Methods

The New South Wales Population Health Survey uses random digit dialling to contact households with private telephones. One person from the household is randomly selected for inclusion in the survey. For analysis, the sample is weighted to adjust for differences in the probabilities of selection among subjects, stratified for differences between the age and sex structure of the sample and the Australian Bureau of Statistics mid-year population estimates for each area health service (excluding residents of institutions). This enables calculation of prevalence estimates for the state population rather than the respondents selected. Further information on the survey’s probabilistic sampling, weighting procedures, and calculation of prevalence estimates, can be found elsewhere.[1,2]

Data are analysed using SAS version 9.[3] The SURVEYFREQ procedure is used to calculate prevalence estimates and 95% CI for the estimates. For pairwise comparison of subgroup estimates, the p-value for a two-tailed test is calculated using the normal distribution probability function PROBNORM.

Socioeconomic status is derived from the Index of Relative Socio-Economic Disadvantage,[4] which is based on a number of underlying variables such as family characteristics, household income, personal educational qualifications, employment status, and occupation profile. The index is grouped into 5 quintiles, with quintile 1 being the least disadvantaged and quintile 5 being the most disadvantaged. The survey assigns this index by postcode of residence.

In this report, the term urban means the respondent lived in 1 of the 4 area health services designated as metropolitan: Northern Sydney & Central Coast, South Eastern Sydney and Illawarra, Sydney South West, and Sydney West. The term rural means the respondent lived in 1 of the 4 area health services designated as rural: Greater Southern, Greater Western, Hunter & New England, and North Coast.

Studies demonstrate that a person’s appraisal of his or her general health is a strong and independent predictor of future morbidity and mortality, even after controlling for physical and psychosocial and socioeconomic factors.[5] In the survey respondents aged 16 years and over are asked: Overall, how would you rate your health during the last 4 weeks: was it excellent, very good, good, fair, poor, or very poor? Responses of excellent, very good, and good are combined into a positive rating.

Alcohol consumption is measured against the Australian Alcohol Guidelines.[6] Risk drinking includes those who consumed alcohol every day, consumed more than 4 if male or 2 if female standard drinks per day, or consumed more than 6 if male or 4 if female standard drinks on any occasion in the last 4 weeks. High risk drinking includes those who consumed more than 11 if male or 7 if female standard drinks on any occasion in the last 4 weeks.

For breast cancer screening, the indicator excludes those who had an existing cancer or breast problem. For cervical cancer screening, the indicator excludes those who had a hysterectomy. For bowel cancer screening, the indicator excludes those who had been screened as part of follow-up treatment.

Adequate fruit and vegetable consumption is defined in the Australian Guide to Healthy Eating, the Dietary Guidelines for Children and Adolescents, and the Dietary Guidelines for Australian Adults. Recommended amounts vary with age. For adolescents up to age 18 years, at least 3 serves of fruit and at least 4 serves of vegetables are recommended. From 18 years, it is recommended that adults eat at least 4-5 serves of vegetables per day, depending on age, and at least 2 serves of fruit per day. The recent ’Go for 2 and 5’ Fruits and Vegetables Campaign conducted by national and state and other health authorities provides a simplified message that has been used as the basis for comparison in this survey.[7,8,9]

The Dietary Guidelines for Australian Adults state that people should limit the consumption of saturated fats, and choose foods that are low in salt, without making any specific recommendations.[8] However the National Food and Nutrition Monitoring and Surveillance Project recommends monitoring the percentage of the population that rarely or never eats fried potatoes, rarely or never eats salty snacks, and consumes meat products less than 3 times a week.[10]

The Dietary Guidelines for Australians recommends serves of cereals (including breads, rice, pasta, and noodles) based on age, sex, and individual circumstances.[11] For ease of respondent recall, the National Food and Nutrition Monitoring and Surveillance Project recommends breaking the cereals category into sub-categories: that is, collecting the frequency of consuming breads, cooked cereals, and breakfast cereals.[11] Thus the National Food and Nutrition Monitoring and Surveillance Project recommends comparing those who consume bread daily or more; rice, pasta, noodles and other cooked cereals daily or more; and breakfast cereals 2 or more times a week, with those who do not.

Adequate physical activity is derived from the National Physical Activity Guidelines for Adults, which recommend at least 30 minutes of moderate activity on most, and preferably all, days of the week, using questions asked in the Active Australia Survey. Adequate physical activity is defined as undertaking physical activity for a total of 150 minutes per week over 5 separate occasions.[12,13]

Psychological distress is derived from the K10 short screening scale, a 10-item questionnaire that measures non-specific psychological distress based on questions about the level of nervousness, agitation, psychological fatigue and depression in the most recent 4-week period. Responses to the questionnaire are 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. At both the population level and individual level the K10 measure is a barometer for psychological distress without identifying its cause.[14]

Overweight and obesity is derived from self-reported height and weight. Body Mass Index (BMI) is calculated by dividing a person's weight (in kilograms) by their height (in metres squared). The resulting BMI is 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. Although studies have shown self-reported BMI results in an under-estimation of measured BMI, it is still useful for ongoing surveillance of population health.

The table below shows that the 2006 weighted survey sample for persons aged 65 years and over compares well with the state population aged 65 years and over, according to the 2006 Census of Population and Housing, for sex, indigenous status, part-time employment status, and unemployed status.[15]

	Weighted Sample 2006 Survey (n=2,388) %	**New South Wales Population 2006 Census (N=905,778) %**
Sex		
Males	45.4	44.6
Females	54.6	55.4
Aboriginal or Torres Strait Islander		
Aboriginal and Torres Strait Islander origin	0.7	0.5
Highest level of school completed		
Never attended school	2.4	3.1
Year 8 or below	18.0	23.5
Year 9 or equivalent	9.0	15.5
Year 10 or equivalent (Intermediate)	37.7	28.7
Year 11 or equivalent	1.8	4.2
Year 12 or equivalent (Matriculation/Leaving)	31.1	25.0
Born in Australia		
Australia	73.0	67.1
Formal marital status		
Married	64.3	55.7
Widowed	24.7	29.1
Separated but not divorced	1.5	2.2
Divorced	5.6	7.8
Never married	3.8	5.2
Labour force status		
Employed Full-time (>=35hours a week)	2.2	3.9
Employed Part-time (<35 hours a week)	4.6	4.3
Employed (on leave/hours not stated)	0.3	1.0
Unemployed	0.3	0.2
Not in the labour force	92.5	90.6

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