?', 'Do you currently wear glasses or contact lenses?', 'Are you wearing glasses for reading or close work, distance or both?', 'Even when wearing glasses or contact lenses, do you have any difficulty reading or doing close work?'

## Results

### *Time since eyesight last tested among people 35 years and over*

In 2004, 72.5 per cent of people aged 35 years and over reported that their vision had been tested in the last 2 years, 16.8 per cent within the last 2–5 years, 8.3 per cent more than 5 years ago, and 2.4 per cent had never had their eyes tested.

Among people tested in the last 2 years, there was no significant difference between the proportion of males (70.8 per cent) and females (74.1 per cent) who had been tested. A significantly greater proportion of people aged 55 years and over (76.9 per cent to 87.0 per cent) and a significantly lower proportion of those aged 35–44 years (59.3 per cent) reported they had been tested.

There was no significant difference in the proportion tested in the last 2 years between rural areas and urban areas. A significantly lower proportion of people in the Greater Southern Health Area (66.9 per cent) had their eyes tested in the previous 2 years.

There was no significant variation in the proportion of people tested in the last 2 years by level of socioeconomic disadvantage.

### *Normal vision in both eyes*

Overall 52.2 per cent of people aged 16 years and over reported having normal vision in both eyes. A significantly greater proportion of males (56.2 per cent) than females (48.4 per cent) reported that they had normal vision. Normal vision declined with age from 77.5 per cent in males and 65.2 per cent in females aged 16–24 years to 40.4 per cent in males and 40.5 per cent in females aged 75 years and over.

There was no variation in the proportion of people reporting normal vision between rural areas and urban areas, or by level of socioeconomic disadvantage.

### *Difficulty with reading*

Among people aged 16 years and over, 14.5 per cent of people reported that they had difficulty reading or doing close work even with glasses. There was no difference between the proportion of males and females reporting difficulty. A significantly lower proportion of people aged 16–44 years (5.6 per cent to 10.9 per cent) reported difficulty with reading and close work even with glasses, compared to the overall adult population. A greater proportion of people aged 45–64 years (21.7 per cent to 24.3 per cent) and 75 years and over (25.8 per cent) reported difficulty

with reading or close work, compared to the overall adult population.

A significantly lower proportion of males in the quintile of second least disadvantage (10.6 per cent) reported difficulty doing reading or close work.

There was significant variation by geographic location, with a significantly greater proportion of people in rural areas (16.9 per cent) reporting difficulty reading or doing close work even with glasses compared to people in urban areas (13.9 per cent). A significantly greater proportion of residents in the North Coast Health Area (19.0 per cent) and a significantly lower proportion of residents in the Sydney South West Health Area (11.6 per cent) reported difficulty, compared to the overall adult population.

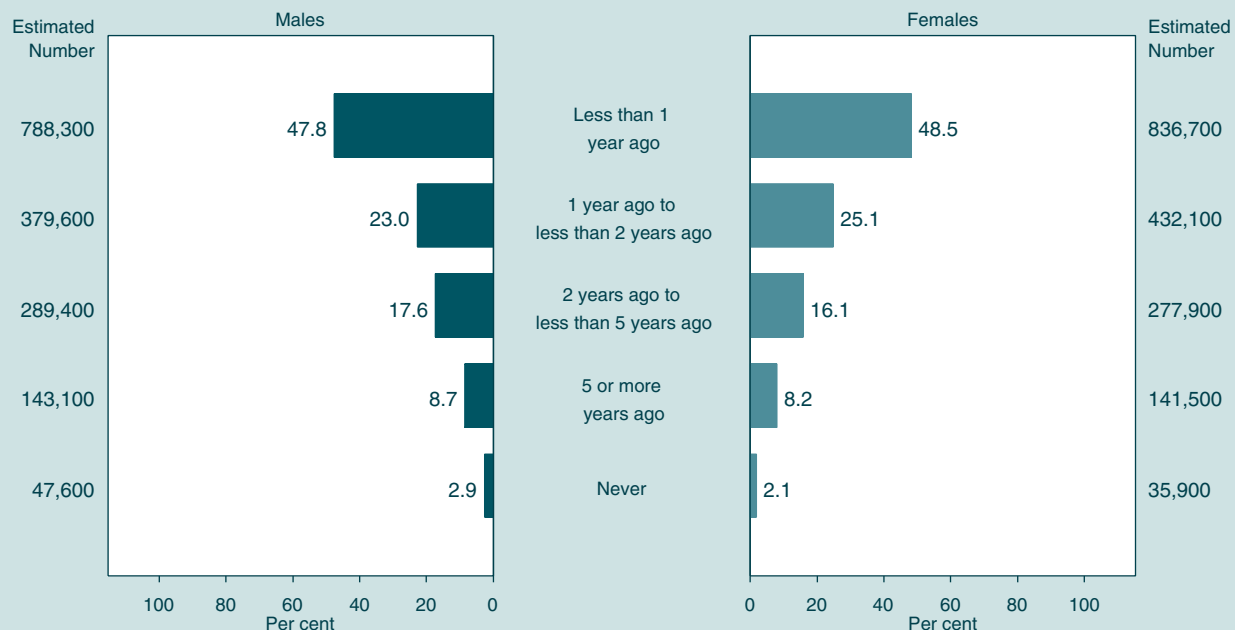
Figure 75 shows when eyesight was last checked by sex. Figure 76 shows the proportion of people who had their eyesight tested in the last 2 years by age. Figure 77 shows the proportion of people with normal vision in both eyes by age. Figure 78 shows the proportion of people who experience difficulty with reading or doing close work even with glasses or contact lenses by age.

## References

1. The Centre for Eye Research, University of Melbourne Department of Ophthalmology. *Eye Care for the Community*. Available online at [www.iris.medoph.unimelb.edu.au/eyecarecommunity/menu.html](http://www.iris.medoph.unimelb.edu.au/eyecarecommunity/menu.html).
2. Taylor HR, Livingston PM, Stanislavsky YL, McCarty CA. Visual impairment in Australia: Distance visual acuity, near vision, and visual field findings of the Melbourne Visual Impairment Study. *Am J Ophthalmol* 1997; 123: 328–337.
3. Van Newkirk MR, Weih L, McCarty CA, Taylor HR. Cause-specific prevalence of bilateral visual impairment in Victoria, Australia: The Visual Impairment Project. *Ophthalmology* 2001; 108: 960–967.
4. Wang JJ, Foran S, Mitchell P. Age-specific prevalence and causes of bilateral and unilateral visual impairment in older Australians: The Blue Mountains Eye Study. *Clin Experiment Ophthalmol* 2000; 28: 268–273.
5. Vision 2020 Australia. *Vision 2020: The Right to Sight*. Available online at [www.vision2020australia.org.au](http://www.vision2020australia.org.au).
6. Layland B, Holden B, Evans K, Bailey S. *ICEE-AHMRC NSW Aboriginal Eye and Visioncare Program*. Rural and Remote Health 4 online at [http://rrh.deakin.edu.au/publishedarticles/article\\_print\\_247.pdf](http://rrh.deakin.edu.au/publishedarticles/article_print_247.pdf).
7. Vision 2020 Australia. *The vision initiative: A public health program*. Carlton: Nision 2020 Australia, 2005. Available online at [www.vision2020australia.org.au/docs/VisionInitiative2OctoberFinalDocument\\_001.pdf](http://www.vision2020australia.org.au/docs/VisionInitiative2OctoberFinalDocument_001.pdf).
8. Vision 2020 Australia. *National Eye Health Strategy*. Available online at [www.vision2020australia.org.au/docs/nehs18.5.04\\_000.pdf](http://www.vision2020australia.org.au/docs/nehs18.5.04_000.pdf).
9. Lions International. *Lions Eye Health Program Australia*. Available online at [www.lionsclubs.org.au/lehp/index.html](http://www.lionsclubs.org.au/lehp/index.html).
10. Royal Australian and New Zealand College of Ophthalmologists. *What is glaucoma?* Available online at [www.ranzco.edu/eyehealth/glaucoma.php?PHPSESSID=8daec9ad9468b676512b351c7a22ce45](http://www.ranzco.edu/eyehealth/glaucoma.php?PHPSESSID=8daec9ad9468b676512b351c7a22ce45).
11. South Eastern Sydney Area Health Service. *Frequently asked questions about eye health*. Available online at [www.sesahs.nsw.gov.au/sydhosp/pdf/common%20eye%20health%20questions%20explained.pdf](http://www.sesahs.nsw.gov.au/sydhosp/pdf/common%20eye%20health%20questions%20explained.pdf).

**FIGURE 75**

**WHEN EYESIGHT LAST CHECKED BY SEX, PERSONS AGED 35 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 76**

**EYESIGHT TESTED IN LAST 2 YEARS BY AGE AND SEX, PERSONS AGED 35 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 77**

**NORMAL VISION IN BOTH EYES BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 78**

**DIFFICULTY WITH READING OR DOING CLOSE WORK EVEN WITH GLASSES OR CONTACT LENSES BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Hearing

### Introduction

Communication is a basic human need and a key element in social participation. Hearing loss affects the ability to understand speech, and reduces the ability to communicate, work, and learn. In Australia, adult onset hearing loss is the second leading cause of years lost to disability (YLD) in males and the ninth leading cause of YLD in females.<sup>2</sup> It is one of the most common disabilities in adulthood, with a particularly heavy burden of disability in the elderly.<sup>3</sup> The Blue Mountains Hearing Study found a prevalence of 39.4 per cent hearing loss in a sample of residents aged 55–99 years living in the west of Sydney.<sup>4</sup>

Hearing loss can be classified as mild, moderate, severe or profound. Even mild hearing loss can cause problems understanding speech and participating in conversations, especially if background noise is present. In addition, many people with mild hearing loss may be unaware of their hearing loss.<sup>5</sup> The presence and degree of hearing loss can be determined by audiometry.

The effect of hearing loss can be reduced by the use of a hearing aid. The use of a hearing aid can reduce the effect of hearing loss by approximately one level of severity in those with mild to moderate hearing loss.<sup>3,5</sup>

Self-reported hearing loss has been validated as one way of providing a reasonable estimate of the prevalence of hearing loss among older people.<sup>5</sup> In 2004 the New South Wales Population Health Survey collected information on hearing testing, hearing loss, and the use of hearing aids among the residents of New South Wales. People aged 16 years and over were asked the following questions: 'Have you ever had your hearing tested?', 'As far as you know do you have normal hearing in both ears?', 'Do you currently use a hearing aid?', and 'How serious is your hearing loss?'.

### Results

#### Hearing testing

Overall, 50.2 per cent of people aged 16 years and over had ever had their hearing tested. A significantly greater proportion of males reported ever having a hearing test (60.8 per cent) than females (39.9 per cent). A significantly lower proportion of males aged 16–24 years (48.6 per cent) reported ever having their hearing tested, compared to the overall adult male population. A significantly greater proportion of females aged 75 years and over (47.6 per cent) reported ever having a hearing test, compared to the overall adult female population.

A significantly greater proportion of people in the Greater Western Health Area (55.6 per cent) had ever had a hearing test.

There was no significant variation in the proportion of people ever having had a hearing test by socioeconomic disadvantage.

#### Normal hearing

Overall, 80.7 per cent of people reported that they have normal hearing in both ears. A significantly greater proportion of females (85.1 per cent) than males (76.2 per cent) reported

normal hearing in both ears. Normal hearing declined with age, declining from 93.4 per cent in males and 94.2 per cent in females aged 16–24 years to 47.8 per cent in males and 62.9 per cent in females aged 75 years and over.

Normal hearing did not vary by level of socioeconomic disadvantage.

There was significant variation in hearing loss by geographic location. A significantly greater proportion of people in urban areas (81.8 per cent) reported normal hearing than in rural areas (76.9 per cent). This was largely attributable to the significantly lower proportion of males in rural areas (70.4 per cent) having normal hearing than males in urban areas (77.8 per cent). A significantly greater proportion of males in the Sydney South West Health Area (82.7 per cent) and a significantly lower proportion of males in the Hunter and New England Health Area (68.0 per cent) reported normal hearing, compared to the overall adult male population. There was no significant variation among females between health areas.

#### Currently using a hearing aid

In 2004, 15.2 per cent of people who reported they did not have normal hearing in both ears were using a hearing aid. Use of a hearing aid did not differ between males and females. Among people with hearing loss use of a hearing aid increased with age, increasing from 0.1 per cent in people aged 16–24 years to 46.4 per cent in people aged 75 years and over. A significantly greater proportion of people aged 65 years and over did not have normal hearing in both ears and were using a hearing aid (24.7 per cent to 46.4 per cent), compared to the overall adult population.

There was no significant variation in the proportion of people using a hearing aid by socioeconomic disadvantage or by rurality. A significantly lower proportion of males in the Sydney West Health Area (7.4 per cent) and a significantly greater proportion of females in the Greater Western Health Area (25.0 per cent) reported using a hearing aid, compared to the overall adult population.

Figure 79 shows the proportion of people who have ever had their hearing tested by age. Figure 80 shows the proportion of people with normal hearing in both ears by age. Figure 81 shows the proportion of people currently using a hearing aid by age.

### References

1. Australian Institute of Health and Welfare. *Communication restrictions: The experience of people with a disability in the community*. Disability Data Briefing no. 23. Canberra: AIHW, 2003.
2. Mathers C, Vos E, Stevenson C, Begg S. The Australian Burden of Disease Study: Measuring the loss of health from diseases, injuries and risk factors. *Med J Aust* 2000; 172: 592–596.
3. Wilson DH, Walsh PG, Sanchez L et al. The epidemiology of hearing impairment in an Australian adult population. *Int J Epidemiol* 1999; 28: 247–252.
4. Mathers C. *Hearing loss*. AusBODI Code no. K8d Canberra: Australian Institute of Health and Welfare, 1999.
5. Sindhusake D, Mitchell P, Smith W et al. Validation of self-reported hearing loss. The Blue Mountains Hearing Study. *Int J Epidemiol* 2001; 30: 1371–1378.



**FIGURE 79**

**EVER HAD HEARING TESTED BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 80**

**NORMAL HEARING IN BOTH EARS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 81**

**CURRENTLY USING A HEARING AID BY AGE AND SEX, PERSONS WHO CURRENTLY HAVE ABNORMAL HEARING AGED 16 YEARS AND OVER, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**Injury**

**Introduction**

Youth violence has been identified as a major public health issue by the World Health Organization. Homicide and non-fatal assaults involving young people contribute greatly to the global burden of premature death, injury and disability.<sup>1,2,3</sup> At the national level, in 1994, interpersonal violence was identified as a priority and was included in the National Goals, Targets and Strategies for Injury Prevention and Control.<sup>4</sup>

The consequences of youth violence include physical and psychological injury, and even death. In NSW, in 2002 and 2003, 7,042 people were hospitalised for injuries resulting from interpersonal violence.<sup>7</sup> Thirty-one per cent (2,213) of these people were aged 15–24 years. The hospitalisation rate of 246.3 per 100,000 for this age group was almost 2.5 times the overall rate and has increased from 227.3 per 100,000 in 1993–1994. The rate for males (389.6 per 100,000) was 4 times the female rate (87.7 per 100,000).<sup>5</sup>

Youth violence can occur in a variety of locations including the workplace, at home, on public transport, or at recreational venues. The perpetrator could be a family member, a friend, or an unknown assailant. However, little is known about the true incidence of interpersonal violence among young people in NSW. Most acts and consequences of violence remain hidden and unreported and, as a result,

hospitalisation and police data underestimate the extent of this health issue. Also little is known about the affect of the problem, the activity of the victim at the time of the attack, or the relationship between the victim and the perpetrator(s) of the violence.<sup>6</sup> While little is known about perpetrator(s) suspected drug use, there is now police data that quite accurately reports alcohol usage and where that alcohol was consumed for all cases where police attend.<sup>7</sup> An analysis of this data statewide could give substantial estimates when compared with the results of the New South Wales Population Health Survey.

Reliable data on violence is crucial not only for setting priorities, guiding program design, and monitoring progress, but also for advocacy to raise awareness about the issue, for planning urban infrastructure, and for implementing effective media campaigns to change attitudes and behaviour.<sup>6</sup>

In 2004, to monitor levels of youth violence in the community, the New South Wales Population Health Survey asked respondents aged 16–25 years the following questions: ‘In the last 12 months has someone been physically violent towards you? By physical violence I mean being hit, slapped, pushed or kicked by someone to cause harm’. Respondents who answered ‘yes’ were then asked ‘In the last 12 months how many times has someone been physically violent towards you?’, ‘Thinking about the most recent time someone was physically violent toward

you: 'Where were you when the violence occurred?', 'What were you doing when the violence occurred?', 'Approximately, how many people were involved in the violent act against you?', 'What relationship do you have with the person(s) who was/were violent towards you?', 'In your opinion were the person(s) who was/were violent towards you under the influence of alcohol or drugs at the time of the act?', 'Were you injured as a result of the most recent violence?', 'What type of injury did you have?', 'What medical treatment or professional health care (for example: general practitioner or hospital) did you have as a result of the violence?', and 'Was the violent act reported to the police or other authorities?'

## Results

### *Prevalence of youth violence*

Overall, in 2004, 12.5 per cent of people aged 16–25 years reported that they had been a victim of personal violence in the last 12 months. Among people between the ages of 16–25 years a significantly greater proportion of males (17.3 per cent) than females (7.5 per cent) reported being physically attacked in the last 12 months. The proportion of people who were the victim of a physical attack in the last 12 months did not vary by geographic location or by socioeconomic status.

### *Location of violence*

The location of violence differed between males and females. For males, outdoor places (37.0 per cent) and licensed premises (34.3 per cent) were the most common locations where the violence occurred. Only 5.6 per cent occurred at home, 1.7 per cent in indoor places, and 1.1 per cent in the workplace. In contrast, among females 43.8 per cent of the violence occurred in the home and 19.8 per cent in the workplace. Only 4.4 per cent occurred in licensed premises and 3.1 per cent in outdoor places.

### *Relationship with perpetrator of violence*

The perpetrator of the violence also differed between males and females. In males the perpetrator was most likely to be an unknown assailment (61.5 per cent), followed by friend

(30.3 per cent), relative (4.8 per cent) and partner or spouse (1.6 per cent). In contrast, among females the perpetrator was more likely to be a spouse or a partner (42.2 per cent), followed by an unknown assailant (16.6 per cent), friend (19.4 per cent), and relative (5.9 per cent).

Figure 82 shows the location of the most recent physical attack in last 12 months by sex. Figure 83 shows the relationship of the victim with the person who was violent towards them according to the victim's sex.

## References

1. World Health Organization. *World report on violence and health*. Geneva: World Health Organization, 2002. Available online at [www.who.int/violence\\_injury\\_prevention/violence/world\\_report/en](http://www.who.int/violence_injury_prevention/violence/world_report/en).
2. Reza A, Krug EG, Mercy JA. Epidemiology of violent deaths in the world. *Inj Prev* 2001; 7: 104–111.
3. World Health Organization. *Ad Hoc Committee on Health Research Relating to Future Intervention Options. Investing in health research and development*. Geneva: World Health Organization, 1996. Available online at [www.who.int/tdr/publications/publications/investing\\_report.htm](http://www.who.int/tdr/publications/publications/investing_report.htm).
4. Commonwealth Department of Human Services and Health. *Better Health Outcomes for Australians*. Canberra: Commonwealth Department of Human Services and Health, 1994.
5. Population Health Division. *The health of the people of New South Wales: Report of the Chief Health Officer 2004*. Sydney: NSW Department of Health, 2004. Available online at [www.health.nsw.gov.au/public-health/chorep/toc/choindex.htm](http://www.health.nsw.gov.au/public-health/chorep/toc/choindex.htm).
6. World Health Organization. *Recommendations from the world report on violence and health*. Geneva: World Health Organization, 2002. Available online at [www.who.int/violence\\_injury\\_prevention/violence/world\\_report/en](http://www.who.int/violence_injury_prevention/violence/world_report/en).
7. Wiggers J, Jauncey M, Considine R, Daly J, Kingsland M, Purss K, Burrows S, Nicholas C, Waites B. Strategies and outcomes in translating alcohol harm reduction research into practice: The Alcohol Linking Program. *Drug and Alcohol Review* 2004; 23: 355–364.

**FIGURE 82**

**LOCATION OF MOST RECENT PHYSICAL ATTACK IN LAST 12 MONTHS BY SEX, PERSONS AGED 16 YEARS TO 25 YEARS, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 83**

**RELATIONSHIP WITH THE PERSON WHO WAS VIOLENT TOWARDS YOU BY SEX, PERSONS AGED 16 YEARS TO 25 YEARS, NSW 2004**



Source: New South Wales Population Health Survey 2004 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.