

Appendix A: Confidence intervals

As survey estimates presented in this publication are based on a sample, they are subject to sampling error. Sampling error is the difference between the published estimates, derived from a sample of persons, and the value that would have been produced if the entire population had been surveyed.

One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because a sample of the population was taken.

Figure 4.1 presents the sample prevalence estimates and 95% confidence intervals for selected drugs from the 2001 NDSHS. In these cases, we can be 95% confident that the prevalence estimates will differ by less than 1.96 multiplied by the standard error from the prevalence that would have been obtained if the entire population had been included.

A relatively simple approximation of the confidence interval that readers might use when interpreting Figure 4.1 is:

$$\text{95\% confidence interval} = p \pm 1.96 \times \sqrt{\frac{p(1-p) \times \text{DE}}{n}}$$

where:

p is the sample prevalence estimate expressed as a proportion

DE is the design effect

n is the sample size.

The design effect is the net result of a number of factors affecting the sample population. The design effect is the ratio of the variance of an estimate derived from the survey to the variance of an estimate of the same thing based on a true simple random sample of the same size. Departure from simple random sampling may sometimes be due to the nature of the population being measured, as well as to the practical limitations of field sampling operations.

References and further reading

- Alcohol and Public Health Research Unit 2002. Drug use in New Zealand: national surveys comparison 1998 and 2001. Auckland: University of Auckland.
- Australian Bureau of Criminal Intelligence (ABCI) 2001. Australian illicit drug report 1999–00. Canberra: ABCI.
- Australian Bureau of Criminal Intelligence (ABCI) 2002. Australian illicit drug report 2000–01. Canberra: ABCI.
- Australian Bureau of Statistics 2002a. Taxation revenue Australia, 2000–01. ABS Cat. No. 5506.0. Canberra: ABS.
- Australian Bureau of Statistics 2002b. Prisoners in Australia, 2002. ABS Cat. No. 4517.0. Canberra: ABS.
- Australian Institute of Health and Welfare (AIHW) 2002a. 2001 National Drug Strategy Household Survey: First results. AIHW Cat. No. PHE 35. Drug Statistics Series No. 9. Canberra: AIHW.
- Australian Institute of Health and Welfare (AIHW) 2002b. 2001 National Drug Strategy Household Survey: State and Territory supplement. AIHW Cat. No. PHE 37. Drug Statistics Series No. 10. Canberra: AIHW.
- Australian Institute of Health and Welfare (AIHW) 2002c. Alcohol and other drug treatment services in Australia 2000–01: First report on the National Minimum Data Set. AIHW Cat. No. HSE 22. Canberra: AIHW.
- Australian Transport Safety Bureau 2001. Road safety. Alcohol and road fatalities in Australia 1998, Monograph 5, 2001. <<http://www.atsb.gov.au/road/stats/atsbmgrph.cfm>>.
- Australian Transport Safety Bureau 2002. Road safety. <<http://www.atsb.gov.au/road/stats/timefat1.cfm>>.
- Britt H, Miller GC, Knox S, et al. 2002. General practice activity in Australia 2001–02. AIHW Cat. No. GEP 10. General Practice Series No. 1. Canberra: AIHW.
- Collins DJ & Lapsley HM 2002. Counting the cost: estimates of the social costs of drug abuse in Australia in 1998–99. National Drug Strategy Monograph Number 49. Canberra: DoHA.
- Degenhardt L 2002. Opioid overdose deaths in Australia 2001. Sydney: National Drug and Alcohol Research Centre.
- Department of Health and Aged Care (DHAC) 1998. National Drug Strategic Framework 1998–99 to 2002–03: Building Partnerships. Canberra: DHAC.
- Department of Health and Ageing (DoHA) 2002. Substance misuse report 1999–2000 key results. Canberra: DoHA.
- Department of Human Services and Health (DHS) 1994. Statistics on drug abuse in Australia 1994. Canberra: AGPS.
- English D & Holman D 1995. The quantification of drug caused morbidity and mortality in Australia. Canberra: AGPS.
- Henderson J, Pan Y, Britt H, Charles J, Miller GC & Knox S 2002. Cardiovascular problems and risk behaviours among patients at general practice encounters in Australia 1998–00. AIHW Cat. No. GEP 9. General Practice Series No. 9. Canberra: AIHW.

- Holman D & Armstrong B 1990. The quantification of drug caused morbidity and mortality in Australia 1988. Canberra: AGPS.
- Makkai T & McGregor, K 2002. Drug use monitoring in Australia: 2001 annual report on drug use among police detainees. Research and Public Policy Series No. 41. Canberra: Australian Institute of Criminology.
- Miller M & Draper G 2001. Statistics on drug use in Australia 2000. AIHW Cat No. PHE 30. Drug Statistics Series No. 8. Canberra: AIHW.
- National Centre in HIV Epidemiology and Clinical Research (NCHECR) 2002. 2002 HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia: Annual Surveillance Report. Sydney: NCHECR.
- Topp L, Kaye S, Bruno R, et al. 2002. Australian drug trends 2001: Findings from the Illicit Drug Reporting System. National Drug and Alcohol Research Centre (NDRAC) Monograph No. 48. Sydney: NDARC.
- National Health and Medical Research Council (NHMRC) 2001. Australian alcohol guidelines: health risks and benefits. Canberra: NHMRC.
- NTC Publications 2002. World drink trends. Henley-on-Thames: NTC Publications.
- Organization for Economic Co-operation and Development (OECD) 2002. OECD Health Data: A comparative analysis of 30 countries (CD-ROM). Paris: OECD.
- Ridolfo B & Stevenson C 2001. The quantification of drug-caused mortality and morbidity in Australia, 1998. AIHW Cat. No. PHE 29. Drug Statistics Series No. 7. Canberra: AIHW.
- Shand F & Mattick R 2001. Clients of treatment service agencies: May 2001 census findings. Canberra: DoHA.
- Single E & Rohl T 1997. The national drug strategy: mapping the future. Canberra: AGPS.
- Stevenson R & Forsythe L 1998. The stolen goods market in New South Wales: an interview with imprisoned burglars. Sydney: NSW Bureau of Crime Statistics and Research.
- Substance Abuse and Mental Health Services Administration (SAMHSA) 2002. 2001 National household survey on drug abuse. SAMHSA <<http://www.samhsa.gov/oas/P0000016/.htm#Standard> Date of extraction: 24/10/2002>.
- United Nations Office for Drug Control and Crime Prevention (UNODCCP) 2002. Global illicit drug trends 2002. New York: United Nations.