

NSW Public Health Bulletin

Supplement

Volume 16 Number S-1

November 2005

NEW SOUTH WALES POPULATION HEALTH SURVEY



2004

REPORT ON ADULT HEALTH

NSW  HEALTH

Copyright © NSW Department of Health, November 2005

This work is copyright. It may be reproduced in whole or in part, subject to the inclusion of an acknowledgment of the source and no commercial usage or sale.

State Health Publication No: PH 05114

ISSN 1034 7674

suggested citation:

Centre for Epidemiology and Research, NSW Department of Health. 2004 Report on Adult Health from the New South Wales Population Health Survey. *N S W Public Health Bull* 2005; 16(S-1).

produced by:

Centre for Epidemiology and Research
Population Health Division
NSW Department of Health
Locked Mail Bag 961
North Sydney NSW 2059 Australia
Tel: 61 2 9424 5759
Fax: 61 2 9424 5755

further copies of this publication can be obtained by contacting:

Centre for Epidemiology and Research
Population Health Division
NSW Department of Health
Locked Mail Bag 961
North Sydney NSW 2059 Australia
Tel: 61 2 9424 5759
Fax: 61 2 9424 5755

or from the NSW Department of Health website at:

www.health.nsw.gov.au

The electronic report of the 2004 Report on Adult Health from the New South Wales Population Health Survey, which contains additional information to that published in this printed report, can be downloaded from the NSW Department of Health website at www.health.nsw.gov.au.

NSW HEALTH

CONTENTS

1. FOREWORD	5
2. ACKNOWLEDGEMENTS	6
3. EXECUTIVE SUMMARY	7
4. SNAPSHOT OF ADULT HEALTH	9
5. METHODS	10
Table 1: Outcomes of telephone calls	11
Table 2: Completed interviews and response rates by health area	11
Table 3: Completed interviews by language	11
Map of NSW area health services	13
6. REPRESENTATIVENESS OF SAMPLE	14
Table 4: Survey sample size and NSW population by age and sex	14
Figure 1: Age distribution of unweighted survey sample versus NSW population: Males	15
Figure 2: Age distribution of unweighted survey sample versus NSW population: Females	15
Figure 3: Aboriginal or Torres Strait Islander origin	16
Figure 4: Country of birth	16
Figure 5: Socioeconomic Index (SEIFA) quintile	17
Figure 6: Accessibility–Remoteness Index (ARIA) quintile	17
Figure 7: Language spoken at home	18
Figure 8: Current employment status	18
Figure 9: Highest level of school completed	19
Figure 10: Annual household income	19
7. HEALTH BEHAVIOURS	20
Alcohol	20
Figure 11: Any risk alcohol drinking by age	21
Figure 12: Any risk alcohol drinking by socioeconomic disadvantage	22
Figure 13: Alcohol drinking by risk	22
Figure 14: High risk alcohol drinking by age	23
Cancer screening: breast and cervical	24
Figure 15: Screening mammogram within the last 2 years by age	25
Figure 16: Pap test within the last 2 years by age	25
Cancer screening: colorectal	26
Figure 17: Screening test for colorectal cancer in the last 5 years by age	27
Figure 18: Reasons for having faecal occult blood test to screen for colorectal cancer in last 5 years	28
Figure 19: Reasons for having sigmoidoscopy or colonoscopy to screen for colorectal cancer in last 5 years	28
Immunisation	29
Figure 20: Vaccinated against influenza in the last 12 months by age	30
Figure 21: Vaccinated against influenza in the last 12 months by socioeconomic disadvantage	31
Figure 22: Vaccinated against pneumococcal disease in the last 5 years by age	31
Injury prevention	32
Figure 23: Fire safety measures in the home	33
Figure 24: Homes with a smoke alarm or detector by age	33

Nutrition	34
Figure 25: Number of serves of fruit per day	36
Figure 26: Recommended fruit consumption by age	37
Figure 27: Number of serves of vegetables per day	37
Figure 28: Recommended vegetable consumption by age	38
Figure 29: Type of milk usually consumed	38
Figure 30: Usual use of lower fat milks by age	39
Figure 31: Frequency of eating chips, french fries, wedges, fried potatoes or crisps per week	39
Figure 32: Frequency of eating breakfast cereal, breads, pasta, rice and noodles per day	40
Figure 33: Frequency of eating processed meat products per week	40
Figure 34: Food insecurity in the last 12 months by age	41
Figure 35: Food insecurity in the last 12 months by socioeconomic disadvantage	41
Physical activity	42
Figure 36: Adequate physical activity by age	43
Figure 37: Usual transport to work	44
Sexual health	44
Figure 38: Sexual behaviour in last 12 months	46
Figure 39: Unsafe sex by age	46
Smoking	47
Figure 40: Smoking status	48
Figure 41: Current daily or occasional smoking by age	49
Figure 42: Current daily or occasional smoking by socioeconomic disadvantage	49
Figure 43: Intention to quit smoking	50
Figure 44: Smoke-free households by age	50
Figure 45: Smoke-free households by socioeconomic disadvantage	51
Figure 46: Smoke-free cars by age	51
Sun protection	52
Figure 47: Sun protection behaviours between 11.00 a.m. and 3.00 p.m. last summer when out in the sun for more than 15 minutes	55
Figure 48: High sun protection behaviour index score last summer by age	55
Figure 49: Easy to find shade in local sporting areas by health area	56
Table 5: Easy to find shade in local sporting areas by health area	56
Figure 50: Easy to find shade at outdoor public swimming pool by health area	57
Table 6: Easy to find shade at outdoor public swimming pool by health area	57
Figure 51: Easy to find shade at local public park by health area	58
Table 7: Easy to find shade at local public park by health area	58
8. HEALTH STATUS	59
Self-rated health status	59
Figure 52: Self-rated health status	60
Figure 53: Excellent, very good, or good self-rated health status by age	60
Figure 54: Difficulty doing work or activity	61
Figure 55: Bodily pain in the last 4 weeks	61
Asthma	62
Figure 56: Ever diagnosed with asthma by age	63
Figure 57: Current asthma by age	64
Figure 58: Visited doctor or emergency department for asthma attack in last 4 weeks	64
Diabetes	65
Figure 59: Diabetes or high blood sugar by age	66
Figure 60: Diabetes or high blood sugar by socioeconomic disadvantage	66
Figure 61: Action taken to manage diabetes or high blood sugar	67

Mental health	67
Figure 62: Psychological distress by Kessler 10 categories	69
Figure 63: High and very high psychological distress by age	69
Figure 64: High and very high psychological distress by socioeconomic disadvantage	70
Figure 65: Times that physical problems have caused psychological distress in past 4 weeks	70
Table 8: Effect of psychological stress on daily activities	71
Oral health	71
Figure 66: All natural teeth missing by age	72
Figure 67: All natural teeth missing by socioeconomic disadvantage	73
Figure 68: Frequency of oral health problem in the last 12 months	73
Figure 69: Time since last dental visit	74
Overweight and obesity	74
Figure 70: Body Mass Index categories	75
Figure 71: Overweight and obesity by age	76
Figure 72: Overweight and obesity by health area	76
Table 9: Overweight and obesity by health area	77
Figure 73: Obesity by age	77
Figure 74: Obesity by socioeconomic disadvantage	78
Vision	78
Figure 75: When eyesight last checked by sex	80
Figure 76: Eyesight tested in last 2 years by age	80
Figure 77: Normal vision in both eyes by age	81
Figure 78: Difficulty with reading or doing close work even with glasses or contact lenses by age	81
Hearing	82
Figure 79: Ever had hearing tested by age	83
Figure 80: Normal hearing in both ears by age	83
Figure 81: Currently using a hearing aid by age	84
Injury	84
Figure 82: Location of most recent physical attack in last 12 months by sex	86
Figure 83: Relationship with the person who was violent towards you by sex	86
9. HEALTH SERVICES	87
Difficulties getting health care	87
Figure 84: Health services attended in last 12 months by sex	88
Figure 85: Difficulties getting health care when needing it by age	88
Figure 86: Difficulties getting health care when needing it by health area	89
Table 10: Difficulties getting health care when needing it by health area	89
Figure 87: Types of difficulties getting health care when needing it by sex	90
Emergency departments	90
Figure 88: Emergency department attendance in the previous 12 months by age	91
Figure 89: Emergency department care ratings by sex	92
Figure 90: Emergency department care rated as excellent, very good or good by age	92
Figure 91: Reason for rating most recent emergency visit as fair or poor by sex	93
Hospital admissions	93
Figure 92: Hospital admission in the previous 12 months by age	94
Figure 93: Hospital care ratings by sex	95
Figure 94: Hospital care rated as excellent, very good or good by age	95
Figure 95: Reason for rating most recent overnight hospital stay as fair or poor by sex	96

Community health centres **96**

Figure 96: Community health centre attendance in the previous 12 months by age 97

Figure 97: Community health centre care ratings by sex 98

Figure 98: Community health centre care rated as excellent, very good, or good by age 98

Figure 99: Reason for rating most recent community health centre visit as fair or poor by sex 99

Public dental services **99**

Figure 100: Public dental service attendance in the previous 12 months by age 100

Figure 101: Public dental service care rating by sex 101

Figure 102: Public dental service care rated as excellent, very good, or good by age 101

Figure 103: Reason for rating most recent public dental service visit as fair or poor by sex 102

10. CONCLUSION **103**

Table 11: Trends in indicators of health behaviours by sex 105

Table 12: Trends in indicators of health status by sex 106

Table 13: Trends in indicators of health services by sex 107

11. QUESTION MODULES **108**

1. FOREWORD

I am pleased to present the *2004 Report on Adult Health from the New South Wales Population Health Survey*, which provides information on health behaviours, health status, and access to health services for people aged 16 years and over.

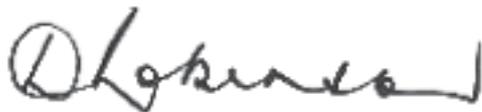
In 2004, data for the New South Wales Population Health Survey were collected from February to December.

After describing the survey methods, this report presents information on health behaviours relating to alcohol, cancer screening, immunisation, injury prevention, nutrition, physical activity, sexual health, smoking, and sun protection. This is followed by a chapter on health status including self-rated health, asthma, diabetes, mental health, oral health, overweight and obesity, vision, hearing, and injury. Next there is a chapter on health services including difficulties in getting health care, and access to and satisfaction with emergency departments, hospital admissions, community health services, and public dental services.

The electronic version of this report, which contains additional information, can be accessed at www.health.nsw.gov.au. Indicators are presented for males and females by age, socioeconomic disadvantage, and geographic location, and are compared to previous years where possible. This is a descriptive report, and there is a wealth of other information in the survey dataset that may be of specific interest. We encourage as many people as possible to access the dataset through the Health Outcomes Information Statistical Toolkit (HOIST) or by request.

Further information can be obtained from the NSW Department of Health's Centre for Epidemiology and Research. Comments on the New South Wales Population Health Survey are welcome.

I thank all the individuals and organisations who contributed their time and expertise to assist in the development and conduct of the Survey in 2004.



Denise Robinson

Chief Health Officer and Deputy Director-General, Population Health

November 2005

2. ACKNOWLEDGEMENTS

Questionnaire development and coordination

Deborah Baker, Margo Eyeson-Annan, and Matthew Gorringe.

Survey development and data collection

Deborah Baker, Margo Eyeson-Annan, Matthew Gorringe, Jason van Ritten, and the NSW Health Survey Program Interviewers.

Report development and coordination

Margo Eyeson-Annan and Deborah Baker.

Biostatistical advice

Kim Lim and Baohui Yang.

Data analysis

Margo Eyeson-Annan, Deborah Baker, Francis Naoum, Rachel Khoury, Tom Norris and Baohui Yang.

Data analysis infrastructure

Jill Kaldor, Alan Willmore, Tim Churches, Francis Naoum, Rachel Khoury, Ray Ferguson, Kevin Manefield, and Allison Low.

Text contributors

Deborah Baker, Margo Eyeson-Annan, Tom Norris, and Baohui Yang.

Review of text

Pam Albany, Ian Archer-Wright, Deborah Baker, Adrian Bauman, Cameron Bell, Michael Booth, Sue Campbell-Lloyd, Liz Collis, Bob Cumming, Elizabeth Develin, Victoria Flood, Andrew Grulich, Lilian Jackson, Celonia Jansen, Guy Marks, Rob Menzies, Elayne Mitchell, Bolivar Morejon, Nick Nicolopoulos, Darryl O'Donnell, Glenn Richard, Chris Rissel, Helen Scicluna, Freddy Sitas, Shanti Sivaneswaran, Gavin Stewart, Kim Stewart, Margaret Thomas, and Karen Webb.

Editors

Michael Giffin, Deborah Baker, Margo Eyeson-Annan and Louisa Jorm.

3. EXECUTIVE SUMMARY

Introduction

In 2004, the NSW Department of Health, in conjunction with the 8 area health services, completed the third year of the New South Wales Population Health Survey, an ongoing survey of the health of people of New South Wales using computer assisted telephone interviewing (CATI). The main aims of the survey are to provide detailed information on the health of the people of New South Wales, and to support the planning, implementation, and evaluation of health services and programs in New South Wales. This *2004 Report on Adult Health from the New South Wales Population Health Survey* reports on the health of residents aged 16 years and over.

The content of New South Wales Population Health Survey in 2004 was developed by the Health Survey Program in consultation with key stakeholders, area health services, other government departments, and a range of experts. The content covered the 8 priority areas outlined in *Healthy People 2005: New Directions for Public Health in New South Wales*. The questionnaire was translated into 5 languages: Arabic, Chinese, Greek, Italian, and Vietnamese.

In 2004, interviews were carried out continuously between February and December. The target population for the adult report was all New South Wales residents aged 16 years and over living in households with private telephones. Households were sampled using list assisted random digit dialling. When a household was contacted, one person was randomly selected for interview. Information for the adult report was collected on approximately 9,800 adults.

Health behaviours

Unhealthy behaviours contribute significantly to the burden of death and ill health in New South Wales. Health behaviours measured in adults in the New South Wales Population Health Survey in 2004 included alcohol intake, bowel cancer screening, fruit and vegetable consumption, immunisation, physical activity, sexual health, smoking, smoking in the home, and sun protection.

More than one-third of the overall adult population reported undertaking alcohol risk-drinking behaviours. More adult males than adult females reported risk-drinking behaviours, and young adults of both sexes were more likely to report risk-drinking behaviour than the general adult population. There was geographic variation, with rural residents reporting higher levels of risk-drinking than urban residents. Encouragingly, there has been a decrease in the proportion of adults reporting risk-drinking behaviours since 1997.

Among adults aged 50 years and over, 26 per cent reported having a screening test for bowel cancer (either a faecal occult blood test, or a sigmoidoscopy, or a colonoscopy) within the last 5 years. The proportion of women aged

between 50 and 69 years being screened for breast cancer in the last 2 years has remained unchanged (74.4 per cent). However, the proportion of women having a Pap test within the last 2 years as a screen for cervical cancer has decreased from 77.3 per cent in 1998 to 72.8 per cent in 2004.

Over three-quarters of people aged 65 years and over reported being vaccinated against influenza in the past 12 months. Less than one-half of people in this age group reported being vaccinated against pneumococcal disease in the preceding 5 years. Up until 2003, the proportion of people being vaccinated against both these conditions continued to increase each year. However, in 2004, the proportion being vaccinated had plateaued.

Just under one-half of all respondents reported eating the recommended daily fruit intake (2 serves), while only one in 10 respondents reported consuming the recommended daily minimum quantity of vegetables (5 serves). Under one-half of the respondents reported using low fat milk. A greater proportion of females than males consumed the recommended amount of fruit and vegetables and used low fat milk each day. Overall, just under 6 per cent of respondents reported that they had run out of food and could not afford to buy more on at least one occasion in the previous 12 months.

Just over one-half of all respondents aged 16 years and over reported undertaking adequate levels of physical activity (a total of 150 minutes per week on 5 separate occasions). The proportion of males undertaking adequate physical activity was greater than females.

Information on sexual health was collected for the first time in 2004. Around one in 25 people aged 16–70 years reported that they had practised unsafe sex in the previous 12 months. In the 16–24 year age group one in 10 people practised unsafe sex.

In 2004, one in 5 people were still current smokers. For the first time since 1997 there was no difference in the proportion of current smokers between males and females. More than 80 per cent of respondents reported that their home was smoke-free, while 7.5 per cent reported people 'occasionally' smoked inside the house, and 8 per cent reported that people 'frequently' smoked inside the house.

In 2004, an index of sun protection was developed to describe sun protection practices. Just over two-thirds of the adult population scored 'high' on the sun protection index. People were also asked about the ease of finding shade, and almost two-thirds found shade easily at local sporting areas, and around three-quarters found shade easily in parks and swimming pools.

Health status

In 2004, the New South Wales Population Health Survey collected information from adults on a range of health indicators including self-rated health status, asthma, diabetes,

hearing, interpersonal injury, oral health, overweight and obesity, psychological distress, and vision.

Almost 80 per cent of the adult population rated their own health as 'excellent', 'very good', or 'good'. This figure has continued to decline since 1997.

Overall, 10 per cent of the adult population aged 16 years and over reported current doctor-diagnosed asthma. A greater proportion of females than males reported current asthma.

Approximately 6 per cent of adults aged 16 years and over reported that a doctor had ever told them that they had diabetes. More males than females reported diabetes. The prevalence of diabetes increased with age and has increased since 1997.

Just over 6 per cent of all respondents reported that they had none of their natural teeth. A greater proportion of females than males had none of their natural teeth.

Just under one-half of all respondents reported being either overweight or obese, and 15 per cent of adults were classified as obese. A significantly greater proportion of males than females were classified as overweight or obese. The proportion of adults classified as overweight or obese has risen since 1997.

Overall, one in 9 respondents reported either 'high' or 'very high' levels of psychological distress. Females were more likely than males to report 'high' or 'very high' levels of psychological distress. Rates of 'high' and 'very high' psychological distress rose significantly between 2003 and 2004.

For the first time, information on hearing and vision was collected. Almost three-quarters of the adult population had had their eyesight tested in the previous 2 years, and just over one-half reported that they had normal vision in both

eyes. More males than females had normal vision. Over 80 per cent of the adult population have normal hearing in both ears. Only one in 7 adults with abnormal hearing were using a hearing aid.

Information on interpersonal violence in young people was also collected in 2004. One in 8 adults aged between 16 and 24 years had been the victim of a violent attack in the past 12 months. More males than females reported being attacked.

Health services

In 2004, the New South Wales Population Health Survey collected information on the use of, and satisfaction with, health services including emergency departments, hospitals, community health centres, and public dental services; and information on difficulties obtaining health care when needed.

Over one in 8 adults reported experiencing difficulties getting health care when needed. Rural residents were more likely to have difficulties getting health care than urban residents. The most frequently reported difficulty was waiting time for an appointment with a general practitioner followed by waiting time for dental services.

One in 7 adults reported attending an emergency department in the previous 12 months; of these, almost four-fifths rated the care received as 'excellent', 'very good', or 'good'. Similarly, one in 7 adults had been admitted to hospital and over 90 per cent of these rated the care received as 'excellent', 'very good', or 'good'. Around 7 per cent of the adult population attended a community health centre, with over 91 per cent rating the care they received as 'excellent', 'very good', or 'good'. Just over 5 per cent attended a public dental service, and 84 per cent rated the care they received as 'excellent', 'very good', or 'good'.

4. SNAPSHOT OF ADULT HEALTH, NSW, 2004

SNAPSHOT OF ADULT HEALTH, NSW, 2004

Topic	Issue	Indicator	Male (%)	Female (%)	Persons (%)
Health behaviours	Alcohol	Alcohol risk-drinking (Guideline 1)	40.5	30.3	35.3
	Pap test	Pap test within the last 2 years	–	72.8	72.8
	Screening mammogram	Screening mammogram within the last 2 years	–	74.4	74.4
	Fruit	Recommended daily fruit intake	40.6	53.4	47.1
	Vegetables	Recommended vegetable intake	6.0	10.3	8.2
	Physical activity	Adequate physical activity	57.0	47.9	52.4
	Smoking	Current daily or occasional smoking	22.5	19.3	20.9
	Smoke-free households	Smoke-free households	–	–	84.2
	Colorectal cancer	Screening test for colorectal cancer in the last 5 years	27.7	24.4	26.0
Health status	Self-rated health status	Excellent, very good, or good self-rated health status	79.4	79.5	79.5
	Asthma	Current asthma	8.9	11.9	10.4
	Diabetes	Diabetes or high blood sugar	8.0	5.3	6.6
	Psychological distress	High and very high psychological distress	11.7	14.7	13.2
	Oral health	All natural teeth missing	4.7	7.7	6.3
	Overweight and obesity	Overweight and obesity	56.2	40.5	48.4
Health services	Difficulty getting health care	Difficulties getting health care when needing it	12.7	15.0	13.9
	Emergency department care rating	Emergency department care rated as excellent, very good or good	77.3	81.7	79.4
	Hospital care rating	Hospital care rated as excellent, very good or good	91.6	90.5	91.0

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

5. METHODS

Introduction

In 2004, the NSW Department of Health, in conjunction with the 8 area health services, completed the third year of the New South Wales Population Health Survey, an ongoing survey of the health of the people of New South Wales using computer assisted telephone interviewing (CATI). The main aims of the survey are to provide detailed information on the health of the people of New South Wales, and to support planning, implementation, and evaluation of health services and programs in New South Wales.

Prior to the introduction of the New South Wales Population Health Survey in 2002, the Centre for Epidemiology and Research conducted adult health surveys in 1997 and 1998, an older people's health survey in 1999, and a child health survey in 2001.

This section describes the methods used for the *2004 Report on Adult Health from the New South Wales Population Health Survey*, which reports on the health of residents aged 16 years and over.

New South Wales Population Health Survey

Survey instrument

The survey instrument for the New South Wales Population Health Survey was developed by the Health Survey Program in consultation with key stakeholders, area health services, other government departments, and a range of experts.

The survey instrument included: questions used in previous surveys, new questions developed specifically for 2004, and questions developed specifically for some of the area health services. All new questions that had previously not been used were submitted to the Ethics Committee of the NSW Department of Health for approval prior to their use. New questions were also field tested prior to inclusion in the survey.

The final survey instrument covered the 8 priority areas outlined in *Healthy People 2005: New Directions for Public Health in New South Wales*,¹ and included questions on:

- social determinants of health;
- environmental determinants of health;
- individual or behavioural determinants of health;
- major health problems;
- population groups with special needs;
- settings;
- partnerships;
- infrastructure.

The survey instrument was translated into 5 languages: Arabic, Chinese, Greek, Italian and Vietnamese.

Survey sample

In 2004, the target population for the New South Wales Population Health Survey was all residents living in households with private telephones. The target sample

comprised approximately 1,500 people in each of the 8 area health services (total sample of 12,000).

The sampling frame was developed as follows. Records from the Australia on Disk electronic white pages (phone book) were geo-coded using MapInfo mapping software.^{2,3} The geo-coded telephone numbers were assigned to statistical local areas and area health services. The proportion of numbers for each telephone prefix by area health service was calculated. All prefixes were expanded with suffixes ranging from 0000 to 9999. The resulting list was then matched back to the electronic phone book. All numbers that matched numbers in the electronic phone book were flagged and the number was assigned to the relevant geo-coded area health service. Unlisted numbers were assigned to the area health service containing the greatest proportion of numbers with that prefix. Numbers were then filtered to eliminate contiguous unused blocks of greater than 10 numbers. The remaining numbers were then checked against the business numbers in the electronic phone book to eliminate business numbers. Finally, numbers were randomly sorted.

Households were contacted using random digit dialling. One person from the household was randomly selected for inclusion in the survey.

Interviews

In 2004, interviews were carried out continuously between February and December. Selected households that had addresses in the electronic phone book were sent a letter describing the aims and methods of the survey 2 weeks prior to initial attempts at telephone contact. An 1800 freecall contact number was provided for potential respondents to verify the authenticity of the survey and to ask any questions regarding the survey. Trained interviewers at the Health Survey Program CATI facility carried out interviews. Up to 7 calls were made to establish initial contact with a household, and 5 calls were made in order to contact a selected respondent.

Call outcomes and response rates

During the survey, 63,433 telephone numbers were called. The outcome for these telephone numbers is shown in Table 1. Only 21,855 (34 per cent) of the numbers called yielded an eligible household. The remaining numbers were not answered (despite 7 call backs); or were disconnected; or were business, fax, or interstate numbers.

In total, 11,830 interviews were conducted, with at least 1,288 interviews in each area health service and 9,786 with people aged 16 years or over. The overall response rate was 61.2 per cent (completed interviews divided by completed interviews and refusals). Response rates varied by health area, from 53.5 per cent in Sydney West Area Health Service to 66.7 per cent in Greater Southern Area Health Service (Table 2). Most respondents (99 per cent) were interviewed in English. The remaining interviews were conducted in Arabic, Chinese, and Greek (Table 3).

Data analysis

For analysis, the survey sample was weighted to adjust for differences in the probabilities of selection among subjects. These differences were due to the varying number of people living in each household, the number of residential telephone connections for the household, and the varying sampling fraction in each health area.

Post-stratification weights were used to reduce the effect of differing non-response rates among males and females and different age groups on the survey estimates. These weights were adjusted for differences between the age and sex structure of the survey sample and the Australian Bureau of Statistics 2003 mid-year population estimates (excluding people resident in institutions) for each area health service. Further information on the weighting process is provided elsewhere.⁴

Call and interview data were manipulated and analysed using SAS version 8.02.⁵ The SURVEYMEANS procedure in SAS was used to analyse the data and calculate point estimates and 95 per cent confidence intervals for the estimates. A 95 per cent confidence interval contains the actual value 95 per cent of the time. The narrower the 95 per cent confidence interval, the higher the precision of the estimate; the wider the 95 per cent confidence interval, the lower the precision of the estimate. The SURVEYMEANS procedure calculates standard errors adjusted for the design effect factor or DEFF (the variance for a non-random sample divided by the variance for a simple random sample). It uses the Taylor expansion method to estimate sampling errors of estimators based on the stratified random sample.⁵

The Kessler 10 measure of psychological distress

In 2004, the Kessler 10 (K10) scale was included in the New South Wales Population Health Survey as a measure of psychological distress.^{6,7} The K10 is a 10-item questionnaire intended to yield a global measure of psychological distress. It includes questions about the level of anxiety and depressive symptoms in the most recent 4-week period. For each question, there is a 5-level response scale based on the amount of time—from none of the time through to all the time—during a 4-week period that the person experienced the particular problem.

When scoring responses to the questionnaire, between one and 5 points were assigned to each symptom with a value of one indicating that the person experiences the problem 'none of the time' and 5 indicating 'all of the time'. It follows that the total K10 score for each person ranges from 10 points (that is, all responses are 'none of the time') through to 50 (all responses are 'all of the time').^{8,9}

The K10 scores calculated for the New South Wales Population Health Survey are a combination of actual and imputed scores. Where a respondent answered all 10 questions, the K10 score was simply the sum of the individual scores for each question. Where the respondent answered 9 questions, the score for the missing question was imputed as the mean score of the 9 answered questions.

TABLE 1

OUTCOME OF TELEPHONE CALLS

Outcome	Number of telephone numbers
Unable to contact	11,636
Not connected	21,596
Business–institution telephone	4,259
Fax number	3,741
Not in NSW or holiday house	345
Respondent away	800
Respondents confused or deaf	742
Non-translated language	941
Refusal	7,543
Complete	11,830
Total telephone numbers called	63,433

TABLE 2

COMPLETED INTERVIEWS AND RESPONSE RATES BY HEALTH AREA

Health area	Total respondents	Response rate (%)
Sydney South West	1,344	54.1
South Eastern Sydney & Illawarra	1,339	59.4
Sydney West	1,389	53.5
Northern Sydney & Central Coast	1,288	59.2
Hunter & New England	1,393	65.6
North Coast	1,529	64.8
Greater Southern	1,328	66.7
Greater Western	2,220	66.2
Total	11,830	61.2

TABLE 3

COMPLETED INTERVIEWS BY LANGUAGE

Language	Number of respondents
English	11,767
Arabic	39
Chinese	13
Greek	11
All	11,830

Indices of geographic remoteness and socioeconomic disadvantage: ARIA and SEIFA

The Accessibility–Remoteness Index of Australia Plus (ARIA+) is the standard Australian Bureau of Statistics endorsed measure of remoteness.¹⁰ It is derived using road distances from populated localities to the nearest service centres across Australia. For each locality, the accessibility to services is expressed as a continuous measure from 0 (high accessibility) to 15 (high remoteness) and grouped into 5 categories: major cities, inner regional, outer regional, remote, and very remote.

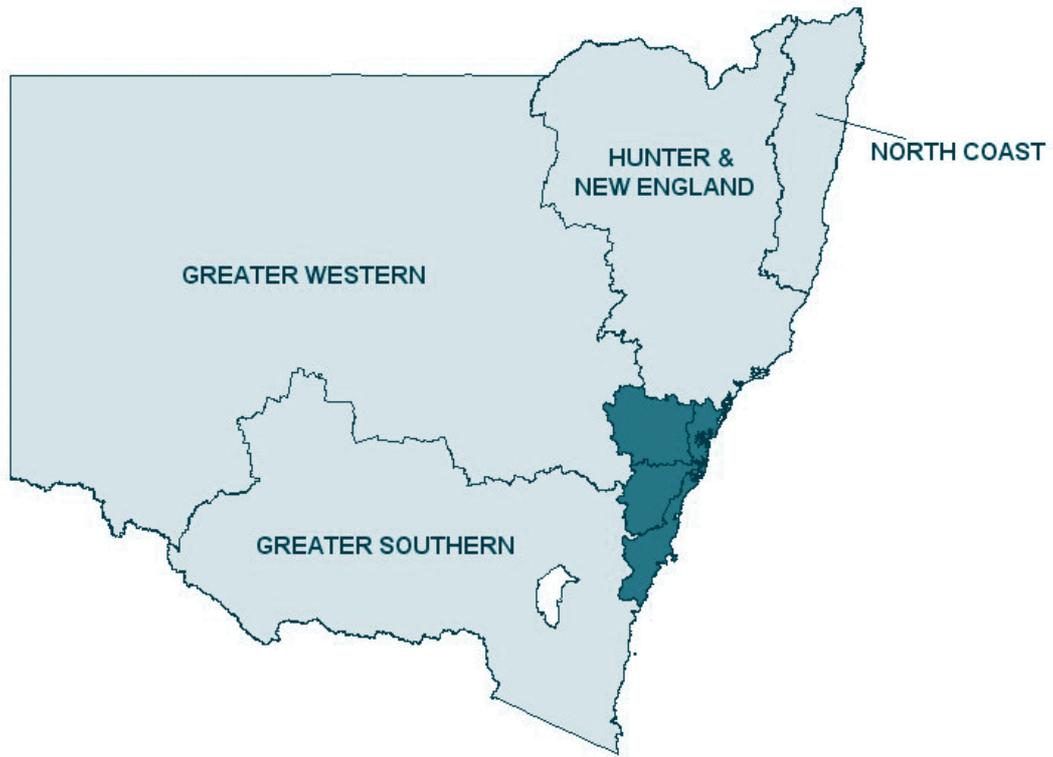
The Socio-Economic Indexes for Areas (SEIFA) describe the socioeconomic aspects of geographical areas in Australia, using a number of underlying variables such as family and household characteristics, personal educational qualifications, and occupation.¹¹ The SEIFA index that is used to provide breakdowns of the New South Wales Population Health Survey data in 2004 is the Index of Relative Socio-Economic Disadvantage. This index is calculated on attributes such as low income and educational attainment, high unemployment, and people working in unskilled occupations. The SEIFA index values are grouped into 5 quintiles, with quintile one being the least disadvantaged and quintile 5 being the most disadvantaged.

Both the ARIA+ and SEIFA indexes were assigned to the results of the New South Wales Population Health Survey in 2004 based on respondents' postcode of residence. Rates for each SEIFA quintile were calculated for several health indicators included in this report to enable socioeconomic comparisons.

References

1. Population Health Division. *Healthy People 2005: New Directions for Public Health in New South Wales*. Sydney: NSW Department of Health, 2000.
2. Australia on Disk [software]. Sydney: Australia on Disk, 2000.
3. MapInfo [software]. Troy, NY: MapInfo Corporation, 1997.
4. Williamson M, Baker D, Jorm L. The NSW Health Survey Program: Overview and methods 1996–2000. *N S W Public Health Bull* 2001; 12(S-2).
5. SAS Institute. The SAS System for Windows version 8.2. Cary, NC: SAS Institute Inc., 2001.
6. Kessler R, Mroczec D. An update of the development of mental health screening scales for the US National Health Interview Survey. Ann Arbor MI: Survey Research Centre of the Institute for Social Research, University of Michigan, Memo dated December 22, 1992.
7. Kessler R, Mroczec D. Final versions of our Non-Specific Psychological Distress Scale. Ann Arbor MI: Survey Research Centre of the Institute for Social Research, University of Michigan, Memo dated March 10, 1994.
8. Australian Bureau of Statistics. Information paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys. Catalogue no. 4187.0.55.001. Canberra: ABS, 2003.
9. Australian Bureau of Statistics. *1997 National Survey of Mental Health and Wellbeing: Adult component*. Catalogue no. 4326.0. Canberra: ABS, 1998.
10. Australian Bureau of Statistics. *ASGC Remoteness Classification: Purpose and Use*. Census Paper no. 03/01. Canberra: Commonwealth of Australia, 2003.
11. Australian Bureau of Statistics. *1996 Census of Population and Housing: Socio-Economic Indexes for Areas Information Paper*. Catalogue no. 2039.0. Canberra: ABS, 1998.

MAP OF NSW AREA HEALTH SERVICES



6. REPRESENTATIVENESS OF SAMPLE

Representativeness of the sample

In 2004, male respondents were under-represented in the New South Wales Population Health Survey, making up 42.8 per cent of the survey sample compared with 49.8 per cent of the overall residential population of New South Wales. Conversely, female respondents were over-represented, making up 57.2 per cent of the survey sample compared with 50.2 per cent of the overall residential population of New South Wales. Males aged 54 years or younger and females aged 44 years and under were under-represented in the sample, while males aged 55 years or over and females aged 45 years and over were over-represented in the sample. Comparisons of the distribution of the survey sample and that of the overall residential population are shown in Table 4 and Figures 1 and 2. After weighting, the age and sex distribution of the survey sample reflected that of the overall residential population.

Indigenous people comprised 2.3 per cent of the survey sample, which is higher than their representation in the overall residential population of New South Wales (1.9 per cent). People born in Australia comprised 75.5 per cent of the survey sample, which is higher than their representation in the overall residential population of New South Wales (70.5 per cent) according to the 2001 Census.¹

Figures 3–10 provide information on Indigenous status, country of birth, SEIFA and ARIA+ quintile, language spoken at home, current employment status, highest level of school completed, and income.

References

1. Australian Bureau of Statistics. *Selected social and housing characteristics for statistical local areas, NSW and Jervis Bay Territory*. Catalogue no. 2015.1. Canberra: ABS, 2002.

TABLE 4

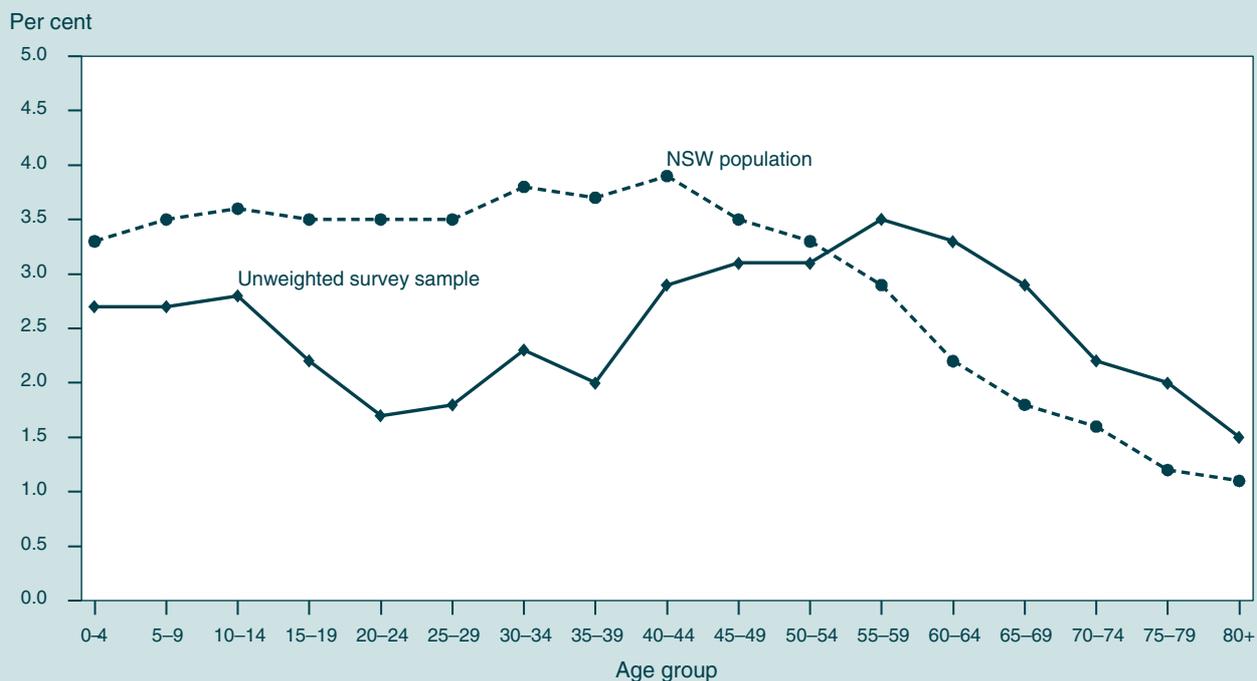
SURVEY SAMPLE SIZE AND NSW POPULATION BY AGE AND SEX

Age group	Survey sample (unweighted)						NSW population June 2003					
	Males		Females		Persons		Males		Females		Persons	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
0–4 years	318	2.7	310	2.6	628	5.3	220097	3.3	207977	3.1	428074	6.5
5–9 years	322	2.7	273	2.3	595	5.0	228288	3.5	217067	3.3	445356	6.7
10–14 years	331	2.8	332	2.8	663	5.6	234980	3.6	222871	3.4	457851	6.9
15–19 years	263	2.2	295	2.5	558	4.7	231024	3.5	220381	3.3	451405	6.8
20–24 years	199	1.7	250	2.1	449	3.8	228399	3.5	220986	3.3	449385	6.8
25–29 years	208	1.8	291	2.5	499	4.2	229050	3.5	230100	3.5	459150	6.9
30–34 years	269	2.3	362	3.1	631	5.3	252674	3.8	257211	3.9	509885	7.7
35–39 years	242	2.0	387	3.3	629	5.3	242448	3.7	243240	3.7	485688	7.3
40–44 years	346	2.9	441	3.7	787	6.7	256059	3.9	256065	3.9	512124	7.7
45–49 years	361	3.1	486	4.1	847	7.2	231662	3.5	233527	3.5	465189	7.0
50–54 years	363	3.1	562	4.8	925	7.8	215855	3.3	215771	3.3	431626	6.5
55–59 years	416	3.5	570	4.8	986	8.3	194402	2.9	189548	2.9	383950	5.8
60–64 years	395	3.3	532	4.5	927	7.8	146686	2.2	144579	2.2	291265	4.4
65–69 years	345	2.9	484	4.1	829	7.0	120263	1.8	124742	1.9	245006	3.7
70–74 years	265	2.2	458	3.9	723	6.1	102515	1.6	113099	1.7	215614	3.3
75–79 years	236	2.0	394	3.3	630	5.3	80577	1.2	100414	1.5	180991	2.7
80+ years	181	1.5	343	2.9	524	4.4	74967	1.1	124803	1.9	199770	3.0
Total	5060	42.8	6770	57.2	11830	100	3289946	49.8	3322381	50.2	6612328	100

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

FIGURE 1

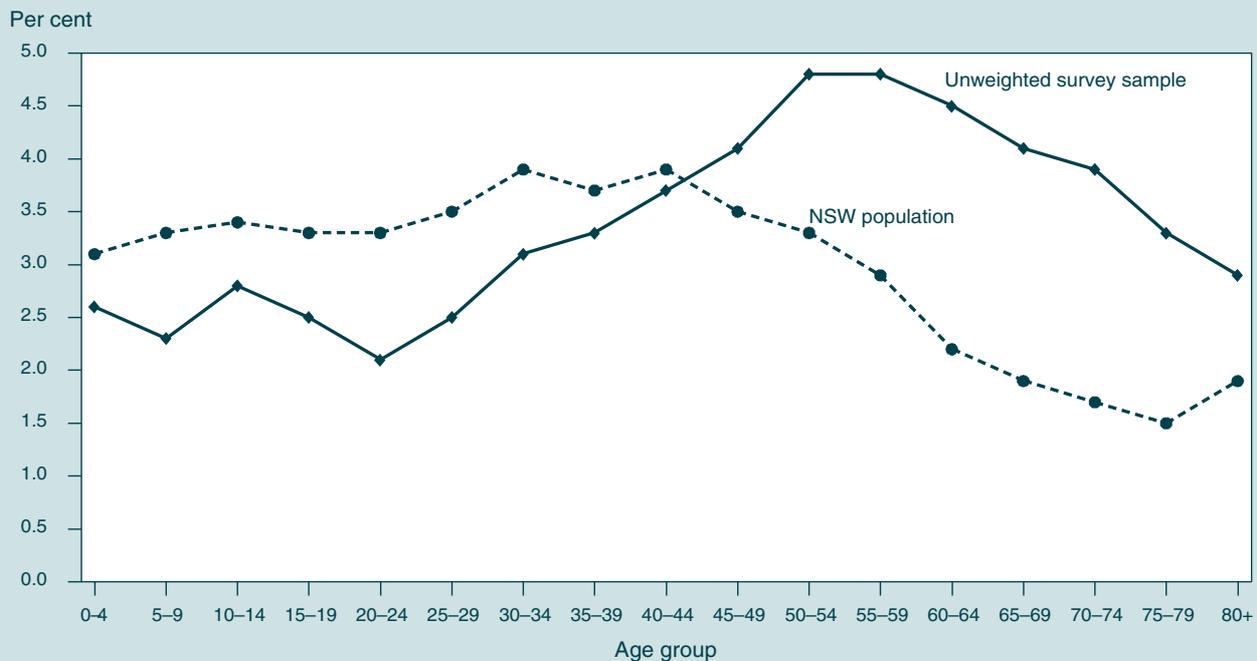
AGE DISTRIBUTION OF UNWEIGHTED SURVEY SAMPLE VERSUS NSW POPULATION: MALES



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

FIGURE 2

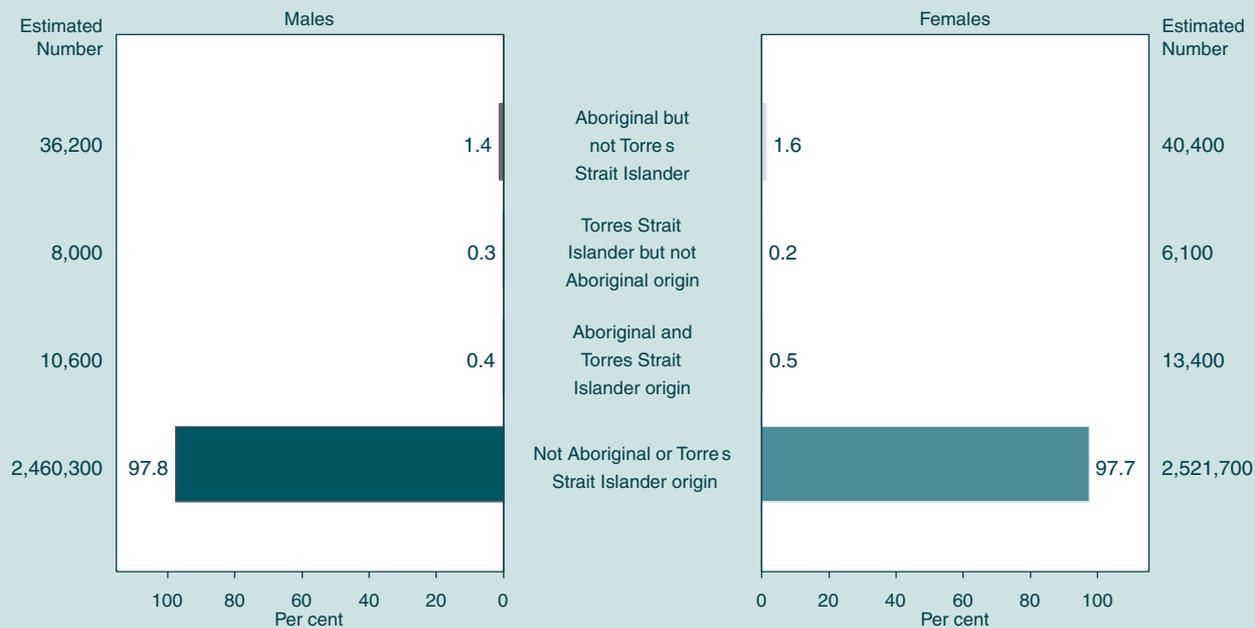
AGE DISTRIBUTION OF UNWEIGHTED SURVEY SAMPLE VERSUS NSW POPULATION: FEMALES



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

FIGURE 3

ABORIGINAL OR TORRES STRAIT ISLANDER ORIGIN, 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 4

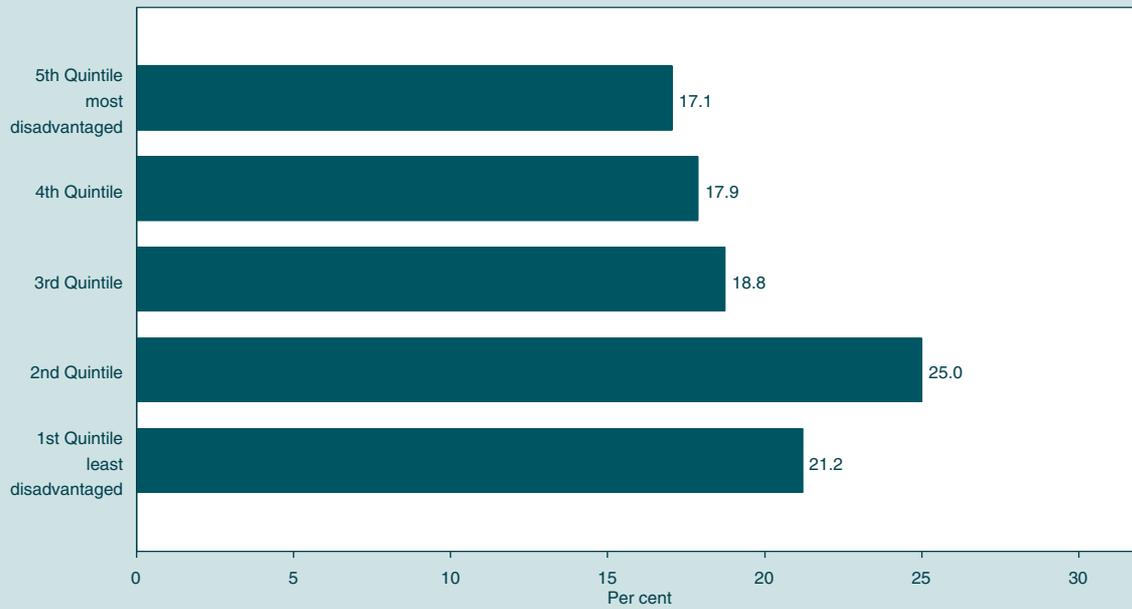
COUNTRY OF BIRTH, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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

FIGURE 5

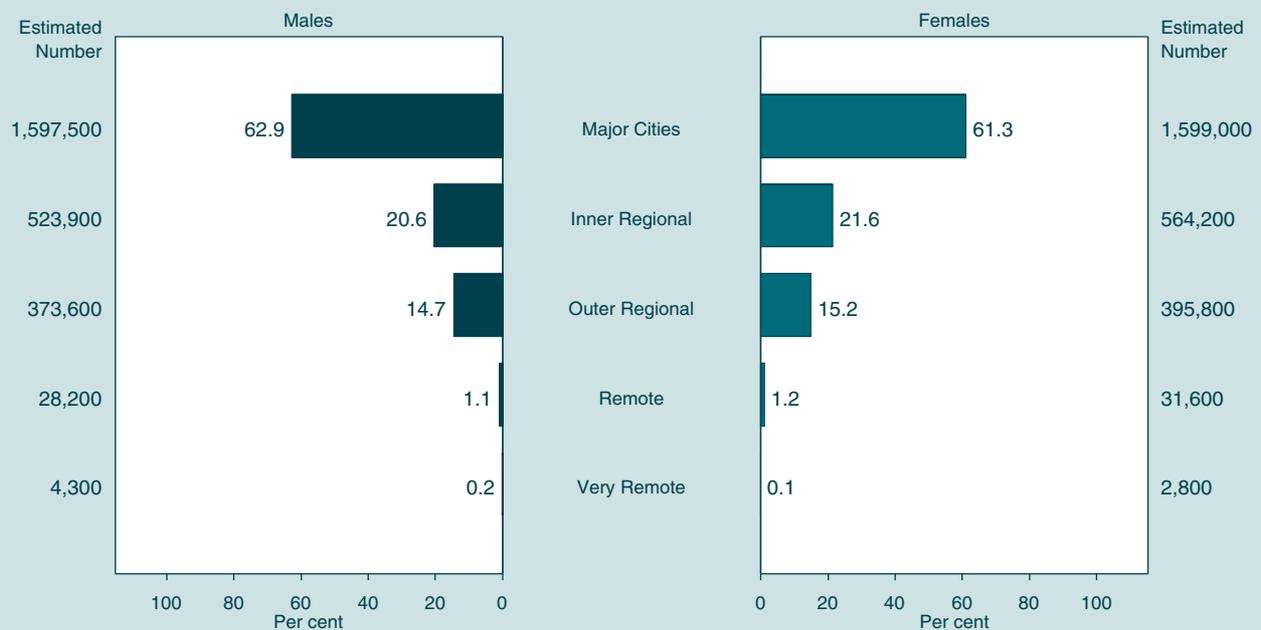
SOCIOECONOMIC INDEX (SEIFA) QUINTILE, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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

FIGURE 6

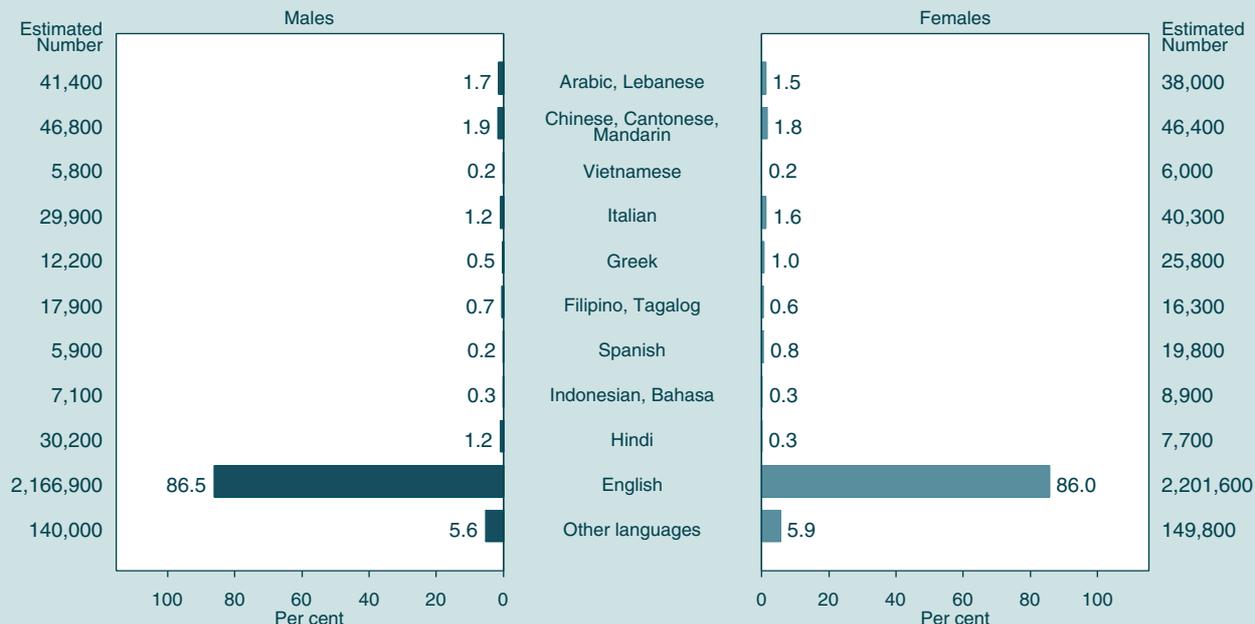
ACCESSIBILITY-REMOTENESS INDEX PLUS (ARIA+) QUINTILE, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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

FIGURE 7

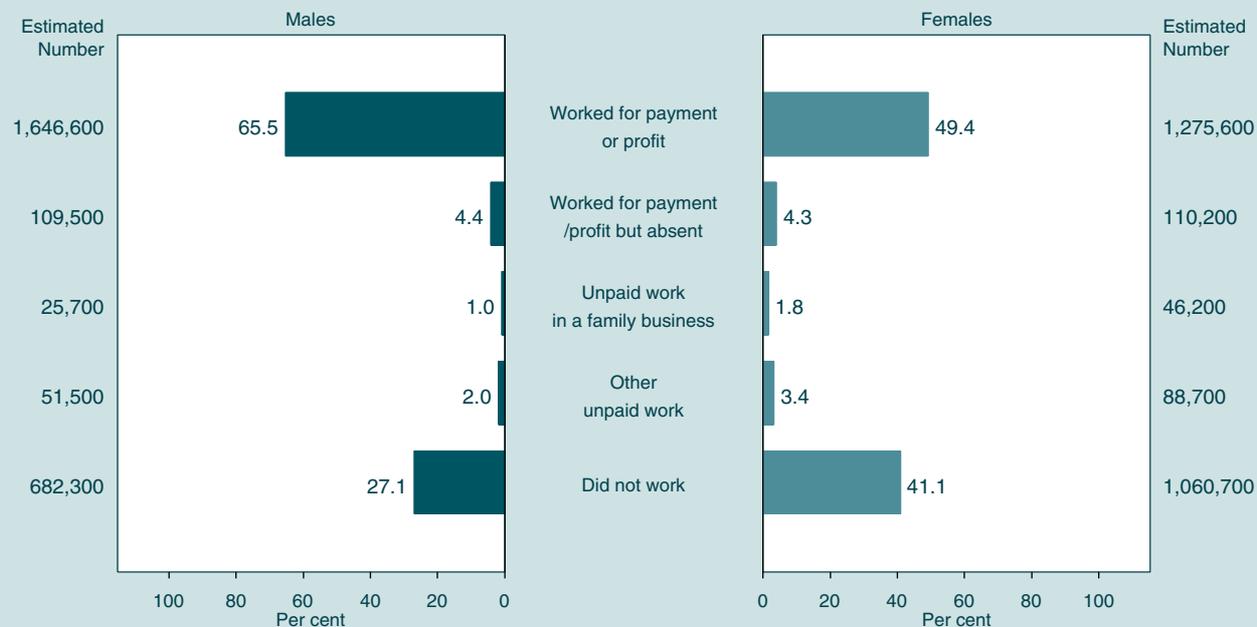
LANGUAGE SPOKEN AT HOME, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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

FIGURE 8

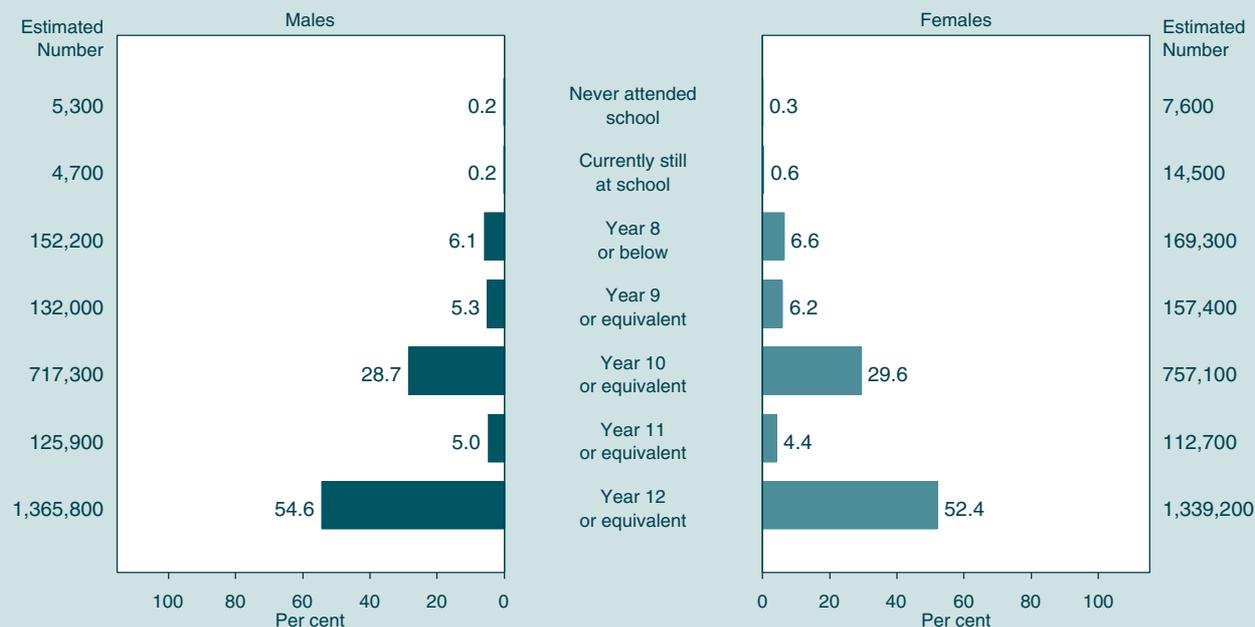
CURRENT EMPLOYMENT STATUS, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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

FIGURE 9

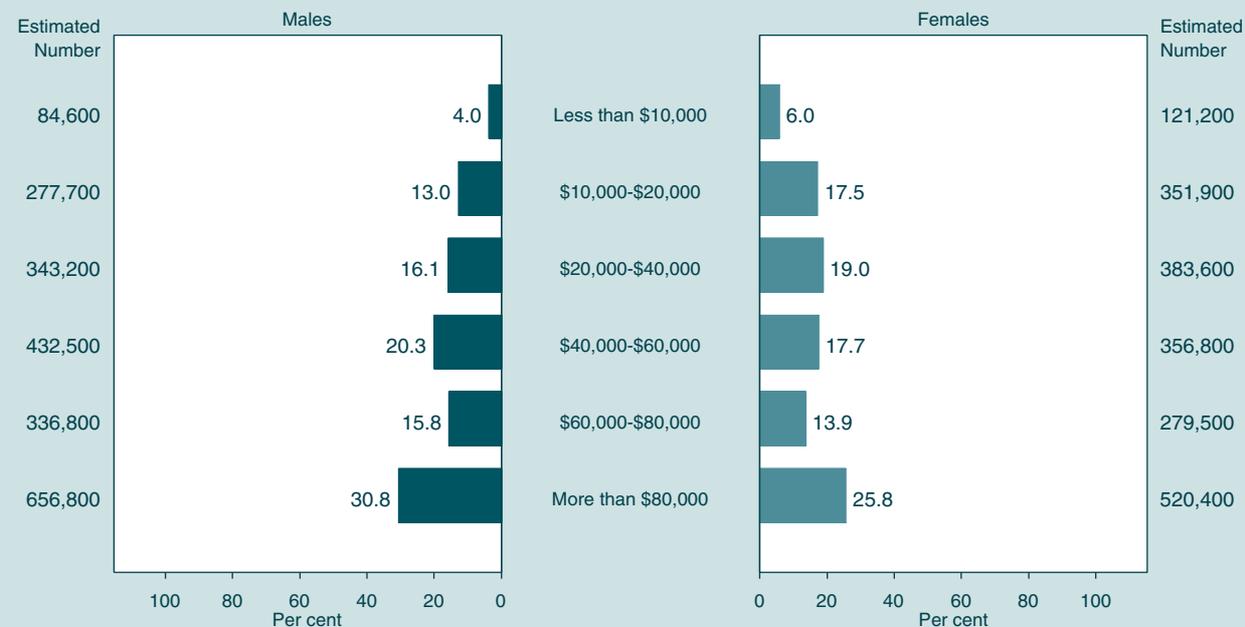
HIGHEST LEVEL OF SCHOOL COMPLETED, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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

FIGURE 10

ANNUAL HOUSEHOLD INCOME, 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.

7. HEALTH BEHAVIOURS

Health behaviours in adulthood influence health and wellbeing. Behaviours relating 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 directly influence preventable disease and premature mortality throughout adulthood. The health behaviours measured in 2004 in the New South Wales Population Health Survey included alcohol intake, cancer screening (colorectal), cancer screening (breast and cervical), immunisation, injury prevention (smoke alarm or detector in the home), nutrition, physical activity, sexual health, smoking and exposure to tobacco smoke in the home and car, and sun protection.

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.¹ 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. In New South Wales in 2002, alcohol use caused an estimated 1,544 deaths (1,107 males and 437 females). This represents 4.7 per cent and 2.0 per cent of all male and female deaths respectively. In 2002–03, alcohol caused an estimated 37,991 hospitalisations (24,368 among males and 13,624 among females). This represents 2.5 per cent and 1.2 per cent of all male and female hospitalisations respectively. The proportion of people in Australia who engage in high risk drinking—as measured in the National Health Survey—has not changed since 1990.³

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 the middle-aged and elderly populations.⁴

To monitor levels of alcohol use in the community, in 2004 the New South Wales Population Health Survey 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 4 weeks how often have you had more than 4 [if male] or 2 [if female] drinks in a day?’; ‘In the past 4 weeks, how often have you had 11 or more [if male] or 7 or more [if female]

drinks in a day?’; ‘In the past 4 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,⁵ as one or more of the following: consuming alcohol every day; consuming on average more than 4 if male or 2 if female ‘standard drinks’ per day; or consuming more than 6 if male or 4 if female ‘standard drinks’ on any occasion in the past 4 weeks.

In 2004, more than one-third of the overall adult population (35.4 per cent) undertook ‘any risk drinking behaviour’. The proportion of males (40.5 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 16–24 years (53.0 per cent) and a significantly lower proportion of those aged 65–74 years (30.3 per cent) undertook any risk-drinking behaviour, compared with the overall adult male population. Among females, a significantly greater proportion of those aged 16–24 years (45.4 per cent) and a significantly lower proportion of those aged 55 years and over (ranging from 23.7 per cent among those aged 55–64 years to 18.3 per cent aged 75 years and over) were likely to undertake any risk-drinking behaviour, compared with the overall adult female population.

There was significant geographic variation in ‘any risk drinking behaviour’, with a significantly higher proportion of rural residents (39.2 per cent) reporting any risk drinking behaviour than urban residents (34.4 per cent). A significantly lower proportion of males in the Sydney South West (30.9 per cent) and Sydney West (32.6 per cent) Health Areas, and a significantly greater proportion of females in the Northern Sydney and Central Coast (38.0 per cent) and Greater Southern (37.4 per cent) Health Areas were likely to undertake any risk drinking behaviour, compared to the overall adult male and female populations.

A significantly lower proportion of males (31.7 per cent) and females (24.4 per cent) in the most socioeconomically disadvantaged quintile were likely to undertake risk-drinking behaviours than the overall adult male and female populations.

Encouragingly, there has been a significant decrease in the proportion of people reporting ‘any risk drinking behaviour’ between 1997 (42.3 per cent) and 2004 (35.4 per cent). This decrease was greater in males (50.6 per cent to 40.7 per cent) than females (34.3 per cent to 30.2 per cent).

High short-term alcohol risk: ‘Binge drinking’

Short-term alcohol risk was categorised into ‘no risk’ (did not drink alcohol), ‘low risk’ (having consumed up to 6 standard drinks on any one day if male, or up to 4 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 7 or more if female), as per the WHO International Guide for Monitoring Alcohol Consumption and Related Harm.⁶

Overall, in 2004, 27.0 per cent of people were classified as 'no risk' as they did not drink alcohol, 53.0 per cent were categorised as at 'low risk', 10.1 per cent were classified as 'risky', and 9.6 per cent were classified as 'high risk' of harm in the short-term. The proportion of males reporting short-term high-risk drinking (12.6 per cent) was significantly higher than the proportion of females (7.1 per cent).

Among males, a significantly higher proportion of those aged 16–24 years (28.5 per cent), and a significantly lower proportion of those aged 65 years and over (1.7 per cent among those 65–74 years and 1.2 per cent among those 75 years and over) undertook short-term high-risk drinking, compared with the overall adult population of males. Among females, a significantly higher proportion aged 16–24 years (18.3 per cent) and a significantly lower proportion aged 45 years and over (ranging from 4.1 per cent among those aged 45–54 years to 0.3 per cent aged 75 years and over) were likely to undertake short-term high-risk drinking, compared with the overall population of females.

There was no significant difference in the levels of short-term high-risk drinking between urban residents and rural residents.

In 2004, there was no significant difference in the levels of short-term high-risk drinking among any of the 5 quintiles of socioeconomic disadvantage.

There was no significant change in the proportion of people engaging in short-term high-risk drinking between 2002 and 2004.

Figure 11 shows any risk alcohol drinking by age. Figure 12 shows any risk alcohol drinking by socioeconomic disadvantage. Figure 13 shows alcohol drinking by risk. Figure 14 shows the proportion of people reporting high risk alcohol drinking 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. 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.
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.

FIGURE 11

ANY RISK ALCOHOL DRINKING 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 12

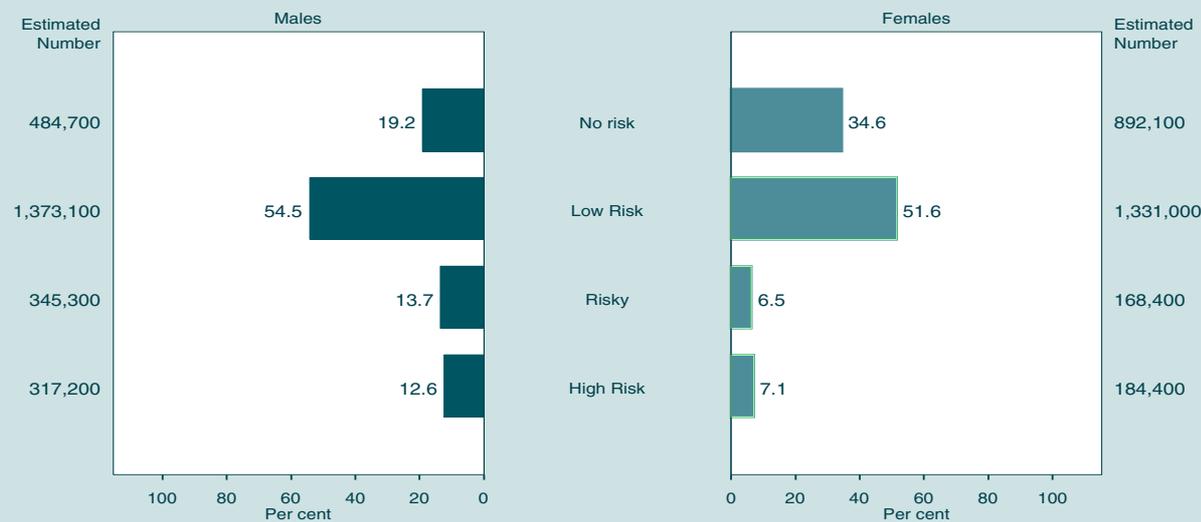
ANY RISK ALCOHOL DRINKING BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 13

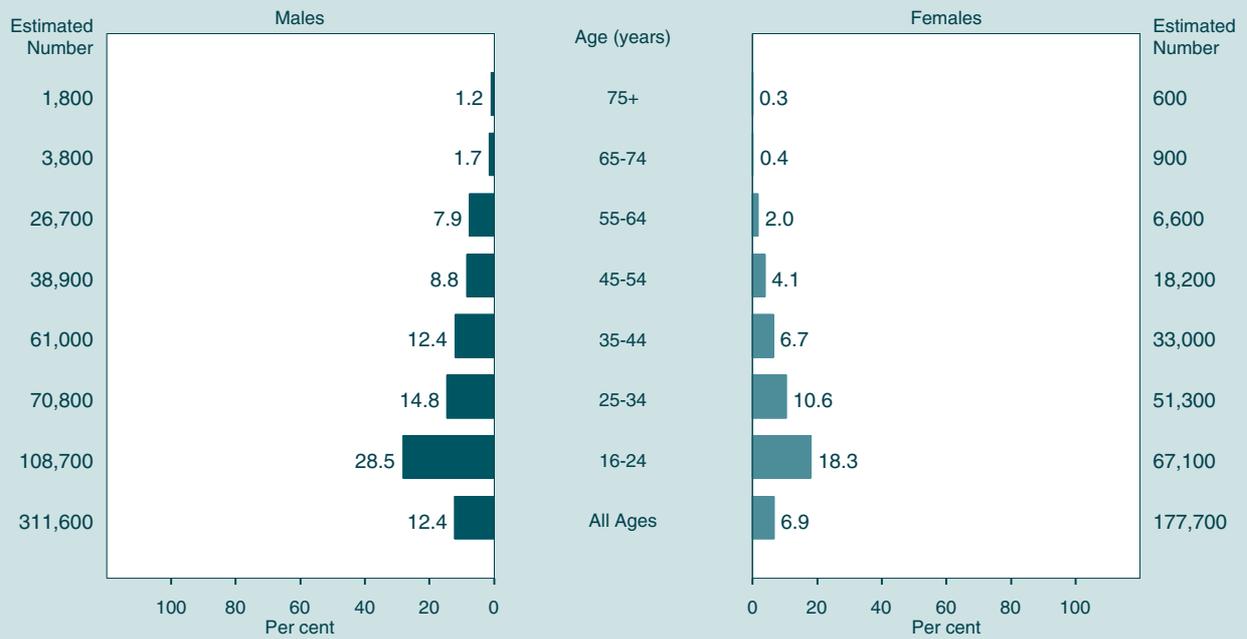
ALCOHOL DRINKING BY RISK, PERSONS WHO CONSUME ALCOHOL AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 14

HIGH RISK ALCOHOL DRINKING 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.

Cancer screening (breast and cervical)

Introduction

Australia currently supports 2 population cancer screening programs: BreastScreen Australia, a population-based breast cancer screening program for females aged over 40 years, targeting females in the 50–69 years age group; and the National Cervical Screening Program for cervical cancer, a population screening program targeting all females aged 18–70 years who have ever been sexually active.

The aim of screening for cancer is to reduce mortality and disability from the disease. Mortality, and not 5-year survival, is the outcome indicator for screening because survival may be extended purely as a consequence of the cancers being diagnosed earlier before symptoms are apparent.

In 2003, breast cancer was the most common cancer in women, comprising 29 per cent of all female cancers. Between 1994 and 2003, the age-standardised incidence of breast cancer increased by 7 per cent per cent in females;¹ however, the mortality rate fell by 22 per cent in this period. Part of the increasing incidence of breast cancer is explained by the earlier detection of cancers through mammographic screening. This explanation is supported by evidence that the average size of breast cancer tumours has decreased.²

The BreastScreen NSW program (part of BreastScreen Australia) began in 1991, and offers women aged 50–69 years a screening mammogram every 2 years. BreastScreen NSW has set a target rate for 2-yearly screening of 70 per cent of females aged 50–69 years. A screening mammogram differs from a diagnostic mammogram in that screening is conducted on females who have no history of breast cancer, and no breast problems or symptoms at the time the mammogram is taken.

The incidence of cervical cancer has been decreasing steadily in the last 3 decades. Between 1972 and 2001, cervical cancer declined from the fourth to the thirteenth most common cancer in females, and between 1994 and 2003 age-standardised incidence rates of cervical cancer fell by 46 per cent.¹

The Pap test is effective at detecting precancerous lesions in the cervix, and regular 2-yearly testing with appropriate follow up treatment can prevent cervical cancer from developing in most cases.³ This is why cervical screening can reduce both cancer incidence and mortality. The target population for the Pap test is all women aged between 18 and 70 years who have ever been sexually active.

In 2004, the New South Wales Population Health Survey asked females aged 50–69 years the following questions: ‘Have you ever had a mammogram?’, ‘When did you last have a mammogram?’, ‘Can you tell me all the reasons why you had your last mammogram?’, ‘Do you have mammograms regularly?’, ‘What is the usual time period between your mammograms?’. Females aged 20–69 years were also asked the following questions: ‘Have you ever

had a Pap test?’, ‘When did you last have a Pap test?’, ‘Do you have a Pap test regularly?’, ‘What is the usual time period between your Pap tests?’.

Results

Breast cancer screening

To establish the proportion of females who have screening mammograms, females who had a breast problem or breast cancer in the past were excluded from the data.

In 2004, 74.4 per cent of females aged 50–69 years reported having a screening mammogram within the past 2 years. There was no variation in the proportion having a screening mammogram within the past 2 years by age.

There was no significant variation in the proportion of females who reported having a screening mammogram in the last 2 years by geographic location or socioeconomic status.

There was no significant difference in the proportion of females aged 50–69 years who had a screening mammogram in the last 2 years between 1997 and 2004.

Cervical cancer screening

To establish the proportion of females who have Pap tests, women who have had a hysterectomy were excluded from the data.

In 2004, 72.8 per cent of females aged 20–69 years reported having a Pap test in the past 2 years. A significantly lower proportion of females aged 20–29 years (61.6 per cent) and a significantly greater proportion aged 30–39 years (81.8 per cent) had a Pap test within the last 2 years, compared with the overall adult female population aged 20–69 years.

There was no significant variation in the proportions of females who reported having a Pap test within the last 2 years by geographic location or socioeconomic status.

There was a significant decrease in the proportion of females who reported having a Pap test in the last 2 years between 1998 (77.3 per cent) and 2004 (72.8 per cent).

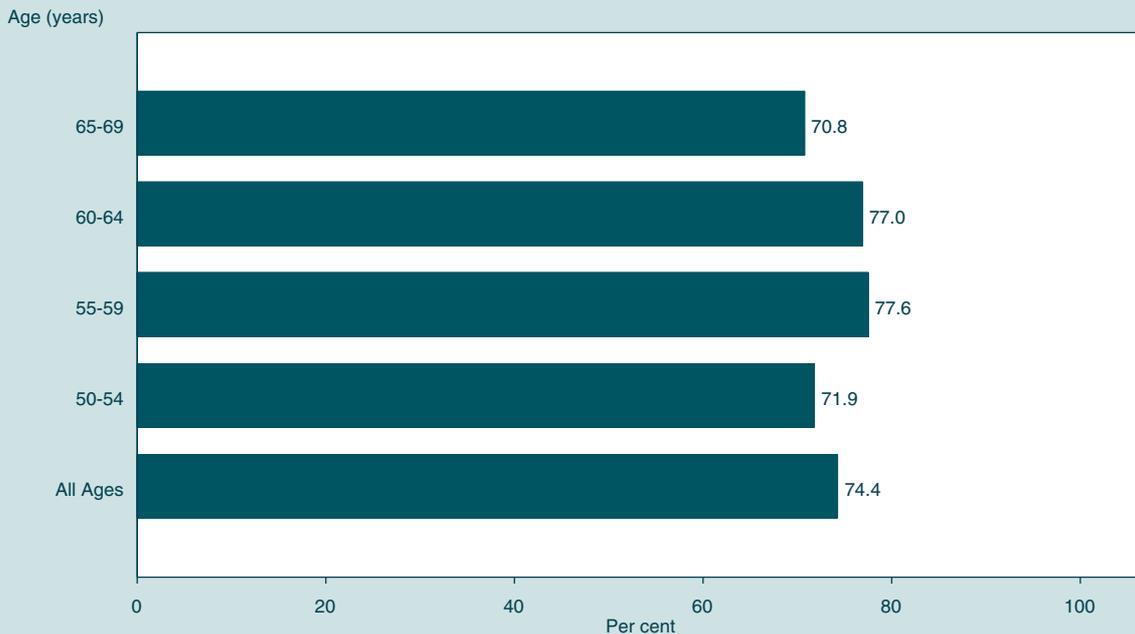
Figures 15–16 provides information on the proportion of women who reported having had screening mammograms and Pap tests within the last 2 years by age.

References

1. Tracey EA, Roder D, Bishop J, Chen S, Chen W. *Cancer in NSW: Incidence and mortality 2003*. Sydney: The Cancer Council NSW, 2005.
2. Krickler A, Farac K, Smith D, Sweeny A, McCredie M, and Armstrong BK. Breast Cancer in New South Wales in 1972–1995: Tumour size and the impact of mammographic screening. *Int J Cancer* 1999; 81: 877–881.
3. Cervical Cancer Screening Evaluation Steering Committee. *The interim evaluation of the organised approach to preventing cancer of the cervix 1991–1995*. Canberra: Commonwealth Department of Human Services and Health, 1995.

FIGURE 15

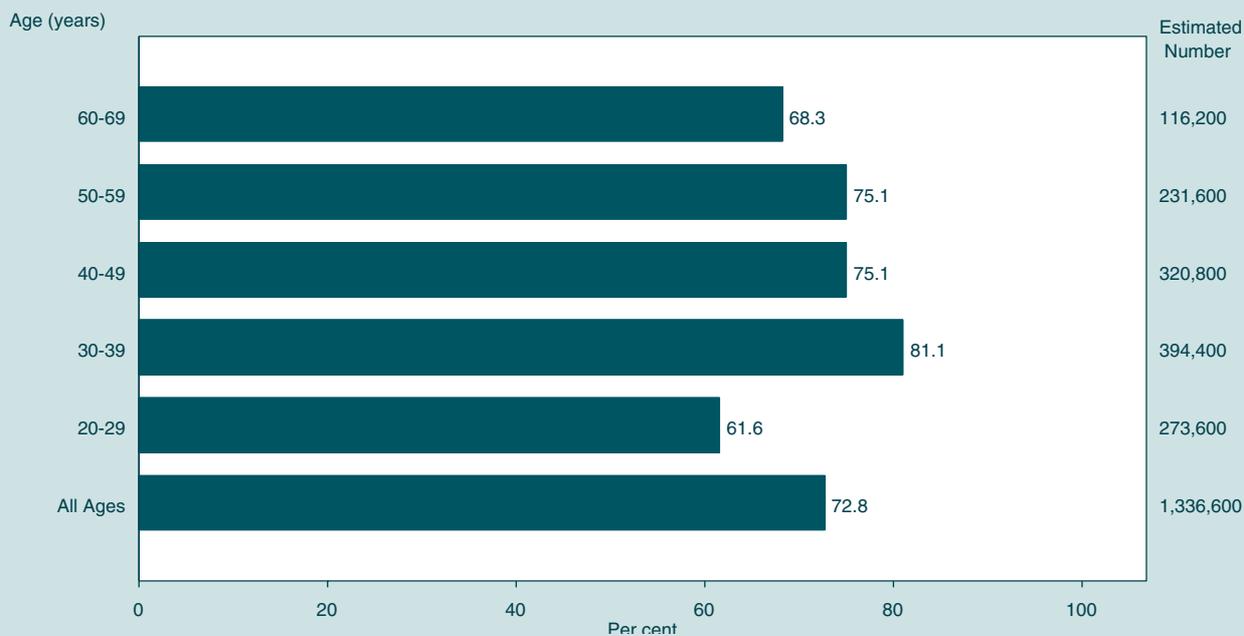
SCREENING MAMMOGRAM WITHIN THE LAST 2 YEARS BY AGE, FEMALES AGED 50 TO 69 YEARS, NSW 2004



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

FIGURE 16

PAP TEST WITHIN THE LAST 2 YEARS BY AGE, FEMALES AGED 20 TO 69 YEARS, NSW 2004



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

Cancer screening (colorectal)

Introduction

Colorectal or bowel cancer is cancer involving the large bowel. It is the most commonly diagnosed non-cutaneous cancer in Australia, with one in 19 men and one in 27 women developing colorectal cancer by the age of 75 years.¹ In New South Wales, colorectal cancer affects 4,000 people every year and for the period 1993 to 1997 incidence rates were among the highest in the world.² In 2002, colorectal cancer ranked second for incidence and mortality in both males and females and was the most common cancer for both sexes combined.²

The risk of colorectal cancer increases markedly with age.^{1,3} It is rare in people under the age of 50 and the median age of diagnosis is around 70 years. The risk is increased in people with a family history of the disease.³

The earlier the stage at diagnosis, the higher is the chance of survival.^{1,2} The best chance of cure is when the disease is localised to the bowel wall or at least does not involve the lymph nodes, which usually means before symptoms develop.⁴ Therefore, screening programs offer the opportunity to detect colorectal cancer early and they have been shown to reduce mortality from colorectal cancer by between 16 and 23 per cent.³ There are 4 different types of screening tests that can be used to detect early cancer of the bowel: faecal occult blood testing (FOBT) tests faeces samples for small amounts of blood; sigmoidoscopy (rigid or flexible) examines the lower part of the bowel; sigmoidoscopy combined with double-contrast barium enema examines the whole of the large bowel; and colonoscopy examines the whole of the large bowel.

The NHMRC guidelines for screening differ according to 3 levels of relative risk, based on family history. Most (98 per cent) of the population are classified as being at average risk. These people are asymptomatic and have either no family history of colorectal cancer or only one first or second degree relative with colorectal cancer diagnosed at 55 or older. For these people, the guidelines recommend FOBT at least every 2 years from age of 50 and to consider sigmoidoscopy (preferably flexible) every 5 years.^{1,3}

People with 2 first or second degree relatives with colorectal cancer are classified as being at a moderately increased risk, which includes between one and 2 per cent of the population. The recommended NHMRC screening guidelines for this group are for colonoscopy every 5 years, starting at age 50 years or at an age 10 years younger than that of the youngest family member at the time they were diagnosed with colorectal cancer, whichever comes first. Sigmoidoscopy plus double-contrast barium enema is an acceptable alternative to colonoscopy, if colonoscopy is unavailable, and FOBT should be considered in the intervening years.^{3,5}

The third category includes those from families at potentially high risk due to strong genetic predisposition and covers less than one per cent of the population. This group is advised to have a colonoscopy annually or 2-yearly commencing at around 25 years of age.^{3,5}

In 2004, the New South Wales Population Health Survey asked all persons 50 years and over the following questions: 'Bowel cancer is a common cancer that, if found, can be treated at an early stage. Bowel cancer may be detected by means of an x-ray of the bowel, or by a test that involves a doctor passing a long tube through your back passage to examine the inside of your bowel, or by examining a sample of faeces. Have you ever had any of these types of investigation?', 'Which of these investigations have you had?', 'When did you have your last x-ray?', 'When did you have your last test with a tube-like instrument?', 'When did you have your last faeces sample examined?', 'Can you tell me all the reasons why you had [this-these] investigations for bowel cancer?', 'Can you tell me how old this relative was when they were diagnosed with bowel cancer?', and 'Were the relatives diagnosed with bowel cancer on the same side of your family?'.

Results

Screening for colorectal cancer

Overall, 26.0 per cent of people in New South Wales aged 50 years and over had undergone a test (FOBT or colonoscopy or sigmoidoscopy) for colorectal cancer in the last 5 years for screening and not as part of follow-up treatment. A significantly greater proportion of males aged 65–69 years had undergone a screening test for colorectal cancer (34.7 per cent), compared to the overall adult population.

There was no significant variation in the proportion of people screened for colorectal cancer in the last 5 years by socioeconomic status.

There was no significant variation in the proportion of people screened for colorectal cancer in the last 5 years by urban or rural location. A significantly greater proportion of people in the North Coast Health Area (36.8 per cent) and a significantly lower proportion of people in the Greater Southern Health Area (18.1 per cent) reported a screening test in the last 5 years, compared to the overall adult population.

Reasons for undergoing screening tests

Among people aged 50 years or over who had undergone an FOBT over the last 5 years for screening and not as part of follow up treatment, 35.6 per cent were screened as part of a regular checkup with their doctor, 30.8 per cent as a result of publicity about bowel cancer and screening, and 29.9 per cent because their doctor recommended it.

Among people who had undergone a sigmoidoscopy or colonoscopy over the last 5 years for screening and not as part of follow up treatment, the most common reasons for being screened were recommendation by their doctor (43.3 per cent), as part of a regular checkup (27.9 per cent), and having one close relative with bowel cancer (19.7 per cent).

Figure 17 provides information on the proportion of people tested for colorectal cancer for screening purposes in the last 5 years by age. Figure 18 provides information on the reasons for having a faecal occult blood test to screen for colorectal cancer in the last 5 years by age. Figure 19 provides information on the reasons for having a sigmoidoscopy or colonoscopy to screen for colorectal cancer in the last 5 years by age.

References

1. National Health and Medical Research Council. *Guidelines for the prevention, early detection and management of colorectal cancer: A guide for general practitioners*. Canberra: NHMRC, 2000. Available online at www.nhmrc.gov.au/publications/synopses/cp64syn.htm.
2. The Cancer Council NSW. *Cancer in NSW: Incidence and Mortality 2002 Report: Colorectal Cancer (Large Bowel)*. Sydney: The Cancer Council NSW. 2004. Available online at www.cancercouncil.com.au.
3. Towler B, Irwig L, Glasziou P, Kewenter K, Weller D, Silagy S. A systematic review of the effects of screening for colorectal cancer using the faecal occult blood test, Hemoccult. *BMJ* 1998; 317: 559–565.
4. Macrae F. Screening for colorectal cancer. *Med J Aust* 1996; 165:102–105.
5. The Cancer Council NSW. *Understanding Familial Adenomatous Polyposis*. Sydney: TCC NSW, 2002.

FIGURE 17

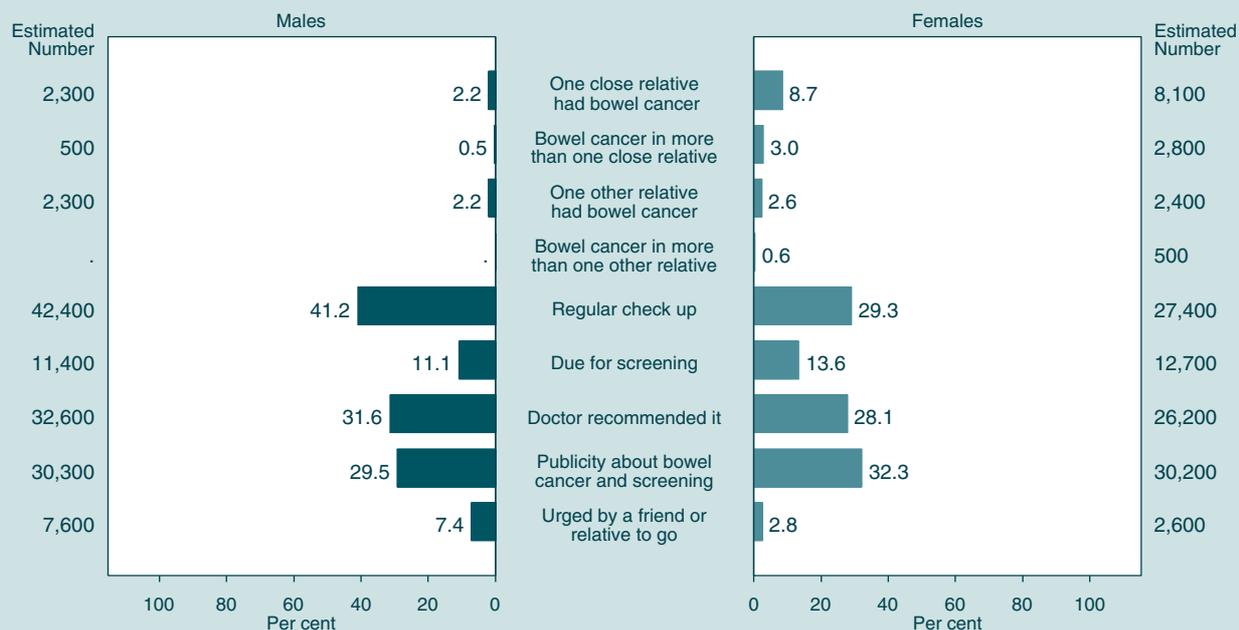
SCREENING TEST FOR COLORECTAL CANCER IN THE LAST 5 YEARS BY AGE AND SEX, PERSONS AGED 50 YEARS AND OVER, NSW 2004



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

FIGURE 18

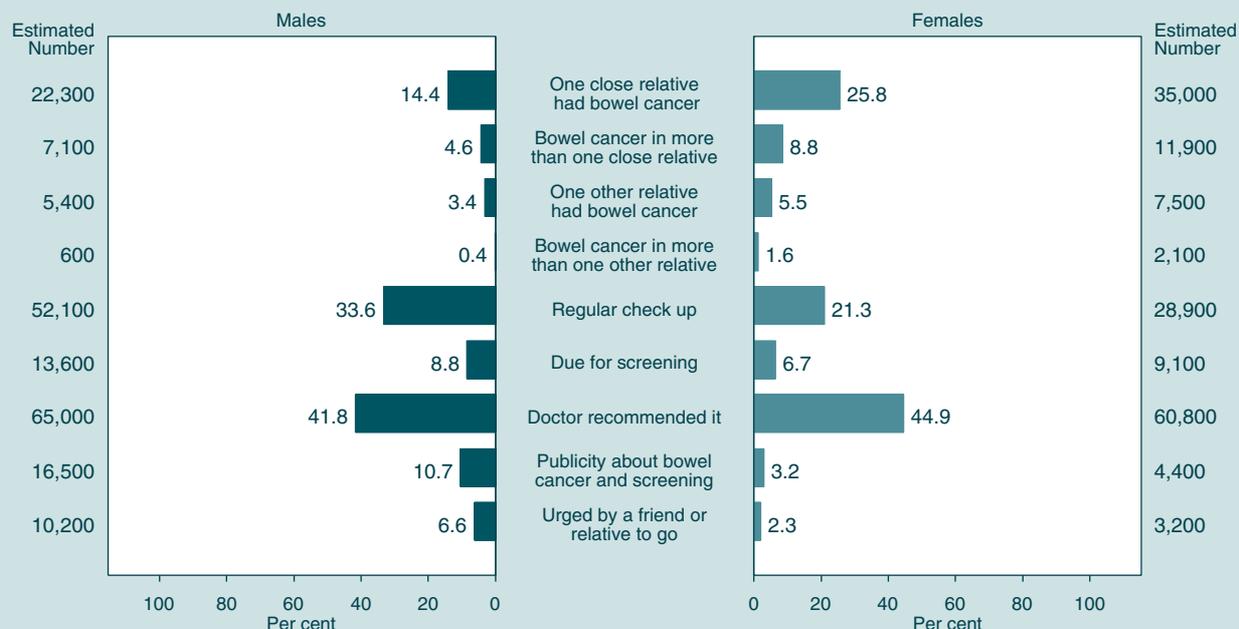
REASONS FOR HAVING FAECAL OCCULT BLOOD TEST TO SCREEN FOR COLORECTAL CANCER IN LAST 5 YEARS, PERSONS AGED 50 YEARS AND OVER, NSW 2004



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

FIGURE 19

REASONS FOR HAVING SIGMOIDOSCOPY OR COLONOSCOPY TO SCREEN FOR COLORECTAL CANCER IN LAST 5 YEARS, PERSONS AGED 50 YEARS AND OVER, NSW 2004



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

Immunisation

Introduction

In New South Wales, 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.¹

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,¹ influenza vaccine is provided free to all people aged 65 years and over and is recommended annually. 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 5 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.¹

In 2004, in the New South Wales Population Health Survey, the following questions were asked of 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 2004, 49.1 per cent of the population aged 50 years and over reported having had an influenza vaccination in the last 12 months. A significantly greater proportion of females (51.7 per cent) than males (46.2 per cent) reported having had an influenza vaccination. The proportion of people aged 50 years and over vaccinated against influenza did not differ between urban areas (48.6 per cent) and rural areas (50.5 per cent), and did not vary by level of socioeconomic disadvantage. Influenza vaccination coverage increased significantly overall between 1997 (34.6 per cent) and 2004 (49.1 per cent), although the coverage has remained stable between 2003 (49.8 per cent) and 2004.

In people aged 65 years and over, the proportion vaccinated against influenza in the last 12 months was 75.8 per cent.

There was no significant difference in the proportion of females (75.3 per cent) and males (76.4 per cent) who were vaccinated in the last 12 months. The proportion of people who reported they were vaccinated against influenza was significantly lower among those aged 65–69 years (67.6 per cent), than in the overall population aged 65 years and over.

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

Rates of vaccination against influenza in people aged 65 years and over have increased significantly, from 57.1 per cent in 1997 to 75.8 per cent in 2004.

Pneumococcal vaccinations

Almost one in 4 (24.1 per cent) people aged 50 years and over reported having had a pneumococcal vaccination in the past 5 years. Of those aged 50 years and over, 11.0 per cent reported being vaccinated within the last 12 months, 13.1 per cent were vaccinated 12 months to 5 years ago, and 2.3 per cent were vaccinated more than 5 years ago. A significantly greater proportion of females had been vaccinated against pneumococcal disease in the last 5 years (27.4 per cent) than males (20.2 per cent). The proportion of people vaccinated against pneumococcal disease increased with age. In 2004, there was no significant variation by level of socioeconomic disadvantage in the proportion of people vaccinated against pneumococcal disease in the last 5 years. There was also no significant difference in the proportion of people vaccinated against pneumococcal disease in rural areas and urban areas.

There was a significant increase from 2002 (19.2 per cent) to 2003 (23.9 per cent) in the proportion of people aged 50 years and over who were vaccinated against pneumococcal disease in the last 5 years. However, there was no significant increase between 2003 and 2004.

Among people aged 65 years and over, the proportion vaccinated for pneumococcal pneumonia in the last 5 years was 47.2 per cent. There was no significant difference between the proportion of males (43.4 per cent) and females (50.4 per cent) vaccinated in the last 5 years. When compared to the overall population aged 65 years or over, a significantly lower proportion of people aged 65–69 years (32.1 per cent), and a significantly greater proportion of people aged 75 years and over (56.7 per cent), reported vaccination against pneumococcal disease in the last 5 years.

The proportion of people aged 65 years and over vaccinated against pneumococcal pneumonia in the last 5 years did not vary significantly between urban areas and rural areas. A significantly lower proportion of males in the Sydney South West Health Area (31.3 per cent) had been vaccinated in

the last 5 years, compared to the overall population aged 65 years and over.

A significantly lower proportion of males aged 65 years and over in the quintile of most socioeconomic disadvantage (27.3 per cent) had received pneumococcal vaccination, compared to the overall adult population.

Between 2002 and 2004 there was a significant increase in the proportion of people aged 65 years and over reporting pneumococcal vaccination in the last 5 years, from 38.6 per cent to 47.2 per cent. However, most of this increase occurred between 2003 and 2004 (38.6 per cent to 47.1 per cent).

Figures 20 and 21 provide information on the proportion of people aged 65 years and over who have been vaccinated against influenza in the last 12 months by age and socioeconomic disadvantage. Figure 22 provides information on the proportion of people aged 65 years and over vaccinated against pneumococcal disease in the last 5 years by age.

References

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

FIGURE 20

VACCINATED AGAINST INFLUENZA IN THE LAST 12 MONTHS BY AGE AND SEX, PERSONS AGED 65 YEARS AND OVER, NSW 2004



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

FIGURE 21

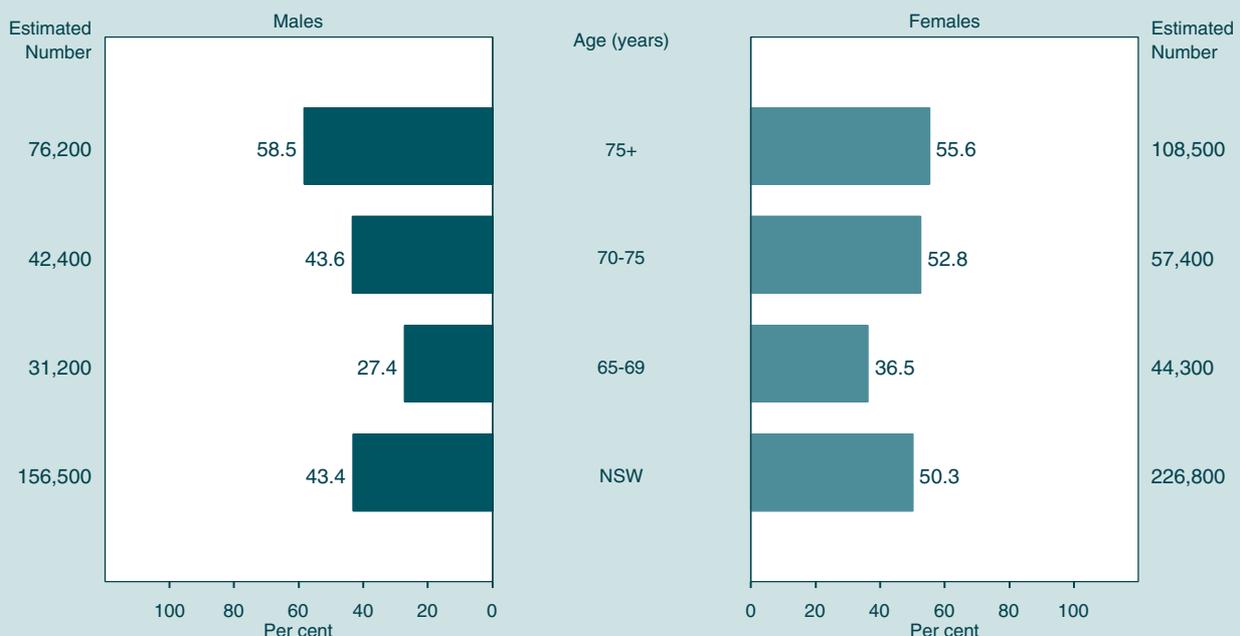
VACCINATED AGAINST INFLUENZA IN THE LAST 12 MONTHS BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 65 YEARS AND OVER, NSW 2004



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

FIGURE 22

VACCINATED AGAINST PNEUMOCOCCAL DISEASE IN THE LAST 5 YEARS BY AGE AND SEX, PERSONS AGED 65 YEARS AND OVER, NSW 2004



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

Injury prevention

Introduction

In New South Wales, around 300 people are injured and around 30 people die each year as a result of house fires. Most deaths happen at night while 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, reduces damage to property and costs to the health system, and benefits individuals.^{1,2}

Since 1994, all new homes built in New South Wales have installed electrically-wired smoke alarms. In 1996, the NSW Department of Housing commenced a program to install alarms in all its housing. Consequently, installation of smoke alarms has increased substantially from 24 per cent in 1994 to 64.0 per cent in 1998.^{1,3}

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 responses from telephone surveys 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.⁴ In 2005, the Australasian Fire Authorities Council released a report on accidental fire fatalities in residential structures. For New South Wales, the report shows that where smoke alarm data was available or reported, 61 per cent of homes where a fire death resulted did not have a smoke alarm. Of the homes that did have a smoke alarm, 56 per cent were not working at the time of the fire.⁵

The NSW Fire Brigade operates the SABRE (Smoke Alarm Battery Replacement for the Elderly) 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 2004 in the New South Wales Population Health Survey, 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, External sprinkler'. 'Are you aware of the NSW Fire Brigades' program to change or install battery-operated fire alarms in homes?' and 'Have you had one installed through this program?'

Results

In 2004, residents of New South Wales reported a range of fire safety measures in the home. Over three-quarters reported an external water supply (82.5 per cent), 80.0 per cent reported smoke alarms, 71.8 per cent reported safety switches or circuit breakers, 33.2 per cent reported fire extinguishers, 32.4 per cent reported external sprinklers, 29.9 per cent reported fire evacuation plans, 4.6 per cent reported a fire blanket, and 2.8 per cent reported a fire sprinkler system.

Overall, in 2004, 71.6 per cent of New South Wales residents reported that they had a smoke alarm or detector installed in their home. There was no significant variation by age in the proportion of people who reported having a smoke alarm installed.

There was no significant difference in the proportion of people in rural areas and urban areas who reported having a smoke alarm installed in their home. A significantly greater proportion of residents in the Hunter and New England Health Area (79.0 per cent) and a significantly lower proportion of residents in the Sydney South West Health Area (65.9 per cent) reported having a smoke alarm installed in their home.

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 in their home increased significantly from 1997 (58.2 per cent) to 2004 (71.6 per cent).

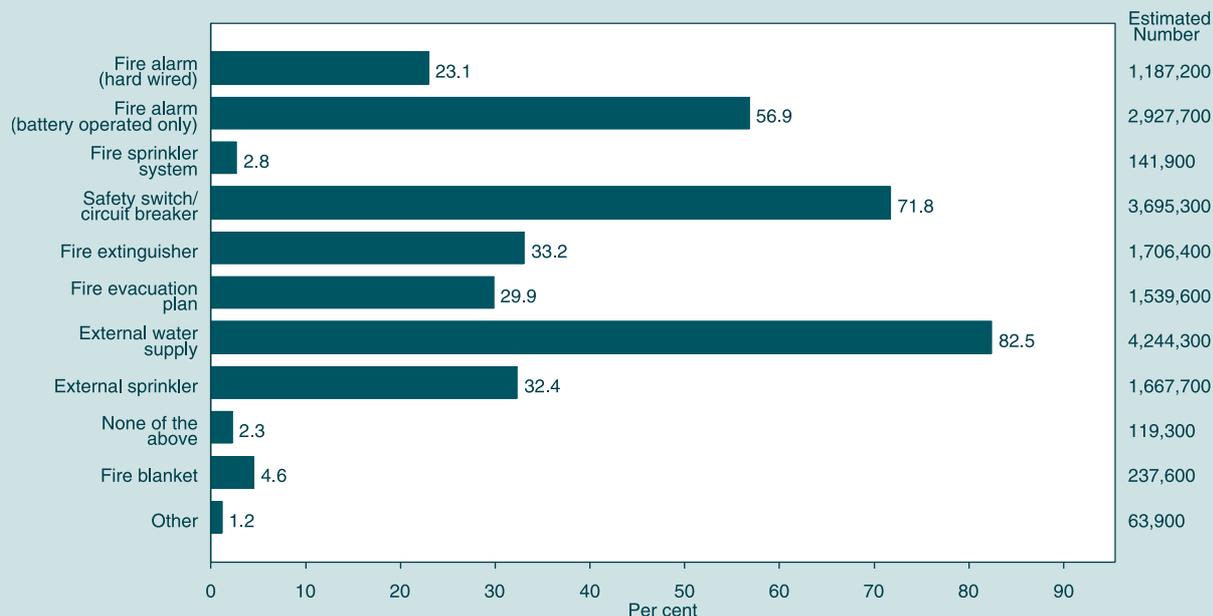
Figure 23 provides information on fire safety measures in the home. Figure 24 provides information on the proportion of homes with a smoke alarm or detector by age.

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.
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): 1112-1114.
5. Australasian Fire Authorities Council. *Accidental fire fatalities in residential structures: Who's at risk?* Melbourne: Australasian Fire Authorities Council, 2005.

FIGURE 23

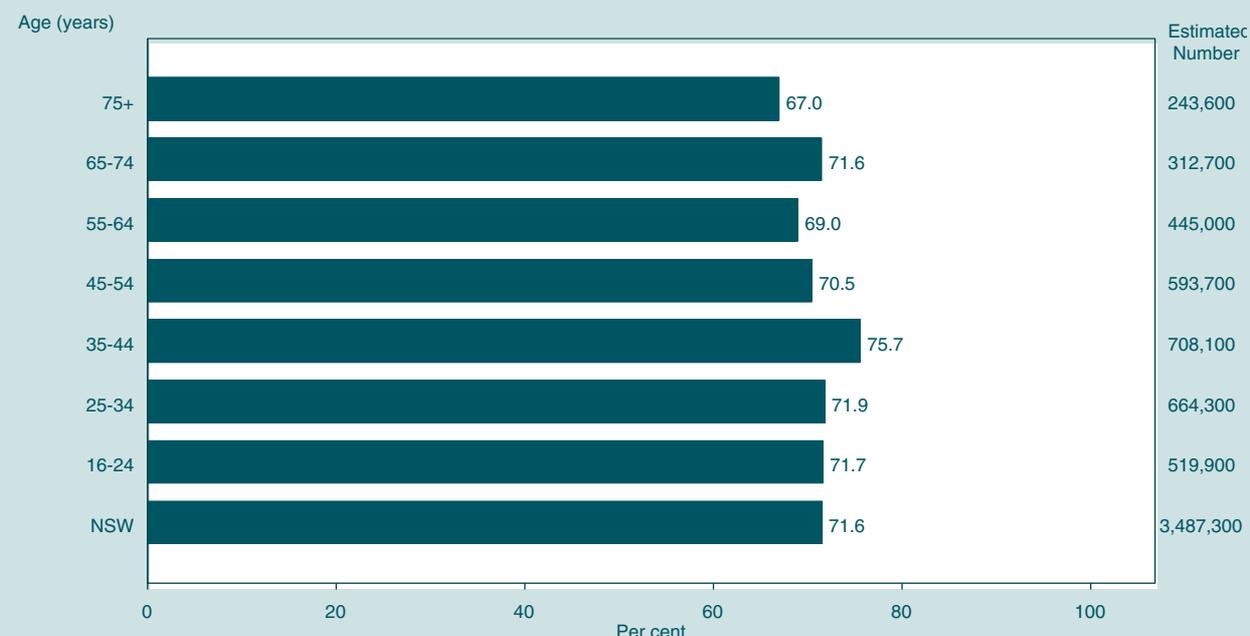
FIRE SAFETY MEASURES IN THE HOME, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 24

HOMES WITH A SMOKE ALARM OR DETECTOR BY AGE, 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.

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.^{1,2,3,4}

Cardiovascular disease is the major cause of death in New South Wales.⁵ Raised serum cholesterol, an important risk factor, is linked with excessive saturated fat consumption. 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.^{2,4}

An adequate intake of fruit, vegetables, bread, and cereals (preferably whole grain) decreases the risk of major chronic diseases.^{1,3} However, most groups in the New South Wales population eat less than the recommended amounts of these foods.¹

Despite the good quality of the food supply, there are some groups who lack food security: that is, do not have sufficient access at all times to sufficient food for an active and healthy life. Food insecurity is a likely contributor to ill health associated with socioeconomic disadvantage.

In 2004, the New South Wales Population Health Survey 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.⁶ This questionnaire was validated using the 1995 National Nutrition Survey and the Tasmanian Dietary Key Indicators Study for relative ranking of intake between respondents but not for measuring a respondent's number of serves; however, it is still useful for ongoing monitoring.^{7,8} 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 national Go for 2 Fruit and 5 Vegetables Campaign was used as the source of recommended numbers of serves of fruits and vegetables for this report on adult health.

Results

Consumption of fruit

Overall, in 2004, 7.4 per cent of the population reported that they ate no fruit, 14.1 per cent had less than one serve per

day, 31.5 per cent had one serve per day, 27.0 per cent had 2 serves per day, 12.8 per cent had 3 serves a day, and 7.2 per cent had more than 3 serves a day. Therefore, 47.0 per cent of the population ate the recommended daily intake of fruit (2 serves or more). A significantly greater proportion of females (53.4 per cent) than males (40.6 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 greater proportion of those aged 75 years and over (53.8 per cent) ate the recommended daily intake of fruit, compared with the overall adult male population. Among females, a significantly lower proportion of those aged 16–34 years (43.8 per cent to 44.9 per cent) and a significantly greater proportion of those aged 65 years and over (60.4 per cent to 64.8 per cent) ate the recommended daily intake of fruit, compared with the overall adult female population.

A significantly greater proportion of urban residents (48.0 per cent) than rural residents (43.7 per cent) ate the recommended daily intake of fruit. A significantly lower proportion of people in the Greater Western Health Area (39.7 per cent) ate the recommended daily intake of fruit.

Overall, 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 to 2004.

Consumption of vegetables

Overall, in 2004, 1.0 per cent of the population reported that they ate no vegetables, 6.1 per cent ate less than one serve per day, 27.0 per cent ate one serve per day, 30.5 per cent ate 2 serves per day, 16.9 per cent ate 3 serves per day, 10.5 per cent ate 4 serves per day, 3.9 per cent ate 5 serves per day, and 4.2 per cent ate more than 5 serves per day. Therefore, 8.1 per cent of the population ate the recommended daily intake of vegetables (5 serves or more). A significantly greater proportion of females (10.3 per cent) than males (6.0 per cent) consumed the recommended amount of vegetables each day.

Consumption of the recommended daily intake of vegetables increased with age. Among females, a significantly lower proportion of those aged 25–34 years (6.4 per cent) consumed the recommended daily intake of vegetables, compared with the overall adult female population. There was no significant variation in vegetable consumption by age among males.

There was some geographical variation, with a significantly greater proportion of rural residents (10.0 per cent) than urban residents (7.7 per cent) consuming the recommended daily intake of vegetables. A significantly lower proportion of residents from Sydney Western Health Area (5.3 per cent), consumed the recommended daily intake of vegetables, compared to the overall adult population.

There was no significant variation in consumption of the recommended daily intake of vegetables by socioeconomic disadvantage.

The proportion of people consuming the recommended daily intake of vegetables did not vary significantly by level of socioeconomic disadvantage. Among males, the proportion consuming the recommended serves of vegetables has decreased significantly, from 8.0 per cent in 1997 to 6.0 per cent in 2004.

Type of milk

The Australian Guide to Healthy Eating recommends a diet low in fat to reduce the overall energy intake.¹⁰ Those who use reduced fat or skim milk have diets significantly lower in total and saturated fat.³

Overall, in 2004, 48.8 per cent of the population reported that they usually had regular milk (full cream), 31.1 per cent had reduced fat milk, 15.2 per cent had skim milk, and one per cent had other milk. Therefore, 46.3 per cent of the population who drink milk reported using reduced fat or skim milk. A significantly greater proportion of females (53.2 per cent) than males (38.8 per cent) reported using reduced fat or skim milk.

Use of reduced fat or skim milk increased with age but dropped off among those aged 75 years and over. Among males, a significantly lower proportion of those aged 16–24 years (23.1 per cent) and a significantly greater proportion of those aged 55–74 years (47.7 per cent to 50.6 per cent) used reduced fat or skim milk, compared with the overall adult male population. Among females, a significantly lower proportion of those aged 16–24 years (44.6 per cent) and a significantly greater proportion of those aged 45–74 years (60.0 per cent to 61.6 per cent) used reduced fat or skim milk, compared with the overall adult female population.

There was significant geographical variation, with a significantly greater proportion of urban (47.7 per cent) than rural residents (40.0 per cent) using reduced fat or skim milk. A significantly greater proportion of people in the Northern Sydney and Central Coast Health Areas (54.3 per cent), and a significantly lower proportion of people in the North Coast Health Area (40.7 per cent) used reduced fat or skim milk, compared to the overall adult population.

The proportion of people reportedly using reduced fat or skim milk was significantly lower in the third most disadvantaged quintile (40.9 per cent), and significantly greater in the quintile of least socioeconomic disadvantage (55.5 per cent), compared with the overall adult population. A significantly greater proportion of males in the least disadvantaged quintile (48.7 per cent) used reduced fat or skim milk, compared with the overall adult male population.

Reported use of reduced fat or skim milk did not differ significantly from 1997 to 2004.

Breads and cereals

In 2004, the New South Wales Population Health Survey asked questions on the frequency of eating breakfast cereals, bread, pasta, rice, and noodles. The data from these questions have been combined to provide an overall

daily frequency of eating breakfast cereals, bread, pasta, rice, and noodles.

Overall, in 2004, 0.6 per cent of the population did not eat breads and cereals, 4.4 per cent had breads and cereals less than once a day, 26.5 per cent had breads and cereals once a day, 39.1 per cent twice a day, 20.6 per cent 3 times a day, 6.2 per cent 4 times a day, 1.6 per cent 5 times a day, and 1.1 per cent had breads and cereals more than 5 times a day.

Chips

In 2004, New South Wales Population Health Survey asked questions on the frequency of eating chips (including french fries, potato wedges, fried potatoes, or crisps). Those who consume chips more frequently are likely to have diets that are significantly higher in energy, total fat, and saturated fat.⁸ The Australian Guide to Health Eating refers to chips as 'extra foods': that is, foods that should only be consumed 'sometimes'.¹⁰

Overall, in 2004, 24.7 per cent of the population did not eat chips (20.4 per cent of males and 28.9 per cent of females), 23.4 per cent had chips less than once a week, 27.9 per cent had chips once a week, 13.0 per cent had chips twice a week, 5.6 per cent had chips 3 times a week, 2.0 per cent had chips 4 times a week, 0.6 per cent had chips 5 times a week, and 2.8 per cent had chips more than 5 times a week.

Meat products

In 2004, New South Wales Population Health Survey asked questions on the frequency of eating processed meat products such as sausages, frankfurts, devon, salami, meat pies, bacon, or ham. A higher frequency of reported consumption of processed meats such as these is significantly associated with diets higher in energy, total fat, and saturated fat.⁸

Overall, in 2004, 21.0 per cent of the population did not eat processed meat products (14.8 per cent of males and 27.0 per cent of females), 15.9 per cent had processed meat products less than once a week, 25.0 per cent had them once a week, 16.9 per cent had them twice a week, 9.1 per cent had them 3 times a week, 4.2 per cent had them 4 times a week, 1.9 per cent had them 5 times a week, and 6.0 per cent had processed meat products more than 5 times a week.

Food security

In 2004, New South Wales Population Health Survey asked a question on food insecurity, with those experiencing food insecurity defined as those who had run out of food and couldn't afford to buy more.

Overall, in 2004, 5.8 per cent of the population reported that they had experienced some food insecurity in the past 12 months. 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 65

years and over (0.8 per cent to 1.0 per cent) and significantly greater among those aged 25–34 years (8.8 per cent), compared with the overall adult population.

There was no significant geographical variation in the proportion of people who had experienced food insecurity between rural residents and urban residents.

In 2004, the proportion of people experiencing food insecurity did not vary significantly by level of socioeconomic disadvantage.

There was no significant change in the proportion of people experiencing food insecurity between 2002 and 2004.

Figure 25 shows the number of serves of fruit consumed per day. Figure 26 shows the proportion of people who consumed the recommended daily fruit intake by age. Figure 27 shows the number of serves of vegetables consumed per day. Figure 28 shows the proportion of people who consumed the recommended daily vegetable intake by age. Figure 29 shows the type of milk usually consumed. Figure 30 shows the proportion of people who usually consume low fat, reduced fat, or skim milk by age. Figures 31–33 show the frequency of eating fried potato products per week; bread, pasta and other cereal products per day; and processed meat products per week. Figures 34 and 35 show the proportion of food insecurity in the last 12 months by age and socioeconomic disadvantage.

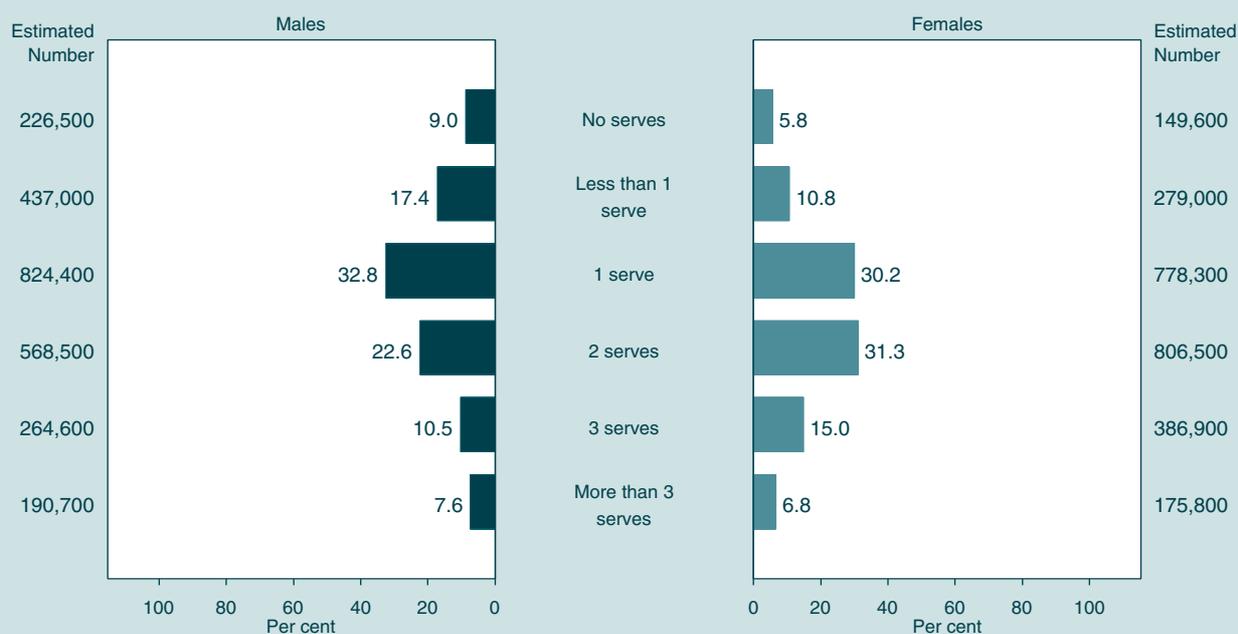
References

1. National Health and Medical Research Council. *Dietary Guidelines for Australian Adults*. Canberra: NHMRC, 2003.

2. Ness AR, Powles JW. Fruit and vegetables and cardiovascular disease: A review. *Int J Epidemiol* 1997; 26: 1–13.
3. World Cancer Research Fund and American Institute for Cancer Research. *Food, nutrition and the prevention of cancer: A global perspective*. Washington DC: American Institute for Cancer Research, 1997.
4. Brunner E, Wunsch H, Marmot M. What is an optimal diet? Relationship of macronutrient intake to obesity, glucose tolerance, lipoprotein cholesterol levels and the metabolic syndrome in the Whitehall II study. *Int J Obes Relat Metab Disord* 2001, 25: 45–53.
5. 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.
6. 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.
7. Rutishauser IHE, Webb K, Abraham B, Allsop R. *Evaluation of short dietary questions with weighted dietary records*. Canberra: Australian Food and Nutrition Monitoring Unit, Commonwealth Department of Health and Aged Care, 2001.
8. Riley M, Webb K, Rutishauser IHE. *Comparison of short dietary questions from the 1995 National Nutrition Survey*. Canberra: Australian Food and Nutrition Monitoring Unit, Commonwealth Department of Health and Aged Care, 2001.
9. National Go for 2 Fruit and 5 Vegetables Campaign website at www.gofor2and5.com.au.
10. National Health and Medical Research Council. *Australian Guide to Healthy Eating*. Canberra: NHMRC, 2003.

FIGURE 25

NUMBER OF SERVES OF FRUIT PER DAY, 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 26

RECOMMENDED FRUIT CONSUMPTION BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004

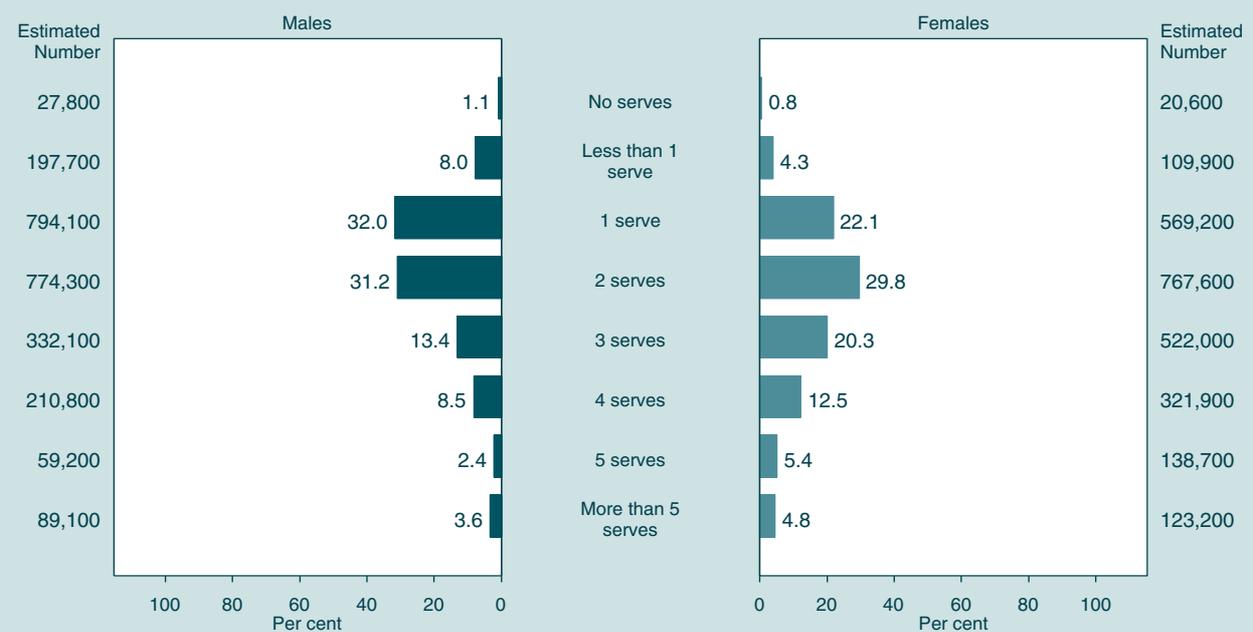


Note: Recommended fruit consumption is 2 serves per day.

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

FIGURE 27

NUMBER OF SERVES OF VEGETABLES PER DAY, 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 28

RECOMMENDED VEGETABLE CONSUMPTION BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004

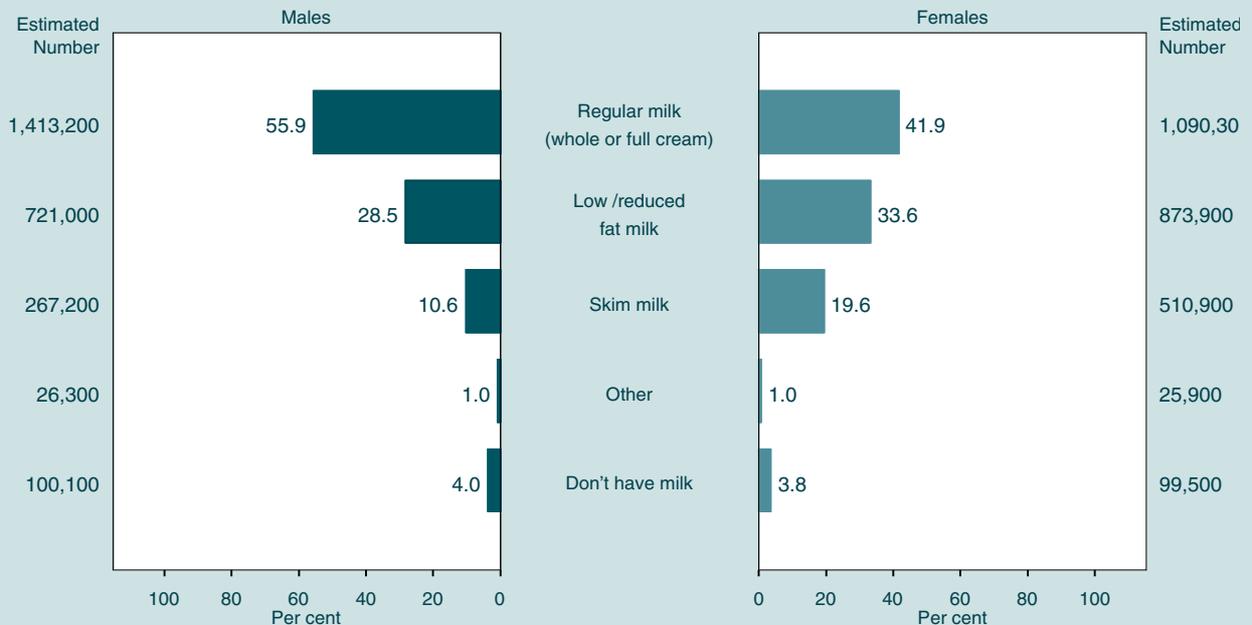


Note: Recommended vegetable consumption is 5 serves per day.

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

FIGURE 29

TYPE OF MILK USUALLY CONSUMED, 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 30

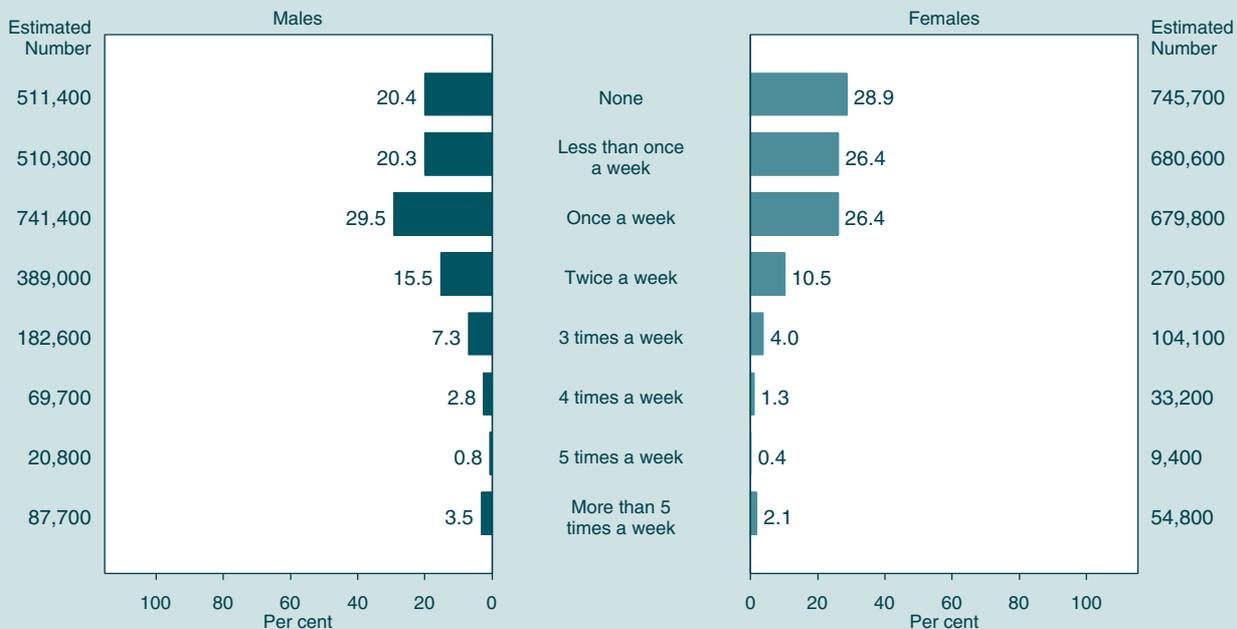
USUAL USE OF LOWER FAT MILKS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 31

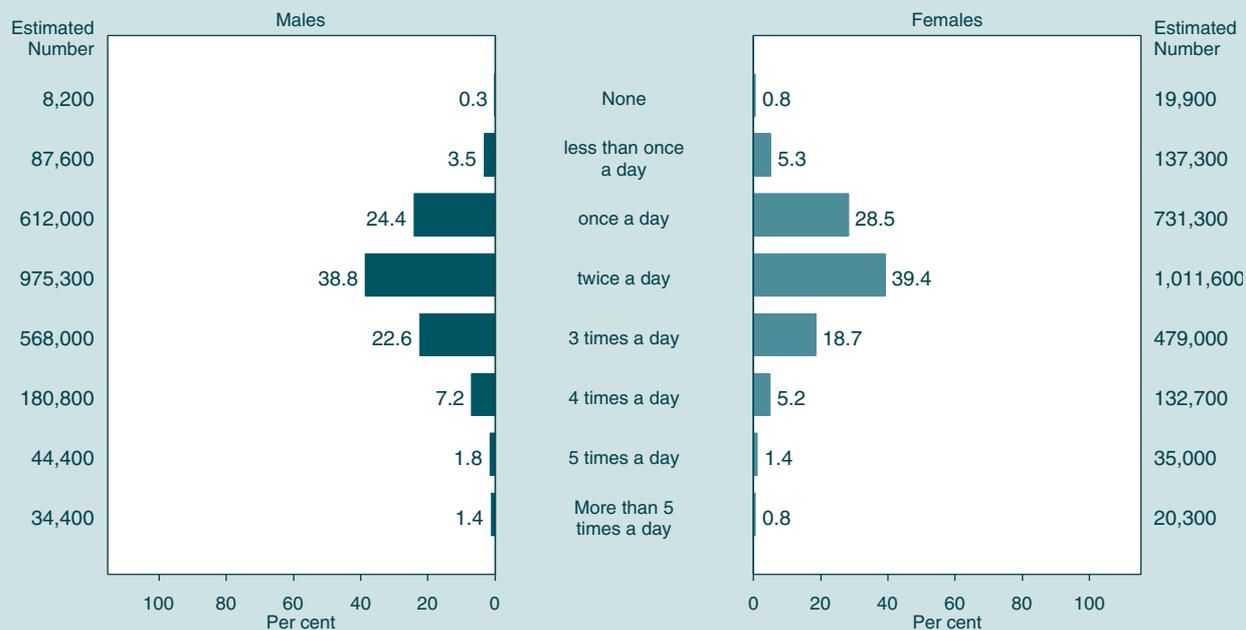
FREQUENCY OF EATING CHIPS, FRENCH FRIES, WEDGES, FRIED POTATOES OR CRISPS PER WEEK, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 32

FREQUENCY OF EATING BREAKFAST CEREAL, BREADS, PASTA, RICE AND NOODLES PER DAY, 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 33

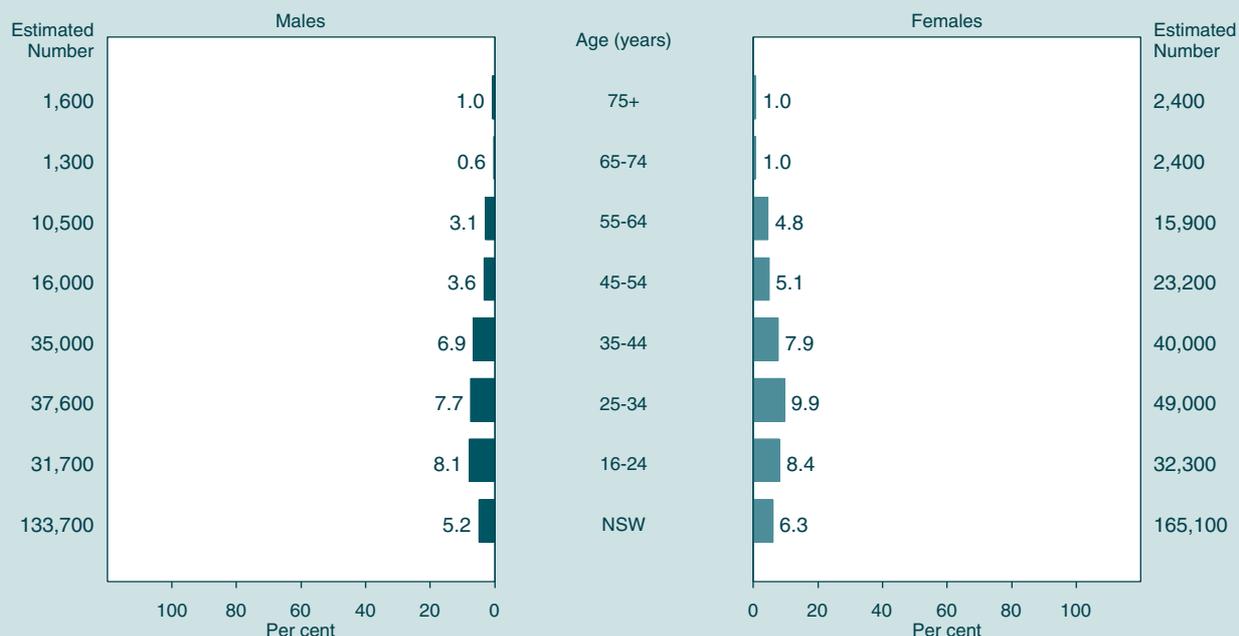
FREQUENCY OF EATING PROCESSED MEAT PRODUCTS PER WEEK, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 34

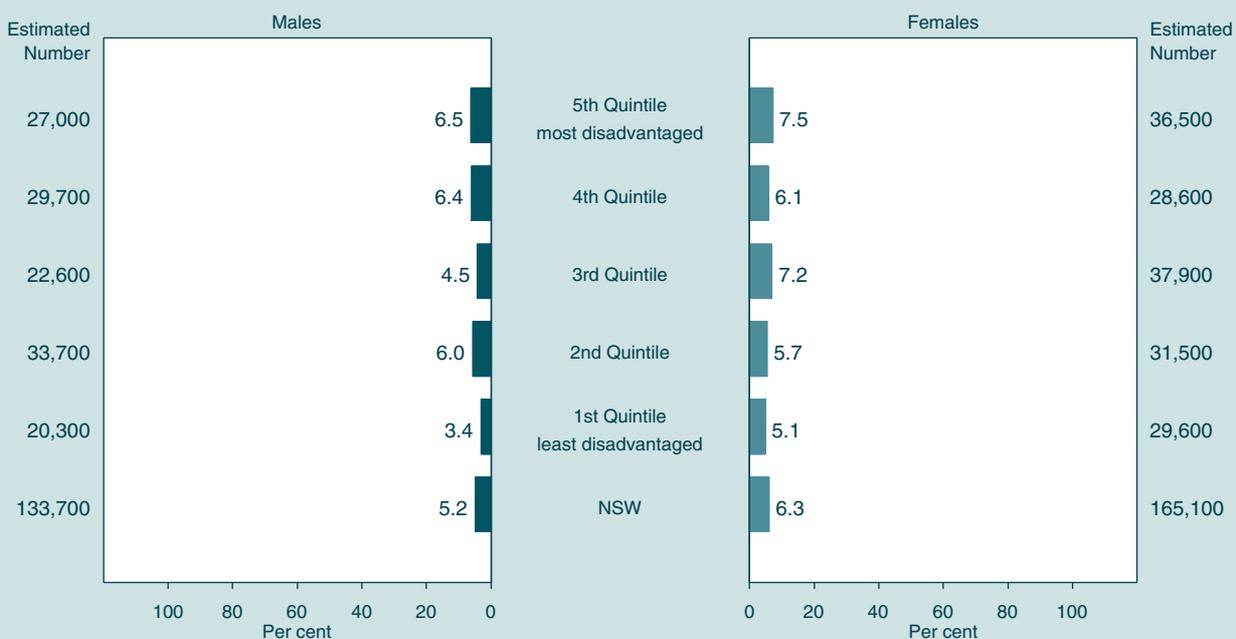
FOOD INSECURITY IN THE LAST 12 MONTHS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 35

FOOD INSECURITY IN THE LAST 12 MONTHS 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.

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 of benefit in 6 out of the 7 National Health Priorities,¹ and is a preventative factor for cardiovascular disease, cancer, mental illness, diabetes mellitus, obesity, and injury. 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.²

The National Physical Activity Guidelines for Adults state that the minimum amount of physical activity that is recommended to maintain good health is at least 30 minutes of moderate activity on most and preferably all days of the week.³ Encouragingly, this can be undertaken in shorter bursts of exercise, such as 3 lots of 10 minutes. Exercise of moderate intensity includes brisk walking, dancing, swimming, or cycling. The Guidelines also encourage people to think of movement as an opportunity not as an inconvenience and to be active every day in as many ways as possible.

To achieve the above recommendations, people are now encouraged to consider other ways in which they can be active, such as through transport, at work, or at home. Active transport is using sustainable transport such as walking, cycling, or public transport to get to or from a destination. Active transport is an achievable way for most people to incorporate the recommended 30 minutes of physical activity into their daily lives. In addition, journeys to and from work provide regular opportunities to engage in moderate intensity 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.

In 2004, the New South Wales Population Health Survey⁴ included the following Active Australia Survey questions: '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?'. In 2004, the New South Wales Population Health Survey

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,⁴ and is defined as undertaking physical activity for a total of 150 minutes per week over 5 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 2.

Overall, in 2004, 52.3 per cent of respondents aged 16 years and over reported adequate levels of physical activity. A significantly greater proportion of males (57.0 per cent) than females (47.7 per cent) were likely to undertake adequate physical activity.

Among males, a significantly greater proportion aged 16–24 years (66.0 per cent) and a significantly lower proportion aged 75 years and over (41.5 per cent) undertook adequate physical activity, compared with the overall adult male population. Among females, a significantly greater proportion aged 16–24 years (64.8 per cent) and a significantly lower proportion aged 65 years and over (27.6 per cent to 41.2 per cent) undertook adequate physical activity, compared with the overall adult female population.

There was no significant difference between urban and rural areas in the proportion of people undertaking adequate levels of physical activity. A significantly lower proportion of people in Sydney West Health Area undertook adequate physical activity (46.6 per cent), compared to the overall adult population.

In 2004, the proportion of people undertaking adequate levels of physical activity did not vary significantly by level of socioeconomic disadvantage.

Overall, there has been a significant increase in the proportion of people undertaking adequate physical activity, from 1998 (47.9 per cent) to 2004 (52.3 per cent).

Active transport

Overall, in 2004, the majority of respondents did not use active transport to travel to work, as 76.9 per cent commuted by car, motorbike, truck, or taxi. Around one in 4 (26.3 per cent) used a form of active transport, including 10.6 per cent catching a train, 6.9 per cent catching a bus, 7.3 per cent walking to work, 1.1 per cent riding a bicycle, and 0.6 per cent catching a ferry.

Figure 36 shows the proportion of people who had undertaken adequate physical activity in the last week by age. Figure 37 shows the usual method of transportation to work.

References

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, 2002.
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, 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/internet/wcms/Publishing.nsf/Content/phd-physical-activity-adults-pdf-cnt.htm/\\$FILE/adults_phys.pdf](http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/phd-physical-activity-adults-pdf-cnt.htm/$FILE/adults_phys.pdf), accessed 14 June 2005.
4. Australian Institute of Health and Welfare. *The Active Australia Survey: A guide and manual for implementation, analysis and reporting*. Canberra: AIHW, 2003.

FIGURE 36

ADEQUATE PHYSICAL ACTIVITY BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004

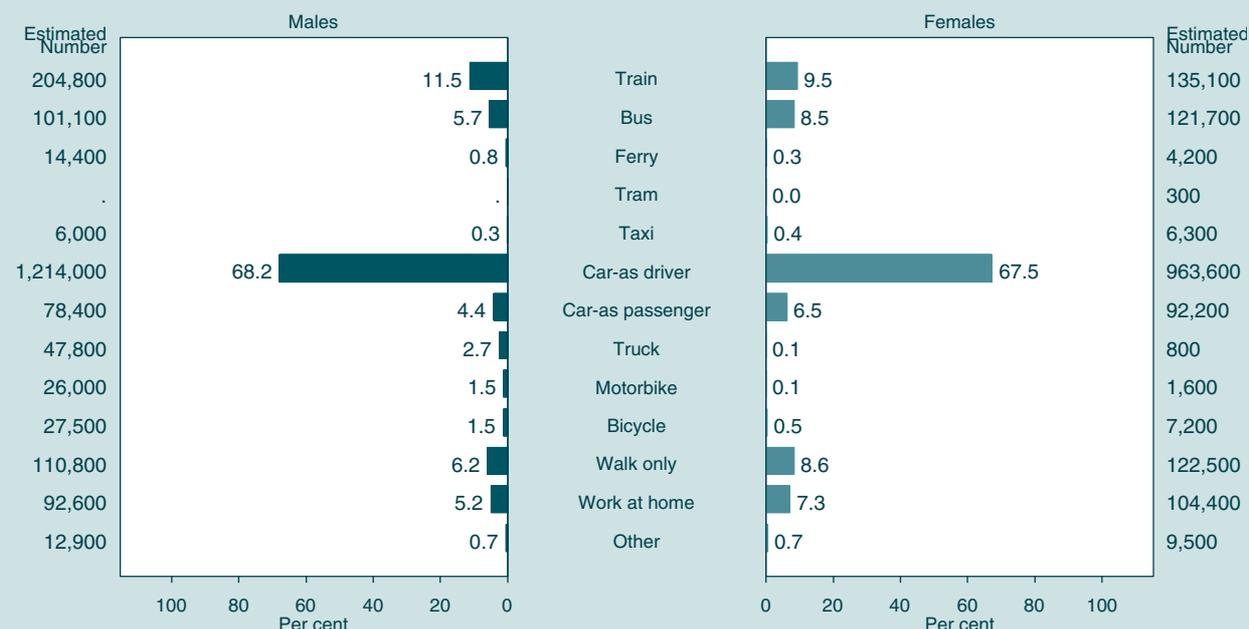


Note: Adequate physical activity is a total of 150 minutes per week over 5 separate occasions.

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

FIGURE 37

USUAL TRANSPORT TO WORK, EMPLOYED 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.

Unsafe sex

Introduction

Sexually Transmitted Infections (STIs) include any infections passed from one person to another by sexual contact. There are many different types of STIs including chlamydia, gonorrhoea, syphilis, genital warts, and HIV–AIDS. ‘Unsafe’ sex places an individual at an increased risk of contracting an STI. The World Health Organization ranks ‘unsafe’ sex second among the top 10 risk factors in terms of its burden of disease in developed countries.¹

STIs affect millions of people each year worldwide and cause a significant level of morbidity and mortality among both adults and children. This includes HIV—the number one STI-related cause of morbidity and mortality in the world—as well as ectopic pregnancy, tubo-ovarian abscess, chronic pelvic pain, infertility, congenital syphilis and cervical cancer in women, and testicular infection and possible infertility in men. STIs can lead to death from a variety of causes and have also been linked to the increased transmission of other infections.

STIs are common among adult Australians; self-reported data estimates that 20.2 per cent of men and 16.9 per cent of women have been diagnosed with an STI at some point in time.² Chlamydia has been estimated to be the cause of STIs in 1.7 per cent of males and 3.1 per cent of females.^{2,3} It rarely causes symptoms, particularly in females, and as a result often goes undetected. Chlamydia is now the most

commonly reported notifiable disease in New South Wales, with 7,562 cases reported in 2003. There were also 1,182 cases of gonorrhoea, 414 cases of HIV, and 117 cases of AIDS, and 838 cases of syphilis, notified in 2003.⁴

These STIs are highly preventable by the use of condoms. Condoms provide protection against a variety of STIs including HIV, chlamydia, and gonorrhoea, although the degree of protection varies between different STIs.⁴ NSW Health runs programs to increase the number of people using condoms.

A person can avoid STIs in a variety of ways: by not having sex; by having sex with only one partner (who is not having unprotected sex with anyone else and does not have an STI); and by using condoms if having sex with more than one partner or if not sure their partner is free of infection.⁵

In 2004, the New South Wales Population Health Survey aimed to obtain an estimate of the overall percentage of the population between 16–70 years who were practising unsafe sex and were therefore at risk of contracting an STI. Respondents aged 16–70 years were asked: ‘Have you had sexual intercourse in the last 12 months?’. Respondents who reported having had sexual intercourse were asked ‘Have you had sexual intercourse with more than one person in the last 12 months?’ and those who responded ‘yes’ were then asked ‘Did you use condoms every time you had sexual intercourse?’ In addition, all respondents who had had sexual intercourse in the last 12 months were asked ‘Have you been diagnosed with a sexually transmitted infection

in the last 12 months?’ and those who responded that they had were asked ‘What sexually transmitted infection were you diagnosed with?’.

As it was not feasible as part of a phone population health survey to ask respondents detailed questions about their sexual behaviour, or about their partner’s sexual behaviour, the definition of risk used for this indicator was modified to make it suitable for a phone survey. Unsafe sex was defined as ‘having sex with more than one partner in the last 12 months and not using a condom’, or ‘having sex in the last 12 months with one or more partners and contracting an STI’.

Results

In 2004, 20.4 per cent of persons reported having no sexual intercourse in the last 12 months, 72.1 per cent had only one sexual partner in the last 12 months, 4.2 per cent used a condom when having more than one sexual partner in the past 12 months, 3.2 per cent had more than one sexual partner in the last 12 months and did not use a condom, and 0.2 per cent had acquired a sexually transmitted infection in the last 12 months.

Therefore, a low proportion of persons aged 16–70 years (3.4 per cent) in New South Wales in 2004 practised unsafe sex and were therefore at risk of contracting an STI. A significantly lower proportion of females (2.4 per cent) than males (4.3 per cent) practised unsafe sex. A significantly higher proportion of males (9.6 per cent) and females (5.7 per cent) aged 16–24 years practised unsafe sex, compared to the overall adult male and female populations. A significantly lower proportion of males aged 65–70 years (1.6 per cent) and females aged 55–64 years (0.3 per cent)

practised unsafe sex, compared to the overall adult male and female populations.

There was no geographic variation in the proportion of people practising unsafe sex between rural areas and urban areas, or between the 8 health areas, compared to the overall adult population. There was no significant difference seen by socioeconomic disadvantage.

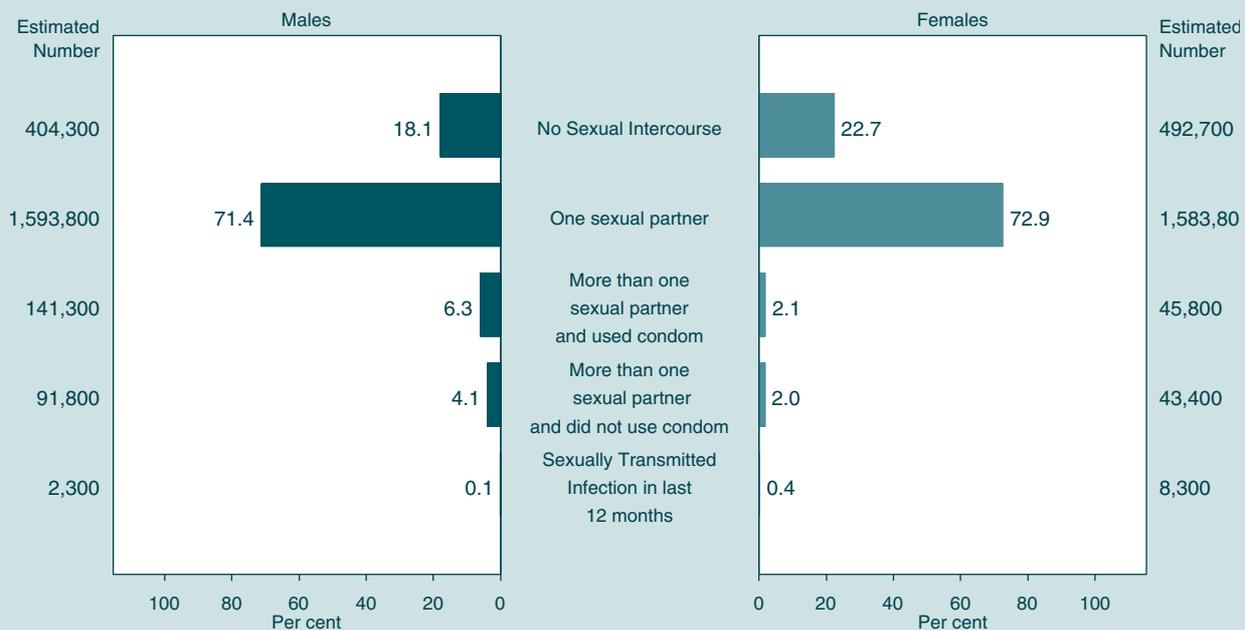
Figure 38 shows sexual behaviour in the last 12 months. Figure 39 shows the proportion of people who engaged in unsafe sex in the last 12 months by age.

References

1. World Health Organization. *The World Health Report 2003: Shaping the future*. Annexure Table 16: Major burden of disease—leading 10 selected risk factors and leading 10 diseases and injuries, developed countries, 2000. Available online at www.who.int/whr/2002/en/whr2002_annex14_16.pdf.
2. Grulich A, de Visser R, Smith A et al. Sexually transmissible infection and blood-borne virus history in a representative sample of adults. *Aust N Z J Public Health* 2003; 27(2): 234–241.
3. Staff M, Lawrence V, Lui B, Maywood P, and Sathananadan D. What can laboratory notifications tell us about Chlamydia infection? *NSW Public Health Bull* 2004; 15(3) 33. Available online at www.health.nsw.gov.au/public-health/phb/html2004/march04html/article1p33.htm.
4. 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.
5. NSW Department of Health. *Myths and facts about sexual health* (Fact sheet). Available online at www.health.nsw.gov.au/health-public-affairs/mhcs/publications/5435.html.

FIGURE 38

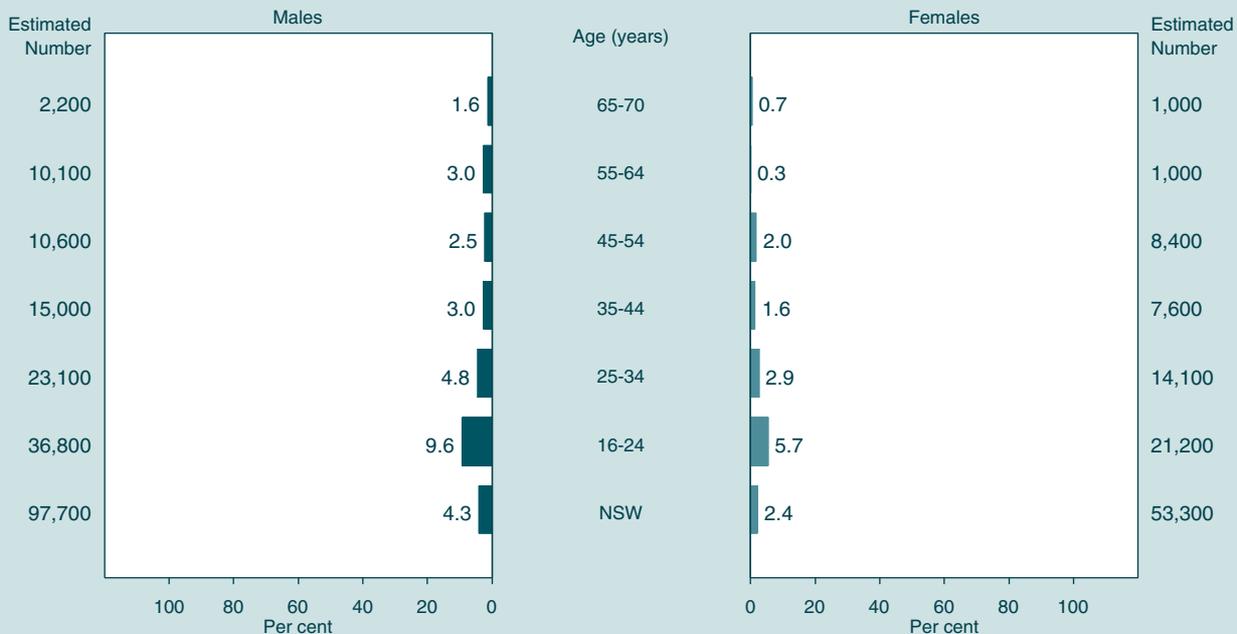
SEXUAL BEHAVIOUR IN LAST 12 MONTHS, PERSONS AGED 16 YEARS TO 70 YEARS, NSW 2004



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

FIGURE 39

UNSAFE SEX BY AGE AND SEX, PERSONS AGED 16 TO 70 YEARS, NSW 2004



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

Smoking

Introduction

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

The adverse effects of exposure to environmental tobacco smoke are well documented. In adults, exposure to environmental tobacco smoke has been linked to asthma, lung cancer,² cardiovascular diseases, eye irritations, and headaches.² Children are particularly vulnerable to the effects of environmental tobacco smoke. 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).²

In 2004, the New South Wales Population Health Survey included questions on smoking status, intention to quit smoking, environmental tobacco smoke exposure in the home and car, and attitudes toward smoking. Respondents were asked the following tobacco-related questions: '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 6 months, I am planning on quitting within the next 6 months, I am planning on quitting within the next month, I have not smoked in the past 24 hours but was smoking 6 months ago, I have not been smoking in the past 6 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', and 'Are people allowed to smoke in your car?'.

Results

Current smoking status

Overall, in 2004, 16.4 per cent of the respondents reported that they smoked daily, 4.6 per cent smoked occasionally, 24.3 per cent do not smoke now but used to, 11.7 per cent have tried smoking a few times but never have smoked regularly, and 43.0 per cent have never smoked.

Current smoking prevalence included respondents who reported that they smoke daily or occasionally. In 2004, 20.9 per cent of respondents reported that they are current smokers. There was no significant difference in the proportion of males and females who reported that they currently smoked.

For both males and females, rates of current smoking were highest in young adults. A significantly greater proportion of those aged 16–34 years (26.1 per cent to 29.5 per cent) and a significantly lower proportion of those aged 55 years and over (5.1 per cent to 16.0 per cent) were current smokers, compared to the overall adult population.

There was no significant difference between the proportion of rural and urban residents reporting current smoking.

The proportion of people reporting current smoking increased with increasing socioeconomic disadvantage. Compared to the overall adult population, the proportion of people currently smoking was significantly lower in respondents in the least disadvantaged quintile (16.9 per cent) and significantly higher in respondents in the most disadvantaged quintile (25.6 per cent).

There was a significant decline in the prevalence of current smoking, between 1997 (24.0 per cent) and 2004 (20.9 per cent).

More than half of all smokers intend to quite in the near future. Of the respondents who reported current smoking, 43.3 per cent were not planning to quit in the next 6 months, 35.3 per cent were planning to quit in the next 6 months, and 18.2 per cent were planning to quit in the next month. A further 2.8 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 6 months.

Smoking in the home

In 2004, among New South Wales residents aged 16 years and over, 84.5 per cent reported that their home was smoke-free, 7.5 per cent reported people 'occasionally' smoked inside the home, and 8.0 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 75 years and over (92.1 per cent), compared with the overall adult population.

There was some geographic variation in the proportion of smoke-free homes, with a significantly greater proportion of residents in Northern Sydney and Central Coast Health Area (88.5 per cent) reporting smoke-free homes, compared with the overall adult population.

The proportion of smoke free homes increased as socioeconomic disadvantage decreased. Compared to the overall population, the least disadvantaged quintile (89.4 per cent) had a significantly greater proportion of smoke-free homes, and the most disadvantaged quintile (76.3 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 69.7 per cent in 1997 to 84.2 per cent in 2004.

Smoking in cars

In 2004, among New South Wales residents aged 16 years and over, 84.4 per cent reported that their car was smoke-free. A significantly greater proportion of people aged 65 years (88.2 per cent to 90.8 per cent) and a significantly lower proportion of people aged 16–24 years (77.1 per cent) reported that their car was smoke-free.

There was no significant difference in the proportion of people in urban areas who reported a smoke-free car, when compared to rural areas. The proportion of people with a

smoke-free car was significantly lower (79.9 per cent) in Sydney South West Health Area.

A significantly lower proportion of people in the most socioeconomically disadvantaged quintile (80.0 per cent) reported a smoke-free car.

Between 2003 and 2004 the proportion of people reporting a smoke-free car has increased significantly, from 81.2 per cent in 2003 to 84.4 per cent in 2004.

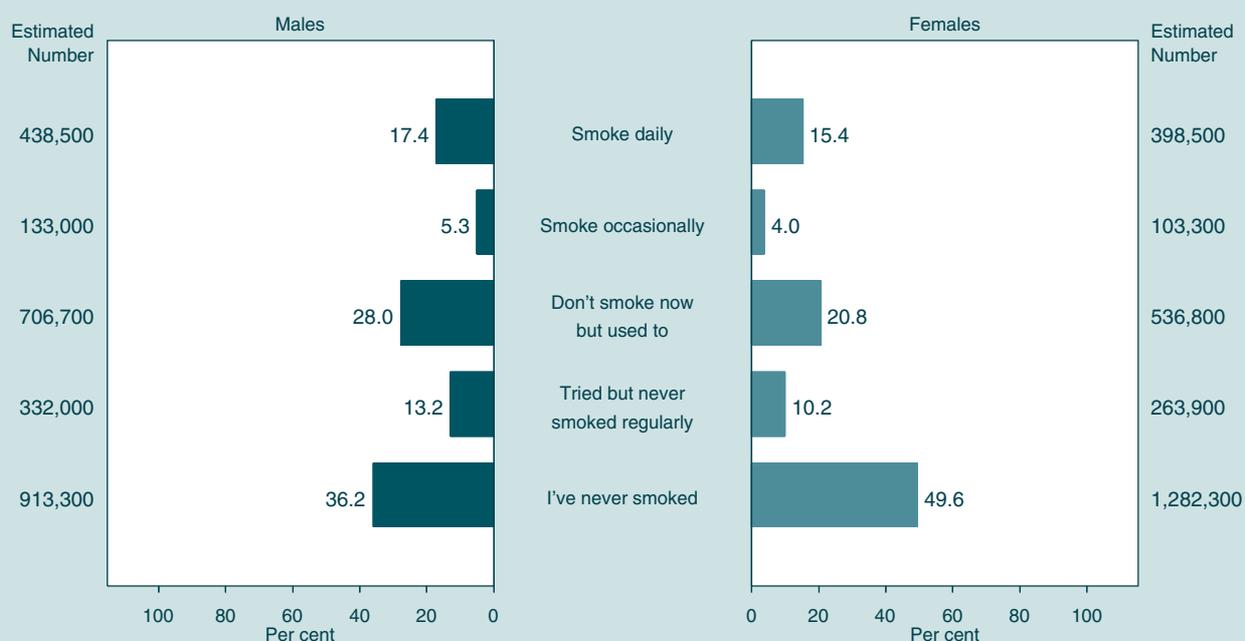
Figure 40 shows smoking status. Figure 41 and 42 show the proportion of people who currently smoke daily or occasionally by age and socioeconomic disadvantage. Figure 43 shows the intention to quit smoking. Figures 44 and 45 show the proportion of smoke-free households by age and socioeconomic disadvantage. Figure 46 shows the proportion of smoke-free cars by age.

References

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 40

SMOKING 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 41

CURRENT DAILY OR OCCASIONAL SMOKING 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 42

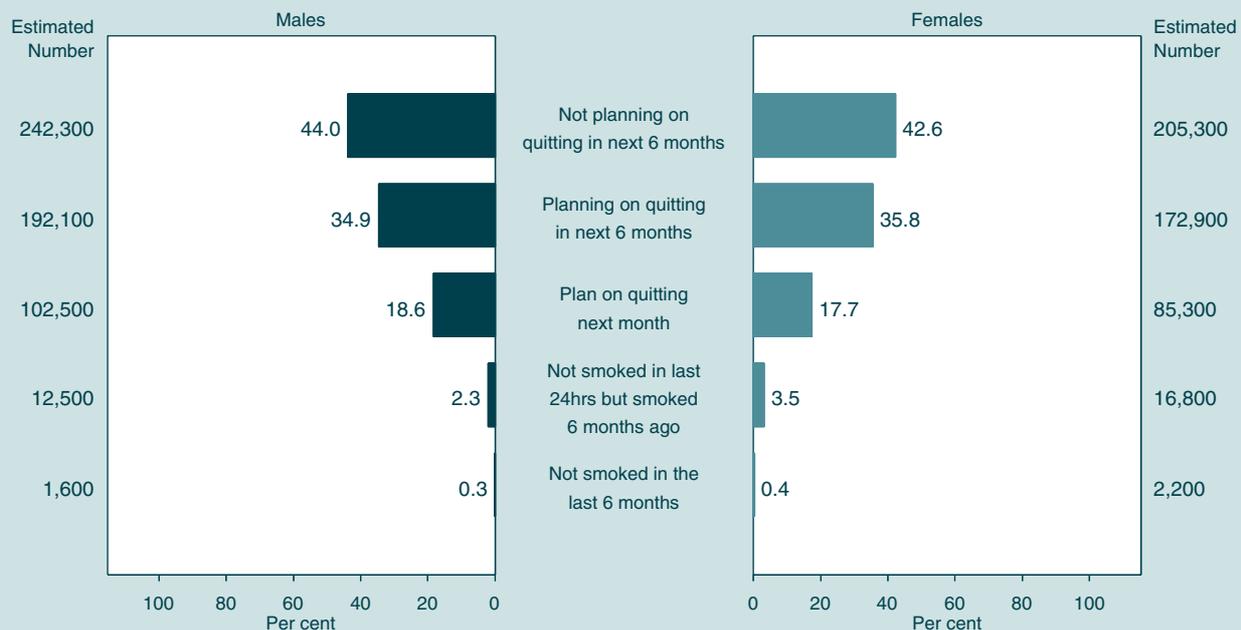
CURRENT DAILY OR OCCASIONAL SMOKING BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 43

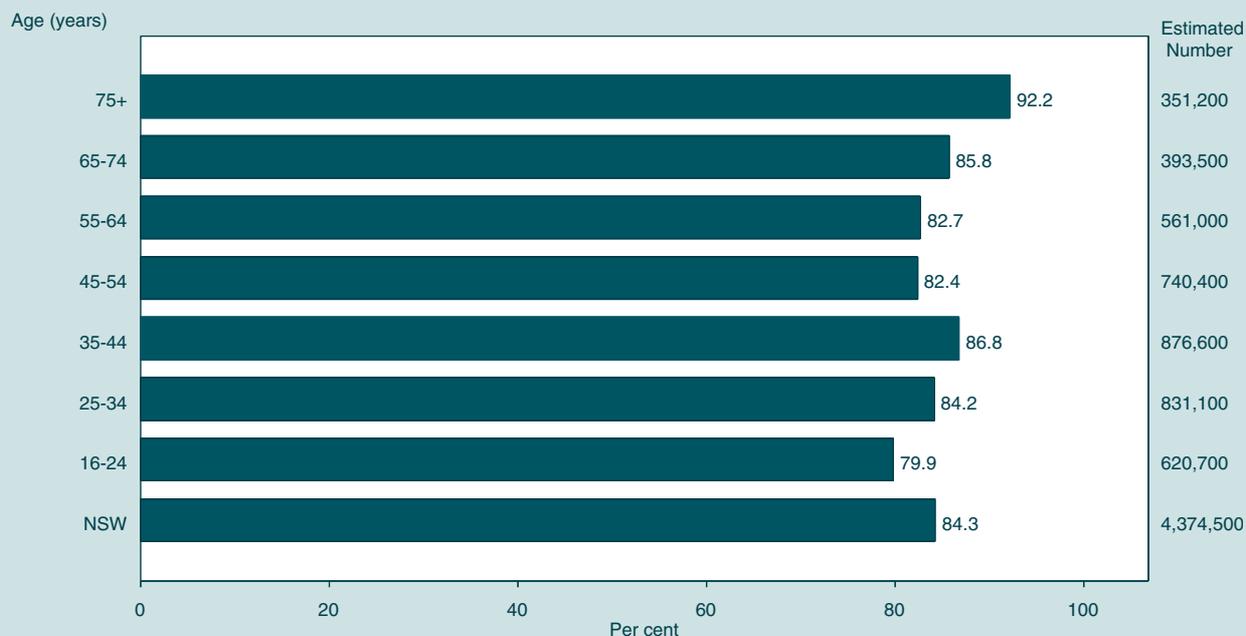
INTENTION TO QUIT SMOKING, PERSONS WHO SMOKE AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 44

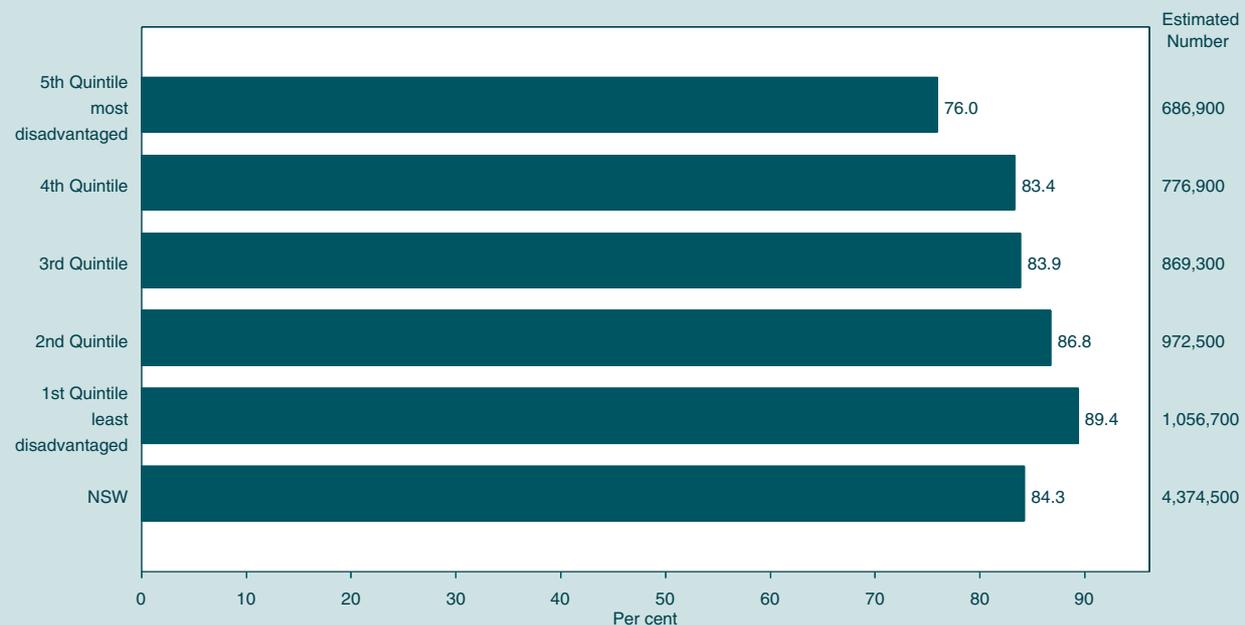
SMOKE-FREE HOUSEHOLDS BY AGE, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 45

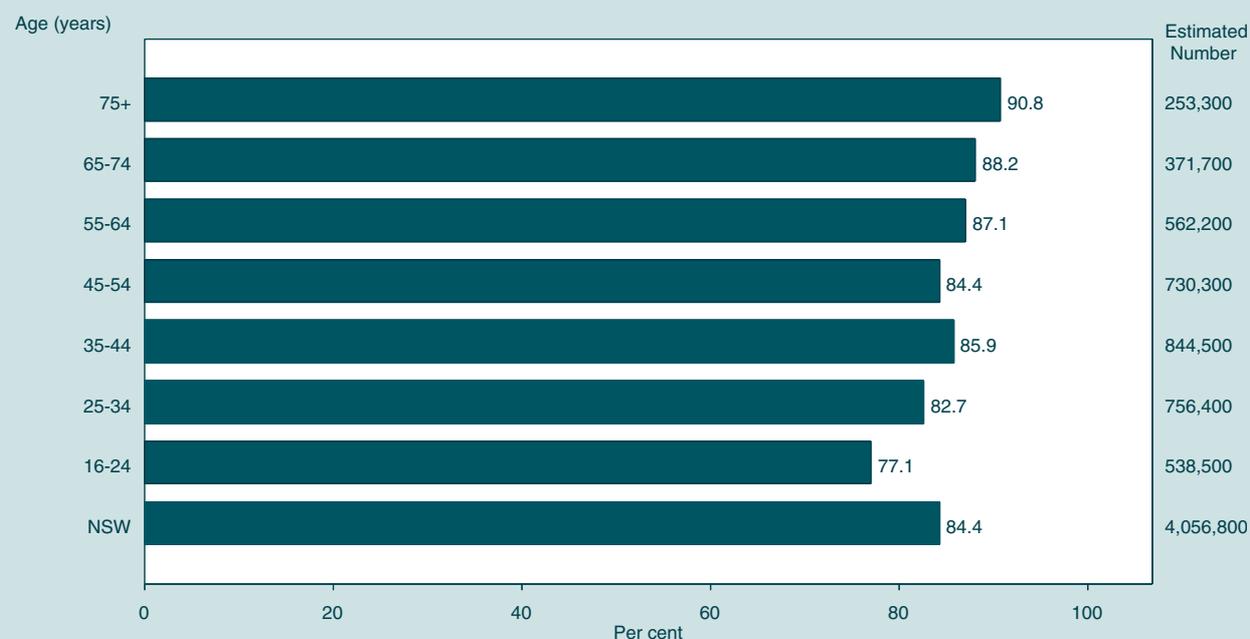
SMOKE-FREE HOUSEHOLDS BY SOCIOECONOMIC DISADVANTAGE, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 46

SMOKE-FREE CARS BY AGE, 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.

Sun protection

Introduction

Sunlight contains ultraviolet radiation (UVR), which can cause skin cancer.¹ Australia's proximity to the equator means levels of UVR in New South Wales are very high.² Levels of UVR are highest around midday and are higher in summer than winter, particularly in southern Australia.^{1,2}

Some sun exposure is beneficial to health; for example, by helping the body to produce vitamin D, which is essential for healthy bones.^{3,4} However, excessive sun exposure can lead to sunburn in the short-term and to melanoma and other skin cancers in the long-term. Most skin cancer in Australia is caused by sun exposure.¹ In addition, there is some evidence that sun exposure causes several forms of eye disease including cataract,¹ non-malignant skin conditions, and premature ageing.

There are 3 types of skin cancer related to sun exposure: malignant melanoma and 2 non-melanocytic skin cancers (NMSC), basal cell carcinoma (BCC), and squamous cell carcinoma (SCC). In Australia, the majority of new cancers that are diagnosed are non-melanoma skin cancers.⁵

Australia has one of the highest rates of melanoma in the world and the incidence of new cases of melanoma continues to rise.⁵ In New South Wales in 2002, there were 3,189 new cases of melanoma diagnosed and 429 deaths.^{6,7} This compares to 1,427 cases in 1983. Melanoma is now the third most common potentially fatal cancer in New South Wales.⁷

Incidence rates of NMSC also continue to rise in Australia, although there is evidence of a reduction in BCC incidence in younger cohorts.⁸ This may indicate that public health campaigns to reduce sun exposure⁸ may be having a beneficial effect on skin cancer rates.

In recognition of the high rates of skin cancer in Australia, the National Health Goals, Targets and Strategies for Australia recommended a reduction in exposure to sunlight for all, especially those at high risk of skin cancer.⁹

The principal goal of preventive efforts are to reduce exposure to UVR by environmental, social, and behavioural changes.² The recommendations are to reduce sun exposure by avoiding the sun during the summer months before 11.00 a.m. or after 3.00 p.m. by staying indoors, as the sun is at its strongest during these times and the risk of skin damage is at its highest.^{2,10} Otherwise, if exposed to the sun during these hours, maximum protection is recommended by way of a wide-brimmed hat or cap with a backflap, clothing that protects from the sun, and the use of sunscreen to remaining exposed skin. The 'Slip, Slop, Slap' campaign ('slip on a shirt, slop on some sunscreen, and slap on a hat') sun protection message has been promoted throughout Australia for over 20 years.^{1,2,10,11}

In addition, avoiding direct sunlight by opting for shade such as trees or shelters^{1,10} is one of the most effective ways of reducing sun exposure. The SunSmart campaign, adopted

first in Victoria in 1988, promotes sunlight avoidance by staying indoors during certain times of the day and wearing protective clothing to prevent exposure to UVR.¹² The Skin Cancer Strategic Plan 2001 outlines policy direction, population and setting, and monitoring priorities for New South Wales.² This plan identifies several achievements in the area of skin cancer prevention. These include: a high level of knowledge about skin cancer and sun protection; evidence of improvement in attitudes about sun protection and tanning; evidence of positive changes in sun protection behaviour among adolescents and in the general population; written policies on sun protection in schools, workplaces, and community settings; and an increase in the availability of sun protection products.²

In 2004, the New South Wales Population Health Survey aimed to obtain an estimate of the proportion of the population 16 years and over following current sun protection guidelines, and of how easy people find it to access shade in public places. Respondents were asked the following questions: 'Last summer, how often did go out in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m.?', 'Last summer, when out in the sun for more than 15 minutes, how often did you wear a broad-brimmed hat or cap with a back flap?', 'Still thinking about last summer, how often were you deliberately dressed in clothing to protect you from the sun?', 'Still thinking about last summer, how often did you get sunburnt, so your skin was still sore or tender the next day?', 'In your local area, when you are outside, do you find it easy to find shade in sporting areas?', 'In your local area, when you are outside, do you find it easy to find shade at the outdoor public swimming pool?', 'In your local area, when you are outside, do you find it easy to find shade at the public park?'

A sun protection behaviour index (SPBI) score was calculated, which rated respondents' sun protection behaviour as either 'high' or 'low'. This index was based¹³ on similar sun protection indexes reported in the literature. This score was calculated from the responses to the 4 questions about respondents sun protection habits last summer between 11.00 a.m. and 3.00 p.m. The questions used were: 'Last summer, how often did you go out in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m.?', 'Last summer, when out in the sun for more than 15 minutes, how often did you wear a broad brimmed hat or cap with a back flap?', 'Still thinking about last summer, how often did you deliberately dress in clothing to protect you from the sun?'. Respondents who answered that last summer they never went out in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m. were given a maximum score of 16. All other respondents who did go out in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m. were given a score between one and 4 for each question depending on their responses, with respondents who always undertook the particular sun protection behaviour scoring 4 points. Scores for each respondent were then added and those respondents scoring greater than 8 were classified as 'high' sun protection and

those who scored 8 or less were classified as 'low' sun protection on the index.

Results

Sun protection behaviours and sunburn

In 2004, 50.0 per cent of people 'often or always' applied sunscreen, 46.1 per cent 'often or always' dressed in protective clothing, 45.3 per cent 'often or always' wore a hat or a cap, 23.8 per cent did all of these, and 8.1 per cent were never in the sun between 11.00 a.m. and 3.00 p.m. A significantly greater proportion of females (79.0 per cent) were more likely to 'never get sunburnt' than males (69.8 per cent). Among males, the most frequently reported sun protection behaviour was 'often or always' wearing protective clothing (48.9 per cent), followed by wearing a hat or cap (47.1 per cent) and always applying sunscreen (40.9 per cent). Only 4.7 per cent of males were never in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m. Among females the most frequently reported sun protection behaviour was 'often or always' applying sunscreen (59.5 per cent), followed by wearing a hat or cap (43.4 per cent) and wearing protective clothing (43.2 per cent). Only 11.4 per cent of females were never in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m.

High sun protection behaviour index score last summer

In New South Wales, 67.0 per cent of persons had a SPBI score between 9 and 16, which was classified as a 'high' score. A significantly greater proportion of females obtained a high score (71.9 per cent) than males (61.8 per cent). Among males, a significantly lower proportion aged 16–24 years (39.6 per cent) and a significantly greater proportion aged 45–74 years (65.3 per cent to 71.9 per cent) obtained a high sun protection score, compared to the overall adult male population. A significantly lower proportion of females aged 16–24 years (56.4 per cent) and a significantly greater proportion aged 45 years and over (77.5 per cent to 78.3 per cent) obtained a high sun protection score, compared to the overall adult female population.

A significantly greater proportion of males in the second least socioeconomic disadvantaged quintile had a high sun protection score (69.2 per cent). There was no variation by socioeconomic disadvantage among females.

A significantly greater proportion of people in rural areas had a high sun protection score (70.2 per cent), compared to those in urban areas (66.1 per cent). In addition, a significantly greater proportion of residents in the Greater Southern Health Area had a high sun protection score (72.5 per cent).

Availability of shade

In 2004, 62.5 per cent of people in New South Wales found it easy to find shade when outdoors at sporting areas, 71.8 per cent at public swimming pools and 78.7 per cent at

public parks in their local area. There were significant variations by age in how easy it was to find shade at these venues. At local sporting areas, a significantly greater proportion of people aged 55 years and over (68.2 per cent to 76.0 per cent), and a significantly lower proportion of people aged 35–54 years (53.7 per cent to 53.9 per cent) found it easy to find shade. A similar pattern was found at local parks, with a significantly greater proportion of people aged 55 years and over (84.5 per cent to 85.2 per cent) and a significantly lower proportion aged 35–44 years (72.6 per cent) reported shade was easy to find. At swimming pools a significantly greater proportion of younger people aged 16–24 years (79.3 per cent) and a significantly lower proportion of people aged 75 years and over (56.0 per cent) found shade easily.

There was minimal variation by socioeconomic status. A significantly lower proportion of people in the quintile of most disadvantage found shade easy to find in local parks (73.0 per cent). There was no variation by socioeconomic status for ease of finding shade at local sporting venues or local swimming pools.

A significantly greater proportion of people in rural areas found it easier to find shade than people in urban areas in sporting areas (66.8 per cent versus 61.3 per cent), swimming pools (75.6 per cent versus 70.6 per cent), and public parks (88.4 per cent versus 76.0 per cent).

Compared to the overall adult population, a significantly greater proportion of people in the Greater Southern and Greater Western Health Areas found it easy to find shade at sporting areas (68.6 per cent and 68.5 per cent) and parks (90.6 per cent and 90.9 per cent). A significantly greater proportion of people in Hunter New England (82.9 per cent) and North Coast (81.6 per cent) health areas also found it easy to find shade in parks. A significantly lower proportion of people in the North Coast Health Area (61.9 per cent) found shade easy to find at local swimming pools.

Trend data were available for shade in local sporting venues and swimming pools. Between 1997 and 2004, the proportion of people finding it easy to find shade at local sporting venues has increased significantly from 51.2 per cent in 1997 to 62.5 per cent in 2004. Similarly, the proportion of people finding it easy to find shade at local swimming pools has increased significantly from 61.0 per cent in 1997 to 71.8 per cent in 2004. No comparable trend data were available for shade in local parks.

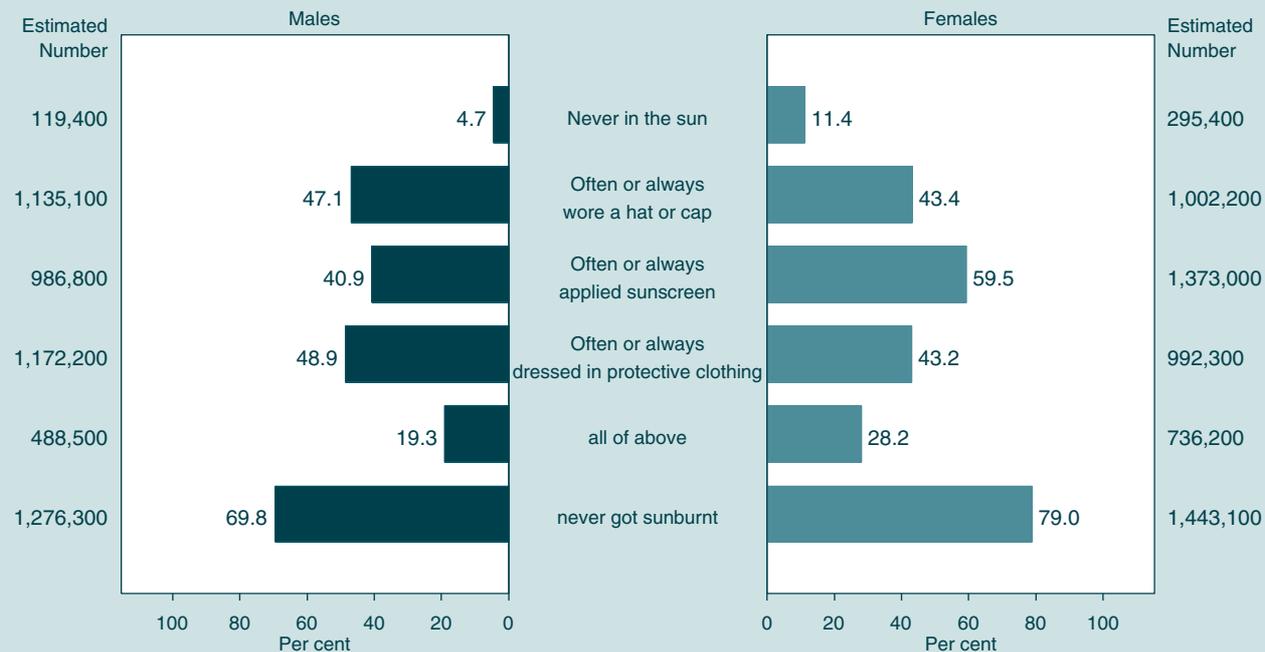
Figure 47 shows sun protection behaviours between 11.00 a.m. and 3.00 p.m. last summer when out in the sun for more than 15 minutes. Figure 48 shows the sun protection behaviour index score last summer by age. Figure 49 and Table 5 show the proportion of people who found it easy to find shade in their local sporting areas by health area. Figure 50 and Table 6 show the proportion of people who found it easy to find shade in outdoor public swimming pools by health area. Figure 51 and Table 7 show the proportion of people who found it easy to find shade in their local public park by health area.

References

1. National Health and Medical Research Council. *Primary Prevention of Skin Cancer in Australia: Report of the Sun Protection Programs Working Party*. Canberra: Commonwealth Department of Health and Family Services, 1996.
2. The Cancer Council NSW and NSW Department of Health. *Skin Cancer Prevention Strategic Plan for NSW 2001–2005*. Sydney: The Cancer Council NSW and NSW Department of Health, 2001.
3. Utiger RD. The need for more vitamin D. *N Engl J Med* 1998; 338: 828–829.
4. Ness AR, Frankel SJ, Gunnell J, Smith DJ. Are we really dying for a tan? *BMJ* 1999; 319: 114–116.
5. Australian Institute of Health and Welfare. *Australia's Health 2004*. Canberra: AIHW, 2004. Available online at www.aihw.gov.au/publications/index.cfm/title/10014.
6. 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/pre_useage.htm.
7. Tracey EA, Chen W, Sitas F. *Cancer in NSW: Incidence and mortality 2002*. Sydney: The Cancer Council NSW, 2004. Available online at www.cancercouncil.com.au.
8. Staples M, Marks R, Giles G. Trends in the incidence of non-melanocytic skin cancer (NMSC) treated in Australia 1985–1995: Are primary prevention programs starting to have an effect? *Int J Cancer* 1998; 78: 144–148.
9. Commonwealth Department of Human Services and Health. *Better Health Outcomes for Australians: National Goals, Targets and Strategies for Better Health Outcomes in the Next Century*. Canberra: Australian Government Printing Service and Australian Cancer Society, 1993.
10. Australian Radiation Protection and Nuclear Safety Agency. *Australian UV-Index Models*. Available online at www.arpansa.gov.au/uvindex/models/syduvmodel.htm.
11. NSW Department of Health. *NSW Health Sun Protection Fact Sheet*. Available online at www.health.nsw.gov.au.
12. SunSmart website at www.sunsmart.com.au.
13. O'Riordan D, Geller A, Brooks D, Zhang Z, Miller D. Sunburn reduction through parental role modeling and sunscreen vigilance. *J Pediatr* 2003; 142(1).

FIGURE 47

SUN PROTECTION BEHAVIOURS BETWEEN 11.00 A.M. AND 3.00 P.M. LAST SUMMER WHEN OUT IN THE SUN FOR MORE THAN 15 MINUTES, 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 48

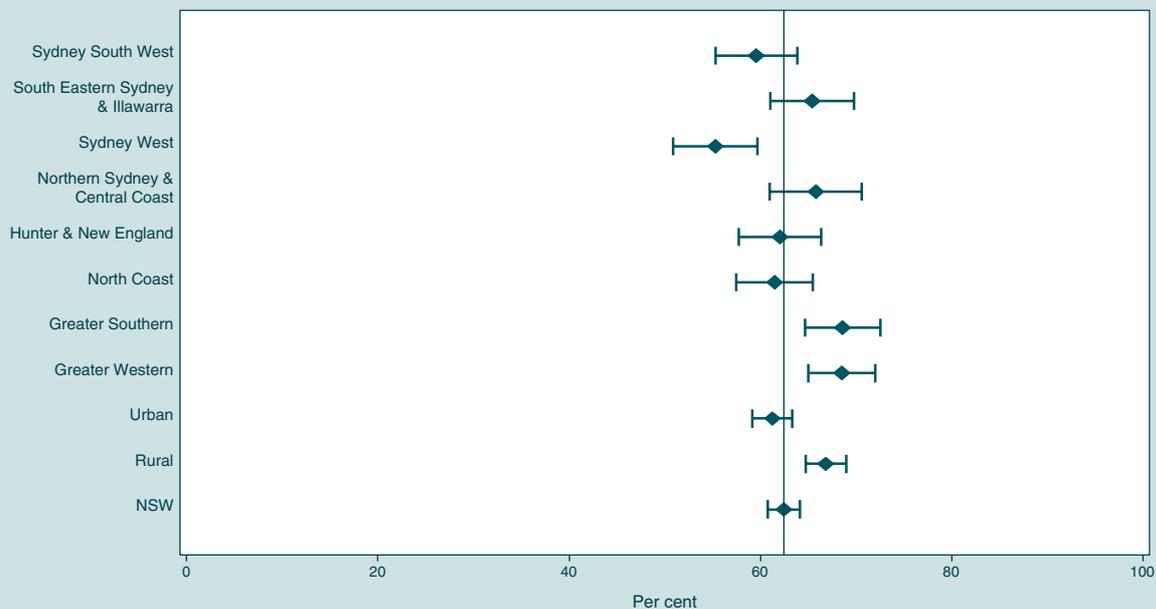
HIGH SUN PROTECTION BEHAVIOUR INDEX SCORE LAST SUMMER BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 49

EASY TO FIND SHADE IN LOCAL SPORTING AREAS BY HEALTH AREA, 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.

TABLE 5

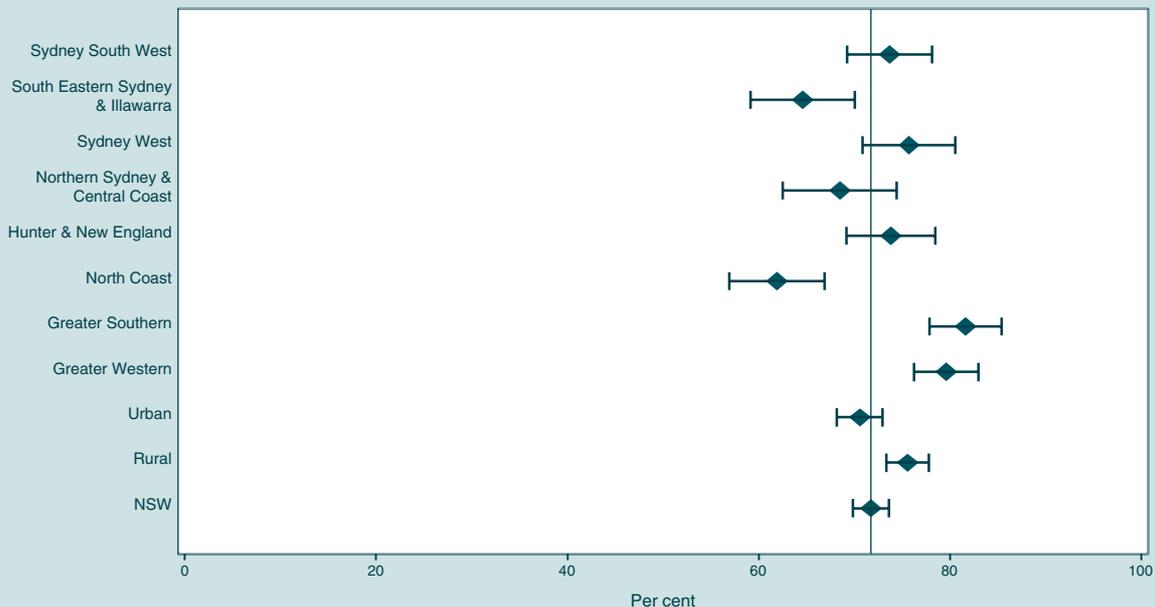
EASY TO FIND SHADE IN LOCAL SPORTING AREAS BY HEALTH AREA, PERSONS AGED 16 YEARS AND OVER, NSW 2004

Area	Persons (no.)	Persons LL95% CI	Persons UL95% CI	Persons (est. no.)
Sydney South West	59.6	55.3	63.8	462100
South Eastern Sydney & Illawarra	65.4	61	69.8	467400
Sydney West	55.3	50.9	59.7	338300
Northern Sydney & Central Coast	65.8	61	70.6	439600
Hunter & New England	62	57.7	66.4	305100
North Coast	61.5	57.5	65.5	168500
Greater Southern	68.6	64.6	72.5	193800
Greater Western	68.5	65	72	120500
Urban	61.3	59.2	63.4	1924600
Rural	66.8	64.7	69	570700
NSW	62.5	60.8	64.2	2495300

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

FIGURE 50

EASY TO FIND SHADE AT OUTDOOR PUBLIC SWIMMING POOL BY HEALTH AREA, 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.

TABLE 6

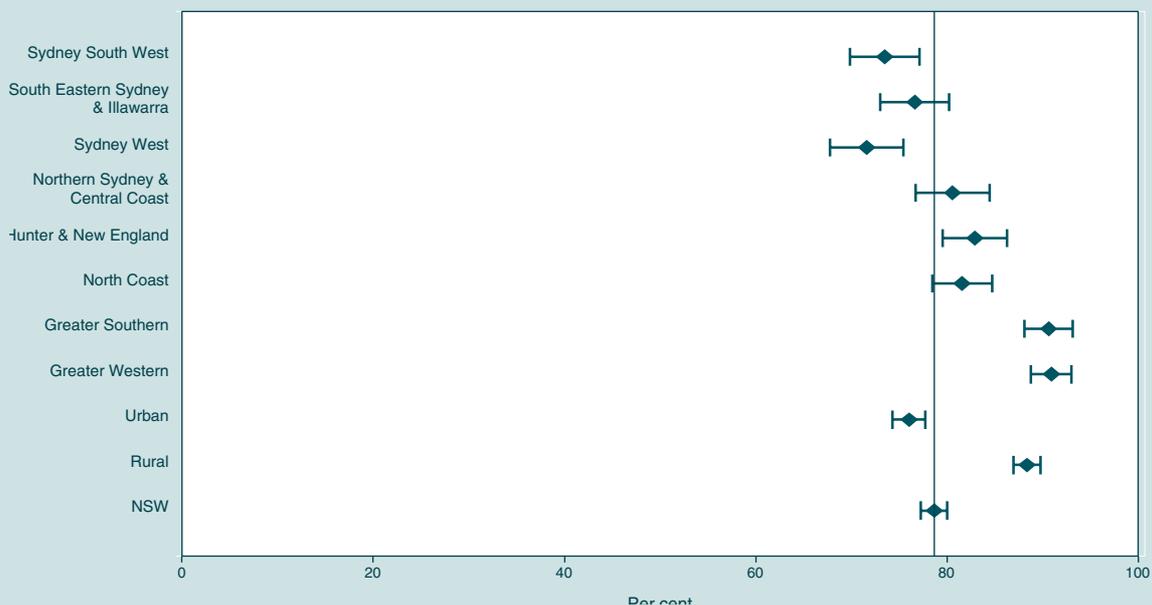
EASY TO FIND SHADE AT OUTDOOR PUBLIC SWIMMING POOL BY HEALTH AREA, PERSONS AGED 16 YEARS AND OVER, NSW 2004

Area	Persons (no.)	Persons LL95% CI	Persons UL95% CI	Persons (est. no.)
Sydney South West	73.7	69.3	78.2	396400
South Eastern Sydney & Illawarra	64.6	59.1	70.1	304300
Sydney West	75.8	70.9	80.6	311900
Northern Sydney & Central Coast	68.5	62.5	74.4	282500
Hunter & New England	73.8	69.2	78.5	263300
North Coast	61.9	56.9	66.9	118900
Greater Southern	81.6	77.9	85.4	164600
Greater Western	79.6	76.3	83	117600
Urban	70.6	68.2	73	1477100
Rural	75.6	73.4	77.8	482400
NSW	71.8	69.9	73.6	1959500

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

FIGURE 51

EASY TO FIND SHADE AT LOCAL PUBLIC PARK BY HEALTH AREA, 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.

TABLE 7

EASY TO FIND SHADE AT LOCAL PUBLIC PARK BY HEALTH AREA, PERSONS AGED 16 YEARS AND OVER, NSW 2004

Area	Persons (no.)	Persons LL95% CI	Persons UL95% CI	Persons (est. no.)
Sydney South West	73.5	69.9	77.1	640600
South Eastern Sydney & Illawarra	76.6	73.0	80.2	627200
Sydney West	71.6	67.8	75.4	480700
Northern Sydney & Central Coast	80.6	76.7	84.5	608500
Hunter & New England	82.9	79.6	86.3	458000
North Coast	81.6	78.5	84.7	249500
Greater Southern	90.6	88.1	93.2	277700
Greater Western	90.9	88.8	93.0	186600
Urban	76.0	74.3	77.8	2686900
Rural	88.4	87.0	89.8	842000
NSW	78.7	77.3	80.1	3528900

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

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.^{1,2} Longitudinal studies have shown that self-rated health is a strong and independent predictor of subsequent illness and premature death.³

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.

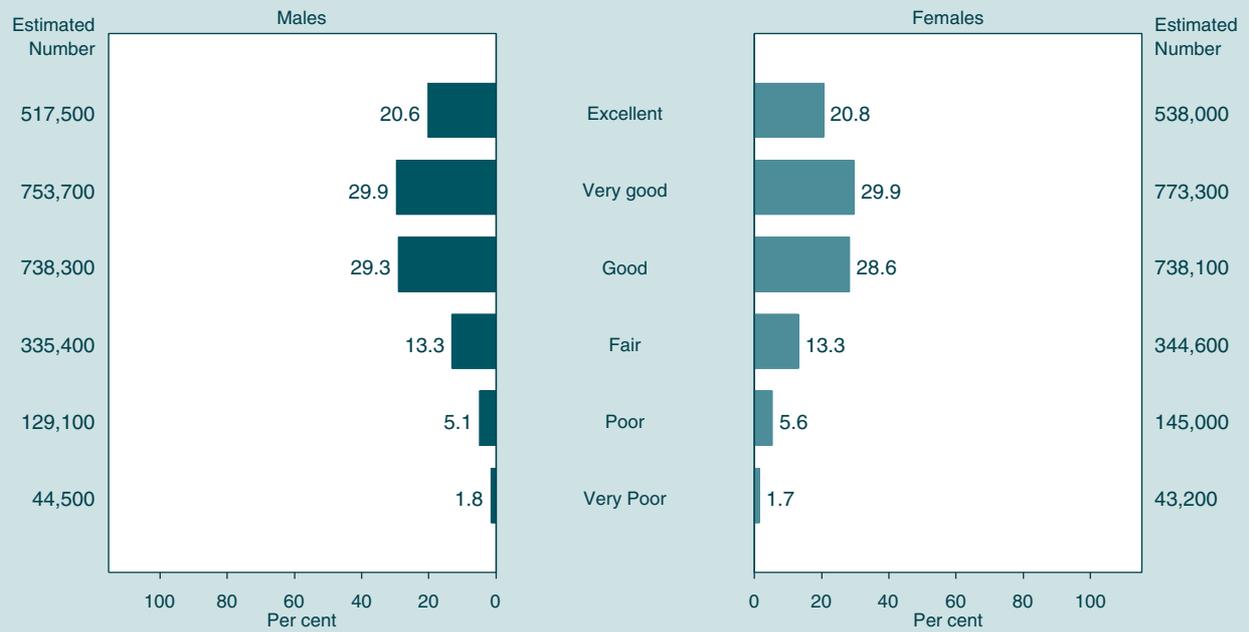
Figure 52 shows self-rated health status by sex. Figure 53 shows the proportion of people who rated their health status as excellent, very good, or good, by age. Figure 54 shows the proportion of people who experienced difficulty with doing work or an activity in the last 4 weeks. Figure 55 shows the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

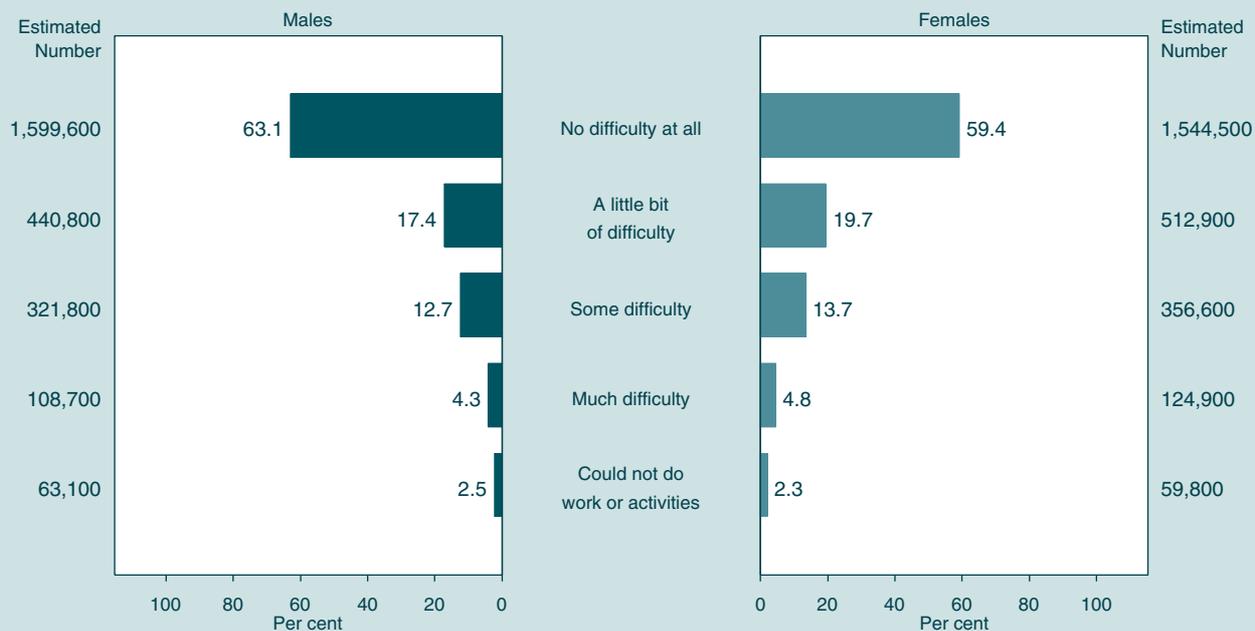
EXCELLENT, VERY GOOD, OR GOOD SELF-RATED HEALTH STATUS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 54

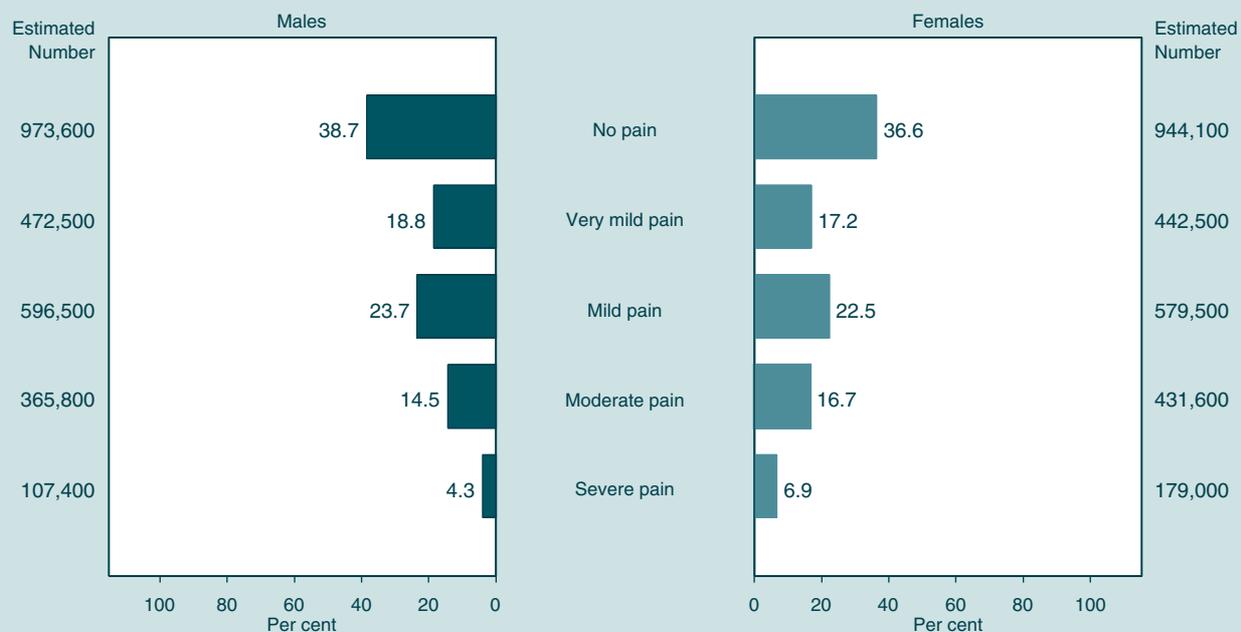
DIFFICULTY DOING WORK OR ACTIVITY, PERSONS AGED 16 YEARS AND OVER, NSW, 2004



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.^{1,2} 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.³ While there was evidence of an increase in the prevalence of asthma between the 1980s and 1990s,^{4,5} more recent studies in children show no further increase in the prevalence of asthma,⁶ and possibly a decrease in the prevalence of asthma symptoms.⁷

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).⁸

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

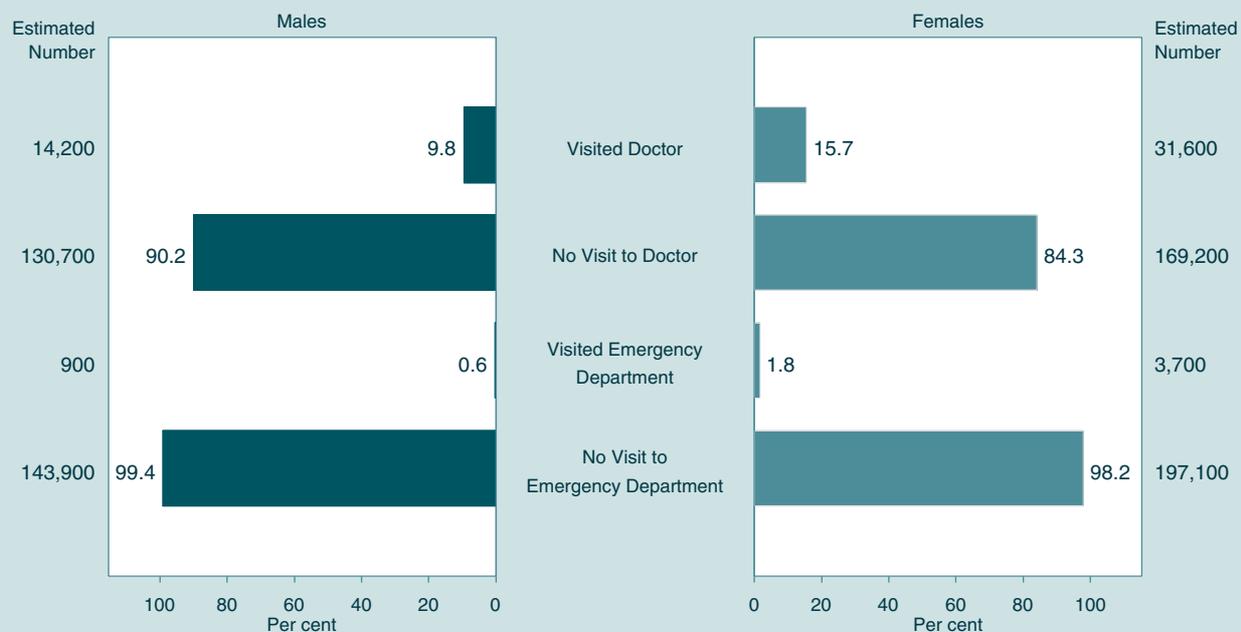
CURRENT ASTHMA BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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 pregnancies¹ 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), blood² 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.³

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.

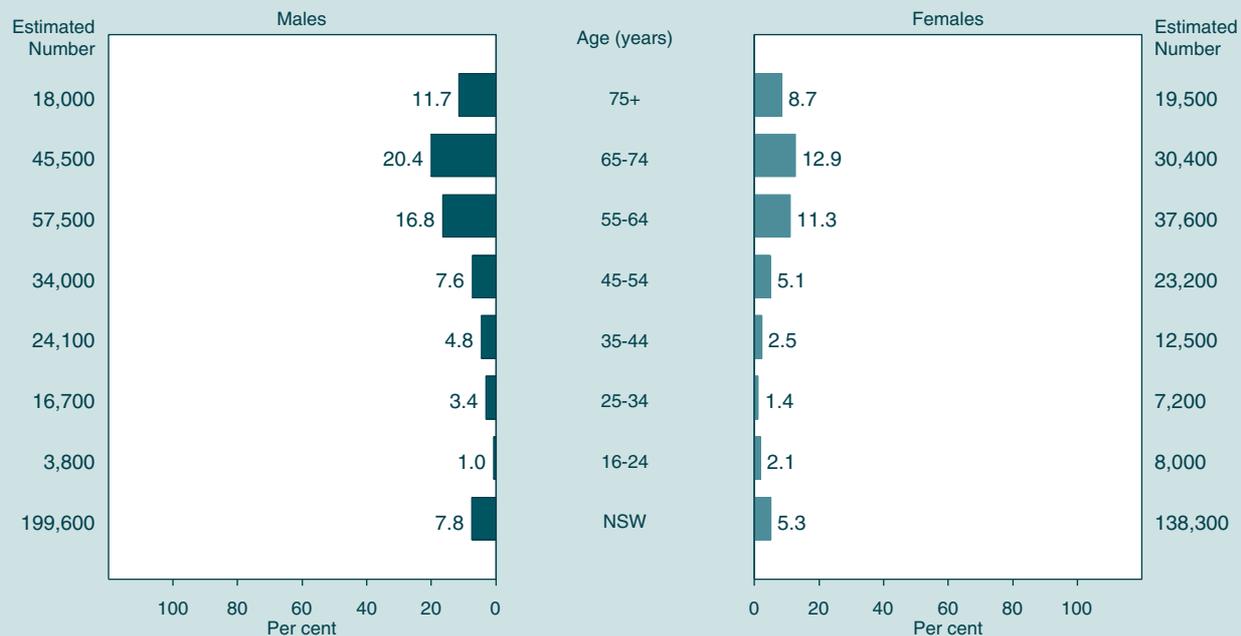
Figure 59 shows the proportion of people who reported diabetes or high blood sugar by age. Figure 60 shows the proportion of people with diabetes or high blood sugar by socioeconomic disadvantage. Figure 61 shows self-reported action to manage diabetes or high blood sugar.

References

1. Diabetes Australia. *Minimising the impact of diabetes: Fact sheets*. Available online at www.diabetesaustralia.com.au/_lib/doc_pdf/Diabetesfactsheet.pdf.
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

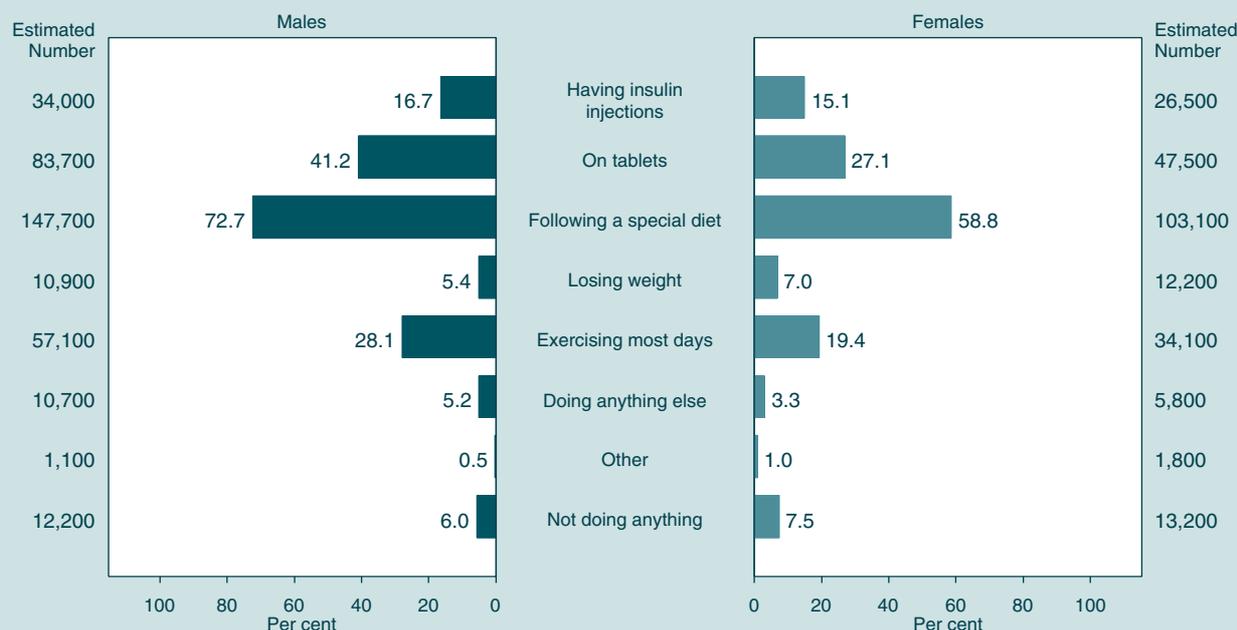
DIABETES OR HIGH BLOOD SUGAR BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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.¹ Affective disorders (including depression) are the most common,² followed by substance abuse and anxiety disorders.² 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.³

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.⁴ 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.⁴ 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.

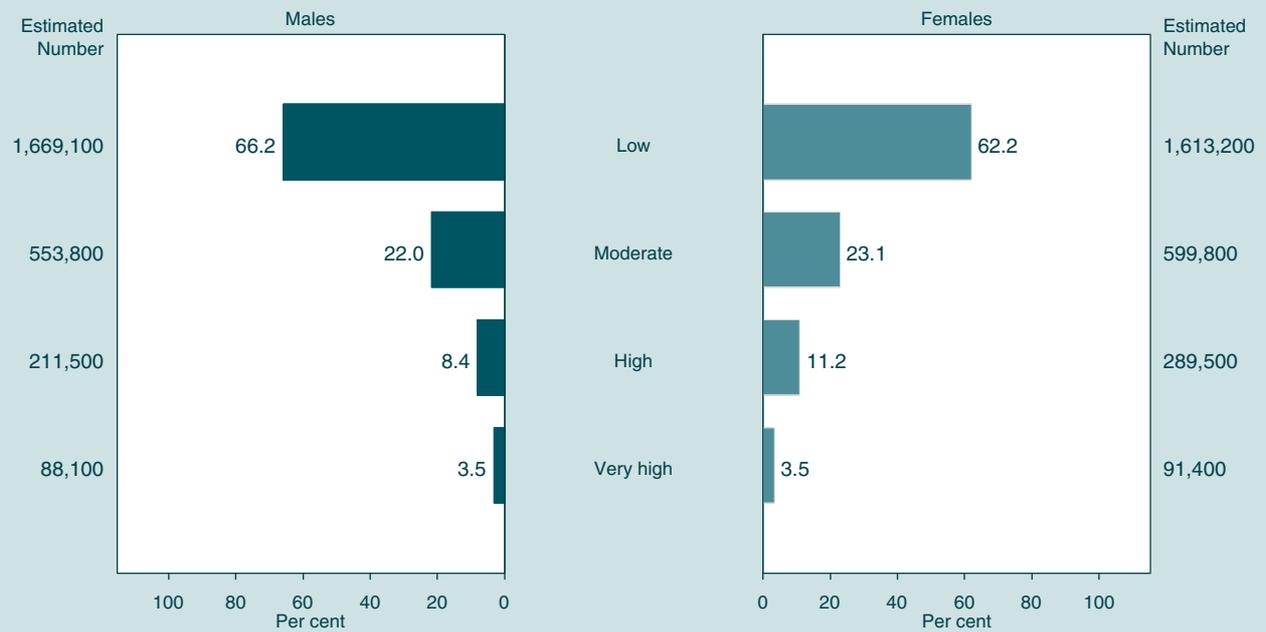
Figure 62 shows psychological distress by Kessler 10 categories. Figures 63 and 64 show the proportion of people with high and very high psychological distress by age and socioeconomic disadvantage. Figure 65 shows the number of times that physical problems have been the cause of psychological distress 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

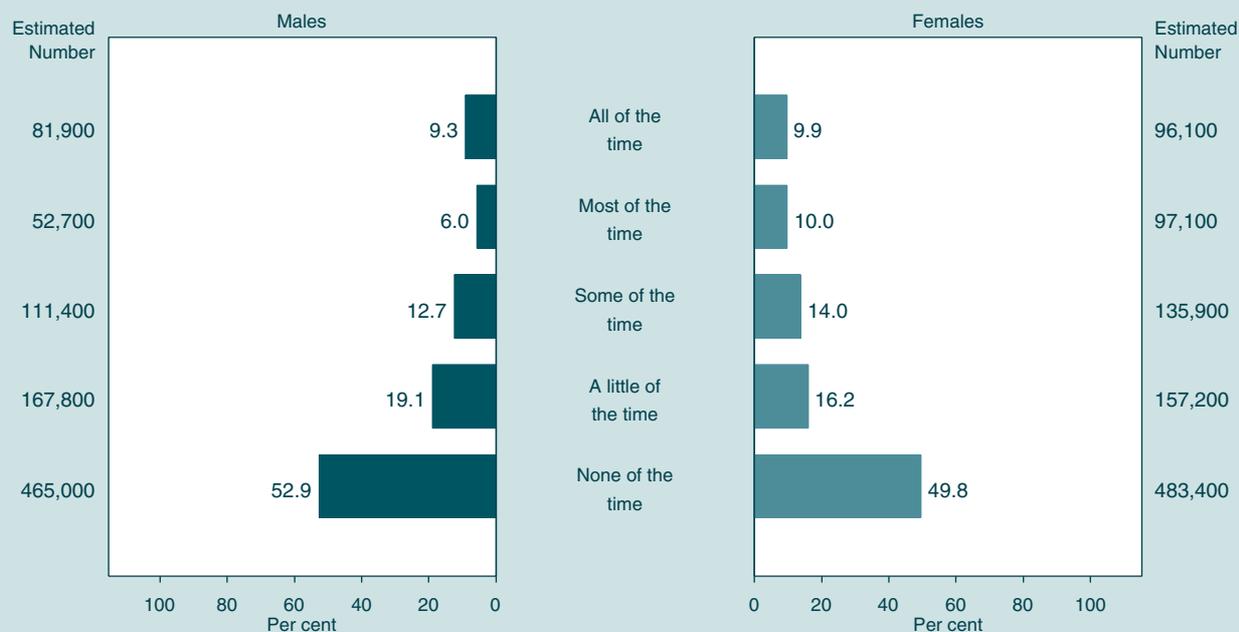
HIGH AND VERY HIGH PSYCHOLOGICAL DISTRESS BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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.¹ 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.² 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.³ 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.⁴

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.⁵ 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.⁶

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

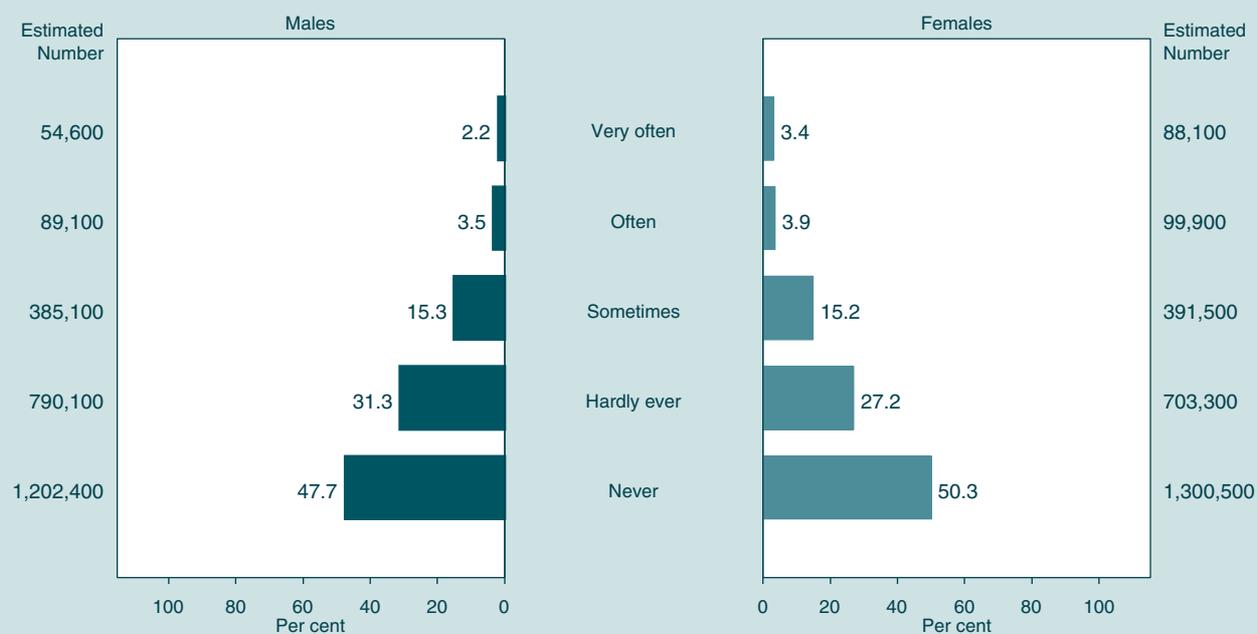
ALL NATURAL TEETH MISSING BY SOCIOECONOMIC DISADVANTAGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 68

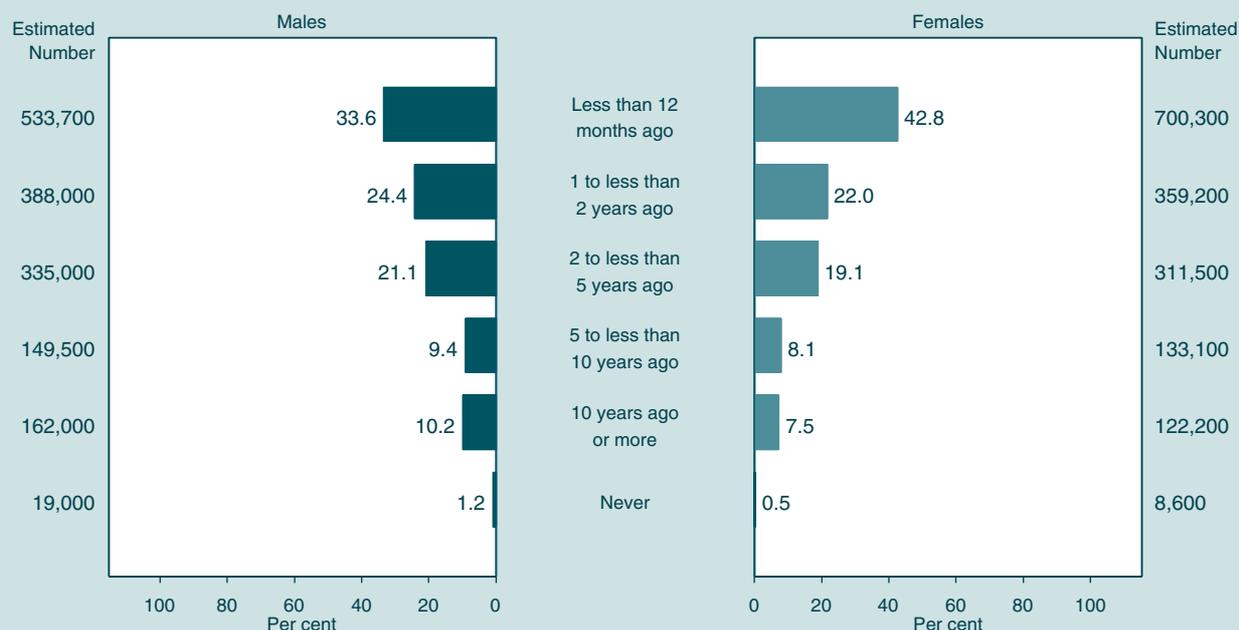
FREQUENCY OF ORAL HEALTH PROBLEM IN THE LAST 12 MONTHS, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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.¹ 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 30.²

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

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).

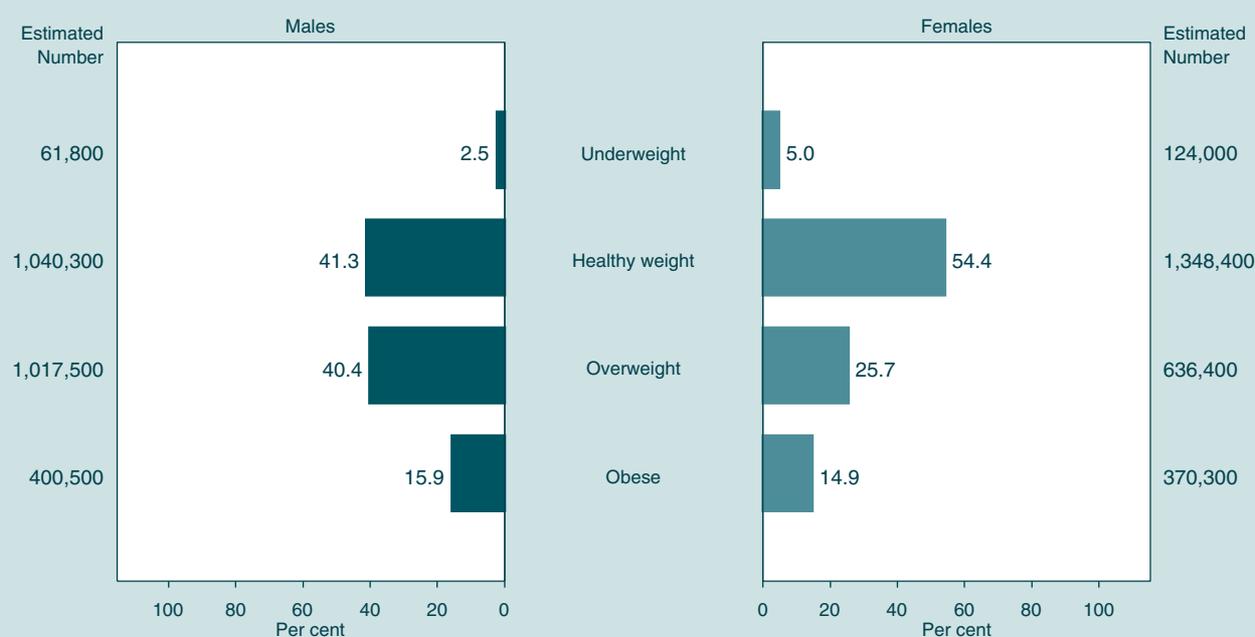
Figure 70 shows body mass index categories by sex. Figure 71 shows overweight and obesity by age. Figure 72 and Table 9 show overweight and obesity by health area. Figures 73 and 74 show obesity by age and socioeconomic disadvantage.

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

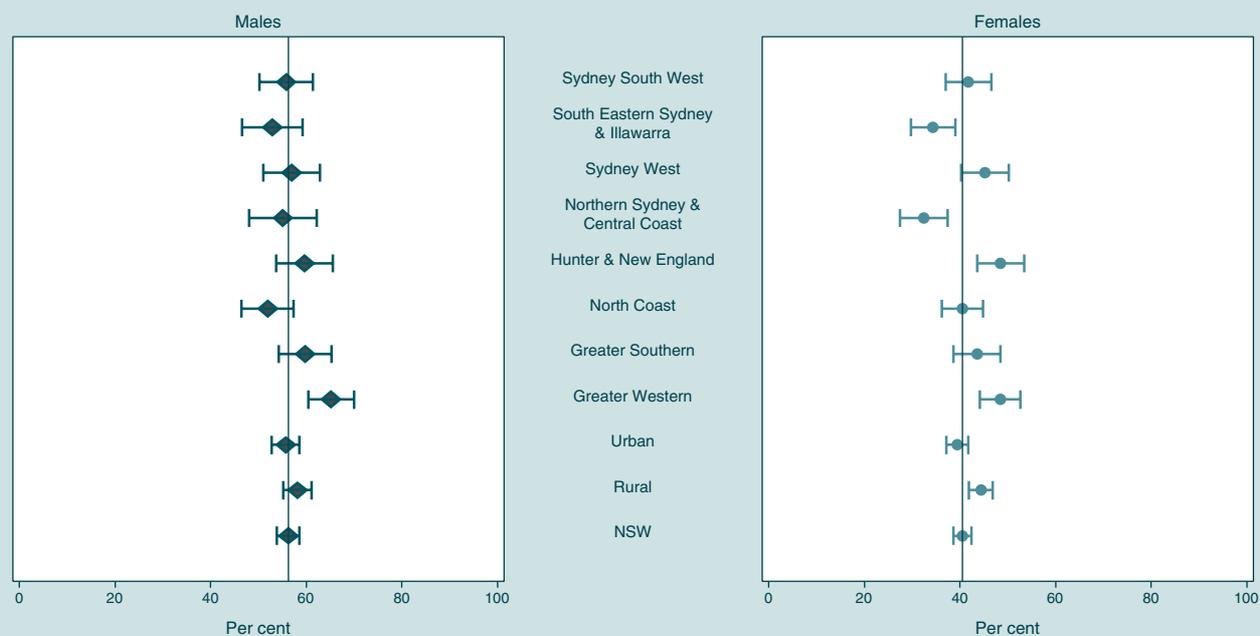


Note: Overweight and obesity is a Body Mass Index of 25 and over.

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

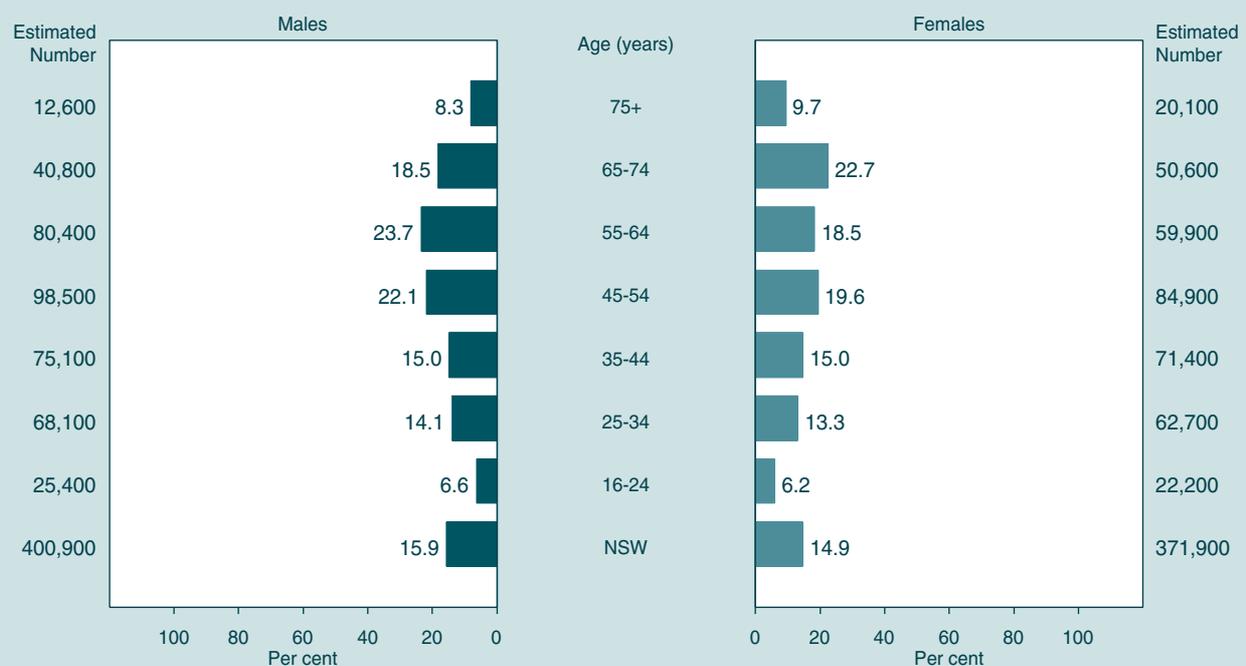
OVERWEIGHT AND OBESITY BY HEALTH AREA AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004

Area	(no.)	Males			Females				(no.)	Persons		
		LL95% CI	UL95% CI	(est. no.)	LL95% CI	UL95% CI	(est. 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)/height²(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 600,000.¹

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.¹

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.^{1,2,3,4}

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.^{5,6} 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,^{7,8} the Lions Eye Health Program Australia,¹⁰ and the Royal Australian College of Ophthalmologists.¹¹ 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.^{7,8}

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.

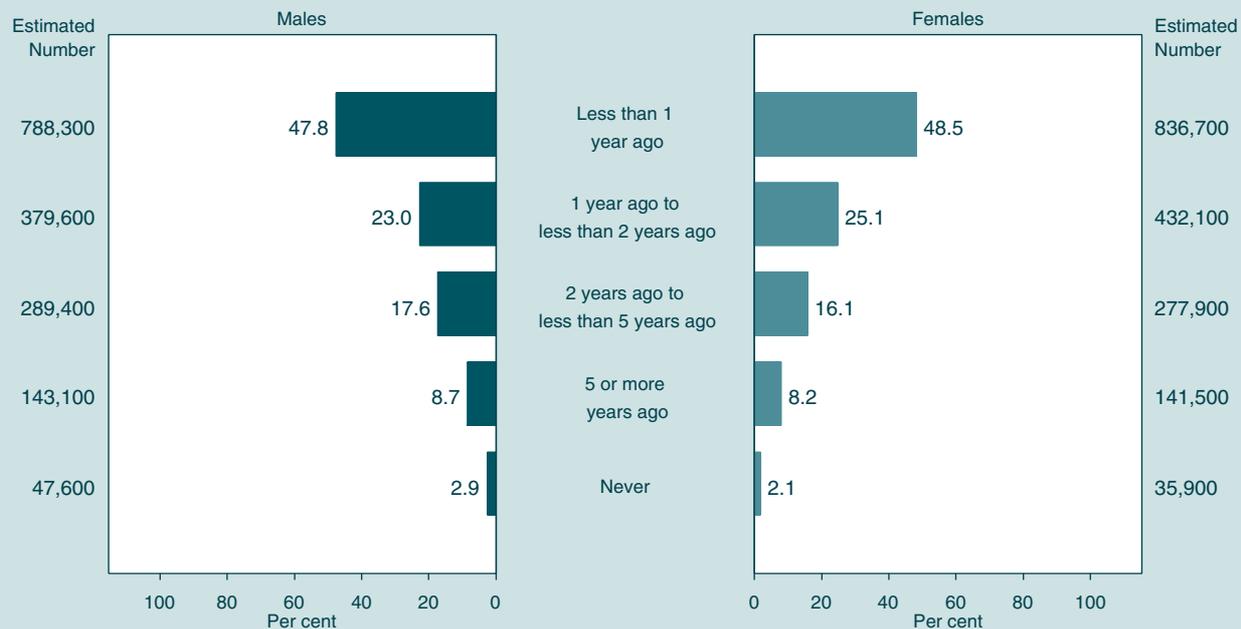
Figure 75 shows when eyesight was last checked by sex. Figure 76 shows the proportion of people who had their eyesight tested in the last 2 years by age. Figure 77 shows the proportion of people with normal vision in both eyes by age. Figure 78 shows the proportion of people who experience difficulty 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.
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.
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.
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.
8. Vision 2020 Australia. *National Eye Health Strategy*. Available online at 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.
10. Royal Australian and New Zealand College of Ophthalmologists. *What is glaucoma?* Available online at 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.

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.² It is one of the most common disabilities in adulthood, with a particularly heavy burden of disability in the elderly.³ 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.⁴

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.⁵ 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.^{3,5}

Self-reported hearing loss has been validated as one way of providing a reasonable estimate of the prevalence of hearing loss among older people.⁵ 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

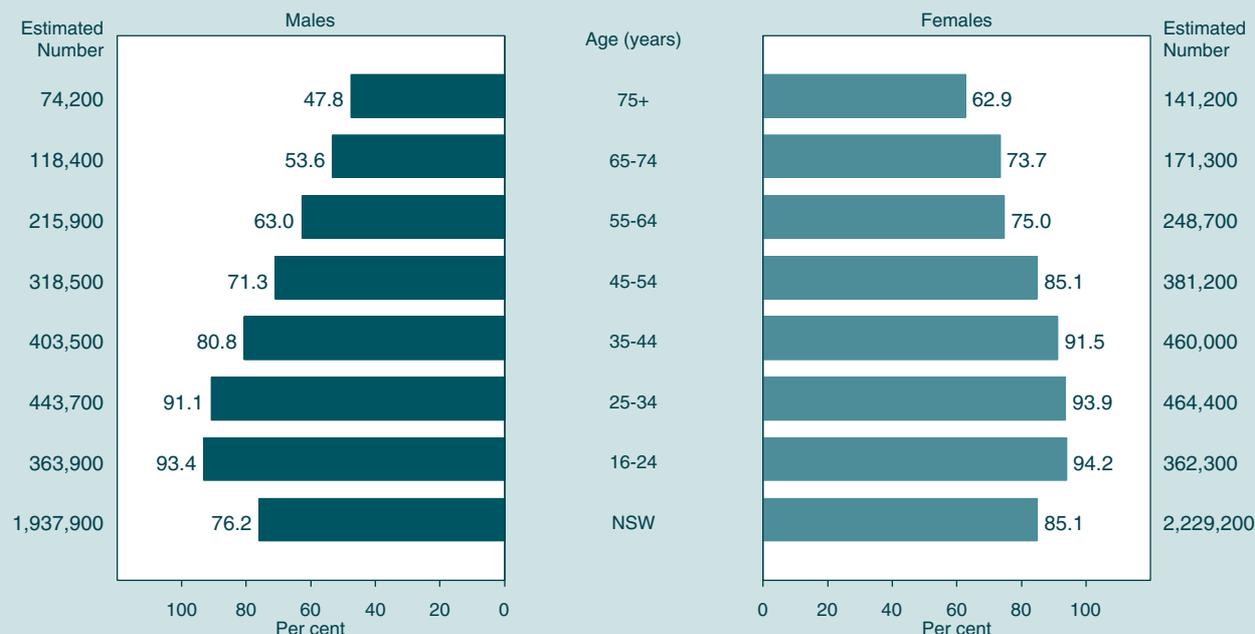
EVER HAD HEARING TESTED BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 80

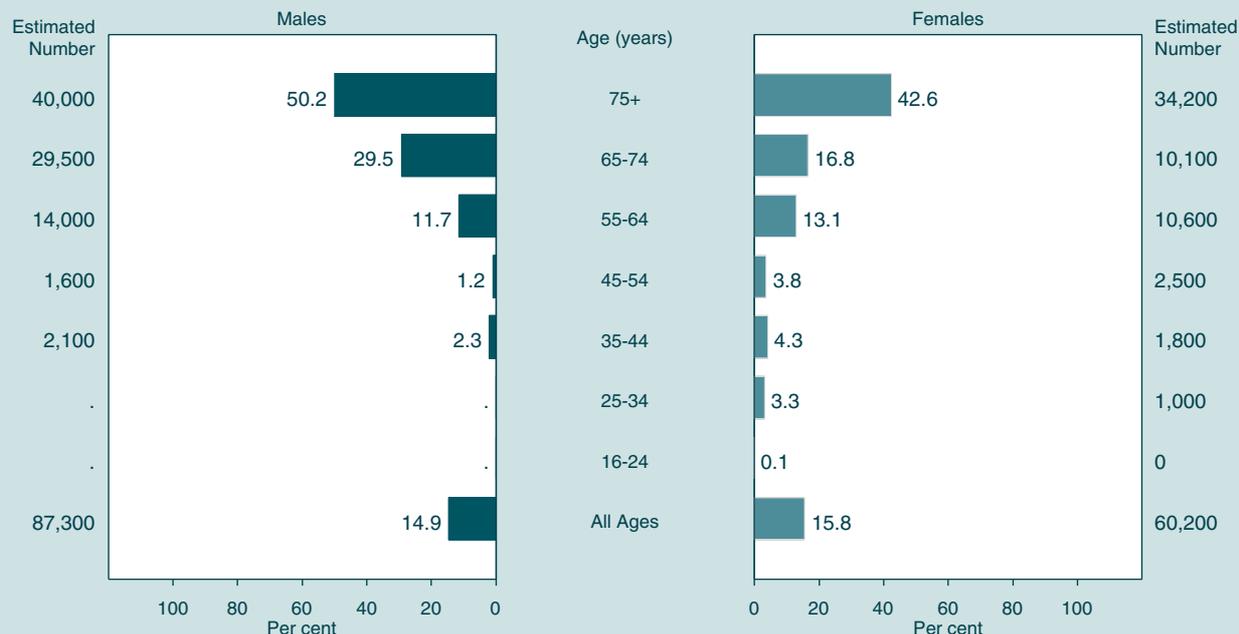
NORMAL HEARING IN BOTH EARS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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.^{1,2,3} 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.⁴

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.⁷ 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).⁵

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.⁶ 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.⁷ 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.⁶

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.
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.
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.
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.
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

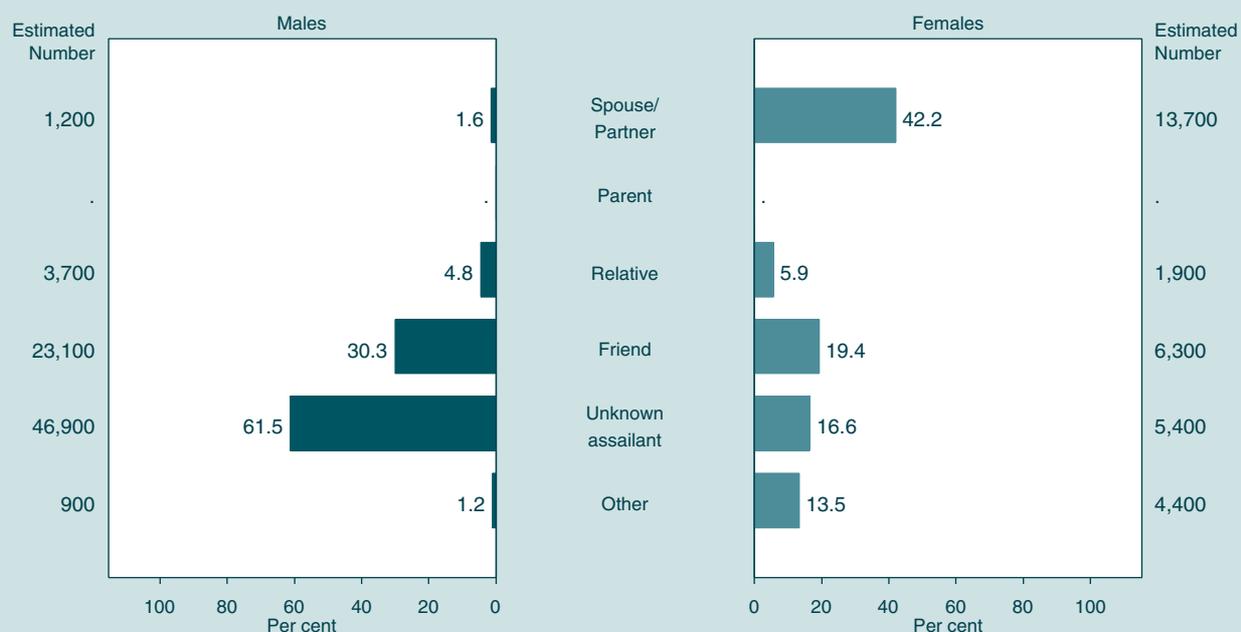
LOCATION OF MOST RECENT PHYSICAL ATTACK IN LAST 12 MONTHS BY SEX, PERSONS AGED 16 YEARS TO 25 YEARS, NSW 2004



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.

9. HEALTH SERVICES

NSW Health provides a range of health care services to New South Wales residents that are delivered across a variety of settings. In 2004, the New South Wales Population Health Survey included a range of questions that addressed access to and satisfaction with health care services. Measuring consumer satisfaction with health care services is part of the process of monitoring the success of community participation and quality improvement strategies. Questions focused on difficulties getting health care when needed, admission to hospital or attendance at an emergency department, or use of community health centres or public dental services.

Difficulties getting health care

Introduction

In order to identify some of the issues around access to health services, the 2004 New South Wales Population Health Survey included questions about difficulties that people may have had getting health care. In this context, health care means any health service provided by general practitioners and specialists, public and private hospitals and dental clinics, pharmacists, allied health services (for example, physiotherapy), and community health services. Respondents were asked 'Do you have any difficulties getting health care when you need it?'. Those who responded 'Yes' were then asked, 'Please describe the difficulties you have'.

Results

Only 13.9 per cent of people reported having difficulties getting health care. The main difficulties reported were waiting time for an appointment with a general practitioner (40.7 per cent), waiting time for dental services (13.3 per cent), waiting time for elective surgery (11.5 per cent), difficulty accessing specialists (10.9 per cent), emergency department waiting time (10.0 per cent), no bulk billing (9.4 per cent), and cost of health care services (8.2 per cent).

There was no significant difference in the proportion of females and males who reported difficulties in getting

health care. A significantly lower proportion of people aged 16–24 years (7.4 per cent) and 75 years and over (8.5 per cent), and a significantly greater proportion of those aged 35–44 years (18.0 per cent) reported having difficulties getting health care, compared to the overall adult population.

There was significant geographic variation in the reporting of difficulties in getting health care, with a significantly greater proportion of rural residents (24.6 per cent) than urban residents (11.0 per cent) reporting difficulties getting health care. A significantly lower proportion of residents in the Sydney South West (8.3 per cent) and South Eastern and Illawarra (8.5 per cent) Health Areas, and a significantly greater proportion of residents in the Hunter and New England (20.3 per cent), Greater Western (23.5 per cent), North Coast (23.8 per cent), and Greater Southern (25.2 per cent) Health Areas reported difficulty getting health care.

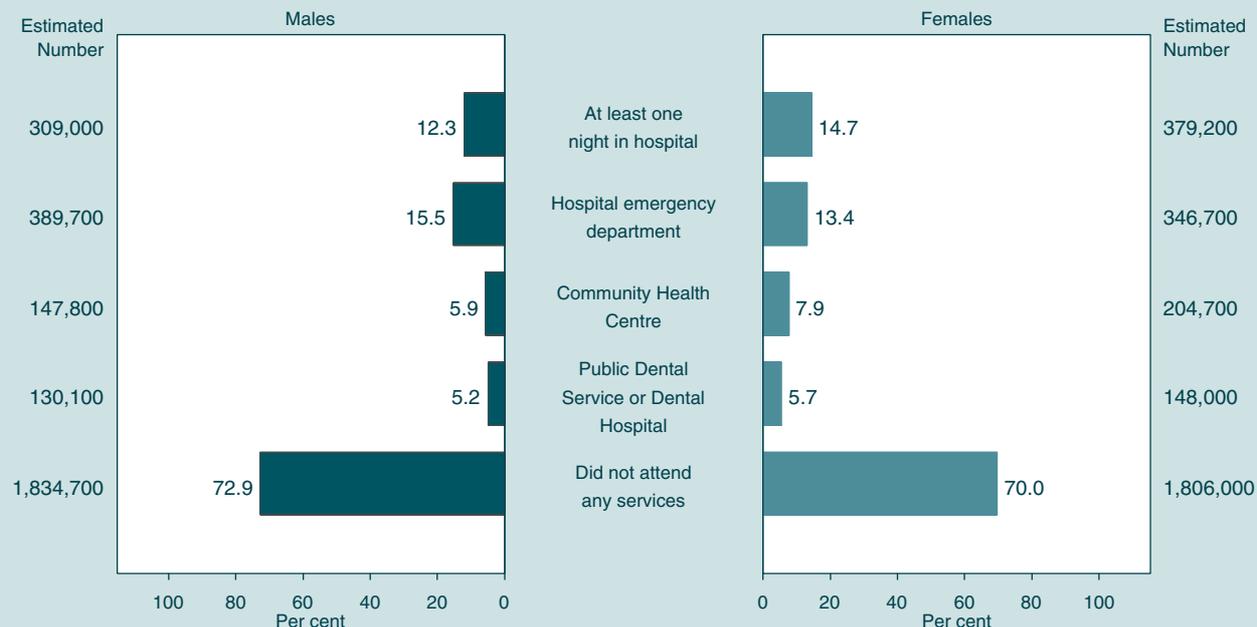
Overall, a significantly lower proportion of people in the least disadvantaged (8.3 per cent) and the second least disadvantaged (10.7 per cent) quintiles reported difficulty getting health care, compared to the overall adult population. A significantly greater proportion of people in the second most disadvantaged quintile (22.3 per cent) reported difficulties in getting health care, compared to the overall adult population.

There has been a significant increase in the proportion of people having difficulties getting health care, from 9.9 per cent in 1997 to 13.9 per cent in 2004. This increase was observed in both females (11.0 per cent to 15.1 per cent) and males (8.8 per cent to 12.6 per cent).

Figure 84 shows the health services attended in the last 12 months by sex. Figure 85 shows the proportion of people reporting difficulty getting health care when needing it by age. Figure 86 and Table 10 shows difficulties in getting health care when needing it by health area. Figure 87 shows the types of difficulties in getting health care when needing it by sex.

FIGURE 84

HEALTH SERVICES ATTENDED IN LAST 12 MONTHS BY 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 85

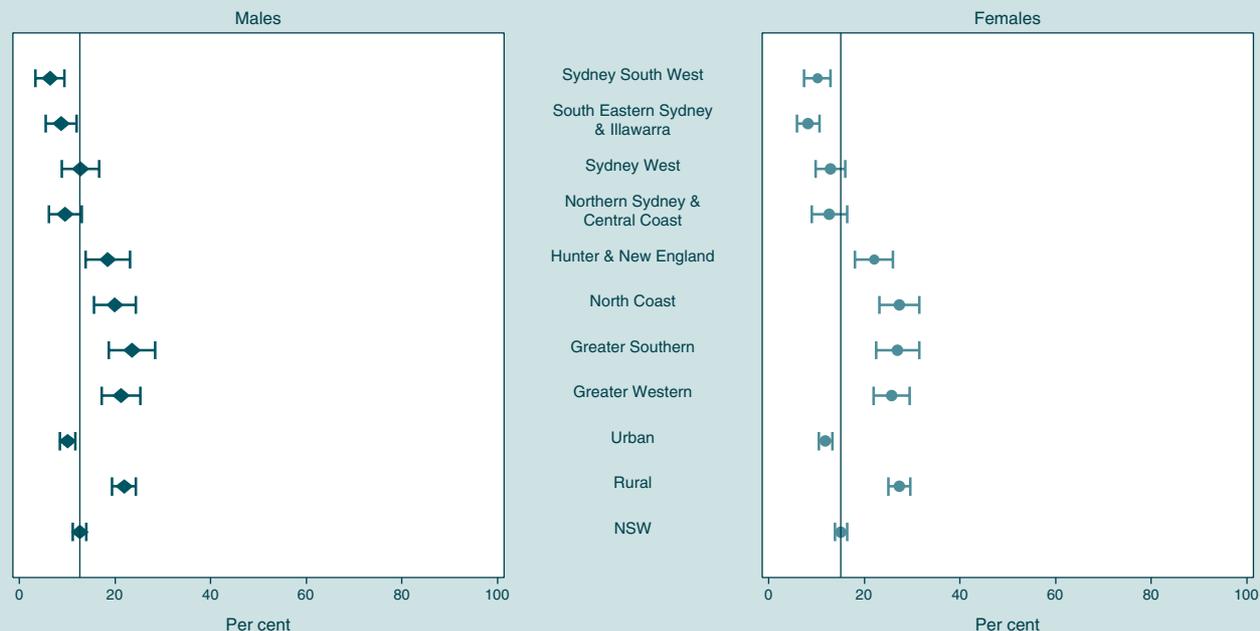
DIFFICULTIES GETTING HEALTH CARE WHEN NEEDING IT BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 86

DIFFICULTIES GETTING HEALTH CARE WHEN NEEDING IT BY HEALTH AREA 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.

TABLE 10

DIFFICULTIES GETTING HEALTH CARE WHEN NEEDING IT BY HEALTH AREA AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004

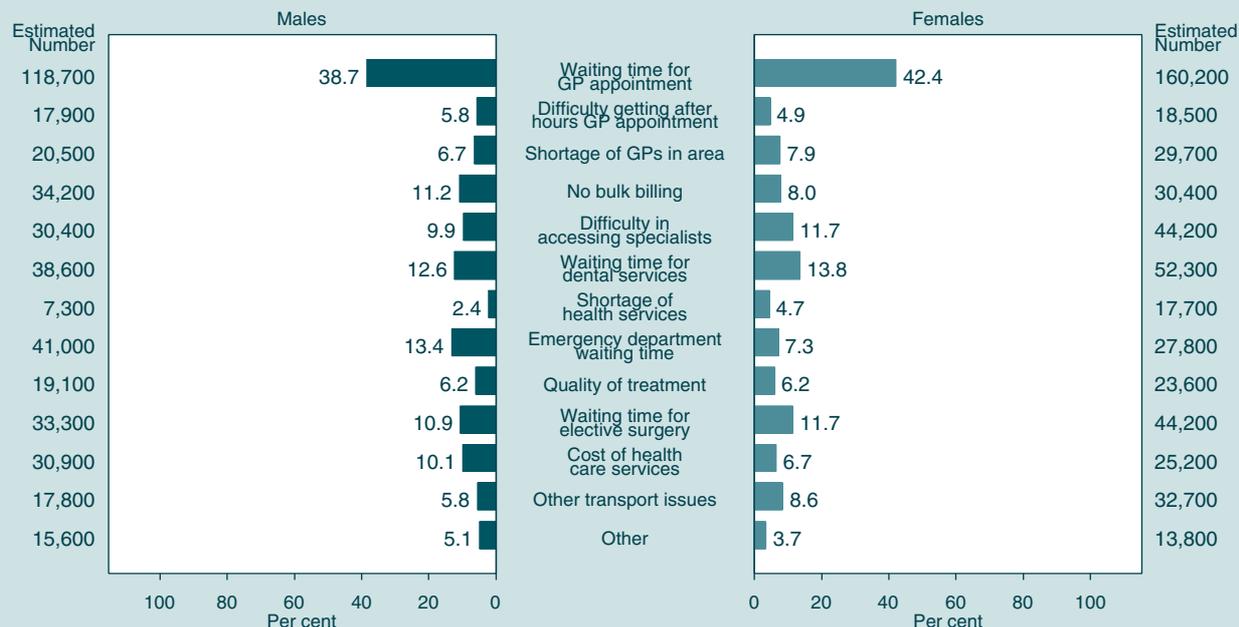
Area	Males				Females				Persons			
	(no.)	LL 95% CI	UL 95% CI	(est. no.)	(no.)	LL 95% CI	UL 95% CI	(est. no.)	(no.)	LL 95% CI	UL 95% CI	(est. no.)
Sydney South West	6.4	3.4	9.4	30700	10.1	7.3	13	50200	8.3	6.2	10.3	81000
South Eastern Sydney & Illawarra	8.7	5.5	12	39100	8.2	5.9	10.5	37300	8.5	6.5	10.5	76400
Sydney West	12.8	8.9	16.7	48000	12.9	9.8	16	51400	12.9	10.4	15.3	99400
Northern Sydney & Central Coast	9.6	6.1	13	39400	12.7	8.9	16.5	55500	11.2	8.6	13.8	94900
Hunter & New England	18.5	13.9	23.1	56600	22	18.1	25.9	68500	20.3	17.2	23.3	125100
North Coast	20	15.6	24.3	33300	27.3	23.1	31.5	49700	23.8	20.7	26.8	83000
Greater Southern	23.6	18.7	28.4	40300	26.9	22.4	31.4	45300	25.2	21.9	28.5	85600
Greater Western	21.3	17.2	25.3	23800	25.7	21.9	29.4	28500	23.5	20.7	26.2	52300
Urban	10.1	8.5	11.7	196700	11.9	10.4	13.3	239500	11	9.9	12.1	436200
Rural	21.9	19.4	24.4	114500	27.3	25	29.6	146900	24.6	22.9	26.4	261400
NSW	12.6	11.2	14	311200	15.1	13.8	16.4	386400	13.9	12.9	14.8	697600

Notes: Estimates are based on 9,381 respondents in NSW. 358 (3.82%) were 'not stated' (Don't know or Refused) for this indicator in NSW. The indicator includes those who had difficulties getting health care when they needed it. It excludes those who said they do not need health care. The question used to define the indicator was 'Do you have any difficulties getting health care when you need it?'

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

FIGURE 87

TYPES OF DIFFICULTIES GETTING HEALTH CARE WHEN NEEDING IT BY SEX, PERSONS WHO HAD DIFFICULTIES GETTING HEALTH CARE 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.

Emergency departments

Introduction

In 2004, among adults aged 16 years and over, there were over 1.1 million visits to emergency departments in New South Wales hospitals.¹ In order to identify issues affecting the quality of care received in emergency departments, in 2004 the New South Wales Population Health Survey included questions on attendance at an emergency department and satisfaction with that service. Respondents were asked the following questions: ‘In the last 12 months, have you attended a hospital emergency department (or casualty) for your own medical care?’, ‘Which hospital’s emergency department did you last attend?’, ‘Overall, what do you think of the care you received at this emergency department?’ (if care was rated as ‘fair’ or ‘poor’ then respondents were also asked ‘Could you briefly describe why you rated the care you received as “fair” or “poor”?’).

Results

Attendance

In 2004, the New South Wales Population Health Survey estimated that about 755,500 people aged 16 years and over (394,800 males and 360,700 females) had attended an emergency department on one or more occasions in

the previous 12 months, representing 14.6 per cent of the overall adult population. There was no significant difference between the proportion of males and females attending. A significantly greater proportion of people aged 16–24 years (21.0 per cent), and a significantly lower proportion of people aged 55–64 years (11.5 per cent) attended an emergency department, compared to the overall adult population.

There was geographic variation in emergency department attendances in the last 12 months, with a significantly greater proportion of rural residents (19.1 per cent) than urban residents (13.4 per cent) reporting attendance at an emergency department. A significantly greater proportion of residents in the Greater Western Health Area (24.7 per cent) reported attendance at an emergency department, compared to the overall adult population.

There was no significant variation in the proportion of people reporting emergency department attendance by level of socioeconomic disadvantage.

Emergency department attendance did not differ significantly from 1997 to 2004.

Rating of emergency department care

Those who had attended an emergency department in the last 12 months were asked to rate the care they received

during the attendance. Of these, 28.2 per cent rated the care received as 'excellent', 27.8 per cent as 'very good', 22.7 per cent as 'good', 11.7 per cent as 'fair', and 9.6 per cent as 'poor'. There was no difference in the proportion of males and females who rated the care received as 'fair' or 'poor'. The main reason for rating the care as 'fair' or 'poor' was waiting time in emergency departments (63.5 per cent). Other issues included not enough staff (17.5 per cent), poor attitude of clinical staff (14.9 per cent), and poor technical skill of clinical staff (9.1 per cent).

Responses of 'excellent', 'very good' and 'good' were combined into a 'positive' rating of care. Overall, 79.4 per cent of people gave a positive rating of the care they received at an emergency department. There was no significant difference in positive rates of emergency department care between males (77.3 per cent) and females (81.7 per cent). A significantly greater proportion of people aged 65 years and over (88.1 to 93.3 per cent) gave a positive rating of their emergency department care, compared to the overall adult population.

Overall, there was no significant difference in the proportion of people in rural areas and urban areas who gave a positive

rating of emergency department care. A significantly greater proportion of males in the North Coast Health Area (89.2 per cent) gave a positive rating of emergency department care, compared to the overall adult population.

There was no significant variation in the proportion of people giving a positive rating of emergency department care by socioeconomic disadvantage.

Overall, the proportion of people who gave a positive rating of emergency department care did not differ significantly from 1997 to 2004.

Figure 88 shows emergency department attendance in the previous 12 months by age. Figure 89 shows the rating of emergency department care by sex. Figure 90 shows the proportion of people who rated their emergency department care as excellent, very good, or good, by age. Figure 91 shows the reason for rating the most recent emergency department visit as fair or poor by sex.

References

1. NSW Emergency Department Data 2004 (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

FIGURE 88

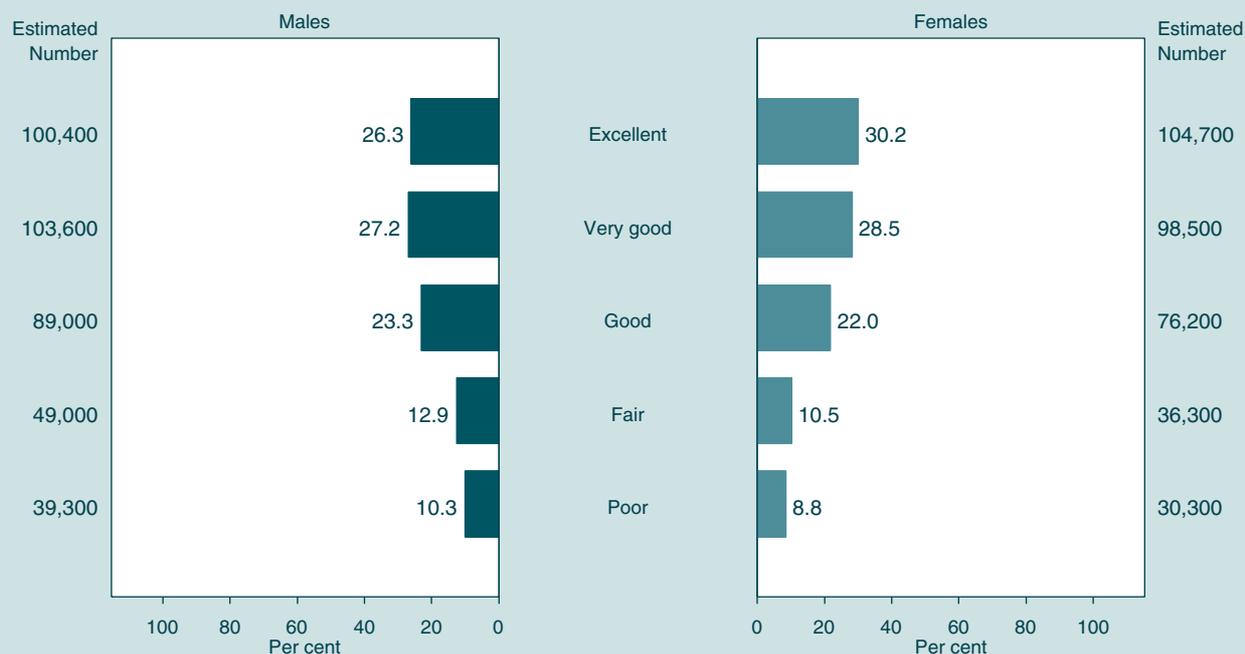
EMERGENCY DEPARTMENT ATTENDANCE IN THE PREVIOUS 12 MONTHS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 89

EMERGENCY DEPARTMENT CARE RATINGS BY SEX, PERSONS WHO ATTENDED AN EMERGENCY DEPARTMENT IN THE PREVIOUS 12 MONTHS 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 90

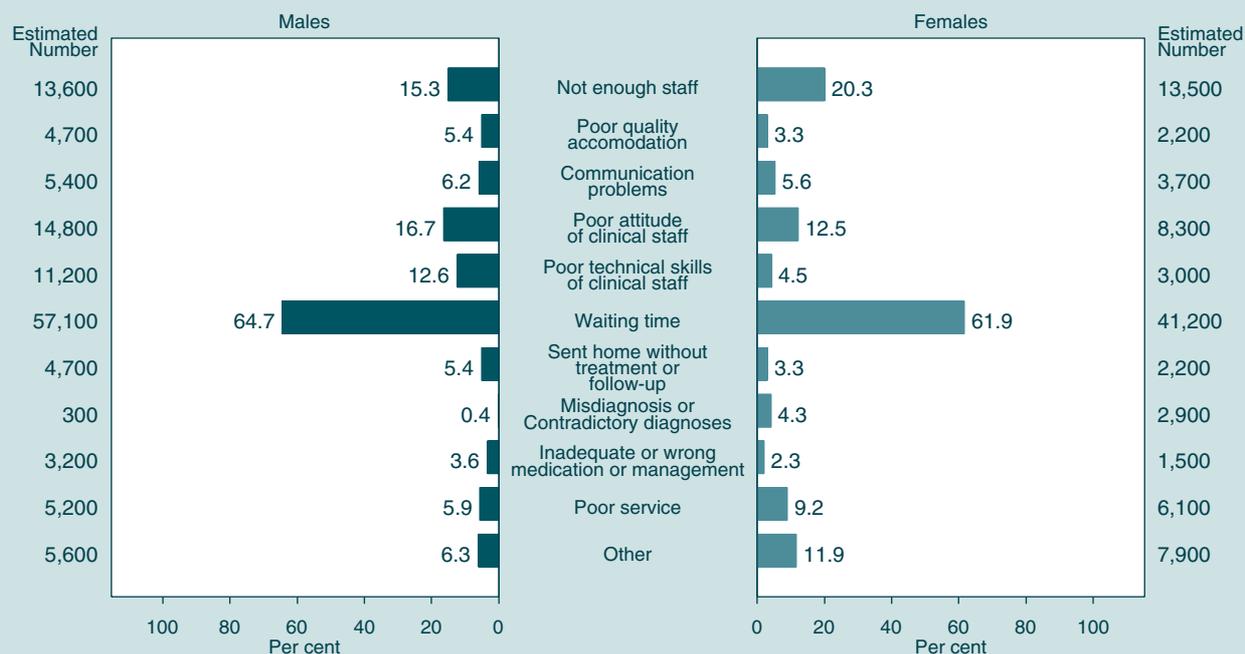
EMERGENCY DEPARTMENT CARE RATED AS EXCELLENT, VERY GOOD OR GOOD BY AGE AND SEX, PERSONS WHO ATTENDED AN EMERGENCY DEPARTMENT IN THE PREVIOUS 12 MONTHS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 91

REASON FOR RATING MOST RECENT EMERGENCY VISIT AS FAIR OR POOR BY SEX, PERSONS WHO ATTENDED AN EMERGENCY DEPARTMENT IN THE PREVIOUS 12 MONTHS 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.

Hospital admissions

Introduction

In the 2003–04 financial year there were approximately 1.8 million admissions to New South Wales hospitals among adults aged 16 years and over. In order to identify issues affecting the quality of care received in public hospitals, in 2004 the New South Wales Population Health Survey included questions on admission to hospital and satisfaction with hospital services. Respondents were asked the following questions: ‘In the last 12 months, have you stayed for at least 1 night in hospital?’, ‘In which hospital was your most recent overnight stay?’, ‘Can you tell me if that is a public or private hospital?’, ‘During your overnight hospital admission were you admitted as a public or private patient?’, ‘Overall, what do you think of the care you received at this hospital?’ (if the care was rated as ‘fair’ or ‘poor’, respondents were also asked ‘Could you briefly describe why you rated the care you received as “fair” or “poor”?’), ‘Did someone at this hospital tell you how to cope with this condition when you returned home?’ (if ‘Yes’, respondent was also asked ‘How adequate was this information once you went home?’).

Results

Hospital admissions

In 2004 the New South Wales Population Health Survey estimated that about 712,200 people aged 16 years and over (314,200 males and 398,000 females) were admitted to hospital on one or more occasions in the previous 12 months, representing 13.8 per cent of the overall adult population.

A significantly greater proportion of females (15.1 per cent) than males (12.3 per cent) reported being admitted to hospital. A significantly lower proportion of males aged 35–44 years (5.5 per cent) and females aged 45–54 years (9.8 per cent), and a significantly greater proportion of males aged 65 years and over (19.4 per cent to 33.6 per cent) and females aged 25–34 years (21.8 per cent) and 75 years and over (24.6 per cent) were admitted to hospital, compared to the overall adult male and female populations.

There was significant variation in hospital admissions by geographic location. The proportion of people admitted to hospital in rural areas in the last 12 months (15.7 per cent) was significantly greater than the proportion admitted in urban areas (13.2 per cent). A significantly greater proportion of females in Greater Western Health Area (20.5 per cent) and a significantly lower proportion of males in Sydney South West Health Area (7.9 per cent) had spent one night in hospital in the last 12 months, compared to the overall adult male and female populations.

Overall, the proportion of people reporting hospital admissions did not vary significantly by level of socioeconomic disadvantage.

Rates of hospital admissions did not differ significantly from 1997 to 2004.

Rating of hospital care

Those who had been admitted to hospital in the last 12 months were asked to rate the care they received during the admission. Overall, 43.8 per cent rated the care they received

as 'excellent', 30.5 per cent as 'very good', 16.8 per cent as 'good', 6.5 per cent as 'fair', and 2.4 per cent rated the care received as 'poor'. The main reasons for rating the care as fair or poor were not enough staff (19.0 per cent), poor attitude of clinical staff (18.0 per cent), hospital could not offer required care (14.4 per cent), poor technical skill of clinical staff (14.1 per cent), communication problems (11.6 per cent), and the excessive time waiting for care (11.4 per cent). Other issues included poor or inadequate food (6.7 per cent), poor quality accommodation (4.4 per cent), and incorrect or inadequate medication or management (2.7 per cent).

Responses of 'excellent', 'very good', and 'good' were combined into a 'positive' rating of care. Overall, 91.2 per cent of people gave a positive rating of the care they had received at hospital. There was no significant difference between the proportion of males and females giving positive ratings.

There was no significant geographical variation in positive ratings of hospital care between rural residents and urban residents. A significantly greater proportion of females in the South East Sydney and Illawarra Health Area (96.9 per cent) gave a positive rating of care, compared to the overall adult population.

There was only minimal variation in ratings of hospital care based on socioeconomic disadvantage, with a greater proportion of females in the second most disadvantaged quintile (96.2 per cent) providing a positive rating of care.

Overall, the rates of people giving positive ratings of hospital care did not differ significantly from 1997 to 2004.

In 2004, 87.3 per cent of people were given information on how to cope with their condition on discharge from their most recent overnight hospital admission. There was no difference in the proportion of males and females who received information on how to cope with their condition. Of the people who received information, 56.3 per cent rated the information they received as very adequate, 41.5 per cent rated it as adequate, 1.5 per cent as inadequate, and 0.6 per cent as completely inadequate. There was no difference between males and females in the rating of the adequacy of information received at discharge from the most recent overnight hospital stay.

Figure 92 shows the proportion of people admitted to hospital in the previous 12 months by age. Figure 93 shows hospital care ratings by sex. Figure 94 shows the proportion of people who rated the care they received at hospital as excellent, very good, or good, by age. Figure 95 shows the reason for rating the most recent overnight hospital stay as fair or poor by sex.

References

1. Inpatient Statistics Collection 2003 and 2004 (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

FIGURE 92

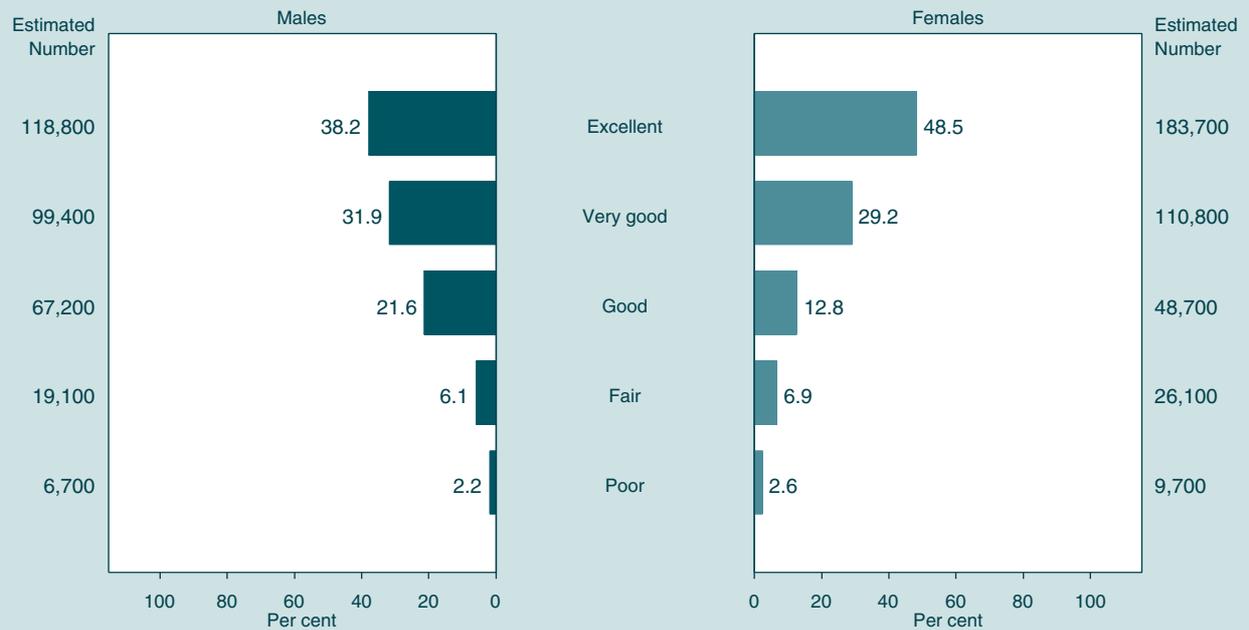
HOSPITAL ADMISSION IN THE PREVIOUS 12 MONTHS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 93

HOSPITAL CARE RATINGS BY SEX, PERSONS WHO ATTENDED HOSPITAL IN THE PREVIOUS 12 MONTHS 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 94

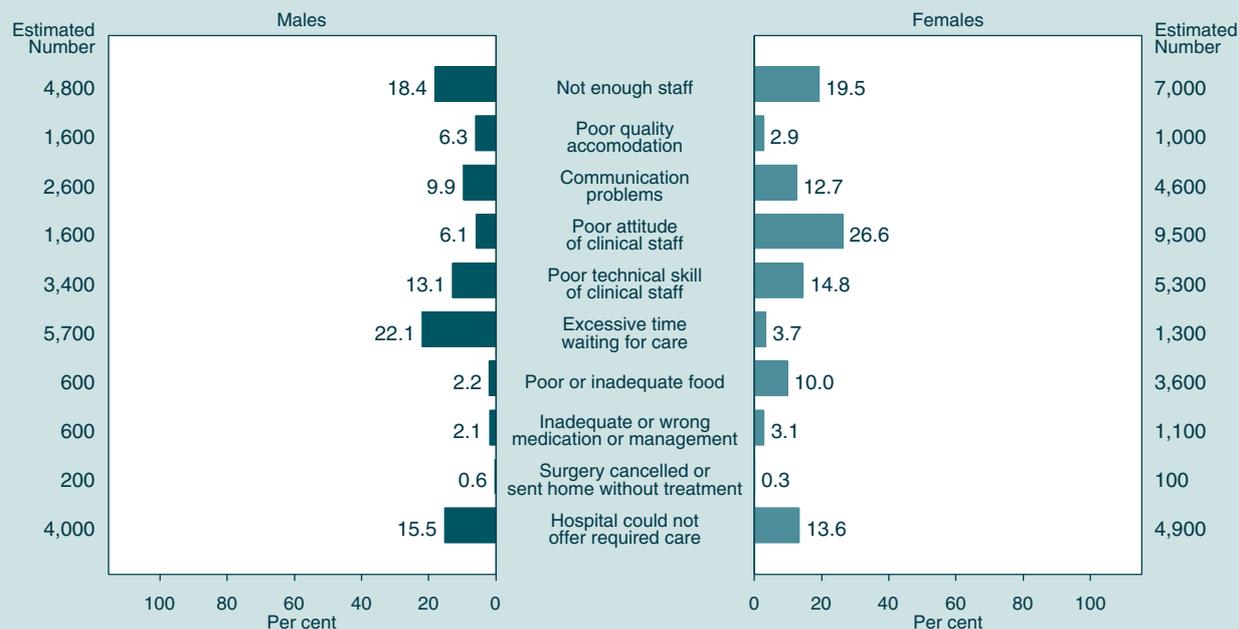
HOSPITAL CARE RATED AS EXCELLENT, VERY GOOD OR GOOD BY AGE AND SEX, PERSONS WHO ATTENDED HOSPITAL IN THE PREVIOUS 12 MONTHS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 95

REASON FOR RATING MOST RECENT OVERNIGHT HOSPITAL STAY AS FAIR OR POOR BY SEX, PERSONS WHO ATTENDED HOSPITAL IN THE PREVIOUS 12 MONTHS 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.

Community health centres

Introduction

Community health centres have a particularly important role to play in providing information and support to people of all ages within the community. Services provided by community health centres include primary and community health nursing, sexual health services, counselling, selected allied health services, outreach clinics, child and family health services, day and respite care, health promotion and health education, community support, and group programs.

In 2004, the New South Wales Population Health Survey included questions on attendance at a community health centre and satisfaction with that service. Respondents were asked the following questions: ‘In the last 12 months, have you been to a government-run community health centre?’, ‘Overall, what do you think of the care you received at that community health centre?’, (if the care was rated as ‘fair’ or ‘poor’, respondents were also asked ‘Could you briefly describe why you rated the care you received as “fair” or “poor”?’), ‘If you had to use a community health centre again, would you prefer to return to this same community health centre, or go to a different community health centre?’, ‘Did someone at this community health centre tell you how to cope with your condition when you returned home?’, (if ‘Yes’, respondents were also asked ‘How adequate was this information once you went home?’).

Results

Attendance at community health centres

In 2004, the New South Wales Population Health Survey estimated that about 364,100 people aged 16 years and over (153,300 males and 210,700 females) attended a community health centre on one or more occasions in the previous 12 months, representing 7.0 per cent of the overall adult population.

There was no significant difference in the proportion of males and females who had attended a community health centre. A significantly greater proportion of people aged 16–24 years (11.3 per cent) attended a community health centre, compared to the overall adult population.

There was geographic variation in community health centre attendance, with a significantly greater proportion of rural residents (10.2 per cent) than urban residents (6.2 per cent) having attended a community health centre. The proportion of people attending community health centres was significantly greater in the Greater Western Health Area (13.1 per cent).

There was no significant variation in attendance at community health centres by socioeconomic disadvantage.

Between 2002 and 2004, there has been no significant change in the proportion of people who attended a community health centre.

Rating of care at community health centres

Those who had attended a community health centre in the last 12 months were asked to rate the care they received during the visit. Of those who had attended a community health centre, 30.7 per cent rated the care they received as 'excellent', 32.6 per cent as 'very good', 28.0 per cent as 'good', 6.0 per cent as 'fair', and 2.7 per cent rated the care received as 'poor'. The main reasons for rating the care as fair or poor were insufficient services offered or staff shortages (64.1 per cent), poor attitude of staff (20.1 per cent), treatment not effective (14.5 per cent), waiting time (11.4 per cent), and poor technical skill of staff (10.3 per cent).

Responses of 'excellent', 'very good', or 'good' were then combined into 'positive' ratings of care. Overall, 91.5 per cent of people who had attended a community health centre gave a positive rating of the care they received. There was no significant difference in the proportion of males and females who gave positive ratings, and no significant variation by age.

There was no significant geographical variation in positive ratings of care received at a community health centre between rural residents and urban residents. A significantly greater proportion of people in the Hunter and New England Health Area (97.8 per cent) gave a positive rating of their care, compared to the overall adult population.

There was no significant difference in the proportion of people giving positive ratings of care received at a community health centre by socioeconomic disadvantage.

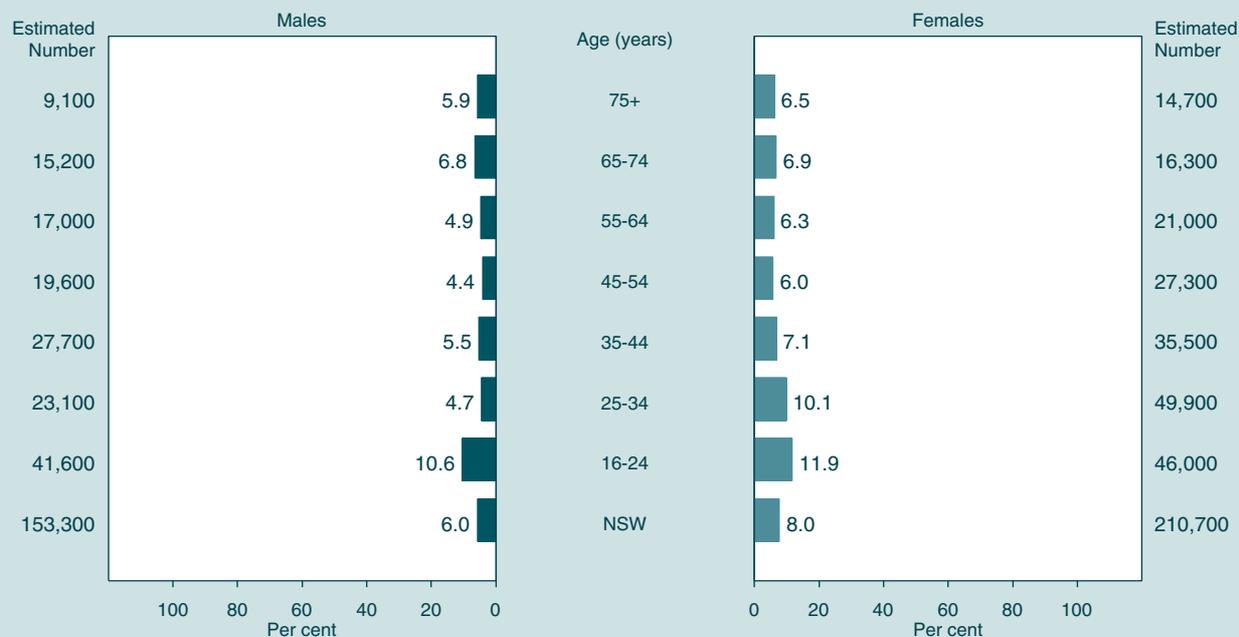
There was no significant change in the proportion of people giving positive ratings of care received at a community health centre between 2002 and 2004.

In 2004, 83.9 per cent of people were given information on how to cope with their condition following their most recent community health centre visit. There was no difference in the proportion of males and females who received information on how to cope with their condition. Of these, 53.7 per cent rated the information they received as very adequate, 43.5 per cent rated it as adequate, 2.2 per cent as inadequate, and 0.6 per cent as completely inadequate.

Figure 96 shows the proportion of people who attended a community health centre in the previous 12 months by age. Figure 97 shows the rating of care received at community care centres by sex. Figure 98 shows the proportion of people who rated the care they received at a community health centre as excellent, very good, or good, by age. Figure 99 shows the reason for rating the care received at the most recent community health centre visit as fair or poor.

FIGURE 96

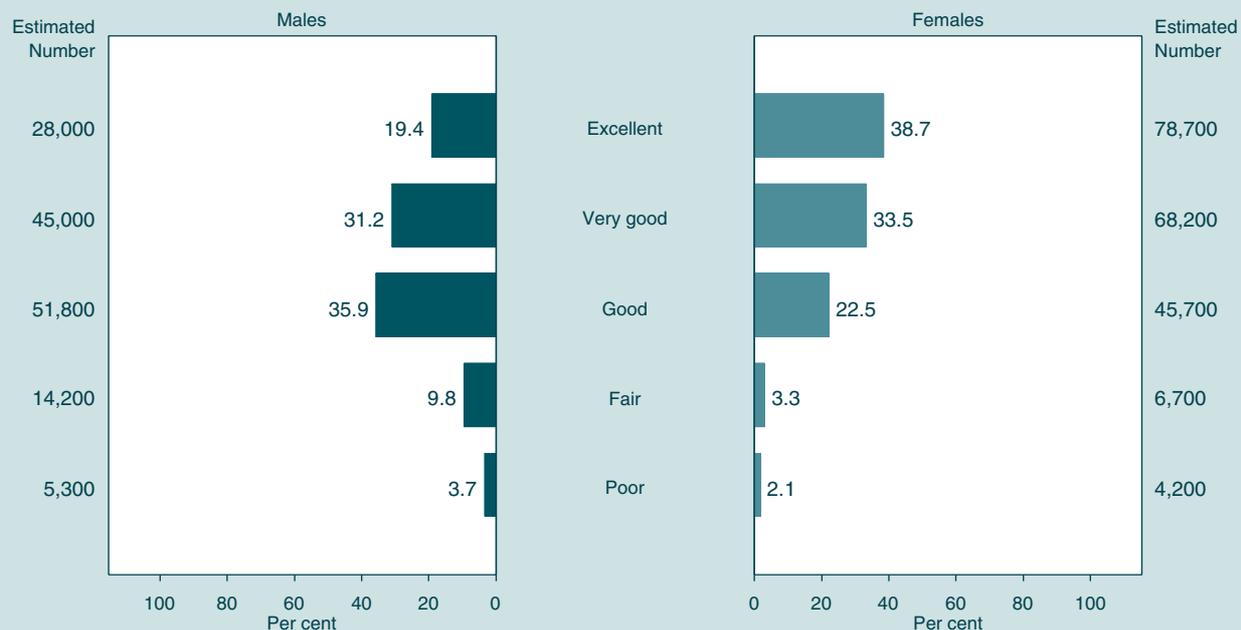
COMMUNITY HEALTH CENTRE ATTENDANCE IN THE PREVIOUS 12 MONTHS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 97

COMMUNITY HEALTH CENTRE CARE RATINGS BY SEX, PERSONS WHO ATTENDED IN THE PREVIOUS 12 MONTHS 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 98

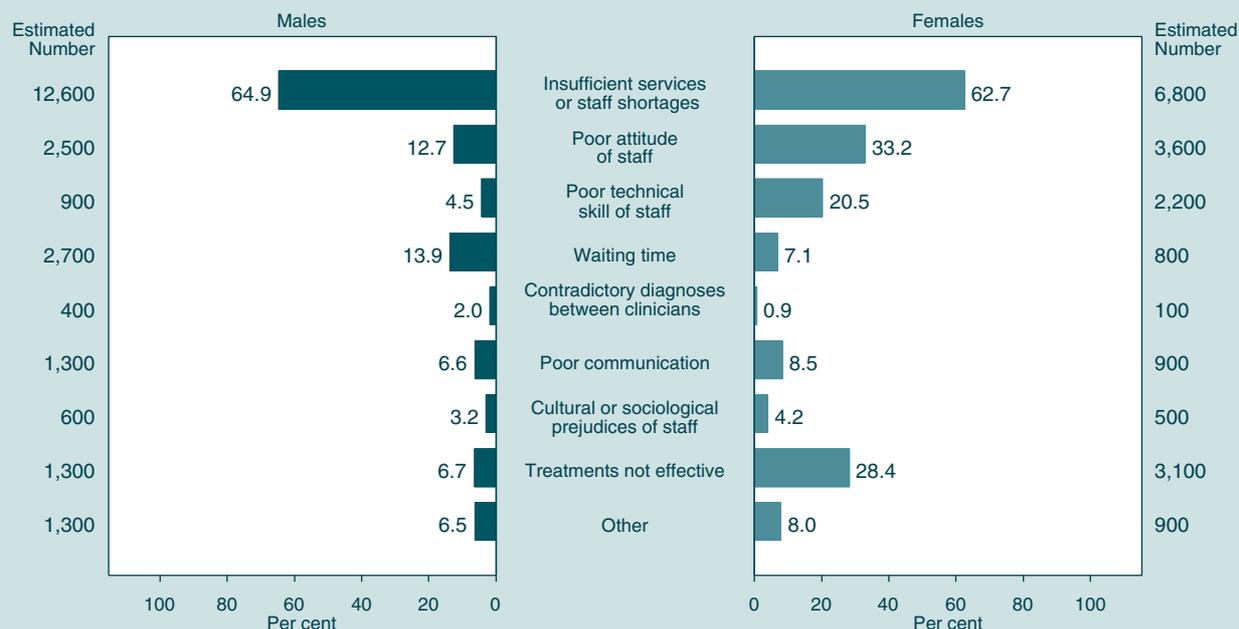
COMMUNITY HEALTH CENTRE CARE RATED AS EXCELLENT, VERY GOOD, OR GOOD BY AGE AND SEX, PERSONS WHO ATTENDED IN THE PREVIOUS 12 MONTHS AGED 16 AND OVER, NSW 2004



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

FIGURE 99

REASON FOR RATING MOST RECENT COMMUNITY HEALTH CENTRE VISIT AS FAIR OR POOR BY SEX, PERSONS WHO ATTENDED IN THE PREVIOUS 12 MONTHS 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.

Public dental services

Introduction

People in New South Wales with a Health Care Concession Card or a Pensioner Concession Card are eligible for public dental care. In order to identify issues affecting the quality of care received in public dental services, in 2004 the New South Wales Population Health Survey included questions on attendance at a public dental service and satisfaction with that service. Respondents were asked the following questions: ‘In the last 12 months, have you been to a government-run public dental service or dental hospital?’, ‘Overall, what do you think of the care you received at the public dental service?’ (if the care was rated as ‘fair’ or ‘poor’, the respondent was also asked ‘Could you briefly describe why you rated the care you received as “fair” or “poor”?’), ‘Did someone at this public dental service tell you how to cope with your condition when you returned home?’ (if ‘Yes’, respondent was then asked ‘How adequate was this information once you went home?’).

Results

Attendance at public dental services

In 2004 the New South Wales Population Health Survey estimated that about 281,100 people aged 16 years and over (132,800 males and 148,300 females) attended a public dental service in the previous 12 months. This represented 5.4 per cent of the overall adult population.

There was no significant difference in the proportion of females or males attending a public dental service. A significantly lower proportion of males aged 25–44 years (2.2 per cent to 2.3 per cent), and a significantly greater proportion of people aged 16–24 years (10.5 per cent) attended a public dental service in the previous 12 months, compared to the overall adult population.

There was no significant difference in the proportion of people in rural areas attending a public dental service compared to urban areas.

The proportion of people attending public dental services was significantly lower (3.4 per cent) among those in the least socioeconomically disadvantaged quintile.

There has been no significant change in the proportion of people attending a public dental service between 2002 and 2004.

Rating of care at public dental services

People who had attended a public dental service in the last 12 months were asked to rate the care they received during the attendance. Of these, 26.1 per cent rated the care they received as ‘excellent’, 36.3 per cent as ‘very good’, 23.0 per cent as ‘good’, 7.8 per cent as ‘fair’, and 6.9 per cent rated the care they received as ‘poor’. The main reasons for rating the care as ‘fair’ or ‘poor’ were the waiting time for an appointment (47.7 per cent), followed by poor technical skill of clinical staff (22.3 per cent), poor attitude

of clinical staff (18.6 per cent), and insufficient services (18.6 per cent).

Responses of 'excellent', 'very good' and 'good' were combined into 'positive' ratings of care. Overall, 84.4 per cent of people gave positive ratings of the care they received at a public dental service. There was no significant difference in the proportion of males and females giving positive ratings of care. A significantly greater proportion of males aged 35–44 years (96.5 per cent) and females aged 75 years and over (97.6 per cent) gave a positive care rating for public dental services.

There was no significant variation in the proportion of rural residents and urban residents giving positive ratings of public dental care. A significantly greater proportion of females in the Northern Sydney and Central Coast Health Area (96.8 per cent) and South Eastern Illawarra Health Area (95.7 per cent) gave a positive rating of public dental care.

There was no variation in the proportion of people giving positive ratings of the care received at a public dental service by level of socioeconomic disadvantage.

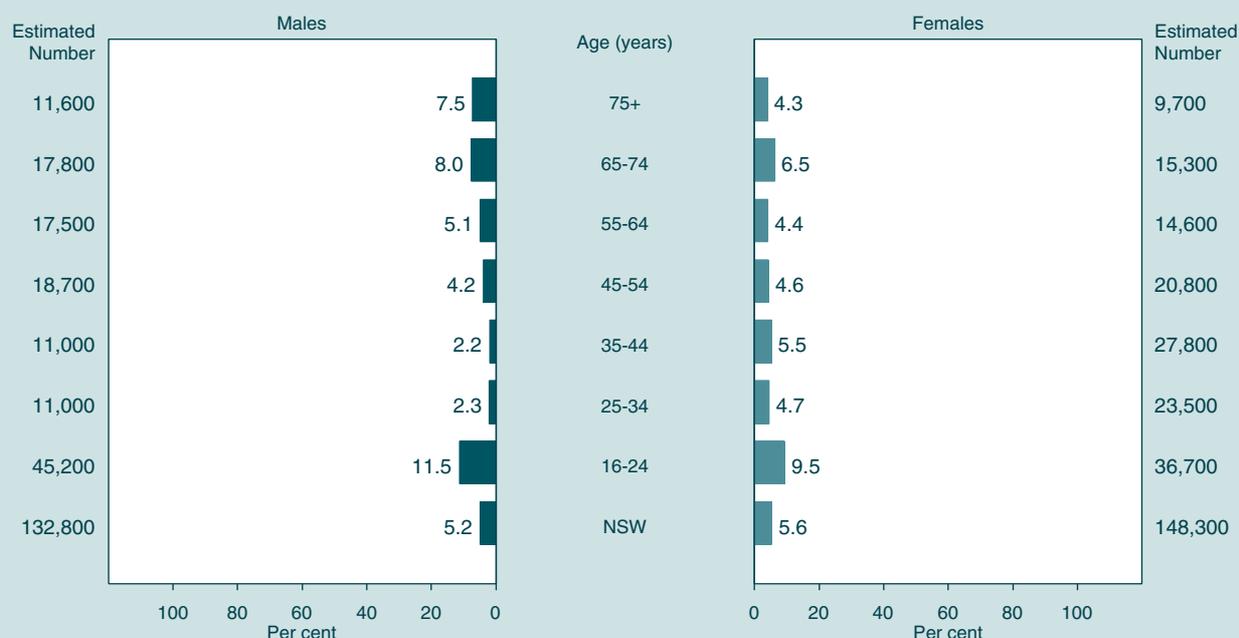
There was no significant change in the proportion of people giving a positive rating of care for public dental services between 2002 and 2004.

In 2004, 76.1 per cent of people were given information on how to cope with their condition following their most recent public dental service visit. There was no difference in the proportion of males and females who received information on how to cope with their condition. Of the people who received information, 49.6 per cent rated the information they received as very adequate, 47.7 per cent rated it as adequate, 2.3 per cent as inadequate, and 0.4 per cent as completely inadequate. There was no difference between males and females in the rating of the adequacy of information received at the most recent public dental service visit.

Figure 100 shows the proportion of people who attended a public dental service in the previous 12 months by age. Figure 101 shows public dental care rating by sex. Figure 102 shows the proportion of people who rated the care they received at a public dental service as excellent, very good, or good, by age. Figure 103 shows the reason for rating the last visit to a public dental service as fair or poor by sex.

FIGURE 100

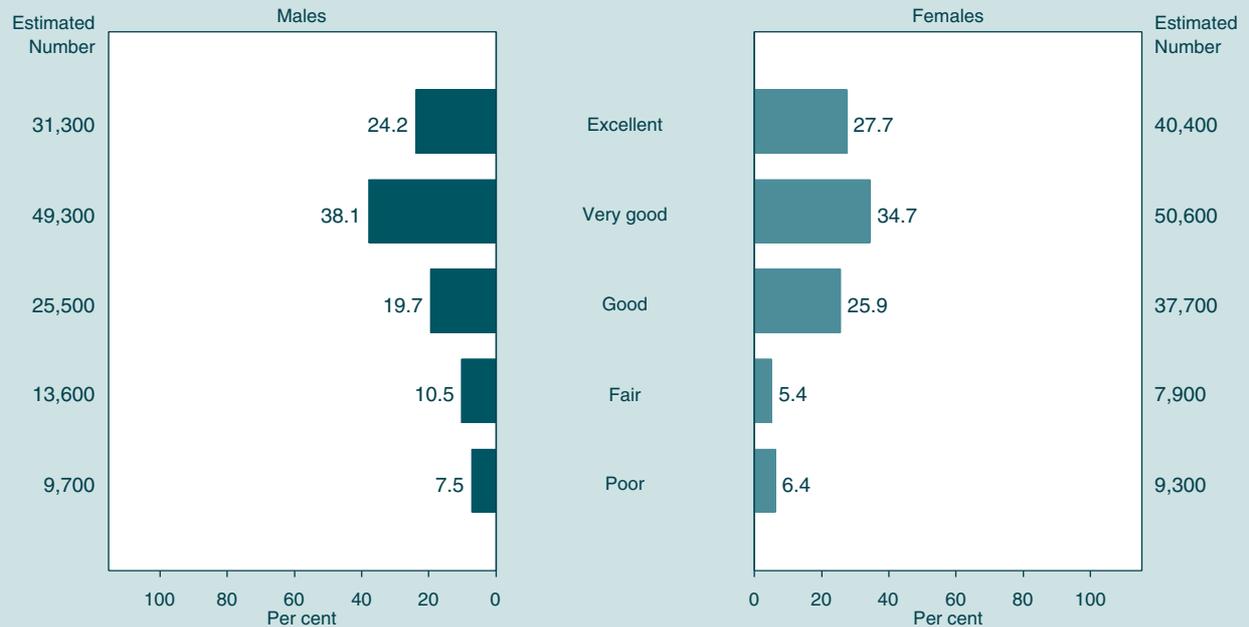
PUBLIC DENTAL SERVICE ATTENDANCE IN THE PREVIOUS 12 MONTHS BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 101

PUBLIC DENTAL SERVICE CARE RATING BY SEX, PERSONS WHO ATTENDED A PUBLIC DENTAL SERVICE IN THE PREVIOUS 12 MONTHS 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 102

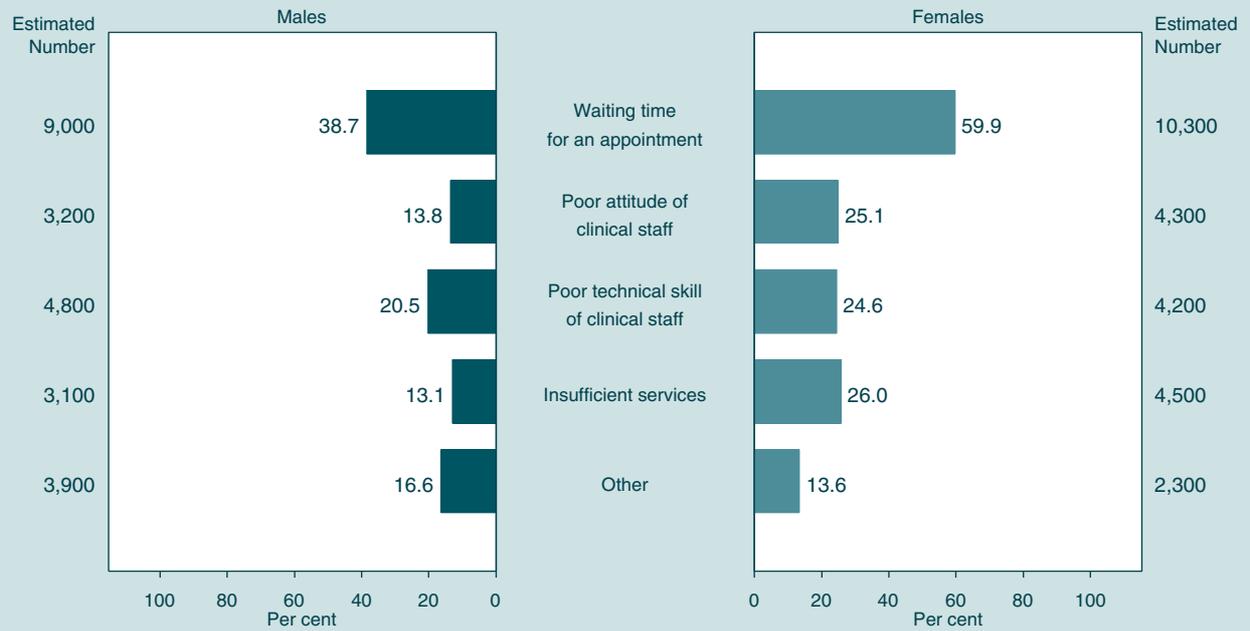
PUBLIC DENTAL SERVICE CARE RATED AS EXCELLENT, VERY GOOD, OR GOOD BY AGE AND SEX, PERSONS WHO ATTENDED A PUBLIC DENTAL SERVICE IN THE PREVIOUS 12 MONTHS AGED 16 YEARS AND OVER, NSW 2004



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

FIGURE 103

REASON FOR RATING MOST RECENT PUBLIC DENTAL SERVICE VISIT AS FAIR OR POOR BY SEX, PERSONS WHO ATTENDED A PUBLIC DENTAL SERVICE IN THE PREVIOUS 12 MONTHS AGED 16 YEARS AND OVER, NSW



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

10. CONCLUSION

Conclusion

The New South Wales Population Health Survey commenced as an ongoing survey in 2002, following adult health surveys in 1997 and 1998. This report on the health of adults aged 16 years and over is the third annual report from this ongoing survey.

Data were collected on a range of demographic information, health behaviours, health status, and use of and satisfaction with health services. Where possible indicators have been aligned with those collected in previous health surveys so that time series trends can be examined. Some of the trends and changes over the last 7 years are highlighted below.

Health behaviours

Health behaviours are known to influence health and wellbeing. Between 1997 and 2004 there have been significant changes in some health behaviours. The proportion of smoke-free households (69.7 per cent to 84.3 per cent), and the proportion of homes with a smoke alarm or detector (58.2 per cent to 71.6 per cent) has increased significantly. There has been a significant decrease in the proportion of people who participate in any alcohol risk drinking behaviour between 1997 and 2004 (42.3 per cent to 35.4 per cent) but with no significant difference between 2002 and 2004. There was also a significant decrease in the proportion of people who were current smokers between 1997 and 2004 (24.0 per cent and 20.9 per cent) but with no significant difference between 2002 and 2004.

Between 1997 and 2004, the proportion of people aged 65 years and over immunised against influenza in the previous 12 months increased significantly, (57.1 per cent to 75.8 per cent). Similarly, between 2002 and 2004 the proportion of people aged 65 years and over who were immunised against pneumococcal disease in the last 5 years also increased significantly (39.4 per cent to 47.2 per cent).

Overall, there was a significant increase in the proportion of people who undertook adequate physical activity in 2004 compared to 1997 (47.9 per cent and 52.3 per cent). Virtually all of this increase occurred between 2003 (44.7 per cent) and 2004 (52.3 per cent).

Several health behaviours have remained unchanged. The proportion of people eating the recommended daily serves of fruit (47.1 per cent) or vegetables (8.2 per cent) is unchanged, as was the proportion of people who consumed reduced or low fat milk (46.1 per cent) and the proportion of people engaging in high risk 'binge' drinking in the last 4 weeks (9.6 per cent). The proportion of women aged between 50 and 69 years being screened for breast cancer in the last 2 years has also remained unchanged (74.4 per cent). However, the proportion of women having a Pap test within the last 2 years as a screen for cervical cancer has decreased from 77.3 per cent in 1998 to 72.8 per cent in 2004.

In 2004, 2 new indicators on screening—for bowel cancer and engaging in unsafe sex—have been reported for the first time and trends in these additional indicators will continue to be monitored. In addition, an index of sun protection behaviour has been developed and will also continue to be monitored.

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. There have been some obvious changes in the health status of the population between 1997 and 2004.

Overall in 2004, when compared with 1997, there has been a significant increase in the proportion of people who had been diagnosed with diabetes (4.7 per cent to 6.5 per cent), ever diagnosed with asthma (16.8 per cent to 20.4 per cent), and who were overweight or obese (41.8 per cent to 48.4 per cent). Between 1997 and 2004 there was also a significant increase in the proportion of people who reported high and very high physiological stress as measured by the Kessler 10 score (11.1 per cent to 13.3 per cent).

The proportion of people who rated their health status as excellent, very good or good decreased between 1997 (85.0 per cent) and 2002 (81.0 per cent) but did not change significantly between 2002 and 2004 (79.4 per cent). The proportion of people who reported all their natural teeth missing declined significantly between 1998 and 2003 (8.2 per cent to 6.3 per cent).

The only health status indicator to remain unchanged between 1997 and 2004 (10.4 per cent) was current asthma.

For the first time, information on visual and hearing status has been collected and these indicators will continue to be monitored.

Health services

As part of the continuing commitment to monitoring satisfaction with health services in NSW, questions were asked about the use of and satisfaction with a range of services. These included difficulties getting health care when needed, admission to hospital, attendance at an emergency department, use of community health centres, and use of public dental services.

Overall, there has been a significant increase in the proportion of people who reported having difficulties getting health care when needing it in 2004 compared to 1997 (9.9 per cent to 13.9 per cent). Although the increase has continued in 2004 the proportion was not significantly higher than in 2002 or 2003. As in previous years, waiting time for an appointment with a general practitioner was the most frequently cited difficulty.

Between 1997 and 2004, there have been no significant changes in the proportion of people who gave positive ratings of hospital inpatient care (90.0 per cent) and emergency department care (80.1 per cent). Between 2002 and 2004, there have been no significant changes in the proportion of people who gave positive ratings of community health care (91.5 per cent) and public dental care (84.4 per cent).

Emergency department attendance in the previous 12 months (14.6 per cent) and hospital admission in the previous 12 months (13.7 per cent) both remained unchanged between 1997 and 2004, as did public dental service attendance (4.3 per cent) and community health centre attendance (7.0 per cent) in the previous 12 months.

The future

In 2005, there are a number of changes in the New South Wales Population Health Survey. In the health status section a module on cardiovascular disease precursors will be included and an expanded asthma module will be incorporated. Under health behaviours new injury modules on sports injuries and water safety will be included.

The continued monitoring of indicators via the New South Wales Population Health Survey will provide information that will assist health professionals, health planners and those involved in policy development to plan, implement and evaluate health programs and initiatives within the community and within population and target groups.

TABLE 11

TRENDS IN INDICATORS OF HEALTH BEHAVIOURS, BY SEX, NSW, 1997–2004

Indicator	Year	Males	(95% CI)	Females	(95% CI)	Persons	(95% CI)
Alcohol risk drinking (Guideline 1)	1997	50.6	(49.1–52.0)	34.3	(33.1–35.6)	42.3	(41.3–43.3)
	1998	50.4	(48.8–52.0)	36.3	(35.0–37.6)	43.2	(42.2–44.2)
	2002	39.3	(37.3–41.2)	30.2	(28.6–31.8)	34.7	(33.4–35.9)
	2003	41.5	(39.5–43.4)	30.2	(28.8–31.7)	35.6	(34.4–36.8)
	2004	40.5	(38.1–42.8)	30.3	(28.5–32.1)	35.3	(33.8–36.8)
High risk drinking in the past 4 weeks	2002	13.5	(12.1–14.9)	8.0	(7.0–9.0)	10.7	(9.9–11.6)
	2003	14.4	(13.0–15.8)	7.3	(6.5–8.2)	10.7	(9.9–11.5)
	2004	12.4	(10.8–14.0)	6.9	(5.9–7.9)	9.6	(8.7–10.6)
Pap test within the last 2 years	1998			77.3	(75.9–78.7)	77.3	(75.9–78.7)
	2002			74.7	(72.9–76.4)	74.7	(72.9–76.4)
	2004			72.8	(70.6–75.0)	72.8	(70.6–75.0)
Screening mammogram within the last 2 years	1997			73.3	(70.9–75.7)	73.3	(70.9–75.7)
	1998			76.4	(74.1–78.7)	76.4	(74.1–78.7)
	2002			75.2	(72.6–77.8)	75.2	(72.6–77.8)
	2004			74.4	(71.4–77.4)	74.4	(71.4–77.4)
Vaccinated against influenza in the last 12 months	1997	55.7	(52.3–59.2)	58.1	(55.3–61.0)	57.1	(54.9–59.3)
	1998	61.9	(58.4–65.3)	64.5	(61.9–67.2)	63.3	(61.2–65.5)
	2002	74.6	(71.6–77.6)	75.8	(73.3–78.2)	75.2	(73.3–77.1)
	2003	76.3	(73.2–79.3)	75.9	(73.5–78.3)	76.0	(74.1–77.9)
	2004	76.1	(72.6–79.5)	75.5	(72.7–78.4)	75.8	(73.6–78.0)
Vaccinated against pneumococcal disease in the last 5 years	2002	36.0	(32.6–39.4)	40.9	(38.0–43.7)	38.6	(36.4–40.8)
	2003	45.5	(42.0–49.1)	48.6	(45.8–51.5)	47.1	(44.9–49.4)
	2004	43.4	(39.2–47.5)	50.3	(46.9–53.6)	47.2	(44.6–49.8)
Homes with a smoke alarm or detector	1997					58.2	(57.3–59.2)
	1998					64.0	(63.0–65.0)
	2002					73.0	(71.9–74.1)
	2003					72.8	(71.7–73.9)
	2004					71.5	(70.1–72.9)
Recommended daily fruit intake	1997	39.7	(38.3–41.1)	52.4	(51.1–53.7)	46.1	(45.2–47.1)
	1998	39.5	(38.0–41.0)	50.9	(49.5–52.2)	45.3	(44.3–46.3)
	2002	41.4	(39.4–43.3)	51.2	(49.5–52.9)	46.3	(45.0–47.6)
	2003	40.1	(38.2–42.0)	54.5	(53.0–56.1)	47.4	(46.2–48.6)
	2004	40.6	(38.3–43.0)	53.4	(51.5–55.4)	47.1	(45.6–48.6)
Recommended vegetable intake	1997	8.0	(7.3–8.8)	9.7	(8.9–10.5)	8.9	(8.3–9.4)
	1998	7.1	(6.4–7.9)	8.6	(7.8–9.3)	7.9	(7.3–8.4)
	2002	5.8	(4.9–6.6)	9.1	(8.3–10.0)	7.5	(6.9–8.1)
	2003	8.1	(7.1–9.1)	11.4	(10.4–12.4)	9.8	(9.1–10.5)
	2004	6.0	(5.0–7.0)	10.3	(9.1–11.4)	8.2	(7.4–8.9)
Usual use of low fat, reduced fat or skim milk	1997	37.2	(35.8–38.6)	53.6	(52.3–55.0)	45.5	(44.6–46.5)
	1998	38.6	(37.0–40.1)	52.3	(50.9–53.6)	45.5	(44.5–46.5)
	2002	35.6	(33.7–37.4)	50.6	(48.9–52.3)	43.2	(41.9–44.4)
	2003	37.2	(35.4–39.1)	50.9	(49.3–52.4)	44.2	(42.9–45.4)
	2004	38.8	(36.4–41.1)	53.2	(51.3–55.1)	46.1	(44.6–47.6)
Food insecurity last 12 months	2002	5.3	(4.4–6.1)	6.1	(5.3–6.9)	5.7	(5.1–6.3)
	2003	5.3	(4.4–6.1)	6.8	(6.0–7.5)	6.1	(5.5–6.6)
	2004	5.2	(4.2–6.2)	6.3	(5.3–7.2)	5.8	(5.1–6.5)
Adequate physical activity	1998	52.5	(51.0–54.0)	43.4	(42.1–44.7)	47.9	(46.9–48.9)
	2002	51.0	(49.1–53.0)	43.4	(41.8–45.1)	47.2	(45.9–48.5)
	2003	49.5	(47.6–51.5)	40.4	(38.9–42.0)	44.7	(43.5–46.0)
	2004	57.0	(54.7–59.3)	47.9	(46.0–49.8)	52.4	(50.9–53.9)
Current daily or occasional smoking	1997	27.1	(25.8–28.4)	21.1	(20.0–22.1)	24.0	(23.2–24.9)
	1998	26.2	(24.8–27.5)	21.3	(20.2–22.4)	23.7	(22.8–24.6)
	2002	23.9	(22.2–25.6)	19.2	(17.9–20.5)	21.5	(20.5–22.6)
	2003	24.7	(23.0–26.4)	19.7	(18.5–21.0)	22.3	(21.2–23.3)
	2004	22.5	(20.5–24.5)	19.3	(17.8–20.8)	20.9	(19.6–22.1)
Smoke-free households	1997					69.7	(68.8–70.6)
	1998					73.1	(72.3–74.0)
	2002					80.8	(79.8–81.8)
	2003					82.6	(81.7–83.5)
	2004					84.2	(83.2–85.3)
Screening test for colorectal cancer in the last 5 years	2004	27.7	(25.0–30.4)	24.4	(22.3–26.5)	26.0	(24.3–27.7)
Percentage of population engaging in unsafe sex	2004	4.3	(3.4–5.3)	2.4	(1.8–3.0)	3.4	(2.8–3.9)
High sun protection behavior index (SPBI) score last summer	2004	61.8	(59.6–64.1)	71.9	(70.1–73.7)	67.0	(65.5–68.4)

TABLE 12

TRENDS IN INDICATORS OF HEALTH STATUS, BY SEX, NSW, 1997–2004

Indicator	Year	Males	(95% CI)	Females	(95% CI)	Persons	(95% CI)
Excellent, very good, or good self-rated health status	1997	85.0	(84.0–85.9)	85.1	(84.2–86.0)	85.0	(84.4–85.7)
	1998	85.0	(84.0–86.0)	83.1	(82.2–84.0)	84.0	(83.3–84.7)
	2002	82.0	(80.5–83.5)	79.9	(78.6–81.2)	81.0	(80.0–81.9)
	2003	81.8	(80.4–83.2)	79.7	(78.5–80.9)	80.7	(79.8–81.6)
	2004	79.4	(77.6–81.3)	79.5	(78.0–81.0)	79.5	(78.3–80.7)
Ever diagnosed with asthma	1997	15.2	(14.1–16.2)	18.4	(17.3–19.4)	16.8	(16.1–17.5)
	1998	15.5	(14.3–16.6)	18.1	(17.1–19.1)	16.8	(16.1–17.6)
	2002	18.6	(17.1–20.1)	21.1	(19.7–22.4)	19.8	(18.8–20.9)
	2003	19.3	(17.7–20.8)	22.6	(21.3–23.9)	21.0	(19.9–22.0)
	2004	18.1	(16.2–20.0)	22.5	(20.9–24.2)	20.4	(19.1–21.6)
Current asthma	1997	8.8	(7.9–9.6)	12.1	(11.2–13.0)	10.5	(9.8–11.1)
	1998	8.9	(8.0–9.8)	11.0	(10.2–11.7)	9.9	(9.4–10.5)
	2002	9.2	(8.1–10.4)	12.1	(11.1–13.2)	10.7	(9.9–11.5)
	2003	9.1	(8.0–10.3)	12.6	(11.6–13.7)	10.9	(10.1–11.7)
	2004	8.9	(7.4–10.4)	11.9	(10.7–13.1)	10.4	(9.5–11.4)
Diabetes or high blood sugar	1997	5.2	(4.6–5.7)	4.2	(3.7–4.8)	4.7	(4.3–5.1)
	1998	4.9	(4.2–5.5)	4.0	(3.5–4.5)	4.4	(4.0–4.8)
	2002	6.5	(5.7–7.3)	5.5	(4.9–6.2)	6.0	(5.5–6.5)
	2003	7.0	(6.1–7.8)	5.6	(4.9–6.2)	6.3	(5.8–6.8)
	2004	8.0	(6.9–9.1)	5.3	(4.6–6.0)	6.6	(6.0–7.3)
High and very high psychological distress	1997	9.2	(8.4–10.0)	13.0	(12.1–13.9)	11.1	(10.5–11.8)
	1998	9.0	(8.1–9.9)	12.1	(11.2–12.9)	10.6	(10.0–11.2)
	2002	10.5	(9.3–11.6)	14.2	(13.0–15.4)	12.4	(11.5–13.2)
	2003	9.3	(8.2–10.4)	12.8	(11.8–13.9)	11.1	(10.3–11.8)
	2004	11.7	(10.2–13.3)	14.7	(13.3–16.1)	13.2	(12.2–14.3)
Overweight and obesity	1997	49.3	(47.8–50.7)	34.2	(32.9–35.4)	41.8	(40.8–42.7)
	1998	49.8	(48.3–51.4)	34.1	(32.9–35.4)	42.0	(41.0–43.1)
	2002	53.4	(51.4–55.4)	38.2	(36.6–39.8)	45.9	(44.6–47.2)
	2003	55.7	(53.7–57.7)	41.0	(39.4–42.6)	48.4	(47.1–49.6)
	2004	56.2	(53.8–58.6)	40.5	(38.6–42.4)	48.4	(46.9–50.0)
All natural teeth missing	1998	5.7	(5.1–6.4)	10.6	(9.9–11.3)	8.2	(7.7–8.7)
	2002	4.9	(4.3–5.6)	7.8	(7.1–8.6)	6.4	(5.9–6.9)
	2003	4.3	(3.7–4.9)	7.7	(7.1–8.3)	6.1	(5.7–6.6)
	2004	4.7	(4.0–5.5)	7.7	(6.9–8.6)	6.3	(5.7–6.8)
Eyesight check in last 2 years	2004	70.6	(68.2–73.0)	74.1	(72.1–76.0)	72.4	(70.8–73.9)
Normal vision in both eyes	2004	56.2	(53.9–58.5)	48.4	(46.5–50.4)	52.2	(50.7–53.7)
Ever had hearing tested	2004	60.8	(58.5–63.1)	39.9	(38.1–41.8)	50.2	(48.7–51.7)
Normal hearing in both ears	2004	76.2	(74.4–78.1)	85.1	(83.9–86.3)	80.7	(79.7–81.8)

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

TABLE 13

TRENDS IN INDICATORS OF HEALTH SERVICES, BY SEX, NSW, 1997–2004

Indicator	Year	Males	(95% CI)	Females	(95% CI)	Persons	(95% CI)
Difficulties getting health care when needing it	1997	8.8	(8.0–9.6)	11.0	(10.3–11.8)	9.9	(9.4–10.5)
	1998	8.5	(7.8–9.3)	11.8	(11.0–12.5)	10.2	(9.6–10.7)
	2002	10.8	(9.6–11.9)	14.3	(13.2–15.4)	12.6	(11.8–13.4)
	2003	11.4	(10.3–12.6)	15.1	(14.0–16.2)	13.3	(12.5–14.0)
	2004	12.7	(11.2–14.1)	15.0	(13.7–16.3)	13.9	(12.9–14.8)
Emergency department attendance in the previous 12 months	1997	15.8	(14.8–16.8)	12.0	(11.2–12.9)	13.9	(13.2–14.6)
	1998	13.9	(12.9–14.9)	12.0	(11.2–12.8)	13.0	(12.3–13.6)
	2002	14.7	(13.4–16.0)	13.8	(12.7–14.9)	14.3	(13.4–15.1)
	2003	14.0	(12.7–15.3)	13.1	(12.1–14.1)	13.6	(12.7–14.4)
	2004	15.5	(13.9–17.0)	13.7	(12.4–15.0)	14.6	(13.6–15.6)
Emergency department care rated as excellent, very good or good	1997	80.4	(77.5–83.3)	79.6	(76.6–82.7)	80.1	(78.0–82.2)
	1998	82.5	(79.5–85.5)	78.6	(75.7–81.5)	80.7	(78.6–82.8)
	2002	79.8	(75.8–83.7)	72.6	(68.7–76.6)	76.3	(73.5–79.1)
	2003	80.3	(76.1–84.4)	77.9	(74.3–81.6)	79.1	(76.3–81.8)
	2004	77.3	(72.3–82.2)	81.7	(77.9–85.6)	79.4	(76.2–82.6)
Hospital admission in the previous 12 months	1997	11.3	(10.4–12.1)	14.6	(13.7–15.5)	13.0	(12.3–13.6)
	1998	11.4	(10.5–12.4)	15.3	(14.4–16.2)	13.4	(12.7–14.0)
	2002	11.0	(9.9–12.2)	16.0	(14.8–17.3)	13.6	(12.7–14.4)
	2003	12.3	(11.1–13.5)	14.9	(13.8–16.0)	13.6	(12.8–14.4)
	2004	12.3	(10.9–13.7)	15.1	(13.7–16.6)	13.7	(12.7–14.8)
Hospital care rated as excellent, very good or good	1997	90.2	(87.8–92.7)	89.9	(87.9–91.9)	90.0	(88.5–91.6)
	1998	92.6	(90.4–94.7)	89.9	(88.0–91.8)	91.0	(89.6–92.5)
	2002	93.4	(90.6–96.2)	88.9	(85.9–91.9)	90.7	(88.6–92.9)
	2003	93.0	(90.3–95.8)	89.9	(87.5–92.2)	91.3	(89.5–93.0)
	2004	91.6	(88.3–94.9)	90.5	(87.4–93.7)	91.0	(88.7–93.3)
Community health centre attendance in the previous 12 months	2002	4.8	(4.0–5.6)	8.9	(8.0–9.9)	6.9	(6.3–7.5)
	2003	3.6	(3.0–4.3)	6.5	(5.8–7.2)	5.1	(4.6–5.6)
	2004	6.0	(4.9–7.1)	8.0	(7.0–9.0)	7.0	(6.3–7.8)
	2002	91.7	(87.1–96.4)	93.6	(90.8–96.3)	92.9	(90.5–95.3)
Community health centre care rated as excellent, very good or good	2003	94.2	(90.0–98.3)	93.3	(90.4–96.1)	93.6	(91.3–95.9)
	2004	86.7	(80.5–92.9)	94.9	(91.8–98.0)	91.5	(88.3–94.7)
	2002	3.9	(3.1–4.7)	5.3	(4.5–6.1)	4.6	(4.1–5.2)
Public dental service attendance in the previous 12 months	2003	3.8	(3.2–4.5)	4.7	(4.1–5.4)	4.3	(3.8–4.7)
	2004	5.2	(4.3–6.1)	5.6	(4.8–6.5)	5.4	(4.8–6.1)
	2002	82.2	(75.0–89.5)	81.1	(75.5–86.6)	81.6	(77.1–86.0)
Public dental service care rated as excellent, very good or good	2003	85.8	(80.4–91.2)	84.8	(79.8–89.9)	85.4	(81.8–89.0)
	2004	80.8	(71.9–89.6)	87.7	(82.7–92.8)	84.4	(79.4–89.5)

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

11. QUESTION MODULES

The survey questions used in New South Wales Population Health Survey in 2004 are available as individual question modules. This includes modules on alcohol, asthma, cancer screening (breast and cervical), cancer screening (colorectal), community health centres, demographics, diabetes, difficulties getting health care, emergency departments, hearing, hospitals, immunisation, injury (youth violence), injury prevention, mental health, nutrition, oral health, overweight and obesity, physical activity, public dental services, self-rated health, sexual health, smoking, sun protection, and vision.

Alcohol question module

Now I would like to ask you some questions about alcohol.

- Q1. How often do you usually drink alcohol? [PROMPT IF NECESSARY]
1. ___ number of days
 2. Less than once per week
 3. I don't drink alcohol → END OF MODULE
- X Don't know
R Refused
- Q2. Alcoholic drinks are measured in terms of a 'standard drink'. A standard drink is equal to one middy of full-strength beer, one schooner of light beer, one small glass of wine, or one pub-sized nip of spirits. On a day when you drink alcohol, how many standard drinks do you usually have? [PROMPT IF NECESSARY]
1. ___ number of drinks
- X Don't know
R Refused
- Q3. In the past 4 weeks have you had more than [4 if male/2 if female] drinks in a day? [PROMPT IF NECESSARY]
1. Yes
 2. No → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE
- Q4. In the past 4 weeks how often have you had [one or more if male/7 or more if female] drinks in a day?
1. ___ number of times
 2. Not at all
- X Don't know
R Refused

- Q5. In the past 4 weeks how often have you had [7–10 if male/5–6 if female] drinks in a day?
1. ___ Number of times
 2. Not at all
- X Don't know
R Refused

Asthma question module

The next few questions are about asthma.

- Q1. Have you ever been told by a doctor or at a hospital that you have asthma?
1. Yes
 2. No → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE
- Q2. Have you had symptoms of asthma or taken treatment for asthma in the last 12 months?
1. Yes
 2. No → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE
- Q3. Have you had symptoms of asthma or taken treatment for asthma in the last 4 weeks?
1. Yes
 2. No → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE
- Q4. Do you have a written asthma management plan from your doctor on how to treat your asthma?
1. Yes
 2. No
- X Don't know
R Refused
- Q5. Have you visited your general practitioner or local doctor for an attack of asthma in the last 4 weeks?
1. Yes
 2. No
- X Don't know
R Refused
- Q6. Have you visited a hospital emergency department for an attack of asthma in the last 4 weeks?
1. Yes
 2. No
- X Don't know
R Refused

Cancer screening (breast and cervical) question module

I would now like to ask you some questions about women's health matters.

- Q1. A mammogram is an x-ray taken of the breasts by a machine that presses against the breast while the picture is taken. It is a means of detecting breast cancer in the early stages. Have you ever had a mammogram?
1. Yes
 2. No → Q6
 - X Don't know → Q6
 - R Refused → Q6
- Q2. When did you last have a mammogram?
1. Less than year ago
 2. 1 year to less than 2 years ago
 3. 2 years to less than 3 years ago
 4. 3 years to less than 4 years ago
 5. 4 years to less than 5 years ago
 6. 5 or more years ago
 - X Don't know
 - R Refused
- Q3. Can you tell me all the reasons why you had your last mammogram? [MULTIPLE RESPONSE]
1. Breast problem (lump, discharge, pain)
 2. Family history
 3. Had breast cancer in the past
 4. Regular check up
 5. Due for screening mammogram
 6. Doctor recommended it
 7. An invitation from the BreastScreen or Breast Screening and Assessment Unit
 8. Publicity about breast cancer and screening
 9. Urged by a friend–relative to go
 10. Other [SPECIFY] _____
 - X Don't know
 - R Refused
- Q4. Do you have mammograms regularly?
1. Yes
 2. No → Q6
 - X Don't know → Q6
 - R Refused → Q6
- Q5. What is the usual time period between your mammograms?
1. ___ Number of years
 2. Only had one
 - X Don't know
 - R Refused

- Q6. A Pap test is a routine test carried out by a doctor. It is recommended for all women for early detection of cancer of the cervix. Have you ever had a Pap test?
1. Yes
 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q7. When did you last have a Pap test?
1. Less than one year ago
 2. 1 year to less than 2 years ago
 3. 2 years to less than 3 years ago
 4. 3 years to less than 4 years ago
 5. 4 years to less than 5 years ago
 6. 5 or more years ago
 - X Don't know
 - R Refused
- Q8. Do you have a Pap test regularly?
1. Yes
 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q9. What is the usual time period between your Pap tests?
1. Only had one Pap test
 2. Less than one year ago
 3. ___ number of years
 - X Don't know
 - R Refused

Cancer screening (colorectal) question module

Bowel cancer is a common cancer that, if found, can be treated at an early stage. Bowel cancer may be detected by means of an x-ray of the bowel, or by a test that involves a doctor passing a long tube-like instrument through your back passage to examine the inside of your bowel, or by examining a sample of faeces.

- Q1. Have you ever had any of these types of investigation?
1. Yes
 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q2. Which of these investigations have you had?
1. X-ray → Q3
 2. Tube-like instrument → Q4
 3. Sample of faeces → Q5
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE

- Q3. When did you have your last x-ray?
1. Within the last 12 months
 2. 12 months to 5 years
 3. More than 5 years ago
 4. Never had a bowel x-ray
- X Don't know
R Refused
- Q4. When did you have your last test with the long tube-like instrument?
1. Within the last 12 months
 2. 12 months to 5 years
 3. More than 5 years ago
 4. Never had test with a long tube-like instrument
- X Don't know
R Refused
- Q5. When did you have your last faeces sample examined?
1. Within the last 12 months
 2. 12 months to 5 years
 3. More than 5 years ago
 4. Never had a faeces sample examined
- X Don't know
R Refused
- Q6. Can you tell me all the reasons why you had [this–these] investigations for bowel cancer?
1. Blood in the toilet bowl–stool–on toilet paper
 2. Other bowel problem such as pain, polyps, or inflammatory bowel disease
 3. One close relative (father, mother, brother, sister) had bowel cancer
 4. More than one close relative (father, mother, brother, sister) had bowel cancer
 5. One other relative had bowel cancer (grandmother, grandfather, aunt, uncle)
 6. More than one other relative had bowel cancer (grandmother, grandfather, aunt, uncle)
 7. I have had bowel cancer in the past
 8. Regular check up (seeing doctor)
 9. Due for screening test for bowel cancer
 10. Doctor recommended it
 11. Publicity about bowel cancer and screening
 12. Urged by a friend–relative to go
 13. Other [SPECIFY] _____
- X Don't know
R Refused

- Q7. Can you tell me how old this relative was when they were diagnosed with bowel cancer?
1. _____ age
- X Don't know
R Refused
- Q8. Were the relatives diagnosed with bowel cancer on the same side of your family?
1. Yes: all on same side of family
 2. No: on both sides of family
- X Don't know
R Refused

Community health centre question module

The next questions are about your use of health services.

- Q1. In the last 12 months, have you attended a government-run community health centre?
1. Yes
 2. No → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE
- Q2. Overall, what do you think of the care you received at the community health centre? [READ OUT]
1. Excellent → Q4
 2. Very good → Q4
 3. Good → Q4
 4. Fair
 5. Poor
- X Don't know → Q4
R Refused → Q4
- Q3. Could you briefly describe why you rated the care you received as fair or poor?
1. Description _____
- Q4. Did someone at this community health centre tell you how to cope with your condition when you returned home?
1. Yes
 2. No → END OF MODULE
 3. Not applicable → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE
- Q5. How adequate was this information once you went home? [READ OUT]
1. Very adequate
 2. Adequate
 3. Inadequate
 4. Completely inadequate
- X Don't know
R Refused

Demographics

- Q1. [RECORD LANGUAGE SURVEY RECORDED IN]
1. English
 2. Arabic
 3. Chinese
 4. Greek
 5. Italian
 6. Vietnamese
- Q2. A letter was sent to your household recently about this study. Do you remember receiving this letter?
1. Yes
 2. No
 - X Don't know
 - R Refused
- Q3. How many people, including yourself, live in your household?
1. ___ number of people
 - X Don't know
 - R Refused
- Q4. How many children under 6 years of age live in this household?
1. ___ number of people
 - X Don't know
 - R Refused
- Q5. How many people aged 65 years old or over live in this household?
1. ___ number of people
 - X Don't know
 - R Refused
- Q6. Could you please tell me how old you are today?
1. ___ age in years
 - X Don't know
 - R Refused
- Q7. Are you male or female? [ONLY ASK IF UNSURE]
1. Male
 2. Female
- Q8. Besides yourself, who else lives in your household? [MULTIPLE RESPONSE]
1. No one else: lives alone
 2. Mother
 3. Father
 4. Respondent's partner
 5. Stepmother
 6. Stepfather
 7. Grandparents
 8. Sons-daughters
 9. Brothers-sisters
 10. Stepbrothers-stepsisters
 11. Other relatives
 12. Non-family members
 13. Other [SPECIFY] _____
 - X Don't know
 - R Refused
- Q9. What is your current formal marital status?
1. Married
 2. Widowed
 3. Separated but not divorced
 4. Divorced
 5. Never married
 - X Don't know
 - R Refused
- Q10. In which country were you born?
1. Australia
 2. _____ other country [SPECIFY]
 - X Don't know
 - R Refused
- Q11. When did you first arrive in Australia to live here for one year or more?
1. ___ year
 - X Don't know
 - R Refused
- Q12. Do you usually speak a language other than English at home?
1. Yes
 2. No
 - X Don't know
 - R Refused
- Q13. What language do you usually speak at home?
1. _____ language [SPECIFY]
 - X Don't know
 - R Refused
- Q14. What is the highest level of primary or high school that you have completed? [PROMPT IF NECESSARY]
1. Never attended school
 2. Currently still at school
 3. Year 8 or below
 4. Year 9 or equivalent
 5. Year 10 or equivalent
 6. Year 11 or equivalent
 7. Year 12 or equivalent (Matriculation-Leaving)
 - X Don't know
 - R Refused
- Q15. What is the level of the highest qualification you have completed?
1. Completed School Certificate-Intermediate-Year 10-4th Form
 2. Completed Higher School Certificate-Leaving-Year 12-6th Form

3. TAFE certificate or diploma
4. University, College of Advanced Education, or some other tertiary institute degree or higher
5. Other [SPECIFY] _____
6. Completed primary school
7. Completed Years 7–9
- X Don't know
- R Refused

Q16. In the last week, which of the following best describes your employment status?
[READ OUT]

1. Worked for payment or profit → Q18
2. Worked for payment or profit, but absent on paid leave, holidays, on strike—stood down → Q18
3. Unpaid work in a family business → Q4
4. Other unpaid work
5. Other unpaid work
6. Did not have a job
- X Don't know → Q21
- R Refused → Q21

Q17. Were you actively looking for work in the last week?

1. Yes: looked for full-time work
2. Yes: looked for part-time work
3. No: did not look for work
- X Don't know
- R Refused

Q18. In the main job held in the last week, were you:

1. A wage or salary earner
2. Conducting own business with employees
3. Conducting own business without employees
4. A helper not receiving wages
- X Don't know
- R Refused

Q19. In the last week, how many hours did you work in all jobs?

1. _____ no. of hours [SPECIFY]
- X Don't know
- R Refused

Q20. How do you usually get to work? [MULTIPLE RESPONSE]

1. Train
2. Bus
3. Ferry
4. Tram (including light rail)
5. Taxi
6. Car: as driver
7. Car: as passenger
8. Truck

9. Motorbike or motor scooter
10. Bicycle
11. Walk only
12. Work at home
13. Other
- X Don't know
- R Refused

Q21. Do you currently receive a government pension, allowance or benefit?

1. Yes
2. No
- X Don't know
- R Refused

Q22. I would like to ask you some questions about your housing arrangements. Are you: [READ OUT]

1. Paying rent or board
2. Paying off this dwelling
3. Outright owner—fully owned
4. Living rent-free
5. Purchasing under a rent-buy scheme
6. Occupying your dwelling under a life tenure scheme
7. Other [SPECIFY] _____
- X Don't know
- R Refused

Q23. What type of accommodation do you live in?
[PROMPT IF NECESSARY]

1. Separate house
2. Semi-detached—town house—terraced house—villa
3. Unit, flat or apartment—granny flat
4. Caravan, cabin, houseboat
5. Improvised home, tent, sleep out
6. House—flat attached to a shop—office
7. Other [SPECIFY] _____ (for example, hotel, retirement village)
- X Don't know
- R Refused

Q24. I would now like to ask you about your household's income. What is your annual household income before tax? Would it be:

1. Less than \$10,000
2. \$10,000–\$20,000
3. \$20,000–\$40,000
4. \$40,000–\$60,000
5. \$60,000–\$80,000
6. More than \$80,000
- X Don't know
- R Refused

Q25. How long have you lived in your local area?

1. ____ years
- X Don't know
- R Refused

Q26. What is the name of your local council or shire?

1. _____
- X Don't know
- R Refused

Q27. What is the name of the town or suburb where you live?

1. _____
- X Don't know
- R Refused

Q28. Could you tell me your postcode?

1. ____
- X Don't know
- R Refused

Q29. Do you have more than one telephone number in your household?

1. Yes
2. No
- X Don't know
- R Refused

Q30. How many residential telephone numbers do you have? Do not include mobile phone numbers, dedicated fax numbers or modems.

1. ____ number of phone numbers
- X Don't know
- R Refused

Diabetes question module

The next few questions are about diabetes and high blood sugar. Diabetes is a disease where there is too much sugar in the blood.

Q1. Have you ever been told by a doctor or at a hospital that you have diabetes?

1. Yes [IF FEMALE → Q3; IF MALE → Q5]
2. No
3. Only during pregnancy → END OF MODULE
- X Don't know
- R Refused

Q2. Have you ever been told by a doctor or at a hospital that you have high sugar levels in your blood or urine?

1. Yes [IF FEMALE → Q3; IF MALE → Q6]
2. No → END OF MODULE
3. Borderline → Q6
4. Only during pregnancy → END OF MODULE
- X Don't know → END OF MODULE
- R Refused → END OF MODULE

Q3. [IF FEMALE THEN ASK] Were you pregnant when you were first told you had diabetes–high blood sugar?

1. Yes
2. No → Q5
- X Don't know → Q5
- R Refused → Q5

Q4. [IF FEMALE THEN ASK] Have you ever had diabetes–high blood sugar apart from when you were pregnant?

1. Yes
2. No → END OF MODULE
- X Don't know
- R Refused

Q5. What type of diabetes were you told you had?

1. Type 1
2. Type 2
3. Gestational
4. Other [SPECIFY] _____
- X Don't know
- R Refused

Q6. How old were you when you were first told you had diabetes–high blood sugar? [IF ONGOING DIABETES SINCE PREGNANCY, THEN AGE OF DIAGNOSIS DURING PREGNANCY]

1. ____ years
- X Don't know
- R Refused

Q7. What are you doing now to manage your diabetes–high blood sugar? [MULTIPLE RESPONSE]

1. Having insulin injections
2. On tablets for diabetes or high blood sugar
3. Following a special diet [for example, reducing sugar and/or fat in the diet]
4. Losing weight
5. Exercising most days
6. Doing anything else to manage your diabetes–high blood sugar
7. Other [SPECIFY] _____
8. Not doing anything to control diabetes
- X Don't know
- R Refused

Q8. Have you been given a blue and orange card about managing your diabetes?

1. Yes
2. No
- X Don't know
- R Refused

Difficulties getting health care question module

- Q1. Do you have any difficulties getting health care when you need it?
1. Yes
 2. No → Q3
 3. Don't need health care → Q3
 - X Don't know
 - R Refused
- Q2. Please describe the difficulties you have.
1. Description _____
→ END OF MODULE
- Q3. Do you have any comments on the health services in your local area?
1. Comments _____

Emergency department question module

The next questions are about your use of health services.

- Q1. In the last 12 months, have you attended a hospital emergency department (or casualty) for your own medical care?
1. Yes
 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q2. Which hospital's emergency department did you last attend?
1. Name of hospital _____
- Q3. Overall, what do you think of the care you received at this emergency department? [READ OUT]
1. Excellent → END OF MODULE
 2. Very good → END OF MODULE
 3. Good → END OF MODULE
 4. Fair
 5. Poor
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q4. Could you briefly describe why you rated the care you received as fair or poor?
1. Reasons _____

Hearing question module

The following questions are about your hearing.

- Q1. Have you ever had your hearing tested?
1. Yes
 2. No
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE

- Q2. As far as you know do you have normal hearing in both ears?
1. Yes → END OF MODULE
 2. No
 - X Don't know
 - R Refused
- Q3. Do you currently use a hearing aid?
1. Yes
 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q4. How serious is your hearing loss?
1. Mild
 2. Moderate
 3. Severe
 4. Profound
 - X Don't know
 - R Refused

Hospital question module

The next questions are about your use of health services.

- Q1. In the last 12 months, have you stayed for at least one night in hospital?
1. Yes
 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q2. In which hospital was your most recent overnight stay?
1. Name of hospital _____
- Q3. Can you tell me if that is a public or private hospital?
1. Public hospital
 2. Private hospital
 3. Private hospital attached to a public hospital
 - X Don't know
 - R Refused
- Q4. During your overnight hospital admission were you admitted as a private or public patient?
1. Private patient [that is, private health insurance]
 2. Public patient
 - X Don't know
 - R Refused
- Q5. Overall, what do you think of the care you received at this hospital? [READ OUT]
1. Excellent → Q7
 2. Very good → Q7
 3. Good → Q7

- 4. Fair
- 5. Poor
- X Don't know → Q7
- R Refused → Q7

Q6. Could you briefly describe why you rated the care you received as fair or poor?

- 1. Description _____

Q7. Did someone at this hospital tell you how to cope with your condition when you returned home?

- 1. Yes
- 2. No → END OF MODULE
- 3. Not applicable → END OF MODULE
- X Don't know → END OF MODULE
- R Refused → END OF MODULE

Q8. How adequate was this information once you went home? [READ OUT]

- 1. Very adequate
- 2. Adequate
- 3. Inadequate
- 4. Completely inadequate
- X Don't know
- R Refused

Immunisation question module

I now have a few questions about immunisation.

Q1. Has a health professional ever advised you to be vaccinated against flu?

- 1. Yes
- 2. No
- X Don't know
- R Refused

Q2. Were you vaccinated or immunised against flu in the past 12 months?

- 1. Yes
- 2. No
- X Don't know
- R Refused

Q3. Has a health professional ever advised you to be vaccinated against pneumonia?

- 1. Yes
- 2. No
- X Don't know
- R Refused

Q4. When were you last vaccinated or immunised against pneumonia?

- 1. Within the last 12 months
- 2. 12 months to 5 years ago
- 3. More than 5 years ago
- 4. Never vaccinated
- X Don't know
- R Refused

Injury (youth violence) question module

The following questions are about your personal safety.

Q1. In the last 12 months has someone been physically violent toward you? By physically violent I mean being hit, slapped, pushed, kicked, or attacked with a weapon by someone to cause harm.

- 1. Yes
- 2. No → END OF MODULE
- X Don't know → END OF MODULE
- R Refused → END OF MODULE

Q2. In the last 12 months how many times has someone been physically violent toward you? By physically violent I mean being hit, slapped, pushed, kicked, or attacked with a weapon by someone to cause harm.

- 1. ___ times
- X Don't know
- R Refused

Q3. Thinking about the most recent time someone was physically violent toward you: Where were you when the violence occurred? [MULTIPLE RESPONSE]

- 1. My home
- 2. My workplace
- 3. Pub-bar-licensed club-nightclub and surrounding area (including carpark)
- 4. Outdoor space (for example: street, outdoor carpark, beach, park, etc.) (SPECIFY) _____
- 5. Indoor place (for example: cinema, shops, hospital, enclosed carpark) (SPECIFY) _____
- 6. Other(SPECIFY) _____
- X Don't know
- R Refused

Q4. Approximately, how many people were involved in the violent act against you?

- 1. _____ Enter number of people
- X Don't know
- R Refused

Q5. What relationship do you have with the person(s) who was-were violent toward you? [MULTIPLE RESPONSE]

- 1. Husband-wife-partner
- 2. Parent
- 3. Sibling-cousin-other relative
- 4. Friend-acquaintance
- 5. Unknown assailant
- 6. Other (SPECIFY)
- X Don't know
- R Refused

Q6. In your opinion was/were the person(s) who was/were violent toward you under the influence of alcohol or drugs at the time of the act?

- 1. No
- 2. Yes, alcohol
- 3. Yes, drugs
- 4. Yes, alcohol and drugs
- X Don't know
- R Refused

Q7. Were you injured as a result of the most recent violence?

- 1. Yes
- 2. No
- X Don't know
- R Refused

Q8. What type of injury did you have? [PROBE FULLY]

Q9. What medical treatment or professional health care (for example: general practitioner or hospital) did you have as a result of the violence? [MULTIPLE RESPONSE]

- 1. None
- 2. General practitioner visit
- 3. Emergency department visit
- 4. Admitted to hospital
- 5. Other [SPECIFY]
- X Don't know
- R Refused

Q10. Was the violent act reported to the police or other authorities?

- 1 No
- 2 Yes, police
- 3 Yes, other authorities
- 4 Yes, other person
- X Don't know
- R Refused

Injury prevention question module

The next few questions are about safety issues.

Q1. Do you have any of the following fire safety measures in your home? [READ OUT]
[External water supply refers to water tankers, swimming pools, dams, storm-water retention pits, garden hoses, and fixed sprinklers].
[Hard-wired smoke alarms are wired into your electricity supply and have battery back-up].

- 1. Fire alarm (hard-wired)
- 2. Fire alarm (battery-operated only)
- 3. Fire sprinkler system
- 4. Safety switch-circuit breaker
- 5. Fire extinguisher
- 6. Fire evacuation plan

- 7. External water supply
- 8. External sprinkler
- 9. Other [SPECIFY]
- 10. None of the above
- X Don't know
- R Refused

Q2. Are you aware of the NSW Fire Brigades' program to change or install battery-operated fire alarms in homes?

- 1. Yes
- 2. No → END OF MODULE
- X Don't know → END OF MODULE
- R Refused → END OF MODULE

Q3. Have you had one installed through this program?

- 1. Yes
- 2. No
- X Don't know
- R Refused

Mental health question module

The next questions are about how you have been feeling in the past 4 weeks

Q1. In the past 4 weeks, about how often did you feel tired out for no good reason? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q2. In the past 4 weeks, about how often did you feel nervous? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time → Q4
- X Don't know → Q4
- R Refused → Q4

Q3. In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q4. In the past 4 weeks, about how often did you feel hopeless? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q5. In the past 4 weeks, about how often did you feel restless or fidgety? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time → Q7
- X Don't know → Q7
- R Refused → Q7

Q6. In the past 4 weeks, about how often did you feel so restless you could not sit still? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q7. In the past 4 weeks, about how often did you feel depressed? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q8. In the past 4 weeks, about how often did you feel that everything was an effort? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q9. In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time

- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q10. In the past 4 weeks, about how often did you feel worthless? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Q11. 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?

- 1. ___ number of days
- X Don't know
- R Refused

Q12. Aside from [that day–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?

- 1. ___ number of days
- X Don't know
- R Refused

Q13. In the last 4 weeks, how many times have you seen a doctor or other health professional about these feelings?

- 1. ___ number of consultations
- X Don't know
- R Refused

Q14. In the last 4 weeks, how often have physical health problems been the main cause of these feelings? [READ OUT]

- 1. All of the time
- 2. Most of the time
- 3. Some of the time
- 4. A little of the time
- 5. None of the time
- X Don't know
- R Refused

Nutrition question module

The next few questions are about food. I'm going to read you a list of different food and drinks. Please tell me how much of these foods and drinks you usually consume per day or per week.

Q1. How many serves of vegetables do you usually eat each day? [one serve = 1/2 cup cooked or one cup of salad vegetables]

- 1. ___ serves per day
- 2. ___ serves per week

3. Don't eat vegetables
 X Don't know
 R Refused
- Q2. How many serves of fruit do you usually eat each day? [one serve = one medium piece or 2 small pieces of fruit or one cup of diced pieces]
1. ___ serves per day
 2. ___ serves per week
 3. Don't eat fruit
 - X Don't know
 - R Refused
- Q3. How often do you usually eat bread? (Include bread rolls, flat breads, crumpets, bagels, English or bread-type muffins).
1. _____ times per day
 2. _____ times per week
 3. _____ times per month
 4. Rarely or never
 - X Don't know
 - R Refused
- Q4. How often do you usually eat breakfast cereal? [Ready made, home made or cooked]
1. ___ times per day
 2. ___ times per week
 3. ___ times per month
 4. Rarely or never
 - X Don't know
 - R Refused
- Q5. How often do you eat pasta, rice, noodles or other cooked cereals (not including cooked breakfast cereals)?
1. ___ times per day
 2. ___ times per week
 3. ___ times per month
 4. Rarely or never
 - X Don't know
 - R Refused
- Q6. What type of milk do you usually have?
1. Regular milk (whole or full cream)
 2. Low or reduced fat milk
 3. Skim milk
 4. Evaporated or sweetened milk
 5. Other [SPECIFY] _____
 6. Don't have milk
 - X Don't know
 - R Refused
- Q7. How often do you eat processed meat products such as sausages, frankfurts, devon, salami, meat pies, bacon or ham?
1. ___ times per day
 2. ___ times per week
 3. ___ times per month
 4. Rarely or never

- X Don't know
 R Refused
- Q8. How often do you eat chips, french fries, wedges, fried potatoes or crisps?
1. ___ times per day
 2. ___ times per week
 3. ___ times per month
 4. Rarely or never
 - X Don't know
 - R Refused
- Q9. In the last 12 months, were there any times that you ran out of food and couldn't afford to buy more?
1. Yes
 2. No
 - X Don't know
 - R Refused

Oral health question module

The next questions are about your teeth and dental health.

- Q1. Are any of your natural teeth missing?
1. Yes: have some natural teeth missing
 2. Yes: have all natural teeth missing
 3. No: have no natural teeth missing → Q3
 - X Don't know → Q3
 - R Refused → Q3
- Q2. Do you have dentures or false teeth?
1. Yes
 2. No
 - X Don't know
 - R Refused
- Q3. In the last 12 months, how often have you had a toothache or other problem with your mouth or dentures? [READ OUT]
1. Very often
 2. Often
 3. Sometimes
 4. Hardly ever
 5. Never (during the last 12 months) → Q7
 - X Don't know → Q7
 - R Refused → Q7
- Q4. In the last 4 weeks, how often have you had a toothache or other problem with your mouth or dentures? [READ OUT]
1. Very often
 2. Often
 3. Sometimes
 4. Never (during the last 4 weeks)
 - X Don't know
 - R Refused

- Q5. What was the most recent problem you had?
1. Toothache
 2. Bleeding gums
 3. Loose or broken tooth or other problem as a result of an injury
 4. Loose or broken tooth: not due to injury
 5. Lost a filling
 6. Problem with jaw or bite
 7. Other [SPECIFY] _____
- X Don't know → Q7
R Refused → Q7

- Q6. What treatment did you receive for [problem in Q5]? [MULTIPLE RESPONSE]
1. Check up → Q8
 2. Dental filling → Q8
 3. Amalgam replacement → Q8
 4. Root canal filling → Q8
 5. Crown → Q8
 6. Tooth extracted → Q8
 7. Fluoride treatment → Q8
 8. Gum treatment → Q8
 9. Teeth straightened or braces → Q8
 10. New or replacement dentures → Q8
 11. Teeth cleaned → Q8
 12. Fissure sealant → Q8
 13. Whitening or bleaching → Q8
 14. Denture repair → Q8
 15. None: did not visit dentist
 16. Other treatment [SPECIFY] _____ → Q8
- X Don't know → Q8
R Refused → Q8

- Q7. When did you last visit a dental professional about your teeth, dentures or gums? [A dental professional includes dentist, dental specialist, dental hygienist, dental technician, dental mechanic, denturist or dental therapist] [READ OUT]
1. Less than 12 months ago
 2. One year to less than 2 years ago → Q9
 3. Two to less than 5 years ago → Q9
 4. Five to less than 10 years ago → Q9
 5. Ten years ago or more → Q9
 6. Never → Q9
- X Don't know → Q9
R Refused → END OF MODULE

- Q8. Where was your last dental visit made? [READ OUT]
1. Government dental clinic or public hospital → END OF MODULE
 2. School dental service → END OF MODULE

3. Dental technician (includes dental mechanic and denturist practising independently of a dentist) → END OF MODULE
 4. Other [SPECIFY] _____ → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE

- Q9. What are the main reasons for you not visiting the dentist in the last 12 months? [MULTIPLE RESPONSE]
1. Respondent has dentures
 2. Worried or afraid of going; don't like going
 3. Don't need to
 4. Hard to find time
 5. Can't find a dentist I like
 6. Too expensive
 7. Too far to go
 8. Long waiting lists
 9. Dentist has moved or retired
 10. Other [SPECIFY] _____
- X Don't know
R Refused

Overweight and obesity question module

Now a few questions about height and weight.

- Q1. How tall are you without shoes?
1. ___ centimetres
- X Don't know
R Refused
- OR
1. ___ feet ___ inches
- X Don't know
R Refused

- Q2. How much do you weigh without clothes or shoes?
1. ___ kilograms
- X Don't know
R Refused
- OR
1. ___ stones ___ lbs
- X Don't know
R Refused

Physical activity question module

Now I'm going to ask some questions about the physical activity you did in the last week.

- Q1. 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?
1. ___ Number of times [If = 0 → Q3]
- X Don't know → Q3

R Refused → Q3

Q2. What do you estimate was the total time you spent walking in this way in the last week? [In hours and minutes]

1. ___ hours ___ minutes
- X Don't know
R Refused

Q3. The next question excludes household chores or gardening. In the last week, how many times did you do any vigorous physical activity that made you breathe harder or puff and pant?

1. ___ Number of times [If = 0 → Q5]
- X Don't know → Q5
R Refused → Q5

Q4. What do you estimate was the total time you spent doing this vigorous physical activity in the last week? [In hours and minutes]

1. ___ hours ___ minutes
- X Don't know
R Refused

Q5. This next question does not include household chores or gardening. In the last week, how many times did you do any other more moderate physical activity that you haven't already mentioned?

1. ___ Number of times [If = 0 → END OF MODULE]
- X Don't know → END OF MODULE
R Refused → END OF MODULE

Q6. What do you estimate was the total time that you spent doing these activities in the last week? [In hours and minutes]

1. ___ hours ___ minutes
- X Don't know
R Refused

Public dental service question module

The next questions are about your use of health services.

Q1. In the last 12 months have you attended a public (government-run) dental service or dental hospital?

1. Yes
 2. No → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE

Q2. Overall, what do you think of the care you received at the public dental service? [READ OUT]

1. Excellent → Q4
2. Very good → Q4
3. Good → Q4
4. Fair
5. Poor

X Don't know → Q4

R Refused → Q4

Q3. Could you briefly describe why you rated the care you received as fair or poor?

1. Description _____

Q4. Did someone at this public dental service tell you how to cope with your condition when you returned home?

1. Yes
 2. No → END OF MODULE
 3. Not applicable → END OF MODULE
- X Don't know → END OF MODULE
R Refused → END OF MODULE

Q5. How adequate was this information once you went home? [READ OUT]

1. Very adequate
 2. Adequate
 3. Inadequate
 4. Completely inadequate
- X Don't know
R Refused

Self-rated health status question module

Now I am going to read some statements about aspects of your health.

Q1. Overall, how would you rate your health during the past 4 weeks? [READ OUT]

1. Excellent
 2. Very good
 3. Good
 4. Fair
 5. Poor
 6. Very poor
- X Don't know
R Refused

Q2. During the past 4 weeks how much difficulty did you have doing your daily work or activities? [READ OUT]

1. No difficulty at all
 2. A little bit of difficulty
 3. Some difficulty
 4. Much difficulty
 5. Could not do work-activities
- X Don't know
R Refused

Q3. During the past 4 weeks how much bodily pain have you generally had? [READ OUT]

1. No pain
2. Very mild pain
3. Mild pain
4. Moderate pain
5. Severe pain

- X Don't know
- R Refused

Sexual health question module

The next questions are about your sexual health.

- Q1. Have you had sexual intercourse in the last 12 months?
- 1. Yes
 - 2. No → END OF MODULE
 - X Don't know → END OF MODULE
 - R Refused → END OF MODULE
- Q2. Have you had sexual intercourse with more than one person in the last 12 months?
- 1. Yes
 - 2. No → Q4
 - X Don't know → Q4
 - R Refused → Q4
- Q3. Do you use condoms every time you have sexual intercourse?
- 1. Yes
 - 2. No
 - X Don't know
 - R Refused
- Q4. Have you been diagnosed with a sexually transmitted infection in the last 12 months?
- 1. Yes
 - 2. No
 - X Don't know
 - R Refused
- Q5. What sexually transmitted infection were you diagnosed with? [MULTIPLE RESPONSE]
- 1. Gonorrhoea
 - 2. Syphilis
 - 3. Chlamydia
 - 4. Herpes
 - 5. HIV-AIDS
 - 6. Genital warts
 - 7. Other
 - X Don't know
 - R Refused

Smoking question module

The following questions are about tobacco smoking. This includes cigarettes, cigars and pipes.

- Q1. Which of the following best describes your smoking status? [READ OUT]
- 1. I smoke daily
 - 2. I smoke occasionally
 - 3. I don't smoke now, but I used to → Q3
 - 4. I've tried it a few times but never smoked regularly → Q3
 - 5. I've never smoked → Q3

- X Don't know → Q3
- R Refused → Q3

- Q2. Which of the following best describes how you feel about your smoking? [READ OUT]
- 1. I am not planning on quitting within the next 6 months
 - 2. I am planning on quitting within the next 6 months
 - 3. I am planning on quitting within the next month
 - 4. I have not smoked in the past 24 hours but was smoking 6 months ago
 - 5. I have not been smoking in the past 6 months
 - X Don't know
 - R Refused
- Q3. Which of the following best describes your home situation? [READ OUT]
- 1. My home is smoke-free (includes smoking is allowed outside only)
 - 2. People occasionally smoke in the house
 - 3. People frequently smoke in the house
 - X Don't know
 - R Refused
- Q4. Are people allowed to smoke in your car?
- 1. Yes
 - 2. No
 - 3. Don't have a car
 - X Don't know
 - R Refused

Sun protection question module

The next few questions are about occasions last summer when you were outside in the sun for at least 15 minutes. Please think about actions you usually took for sun protection on these occasions.

- Q1. Last summer, how often did you go out in the sun for more than 15 minutes between 11.00 a.m. and 3.00 p.m.? [READ OUT]
- 1. Always
 - 2. Often
 - 3. Sometimes
 - 4. Rarely
 - 5. Never in the sun for more than 15 minutes → Q6
 - X Don't know → Q6
 - R Refused → Q6
- Q2. Last summer, when you were out in the sun for more than 15 minutes, how often did you wear a broad brimmed hat or cap with a back flap? [READ OUT]

- 1. Always
- 2. Often
- 3. Sometimes
- 4. Rarely or never
- X Don't know
- R Refused

Q3. Still thinking about last summer, how often did you apply a broad-spectrum sunscreen with a skin protection factor (SPF) of 15 or more to exposed skin?
[READ OUT]

- 1. Always
- 2. Often
- 3. Sometimes
- 4. Rarely or never
- X Don't know
- R Refused

Q4. Still thinking about last summer, how often were you deliberately dressed in clothing to protect you from the sun?
[READ OUT]

- 1. Always
- 2. Often
- 3. Sometimes
- 4. Rarely or never
- X Don't know
- R Refused

Q5. Still thinking about last summer, how often did you get sunburnt, so that your skin was still sore or tender the next day?

- 1. Not at all
- 2. Once
- 3. Twice
- 4. 3 or 4 times
- 5. 5 or more times
- X Don't know or don't recall
- R Refused

Q6. In your local area, when you are outside do you find it easy to find shade in sporting areas?
[INTERVIEWER NOTE: Shade can be natural; for example, trees or purpose-built clubhouse, shade awnings, etc.]

- 1. Yes
- 2. No
- 3. Not applicable
- X Don't know
- R Refused

Q7. In your local area, when you are outside do you find it easy to find shade at the outdoor public swimming pool?
[INTERVIEWER NOTE: Shade can be natural; for example, trees or purpose-built clubhouse, shade awnings, etc.]

- 1. Yes

- 2. No
- 3. Not applicable
- X Don't know
- R Refused

Q8. In your local area, when you are outside do you find it easy to find shade at the public park?
[INTERVIEWER NOTE: Shade can be natural; for example, trees or purpose-built clubhouse, shade awnings, etc.]

- 1. Yes
- 2. No
- 3. Not applicable
- X Don't know
- R Refused

Vision question module

The following questions are about your eyesight.

Q1. When did you last have your eyesight checked?

- 1. Less than one year ago.
- 2. 1 year ago to less than 2 years ago.
- 3. 2 years ago to less than 5 years ago.
- 4. 5 or more years ago.
- 5. Never
- X Don't know
- R Refused

Q2. As far as you know, do you have normal vision in both eyes?

- 1. Yes
- 2. No
- X Don't know
- R Refused

Q3. Do you currently wear glasses or contact lenses?

- 1. Yes
- 2. No → Q5
- X Don't know → Q5
- R Refused → Q5

Q4. Are you wearing glasses for reading or close work, distance or both?

- 1. Reading
- 2. Distance vision
- 3. Both
- X Don't know
- R Refused

Q5. (Even when wearing glasses or contact lenses) do you have any difficulty reading or doing close work?

- 1. Yes
- 2. No
- X Don't know
- R Refused