

3. Tobacco smoking

Smoking is a major contributor to mortality and ill-health of Australians. In Australia, approximately 19,000 deaths annually are attributable to smoking-related causes. In 1997–98, 143,000 hospital separations were attributed to smoking (AIHW: Miller & Draper 2001). For the purposes of this publication, the term smoking refers to tobacco smoking only and includes the smoking of tobacco products (manufactured and roll your own cigarettes, cigars and pipes).

Smoking is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, numerous cancers, notably lung and throat, and many other conditions.

Survey data about smoking are used to determine the prevalence of smoking in the community and to evaluate health promotion and disease prevention programs. The most common measure used is the ‘smoking status’ of a respondent which can be defined and reported differently by surveys.

The two national surveys compared below are the National Drug Strategy Household Surveys (NDSHS) and the National Health Surveys (NHS) conducted by the ABS. Differences in smoking classification are shown in Table 3.1. A table showing other recent surveys which collect data about smoking is shown in Appendix 1.

The definitions presented here measure the smoking status and smoking behaviours (e.g. amount smoked per day) at the time of the survey.

Table 3.1: Measure of smoking status used by national surveys

NHS	NDSHS
Current smoker—	Daily
Daily	Weekly
Other	Less than weekly
Ex-smoker	Ex-smoker
Never smoked	Never smoked

Daily smoking

The prevalence of daily smoking has declined in Australia over recent years (Table 3.2), continuing the decline that has been documented over the past few decades (AIHW 2000a). Based on the results of the 2001 NHS, the prevalence of daily smoking among people aged 18 years and over was 22.4%. This is slightly higher than the estimate derived from the 2001 NDSHS, at 20.2%.

Table 3.2: Prevalence of daily^(a) smoking, persons aged 18 years and over: comparison of National Health Survey and National Drug Strategy Household Survey results

Survey and year	Men	Women	Persons
		per cent	
National Health Survey			
1995	27.3	20.3	23.8
2001	25.4	19.5	22.4
National Drug Strategy Household Survey			
1995	27.4	22.8	25.0
1998	25.3	20.2	22.7
2001	22.0	18.4	20.2

(a) In the NHS this is defined as 'regular' smoking, that is smoking at least once per day.
Sources: ABS, 1997–2002; National Drug Strategy Household Survey, 1995–2001.

Current smoking

The 'current smoking' group adds to daily smoking those people that smoke occasionally, therefore enabling the measurement of a population group that still have an increased risk of developing smoking related illnesses. The prevalence of current smoking among adults in Australia in 2001 was 24.3% based on the NHS, and 23.9% based on the NDSHS (Table 3.3). Both survey series yield a decline in the current smoking prevalence from the beginning of the decade.

Table 3.3: Prevalence of current^(a) smoking, persons aged 18 years and over: comparison of National Health Survey and National Drug Strategy Household Survey results

Survey and year ^(b)	Men	Women	Persons
		per cent	
National Health Survey			
1989–90	31.1	24.3	27.7
1995	28.5	21.8	25.1
2001	27.3	21.4	24.3
National Drug Strategy Household Survey			
1995	30.2	25.1	27.6
1998	27.7	22.7	25.1
2001	26.1	21.2	23.6
2001 excluding CATI sub-sample ^(c)	26.4	21.5	23.9

(a) Includes current daily and occasional smoking; in the NHS there is no reference period for 'current' smoking, whereas the NDSHS excludes persons who have not smoked in the past 12 months.

(b) All results age-standardised to 2001 NHS reference population.

(c) The CATI sub-sample was introduced in the 2001 survey to assess the feasibility of its use as an ongoing surveillance tool. Results were scrutinised by a Technical Advisory Committee who agreed that results were sufficiently comparable to results collected by the other methods in the survey.

Sources: ABS, 2002; National Drug Strategy Household Survey, 1995–2001.

Comparison of surveys

Measures of smoking prevalence

As shown in Table 3.1, the NHS and NDSHS have slightly different conceptual bases for assessing smoking prevalence (smoker status). The NHS asks three questions that enable estimates of:

- current smoker
- regular smoker (that is, at least once a day)
- former regular smoker
- someone who has never smoked.

The NDSHS contains a more extensive tobacco module that enables estimates of each of these, plus other concepts such as smoking duration (for both daily and non-daily smoking periods), amount and type of tobacco products consumed, and smoking-related behaviours. In addition, the NDSHS imposes an amount of 100 cigarettes or the equivalent amount of tobacco ever smoked on qualifying as an 'ever' smoker. This may be relevant here to the extent that novice smokers aged 18 years and over may not have reached this threshold and therefore would not be included in the NDSHS results, but would be included in the NHS estimates.

The definitions used in the NDSHS are the recommended definitions in the National Health Data Dictionary (NHDD) (AIHW 2003b).

Recall period

In the NHS there is no reference period for 'current' smoking, whereas the NDSHS excludes persons who have not smoked in the past 12 months.

Sample and other methodology

Both surveys are national surveys using random sampling methodologies to select respondents. One adult from each selected household was chosen as the respondent. The NHS surveyed people in all age groups from 18 years and over; 17,918 persons were asked about their smoking behaviours in 2001. In comparison, the 2001 NDSHS surveyed 26,744 persons aged 14 years and over (25,267 of these were aged 18 years and over). Both surveys are complex and include a large subject matter, of which tobacco smoking is only part.

Enumeration periods for both surveys differ. The NHS was enumerated over a 10 month period from February to November 2001 and the NDSHS was enumerated between July and November 2001.

The NHS achieved a response rate of around 92%, while the NDSHS had a response rate of around 50%. The contribution of non-response bias on smoking prevalence estimates is unknown.

The NHS was a face to face interview, whereby respondents were asked questions by a trained ABS interviewer and responses coded onto a paper questionnaire. The 2001 NDSHS employed three data collection modes, each with trained fieldworkers:

- (i) A drop-and-collect mode similar to the Census (see Glossary), in which the fieldworker made contact with the household, selected the respondent and left a self-complete questionnaire. After at least two days the fieldworker returned to collect the

completed questionnaire in a sealed envelope. If the questionnaire was not yet completed the fieldworker left a replied-paid envelope addressed to the survey manager, by which the respondent could return the questionnaire when completed.

- (ii) A personal (face to face) interview mode, incorporating a 'sealed' questionnaire for the sensitive questions (personal health, drug use history, drug-related behaviours).
- (iii) A CATI survey with slightly reduced content.

As far as practical, each question was worded identically across all three survey modes.

Choosing a headline indicator

Age considerations

The 2001 NDSHS reveals that the median age at which lifetime smokers first smoked was 15 years. Among lifetime smokers, 42% had initiated smoking by the age of 14, and 57% by the age of 15. In 2001, the prevalence of smoking in the age group 14–17 years (that is, those under the legal age for being supplied tobacco) was 15.4%.

Given these results, it seems appropriate to interview and report on smoking for persons younger than 18 years. Survey practices vary around the world, with people as young as 12 years interviewed in the United States, and other countries adopting 15 years and 16 years as the minimum age in general population surveys. On the reporting side, the OECD, for example, presents international comparative results for persons aged 15 years and over, and individual countries typically report from their minimum survey age.

Inclusion of under-age smokers in the headline indicators appears to lower the prevalence estimates by around 0.6–0.7 percentage points (Table 3.4). Although not directly relevant to the prevalence indicator, the effect on estimates of consumption may be more marked, as young smokers tend to consume fewer cigarettes on average than their older counterparts (AIHW 2002b).

Table 3.4: Prevalence of daily and current^(a) smoking, persons aged 14 years and over, 2001: comparisons for selected minimum ages

Prevalence measure and age group	Men	Women	Persons
		per cent	
Daily			
14 years and over	21.1	18.0	19.5
15 years and over	21.4	18.2	19.8
16 years and over	21.6	18.3	19.9
17 years and over	21.8	18.4	20.1
14–17 years	10.3	12.7	11.5
18 years and over	22.0	18.4	20.2
Current			
14 years and over	25.6	20.8	23.2
15 years and over	26.0	21.0	23.4
16 years and over	26.3	21.1	23.6
17 years and over	26.5	21.2	23.8
14–17 years	14.8	16.0	15.4
18 years and over	26.5	21.1	23.8

(a) Includes current daily and occasional smoking.
 Source: 2001 National Drug Strategy Household Survey.

In Australia there is a strong policy interest in young smokers, so their inclusion in headline indicators is essential. This could be done using the lowest minimum age in the indicator, and/or as a separate age group with a more conventional (higher) age group shown as well.

Frequency considerations

The second issue is whether to report daily smoking and/or any current smoking. Although the recent mass media campaign reminds us that ‘every cigarette is doing you damage’, the non-daily smokers are a fairly diffuse, ill-defined group that would include novice smokers, those attempting to quit, recidivist quitters and ‘social’ smokers. These are important targets for public health interventions.

Conclusion

The NHS and the NDSHS are not directly comparable as they measure slightly different things with different conceptual bases, such as affecting estimates for never smokers, with a minor impact on current smokers. They also use different survey instruments and have different sample sizes.

However, both surveys measure a common underlying phenomenon. They show trends over time that are consistent between the surveys, and similar patterns across sex and age.

The existence of a smoking module in the NHS is important because it enables analyses of smoking behaviours against current/past health status including long-term medical conditions and mental well-being, and of the relationship with other risk factors including physical activity and diet. For these purposes, and particularly at the population level, the current smoking module may be adequate.

The NDSHS module is designed to provide more robust descriptions of smoking patterns and related behaviours, with links to alcohol and other substance use, but misses out on the link with medical health conditions and other risk factors such as physical activity and dietary habits. The definitions used in the NDSHS are the recommended definitions in the National Health Data Dictionary (NHDD)(AIHW 2003b).

Recommendations

On balance, the AIHW recommends that the headline indicator for Australia should be daily smokers, presented as 14–17 years, 18 years and over, and the aggregate for 14 years and over (see Table 3.5). The NDSHS is a consistent source for these indicators.

Table 3.5: Headline tobacco indicator: prevalence of daily smoking, persons aged 14 years and over, Australia, 2001

Age group	Men	Women	Persons
		per cent	
14–17 years	10.3	12.7	11.5
18 years and over	22.0	18.4	20.2
<i>Total 14 years and over</i>	<i>21.1</i>	<i>18.0</i>	<i>19.5</i>

Source: 2001 National Drug Strategy Household Survey.