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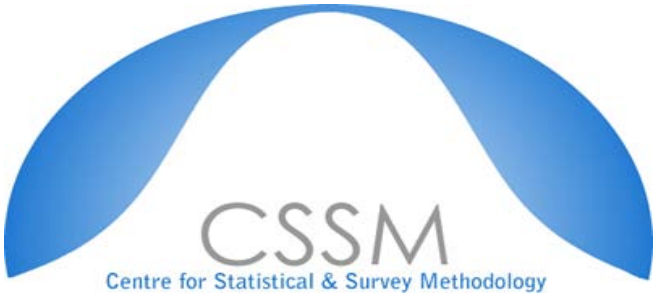

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Can telephone surveys for the whole population provide reliable information on the health of Aboriginal and Torres Strait Islander Australians?

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ABSTRACT

Objective

To compare prevalence estimates for Aboriginal and Torres Strait Islander Australians collected through a telephone survey for the general population with those collected through a face-to-face survey for Aboriginal and Torres Strait Islander Australians.

Design, setting and participants

Information about Aboriginal and Torres Strait Islander Australians from the NSW Population Health Survey 2002-2005 and the NSW component of the 2004-05 National Aboriginal and Torres Strait Islander Health Survey— including sample frame, study design, participant selection, final sample, collection period, collection method, collection agency, weighting procedure, and questionnaires—were obtained and compared. Questions that were the same, or could provide the same information, were selected. Prevalence estimates and standard errors were calculated and compared.

Results

The sampling methods and data collection differed between the two surveys, although both had known probabilities of selection, and both were weighted to the corresponding Aboriginal and Torres Strait Islander population for NSW as at 31 December 2004.

The differences between prevalence estimates ranged from less than 1% for current asthma; 1-2% for recommended vegetable consumption, influenza vaccination, pneumococcal vaccination, positive self-rated health, diabetes or high blood glucose, and overweight or obesity, just over 3% for recommended fruit consumption; and around 8% for non-drinkers and current smoking. Only non-drinkers (27.1% versus 19.4%; p=0.01) and current smoking (44.6% versus 52.9%; p=0.02) were statistically significantly different.

Conclusion

Prevalence estimates for Aboriginal and Torres Strait Islander Australians, collected through telephone health surveys for the general population, appear to be consistent with those collected through face-to-face surveys specifically for Aboriginal and Torres Strait Islander Australians.

BACKGROUND

While Australians in general are among the healthiest populations, with access to a world-class health system, this is not the case for Aboriginal and Torres Strait Islander Australians, who have a life expectancy below that of the general Australian population (11.5 fewer years for males and 9.7 fewer years for females).[1] Also, Aboriginal and Torres Strait Islander Australians are significantly more likely to experience ill health and disability—and reduced quality of life because of ill health—than other Australians.[2]

Although addressing the poorer health of Aboriginal and Torres Strait Islander Australians is a national priority, it cannot be assumed that good intentions and targeted resources automatically result in improved outcomes. Good quality data on the health of Aboriginal and Torres Strait Islander Australians are needed to evaluate programs and interventions, to assess the effectiveness of policies aimed at improving service delivery and health status, and to inform policy and program development.[3]

The poorer health of Aboriginal and Torres Strait Islander people is of concern. Given that they comprise less than 3% of the population, changes in health status—whether positive or negative—could happen quickly. Therefore, the regular collection of data is needed so that change is quickly detected and acted upon. The desire for increased frequency of data collection that results in good quality data needs to be weighed against the available resources to collect these data, and the burden placed upon Aboriginal and Torres Strait Islander Australians in the process of collecting them.

Regularly-reported health information, such as disease morbidity and mortality, is generally available through administrative data collections, such as emergency department presentations and hospital admissions, and from death records. However, for Aboriginal and Torres Strait Islander Australians, the quality of these data varies because of under-identification and under-recording of Aboriginal and Torres Strait Islander status in these collections. Also, these administrative collections do not collect important health data such as risk behaviours associated with both chronic and communicable diseases, nor do they necessarily provide health status or disease estimates for the population.

Specific health and health-related surveys, such as the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), and the National Aboriginal and Torres Strait Islander Social Survey (NATSISS), conducted by the Australian Bureau of Statistics, are undertaken periodically,[4,5] the latest available data being the 2004-05 NATSIHS and the 2008 NATSISS.

State based health surveys for the general population, such as the NSW Population Health Survey, SA Monitoring and Surveillance System, Victorian Population Health Survey, WA Health and Wellbeing Surveillance System, Queensland Health Omnibus Survey, and ACT General Health Survey,[6-11] are not specifically designed to provide estimates on the health of Aboriginal and Torres Strait Islander Australians. However, as they collect Aboriginal and Torres Strait Islander status from respondents, they are a potential source of information about the health of Aboriginal and Torres Strait Islander Australians.

The NSW Health Survey Program has produced two reports on the health of Aboriginal and Torres Strait Islander adults from the NSW Population Health Survey. The first was based on 930 respondents interviewed between 2002 and 2005, the second was based on 780 respondents interviewed between 2006 and 2009.[12,13]

How accurate are the estimates for Aboriginal and Torres Strait Islander Australians from a survey that was not designed for this purpose? To investigate this question, the results for Aboriginal and Torres Strait Islander adults from the NSW Population Health Survey 2002-2005 (NSWPHS) were compared with NSW results from the adult component of the 2004-05 National Aboriginal and Torres Strait Islander Health Survey (NSW-NATSIHS). Results from the NATSISS were not used, as this survey only contains a limited number of health indicators.

METHOD

Data sources

Information about the NSWPHS and the NSW-NATSIHS for sample frame, study design, participant selection, final sample, collection period, collection method, collection agency and weighting procedure was obtained.

The samples from each survey were weighted to the ABS mid-year estimates as at 31 December 2004 for the Aboriginal and Torres Strait Islander population of NSW for age, sex, and geographical location, and compared with the 2001 Census estimates for the Aboriginal and Torres Strait Islander population of NSW.[14]

The NSWPHS and the NSW-NATSIHS questionnaires were compared and questions that were either the same, or could potentially provide the same information, were selected for this study. These questions included alcohol non-drinkers, fruit consumption, vegetable consumption, current smoking, influenza vaccination, pneumococcal vaccination, self-rated health, current asthma, diabetes or high blood glucose, and overweight or obesity. All questions were converted to indicators for the analysis according to the definitions in Table 1.

[TABLE 1 NEAR HERE.]

Statistical methods

Unit record data for the NSWPHS were obtained from the NSW Ministry of Health,[15] and prevalence estimates and standard errors were calculated for each indicator, taking into consideration the complex design of this survey. A data request for the NSW-NATSIHS indicators was made of the ABS, Northern Territory Office, which provided prevalence estimates and standard errors for these indicators.

The prevalence estimates calculated from the two independent surveys were then compared as follows. First, the differences between each survey's prevalence estimates were compared ($d=E1-E2$). The standard error for the difference ($SE(d)=\sqrt{[SE(E1)^2 + SE(E2)^2]}$) and the ratio $z=d/SE(d)$ were then calculated to test the null hypothesis that in the population the difference d is zero. The value of z was then compared with the standard normal distribution.[16]

RESULTS

Comparison of the survey methods

Information about the NSWPHS and the NSW-NATSIHS are summarised in Table 2. As expected, because the NSW-NATSIHS was a specific Aboriginal and Torres Strait Islander survey, the sample frame and design was quite different from the NSWPHS; however, the probability of selection for each participant was available from both surveys. Both surveys were self-reported but the modes of collection were different: telephone for the NSWPHS; face-to-face for the NSW-NATSIHS.

[TABLE 2 NEAR HERE.]

Comparison of the survey samples

The sample sizes for NSW for each survey were surprisingly similar, 930 for NSWPHS and 936 for NSW-NATSIHS. Data from the NSW-NATSIHS were collected from August 2004 to July 2005; data for the NSWPHS were collected from Jan 2002 to December 2005. For both surveys, the sample was

weighted to the corresponding Aboriginal and Torres Strait Islander population of NSW by age, sex, and geography, as at 31 December 2004, excluding those living in non-private dwellings.

Representativeness of the survey samples

Although the Aboriginal and Torres Strait Islander sample for the NSWPHS contained a higher proportion of older adults, females, and rural adults than the Census (Table 3), once the sample was weighted by age, sex, and health area, it was representative of the Aboriginal and Torres Strait Islander population of NSW by age and sex. For those demographic variables for which the sample was not weighted, there was a higher percentage with an income of less than $20,000 per annum and lower percentage with an income greater than $80,000, compared with the Aboriginal and Torres Strait Islander population of NSW in the Census.

Although the Aboriginal and Torres Strait Islander sample for the NSW-NATSIHS contained a higher proportion of females than the Census (Table 3), once the sample was weighted by sex, age group and remoteness it was representative of the Aboriginal and Torres Strait Islander population by age and sex. For those demographic variables for which the sample was not weighted, there was a higher percentage with an income of less than $20,000 per annum, and a higher percentage paying rent, compared with the Aboriginal and Torres Strait Islander population of NSW in the Census. It was not possible compare urban and rural areas between surveys due to different definitions (Table 2).

The NSW-NATSIHS had a response rate of approximately 83% of in-scope households. The participation rates for the NSWPHS over the years 2002-2005 averaged 64%. Because NSWPHS is a health survey of the general population, it is not possible to calculate participation rates for Aboriginal and Torres Strait Islander people only.

[TABLE 3 NEAR HERE.]

Comparison of indicators between the surveys

Figure 1 shows the prevalence estimates for the selected indicators for both surveys. The differences between the surveys range from less than 1% for current asthma; 1-2% for recommended vegetable consumption, influenza vaccination, pneumococcal vaccination, positive self-rated health, diabetes or high blood glucose, and overweight or obesity; just over 3% for recommended fruit consumption; and around 8% for alcohol non-drinkers and current smoking (Table 3). Only two of the 11 indicators were found to be statistically significantly different between the surveys: alcohol non-drinkers (27.1% for NSWPHS versus 19.4% for NSW-NATSIHS; p=0.01) and current smoking (44.6% for NSWPHS versus 52.9% for NSW-NATSIHS; p=0.02) (Table 3).

[FIGURE 1 NEAR HERE.]

DISCUSSION

We compared the findings of two surveys which contained information on Aboriginal and Torres Strait Islander Australians: a general population health survey using the telephone and a face-to-face survey that specifically targeted Aboriginal and Torres Strait Islander Australians.

We found that, although the sampling and data collection methods differed between the two surveys, only two of the 11 indicators selected were significantly different between the surveys. These were alcohol non-drinkers and current smoking.

Many of the indicators had large relative standard errors (RSE), particularly influenza and pneumococcal vaccination, both of which are based on a subset of the population (50 years and over); however, the differences between the prevalence estimates were small, so the surveys are giving similar estimates.

Regarding the issue of adequate sample size, based on an Aboriginal and Torres Strait Islander population of about 150,000 in NSW,[14] it is estimated that, using simple random sampling, a sample of 400 Aboriginal and Torres Strait Islander Australians would detect differences of $\pm$ 5 per cent between prevalence estimates for the two surveys. As both surveys have complex designs—with an average design effect of 2.1 for the NSWPHS and 2.7 for the NSW-NATSIHS—a sample size of 800 Aboriginal and Torres Strait Islander Australians is required for the NSWPHS and 1080 is required for the NSW-NATSIHS.

Telephone surveys are a well-accepted survey method in the general population, because of a high telephone ownership currently estimated to be over 95 per cent; however, telephone surveys have not been used specifically for Aboriginal and Torres Strait Islander surveys. Among the Aboriginal and Torres Strait Islander population, approximately 82 per cent of households in non-remote areas, and 43 per cent of households in remote areas, have a working telephone at home. Therefore this survey mode would be reasonable, particularly in non-remote areas.[4,5]

It is not envisaged that the use of general population health surveys to report the health of Aboriginal and Torres Strait Islander Australians could replace surveys specifically designed for Aboriginal and Torres Strait Islander Australians; rather, general surveys would be used to supplement specific surveys, providing more timely information without an additional burden on the population.

While this is a worthwhile aim, there are two aspects that need to be considered. First, as previously described, it is well known that under-identification of Aboriginal and Torres Strait Islander status is a significant issue in administrative data collections. The Australian Bureau of Statistics (ABS) has made considerable investments in raising awareness among Aboriginal and Torres Strait Islander communities about the importance of individuals correctly identifying their status. The increase in the number of people identifying as Aboriginal and Torres Strait Islander between recent census periods suggests that these investments have been effective.

It is possible that Aboriginal and Torres Strait Islander Australians may be more likely to identify in a specific face-to-face survey for them, than they would in a telephone survey for the general population. However, the NSW Population Health Survey has always had approximately 3% of respondents identifying as Aboriginal or Torres Strait Islander, which is consistent with their proportion of the population as measured by the Census.[14]

CONCLUSION

Prevalence estimates for Aboriginal and Torres Strait Islander Australians collected through telephone health surveys for the general population appear to be consistent with those collected through face-to-face surveys specifically for Aboriginal and Torres Strait Islander Australians. While general population health surveys are not meant to replace surveys specifically for Aboriginal and Torres Strait Islander Australians, they have value as a supplement to specific surveys and provide timely and needed information.

COMPETING INTERESTS

Margo Barr is currently enrolled in a PhD at the University of Wollongong.

ACKNOWLEDGEMENTS

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Table 1 - Comparable questions and indicators, 2002–2005 NSW Population Health Survey and 2004-05 National Aboriginal and Torres Strait Islander Health Survey

Indicator	2002–2005 NSWPHS	2004-05 NSW-NATSIHS
Alcohol (non-drinkers): Indicator includes those who are non-drinkers	How often do you usually drink alcohol? 1. _____ number of days 2. Less than once per week 3. I don't drink alcohol	How long ago did you last have an alcoholic drink? 1. 1 week or less 2. More than 1 to less than 2 weeks 3. 2 weeks to less than 1 month 4. 1 to less than 3 months 5. 3 to less than 12 months 6. 12 months or more 7. Never 8. Don't remember
Recommended fruit consumption: Indicator includes those who met the recommended fruit consumption of 2 serves a day.	How many serves of fruit do you usually eat each day?	How many serves of fruit do you usually eat each day?
Recommended vegetable consumption: Indicator includes those who met the recommended vegetable consumption of 5 serves a day.	How many serves of vegetables do you usually eat each day?	How many serves of vegetables do you usually eat each day?
Current smoking: Indicator includes those who smoked daily or occasionally.	Which of the following best describes your smoking status? This includes cigarettes, cigars and pipes. 1. I smoke daily 2. I smoke occasionally 3. I don't smoke now, but I used to 4. I've tried it a few times but never smoked regularly 5. I've never smoked	Do you currently smoke? Do you smoke regularly, that is, at least once a day? Do you smoke at least once a week?
Influenza vaccination: Indicator includes those who were vaccinated or immunised against influenza in the last 12 months.	Were you vaccinated or immunised against flu in the last 12 months?	Did you have the flu shot in the last 12 months?
Pneumococcal vaccination: Indicator includes those who have been immunised against pneumococcal disease in the last 5 years.	When were you last vaccinated or immunised against pneumonia?	Did you have the pneumococcus (pneumonia) or pneumovax injection in the last 5 years?
Self-rated health: Indicator includes those responding excellent, very good, or good to a global self-rated health status question.	Overall, how would you rate your health during the past 4 weeks? 1. Excellent 2. Very good 3. Good 4. Fair 5. Poor 6. Very poor	In general would say that your health is excellent, very good, good, fair or poor? 1 Excellent 2 Very good 3 Good 4 Fair 5 Poor
Current asthma: Indicator includes those who had symptoms of asthma or treatment for asthma in the last 12 months.	Have you ever been told by a doctor or hospital you have asthma? Have you had symptoms of or treatment for asthma in the last 12 months?	Have you ever been told by a doctor or nurse you have asthma? Do you still get asthma?
Diabetes or high blood glucose: Indicator includes those who either had diabetes or high blood glucose but did not have	Have you ever been told by a doctor or hospital you have diabetes? Have you ever been told by a doctor or hospital you have high blood	Have you ever been told by a doctor or nurse you have Diabetes? Have you ever been told by a doctor or nurse that you have high sugar

gestational diabetes.	glucose?	levels in your blood or urine?
Overweight or obesity: Indicator includes those with a Body Mass Index (BMI) of 25 or higher. BMI is calculated as follows: BMI = weight(kg)/height²(m).	How tall are you without shoes? 1. _____ centimetres 2. _____ feet _____ inches How much do you weigh without clothes or shoes? 1. _____ kilograms 2. _____ stones _____ lbs	How tall are you without shoes? 1 Centimetres 2 Feet/inches How much do you weigh? 1 Kilograms 2 Stones/pounds 3 Pounds

Table 2 - Comparison of survey methods, 2002–2005 NSW Population Health Survey and 2004-05 National Aboriginal and Torres Strait Islander Health Survey

Survey method	2002–2005 NSWPHS	2004-05 NSW-NATSIHS
Collection agency	NSW Ministry of Health	Australian Bureau of Statistics
Collection period	February 2002 and December 2005	August 2004 to July 2005
Ethics approval	NSW Population and Health Services Research Ethics Committee	
Sample frame	The sampling frame is developed as follows. Records from the Australia on Disk electronic white pages (phone book) are geo-coded using MapInfo mapping software. The geocoded telephone numbers are assigned to statistical local areas and area health services. The proportion of numbers for each telephone prefix is calculated by health area. All prefixes are expanded with suffixes ranging from 0000 to 9999. The resulting list is then matched back to the electronic white pages. All numbers that match numbers in the electronic white pages are flagged and the number is assigned to the relevant geo-coded area health service. Unlisted numbers are assigned to the area health service containing the greatest proportion of numbers with that prefix. Numbers are then filtered to eliminate contiguous unused blocks of greater than 10 numbers. The remaining numbers are then checked against the business numbers in the electronic white pages to eliminate business numbers. Finally, numbers are randomly sorted.	The community sample was obtained from a random selection of discrete Aboriginal and Torres Strait Islander communities and outstations across Australia from a specially developed Aboriginal and Torres Strait Islander Community Frame (ICF). The ICF was constructed using both 2001 Census counts and information collected in the 2001 Community Housing and Infrastructure Needs Survey (CHINS). [There was actually no community sample in NSW – community samples were only selected in WA, NT, QLD and SA. In NSW, an area-based form of Census Collectors Districts was used.]
Sample design	Stratified by health administration area.	Within selected communities and outstations a random selection of dwellings was made. [as mentioned above, this is not applicable to NSW] Dwellings in non-community areas were selected using a stratified multistage area sample. A sample of Census Collection Districts (CDs) was randomly selected with the likelihood of a CD's selection based on the number of dwellings containing Aboriginal and Torres Strait Islander persons in the area as at the 2001 Census of Population and Housing. A random selection of dwellings within selected CDs were then screened to assess their usual residents' Aboriginal and Torres Strait Islander status. After screening about 180,000 households in non-community areas, approximately 2.1% were identified. [Note, these figures apply for all of Australia, not just NSW.]
Design effect	Average 2.1 (excluding pneumococcal and influenza)	Average 2.7 (excluding pneumococcal and influenza)
Participant selection	One person from the household was randomly selected for inclusion in the survey.	Within selected dwellings in community areas, up to one Aboriginal and Torres Strait Islander adult (18 years of age or more) and up to one Aboriginal and Torres Strait Islander child (0 to 17 years of age) were randomly selected to participate in the survey. [As above, this is not applicable to NSW as there was no community sample].

		Where a dwelling in a non-community area contained one or more Aboriginal and Torres Strait Islander usual residents, up to two Aboriginal and Torres Strait Islander adults (18 years of age or more) and up to two Aboriginal and Torres Strait Islander children (0 to 17 years of age) were randomly selected to participate in the survey.
Sample	56,677 respondents participated in the NSW Population Health Survey, of whom 1,034 were Aboriginal and Torres Strait Islander (approximately 1.8 per cent). Of these, 930 were adults aged 16 years and over.	A total of 10,044 Aboriginal and Torres Strait Islander adults and children from across Australia were surveyed in the NATSIHS. In addition, 395 Aboriginal and Torres Strait Islander Australians were enumerated in the 2004-05 NHS sample of 25,906 persons. Thus the national sample consisted of 10,439 Aboriginal and Torres Strait Islander Australians of which 936 were in NSW and aged 16 years and over.
Participation rate	Participation rate was approximately 60%in the overall survey. Not possible to calculate a participation rate for Aboriginal and Torres Strait Islander people only.	Approximately 83% of in-scope households participated in non-remote areas.
Collection method	Households were contacted using list assisted random digit dialling using computer assisted telephone interviewing (CATI). Up to 7 calls are made to establish initial contact with a household and up to 5 calls are made to contact a selected respondent. Carers or parents of children aged 0–15 years were interviewed on their behalf, not other proxy interviews were allowed.	Face to face interviews were conducted using a Computer Assisted Interviewing (CAI) questionnaire. The substance use questions however were paper based and self-enumerated. Persons aged 18 years or more were interviewed personally, with the exception of persons who were too sick or otherwise unable to respond personally. Persons aged 15 to 17 years were interviewed with the consent of a parent or guardian. If consent wasn't obtained a parent or guardian was interviewed on their behalf. For persons aged less than 15 years, information was obtained from a person responsible for the child.
Weighting	Overall sample weighted to adjust for differences in the probabilities of selection among subjects and to adjust for differences between the age and sex structure of the sample and the Australian Bureau of Statistics mid-year estimates for NSW, excluding those living in non-private dwellings. Further adjusted to the Aboriginal and Torres Strait Islander population of NSW as at December 2004.	Weighted for the probability of selection of the household and then weighted to the estimated resident Aboriginal and Torres Strait Islander population of Australia as at 31 December 2004, excluding those living in non-private dwellings.

Table 3 - Comparable demographic information for persons 16 years and over, from the 2002-2005 NSWPHS and the 2004-05 NSW-NATSIHS with the NSW Aboriginal and Torres Strait Islander population from the 2001 Census

Demographic		NSWPHS (2002-2005)		NSW-NATSIHS (2004-05)		NSW Aboriginal and Torres Strait Islander 2001 Population
		Sample	Weighted sample	Sample	Weighted sample	
Sex	Male	38.7%	47.2%	43.4%	48.0%	48.5%
	Female	61.3%	52.8%	56.6%	52.0%	51.5%
Age	16-24	15.3%	32.1%	23.8%	28.1%	26.6%
	25-34	18.5%	22.5%	22.2%	23.3%	25.5%
	35-44	19.6%	19.7%	23.5%	21.1%	21.5%
	45-54	19.7%	14.2%	16.3%	14.7%	14.1%
	55-64	15.3%	7.4%	9.8%	9.0%	7.4%
	65 years and over	11.6%	4.1%	4.4%	3.8%	4.9%
Income*	Income less than $20,000	41.4%	31.9%	38.0%	35.5%	30.9%
	$20,000-$40,000	24.9%	25.7%	30.5%	26.6%	32.3%
	$40,000-$60,000	13.7%	16.4%	14.9%	17.0%	17.6%
	$60,000 - $80,000	8.5%	9.5%	8.5%	10.8%	9.1%
	Over $80,000	11.5%	16.5%	8.1%	10.1%	10.1%
Housing arrangement**	Paying rent	48.0%	51.7%	70.3%	65.0%	60.2%
	Paying off dwelling	19.7%	25.2%	17.8%	21.4%	20.4%
	Fully owned	24.7%	18.9%	10.0%	11.5%	16.5%
	Rent free tenure	7.6%	4.2%	n/a	n/a	2.9%
Accessibility-Remoteness Index of Australia Plus (ARIA+) ***	Major Cities	27.6%	50.3%	32.4%	41.9%	42.1%
	Inner Regional	22.2%	22.9%	30.0%	33.8%	32.4%
	Outer Regional	32.8%	21.7%	18.4%	19.4%	19.2%
	Remote	13.2%	4.3%	13.7%	3.3%	4.6%
	Very Remote	4.2%	0.8%	5.5%	1.6%	1.7%

*In the NATSIHS, households whose income was not stated, not known, refused to answer or had no income, were included in <$20,000 category.
**In the NATSIHS paying off dwelling includes shared equity scheme; and proportions have been calculated at the Person Level using the total NSW 16+ population as the denominator.
***Accessibility-Remoteness Index of Australia Plus (ARIA+) based on the Australian Standard Geographical Classification (ASGC).

Table 4: Prevalence estimates and statistical comparisons of comparable indicators, 2002–2005 NSW Population Health Survey and 2004-05 National Aboriginal and Torres Strait Islander Health Survey

Indicators	Survey	%	LCI%	UCI %	SE	RSE	diff	SE diff	z	p-value
Alcohol (non-drinkers - 18 years and over)	2002-2005 NSWPHS	27.1	23.4	31.0	1.9	7.2	7.70	3.08	2.50	0.01
	2004-05 NSW-NATSIHS	19.4	14.7	24.1	2.4	12.3				
Recommended fruit consumption	2002-2005 NSWPHS	37.8	33.3	42.2	2.3	6.1	3.30	3.75	0.88	0.19
	2004-05 NSW-NATSIHS	41.1	35.3	46.9	3.0	7.2				
Recommended vegetables consumption	2002-2005 NSWPHS	9.5	6.9	12.0	1.3	14.0	1.00	1.84	0.54	0.29
	2004-05 NSW-NATSIHS	8.5	6.0	11.0	1.3	15.1				
Current smoking (18 years and over)	2002-2005 NSWPHS	44.6	39.9	49.3	2.4	5.4	8.30	3.89	2.13	0.02
	2004-05 NSW-NATSIHS	52.9	46.9	58.9	3.1	5.8				
Influenza vaccination (50 years and over)	2002-2005 NSWPHS	47.3	40.0	54.7	3.7	7.9	1.40	10.91	0.13	0.45
	2004-05 NSW-NATSIHS	48.7	28.6	68.8	10.3	21.1				
Pneumococcal vaccination (50 years and over)	2002-2005 NSWPHS	23.4	17.8	29.1	2.9	12.2	1.50	6.62	0.23	0.41
	2004-05 NSW-NATSIHS	21.9	10.2	33.6	6.0	27.3				
Positive self-rated health	2002-2005 NSWPHS	77.3	73.6	81.0	1.9	2.4	1.20	3.09	0.39	0.35
	2004-05 NSW-NATSIHS	76.1	71.3	80.9	2.4	3.2				
Current asthma	2002-2005 NSWPHS	17.3	13.6	21.0	1.9	10.9	0.40	2.56	0.16	0.44
	2004-05 NSW-NATSIHS	17.7	14.3	21.1	1.7	9.8				
Diabetes	2002-2005 NSWPHS	9.4	7.2	11.7	1.1	11.9	1.10	1.59	0.69	0.24
	2004-05 NSW-NATSIHS	8.3	6.1	10.5	1.1	13.7				
Overweight or obese	2002-2005 NSWPHS	48.8	43.9	53.6	2.5	5.1	1.50	3.61	0.42	0.34
	2004-05 NSW-NATSIHS	50.3	45.2	55.4	2.6	5.2				

Note: SE = Standard error; RSE = Relative standard error

Figure 1: Prevalence estimates of comparable indicators with 95% confidence intervals of comparable indicators, 2002–2005 NSW Population Health Survey and 2004-05 National Aboriginal and Torres Strait Islander Health Survey