

# 6 Explanatory notes

## Introduction

The 1998 National Drug Strategy Household Survey was the sixth in a series which commenced in 1985. In October 1997 the Australian Institute of Health and Welfare (AIHW) was commissioned by the Commonwealth Department of Health and Family Services to manage the 1998 survey. The Institute was supported in this task by a Departmental Policy Reference Group and a Technical Advisory Committee. The Roy Morgan Research Centre was selected by competitive tender in February 1998 to conduct the survey and Hermes Precisa Pty Ltd was contracted to scan the completed questionnaires. Quantitative Evaluation and Design was subsequently engaged to independently evaluate the derivation of population weights and design effects.

The survey was conducted between June and September 1998, with over 90% of data collected between July and August 1998.

In April 1999, the Queensland Health Department and AIHW agreed to produce a joint publication of the State's results relative to the combined results of the other Australian States and Territories.

## Scope

The estimates for 1998 contained in this publication are based on information obtained from persons aged 14 years and over, from a national sample of 8,357 private dwellings. Estimates for 1995 were drawn from a comparable survey conducted in that year. In 1998, 2,647 respondents from Queensland were selected from 2,007 private dwellings.

Households were selected by a multi-stage, stratified area, random-quota sample. Minimum sample sizes sufficient to return reliable strata estimates were allocated to States and Territories and the remainder of the available quota was distributed proportional to population. At the invitation of the Survey Technical Advisory Committee, the health authorities in the States of New South Wales, Victoria, Queensland, Tasmania, and the Australian Capital Territory funded additional interviews supplementary to those allocated.

## Methodology

### Study design

The survey employed a split sample design which incorporated random household selection and a mixture of random and targeted respondent selection.

- Sample 1. National random selection of households, where a person aged 14 years or over was randomly selected by next birth-date. Data were collected from personal interviews and self-completion booklets for the more sensitive issues. The number of respondents who completed the survey nationally from this sample was 4,012. The Queensland component of this number was 1,312 respondents.
- Sample 2. Same household as in Sample 1. The youngest person aged 14 years or older, other than the Sample 1 respondent, was selected. Data were collected by self-completion booklets. Where a questionnaire was completed subsequent to the Sample 1 interview, one attempt was made to personally collect it. If it was still incomplete, the respondent was provided with a reply paid pre-addressed envelope. The number of respondents who completed the survey nationally from this sample was 1,983. The Queensland component of this number was 626 respondents.
- Sample 3. Capital cities only. From a random selection of households, a person aged 14 to 39 years of age was randomly selected by next birth-date. Data were collected by self-completion booklets. Questionnaires were left for completion and interviewers returned two days later for their collection. Where a questionnaire was not completed by this time, the respondent was provided with a reply paid pre-addressed envelope. The number of respondents who completed the survey nationally from this sample was 4,035. The Queensland component of this number was 648 respondents.

Persons aged 14 and 15 years completed the survey with the consent of a parent or guardian.

The combination of split sampling, oversampling of the lesser populated States and Territories and the supplementary to quota interviews resulted in a sample which was not proportional to the State/Territory distribution of the Australian population aged 14 years and over.

**Table 6.1: Comparison of sample and State/Territory distributions**

Distribution	NSW	Vic	Qld	SA	WA	Tas	ACT	NT
Sample size	1,468	1,483	2,586	831	764	1,031	1,164	703
% of total sample	14.6	14.8	25.8	8.3	7.6	10.3	11.6	7.0
% of 1998 population	33.9	25.0	18.3	8.0	9.7	2.5	1.6	0.9

Queensland, Tasmania, the Australian Capital Territory and the Northern Territory were over sampled and New South Wales, Victoria and Western Australia were under sampled, relative to the estimated national population aged 14 years and over.

Targeting younger persons to obtain more reliable estimates for the illicit drugs, in particular, also resulted in a sample which was disproportionate to the estimated age distribution of persons aged 14 years and over.

**Table 6.2: Comparison of the sample and estimated population distributions, Australia, 1998**

Age	Sample distribution			1998 population estimates		
	Male	Female	Total	Male	Female	Total
	(%)					
14–19	7.6	8.2	15.8	5.4	5.1	10.5
20–29	11.4	14.6	26.0	9.5	9.3	18.8
30–39	12.9	17.0	29.9	9.6	9.7	19.3
40–49	4.2	5.6	9.9	9.0	9.0	17.9
50–59	3.4	4.0	7.4	6.9	6.6	13.5
60+	5.1	5.9	11.0	9.1	11.0	20.0
<b>Total</b>	<b>44.6</b>	<b>55.4</b>	<b>100.0</b>	<b>49.4</b>	<b>50.6</b>	<b>100.0</b>

Females in the survey sample were over-represented, as were persons aged under 35 years. The bias towards youth was not unexpected and in line with the survey design. The over-representation of females in all age groups was unexpected.

**Table 6.3: Comparison of the sample and estimated population distributions, Queensland, 1998**

Age	Sample distribution			1998 population estimates		
	Male	Female	Total	Male	Female	Total
	(per cent)					
14–19	6.1	7.1	13.3	5.2	5.5	10.7
20–29	10.6	14.7	25.3	10.5	9.4	19.9
30–39	10.4	15.4	25.8	9.2	9.6	18.8
40+	15.8	19.8	35.6	24.9	25.8	50.6
<b>Total</b>	<b>43.0</b>	<b>57.0</b>	<b>100.0</b>	<b>49.8</b>	<b>50.2</b>	<b>100.0</b>

As occurred with the national sample, younger persons were generally oversampled in Queensland and a disproportionate number of female respondents completed the survey.

### Response rates

When compared to 1995, the 1998 survey achieved a slightly lower, but comparable response rate.

The experimental survey design, and in particular the procedures adopted for verification of completions, contributed to a lower response rate than might have been expected.

**Table 6.4: Response characteristics by sample, Australia, 1995, 1998**

Response	1998 survey samples				Total	1995 survey
	Sample 1	Sample 2	Sample 3	Total sample		
Interviewed/self-completed	4,012	1,983	4,035	10,030	56%	57%
Refused, did not return q'naire	3,034	352	2,576	5,962	33%	30%
Unavailable, sent back q'naire unusable	36	288	788	1,112	6%	5%
Busy, temporary refusal	—	—	—	—	—	2%
No English, incapable	84	49	67	200	1%	3%
Other	189 <sup>(a)</sup>	561 <sup>(a)</sup>	—	750	4%	3%
Total attempts	7,355	3,233	7,466	18,054	100%	100%
Response rate	55%	61%	54%	56%	—	—
<b>Queensland response rate</b>	<b>55%</b>	<b>58%</b>	<b>61%</b>	<b>57%</b>	—	<b>n.a.</b>

(a) Includes cases where completed questionnaire failed edit checks, and where field worker inadequately recorded reason for non-responses.

## **Estimation procedures**

Multi-stage editing and weighting procedures were applied to derive the estimates.

### **Editing**

All open-ended questions were coded manually prior to scanning. Following processing, responses were checked for consistency using cross-validation items within the questionnaire. Resultant transformations were manually completed according to predetermined logic and edit rules. Less than 0.3% (3 in 1,000) of data items were transformed. A questionnaire-to-data file audit was then conducted to confirm the accuracy of responses recorded.

### **Weighting**

The sample was designed to provide a random sample of households within each geographic stratum. Respondents within each stratum were assigned weights designed to overcome proportional imbalances introduced by the split and supplementary sampling design, and the subsequent lower-than-expected male response rate. Estimates in this publication are based on the weighted combined samples.

## **Reliability of estimates**

### **Sampling error**

As the estimates are based on a sample, they are subject to sampling variability (that is, the extent to which the sample varies from all persons had a complete census been conducted). Estimates in this publication are assumed to be reliable if the relative standard error (the ratio of the sampling error to the population estimate) is less than 25%. Estimates with relative standard errors (RSEs) between 25% and 50% should be interpreted with caution. Estimates with RSEs over 50% should be considered unreliable for most practical purposes. A table of standard errors and relative standard errors can be found in Appendix 2.

### **Non-sampling error**

In addition to sampling errors, the estimates are subject to non-sampling errors. These can arise from errors in transcription of responses, errors in reporting of responses (e.g. failures of respondents' memories), and the unwillingness of respondents to reveal their 'true' responses.

### **Counter-balancing**

The order in which multiple possible answers are presented can sometimes affect the likelihood of responses (the earlier a possible response in a list, the higher the likelihood that it will be selected). To overcome this tendency, possible responses were rotated within questions. There were three rotations in all, which resulted in a total of nine different questionnaires (three per sample) with identical sequencing of questions, but different orders of possible responses within. The copy at Appendix 5 is a Sample 2, Rotation 1 version of the questionnaire.

## **Limitations of the data**

Excluded from sampling were non-private dwellings (hotels, motels, boarding houses, etc.), institutional settings (hospitals, nursing homes, other clinical settings (e.g. drug and alcohol rehabilitation centres), prisons, military establishments, and university halls of residence). With the exception of Tasmania, non-mainland islands were also excluded.

Illicit drug users, by definition, are committing illegal acts. They are in part marginalised and difficult to reach. Accordingly, estimates of illicit drug use and related behaviours are likely to be underestimates of actual prevalences.

## **Definitions**

Definitions used in previous waves of the survey were retained for 1998, with one exception. In the present survey, greater assistance was provided to respondents on what was meant by 'non-medical use'.

### **Recent smoker**

A recent smoker was a person who smoked tobacco daily (Question G8) or who smoked tobacco at least occasionally (Question G15).

### **Recent regular smoker**

A recent regular smoker was a recent smoker who consumed cigarettes at least daily (Question G8) or most days (Question G15).

### **Recent occasional smoker**

A recent occasional smoker was a recent smoker who consumed cigarettes less than daily or most days (Question G15).

### **Recent drinker**

A recent drinker was a person who consumed alcohol in the last 12 months.

### **Recent regular drinker**

A recent regular drinker was a recent drinker who consumed alcohol at least weekly (Question H7).

### **Recent occasional drinker**

A recent occasional drinker was a recent drinker who consumed alcohol less than weekly.

### **Non-medical drug use**

The definition used in the survey questionnaire and for this publication is:

1. Either alone or with other drugs in order to induce or enhance a drug experience;
2. For performance (e.g. athletic) enhancement; or
3. For cosmetic (e.g. body shaping) purposes.

In 1995, 'non-medical use' was undefined in the questionnaire.

## **Illicit drugs**

Illegal drugs, drugs and volatile substances used illicitly, and pharmaceuticals used for non-medical purposes.

Painkillers/analgesics\*

Tranquillisers/sleeping pills\*

Steroids\*

Barbiturates\*

Amphetamines\*

Marijuana/cannabis

Heroin

Methadone\*\*

Cocaine

LSD/synthetic hallucinogens

Ecstasy and other designer drugs

(Any) injected\*

\* for non-medical purposes

\*\* non-maintenance program

## **Recent illicit drug use (all and any substances)**

Use within the previous 12 months.

## **Comparability with 1995 survey**

The 1998 survey varies from the 1995 (and earlier) NDS Household Surveys in several respects.

- Data collection in 1998 was conducted between June and September, compared to May to June in 1995.
- All respondents in 1995 were interviewed, and self-completed the more sensitive sections of the questionnaire. In 1998, only Sample 1 (see 'study design' above) completed questionnaires in the same way. Samples 2 and 3 in 1998 self-completed the entire questionnaire.
- Due to the split sample-related data collection methods, questions retained from the 1995 survey, which relied upon the use of showcards were presented as fixed lists in Samples 2 and 3.
- A small number of questions which were open-ended in 1995 were changed to forced choice in 1998, and one question which was forced choice in 1995 was changed to open-ended in 1998 (but the same template was retained for coding purposes). Where this occurred, a footnote to the relevant table indicates the circumstances.
- In an attempt to enhance the reliability of estimates in the 1998 survey, a small number of missing and contradictory responses were imputed through a rigorous menu of cross-validation edit and logic checks. For example, if a respondent failed to indicate a lifetime usage response (missing) or answered

- ‘no—never used’, but then provided detailed responses to subsequent questions (e.g. used in the last 12 months, how used, where used, source of supply), the missing or contradictory response was recoded as ‘yes’. In the 1995 survey, in general, responses were recorded as given, without correction for obvious error. If an ‘entry level’ question was missing or ‘no—never used’ in 1995, all subsequent responses in the category were declared missing. The effect of the changes implemented in 1998 is to amplify the size of increases and reduce the size of decreases in estimates between the two surveys by approximately 1–2% of the positive (‘yes’) lifetime use responses (e.g. a lifetime prevalence estimate of 30% in 1998 possibly includes a 0.3–0.6% recoded component). For lifetime estimates this effect is insubstantial, but recent usage estimates can include up to 9% of responses which in 1995 would have been declared missing (e.g. a 30% estimate of recent usage in 1995 would have been 32.7%, if the 1998 treatment had been applied and if the level of missing/contradictory responses been equivalent in that year).
- Inter-sample reliability tests were conducted to determine the extent and nature of variability of responses which might be attributable to the different collection modalities in 1998. Results indicated that the different data collection methods did not affect responses.

### **Interpretation of results**

The exclusion of persons from dwellings and institutional settings described in ‘limitations of data’ above, and the difficulty in reaching marginalised persons, are likely to have affected estimates.

It is known from past studies of alcohol and tobacco consumption that respondents tend to underestimate actual consumption levels. There is little equivalent data on the tendencies for under or over-reporting of actual illicit drug use.

The methodology of the 1998 Survey was generally comparable to past NDS Household Surveys. There is the possibility that systematic biases were introduced by the split sampling design in 1998 compared to that employed in 1995, and the treatment of missing and contradictory responses discussed above.