

## 7. HEALTH BEHAVIOURS

Health behaviours in adulthood influence health and wellbeing, particularly in relation to diet, physical activity, smoking (both active and passive), alcohol and drugs, immunisation against vaccine preventable diseases, cancer screening, injury prevention, and exposure to environmental risk. Preventable disease and premature mortality are directly affected by these health behaviours throughout adulthood. The health behaviours measured in the *New South Wales Adult Health Survey 2003* included alcohol intake, environmental health risks, immunisation, injury prevention, nutrition, physical activity, and smoking and exposure to tobacco smoke in the home.

### Alcohol

#### Introduction

Alcohol affects health in a number of ways, including: acute physical effects, such as intoxication and alcohol overdose; chronic physical effects, such as cirrhosis of the liver, heart disease, brain damage, and memory loss; and the effects of alcohol consumption on the health of others, such as road trauma caused by drink-driving and alcohol-related violence.<sup>1</sup> Alcohol abuse is also associated with crime, social problems, and lost productivity.

Alcohol consumption is second only to tobacco consumption as a preventable cause of drug-related morbidity and mortality in Australia. The Australian Institute of Health and Welfare estimates that in 1998 there were 3,271 alcohol-related deaths and 43,032 hospital episodes arising from the misuse of alcohol.<sup>2</sup> The proportion of people in Australia who engage in high risk drinking, as measured in the National Health Surveys, has not changed since 1990.<sup>3</sup>

Despite the major harms associated with excessive alcohol consumption, a number of health benefits are believed to accrue from low-to-moderate alcohol consumption. These include: reduced strain of chronic stress and negative life events; decreased risk of stone formation in the kidney and gall bladder; increased bone mineral density; and decreased mortality from cardiovascular disease in middle-aged and elderly populations.<sup>4</sup>

To monitor levels of alcohol use in the community, the *New South Wales Adult Health Survey 2003* included questions on the consumption of alcohol. Respondents were asked the following questions: 'How often do you usually drink alcohol?'; 'On a day when you drink alcohol, how many standard drinks do you usually have?'; 'In the past four weeks how often have you had more than four [if male] or two [if female] drinks in a day?'; 'In the past four weeks, how often have you had 11 or more [if male] or seven or more [if female] drinks in a day?'; 'In the past four weeks how often have you had 7–10 [if male] or 5–6 [if female] drinks in a day?'

#### Results

##### *Any alcohol risk-drinking behaviour*

'Any alcohol risk-drinking behaviour' was defined, as per Guideline 1 of the NHMRC Australian Alcohol Guidelines,<sup>5</sup> as one or more of the following: consuming alcohol every day; consuming on average more than four [if male] or two [if female] 'standard drinks' per day; or consuming more than six [if male] or four [if female] 'standard drinks' on any occasion in the past four weeks.

In 2003, more than one-third of the overall population (35.7 per cent) undertook 'any risk drinking behaviour'. The proportion of males (41.3 per cent) engaging in any risk drinking behaviours was significantly higher than the proportion of females (30.3 per cent).

Among males, a significantly higher proportion of those aged 25–34 years (49.2 per cent) and a significantly lower proportion of those aged 65 years and over (33.6 per cent to 33.9 per cent) undertook any risk-drinking behaviour, compared with the overall male population. Among females, a significantly greater proportion of those aged 16–34 years (37.1 per cent to 44.0 per cent) and a significantly lower proportion of those aged 55 years and over (16.9 per cent to 22.0 per cent) were likely to undertake any risk-drinking behaviour, compared with the overall female population.

There was significant geographic variation in 'any risk drinking behaviour', with a significantly higher proportion of rural residents (39.8 per cent) reporting any risk drinking behaviour than urban residents (34.6 per cent).

A significantly greater proportion of males (48.3 per cent) in the second least socioeconomically disadvantaged quintile were likely to undertake risk-drinking behaviours than the overall male population. There was no significant difference in the proportion of females undertaking risk drinking behaviours by socioeconomic quintile.

Encouragingly, there has been a significant decrease in the proportion of people reporting 'any risk drinking behaviour' between 1997, (42.3 per cent) and 2003 (35.7 per cent). This decrease was greater in males (50.7 per cent to 41.3 per cent) than females (34.1 per cent to 30.4 per cent).

##### *High short-term alcohol risk*

Short-term alcohol risk was categorised into 'low risk' (having consumed up to six standard drinks on any one day if male, or up to four drinks if female); 'risky' (having consumed 7–10 standard drinks on any one day if male, and 5–6 if female), and 'high risk' (having consumed 11 or more standard drinks in any one day if male, and seven or more if female), as per the WHO *International Guide for Monitoring Alcohol Consumption and Related Harm*.<sup>6</sup>

Overall in 2003, 72.3 per cent of people who consumed alcohol were categorised as at 'low risk' as a result of their drinking behaviour, 13.1 per cent as 'risky', and 14.6 per cent as at a 'high risk' of harm in the short-term, as a result of their drinking. Among people who consumed alcohol, the proportion of males reporting short-term high-risk drinking (17.8 per cent) was significantly higher than the proportion of females (10.9 per cent).

Among males who consumed alcohol, a significantly higher proportion of those aged 16–34 years (26.6 per cent to 33.8 per cent), and a significantly lower proportion of those aged 45 years and over (0.9 per cent to 10.9 per cent) undertook short-term high-risk drinking compared with the overall population of males who consumed alcohol. Among females who consumed alcohol, a significantly higher proportion aged 16–34 years (15.9 per cent to 27.1 per cent) and a significantly lower proportion aged 55 years and over (0.3 per cent to 2.1 per cent) were likely to undertake short-term high-risk drinking compared with the overall female population.

Among people who consumed alcohol, there was no significant difference in the levels of short-term high-risk drinking between urban residents (14.5 per cent) and rural residents (15.3 per cent). A significantly greater proportion (19.4 per cent) of people in the second quintile of socioeconomic disadvantage and a significantly lower proportion of people in the first (10.4) and third (11.5) quintiles of socioeconomic disadvantage engaged in short-term high-risk drinking.

There was no significant change in the proportion of people engaging in short-term high-risk drinking between 2002 and 2003.

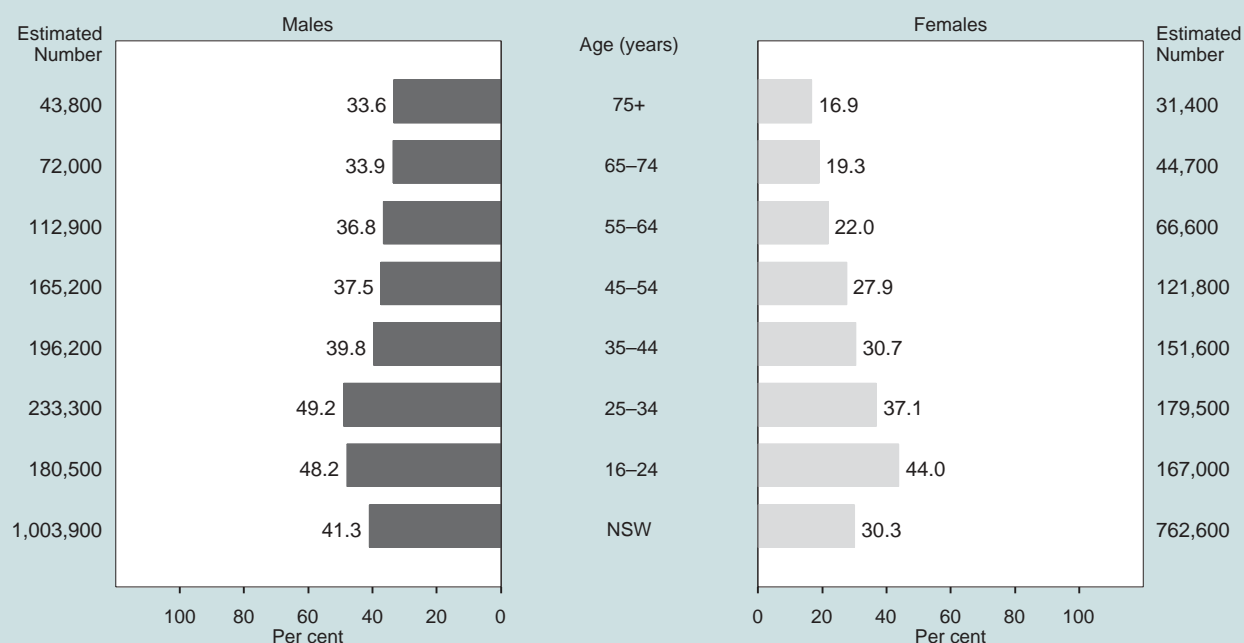
Figures 11–12 show the proportion of people reporting any alcohol risk drinking by age and socioeconomic disadvantage. Figures 13 and 14 provide information on short term alcohol risk drinking in the past four weeks, and the proportion of people reporting high risk drinking in the last four weeks by age.

### References

1. English DR, Holman CDJ, Milne MG, et al. *The quantification of drug caused morbidity and mortality in Australia*. Canberra: Commonwealth Department of Human Services and Health, 1995.
2. Miller M and Draper G. *Statistics on drug use in Australia 2000*. Australian Institute of Health and Welfare Catalogue no.PHE 30. Canberra: AIHW, 2001.
3. Australian Bureau of Statistics. *National Health Survey: Summary of Results 2001*. Australian Bureau of Statistics Catalogue no.4364.0. Canberra: ABS, 2001.
4. National Expert Advisory Committee on Alcohol. *Alcohol in Australia: Issues and Strategies*. Canberra: Commonwealth Department of Health and Aged Care, 2001.
5. National Health and Medical Research Council. *Australian Alcohol Guidelines: Health Risks and Benefits*. Canberra: NHMRC, 2001.
6. World Health Organization. *International Guide for Monitoring Alcohol Consumption and Related Harm*. Geneva: WHO, 2000.

**FIGURE 11**

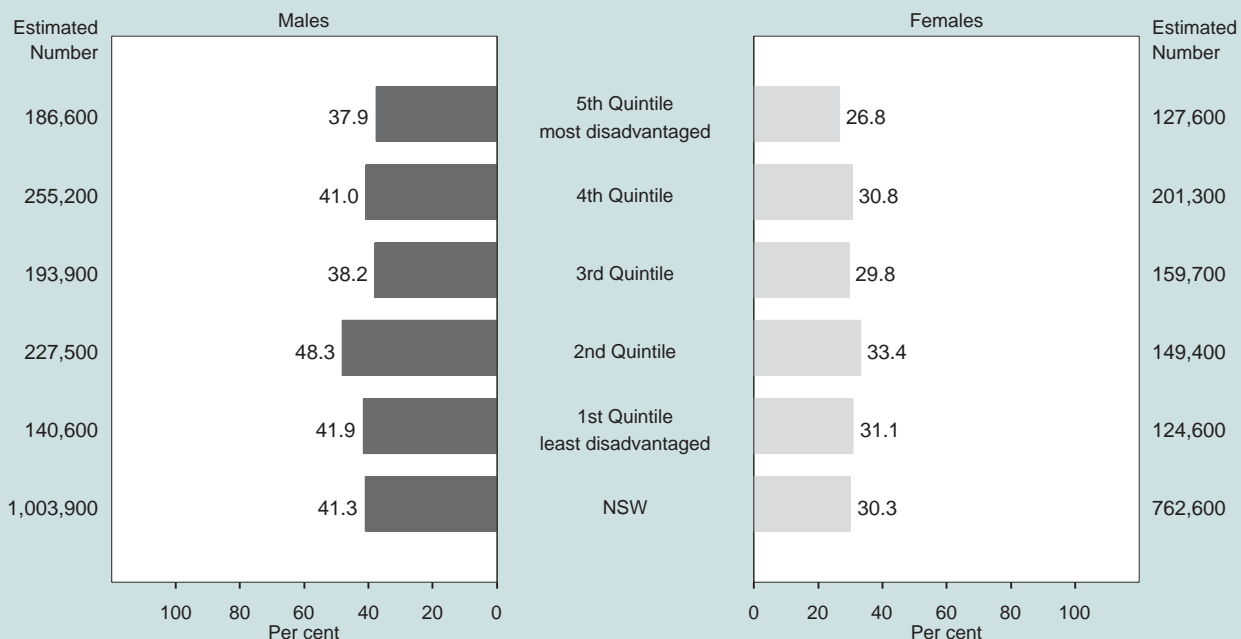
**ANY ALCOHOL RISK DRINKING BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 12**

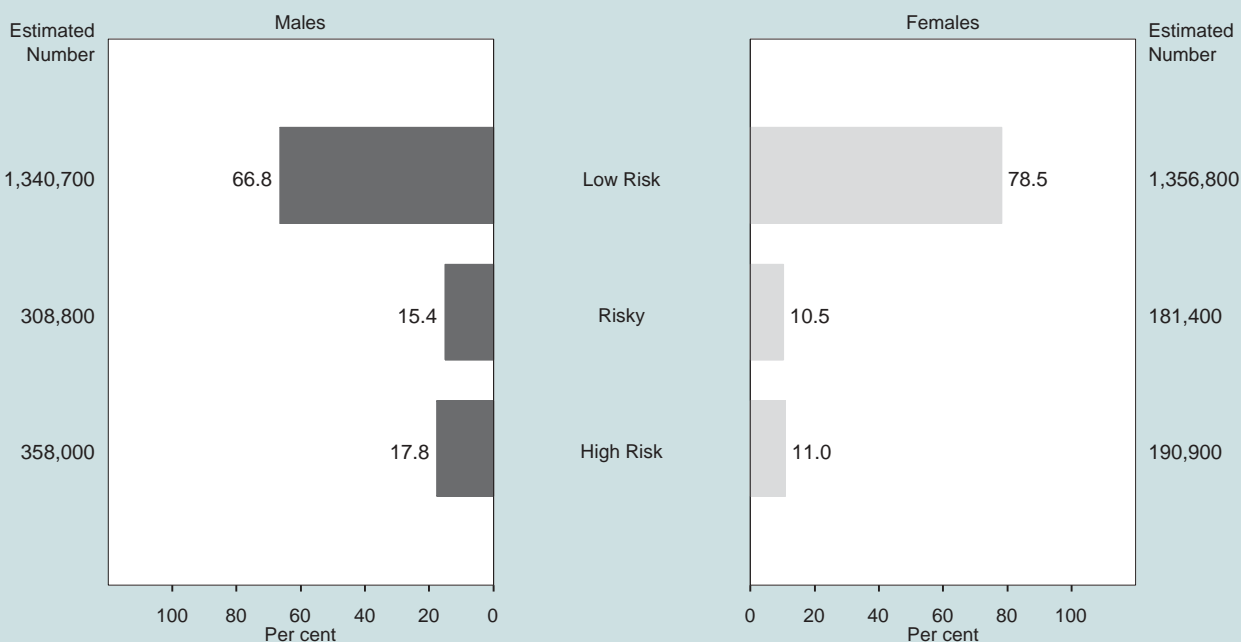
**ANY ALCOHOL RISK DRINKING BEHAVIOUR BY SOCIOECONOMIC DISADVANTAGE SCORE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 13**

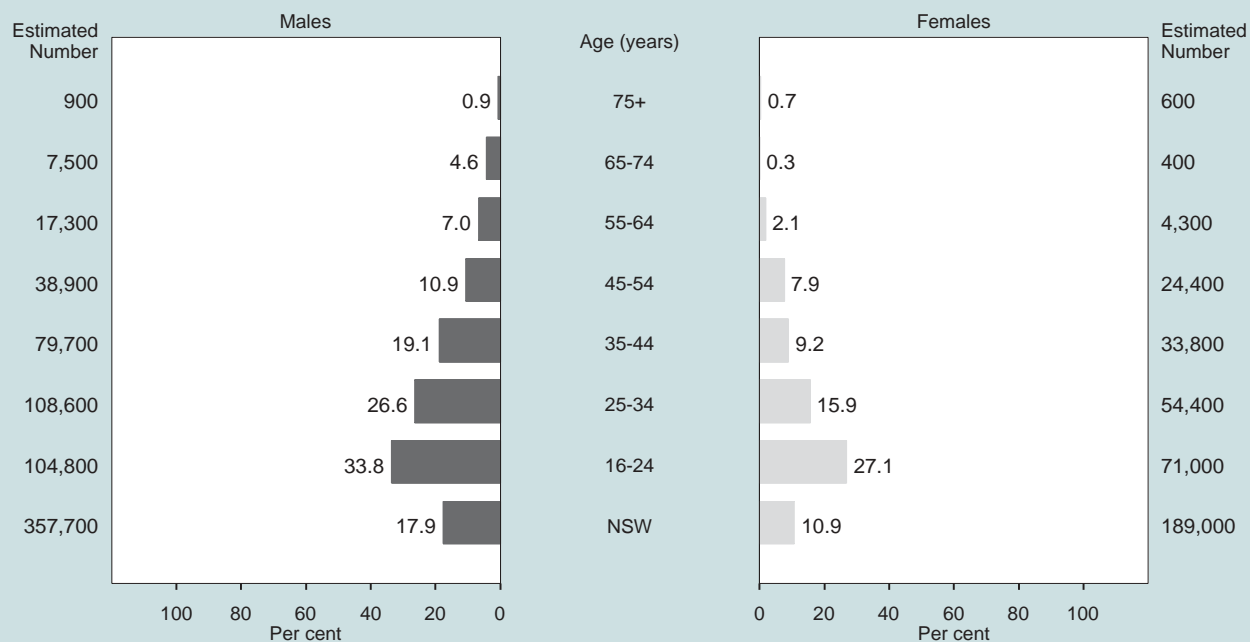
**SHORT TERM ALCOHOL RISK IN THE PAST FOUR WEEKS, PERSONS WHO CONSUME ALCOHOL AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 14**

**HIGH RISK DRINKING IN THE PAST FOUR WEEKS BY AGE, PERSONS WHO CONSUME ALCOHOL AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Environmental health

### Introduction

Human health and the environment are linked. In rural areas, issues as diverse as land use, agricultural practice, water quality, and biodiversity, influence human health. Similarly, in the urban and built environment, air and water quality, transport choice, urban form, and environmental health infrastructure, influence health status<sup>1</sup>. Increasingly, the effect on human health of global phenomena, such as population growth and climate change, are recognised at a local level.<sup>2</sup>

Respondents in the *New South Wales Adult Health Survey 2003* were asked about their normal source of water and methods of treating water before drinking. Respondents were asked the following questions: 'What is your normal source of drinking water?', and 'Do you treat your water before drinking?'

### Results

#### *Drinking water*

Overall, in 2003, 81.1 per cent of people aged 16 years and over used a public water supply as their usual source of drinking water. The next most prevalent sources of drinking water were bottled water (8.8 per cent) and rain water (7.7 per cent).

Of the respondents whose usual source of drinking water was a public water supply, 62.4 per cent did not treat their drinking water, while 33.8 per cent reported that they either filter (21.3 per cent) or boil (12.5 per cent) their water before drinking.

A significantly greater proportion of people aged 65 years and over (85.5 per cent to 88.0 per cent), and a significantly lower proportion of people aged 16–24 years (77.1 per cent) used public water as their usual source of drinking water.

The proportion of people in rural areas (61.5 per cent) using public water as their usual water supply was significantly lower than the proportion in urban areas (86.6 per cent).

A significantly greater proportion of people in the first (87.6 per cent) and second (86.5 per cent) least disadvantaged quintiles, and a significantly lower proportion of people in the second most disadvantaged quintile (75.7 per cent), used public water as their usual water supply, compared to the overall population.

There was no change in the proportion of people using public water as their usual water supply between 2002 (81.1 per cent) and 2003 (81.1 per cent).

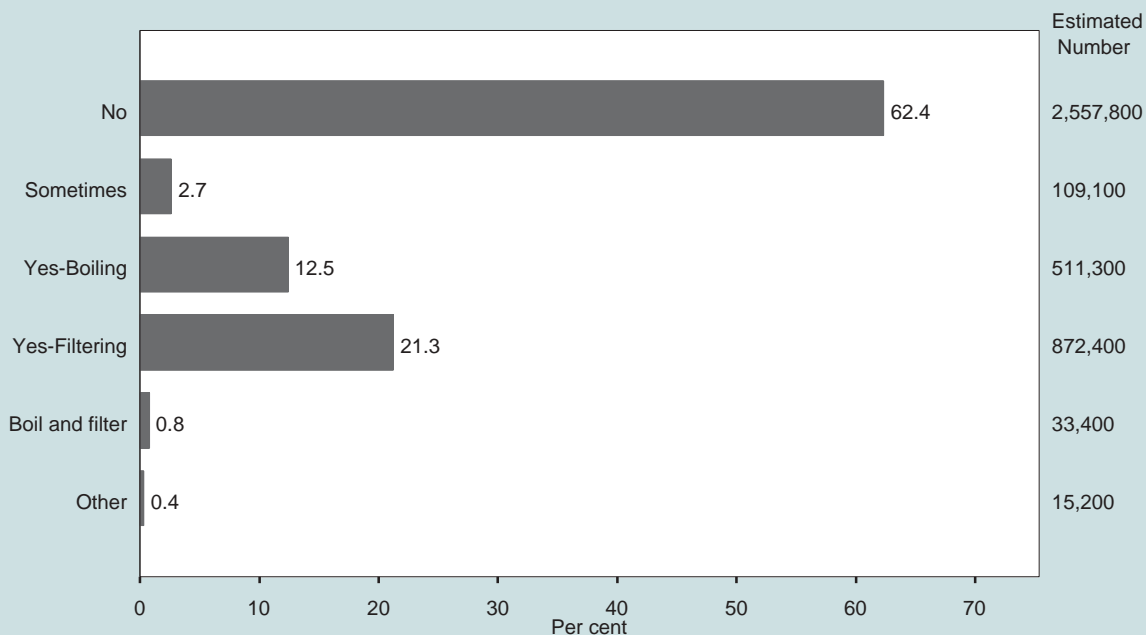
Figure 15 shows the proportion of people who treated their public water supply before drinking, and Figure 16 shows the proportion, by socioeconomic disadvantage, who used public water as their usual source of water.

### References

1. Frumkin H. Urban Sprawl and Public Health. *Public Health Reports* 2003; 177.
2. Commonwealth Department of Health and Aging. *Human Health and Climate Change in Oceania: A Risk Assessment 2003*. Canberra: CDHA, 2003.

**FIGURE 15**

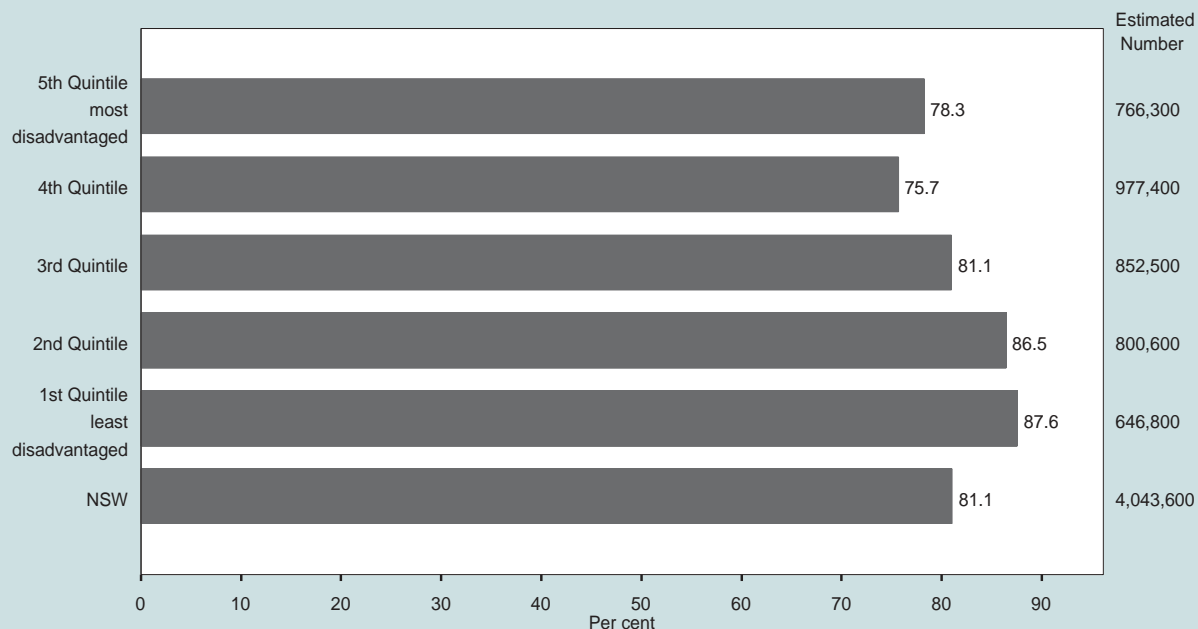
**TYPE OF WATER TREATMENT, PERSONS WHO TREAT THEIR PUBLIC WATER SUPPLY AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 16**

**USE PUBLIC WATER AS USUAL SOURCE OF WATER, BY SOCIOECONOMIC DISADVANTAGE SCORE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Food handling

### Introduction

The three most frequently encountered hazards associated with outbreaks of foodborne illness are: temperature misuse, inadequate handling of food, and contaminated raw material.<sup>1</sup> As such, good food hygiene in the home can help protect household members from foodborne illness. Household members involved in food preparation are advised to: always wash hands with soap before handling food; wash hands, knives and chopping boards carefully after using them to cut or handle meat; keep cooked food separate from uncooked meats; keep poultry in the fridge; and wash vegetables thoroughly before use. Perishable foods should be stored below five degrees Celsius, or kept hot above 60 degrees Celsius.<sup>2</sup>

The *New South Wales Adult Health Survey 2003* asked respondents about food handling practices in the home. Respondents were asked the following question about food handling: 'Thinking about the last time that you prepared raw meat or chicken when cooking, after preparing it did you: Wipe your hands or rinse them without using soap or wash your hands with soap, or continue cooking without cleaning your hands?'.<sup>3</sup>

### Results

Overall, in 2003, 60.8 per cent of people aged 16 years and over reported that they washed their hands with soap after preparing raw meat. A significantly greater proportion of females (64.4 per cent) washed their hands with soap after meat preparation than males (56.3 per cent).

The proportion of people washing hands with soap decreased with age. A significantly greater proportion of females aged 16–34 years (70.8 per cent to 72.7 per cent) and a significantly lower proportion of females aged 65 years and over (54.8 per cent to 55.6 per cent) washed their hands with soap after preparing meat compared to the overall female population. There was no significant variation by age among males.

The proportion of people in rural areas (55.2 per cent) who washed their hands with soap after meat preparation was significantly lower than the proportion in urban areas (62.3 per cent).

There was no significant variation in the proportion of people hand washing with soap after meat preparation by socioeconomic disadvantage.

No comparative data are available for this indicator prior to 2003.

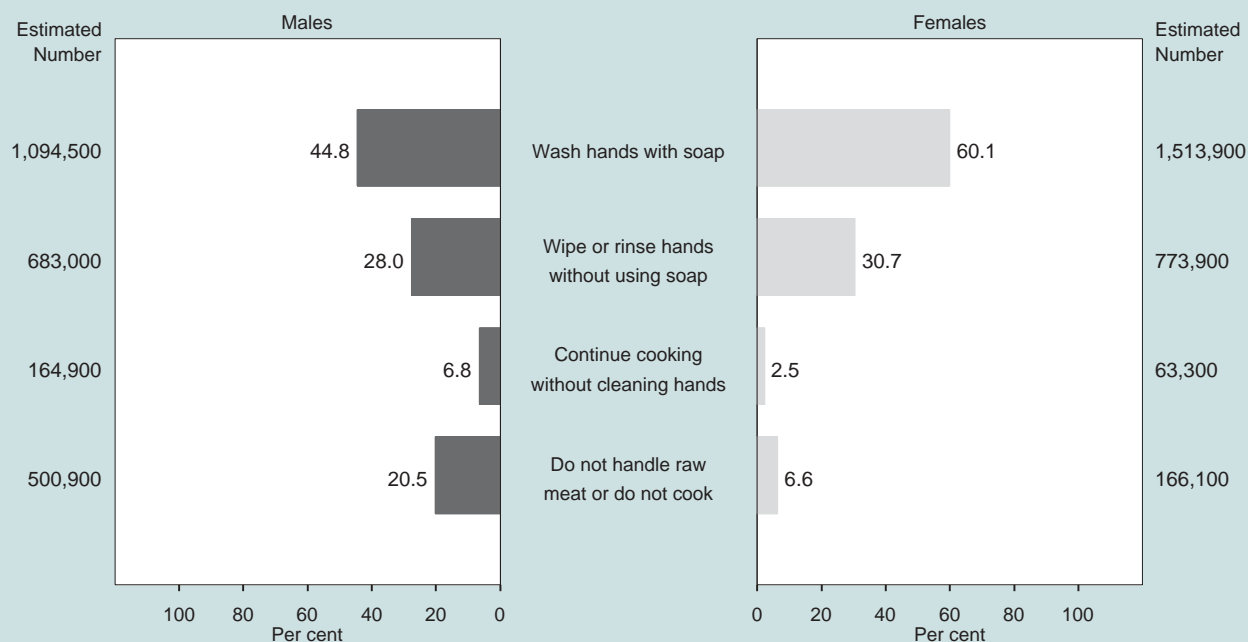
Figure 17 shows hand washing when preparing raw meat, and Figure 18 shows hand washing with soap when preparing raw meat by age.

### References

1. Food Science Australia. *National Risk Validation Project: Final Report 2003*. Available from [http://internal.health.nsw.gov.au/public-health/food/files/nrvp\\_report.pdf](http://internal.health.nsw.gov.au/public-health/food/files/nrvp_report.pdf). Accessed 5th March 2004.
2. NSW Department of Health. *When Food Causes Disease (fact sheet)*. Available from <http://internal.health.nsw.gov.au/health-public-affairs/mhcs/publications/4395.html>. Accessed 5th March 2004.

**FIGURE 17**

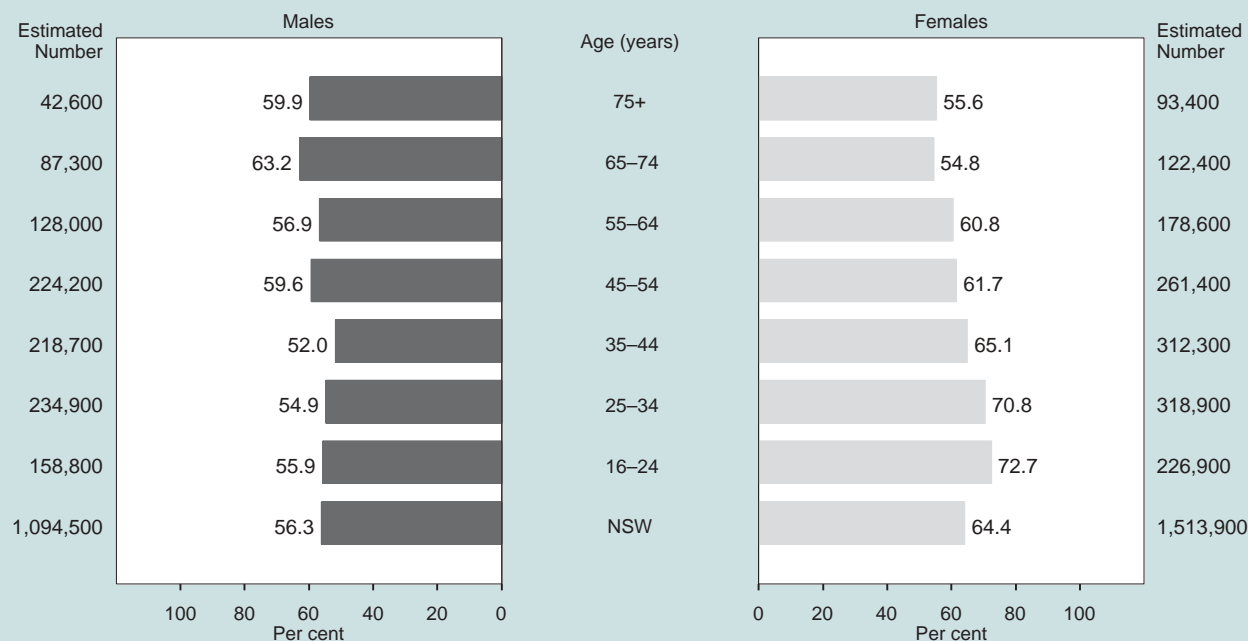
**HAND WASHING WHEN PREPARING RAW MEAT, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 18**

**HAND WASHING WITH SOAP WHEN PREPARING RAW MEAT BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.



## Immunisation

### Introduction

In NSW, despite substantial progress in reducing the incidence of vaccine preventable diseases, increases in immunisation levels are needed to further reduce and eliminate these causes of illness and death.<sup>1</sup>

Influenza (or flu) is caused by the influenza virus and is characterised by abrupt onset of fever, myalgia, headache, sore throat, and acute cough, and can cause extreme malaise lasting several days. Although usually not life threatening, influenza can be complicated by secondary bacterial pneumonia in individuals whose medical condition makes them vulnerable. Under the National Influenza and Pneumococcal Vaccination (NIPV) Program,<sup>1</sup> influenza vaccine is provided free to all people aged 65 years and over. For Aboriginal and Torres Strait Islander people, the vaccine is provided free to those aged 50 years and over, and to those aged 15–49 years who may be at increased risk because of chronic illness.

*Streptococcus pneumoniae* (pneumococcus), a bacterial inhabitant of the upper respiratory tract, is a major cause of pneumonia, meningitis, and middle-ear infection, particularly in young children, the elderly, and Aboriginal and Torres Strait Islander people. The NHMRC recommends immunisation against pneumococcal disease every five years for: all people aged 65 years and over; Aboriginal and Torres Strait Islander people aged 50 years and over; and people with compromised immune systems, chronic illness, or who have had their spleen removed.<sup>1</sup>

In the *New South Wales Adult Health Survey 2003* the following questions were asked to respondents aged 50 years and over: 'Has a health professional ever advised you to be vaccinated against the flu?', 'Were you vaccinated or immunised against flu in the past 12 months?', 'Has a health professional ever advised you to be vaccinated against pneumonia?', 'When were you last vaccinated or immunised against pneumonia?'

### Results

#### *Influenza vaccination*

Overall, in 2003, 49.0 per cent of the population aged 50 years and over reported having had an influenza vaccination in the past 12 months. A significantly greater proportion of females (52.3 per cent) reported having had an influenza vaccination than males (45.6 per cent). The proportion of people vaccinated against influenza did not differ between urban areas (49.5 per cent) and rural areas (47.6 per cent). The proportion receiving influenza vaccination did not vary by level of socioeconomic status. Influenza vaccination coverage has increased significantly overall, between 1997 (34.6 per cent) and 2003 (49.0 per cent).

In people covered by the NIPV Program (those aged 65 years and over), the proportion vaccinated against

influenza was 75.8 per cent. The proportion of people who reported they were vaccinated against influenza was significantly lower (64.4 per cent) among those aged 65–69 years and significantly higher (82.7 per cent) among those aged 75 years and over, than in the overall population covered by the NIPV program.

There was no significant difference between the proportion of residents aged 65 years and over reporting influenza vaccination in rural areas (73.6 per cent) and urban areas (76.6 per cent). The proportion reporting vaccination against influenza in the last 12 months did not vary significantly by level of socioeconomic disadvantage.

Rates of vaccination against flu in people covered by the NIPV program have increased significantly, from 57.1 per cent in 1997 to 75.8 per cent in 2003.

#### *Pneumococcal vaccinations*

Almost one in four (23.2 per cent) people aged 50 years and over reported having had a pneumococcal vaccination in the past five years. Of these, 11.3 per cent reported being vaccinated in the past 12 months, 11.9 per cent were vaccinated 13 months to five years ago and 1.0 per cent were vaccinated more than five years ago. More females had been vaccinated against pneumococcal disease in the last five years (25.2 per cent) than males (21.0 per cent). The proportion of people vaccinated against pneumococcal disease increased with age and also with increasing socioeconomic disadvantage. There was no significant difference in the proportion of people vaccinated against pneumococcal pneumonia in rural areas (22.9 per cent) and urban areas (23.3 per cent).

Between 2002 and 2003, there was a significant increase in the proportion of people aged 50 years and over who were vaccinated against pneumococcal pneumonia, from 20.2 per cent to 23.2 per cent.

Among people covered by the NIPV program (people aged 65 years and over), the proportion vaccinated for pneumococcal pneumonia in the past five years was 46.8 per cent (22.9 per cent in the past 12 months). There was no significant difference between the proportion of males (45.1 per cent) and females (48.2 per cent) vaccinated in the last five years. When compared to the overall population aged 65 years or over, a significantly lower proportion of people aged 65–69 years (31.1 per cent), and a significantly greater proportion of people aged 75 years and over (57.6 per cent), reported vaccination against pneumococcal disease in the last five years.

The proportion of people vaccinated against pneumococcal pneumonia did not vary significantly between urban residents (48.1 per cent) and rural residents (43.2 per cent).

The proportion of people aged 65 years or over reporting pneumococcal vaccination did not vary by level of socioeconomic disadvantage.

Between 2002 and 2003, there was a significant increase in the proportion of people reporting pneumococcal vaccination in the last five years, from 39.4 per cent to 46.8 per cent. This increase was observed in both males (36.7 per cent to 45.1 per cent) and females (41.5 per cent to 48.2 per cent).

Figures 19–20 show the proportion of people aged 65 years and over who had been vaccinated for influenza in

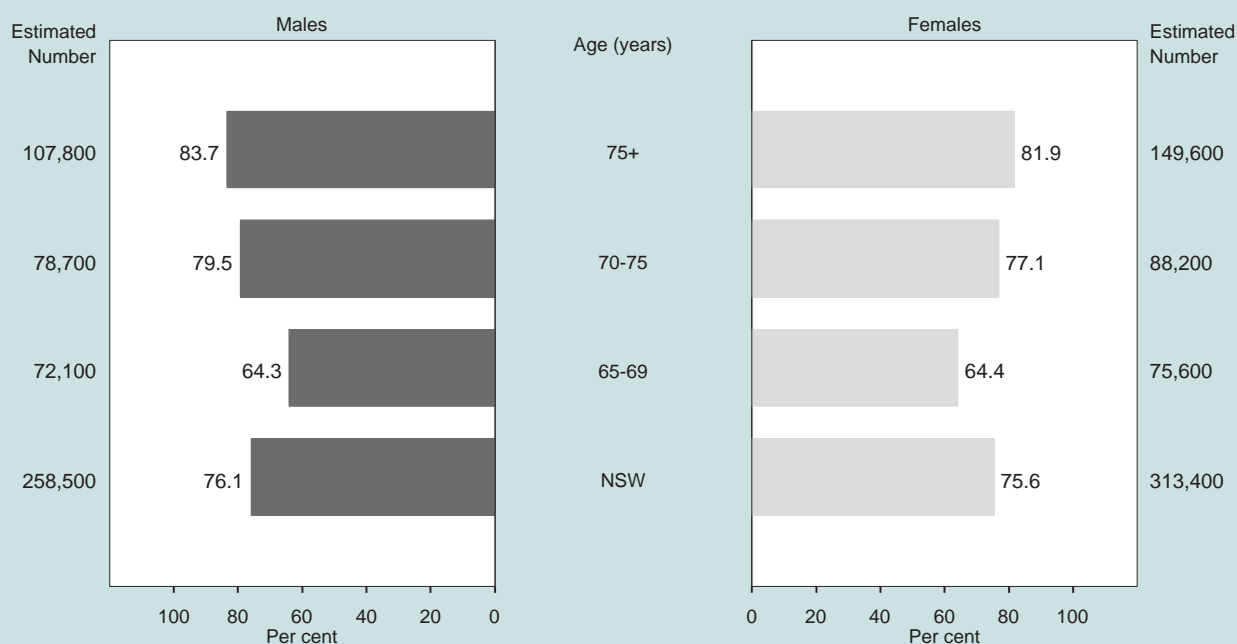
the last 12 months by age and socioeconomic disadvantage. Figures 21–22 show the the proportion of people aged 65 years and over who had been vaccinated for pneumococcal disease in the last five years, by age and socioeconomic disadvantage.

#### Reference

1. National Health and Medical Research Council. *The Australian Immunisation Handbook, 7th Edition*, Canberra: NHMRC, 2000.

**FIGURE 19**

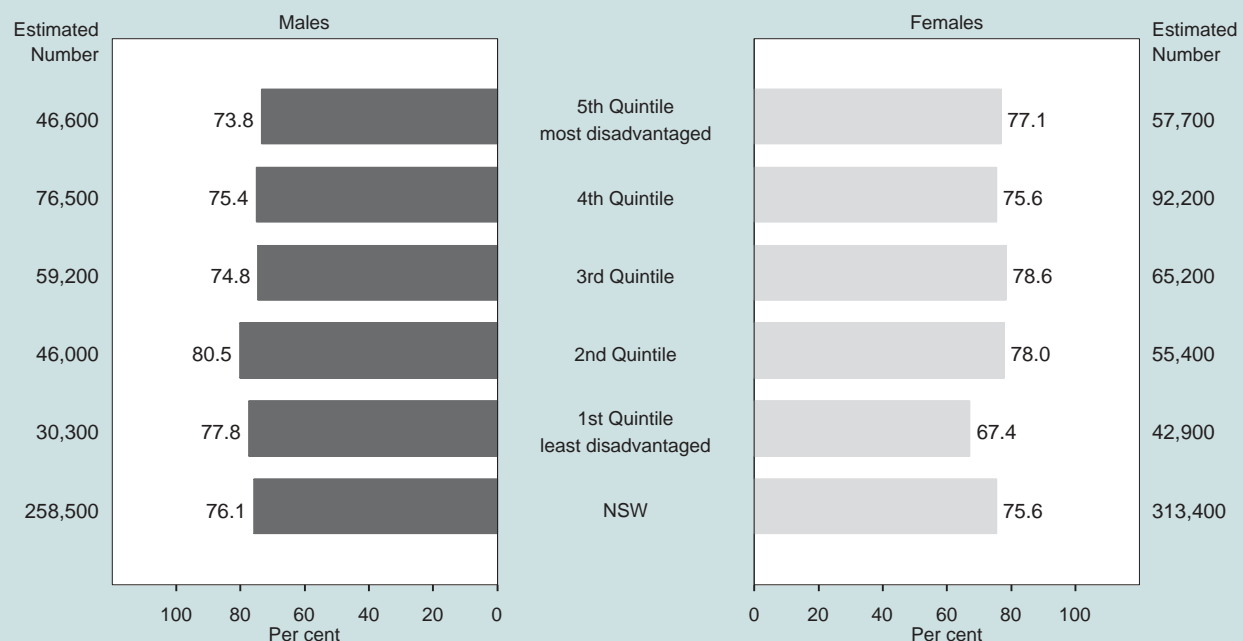
**VACCINATED AGAINST INFLUENZA IN THE LAST 12 MONTHS BY AGE, PERSONS AGED 65 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 20**

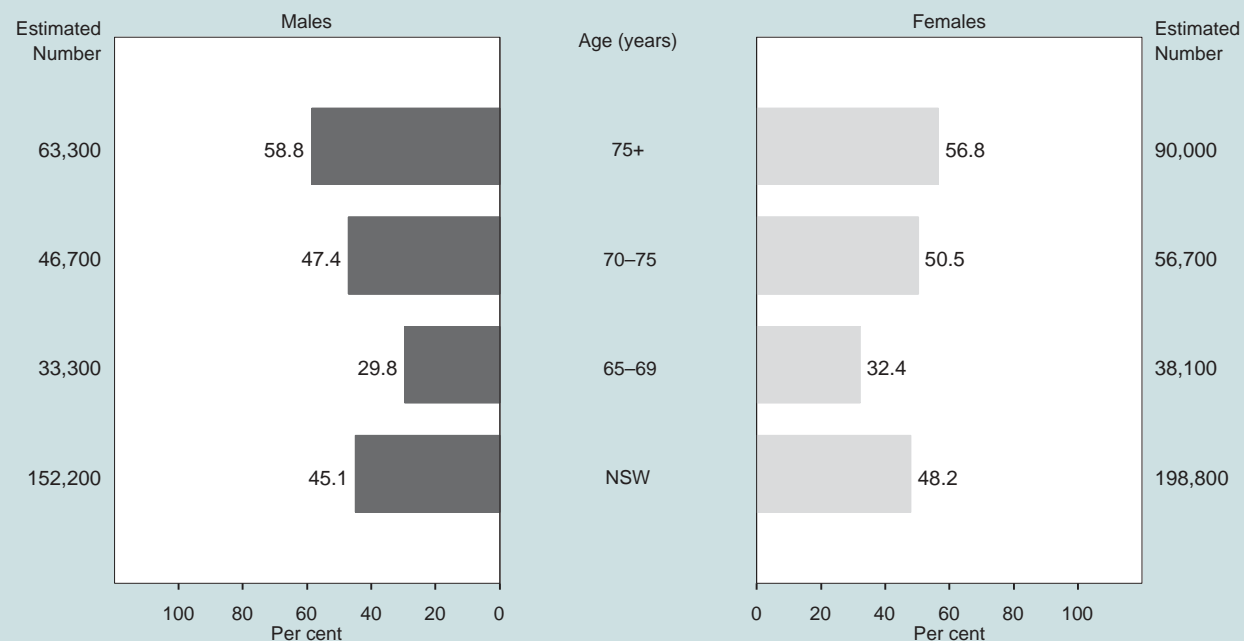
**VACCINATED AGAINST INFLUENZA IN THE LAST 12 MONTHS BY SOCIOECONOMIC DISADVANTAGE, PERSONS AGED 65 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 21**

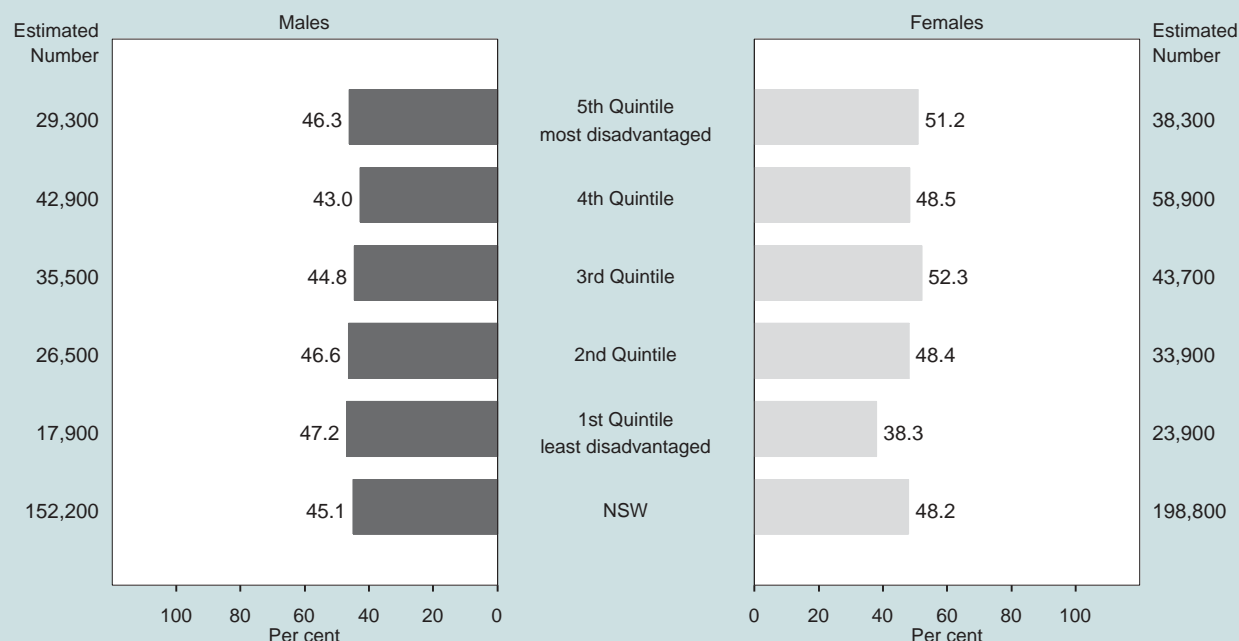
**VACCINATED AGAINST PNEUMOCOCCAL DISEASE IN THE LAST FIVE YEARS BY AGE, PERSONS AGED 65 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 22**

**VACCINATED AGAINST PNEUMOCOCCAL DISEASE IN THE LAST FIVE YEARS BY SOCIOECONOMIC DISADVANTAGE, PERSONS AGED 65 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**Injury prevention**

**Introduction**

In NSW, around 300 people are injured and around 30 people die each year as a result of house fires. Most deaths happen at night when people are sleeping, and are due to smoke inhalation rather than to burns. Smoke alarms detect low-levels of smoke, and sound an alarm before the smoke becomes too dense for people to escape. Studies have shown that the installation of smoke alarms dramatically reduces fatalities,<sup>1</sup> reduces damage to property and costs to the health system, and benefits the individual.<sup>2</sup>

Since 1994, all new homes built in NSW have installed electrically-wired smoke alarms. In 1996, the NSW Department of Housing commenced a program to install alarms in all its housing. As a result of these two initiatives, installation of smoke alarms in NSW has increased substantially from 24 per cent in 1994 to 64.0 per cent in 1998.<sup>1,3</sup>

Although the reported ownership of smoke alarms has increased, the functional status of those alarms has not been examined. In the United States, a comparison of

telephone survey responses and household surveys demonstrated that although 71 per cent of households reported having a smoke alarm, on inspection only 49 per cent of these alarms were functional.<sup>4</sup>

The NSW Fire Brigade operates the Smoke Alarm Battery Replacement for the Elderly (SABRE) Program. The program involves the NSW Fire Brigade forming partnerships with other community organisations, to assist senior citizens in the maintenance of fire safety devices in their home.

In the *New South Wales Adult Health Survey 2003*, respondents were asked ‘Do you have any of the following fire safety measures in your home? Fire alarm (hard wired), fire alarm (battery operated only), fire sprinkler system, safety switch–circuit breaker, fire extinguisher, fire evacuation plan, external water supply, or external sprinkler’.

**Results**

In 2003, residents of NSW reported a range of fire safety measures in the home. Over three quarters reported an external water supply (82.2 per cent), 78.3 per cent smoke alarms, 71.9 per cent safety switches or circuit breakers,

31.6 per cent fire extinguishers, 29.5 per cent fire evacuation plans, 28.5 per cent external sprinklers and 2.3 per cent of respondents a fire sprinkler system.

Overall, in 2003, 72.7 per cent of NSW residents reported that they had a smoke alarm or detector installed in their home. A significantly greater proportion of people aged 35–44 years (77.2 per cent) reported having a smoke alarm installed compared with the overall NSW population.

The proportion of people in rural areas (75.2 per cent) who reported having a smoke alarm installed was significantly greater than in urban areas (72.0 per cent).

The proportion of people with smoke alarms installed in their home did not vary by socioeconomic status.

The proportion of respondents reporting having smoke alarms installed increased significantly from 1997 (58.2 per cent) to 2003 (72.7 per cent).

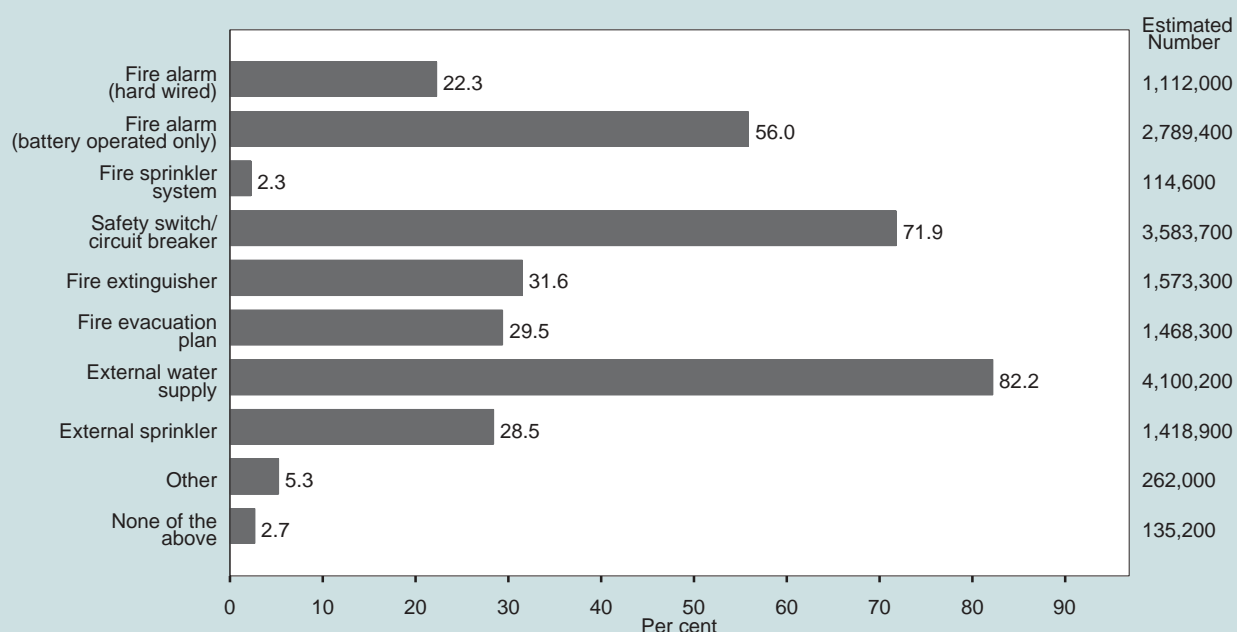
Figure 23 shows the type of fire safety measures in the home, and Figure 24 shows the the proportion of homes that have a smoke alarm, by socioeconomic disadvantage.

## References

1. Fisher J, Burns L, and Hahn A. *An evaluation of the 1996 Smoke Alarm Winter Campaign*. Sydney: NSW Department of Health, 1997.
2. Haddix A, Mallonee S, Waxweiler R, Douglas M. Cost effectiveness analysis of a smoke alarm give away program in Oklahoma City, Oklahoma. *Injury Prevention* 2001; 7: 276–281.
3. Centre for Epidemiology and Research. Electronic Report of the New South Wales Health Surveys 1997 and 1998. Sydney: NSW Department of Health, 1999. Available online at [www.health.nsw.gov.au/public-health/nswhs/hsindex](http://www.health.nsw.gov.au/public-health/nswhs/hsindex), accessed July 2003.
4. Douglas M, Mallonee S, Istre G. Estimating the proportion of homes with functioning smoke alarms: A comparison of telephone survey and household survey results. *Am J Public Health* 1999; 89(7): 1112–14.

**FIGURE 23**

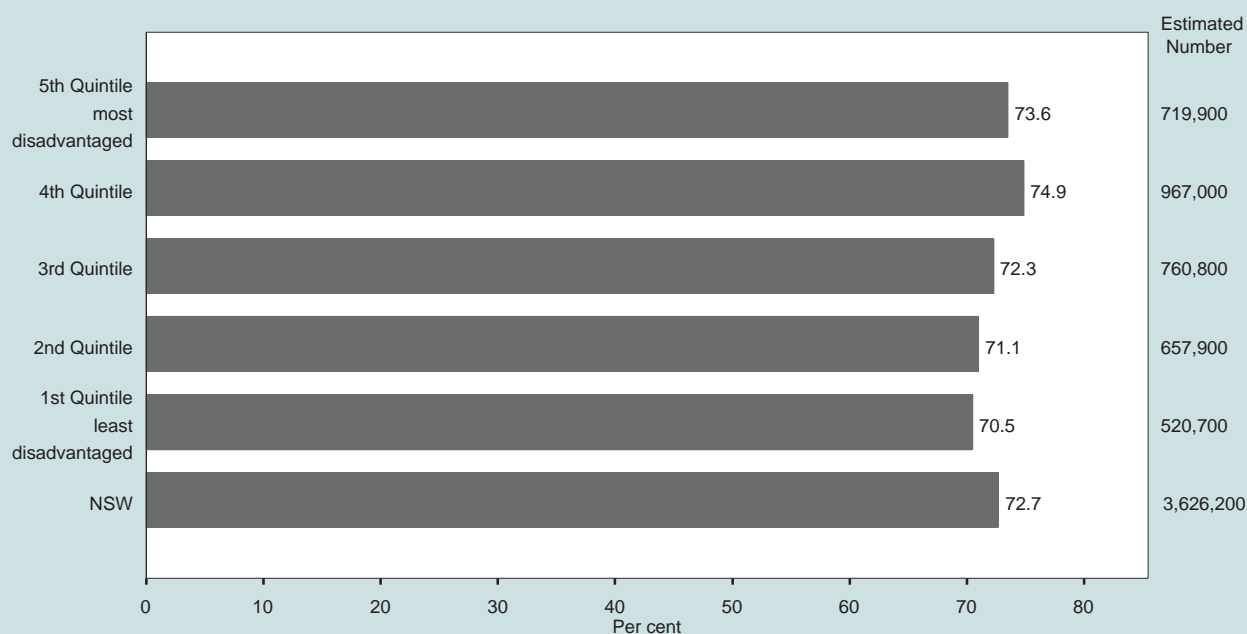
**FIRE SAFETY MEASURES IN THE HOME, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 24**

**HOMES WITH A SMOKE ALARM OR DETECTOR BY SOCIOECONOMIC DISADVANTAGE SCORE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**Nutrition**

**Introduction**

Nutrition is an important determinant of health and disease at all stages of life. Many dietary factors are linked to health and disease, either as protective influences or as risk factors. Some common chronic diseases, to which diet contributes substantially to health risk or health protection, include: coronary heart disease, stroke, cancer, non-insulin-dependent diabetes mellitus, osteoporosis, dental caries, gall bladder disease, and diverticular disease.<sup>1</sup>

Cardiovascular disease is the major cause of death in NSW. Raised serum cholesterol, a major risk factor, is linked with excessive consumption of saturated fat. Eating patterns in relation to dairy foods, processed meats, and fried potato products, are of interest because these foods are significant sources of saturated fat.<sup>2</sup>

An adequate intake of fruit, vegetable, bread and cereals (preferably whole grain) decreases the risk of major chronic diseases.<sup>1</sup> However, most groups in the NSW population eat less than the recommended amounts.<sup>1</sup>

Despite the good quality of the NSW food supply, there are some groups who lack food security (that is, they do not have sufficient access at all times to sufficient food for an active and healthy life).

The *New South Wales Adult Health Survey 2003* included a short dietary questionnaire on usual consumption of fruit, vegetables, breads and cereals, milk, selected foods high in saturated fats (chips and processed meats), and food security.<sup>3</sup> Respondents were asked the following questions: ‘How many serves of vegetables do you usually eat each day?’, ‘How many serves of fruit do you usually eat each day?’, ‘How often do you usually eat bread?’, ‘How often do you eat breakfast cereal?’, ‘How often do you eat pasta, rice, noodles, or other cooked cereals (not including cooked breakfast cereals)?’, ‘What type of milk do you usually have?’, ‘How often do you eat processed meat products such as sausages, frankfurts, devon, salami, meat pies, bacon, or ham?’, ‘How often do you eat chips, french fries, wedges, fried potatoes, or crisps?’, ‘In the last 12 months, were there any times that you ran out of food and couldn’t afford to buy more?’.

The *Australian Guide to Healthy Eating* was used as the source of recommended numbers of serves of fruits and vegetables for this report.<sup>1</sup>

**Results**

*Consumption of fruit*

According to the *Australian Guide to Healthy Eating*,<sup>1</sup> the recommended daily consumption of fruit is three serves for people aged 16–18 years, and two serves for people aged

19 years and over. One serve is equivalent to one medium or two small pieces of fruit.

Overall, in 2003, 6.0 per cent of the population reported that they ate no fruit, 16.0 per cent had less than one serve per day, 30.6 per cent had one serve per day, 27.3 per cent had two serves per day, 12.9 per cent had three serves a day, and 7.1 per cent had more than three serves a day. Therefore, 45.8 per cent of the population ate the recommended daily intake of fruit. A significantly greater proportion of females (52.4 per cent) than males (39.0 per cent) consumed the recommended amount of fruit each day.

Consumption of the recommended daily intake of fruit increased with age. Among males, a significantly lower proportion (31.0 per cent) of those aged 25–34 years and a significantly greater proportion (46.7 per cent to 52.8 per cent) of those aged 55–74 years ate the recommended daily intake of fruit, compared with the overall male population. Among females, a significantly lower proportion (37.7 per cent) of those aged 16–24 years and a significantly greater proportion (62.8 per cent to 65.3 per cent) of those aged 55 years and over ate the recommended daily intake of fruit, compared with the overall female population.

There was no significant geographical variation in consumption of the recommended daily intake of fruit between rural residents (43.5 per cent) and urban residents (46.5 per cent).

The proportion of people consuming the recommended daily intake of fruit did not vary significantly by level of socioeconomic disadvantage.

Daily consumption of fruit did not differ significantly from 1997 (44.5 per cent) to 2003 (45.8 per cent).

#### *Consumption of vegetables*

The recommended daily intake of vegetables is defined in the *Australian Guide to Healthy Eating* as four serves for females of any age and for males aged 16–18 years or over 60 years, and five serves for males aged 19–60 years.<sup>1</sup> One serve is equivalent to one-half of a cup cooked vegetables or one cup of salad vegetables.

Overall, in 2003, 0.9 per cent of the population reported that they ate no vegetables, 5.1 per cent ate less than one serve a day, 22.9 per cent ate one serve a day, 29.2 per cent ate two serves a day, 18.0 per cent ate three serves a day, 14.1 per cent ate four serves a day, 4.6 per cent ate five serves a day, and 5.2 per cent ate more than five serves a day. Therefore, 19.3 per cent of the population ate the recommended daily intake of vegetables. A significantly greater proportion of females (26.7 per cent) than males (11.8 per cent) consumed the recommended amount of vegetables each day.

Consumption of the recommended daily intake of vegetables increased with age. Among males, a significantly lower proportion of those aged 25–44 years (5.7 per cent to

6.8 per cent) and a significantly greater proportion of those aged 65 years and over (26.1 per cent to 27.7 per cent) consumed the recommended daily intake of vegetables, compared with the overall male population. Among females, a significantly lower proportion (15.8 per cent to 21.5 per cent) of those aged 16–34 years and a significantly greater proportion (33.0 per cent to 36.9 per cent) of those aged 45–74 years consumed the recommended daily intake of vegetables, compared with the overall female population.

There was considerable geographical variation, with a significantly greater proportion of rural residents (22.5 per cent) consuming the recommended daily intake of vegetables compared to urban residents (18.5 per cent).

The proportion of people consuming the recommended daily intake of vegetables did not vary significantly by level of socioeconomic disadvantage.

Daily consumption of vegetables increased significantly between 1997 (16.3 per cent) and 2003 (19.3 per cent). This increase was observed only in females (21.7 per cent to 26.7 per cent).

#### *Modified fat milk (low and reduced fat)*

The *Australian Guide to Healthy Eating* recommends a diet low in fat, to reduce the overall energy intake.<sup>1</sup> The use of modified fat milk provides an indication of people who are maintaining a low fat diet.<sup>3</sup>

Overall, in 2003, 47.0 per cent of the population reported that they usually had regular milk (full cream), 29.1 per cent had low or reduced fat milk, 14.9 per cent had low fat milk, 0.1 per cent had evaporated or sweetened milk, 4.5 per cent had other milk, and 4.4 per cent did not drink milk. Therefore, 44.0 per cent of the population reported using modified fat milk. A significantly greater proportion of females (50.8 per cent) than males (37.1 per cent) reported using modified fat milk.

Use of modified fat milk increased with age. Among males, a significantly lower proportion of those aged 16–24 years (21.2 per cent) and a significantly greater proportion of those aged 55–74 years (50.1 per cent to 51.0 per cent) used modified fat milk, compared with the overall male population. Among females, a significantly lower proportion of those aged 16–34 years (41.0 per cent to 43.2 per cent) and a significantly greater proportion of those aged 45–74 years (56.8 per cent to 64.1 per cent) used modified fat milk compared with the overall female population.

There was significant geographical variation, with significantly greater proportions of urban (44.9 per cent) than rural residents (41.1 per cent) reportedly using modified fat milk.

The proportion of people reportedly using modified fat milk was significantly lower in the most disadvantaged quintile (36.7 per cent) and significantly greater in the least

disadvantaged (52.9 per cent) and second least disadvantaged (48.6 per cent) quintiles, compared with the overall population.

Reported use of modified fat milk decreased significantly from 1997 (45.7 per cent) to 2002 (43.4 per cent), however a slight increase in the use of modified fat milk in 2003 (44.0 per cent) means that there is no significant decrease between 1997 and 2003.

#### *Breads and cereals*

In the *New South Wales Adult Health Survey 2003*, questions were asked on the frequency of eating breakfast cereals, bread, pasta, rice, and noodles. The data from these questions has been combined to provide an overall daily frequency of eating breakfast cereals, bread, pasta, rice, and noodles.

Overall, in 2003, 0.4 per cent of the population did not eat breads and cereals, 4.1 per cent had breads and cereals less than once a day, 23.2 per cent had breads and cereals once a day, 38.3 per cent twice a day, 24.9 per cent three times a day, 6.5 per cent four times a day, 1.7 per cent five times a day, and 0.9 per cent had breads and cereals more than five times a day.

#### *Chips*

In the *New South Wales Adult Health Survey 2003*, questions were asked on the frequency of eating chips, french fries, wedges, fried potatoes, or crisps.

Overall, in 2003, 24.0 per cent of the population did not eat chips (19.0 per cent of males and 28.7 per cent of females), 24.7 per cent had chips less than once a week, 27.5 per cent had chips once a week, 12.8 per cent had chips twice a week, 5.7 per cent had chips three times a week, 2.3 per cent had chips four times a week, 0.7 per cent had chips five times a week, and 2.4 per cent had chips more than five times a week.

#### *Processed meat products*

In the *New South Wales Adult Health Survey 2003*, questions were asked on the frequency of eating processed meat products such as sausages, frankfurts, devon, salami, meat pies, bacon, or ham.

Overall, in 2003, 20.0 per cent of the population did not eat processed meat products (13.4 per cent of males and 26.3 per cent of females), 16.4 per cent had processed meat products less than once a week, 25.2 per cent had them once a week, 18.2 per cent had them twice a week, 8.5 per cent had them three times a week, 3.8 per cent had

them four times a week, 1.8 per cent had them five times a week, and 6.2 per cent had processed meat products more than five times a week.

#### *Food security*

Overall, in 2003, 6.1 per cent of the population reported that they had experienced some food insecurity in the past 12 months, in that they had run out of food and couldn't afford to buy more. There was no significant difference in the proportion of males and females experiencing food insecurity.

The proportion of people who had experienced food insecurity was significantly lower among those aged 55 years and over (1.1 per cent to 4.2 per cent) compared with the overall population.

There was no significant geographical variation in the proportion of people who had experienced food insecurity between rural areas (7.1 per cent) and urban areas (5.8 per cent).

The proportion of people experiencing food insecurity was significantly lower in the least (2.9 per cent) and second least (3.9 per cent) quintiles of disadvantage, compared with the overall population.

There was no significant change in the proportion of people experiencing food insecurity between 2002 and 2003.

Figure 25 shows the proportion of people who consumed the recommended daily fruit intake by age, and Figure 26 shows the proportion of people who consumed the recommended daily vegetable intake by age. Figure 27 shows the proportion of people who usually consume low fat, reduced fat, or skim milk by age. Figures 28–30 show the frequency of eating fried potato products per week; bread, pasta and other cereals by day; and processed meat products per week. Figures 31–32 show the proportion of people who had experienced food insecurity in the last 12 months by age and socioeconomic disadvantage.

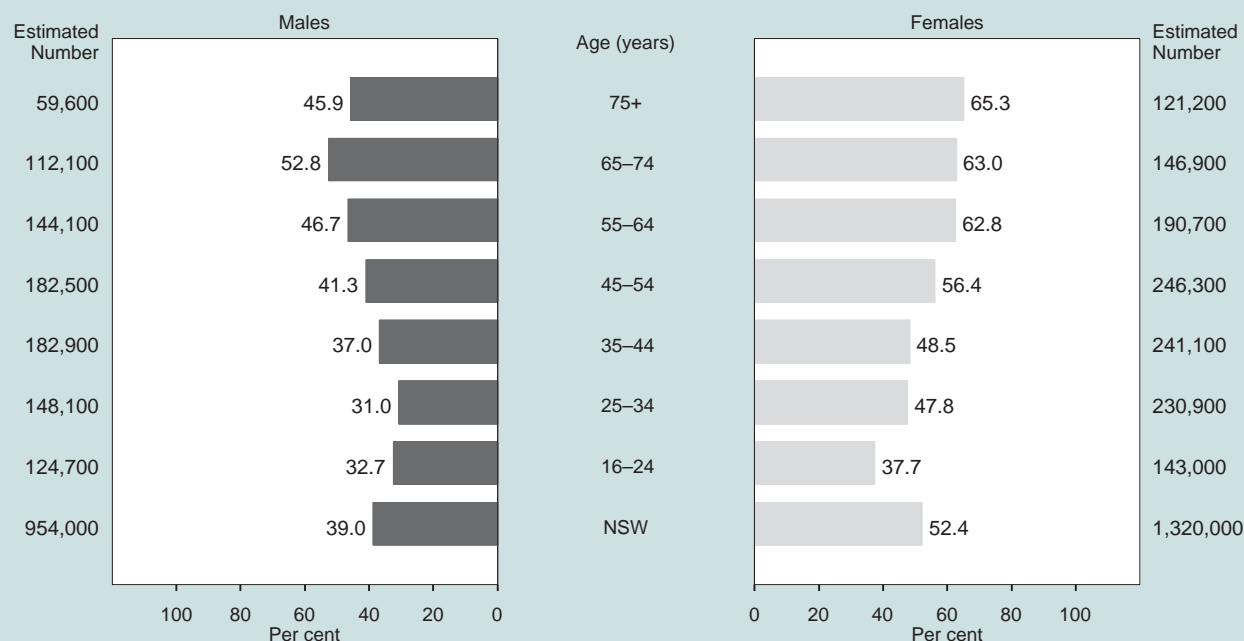
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1. National Health and Medical Research Council. *Australian Guide to Healthy Eating*. Canberra: NHMRC, 2003.
2. Mathers C, Vos T, Stevenson C. *The burden of disease and injury in Australia*. Canberra: Australian Institute of Health and Welfare, 1999. Available online at [www.aihw.gov.au](http://www.aihw.gov.au).
3. Mark GC, Webb K, Rutishauser IHE, Riley M. *Monitoring food habits in the Australian population using short questions*. Canberra: Commonwealth Department of Health and Aged Care, 2001.



**FIGURE 25**

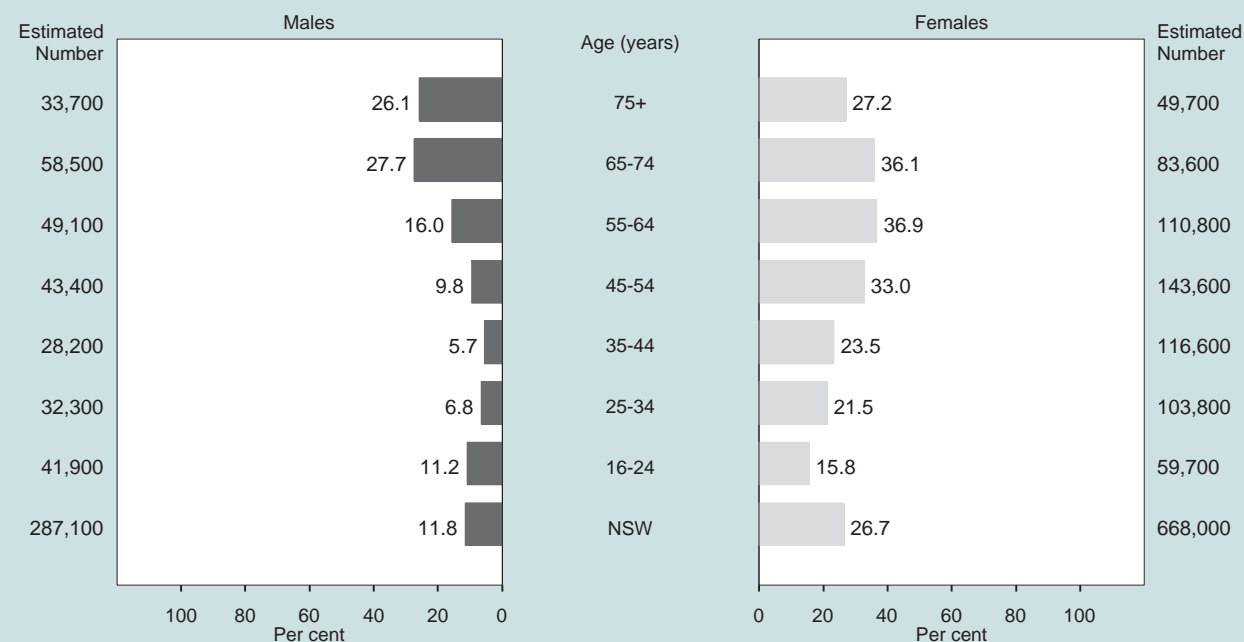
**RECOMMENDED DAILY FRUIT INTAKE BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 26**

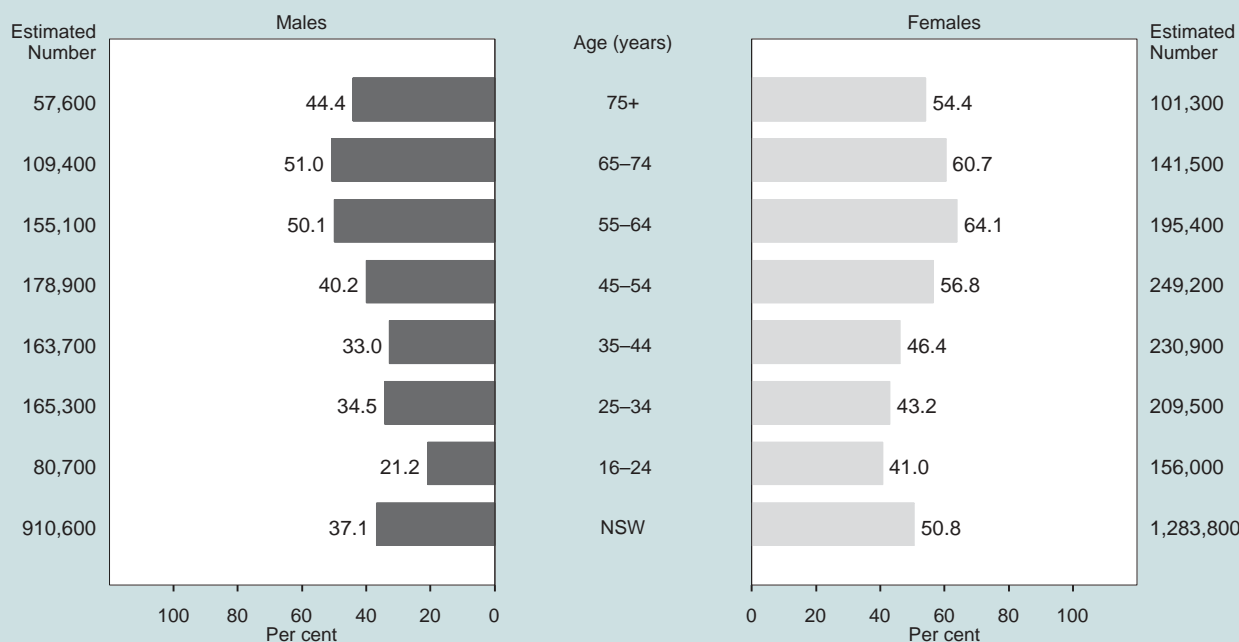
**RECOMMENDED DAILY VEGETABLE INTAKE BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 27**

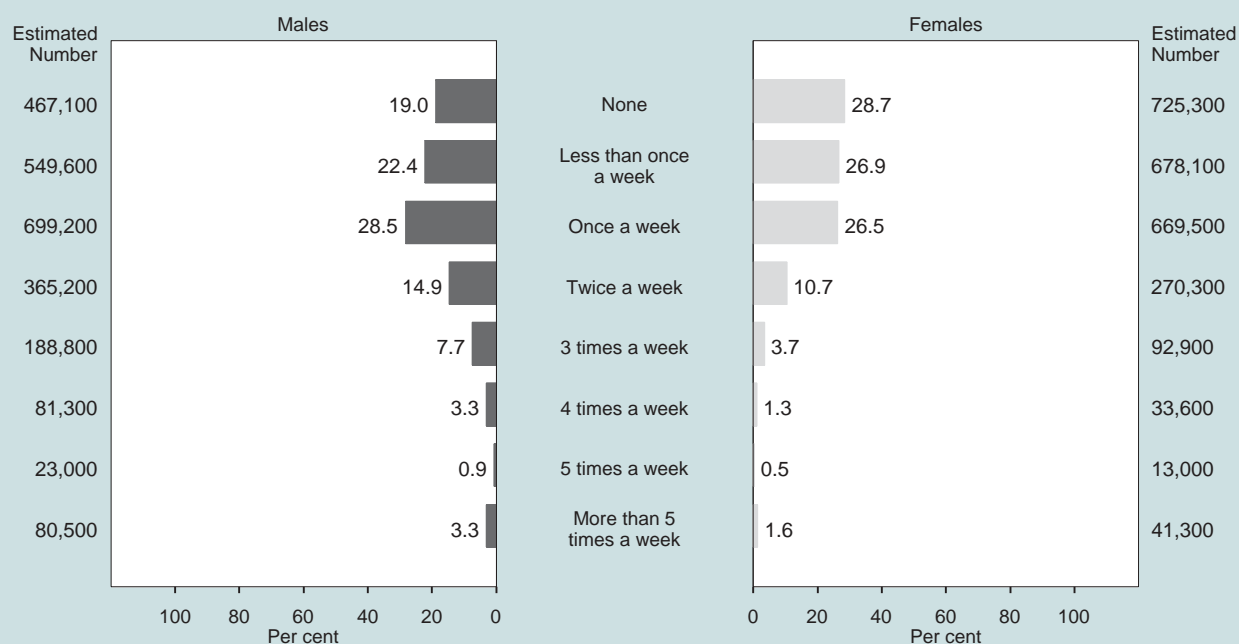
**USUAL USE OF LOW FAT, REDUCED FAT, OR SKIM MILK BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 28**

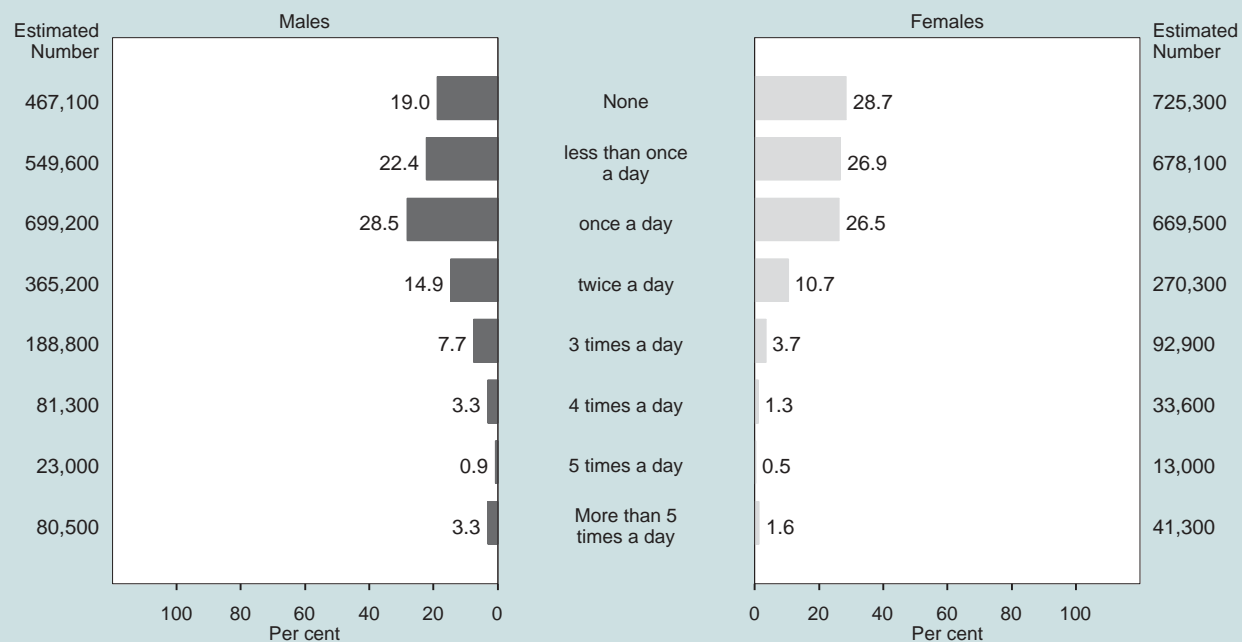
**FREQUENCY OF EATING CHIPS, FRENCH FRIES, WEDGES, FRIED POTATOES OR CRISPS, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 29**

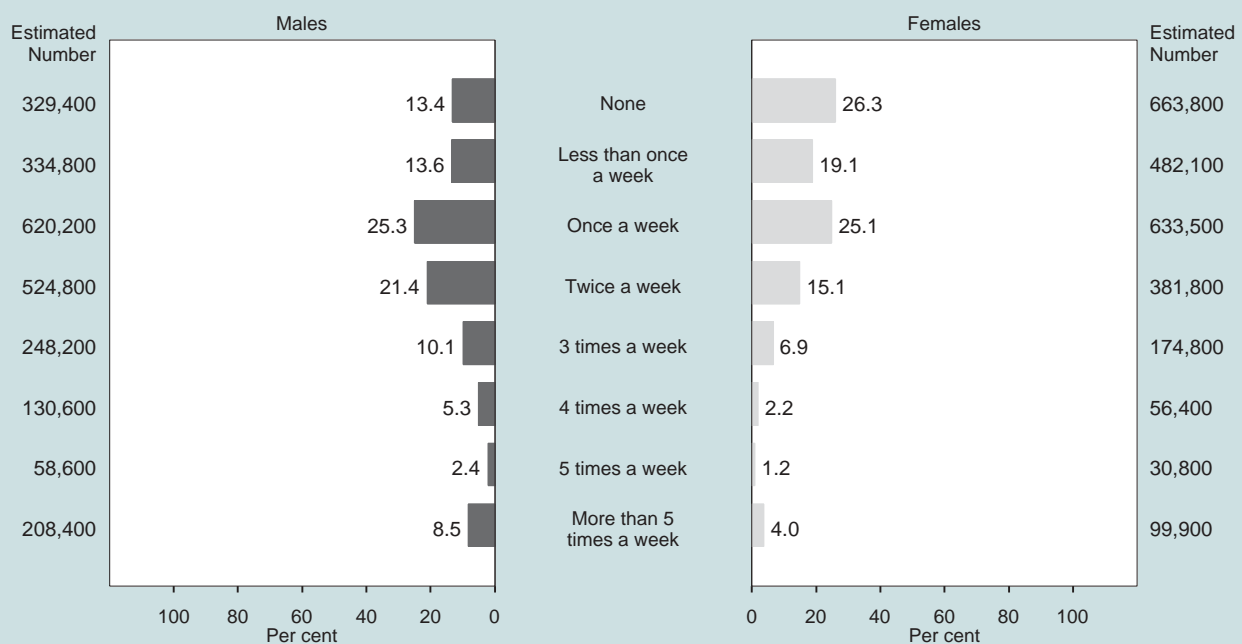
**FREQUENCY OF EATING BREAKFAST CEREAL, BREADS, PASTA, RICE AND NOODLES, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 30**

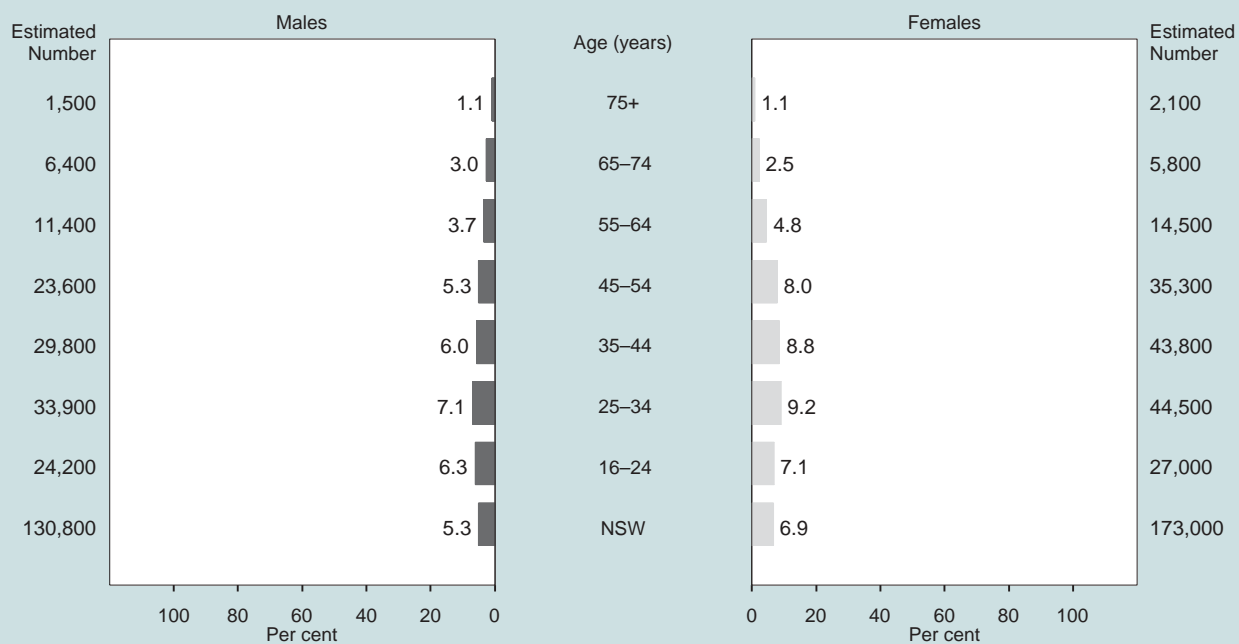
**FREQUENCY OF EATING PROCESSED MEAT PRODUCTS, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 31**

**FOOD INSECURITY IN LAST 12 MONTHS BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 32**

**FOOD INSECURITY IN LAST 12 MONTHS BY SOCIOECONOMIC DISADVANTAGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

## Physical activity

### Introduction

Physical activity is an important factor in maintaining good health. People who participate in moderate to vigorous levels of physical activity have lower mortality rates and lower incidence of a number of diseases and conditions than those who are physically inactive. Physical activity is a preventative factor for cardiovascular disease, cancer, diabetes mellitus, injury, mental illness, and obesity.<sup>1</sup> In Australia, physical inactivity ranks second only to tobacco smoking in terms of burden of disease from health risk factors, and accounts for 6.7 per cent of the burden of disease and injury.<sup>2</sup>

To maintain health, it is currently recommended that exercise of moderate intensity is carried out on all or most days of the week for at least 30 minutes per day.<sup>3</sup> Encouragingly, this can be undertaken in shorter bursts of exercise, such as three lots of 10 minutes. Exercise of moderate intensity includes brisk walking, dancing, swimming, or cycling.

In addition, journeys to and from work provide regular opportunities to engage in incidental physical activity through walking or cycling to work, or walking to public transport. As such, monitoring transport habits of the population over time provides further information about physical activity through 'active transport'.

The *New South Wales Adult Health Survey 2003* included the following questions from the *Active Australia Survey*:<sup>4</sup> 'In the last week, how many times have you walked continuously for at least 10 minutes for recreation or exercise or to get to or from places?', 'What do you estimate was the total time you spent walking in this way in the last week?', 'In the last week, how many times did you do any vigorous physical activity that made you breathe harder or puff and pant?', 'What do you estimate was the total time you spent doing this vigorous physical activity in the last week?', 'In the last week, how many times did you do any other more moderate physical activity that you haven't already mentioned?', 'What do you estimate was the total time that you spent doing these activities in the last week?'. The *New South Wales Adult Health Survey 2003* also included a question about active transport: 'How do you usually get to work?'

### Results

#### *Adequate physical activity*

'Adequate' physical activity was calculated from the *Active Australia Survey* questions above,<sup>4</sup> and is defined as undertaking physical activity for a total of 150 minutes per week over five separate occasions. The total minutes were calculated by adding minutes in the last week spent walking (continuously for at least 10 minutes), minutes doing moderate physical activity, plus minutes doing vigorous physical activity multiplied by two.

Overall, in 2003, 45.0 per cent of respondents aged 16 years and over reported adequate levels of physical activity. A significantly greater proportion of males (49.5 per cent) than females (40.6 per cent) reported adequate physical activity.

Among males, a significantly greater proportion aged 16–24 years (66.9 per cent) and a significantly lower proportion aged 75 years and over (33.0 per cent) undertook adequate physical activity, compared with the overall male population. Among females, a significantly greater proportion aged 16–24 years (54.1 per cent) and a significantly lower proportion aged 65 years and over (22.9 per cent to 33.0 per cent) undertook adequate physical activity, compared with the overall female population.

There was no significant difference between urban areas (45.6 per cent) and rural areas (42.7 per cent) in the proportion of people undertaking adequate levels of physical activity.

A significantly greater proportion of people in the least (50.0 per cent) and second least (51.8 per cent) socioeconomically disadvantaged quintile undertook adequate physical activity compared with the overall population.

There has been a significant decline in the proportion of people reporting adequate physical activity between 1998 (47.6 per cent) and 2003 (45.0 per cent).

#### *Active transport*

Overall, in 2003, the majority of respondents did not use active transport to travel to work, as 76.1 per cent commute by car, motorbike, or truck. Of those respondents using a form of active transport, 16.7 per cent use public transport (train, bus, or ferry), 6.2 per cent walk to work, and 1.7 per cent bicycle to work.

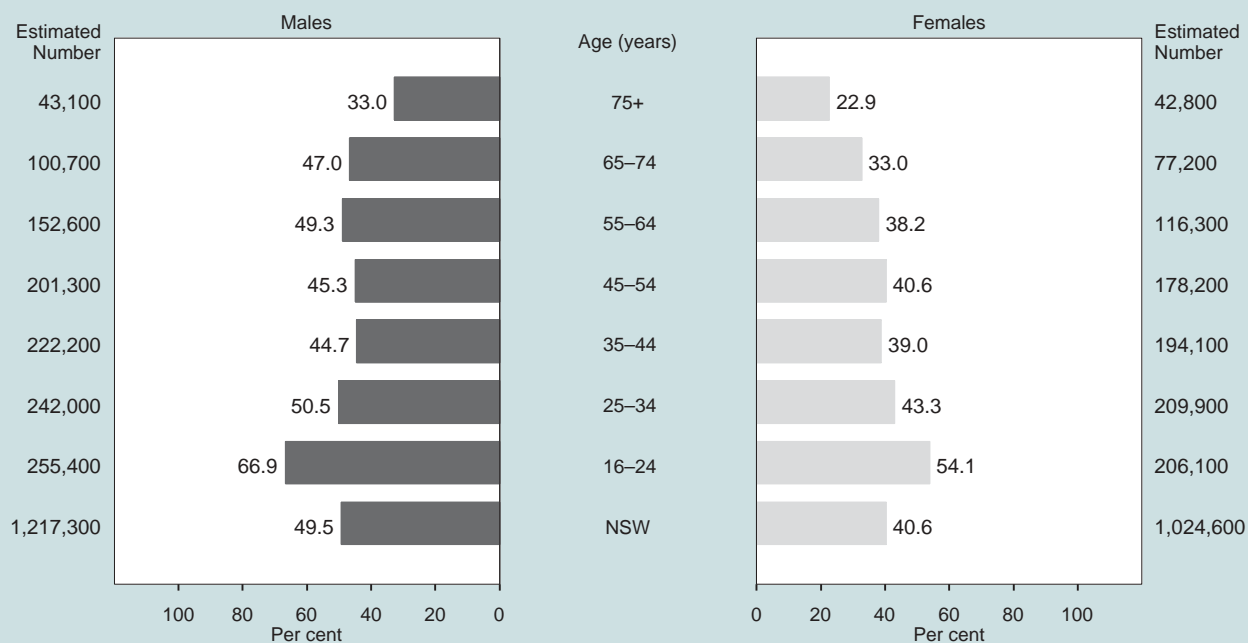
Figures 33 and 34 show the proportion of people who had undertaken adequate physical activity in the last week by age and socioeconomic disadvantage. Figure 35 shows the usual method of transportation to work.

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1. Bauman A, Bellew B, Vita P, Brown W, and Owen T. *Getting Australia Active: Towards better practice for the promotion of physical activity*. Melbourne: National Public Health Partnership, 2003.
2. Mathers C, Vos T, Stevenson C. *The burden of disease and injury in Australia*. Canberra: Australian Institute of Health and Welfare, 1999. Available online at [www.aihw.gov.au](http://www.aihw.gov.au), accessed July 2003.
3. Commonwealth Department of Health and Aged Care. *National Physical Activity Guidelines for Australians*. Canberra: Commonwealth Department of Health and Aged Care. Available online at [www.health.gov.au/pubhlth/publicat/document/physguide.pdf](http://www.health.gov.au/pubhlth/publicat/document/physguide.pdf), accessed 7 August 2003.
4. Australian Institute of Health and Welfare. *The Active Australia Survey: A guide and manual for implementation, analysis and reporting*. Canberra: AIHW, 2003.

**FIGURE 33**

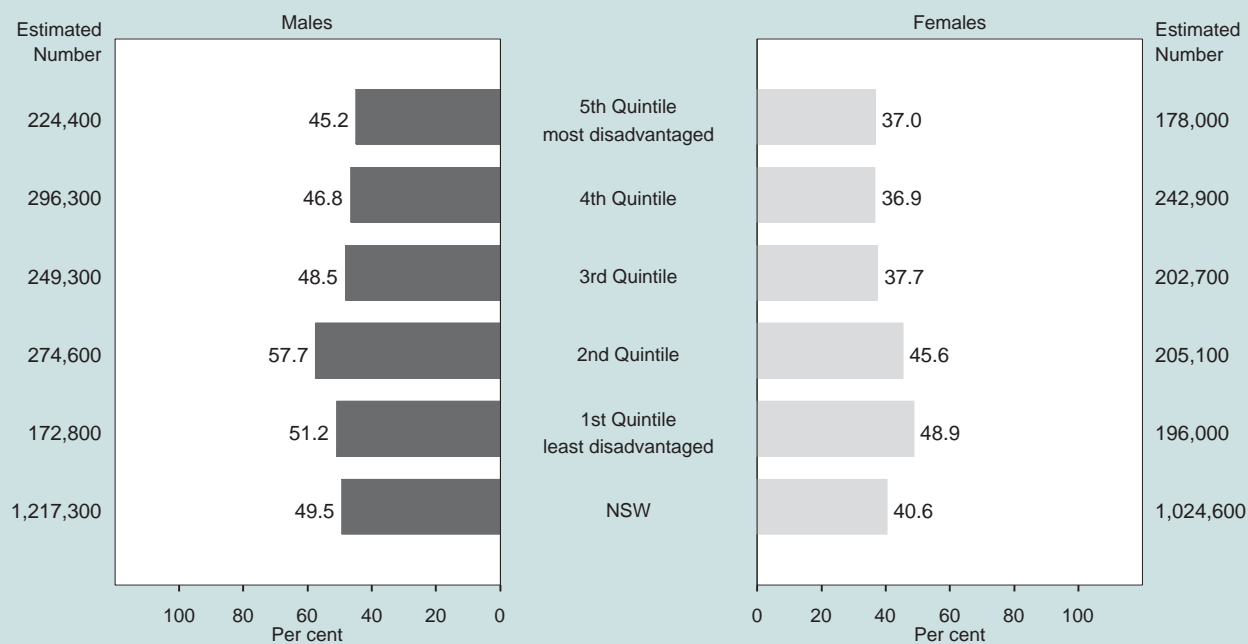
**ADEQUATE PHYSICAL ACTIVITY BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 34**

**ADEQUATE PHYSICAL ACTIVITY BY SOCIOECONOMIC DISADVANTAGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 35**

**USUAL TRANSPORT TO WORK, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**Smoking**

**Introduction**

Smoking is the leading cause of mortality and morbidity in NSW. It is the main cause of, or is a significant cause of, many diseases including cancer and cardiovascular disease. Of all behavioural risk factors, tobacco use (including passive smoking) is responsible for the greatest burden of premature death and disability.<sup>1</sup>

The adverse effects of passive smoking are well documented. In adults, exposure to environmental tobacco smoke has been linked to asthma, lung cancer, cardiovascular diseases, eye irritations, and headaches.<sup>2</sup> Children are particularly vulnerable to the effects of passive smoking. Environmental tobacco smoke has been shown to be associated with several childhood respiratory illnesses, including asthma, bronchitis, and pneumonia, as well as the development of chronic ear infections, retardation of height and weight, and Sudden Infant Death Syndrome (SIDS).<sup>2</sup>

The *New South Wales Adult Health Survey 2003* included questions on smoking prevalence, intention to quit smoking, environmental tobacco smoke exposure in the home and car, and attitudes to smoking. Respondents were asked the following questions on smoking prevalence:

‘Which of the following best describes your smoking status? I smoke daily, I smoke occasionally, I don’t smoke now, but I used to, I’ve tried it a few times but never smoked regularly, I’ve never smoked’, ‘Which of the following best describes how you feel about your smoking? I am not planning on quitting within the next six months, I am planning on quitting within the next six months, I am planning on quitting within the next month, I have not smoked in the past 24 hours but was smoking six months ago, I have not been smoking in the past six months’ ‘Which of the following best describes your home situation? My home is smoke free, People occasionally smoke in the house, People frequently smoke in the house.

**Results**

*Current smoking status*

Overall, in 2003, 17.9 per cent of the population reported that they smoked daily, 4.6 per cent smoked occasionally, 24.6 per cent don’t smoke now but used to, 10.8 per cent have tried smoking a few times but never have smoked regularly, and 42.1 per cent have never smoked.

Current smoking prevalence included respondents who reported that they smoke daily or occasionally. In 2003, 22.5 per cent of the population reported that they are current smokers. A significantly greater proportion of

males (25.0 per cent) than females (20.0 per cent) reported that they currently smoked.

For both males and females, rates of current smoking were highest in young adults. Among males, a significantly greater proportion of those aged 25–34 years (32.4 per cent) and a significantly lower proportion of those aged 55 years and over (7.4 per cent to 15.8 per cent) were current smokers, compared to the overall male population. Among females, a significantly greater proportion of those aged 25–44 years (24.7 to 25.8 per cent) and a significantly lower proportion of those aged 55 years and over (4.2 per cent to 14.7 per cent) were current smokers, compared to the overall female population.

There was significant geographic variation in current smoking, with a greater proportion of rural residents (24.8 per cent) reporting current smoking than urban residents (21.8 per cent).

The proportion of people currently smoking increased with increasing disadvantage. Compared to the overall population, the proportion of people currently smoking was significantly lower in respondents in the least disadvantaged quintile (18.1 per cent) and significantly higher in respondents in the most disadvantaged quintile (27.2 per cent).

There was a significant decrease in the prevalence of current smoking, between 1997 (24.0 per cent) and 2002 (21.4 per cent). This decrease occurred in both males (27.2 per cent to 23.9 per cent) and females (21.0 per cent) to 18.9 per cent). However, in 2003, the proportion of current smokers increased in both males (25.0 per cent) and females (20.0 per cent), to 22.5 per cent overall. While this was not a significant increase from 2002, it means that between 1997 and 2003 there was no significant decrease in the prevalence of current smoking.

Of the respondents who reported current smoking, 52.0 per cent were not planning to quit in the next six months, 32.5 per cent were planning to quit in the next six months, and 13.3 per cent were planning to quit in the next month. A further 1.7 per cent had just quit smoking (had not smoked in the last 24 hours), and 0.4 per cent had not smoked in the last six months.

#### *Smoking in the home*

In 2003, among NSW residents aged 16 years and over, 82.5 per cent reported that their home was smoke-free, 9.0 per cent reported people 'occasionally' smoked inside the home, and 8.5 per cent reported that people 'frequently' smoked inside the home.

The proportion of people living in a smoke-free home was significantly greater among people aged 65 years and over (86.0 per cent to 87.4 per cent) compared with the overall figure (82.5 per cent).

There was significant geographic variation in the proportion of smoke-free homes, with a significantly

greater proportion of urban residents (83.5 per cent) than rural residents (79.0 per cent) reporting smoke-free homes.

Compared to the overall population, the second least disadvantaged quintile (86.2 per cent) had a significantly greater proportion of smoke-free homes, and the most disadvantaged quintile (78.7 per cent) had a significantly lower proportion of smoke-free homes.

There has been a significant increase in the proportion of homes reported to be smoke-free, from 69.8 per cent in 1997 to 82.5 per cent in 2003.

#### *Smoking in cars*

In 2003, among NSW residents aged 16 years and over, 81.2 per cent reported that their car was smoke-free. A significantly greater proportion of people aged 55–74 years (84.6 per cent to 87.3 per cent) and a significantly lower proportion of people aged 16–24 years (73.9 per cent) reported that their car was smoke free.

A significantly greater proportion of people in the second least disadvantaged quintile (85.0 per cent), and a significantly lower proportion of people in the most disadvantaged quintile (77.6 per cent) reported a smoke-free car.

The proportion of people in urban areas who reported a smoke-free car (81.9 per cent) was significantly greater than in rural areas (78.5 per cent).

No comparative data are available for this indicator prior to 2003.

#### *Smoking in hotels and licensed bars*

In NSW, 24.4 per cent of respondents said that they would be more likely, and 9.9 per cent of respondents said that they would be less likely, to go to hotels and licensed bars if there was a total ban on smoking in hotels and licensed bars. In total, 65.8 per cent of respondents said a total ban on smoking in hotels and licensed bars would make no difference.

There was no significant difference in the proportion of males (23.1 per cent) and females (25.6 per cent) who said they would frequent hotels and licensed bars more often if there was a total ban on smoking. A significantly lower proportion of people aged 65 years and over (11.5 per cent to 18.1 per cent) said they would frequent hotels and licensed bars more often if there was a total smoking ban.

A significantly greater proportion of people in the quintile of least socioeconomic disadvantage (30.0 per cent) said they would frequent hotels and licensed bars more often if there was a total smoking ban.

A significantly greater proportion of people in urban areas (25.6 per cent), compared to rural areas (19.8 per cent) reported they would frequent hotels and licensed bars more often if there was a total smoking ban.



There was no significant difference in the proportion of males (10.7 per cent) and females (9.1 per cent) who said they would frequent hotels and licensed bars less often if there was a total ban on smoking. A significantly greater proportion of people aged 16–34 years (13.2 per cent to 14.7 per cent) and a significantly lower proportion of people aged 55 years and over (2.2 per cent to 5.3 per cent) would frequent hotels and licensed bars less often if there was a total smoking ban.

There was no significant variation in the proportion of people who stated they would frequent hotels and licensed bars less often by socioeconomic status or by urban and rural location.

No comparative data are available for this indicator prior to 2003.

Figure 36 shows smoking status. Figure 37 shows the proportion of people who currently smoked daily or

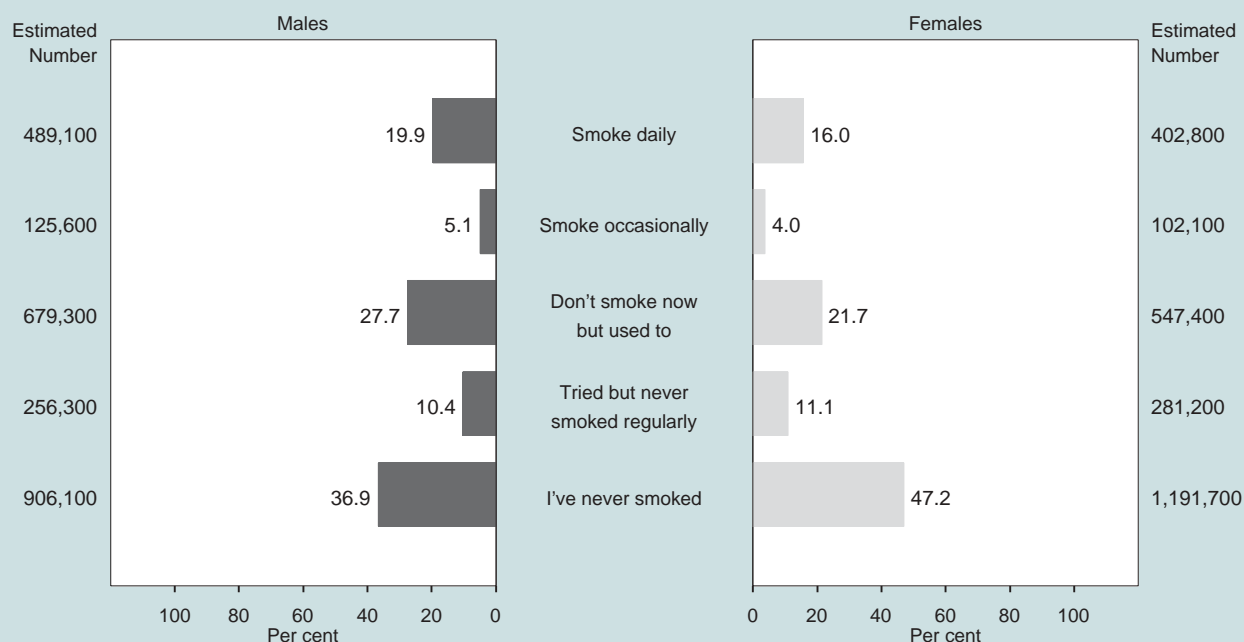
occasionally by age. Figure 38 shows the intention to quit smoking. Figure 39 shows the proportion of smoke-free households by socioeconomic disadvantage. Figure 40 shows the proportion of smoke free cars by age. Figures 41–43 show the impact that a total smoking ban in hotels and licensed bars would have on attendance, and the positive and negative impact on attendance by age.

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1. Mathers C, Vos T, Stevenson C. *The burden of disease and injury in Australia*. AIHW Catalogue no. PHE18. Canberra: Australian Institute of Health and Welfare, 1999.
2. National Health and Medical Research Council. *The Health Effects of Passive Smoking*. Canberra: Publications Production Unit, Commonwealth Department of Health and Family Services, November 1997.

**FIGURE 36**

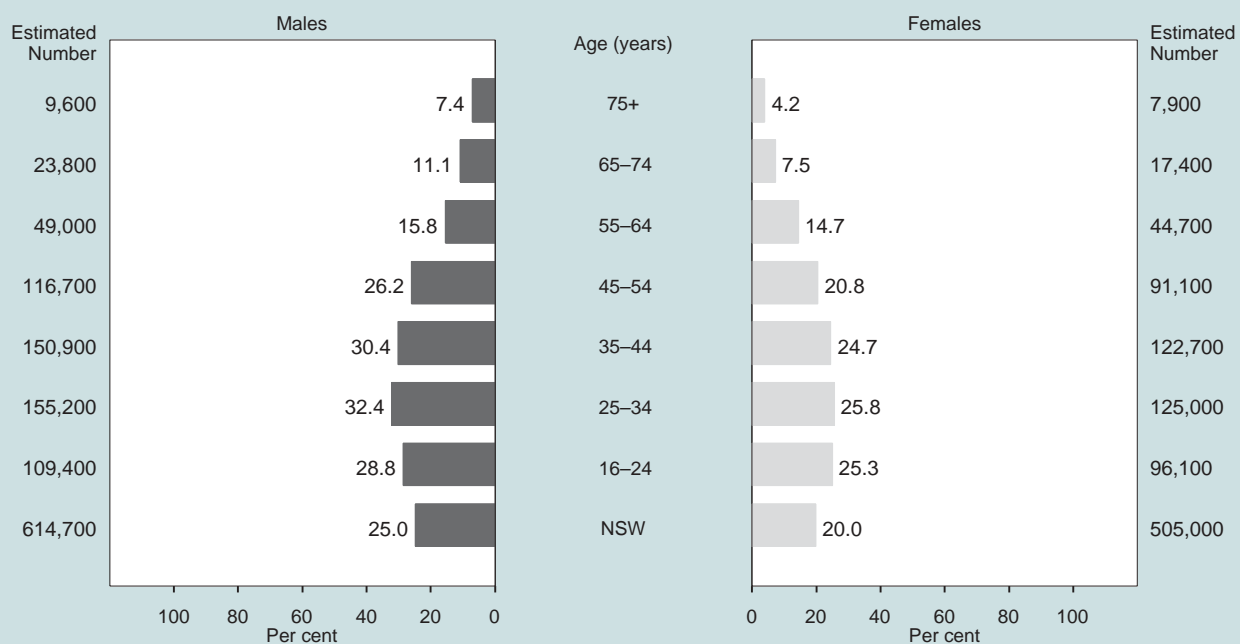
**SMOKING STATUS, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 37**

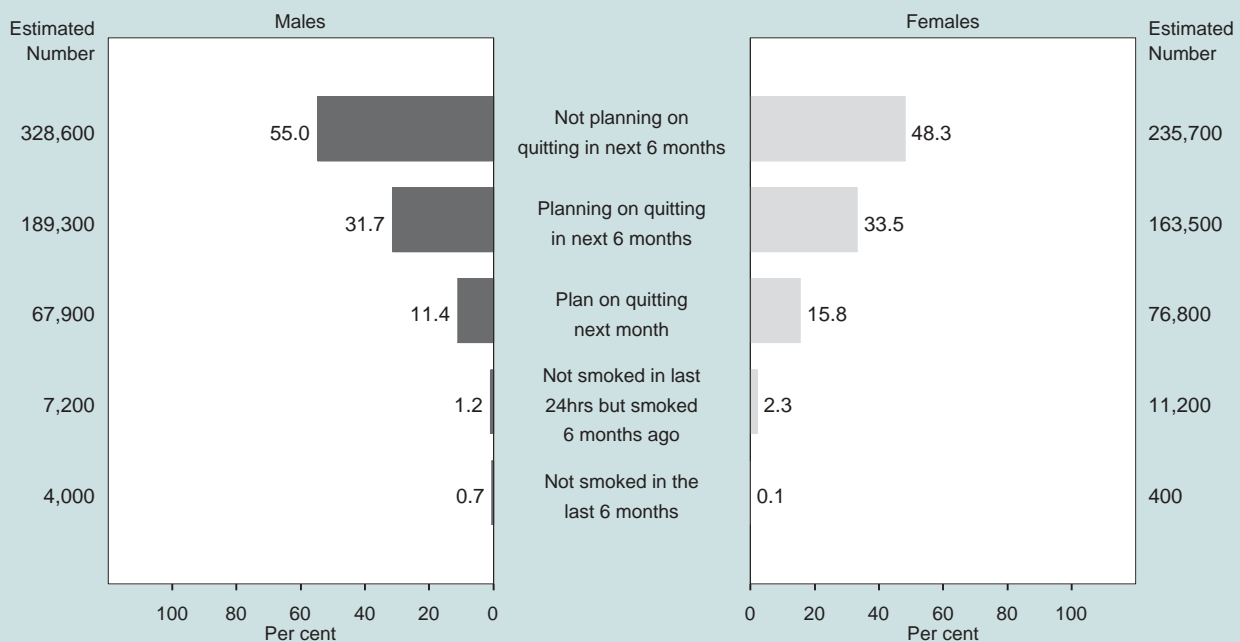
**CURRENT DAILY OR OCCASIONAL SMOKING BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 38**

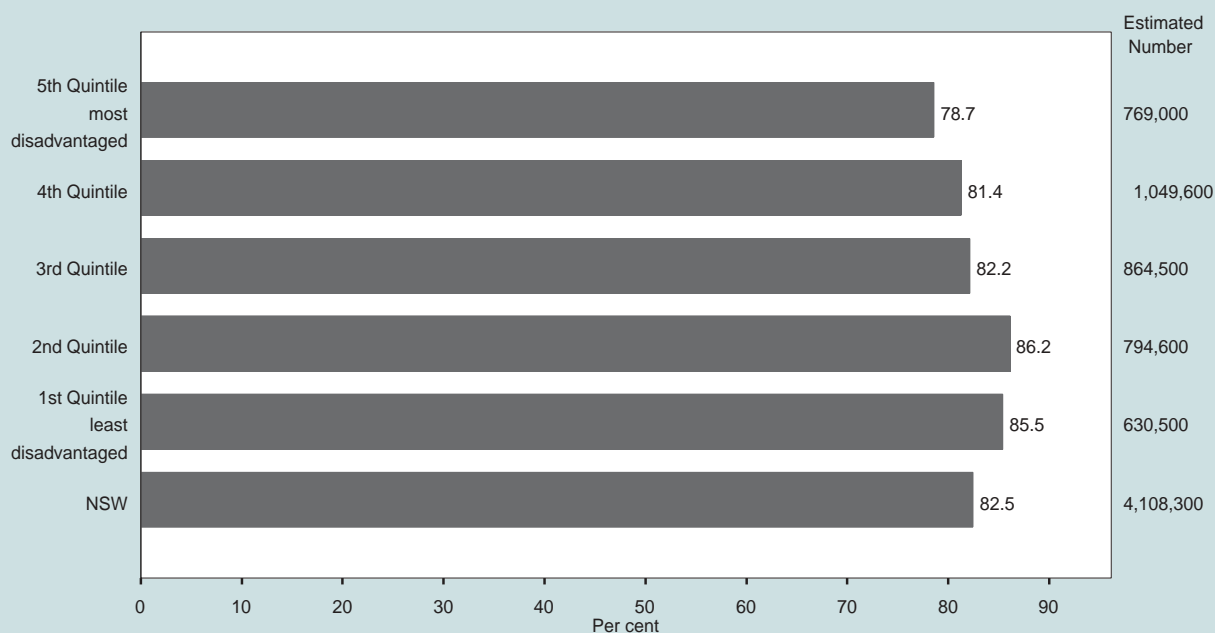
**INTENTION TO QUIT SMOKING, PERSONS WHO SMOKE AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 39**

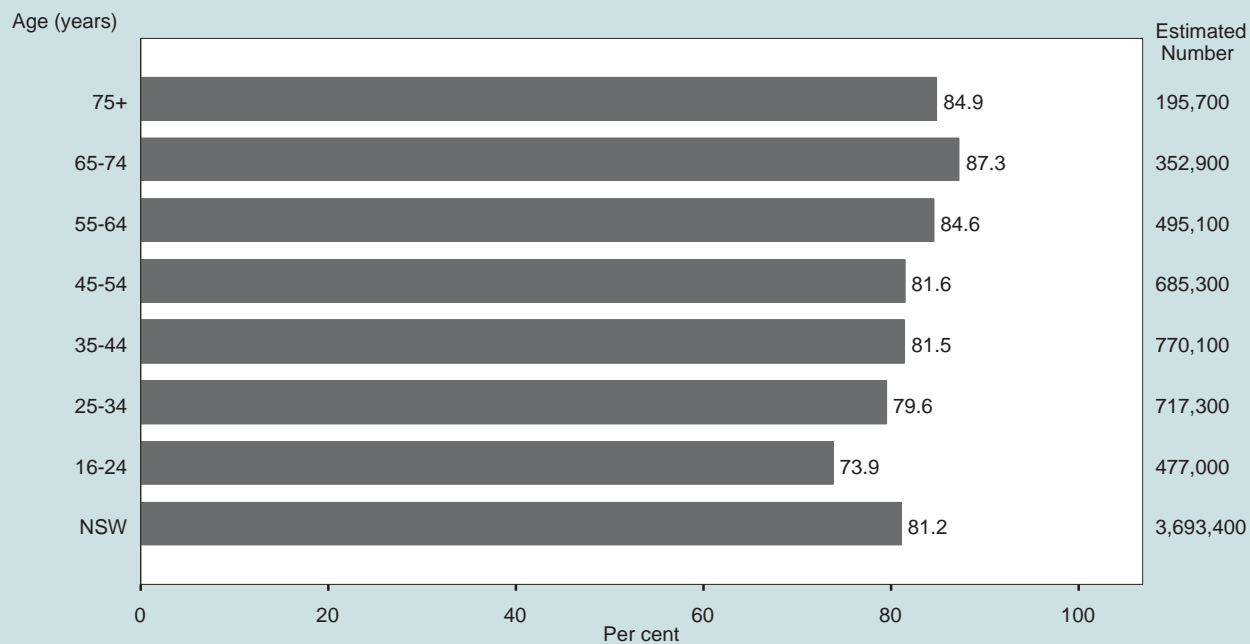
**SMOKE FREE HOUSEHOLDS BY SOCIOECONOMIC DISADVANTAGE SCORE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 40**

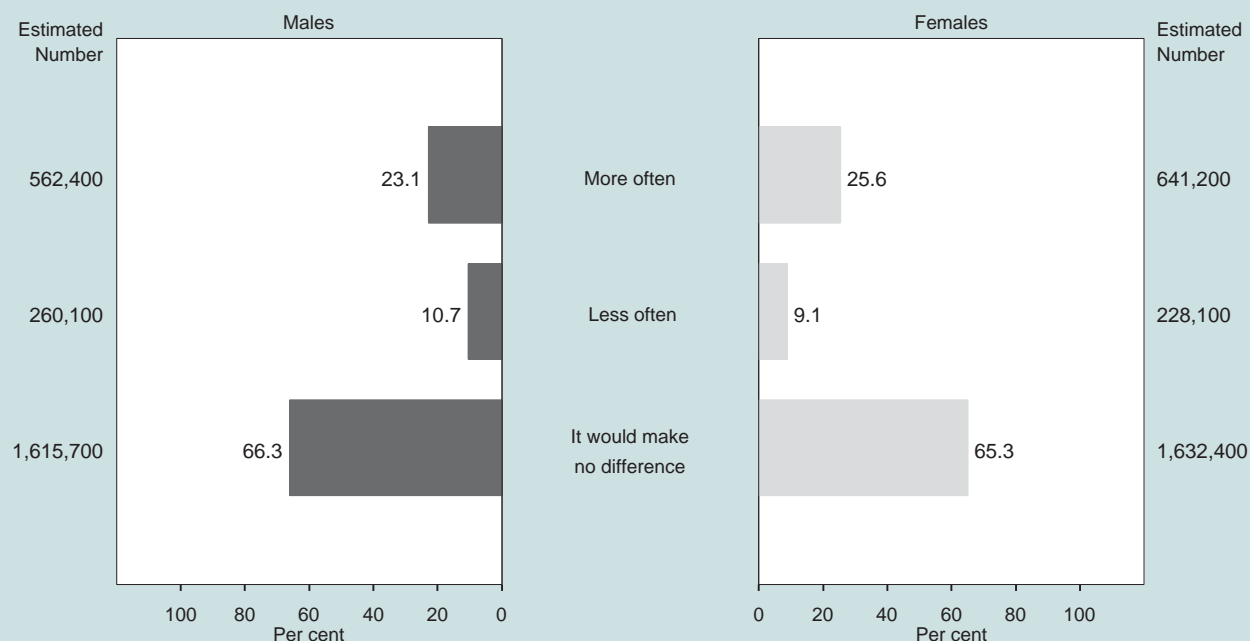
**SMOKE FREE CARS BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 41**

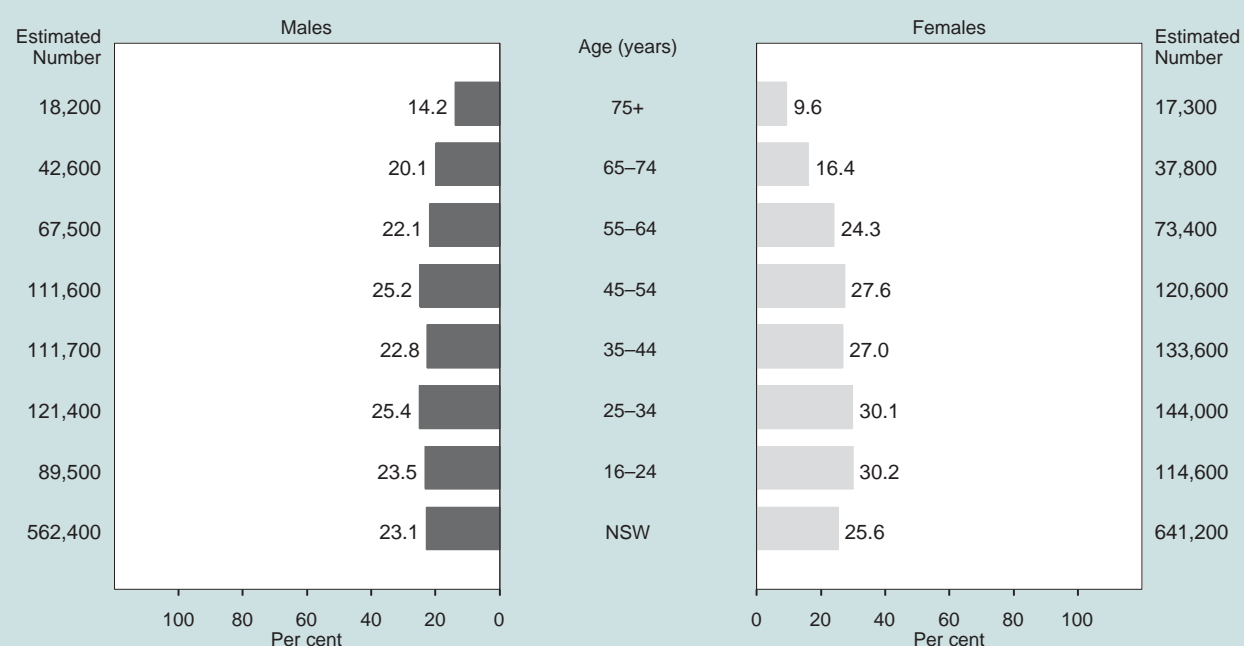
**IMPACT OF TOTAL SMOKING BAN ON ATTENDANCE HOTELS AND LICENSED BARS, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 42**

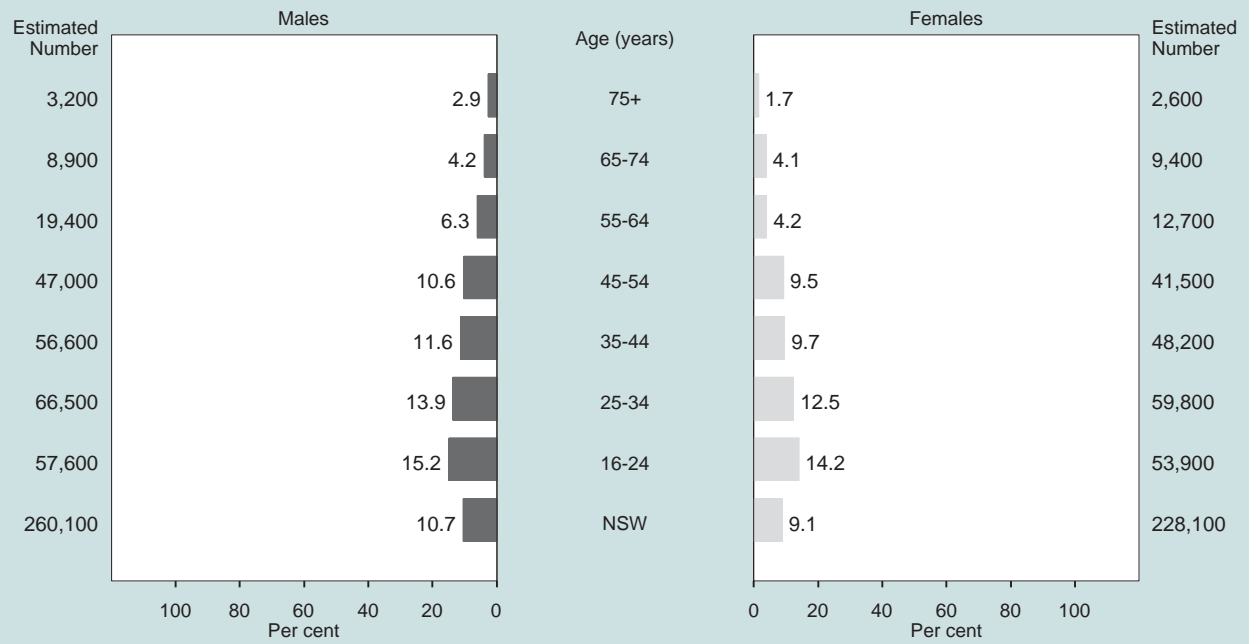
**POSITIVE IMPACT OF TOTAL BAN ON SMOKING IN HOTELS AND LICENSED BARS BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.

**FIGURE 43**

**NEGATIVE IMPACT OF TOTAL BAN ON SMOKING IN HOTELS AND LICENSED BARS BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW, 2003**



Source: NSW Adult Health Survey 2003 (HOIST), Centre for Epidemiology and Research, NSW Department of Health.