

DRUG POLICY MODELLING PROGRAM
MONOGRAPH 17

**A REVIEW OF AUSTRALIAN PUBLIC
OPINION SURVEYS ON ILLICIT DRUGS**

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National Drug and Alcohol Research Centre

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Drug Policy Modelling Program Monograph Series

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THE DRUG POLICY MODELLING PROGRAM

This monograph forms part of the Drug Policy Modelling Program (DPMP) Monograph Series.

Drugs are a major social problem and are inextricably linked to the major socio-economic issues of our time. Our current drug policies are inadequate and governments are not getting the best returns on their investment. There are a number of reasons why: there is a lack of evidence upon which to base policies; the evidence that does exist is not necessarily analysed and used in policy decision-making; we do not have adequate approaches or models to help policy-makers make good decisions about dealing with drug problems; and drug policy is a highly complicated and politicised arena.

The aim of the Drug Policy Modelling Program (DPMP) is to create valuable new drug policy insights, ideas and interventions that will allow Australia to respond with alacrity and success to illicit drug use. DPMP addresses drug policy using a comprehensive approach, that includes consideration of law enforcement, prevention, treatment and harm reduction. The dynamic interaction between policy options is an essential component in understanding best investment in drug policy.

DPMP conducts rigorous research that provides independent, balanced, non-partisan policy analysis. The areas of work include: developing the evidence-base for policy; developing, implementing and evaluating dynamic policy-relevant models of drug issues; and studying policy-making processes in Australia.

Monographs in the series are:

01. What is Australia's "drug budget"? The policy mix of illicit drug-related government spending in Australia
02. Drug policy interventions: A comprehensive list and a review of classification schemes
03. Estimating the prevalence of problematic heroin use in Melbourne
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09. Heroin markets in Australia: Current understandings and future possibilities
10. Data sources on illicit drug use and harm in Australia
11. SimDrug: Exploring the complexity of heroin use in Melbourne

12. Popular culture and the prevention of illicit drug use: A pilot study of popular music and the acceptability of drugs
13. Scoping the potential uses of systems thinking in developing policy on illicit drugs
14. Working estimates of the social costs per gram and per user for cannabis, cocaine, opiates and amphetamines
15. Priority areas in illicit drug policy: Perspectives of policy makers
16. A summary of diversion programs for drug and drug-related offenders in Australia
17. A review of Australian public opinion surveys on illicit drugs

DPMP strives to generate new policies, new ways of making policy and new policy activity and evaluation. Ultimately our program of work aims to generate effective new illicit drug policy in Australia. I hope this Monograph contributes to Australian drug policy and that you find it informative and useful.

A handwritten signature in black ink that reads "Alison Ritter". The signature is written in a cursive, flowing style.

Alison Ritter
Director, DPMP

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INTRODUCTION

Public opinion can be an important determinant of social policy – governments are more likely to pursue policy options when they perceive public opinion to be supportive. In the illicit drugs area public opinion may be a more important factor in contributing to government policy because it is an area that often carries high emotional valence. The aims of this review are threefold:

- To identify the current state of public opinion in relation to illicit drugs in Australia by examining recent public opinion research.
- To determine how the public's opinion has changed over time.
- To compare different public opinion surveys and to understand why the results may differ.

To achieve these aims, we sought to identify comparable public opinion surveys related to illicit drugs conducted in Australia over a 23 year reference period (1985-2007). Each survey included in the review is described and reviewed. We then examine how public opinion has changed over that time, using a combination of different survey results. The report concludes with a discussion about the overall trends.

Why study public opinion?

Public opinion is considered an important input into the political process, and something that governments adhere to when making drug policy (Makkai & McAllister, 1992). A large body of policy research has confirmed the link between public opinion and public policy on a range of topics, though perhaps not definitively (Page & Shapiro, 1983; J. Stimson, 2004; J. A. Stimson, MacKuen, & Erikson, 1994). In his meta-analysis of opinion-policy research, Burstein argues that 'policy is affected by opinion most of the time' and when public opinion does have an effect, it 'really matters substantively' (Burstein, 2003). Stimson (2004) argues that public opinion's effects are strongest when opinion is *shifting*. For Stimson, the 'static opinion' is 'toothless'. It is 'movement that matters' and "when public opinion changes, then the slumbering bear is alive; something has wakened it and it is wise to watch where it will go and what it will do. Change happens when people care" (p.xvii).

Public opinion's role in shaping policy is strongest for issues that the public is genuinely interested in (Burstein, 2003). The issue of illicit drugs is one of high public salience, and attempts to reform drug laws often generate a high amount of public interest and debate (Bammer, 1997; Bessant, 2003; Gunaratnam, 2005). There is nevertheless a large range of issues that compete for the public's attention at any one time. A recent survey carried out by the Australian National University found that drugs and alcohol were considered the 16th most important issue out of 26, with only 1.9% of the sample nominating it as the most important issue facing Australia, behind issues such as the environment, water, and the economy (ANU, 2008). It is unusual for any one issue to remain newsworthy for an extended period of time (Downs, 1972) and drug use is no exception.

Public opinion is commonly referred to in public debates and discussions. However, it is common for journalists or politicians to make claims about the nature of public beliefs that are unsubstantiated by any evidence (Brookes, Lewis, & Wahl-Jorgensen, 2004). Such inferences about public opinion may or may not be correct, but when they are based on no evidence they can promote a biased view of what the public actually thinks. An incorrect understanding of public opinion is problematic for a number of reasons. Individuals who perceive themselves to be in the

minority are less likely to voice their own opinion, even though their perception of public opinion might be incorrect; what Noelle-Neumann termed the 'spiral of silence' effect (Noelle-Neumann, 1993). The importance of an accurate understanding of public opinion is increased when we consider the power that perceived public opinion can have over decision making. For example, it has been argued that harm reduction services in Australia have been forced to close due to perceived public opposition (Korner & Treloar, 2004; Treloar & Fraser, 2007).

Accurate research on public opinion is therefore paramount. With this in mind, this project aimed to review and analyse a range of illicit drug opinion surveys conducted in Australia, in order to give an overall, up to date sense of public opinion towards illicit drugs, one that is based on the available evidence.

METHOD

We sought to identify all relevant surveys and research in the area of Australian public opinions towards illicit drugs. The Australian Social Science Data Archive (<http://assda-nesstar.anu.edu.au>), which is an archive of data from a wide range of surveys, was searched for relevant surveys. To identify other eligible public opinion surveys, a number of academic databases were searched using the terms ‘drug’, ‘public’, ‘opinion’, ‘attitude’, ‘survey’, and ‘illicit’ in various combinations. Databases included Expanded Academic, Science Direct, Social Sciences Index, Web of Science, Google Scholar, Medline, and PsycINFO. The World Wide Web was also used to search for grey literature, using similar search terms, and the reference lists of the publications were also checked.

The information about public opinion was then divided into four categories:

- 1) Surveys about drugs which contain an attitudinal component.
- 2) Surveys about attitudes which contain a question(s) about drugs.
- 3) Research studies of attitudes about a particular policy or intervention.
- 4) Secondary analyses which use existing data from either point 1 or 2 above.

In the first category, the sole survey is the National Drug Strategy Household Survey (discussed below). In the second category – attitudinal surveys that include drug-related questions – are the Australian Election Study, the Australian Survey of Social Attitudes, the National Social Science Survey, Newspoll and Roy Morgan surveys. The details of all of these, along with the NDS Household Survey are provided in Table 1.

Australian researchers have conducted specific studies of attitudes towards illicit drugs in the context of examining particular policy options (Category 3). There are a number of these and the details are provided in Table 2.

The fourth category of secondary analyses includes Makkai and McAllister’s work on the National Drug Strategy Household Survey (1998) and their analysis of public opinion on cannabis (1992). Treloar and Fraser have examined opinion surveys relating to needle and syringe programs (2007), and Newcombe (2004) has conducted an international review of attitudes to drug laws, with an Australian component. We used these existing reports to inform our findings.

Thus, we used both primary data sources (Category 1 and 2) as well as individual research studies (Category 3) to compare and contrast public opinion. To be included in the review, surveys had to be conducted in Australia and contain an attitudinal component on illicit drugs. As we were concerned with the attitudes and opinions of the general population, surveys that dealt specifically with certain demographic groups such as youth were not included in the review. We sought to compare the results from different surveys – an important criterion therefore was comparability of the survey questions. As a result, there are a small handful of surveys that we excluded.¹

¹ We were unable to obtain: Schwartzkoff J, Spooner S, Flaherty B, et al. Community attitudes to needle and syringe exchange and to methadone programs. Sydney: Directorate of the Drug Offensive, NSW Department of Health, 1990. Also not included in the review is the Australian Gallup Poll 1986 (non-comparable question), the 1994 survey ‘Cannabis in Canberra’ (due to a non-representative sampling strategy), and Saulwick Polls from 1 March 1994 31 Jul 1989 (non-comparable questions).

We identified and obtained data or publications from 16 separate eligible surveys, which are listed in the tables below. Where the research is a continuing series, the surveys have been placed together. The table provides details about the year(s) in which the surveys were administered, the questions asked², the sample size and the sampling method.

To complete the first and second aims of the project, examining current public opinion and trends in public opinion, we used the National Drug Strategy Household Survey (NDSHS). This survey, completed regularly since 1985, gives a repeated measure of public opinion on a number of drug related issues, using a large sample of the Australian population.

Unit record data from the NDSHS were obtained from the surveys undertaken between 1985 and 2004, which has allowed some statistical analysis of the results, in order to confirm the statistical significance of changes over time. Of particular interest were the long-term trends over multiple years, and therefore the statistical testing did not compare every year for every possible change, but selected the peak and trough years. Chi squared analyses were conducted on each peak and trough year for each response category. Confidence intervals were calculated and have been plotted on the graphs where possible. Full details of the data analysis methods, and results from the statistical tests are provided in Appendix B. At the time of writing, the First Results from the 2007 NDSHS had been released. We did not have access to the unit record data from this survey at time of publication and so were not able to perform any statistical analyses. However we incorporate the results from the 2007 NDSHS where possible, using both the First Results publication, as well as data available from the Australian Social Science Data Archive (ASSDA) at the time of writing.

One major issue with comparing NDSHS results across time is the variability in sample size, which ranges from a low of 2,257 in 1988 to a high of 29,445 in 2004. Also, question wording in this survey has changed in multiple instances since the survey began. This has been noted in the results section, where appropriate.

In order to compare across surveys, we conducted a brief review of the comparability of the survey methods (see next section). Where possible, we have clustered similar questions together and then analysed the trends. Where questions were too dissimilarly worded, comparisons between surveys have not been made.

Nation-wide surveys include the Australian Survey on Social Attitudes (2005, 2007b), the Australian Election Study (1996, 1998, 2001, 2004, 2007a), the National Social Science Survey (1987, 1988, 1990), the Roy Morgan Polls regarding cannabis legalisation (Roy Morgan Research, 2002), the Newspolls regarding a trial of prescribed heroin (1997, 2001), Public perceptions of the health and psychological consequences of cannabis use by Hall and Nelson (1995), and Public perceptions of cannabis legislation by Bowman and Sanson-Fischer (1994). Our approach has been to compare the above surveys with the National Drug Strategy Household Survey (AIHW, 1999, 2000, 2002a, 2002b, 2005a, 2005b, 2008), which is the most reliable source of data, using the largest sample of Australian citizens.

² Many of the surveys in the table below contain more questions than those listed. We have only listed those questions that have been used in our analysis. Generally this included questions that were able to be compared to other surveys.

Table 1: Public opinion surveys on illicit drugs (1985 to 2007). Year of administration, questions asked, sample and method

Name	Source	Year ^a	Author	Sample and Method	Focus/Questions ^b
National Drug Strategy Household Survey (NDSHS) (otherwise known as the <i>Social Issues in Australia Survey</i> in 1985, and the <i>National Campaign against Drug Abuse Social Issues Survey from 1988-1993</i>)	AIHW/ ASSDA (2007)	2007, 2004, 2001, 1998, 1995, 1993, 1991, 1988, 1985	Department of Health, Housing and Community Services (1985-1991), Australian Institute of Health and Welfare (1993 – present).	2007 N=23356 2004 N=29445 2001 N=26744 1998 N=10340 1995 N=3850 1993 N=3500 1991 N=2850 1988 N=2257 1985 N=2791 Australian population, aged 14 and over (also included 12 and 13 year olds from 2004) Stratified multi-stage sample, by geographic location. Survey method: 1985-1995: Face to face interview 1998: Face to face interview/Self administered questionnaire. 2001: Face to face interview/Self administered questionnaire/Telephone 2004, 2007: Self administered questionnaire/Telephone In 2007, approximately 15% of surveys were by telephone and 85% were the self administered questionnaire Response rates 2007: 49.3% 2004: 45.6% 2001: 50% 1998: 56% 1985-1995: Not known	Survey contains questions on: Perceptions of the drug problem and drug harms; Extent of approval for drug use; Approval for various policy options; Legal status of drugs Covers all drug types, licit and illicit. Some of the questions and question wording have changed over time. For a full list of questions, see Appendix A.
Australian Election Study	ASSDA ^c	2007, 2004, 2001, 1998, 1996, 1993, 1990	Australian National University	2007 N=1829 2004 N=1714 2001 N=1967 1998 N=1833 1996 N=1775 1993 N=2135 1990 N=2012 Australian population Stratified systematic random sample Self administered questionnaire (mailed) Response rates not known	<i>The smoking of marijuana should NOT be a criminal offence:</i> <i>Strongly agree</i> <i>Agree</i> <i>Neither agree nor disagree</i> <i>Disagree</i> <i>Strongly disagree</i>

Name	Source	Year^a	Author	Sample and Method	Focus/Questions^b
Australian Survey of Social Attitudes	ASSDA	2003, 2005, 2007	Australian National University	2003, 2005 N=4000 2007 N=8000 Australian population Random sample – stratified by state Self administered questionnaire (mailed) Response rates not known	<i>The smoking of marijuana should not be a criminal offence: Strongly Agree Agree Neither Agree nor disagree Disagree Strongly Disagree Can't choose</i>
National Social Science Survey (NSSS)	ASSDA	1986-7 1987-8 1989-90 1995-6 ^d	Australian National University	1986-7 N=1528 1987-8 N=1663 1989-90 N=6136 Australian population Self administered questionnaire (mailed) Response rates not known	<i>1986-7: Legalising the use of marijuana – are you in favour? Yes!! Yes ?? No No!! 1987-8: Legalising the use of marijuana -- are you in favour? Very Yes Yes ?? No Very No 1989-90 Legalising the use of marijuana -- are you in favour? Strongly in favour In favour Neither Opposed Strongly Opposed</i>
Newspoll – Heroin Trial ^e	Newspoll ^f	1997, 2001	Newspoll	N=1200 Aged 18 and over Random Sample – ‘all areas of Australia and in both city and country areas’. Data weighted to population distribution. Telephone survey Response rates not known	<i>1997: Now for a question about the treatment of illegal drug use and particularly heroin. A recent meeting of Australian Health, Police and Justice Ministers approved a legal trial in the ACT which will involve providing heroin to 40 registered users as a test to help combat illegal drug use. Are you personally in favour or against this trial of providing heroin to</i>

Name	Source	Year ^a	Author	Sample and Method	Focus/Questions ^b
					<i>registered addicts?</i> <i>Strongly in favour</i> <i>Partly in favour</i> <i>Partly against</i> <i>Strongly against</i> <i>Uncommitted</i>
					2001: <i>Thinking now about heroin. The National Crime Authority recently suggested that there be medically supervised and government-controlled heroin trials in Australia. Are you personally in favour or against medically supervised and government controlled heroin trials being introduced in Australia?</i> <i>Strongly in favour</i> <i>Partly in favour</i> <i>Partly against</i> <i>Strongly against</i>
Roy Morgan Update ^g	Roy Morgan ^h	1977-2001	Roy Morgan Research	No information given	<i>In your opinion, should the smoking of marijuana be made legal - or should it remain illegal?"</i> <i>Legal</i> <i>Illegal</i> <i>Don't know</i>

Table 1 notes:

a). Year is when data were collected, not the year of publication.

b). Where there are too many questions to fit in the table, they have been listed in the appendix.

c). ASSDA found at <http://assda.anu.edu.au>.

d). There was a question in the 1995/6 NSSS relating to attitudes towards a heroin trial, however results from this section of the survey were not available in the ASSDA, so these data have not been included in the review.

e). Opinion polls carried out by companies such as Newspoll or Roy Morgan research can be difficult to obtain, as they are not published in academic journals, and remain the property of a private entity.

f). 1997 Poll: http://newspoll.com.au/image_uploads/cgi-lib.27394.1.0802DRUG.pdf, 2001 Poll: http://newspoll.com.au/image_uploads/cgi-lib.15216.1.010802heroin.pdf

g). This report was published in 2003, however it included data going back to 1977, which we have included.

h). Roy Morgan found at http://www.roymorgan.com/resources/pdf/update/2002/update_03.pdf

Table 2: Research studies that have examined public opinion (1985 to 2007). Publication, year of administration, questions asked, sample and method.

Publication	Year ^a	Author	Sample and Method	Focus/Questions ^b
Community attitudes towards cannabis law and the proposed Cannabis Infringement Notice scheme in Western Australia	2002, 2007	James Fetherston, Simon Lenton	2002 N=809 2007 N=814 Western Australian population Stratified sample to city/country (Ratio 75:25) Telephone Survey	<i>It should be legal for people over 18 to use cannabis.</i> <i>Strongly agree</i> <i>Agree somewhat</i> <i>Neither agree nor disagree</i> <i>Disagree somewhat</i> <i>Strongly disagree</i> <i>Don't know/refused to answer</i>
Effects of the Western Australian Cannabis Infringement Notice Scheme on public attitudes, knowledge and use.			Response rates: 2002: 27.6% 2007: 38.1% Data weighting for age was trialled but found to have negligible effect on results	<i>In general, do you think these new cannabis laws seem:</i> <i>A good idea</i> <i>A bad idea</i> <i>Unsure</i> <i>Refused to answer</i>
Public perceptions of drugs causing most deaths in Australia 1986-93	1986, 1993	Ron Borland, Ngaire Donaghue, David Hill	1986, N=1213 1993, N=1268 Australian population. Cluster sample from areas randomly selected from Australian electorates. Face to face interviews Response rate not known Data weighted to age and gender distribution	<i>Which drugs cause the most deaths in Australia?</i> Open ended response
Public awareness, knowledge and attitudes regarding the CEN system in South Australia	1997	Penny Heale, David Hawks, Simon Lenton	N=605 Aged 14-70. Random sample. Stratified by age and place of residence (metro/non-metro). Quotas on age groups Telephone survey Response rate: 89% [N=5527 telephone numbers randomly selected, n=675 contact made and eligible, n=605 completed survey]	<i>Should: Possession of <100g/Grow three plants/Grow 15 plants/Sell 25g for profit/Possession by a juvenile/Cannabis use for medical purposes/Give cannabis to friend or acquaintance/Driving while affected by cannabis be:</i> <i>Legal</i> <i>Illegal</i> <i>Don't know</i> <i>If illegal or don't know, should: Possession of <100g/Grow three plants/Grow 15 plants/Sell 25g for profit/Possession by a juvenile/Cannabis use for medical purposes/Give cannabis to friend or acquaintance/Driving while affected by cannabis be:</i> <i>Legal</i> <i>Criminal</i> <i>Non-criminal</i> <i>Don't know</i>
Public perceptions of the health and	1995	Wayne Hall, Joan Nelson	N=3264	<i>From a health angle do you think regular use by an adult is OK? (i.e. once per week, once per fortnight)</i>

Publication	Year ^a	Author	Sample and Method	Focus/Questions ^b
psychological consequences of cannabis use			Stratified – at least 400 per state/territory. Telephone Survey Response rate: 16% ^c (Prior to the survey being conducted focus groups were undertaken to inform the survey questions)	Yes No Don't know
Pfizer Health Report	2006	Stollznow Research/ NDARC	N=1439 Aged 18 and over. Panel of 1000 households. Sample adjusted by age and residential location. Telephone survey Response rate not known	<i>From a health angle do you think regular use by an adult (18 years and over) is OK? (i.e. once a week or more)?</i> Yes No Don't know <i>I do not wish to answer this question.</i>
Attitudes to a proposal for controlled availability of heroin in Australia: Is it time for a trial? (Survey – 'Controlled availability of opioids: a feasibility study')	1991	Gabriele Bammer, Phyll Dance, Adele Stevens, Stephen Mugford, Remo Ostini, David Crawford	Three populations were sampled, Canberra, n=517 Queanbeyan, n=214 Sydney, n=520 Telephone survey Response rates: Canberra: 77% Queanbeyan: 74% Sydney: 61%	<i>Some people think that there are so many problems caused by illegal drug use that something new urgently needs to be tried. They would say that the proposed trial should go ahead. Other people think setting up a trial is just too risky because it might make the problems even worse. They would argue that it should not go ahead.</i> <i>Do you think that a trial should go ahead or that a trial should not go ahead?</i> Yes No Don't know.
Community attitudes to cannabis use in Western Australia Mobilizing public support for providing needles to drug injectors: A pilot advocacy intervention	1997	Simon Lenton, Mike Phillips, Simon Lenton, Claudia Ovenden	N=400 Aged 17 and above. Random sample of Western Australian population, from Perth, Bunbury and Geraldton. Telephone survey Response rate: 38% Data were weighted by age of respondent.	Single survey covered knowledge and attitudes to drug use, attitudes towards needle and syringe programs, and questions regarding cannabis decriminalisation in Western Australia. Not all questions are listed in publication(s). Questions: <i>Do you think cannabis should be made as legal as alcohol?</i> Yes No Unsure <i>Do you believe that the possession of small amounts of cannabis for personal use should remain a criminal offence in Western Australia, that is, result in a criminal record and possibly a jail sentence if convicted?</i> Yes No Unsure

Publication	Year ^a	Author	Sample and Method	Focus/Questions ^b
				<p>The study asked a number of follow up questions relating the reasons given.</p> <p>Survey also involved an advocacy intervention: two sets of Likert scale items pertaining to the provision of injecting equipment to injecting drug users were included. One was presented before, and one after, a three minute standardised audio-taped information module played over the telephone, which comprised the advocacy intervention. This taped message was read by a male radio news reader.</p>
Sydney Medically Supervised Injecting Centre: Interim Evaluation Report No. 2: Evaluation of Community Attitudes towards the MSIC	2000, 2002, 2005	Hla-Hla Thein, Jo Kimber, Lisa Maher, Margaret MacDonald, John Kaldor	<p>Sample of residents/businesses in the area around the Medically Supervised Injecting Centre (MSIC) in King's Cross.</p> <p>2000, n=515 residents/269 businesses (Response rates: 75%/85%) 2002, n=540/207 (Response rates: 78%/87%) 2005, n=316/210 (Response rates: 82%/79%^d)</p>	<p>Exact questions not listed.</p> <p>Survey asked respondents whether they supported the MSIC, and whether they thought that the centre would reduce the harms associated with injecting drug use.</p>
Public opinion towards supervised injecting centres and the Sydney Medically Supervised Injecting Centre			<p>Aged 18 and above</p> <p>Telephone interview</p>	
Five years on: What are the community perceptions of drug-related public amenity following the establishment of the Sydney Medically Supervised Injecting Centre?				

Publication	Year ^a	Author	Sample and Method	Focus/Questions ^b
Public perceptions of cannabis legislation	1994	Jenny Bowman, Rob Sanson-Fisher	N=1608. Australians aged 18 to 70. Telephone survey. Response rate: 53.8% (Contact made with 3897 households. Eligible resident in 3144 households. 2991 selected subjects were able to be contacted and asked to take part 1608 subjects consented). Data weighted by state, gender and age group.	<i>What is your opinion? Should... grow cannabis for supply to others possess cannabis for supply to others sell cannabis to someone else for money supply cannabis without exchanging money grow cannabis for personal use possess cannabis for personal use sell a small quantity of cannabis to someone else for their personal use actually use cannabis possess implements for smoking or using cannabis drive a vehicle after or while smoking cannabis ...be legal or illegal?</i>
K2 and Kings Cross: Community Attitudes to the needle syringe program, discarded syringes and public injection, 1997 and 1998	1997, 1998	Margaret MacDonald, Scott Rutter, Alex Wodak (NSW Health)	1997 N=305 1998 N=315 Random sample of residents from 2011 postcode, with age and sex quota comparable to census Aged between 18-65. Telephone interview. Response rate not known	Covered knowledge of and attitudes towards NSP in NSW. <i>Firstly, do you agree or disagree that we should continue to have the needle and syringe exchange program in NSW? Strongly agree Mildly agree Neither agree nor disagree Mildly disagree Strongly disagree</i>

Table 2 Notes:

- Year is when data were collected, not the year of publication.
- Where there are too many questions to fit in the table, they have been listed in the appendix.
- Hall's low response rate of 16% has been noted, however this is comparing how many calls were made, to how many interviews were completed. It takes into account not only those who actually declined to take part, but those who were ineligible due to their quota being filled.
- 2005: N=3,466 resident calls made, of which n=385 were eligible, n=316 agreed to undertake interview. N=801 businesses were called, of which n=267 were eligible, and n=210 agreed.

SURVEY METHODOLOGICAL DIFFERENCES

One of the aims of this review was to compare the results from different opinion surveys. However, different surveys use different methodologies, and before attempting to compare results between different surveys it is important to consider differences between the various methods used.

The reliability of a survey (the probability of the same results being found if the survey was repeated) is dependent on a number of factors, one of the more important ones being sample size and sampling method. Some of the surveys here used a simple random sample, and then weighted the data according to census age distribution. Others used various methods of sample stratification. One survey used a clustered sample, with face to face interviews (Borland, Donaghue, & Hill, 1997). Another used a panel sample; a group of people that agreed to undertake multiple surveys over a period of time (Pfizer, 2007).

The sample sizes in the surveys here ranged from 400 to nearly 30 thousand. By far the largest sample belongs to the AIHW National Drug Strategy Household Surveys (NDSHS) – the 2004 survey had a sample of almost 30 thousand respondents. For a nation-wide survey, a sample size of around 1000-1200 or more is generally acceptable – this is usually the figure that polling organisations use when conducting opinion polls and gives a margin of error at around 3% with a 95% level of confidence (Dobson, 2008). All the nation wide surveys included here used a sample of at least that size. Five of the surveys here were not national, but local or state based, and their sample sizes were lower. Generally these surveys targeted a local population most affected by the particular issue or policy in question, for instance the residents living near the supervised injecting facility. Whilst these surveys were designed for a particular purpose, using their results to make assumptions about nation-wide attitudes is problematic. If the survey did not sample a population then no assumptions can be made about the attitudes of that population. At best, these surveys can be used as a kind of circumstantial evidence when making claims about national public opinion.

Establishing the validity of a survey - whether the survey actually measures what it intends to – can be difficult in this case because there are no objective measures to test the results against. There is no way to test the *predictive* validity of these surveys, as opposed to pre-election polls that can be evaluated against what actually occurs in elections. A common method of validating attitudinal surveys is to include two different questions on the same variable, or re-asking a question twice at different times. Mutually re-enforcing answers to the two questions would indicate that they are valid. This only occurred once in the surveys here, in the 1995 and 1998 NDSHS question on cannabis legalisation.

Another technique for evaluating survey validity is by comparing the results of one survey with another, what is known as *concurrent* validity. As some of the surveys here focus on attitudes towards the same issues, yet use different methods and have differently worded questions, similar results across different surveys would indicate that they are valid. One of the aims of this review was to compare similar questions from different surveys, which allowed some analysis of the validity of the results.

The type of questions asked, and the possible responses can sometimes give a good indication of problems with validity. The types of questions asked in these surveys ranged from the very simple: ‘should the smoking of marijuana be a criminal offence’, to an extensive and nuanced range of questions around attitudes toward heroin use (Bammer et al., 1996). Sometimes the questions asked

and the possible range of responses can skew the results of a survey. For example, a survey on youth attitudes which was not included in this review; the Victorian Youth Alcohol and Drug Survey, asked young people what they thought about drug use. To measure this it asked the respondent whether they felt certain drugs were 'Very wrong, Wrong, A little bit wrong, Not wrong at all', or 'Unsure'. Clearly the range of possible responses given to this question is biased in a particular direction. The inclusion of three response categories which describe drug use as 'wrong' compared to only one that does not and one unsure, may result in invalid responses, compared with what the respondents *actually* think about drug use.

Another important factor relating to validity is method used when surveying respondents. The most common method of interviewing in the included surveys here is by telephone, with all the smaller individual surveys using telephone with the exception of Borland (1997). The NDSHS has used a combination of survey methods; face-to-face interviews from 1985-2001, a self administered questionnaire from 1998-2007, and telephone interviews from 2001-2007. The AUSSA, Australian Election Study and National Social Survey have used a self-administered questionnaire (mailed). In general, self-administered questionnaires have the advantage of minimising the under-reporting of various sensitive behaviours by respondents, including drug use (Aquilino, 1994; Testa, Livingston, & VanZile-Tamsen, 2005; Tourangeau & Smith, 1996). This can have ramifications for attitudinal questions also, as those who use drugs are likely to have different opinions to those who do not. For the NDSHS interviews that were conducted face-to-face a sealed section was also utilised (1988-1995), which contained the more sensitive questions dealing with drug use. This method was aimed at increasing the validity of the survey, particularly in regards to reported drug use (McAllister & Makkai, 1991). Where questions in this review have been part of the sealed section this has been noted in the results section (this is the case with Figure 5 only).

Taking all of the above into consideration, some of the surveys are more useful than others for further analysis. Although it is problematic to extend the results of the localised research to make assumptions about the broader population, many of the smaller scale studies exhibit robust methods, and can provide insight (this includes Bammer et al., 1996; Fetherston & Lenton, 2005, 2007; Heale, Hawks, & Lenton, 2000; Lenton & Ovenden, 1996; Lenton & Phillips, 1997; McDonald, Rutter, Wodak, & Kaldor, 1999; Salmon, Thein, Kimber, Kaldor, & Maher, 2007; Thein, Kimber, Maher, MacDonald, & Kaldor, 2005).

RESULTS

We examined two aspects of the Australian public opinion surveys: the *trends over time in relation to public opinion on key illicit drug questions*; and *the extent of concordance between different surveys asking similar or the same questions*. The range of issues included in the review was dictated by what the different surveys had focused on. We have examined questions about which drugs are perceived as most problematic and caused most deaths; whether the regular use by an adult of a range of drugs is perceived to be acceptable; opinions about the best mix of government investment between law enforcement, treatment and prevention; the legal status of cannabis; and interventions aimed at heroin use: a trial of prescribed heroin; needle and syringe programs; and supervised injecting facilities. We have chosen to focus on illicit drugs and do not consider alcohol and tobacco, except as comparators for opinions about illicit drugs.

In some cases, the results we present here from the NDSHS differ slightly from the published results from those surveys. This is due to the alterations made to the data by recoding responses (see Appendix B for details). This has been done to allow greater comparability between surveys, by synchronising the sample populations. We can be surer that any trends identified in the NDSHS results presented here represent real opinion changes in the population, and have not been caused by changes in the survey method.

Trends in public opinion on drug harm and community concern

Public opinion on drug harm and community concern has been measured every three years in the NDSHS from 1985 through to 2007. Respondents are asked to identify the drugs they most associate with a drug problem; the drugs they perceive to be of most concern to the community; the drug associated with the most deaths; and whether the use of illicit drugs by an adult is ‘acceptable’.

Before looking at the results, two things are important to keep in mind when analysing Figure 1. Firstly, there was a change in survey methodology in 1998 with the introduction of a self administered questionnaire. Before 1998, the question was entirely interviewer administered and respondents were not prompted with a list of drug types. In 1998 the self administered questionnaire provided a list of all the possible responses. Secondly, when asked this question respondents were given a first and second choice; this chart shows the first choice only; in effect the respondents have only one option. Therefore each category is dependent on the others; as more people choose one category, for instance heroin, the other categories will naturally have to drop. A drop in a particular response means that this drug type is less of a concern *relative* to other drugs. This is the case with the results presented in Figures 1, 2 and 3.

Overall, heroin and cannabis have consistently been rated most highly associated with a drug problem, followed by alcohol; and then the other illicit drugs (with cocaine and amphetamines both falling below alcohol from 1993 to 2004). In 1985, heroin was nominated by 48.1% of the sample, followed by cannabis with 31.7%. All other drug types, including alcohol, amphetamines and cocaine were identified by less than 10% of the sample. From 1985, perceptions of heroin as the ‘drug problem’ decreased to 29.8% of the sample by 1993, increased to 50.1% in 2001 before dropping significantly in 2004 to 41.5% ($p < 0.01$). According to the 2007 NDSHS, heroin has dropped to 30.2% of the sample in 2007, continuing its downward trend since 2001. This changing trend is consistent with the widespread increasing availability of heroin and the associated public harms from

the late 1980s through to 2000, when the abrupt shortage of heroin reduced its public profile (Degenhardt, Day, & Hall, 2004; Dietze & Fitzgerald, 2002; Rouen et al., 2001).

Figure 1: Perceptions of which drugs are associated with “a drug problem”

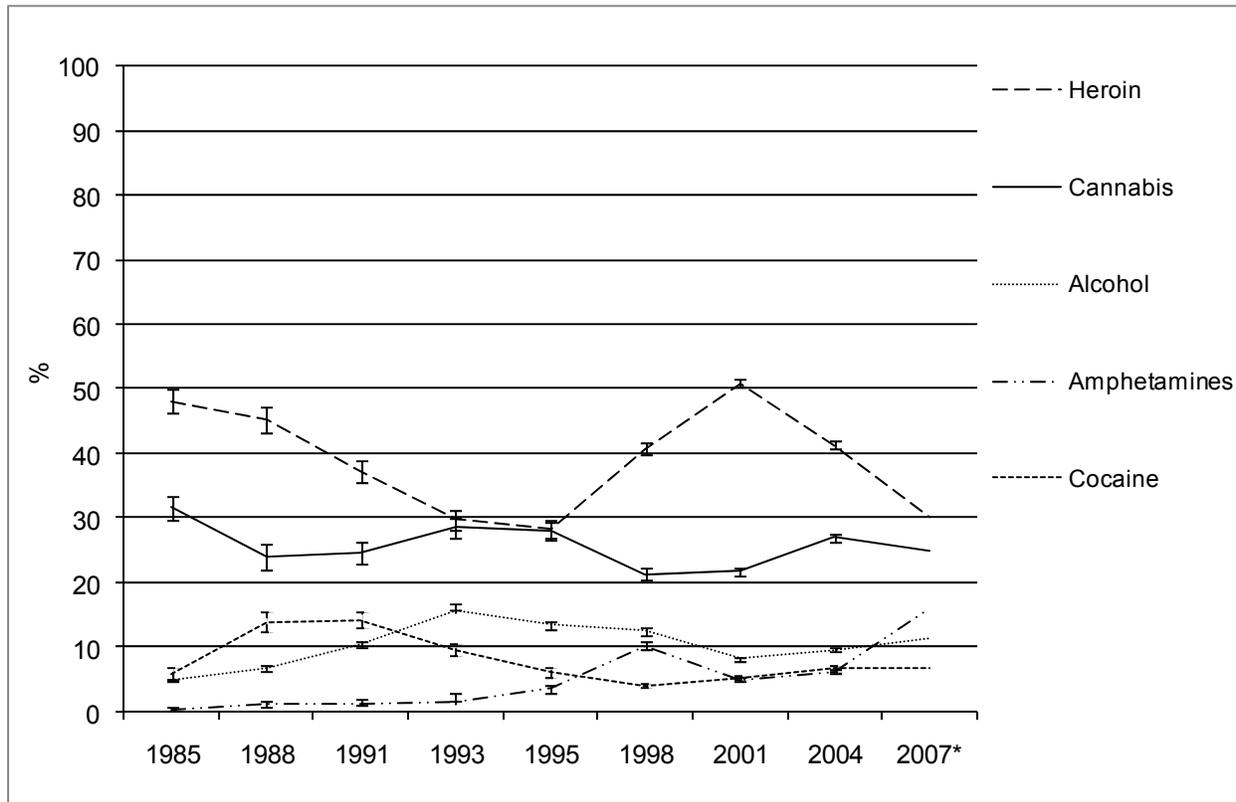


Figure 1 Notes:

Question wording: 'When people talk about a 'drug problem', what drugs do you think of?'

Confidence intervals are included in the figure. Chi-Square calculations on peaks and troughs were undertaken to determine significant differences between years of interest (excluding the 2007 results) for each drug. For example, heroin: 1995 -2001 and cannabis: 1985 – 1988. All differences were found to be significant at $p < 0.01$, with the exception of heroin 1993-1995; cannabis 1993 – 1995; and cocaine 1988 – 1991. A full list of the significance testing undertaken for this question can be found in Appendix B1.

*2007 results have been taken directly from the ASSDA, and have not been subject to the same analysis as previous years.

The percentage of people first associating cannabis with a ‘drug problem’ has fluctuated less than with heroin, dropping from 31.7% in 1985 to a low of 21.4% in 1998, before rising significantly to 27.1% in 2004 ($p < 0.01$). Perceptions that alcohol signifies a ‘drug problem’ increased significantly between 1985 and 1993 ($p < 0.01$), where 15.6% of respondents reported that this was the first drug that they thought of. This has subsequently fallen, and in 2004 was nominated by 9.7% of respondents. Results from the 2007 NDSHS show that the proportion of people nominating alcohol and cannabis as associated with a ‘drug problem’ has remained steady in 2007, with 11.4% and 25.1% respectively. Ecstasy was not include in the survey until 1995 (and is not shown in the graph). 3.8% of respondents nominated ecstasy in 2007, rising from 2.4% in 2001³. Tobacco is also not shown above, not moving above 5% for the duration of the survey.

³ Statistical significance not tested.

Of interest in these results is the large numbers of people associating cocaine with a ‘drug problem’ in 1988 and 1991 (14.1% and 14.4% respectively), before dropping significantly to 4.2% by 1998 ($p < 0.01$). Unlike the case with heroin in 2001, there was no substantial rise in cocaine use or harms during that time in Australia which could explain this apparent shift in opinion. It is feasible however that the Australian public was in some way affected by the news of a ‘cocaine epidemic’ in the United States at that time (see Gonzenbach, 1992; Orcutt & Turner, 1993).

We note the steady increase in the perception of amphetamines as a problem, with a significant increase in 1998 in particular. There was a change in that year from an interviewer administered, open ended question to a self administered questionnaire, however it would be expected that any effects from a change in the survey method would also be seen in subsequent surveys, which was not the case. The word used to describe the drug has changed from ‘amphetamine’ to ‘meth/amphetamine’, which could conceivably alter the results considering the recent increased public attention on crystal methamphetamine, but this did not occur until 2004, *after* the jump in 1998. There is also the possibility that this spike may have been caused by a particularly effective public education campaign on amphetamines conducted between 1995 and 1998. The ‘*Speed catches up with you*’ public education campaign on amphetamines could possibly be a candidate, however it ran from 1993-1995 (Nicholas, 2002), which is slightly early to account for these results. The 2007 NDSHS found that 16.1% of the sample associated meth/amphetamine with a drug problem, rising from 6.4% in 2004. This change is consistent with a rising interest and concern about methamphetamine use in recent years (Degenhardt et al., 2008). All other drug types, including ecstasy, gained less than 10% of the sample in 2007 (not shown in the figure).

Another way of examining which drugs are perceived to be most problematic is to ask about which drugs represent “the most serious concern to the community”. Figure 2 displays the results.

Unlike the previous question (Fig.1), in this question respondents were shown a card listing different drugs in the face to face interviews, from which to make their choice in the years 1988 to 1995. From 1998 to 2004 the self administered questionnaire included the prompts.

As can be seen in Figure 2, heroin was decreasing as a cause of major concern until 1995 (30%) after which concern increased to 33.8% in 2001, and decreased again to 18.3% in 2004 ($p < 0.01$). As noted earlier, this pattern is consistent with the dramatic change in heroin supply in late 2000/early 2001. Concern about alcohol rose significantly between 1988 and 1993 (27.7% to 33.5%) and then declined from 1993 to 23.9% in 2001, with a statistically significant upturn to 32% in the 2004 survey ($p < 0.01$). Tobacco has followed a similar pattern – rising from 7.2% in 1988 to 22.7% in 1995, declining to 18.1% in 2001, with a rise to 23.9% in 2004 ($p < 0.01$). Cannabis, cocaine and ecstasy all hovered at around 5% – 7% in 2004, having fluctuated somewhat over the preceding surveys but, always below 10%. Amphetamines is not included in this Figure, but was nominated by 3% of the sample in 2004. All the other drug types are below this number (and not shown in the Figure). No results were available from the 2007 NDSHS survey at the time of writing.

Figure 2: Perceptions of which drug is considered the most serious concern for the general community

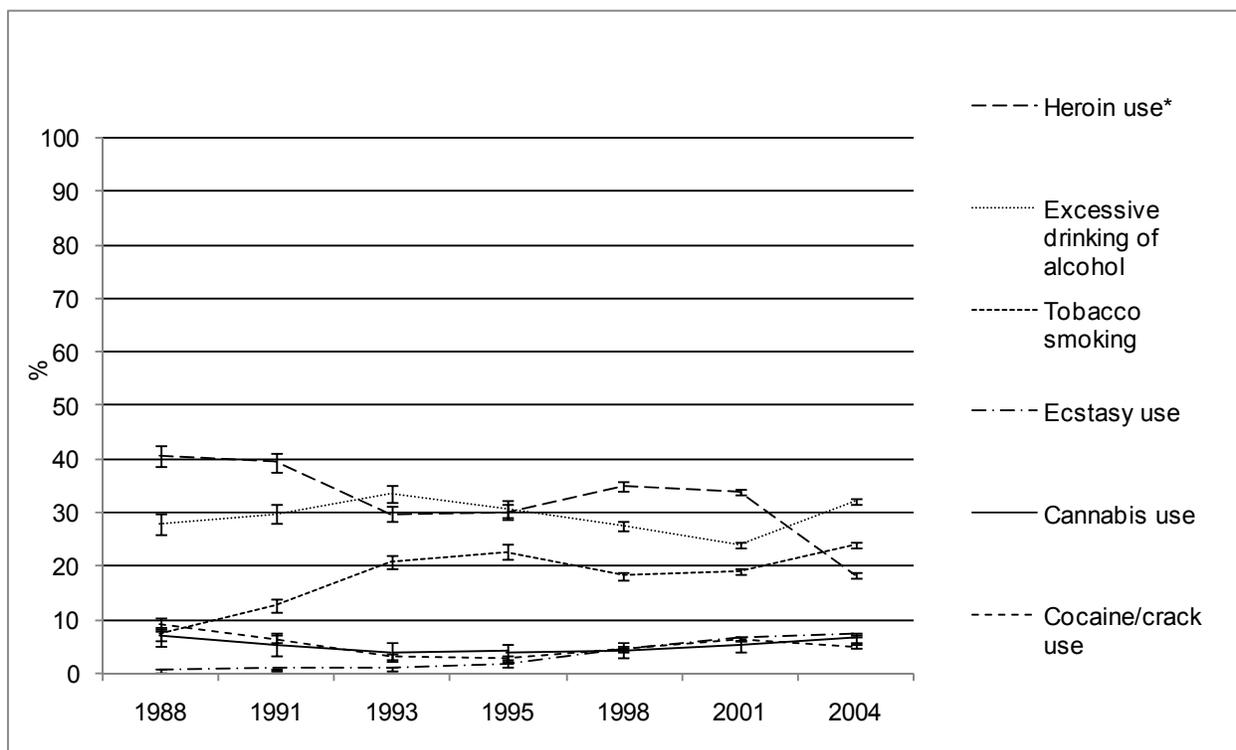


Figure 2 Notes:

Question wording: 'Which of these drugs do you think is the most serious concern for the general community?'

* We have combined the results from heroin use with a category titled 'sharing needles and syringes', which was a possible response from 1988 to 1998 as we considered 'sharing needles and syringes' as a problem most relevant to heroin use. This was necessary in order to conduct the significance testing. The 'sharing needles and syringes' category accounted for 16.1% of responses in 1988, rose to 23.4% in 1991, and then slowly declined to 14% in 1998. Data from 1985 (before the introduction of the needles and syringes category) is not included in the graph. In that year, 45.9% of the sample considered alcohol use the most serious concern, followed by heroin with 27.9%. No other drugs were nominated by more than 10% of the sample in that year.

Confidence intervals are included in the figure. Chi-Square calculations on peaks and troughs were undertaken to determine significant differences between years of interest, for each drug; for example heroin: 1988 -1993 and cannabis: 1988 - 1993. All differences were found to be significant at $p < 0.01$, with the exception of tobacco 1993-1995. A full list of the significance testing undertaken for this question can be found in Appendix B2.

A major difference between Figure 2 and Figure 1 is that here the public nominated alcohol as a community concern much more often than heroin, whereas in Figure 1 heroin was more consistently nominated as associated with 'a drug problem'. The reason for the difference may lie in the question wording: 'a drug problem' suggests a more *personal* problem with drugs, as opposed to a community problem. In other words, the respondents to this survey have identified heroin as a drug that poses the largest problems to its relatively small base of users. Even though alcohol use may be less problematic than heroin on an individual level, the greater number of people using alcohol means that for the community at large, alcohol is a greater concern.

The first two questions, concerning 'a drug problem' and 'which drug is of most concern to the general community' are worded in order to elicit a general, subjective response about 'harms'. The third question is slightly different in that it asks respondents about a particular, quantifiable harm – mortality. This question was first asked in the 1993 NDSHS.

Figure 3: Perceptions of which drugs cause the most deaths

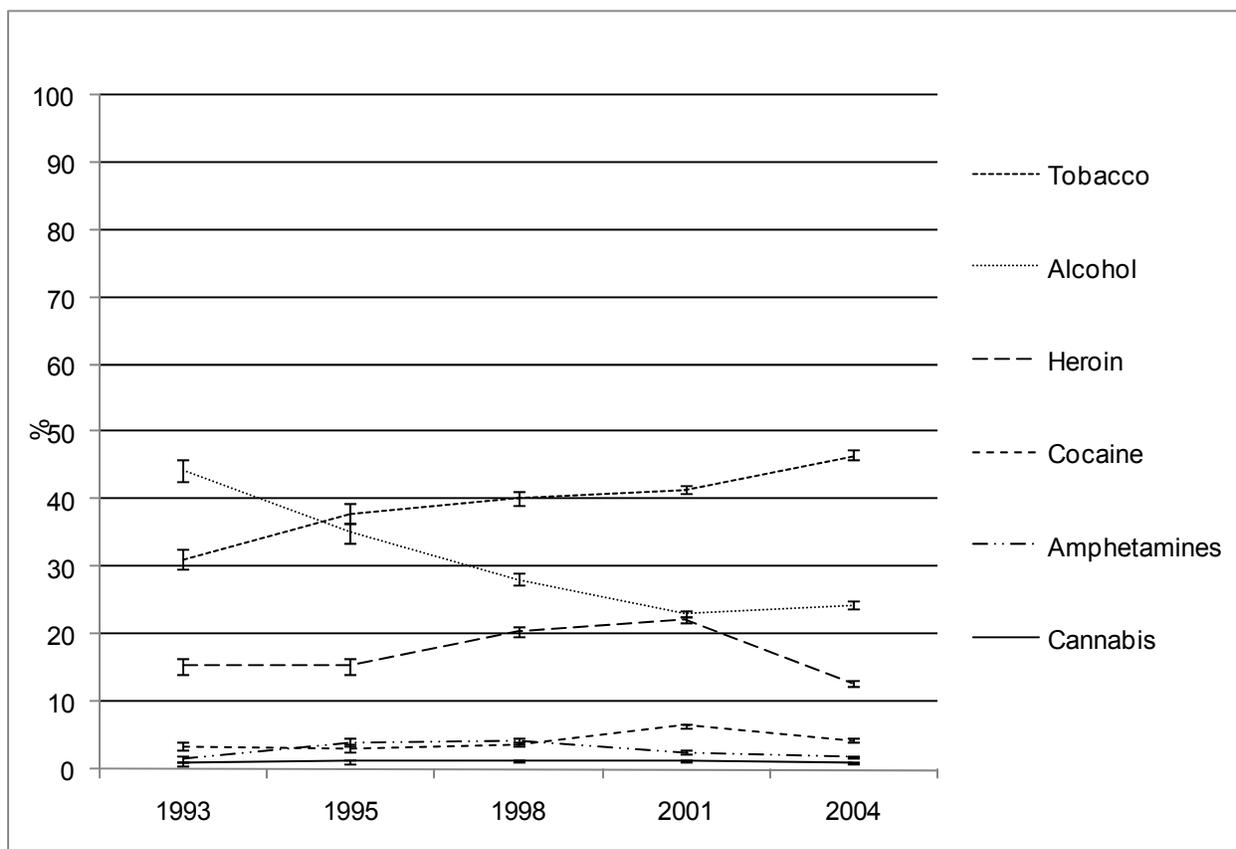


Figure 3 Notes:

Question wording: 'Which of these drugs do you think directly or indirectly causes the most deaths in Australia?'

Confidence intervals are included in the figure. Chi-Square calculations were undertaken on peaks and troughs to determine significant differences. All differences were found to be significant at $p=0.01$, with the exception of cannabis 1993-2004; cocaine 1993-1998; and amphetamines 1995-1998. A full list of the significance testing undertaken for this question can be found in Appendix B3.

Similar to the question asked in Figure 2, this question was interviewer administered with the respondents being shown a card listing different drug types up until the 1998 survey, after which time the questionnaire has been self administered. Figure 3 reveals that the drug perceived to cause most deaths in 2004 was tobacco, which steadily rose to 46.8%, from 31.2% in 1993 ($p<0.01$). In 1993 alcohol was considered the leading cause of death, by 44.4% of the sample, but dropped to 23.1% in 2001 before rising slightly to 24.5% in 2004 ($p<0.01$). The proportion of people who considered heroin (also called 'narcotics' in the survey⁴) as the leading cause of death rose from 15.4% in 1993 to 22.2% in 2001, and then dropped to 12.8% in 2004 ($p<0.01$). This changing pattern of concern surrounding heroin is consistent with the results seen in the previous two Figures. The number of respondents nominating other drugs as causes of death including cocaine, amphetamines and cannabis is low, below 10 per cent for each drug type over the time frame. No results on perceived cause of death were available in the 2007 NDSHS at the time of writing.

⁴ Heroin was also described as 'narcotics' for this question in 1993, 1995 and 1998.

Clearly, the public identifies licit drugs as causing far more deaths than illicit ones. In 2004, 71.2% of respondents identified either alcohol or tobacco as the leading cause of death amongst drugs. It is possible to compare the perceptions of death with actual mortality rates amongst drug classes. For the year 2003 tobacco attributed deaths represented 75.1% of all drug-related deaths (AIHW, 2007). Alcohol represented 16.6% and illicit drugs 8.3%. Therefore, Figure 3 indicates that in 2004, 46.4% of respondents correctly identified tobacco as the leading cause of death, whereas 24.2% of the general public believed alcohol to be the leading cause of drug-related death, and 27.5% incorrectly nominated illicit drugs as the leading cause (not including prescription drugs/pharmaceuticals, which accounted for 1.9% of respondents).

The next Figure compares data from the above question in the 1993 National Drug Strategy Household Survey (which drug causes the most deaths), with the results from another survey with a similar question also collected in 1993⁵ (Borland, Donaghue et al. 1997). The exact questions and possible responses can be seen in the notes to the figure.

Figure 4: Perceptions of most deaths: comparisons of surveys, 1993

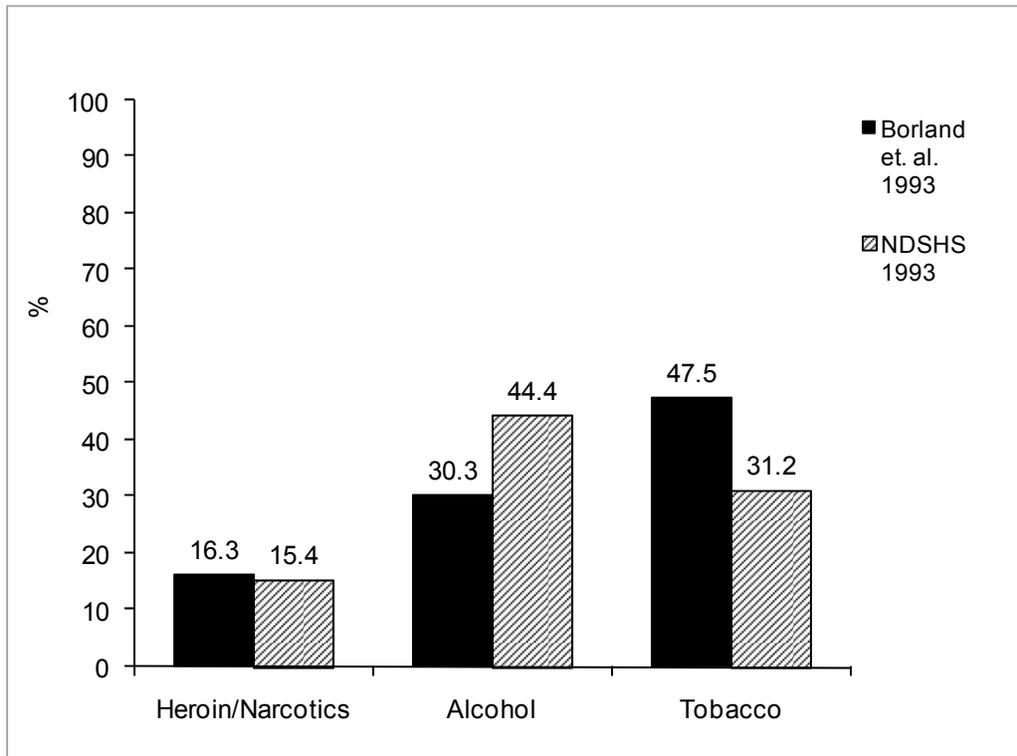


Figure 4 Notes:

Question wording:

NDSHS 1993: 'Which of these drugs do you think directly or indirectly causes the most deaths in Australia?' Narcotics (e.g. Heroin); Alcohol; Prescribed drugs (e.g. pain relievers, Valium, Serpax or sleeping pills); Amphetamines (e.g. speed or uppers); Tobacco; Cocaine; Marijuana/Cannabis.

Borland et. al. 1993: 'In your opinion, which one of these drugs causes the most deaths in Australia each year?'

Cigarettes/tobacco; Alcohol; Hard drugs/heroin; Cocaine; Pain killers; Marijuana; Can't say/none.

Statistical analyses were not able to be undertaken on these results.

⁵ The article was published in 1997, data were collected in 1993.

The results from Borland et. al. reveal a high level of understanding from the public that licit drugs kill more people than illicit ones (Borland et al., 1997). In both surveys, alcohol and tobacco account for almost 80% of all responses. Although the results for narcotics/heroin are very similar (as are the responses for cocaine, cannabis and prescribed drugs, which are all very low), the percentages nominating alcohol and tobacco as the drugs that cause the most deaths are roughly reversed in the two surveys. The inclusion of ‘directly or indirectly’ as a ‘qualifier of causation’ in the NDSHS is the major difference in question wording (Borland et al., 1997). The increase in numbers of people nominating alcohol when ‘directly or indirectly’ is included in the question wording suggests that the public may associate alcohol more with indirect deaths. The next Figure shows how much the public approves of the regular use of drugs by an adult.

Figure 5: Approval of regular drug use by an adult

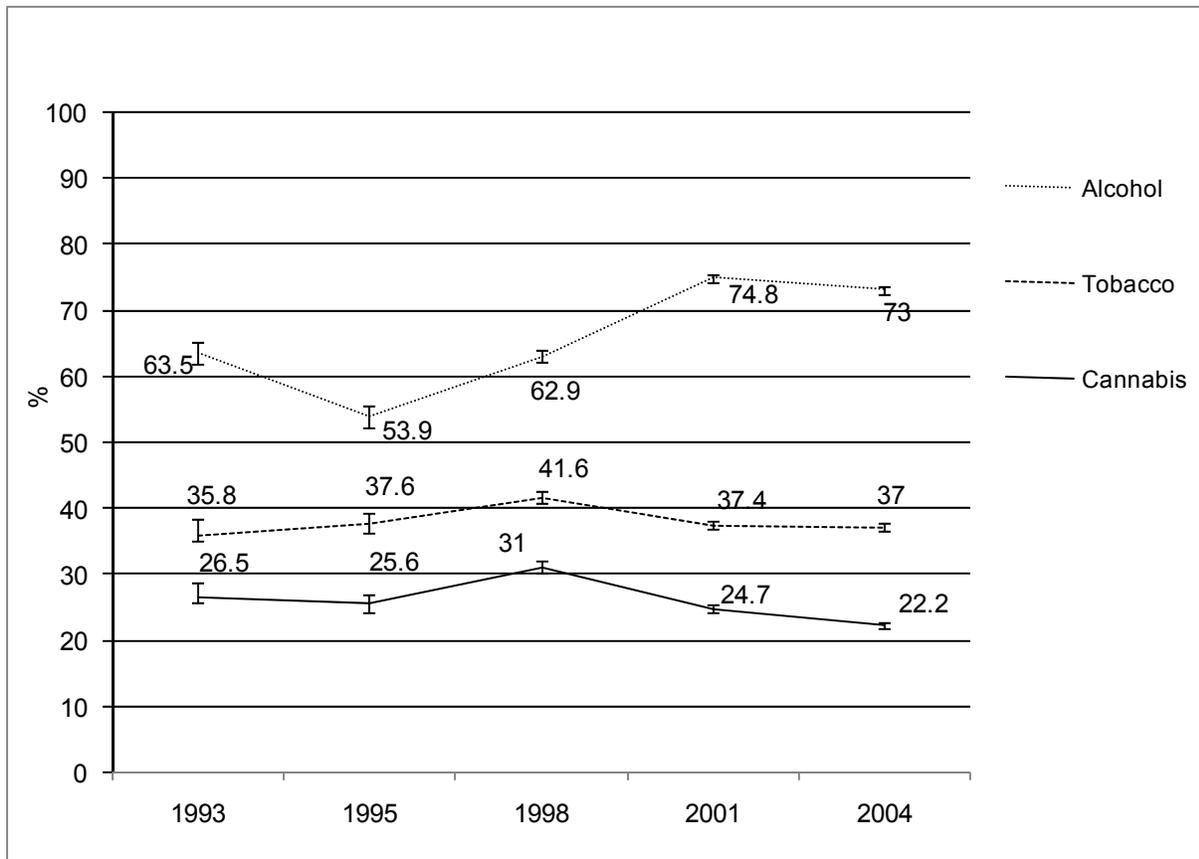


Figure 5 Notes:
 From 1993-2001, when this question was asked in the face-to-face interviews it was included in the sealed section.
 Question wording:
 1993, 1995, 1998: 'For each of the drugs listed below, please indicate whether you personally think that regular use by an adult (including for medical use) is okay, or not okay.' Regular use means at least once a month. OK/Not OK
 2001, 2004: 'For each of the drugs below, do you personally approve or disapprove their regular use by an adult?'
 Approve/Disapprove
 Confidence intervals are included in the figure. Chi-Square calculations on peaks and troughs were undertaken to determine significant differences. All differences were found to be significant at $p < 0.01$. A full list of the significance testing undertaken for this question can be found in Appendix B4.

An initial significant decrease in approval of regular alcohol consumption between 1993 (63.5%) and 1995 (53.9%) was not sustained, with approval rising from 62.9% in 1998 to 73% in 2004 ($p < 0.01$). Although the change in approval of tobacco use between 1993 and 2004 is statistically significant, the change has been minimal. Approval of cannabis use has shown an overall decline since 1993, but with a peak in 1998 of 31% then dropping to 22.2% in 2004 ($p < 0.01$). Less than 10% approved the use of any other type of drug (not shown in the Figure), including cocaine, heroin, steroids, and the non-medical use of pharmaceuticals.

The preliminary NDSHS 2007 results⁶ show that in 2007, just 6.2% of the sample approved of the regular use of cannabis use by an adult, 13.5% approved of tobacco use, and 42.9% approved of alcohol use, representing a drop in approval for the regular use of all three drugs. However, the response categories for this question have changed in 2007, including for the first time a ‘neither approve nor disapprove’ and a ‘don’t know’ category⁷. The inclusion of these new categories has reduced the number of people selecting either ‘approve’ or ‘disapprove’, considering that in 2007, the number of people selecting the new category ‘neither approve nor disapprove’ was 16.1% for cannabis, 21.8% for tobacco, and 34.4% for alcohol. It is therefore difficult to directly compare the results from the 2004 and 2007 NDSHS on this question.

When it comes to the approval of drug use, it appears that the general public makes a key distinction between *licit* and *illicit* drugs. In 2004, the majority of the public identified licit drugs (alcohol and tobacco) as both the major cause of death (Fig. 3) and as the major concern for the general community (Fig. 2). Despite this concern about alcohol and tobacco, the use of these drugs is still approved by a greater number of the population than illicit drugs.

By virtue of the various expiation schemes around Australia (Hughes, 2008), the personal use of cannabis often carries lighter penalties than the use of other illicit drugs, and although cannabis is generally prohibited (unlike alcohol or tobacco), cannabis use is certainly ‘less criminalised’ than cocaine or amphetamine use. As shown here, in terms of approval, cannabis is also less approved than alcohol and tobacco (despite the acknowledged harms that these drugs cause), and more approved than other illicit drugs. The apparent similarity between the legal status of drugs, and the numbers of people that approve their use, indicates that the public’s primary consideration when approving or disapproving of drug use may be the drug’s legal status, rather than the harms the drug may cause.

It is unclear whether the change in question wording from ‘okay or not ok’ to ‘approve or disapprove’ in 2001 has had any effect on the results. Approval of cannabis use dropped significantly in 2001, whilst approval for alcohol rose significantly, but whether this is due to the wording change is unclear. If it is assumed that ‘approving’ of something is a stronger term of endorsement than saying something is ‘ok’, it is plausible that this change in wording may have affected the approval of cannabis use, which dropped in 2001 but did not then change significantly between 2001 and 2004. However, if a change in question wording is the driver of the difference in results, we would expect a similar effect across drug types; instead, approval of alcohol rose whilst approval of cannabis declined. Again, there may be some evidence that there is a definite distinction in the public’s mind between a legal drug (alcohol) and an illegal one (cannabis). However, it is also reasonable to assume

⁶ Taken from the Australian Social Science Data Archive (ASSDA).

⁷ The question response categories for this question changed from ‘approve’ or ‘disapprove’ in 2004, to ‘strongly approve’, ‘approve’, ‘neither approve nor disapprove’, ‘disapprove’, ‘strongly disapprove’, and ‘don’t know enough to say’ in 2007.

that there was a real increase in approval of alcohol use between 1998 and 2001 independent of any change caused by question wording.

Figure 6: Approval of cannabis use: comparison of four surveys, 1995-2006

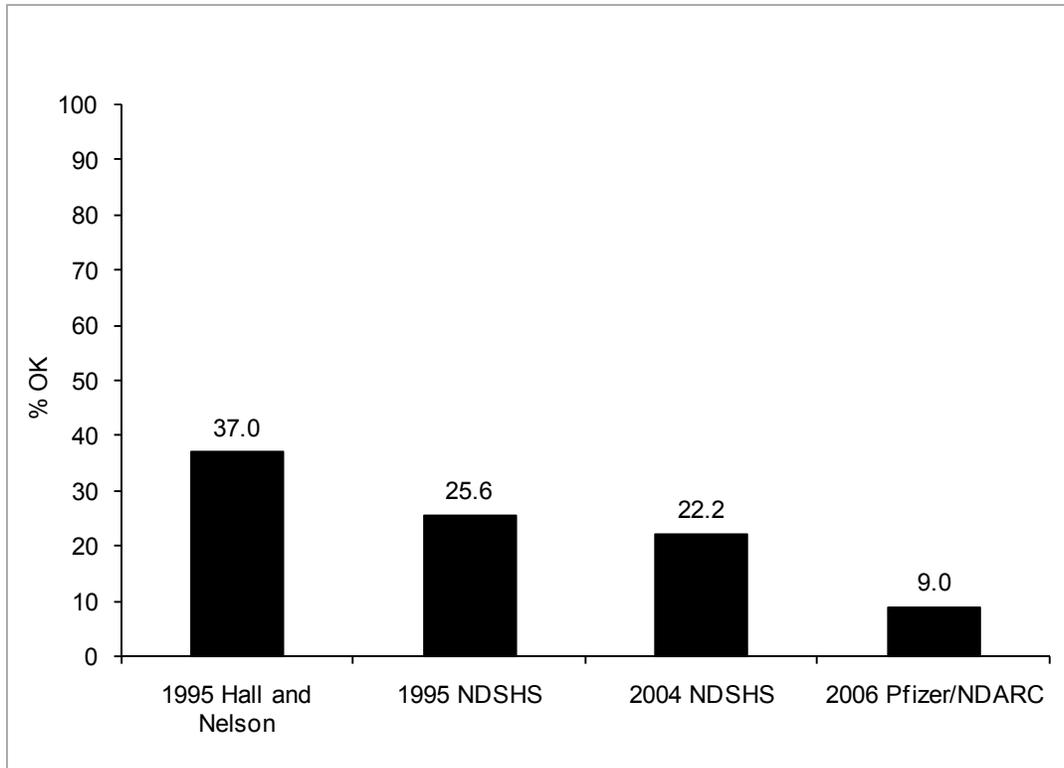


Figure 6 Notes:

Question wording:

1995 Hall and Nelson: 'From a health angle do you think regular use by an adult is OK?' (i.e. once per week, once per fortnight) Yes/No/Don't know

1995 NDSHS: 'For each of the drugs listed below (cannabis), please indicate whether you personally think that regular use by an adult (including for medical use) is okay, or not okay.' Regular use means at least once a month. OK/ Not OK

2004 NDSHS: 'For each of the drugs listed below (cannabis) do you personally approve or disapprove their regular use by an adult? Approve/Disapprove

2006 Pfizer/NDARC: 'From a health angle do you think regular cannabis use by an adult (18 years and over) is OK?' (i.e. once a week or more). Yes/No/Don't know/I do not wish to answer this question.

Statistical analyses were not able to be undertaken for these results.

Data from the 1995 NDSHS question on approval of cannabis use can be compared with data from other surveys with a similar question, as shown in Figure 6. The figure compares the approval of regular cannabis use by an adult across four surveys; two NDSHS (1995 and 2004), Hall and Nelson's 1995 survey and the Pfizer Health Report conducted in 2006. At first glance it would appear that approval has dropped substantially between 1995 and 2006, looking at these results. Acceptability of cannabis use is much higher in Hall and Nelson's 1995 research (although still low at just over one third of the sample), than the comparable 1995 NDSHS. Approval in 2004 is lower again, according to the NDSHS at 22.2% and in 2006 the Pfizer Health Report records only 9% of their sample thinking that cannabis use by an adult is 'ok'. The result from the Pfizer Health Report appears to be valid, considering that 6.2% of the 2007 NDSHS sample approved the regular use of cannabis (not shown in the figure), bearing in mind the changes in the response categories for that survey detailed earlier.

In addition to an apparent decrease in the approval of cannabis use over time, there is also a large difference between the two 1995 surveys. Different question wording may answer the question as to why these surveys, administered in the same year, have differed in their assessment of public opinion. Both the Hall and Nelson and Pfizer surveys include the words ‘from a health angle’ in their question, whereas the NDSHS makes no such reference. The inclusion of the words ‘health angle’ in both the Hall and Nelson and Pfizer surveys, immediately constructs a particular frame around the question, and directs the respondents to think about their response in regards to *health issues only*. The NDSHS question does not include such a qualifier, and leaves the respondent to think about cannabis in any way they want. The health focus of the question (excluding other possible issues surrounding cannabis use, such as law and order, or morality), could have affected the results to this question. That is, whilst somebody might feel that the health risks from cannabis use are quite low and that from a purely health perspective cannabis use is acceptable, they may feel more strongly about breaking the law. This may explain why Hall and Nelson’s result to this question is higher than the comparable 1995 NDSHS.

Two other differences between the 1995 surveys may have contributed to the differences in the results in that year. Firstly, the Hall and Nelson question includes a ‘Don’t know’ response, whereas the NDSHS includes only ‘OK’ or ‘Not OK’. One would expect the addition of ‘Don’t know’ to decrease the amount of responses to the other two categories, as a more accurate response for people who are not sure of their answer. Second is the definition of ‘regular use’. Both questions refer to regular use, but the NDSHS defines this as ‘at least once a month’ whereas Hall and Nelson define it as ‘once per week’ or ‘once per fortnight’. Substantively these are very similar definitions, but one might expect that approval of cannabis use ‘at least once a month’ would be higher than approval for cannabis ‘once a week/fortnight’. However, the results are not in that expected direction. The NDSHS records *lower* approval, despite a ‘more lenient’ definition of regular use, and the absence of a ‘don’t know’. This would indicate that the inclusion of ‘the health angle’ in the Hall and Nelson question might be a key determinant in why the acceptability of cannabis use is much higher in that survey than the 1995 NDSHS.

Regardless of the differences in results from the 1995 surveys, it would appear that there has been a substantial decrease in the approval of cannabis use since 1995, with both the 2006 Pfizer Health Report and 2007 NDSHS finding approval rates below 10% of the sample.

Trends in public opinion on policy responses

In the NDSHS, respondents are asked how they would spend a notional \$100 on drug policy, split between the areas of education, treatment and law enforcement. The results are presented in Figure 7 (data from 1988-1993 not shown). For cannabis, most respondents would prefer greatest spending on education (mean across all surveys = \$44.23). The average preferred spending on law enforcement for cannabis was \$30.26. The least preferred option was spending on treatment at a mean of \$25.52 across the four years. The differences between spending on law enforcement, treatment and education were all significant for cannabis ($p=0.01$). Between 1995 and 2004 there has been a decrease in support for spending on education, and an increase in support for law enforcement.

Figure 7: Policy mix: education, treatment, law enforcement spending for cannabis, amphetamines, heroin/cocaine, alcohol and tobacco

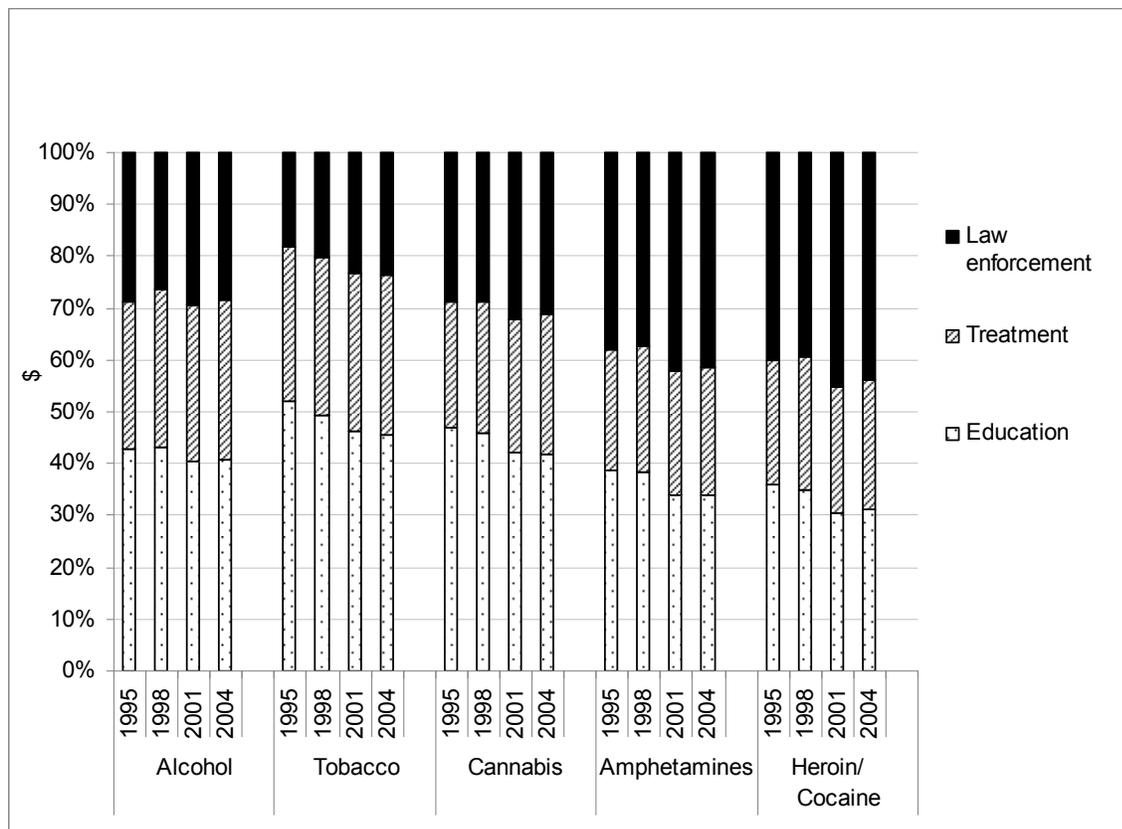


Figure 7 Notes:
 Question wording: 'If you were given \$100 dollars to spend on reducing misuse of alcohol/reducing the harm associated with tobacco use/reducing marijuana use/reducing amphetamine use/reducing heroin or cocaine use?'
 Full details of the statistical analysis undertaken for this question can be found in Appendix B5.

For amphetamines, law enforcement has been the most popular policy option, with a mean spending of \$39.72. Education was the second most popular, with a mean of \$36.21, and treatment at \$24.08. Over the 10 years of the surveys (1995 to 2004), there has been a decrease in support for spending on education and an increase in the allocations to law enforcement (from \$37.88 in 1995 to \$41.39 in 2004).

Heroin/cocaine has very similar results to amphetamines. The preferred spending area was law enforcement (mean \$42.17). Education was second to law enforcement at \$33.21, followed by treatment at \$24.62, all significantly different from one another ($p < 0.01$). And as above, between 1995 and 2004 there was decreased preference for spending in education (from \$36.10 in 1995 to \$31.19 in 2004) and increased preference for law enforcement (\$39.91 in 1995 to \$43.87 in 2004).

Alcohol and tobacco are included here by means of comparison with the illicit drugs. Clearly, when dealing with tobacco use, education is more popular (mean = \$48.33), and law enforcement less so (mean = \$21.28) than for the illicit drugs. As tobacco is a legal drug, this is perhaps unsurprising. There has been an increase in support for tobacco law enforcement, from 18.2% in 1995 to 23.6%

of spending in 2004, which may be related to greater focus on issues surrounding passive smoking and the resultant tightening of smoking regulations over this time period. Alcohol also shows most preferred spending in education (mean of \$41.76 across the four surveys) but a greater preference for investment in treatment (mean = \$30.05) than the illicit drugs.

Based on these results, it would appear that over time there has been a trend in Australian public opinion towards decreasing policy spending in the education realm and increasing policy spending in law enforcement for illicit drugs. Support for treatment has remained largely static. Between 2001 and 2004 there was a slight decrease in preference for spending on law enforcement for the three illicit drugs. While this was statistically significant ($p < 0.01$), the actual magnitude of the difference is small (for heroin/cocaine it is a change of \$1.50c; for cannabis it is 95 cents; amphetamines 89 cents) – these differences are unlikely to reflect meaningful change in public opinion. The 2007 *First Results* publication combines marijuana, methamphetamines and heroin/cocaine into a single, ‘illicit drugs’ category, making comparisons between the different drugs impossible⁸.

We can compare the desired drug budget from 2004 with the estimate of the actual spending on illicit drug policy. In 2002/3, overall pro-active⁹ government spending was distributed as follows: 23% on education (prevention), 19.9% on treatment, and 57.1% on law enforcement (Moore, 2005). This would suggest that Australian governments spend more on law enforcement than is desired by the public, at the expense of both education and treatment.

Another policy related question asked in the NDSHS is about support for penalties for the sale and supply of illicit drugs. The drug dealer is a commonly demonised figure, often characterised as a ‘predator’ (Carpenter, 2007), and whilst the general public may accept that drug users should sometimes be treated with lenience, this does not extend to those people engaged in drug supply. Figure 8 demonstrates that the majority of Australians support tougher penalties for drug dealers.

As can be seen in Figure 8 below, the level of support for increasing the penalties for the sale and supply of heroin, amphetamines and cocaine is high (close to 80% of the sample in 2007). Support for increasing the penalties for sale and supply of cannabis is much lower than the other drugs, but is still favoured by a majority of the sample. As cannabis is considered less of a problem than the other drugs and more acceptable to use (see Figure 5), it is reasonable that there will be less support for increased penalties. It dropped significantly ($p < 0.01$) from 61.1% in 1995 to 51.9% in 2004.

Overall, there has been a statistically significant reduction in support for increased penalties for drug sale and supply between 1995 and 2004 ($p < 0.01$), for all drug types included in the question. This is not apparent when looking at the original published data - in that case, support remained more static over the time frame¹⁰. The 2004 *published* NDSHS Figures put support for increased penalties at 58.2% 86%, 83.7% and 84.6% for cannabis, heroin, amphetamines and cocaine respectively, higher than what is shown here.

⁸ The 2007 preferred spending on illicit drugs was \$40.30 on law enforcement, \$34 on education, and \$25.70 on treatment.

⁹ This does not include government spending on ‘crime-related consequences’, such as prisons.

¹⁰ The alterations made to the data (see Appendix B) involved removing the CATI interviews, which were first used in 2001, and interviews with 12-13 year olds which began in 2004, leaving the drop and collect (self administered) questionnaires undertaken by people aged 14 and above in the analysis. The results here suggest that the CATI method may prompt a higher level of support for increased penalties than the self administered questionnaire.

Figure 8: Attitudes towards increasing the penalties for sale and supply of illicit drugs.

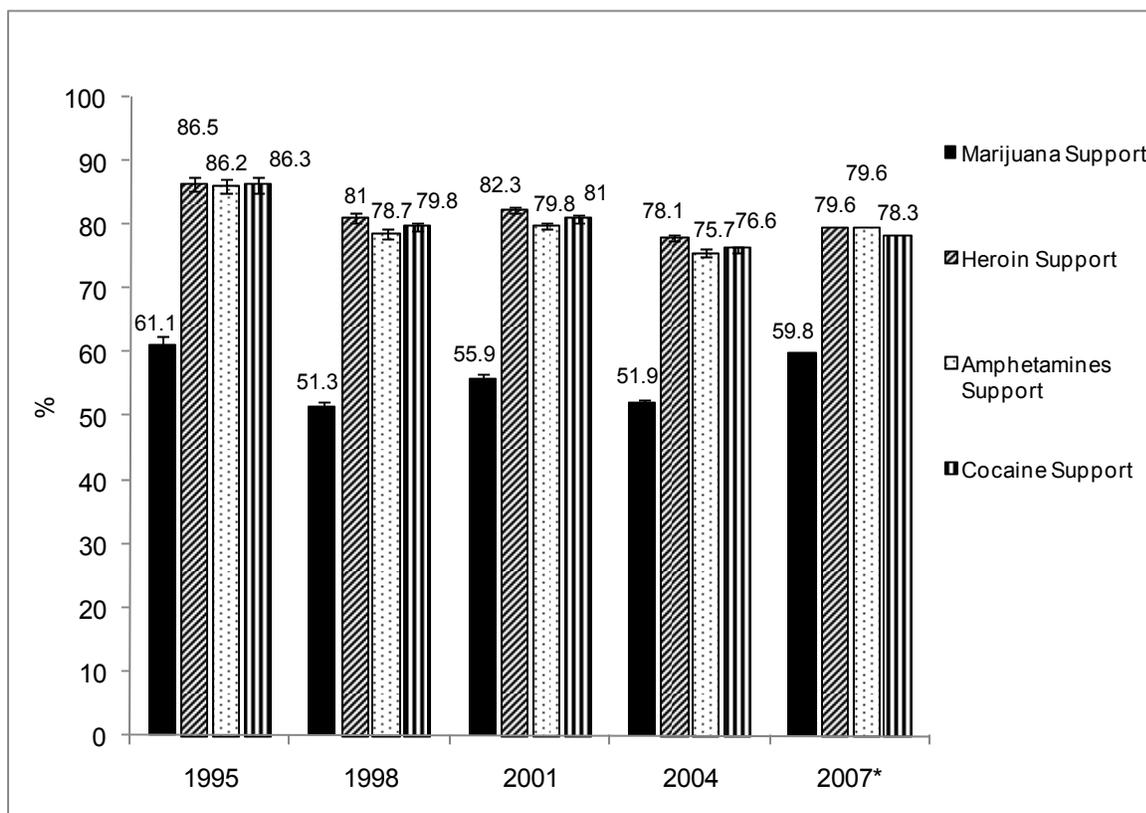


Figure 8 Notes:

Question wording: 'To what extent would you support or oppose increased penalties for the sale or supply of the following drugs? Strongly support/Support/Neither support nor oppose/Oppose/Strongly oppose/Don't know (Don't know category introduced in 2001)

Confidence intervals are included in the figure. Chi-Square calculations were undertaken on the peaks and troughs to determine significant differences between years of interest (excluding 2007). The Figure above includes only the 'support' response, however the statistical analysis included all response categories. All differences in *support* were found to be significant at $p < 0.01$, with the exception of amphetamines 1998-2001. A full list of the significance testing undertaken for this question can be found in Appendix B6.

*2007 Results have been taken from the ASSDA, and have not been subjected to the same statistical analysis as the other results.

Whilst support for increased penalties dropped between 1995 and 2004, this has not been replaced by opposition to increased penalties. Instead, there has been a gradual shift to the 'middle ground'. The proportions selecting 'don't know' or 'neither support nor oppose'¹¹ increased in all drug categories from 1995 to 2004; cannabis from 17.8% to 27.9%, heroin from 4.2% to 13.7%, amphetamines from 4.6% to 15.5%, and cocaine from 4.6% to 14.9% (not shown in the Figure). In 2007, this trend appears to have halted, with less people having no strong opinion than in 2004 (22.8% for cannabis, 11.1% for heroin and amphetamines, and 11.9% for cocaine)¹².

¹¹ The 'Don't know' category was introduced in 2001.

¹² No statistical analysis has been undertaken on 2007 results.

The 2007 NDSHS results¹³ have shown an apparent increase in support for increased penalties for cannabis sale and supply (from 51.9% support in 2004 to 59.8% support in 2007). Attitudes towards the penalties for sale and supply of heroin, meth/amphetamine and cocaine have remained relatively stable between 2004 and 2007. 77.5% of the sample supported increased penalties for the sale and supply of ecstasy in 2007 (not shown in the Figure) – the first year this drug has been included in this question. Comparison between the 2007 results and those from previous years needs to be made cautiously, considering the difference in the results in this analysis from previously published NDSHS results, due to the data alterations (Appendix B).

The NDSHS also asks respondents their opinions on the legalisation of heroin, amphetamines, cocaine and cannabis. Eighty to 85% of the population oppose legalisation of heroin, amphetamines and cocaine. This represents a clear consensus – that illicit drugs other than cannabis should not be legalised. The responses regarding cannabis are slightly different, and detailed below.

Trends in public opinion about cannabis

The issue of cannabis has, at times, been high on the public agenda over the last twenty years. Cannabis expiation (limited decriminalisation) schemes have been introduced in various jurisdictions; in 1986 in South Australia, 1992 in the ACT, 1996 in the Northern Territory, and in 2003 in Western Australia (Hughes, 2008). With cannabis law reform such a regular debate in these and other Australian jurisdictions, and the issue being politically volatile, the Australian public has been surveyed about cannabis frequently over this time frame. A number of public opinion surveys have focused on issues surrounding cannabis legalisation, decriminalisation, alternate diversionary responses, and penalties for the sale and supply of the drug.

First, we provide the NDSHS results to examine trends over time (Figure 9). These figures show the support and opposition for the legalisation of cannabis/marijuana for *personal use*. The amount of cannabis that defines personal use/possess differs in Australian jurisdictions, but in all cases is considered less than 100g.

In every year of the survey, opposition to legalisation has been the most popular response, dropping from a high of 57% in 1993 to a low of 44.5% in 1998, before climbing again significantly to 47.3% in 2004 ($p < 0.01$). In 2007, 55.9% of the sample opposed the legalisation of the personal use of cannabis. Support for legalisation has followed a mirror image: climbing support between 1993 and 1998, followed by declining support; with 19.3% of the sample in the 2007 NDSHS supporting cannabis legalisation. The ‘neither’ category has remained largely static over time; however the number of people choosing ‘don’t know’ increased significantly in 2001 and 2004, before appearing to decline in 2007.

Individual attitudes towards the legal status are heavily determined by whether that individual has used the drug, whether that be ever in their life, in the last year, or the last month (Makkai & McAllister 1992). Therefore, we can hypothesize that an overall increase in cannabis use will also result in an increase in support for cannabis legalisation. 1998 was the year when opposition to legalisation was at its lowest, and support was at its highest. Interestingly, in 1998 there was also a higher number of people who admitted to using cannabis in the past year – 17.8% of the population

¹³ Taken directly from the ASSDA.

as opposed to 13.1% in 1995 and 12.9% in 2001 (AIHW 2007). This supports the hypothesis that increased levels of cannabis use are reflected in positive opinions towards cannabis legalisation.

Figure 9: Attitudes towards the legalisation of cannabis for personal use – NDSHS

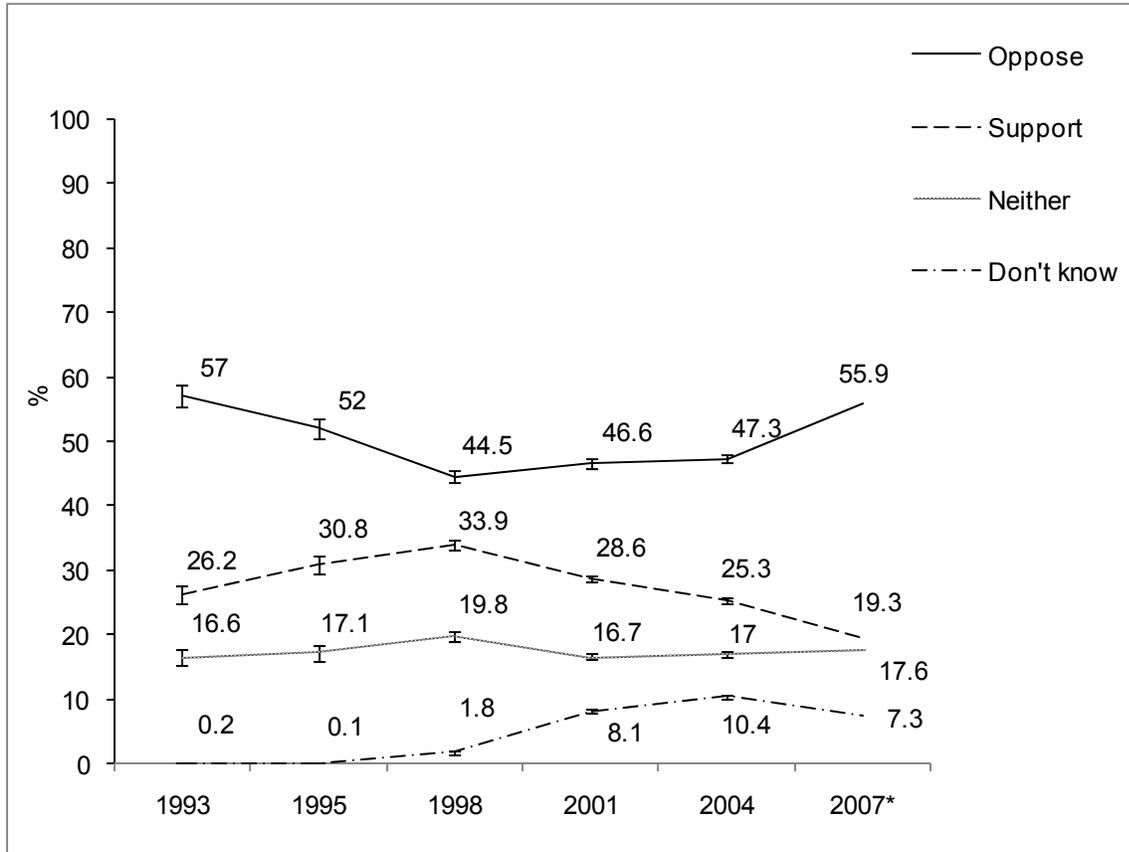


Figure 9 Notes:
 Question wording: To what extent would you support or oppose the personal use of the following drugs (marijuana) being made legal? Strongly support/Support/Neither support nor oppose/Oppose/Strongly oppose/Don't know
 Confidence intervals are included in the figure. Chi-Square calculations were undertaken on peaks and troughs to determine significant differences (excluding 2007). All differences were found to be significant at $p < 0.01$. A full list of the significance testing undertaken for this question can be found in Appendix B7.
 *2007 Results have been taken from the ASSDA, and have not been subjected to the same statistical analysis as the other results.

These NDSHS results for cannabis can also be compared with a number of other surveys that have been conducted on cannabis legalisation and decriminalisation. The following graphs include all relevant research, both national and state-based surveys.

Figure 10 shows a clear growth in the support for the legalisation of personal cannabis use, since the first poll taken by Roy Morgan in 1969. It appears that this level of support may have reached a “high water mark” in the late 1990’s, and since 2001 is now dropping. This is supported by the most recent results; from the 2007 NDSHS which show support for cannabis legalisation has dropped to 19.3%¹⁴, and Fetherston and Lenton’s 2007 survey which shows just 27.5% of their WA sample

¹⁴ Data from the First Results of the 2007 NDSHS, taken from ASSDA, have been included in the table.

support cannabis legalisation, dropping from 41.9% of a similar sample in 2002. Despite differences between the surveys and their methodologies, discussed in detail below, this finding appears to hold across multiple surveys. The policy window for cannabis legislative reform (at least in a direction towards legalisation) has probably passed.

Figure 10: Support for cannabis legalisation – personal use/possess

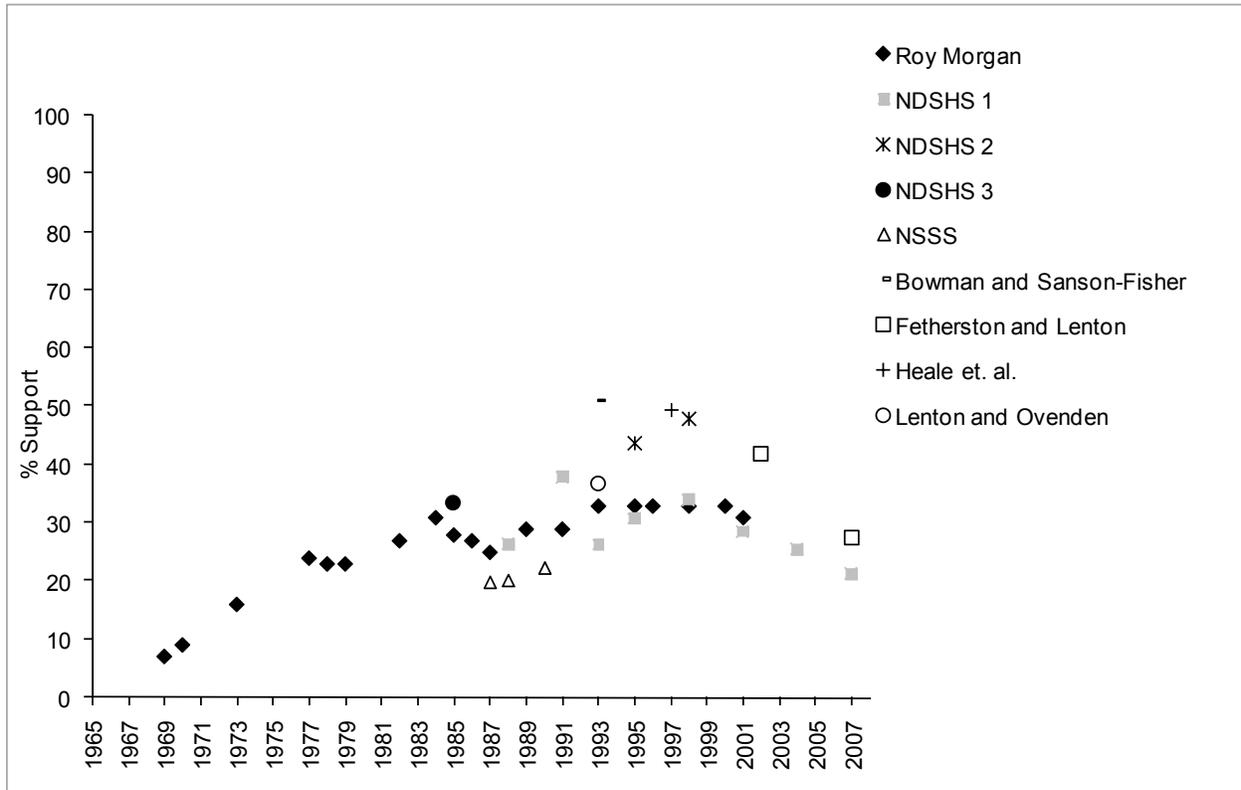


Figure 10 Notes:

Question wording:

Roy Morgan: 'In your opinion, should the smoking of marijuana be made legal - or should it remain illegal?'

NDSHS 1 (1988, 1991): 'The smoking of marijuana should be legalised. *Agree strongly/Agree quite a lot/Agree a little/Disagree a little/Disagree quite a lot/Disagree strongly/Don't know*'

NDSHS 1 (1993, 1995, 1998, 2001, 2004, 2007): 'To what extent would you support or oppose the personal use of the following drugs (cannabis) being made legal? *Strongly support/Support/Neither support nor oppose/Oppose/Strongly oppose/Don't know*'

NDSHS 2 (1995, 1998): 'In your opinion, should the possession of small quantities of marijuana for personal use be legal or illegal? *Legal/Illegal/Unsure*'

NDSHS 3 (1985): 'In your opinion should the smoking of marijuana be made legal or remain illegal? *Legal/Illegal/Undecided*'

National Social Science Survey (NSSS): 'Legalising the use of marijuana – are you in favour? *Strongly agree/ Agree/ Neither agree nor disagree/ Disagree/ Strongly disagree*'

Bowman and Sanson-Fisher: 'What is your opinion? Should 'actually use cannabis' be legal or illegal? *Legal/Illegal/Unsure*'

Lenton and Ovenden: 'Do you think cannabis should be made as legal as alcohol? *Yes/No/Unsure*'

Heale, Hawks et. al.: 'Do you believe that possession of less than 100g should be: *Legal/Illegal/Don't know*'

Fetherston and Lenton: 'It should be legal for people over the age of 18 to use cannabis. *Agree/ Disagree*'

There are three separate entries for the NDSHS data in the table, due to the changes in questions that have occurred over the lifespan of the survey. Data from the *Roy Morgan Report* goes back until 1977. We have obtained the earlier Roy Morgan results from a secondary source: *Attitudes to Drug Policy and Drug Laws; a review of the international evidence* (Newcombe 2004)

Statistical analyses were not able to be undertaken on these results.

Having noted the overarching finding of decreasing support since late 1990's, we now turn our attention to differences between the survey results. The NDSHS has asked three differently worded questions over the life of the survey, listed as NDSHS 1¹⁵, 2 and 3 in the Figure. There is some variability in the results to the different questions in the NDSHS, and these differences are discussed below. However, there is strong overall similarity between the two longest running questions (Roy Morgan and NDSHS 1), with the NDSHS 1 demonstrating slightly lower support than the Roy Morgan poll in 1993, 1995 and 2001.

In 1995 and 1998, the NDSHS included two additional questions about cannabis legal reform (NDSHS 2 in Figure 10). These results are discrepant with the standard NDSHS 1 question, and produced higher levels of support for cannabis legalisation. (The results for the standard question (NDSHS 1) are 30.8% support in 1995 and 33.9% support in 1998. The results for the alternate question (NDSHS 2) are much higher, with 43.7% support in 1995 and 48% in 1998). Question wording may account for the difference. The standard question asks about 'personal use' being legal; the alternate question, producing higher levels of support, asks about 'possession of small quantities' being legal. It is possible that couching the question in more legalistic terms; 'possession' as opposed to 'use', has resulted in increased support for legalisation. Or perhaps the mere possession of a substance, rather than its actual use, is considered somehow a less serious act.

Another possible reason that could account for the difference in the NDSHS results is the question context. Previous public opinion research has suggested that the context in which a question is asked, can have an effect on the response given (Johnson, O'Rourke, & Severns, 1998; Tourangeau, Rasinski, Bradburn, & D'Andrade, 1989). In both 1995 and 1998 the standard question (NDSHS 1), which gave the lower result, was asked near the beginning of the questionnaire, whereas the alternate question (NDSHS 2) was asked near the end. The long section of the survey regarding respondent's own use of drugs came *between* the two questions. It is possible that the preceding questions about drug use, and or the exposure to a large number of questions about drugs more generally, has caused some respondents to move to a more lenient position on cannabis legalisation by the end of the survey.

A key factor that can affect the results for questions such as this is the knowledge levels in the survey sample. Asking respondents for their opinion on technical or legal matters such as cannabis legalisation, when their knowledge is low or the concepts are new or unknown can be problematic (Bowman & Sanson-Fisher 1994; Makkai & McAllister 1998). In such cases, the likelihood of a random response can be increased (Zaller 1992). Three surveys which show high levels of support for legalisation (Bowman & Sanson Fisher; Heale et al; Fetherston & Lenton) involved some level of education for the sample, usually an explanation of the legal terms. Two of them (Fetherston & Lenton, 2007; Heale et al., 2000) also sampled within states only (SA and WA respectively). These are states where there may have been more public knowledge as a result of public debates around decriminalisation, related to the introduction of cannabis expiation schemes.

Cannabis legalisation is a fairly dramatic policy option – the more palatable option is cannabis *decriminalisation*. In the main, decriminalisation means that cannabis use/possess and sale/supply remain illegal behaviours, but users caught for use/possess are not given criminal charges; instead they are diverted to education/treatment or given a fine (similar to traffic violations), often with no offence recorded.

¹⁵ As can be seen in the Figure 10 Notes, the NDSHS 1 question has also changed over time.

More Australians support decriminalisation of cannabis than legalisation of cannabis. The NDSHS asks about decriminalisation – in 2004 53% of Australians supported decriminalisation of cannabis (compared to 25% for legalisation). Figure 11 provides the 2001 and 2004 NDSHS results, and compares these to two other surveys, the Australian Survey of Social Attitudes (AUSSA) and the Australian Election Study.

Figure 11: Support for cannabis decriminalisation

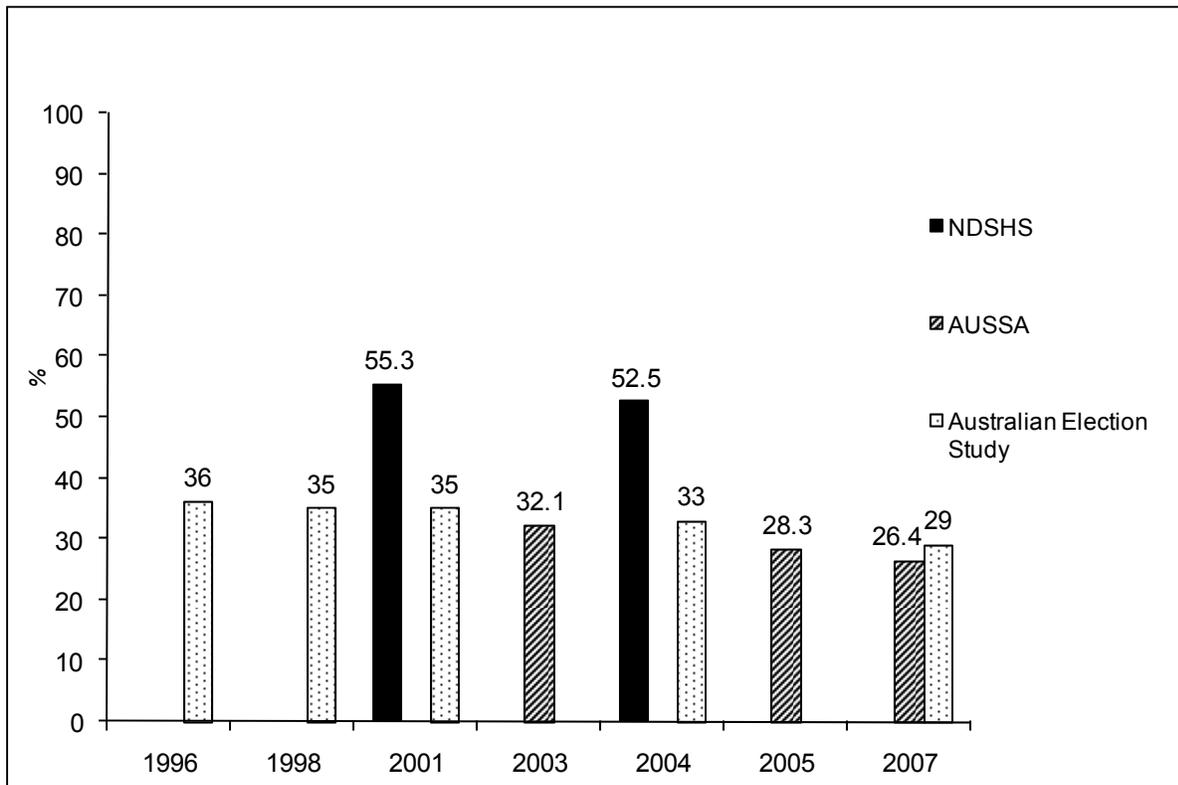


Figure 11 Notes:

Question wording:

NDSHS: 'Do you think the possession of small quantities of marijuana for personal use should be a criminal offence, that is, should offenders acquire a criminal record? Yes/No/Unsure'

AUSSA: 'The smoking of marijuana should not be a criminal offence: *Strongly agree/Agree/Neither agree nor disagree/Disagree/Strongly disagree/Can't choose*'

Australian Election Study: 'The smoking of marijuana should NOT be a criminal offence: *Strongly agree/Agree/Neither agree nor disagree/Disagree/Strongly disagree*'

This question was also asked in previous NDSHS (1995 and 1998) however the results cannot be compared with the results here, as only those who did not support the legalisation of cannabis for personal use were asked this question in those years. The 2001 and 2004 NDSHS asked the entire sample this question.

Chi-Square calculations were undertaken to determine significant differences between the two NDSHS surveys only. The Figure above includes only the 'no' response in the NDSHS; however the statistical analysis included all response categories.

A full list of the significance testing undertaken for this question can be found in Appendix B8.

Overall, it appears that support for the decriminalisation of cannabis use is dropping, and this pattern has been seen in each of the three surveys over time. This mirrors the reductions in support for cannabis legalisation use seen previously. The small but significant reduction in support for cannabis decriminalisation between the 2001 and 2004 NDSHS surveys ($p < 0.01$) was not accompanied by greater opposition to decriminalisation, instead there was an increase in the number

of people selecting ‘don’t know’ to this question in 2004 ($p < 0.01$, not shown in the figure). At the time of writing, there were no results available from the 2007 NDSHS.

As can be seen in Figure 11, there is a very large difference between the results in the NDSHS and the other two surveys. Again, context effects may have had an effect on the response to this question. The AUSSA is a bi-annual general social survey, and the Australian Election Study is conducted during election years; both cover a wide variety of topics including a single question on the legal status of cannabis/marijuana. The NDSHS is a large survey concerned with drugs only. Answering a large number of questions about drugs might have served to familiarise respondents with drug issues and make them more comfortable with supporting decriminalisation.

Another plausible explanation for this discrepancy is a difference in question wording. The NDSHS asks if *possession* ‘should’ be a criminal offence (and perhaps crucially, invokes the possibility of a criminal record), whereas the AUSSA and Australian Election Study asks if *smoking* ‘should not’ be a criminal offence, making no mention of the consequences of being a criminal or non-criminal activity. The NDSHS uses perhaps more legalistic terminology in its question, and includes a definition of what criminality actually means. Putting aside the difference between ‘should’ and ‘should not’ which may have served to confuse some respondents, the inclusion of the definition may be the critical difference here. The prospect of a gaining a criminal record may be considered a too heavy penalty, which has increased support for decriminalisation in the NDSHS.

Lenton and Ovenden (1996) asked a similar question¹⁶ in their survey of the Western Australian population. They recorded 64% of their sample as being *against* the criminalisation of possession of small amounts of cannabis. Another survey of the WA population undertaken by Fetherston and Lenton (2007) both before and after the WA Cannabis Infringement Notice scheme (which introduced civil penalties for low level cannabis offences) found that in 2002, 79% of the sample considered the scheme ‘a good idea’, whilst in 2007 65.7% of the sample considered it ‘a good idea’. Both results suggest that a local population which has been more immediately affected by a debate around drug law reform (in this case Western Australia) may be more likely to support legislative change.

Trends in public opinion about a heroin trial, needle syringe programs and supervised injecting facilities

Another drug that has been firmly on the political agenda in Australia, particularly during the late 1990’s is heroin. The issue of heroin use and its associated harms has forced decision makers to consider a number of new policy options during the last two decades, which have at one time or another been the subject of political debate and the focus of opinion surveys. Here we present data on those interventions which have been the subject of two or more different opinion surveys (i.e. NDSHS and at least one other). The interventions include a trial of prescribed diacetylmorphine (pharmaceutical heroin), needle and syringe programs, and supervised injecting facilities¹⁷.

Prescribing heroin to dependent users is a policy option that was first investigated in Australia by an ACT parliamentary committee in 1991. Feasibility studies commenced and consultation continued

¹⁶ Question was: Do you believe that the possession of small amounts of cannabis for personal use should remain a criminal offence in Western Australia, that is, result in a criminal record and possibly a jail sentence if convicted? Possible responses: Yes/no/unsure

¹⁷ Not included here are questions about methadone, rapid detoxification therapy and naltrexone, although they are included in the NDSHS.

through the following years, and as the initiative came closer to reality, political debate intensified. The issue came to a head in 1997 when it was vetoed by Federal Cabinet after gaining support from the Ministerial Council on Drug Strategy (Wodak, 1997). By this time, the issue was high on the public agenda, and had been the subject of vigorous opposition by some parts of the Australian media (Bammer, 1997; Lawrence, Bammer, & Chapman, 2000; McArthur, 1999).

Five surveys have examined public opinion towards a heroin trial. Four of those have included a nation-wide sample of respondents (NDSHS in 2001 and 2004, Newspoll in 1997 and 2001), and the other used a sample of a local population (Bammer et al., 1996). Here we summarise the national surveys.

Figure 12: Attitudes toward a trial of prescribed heroin

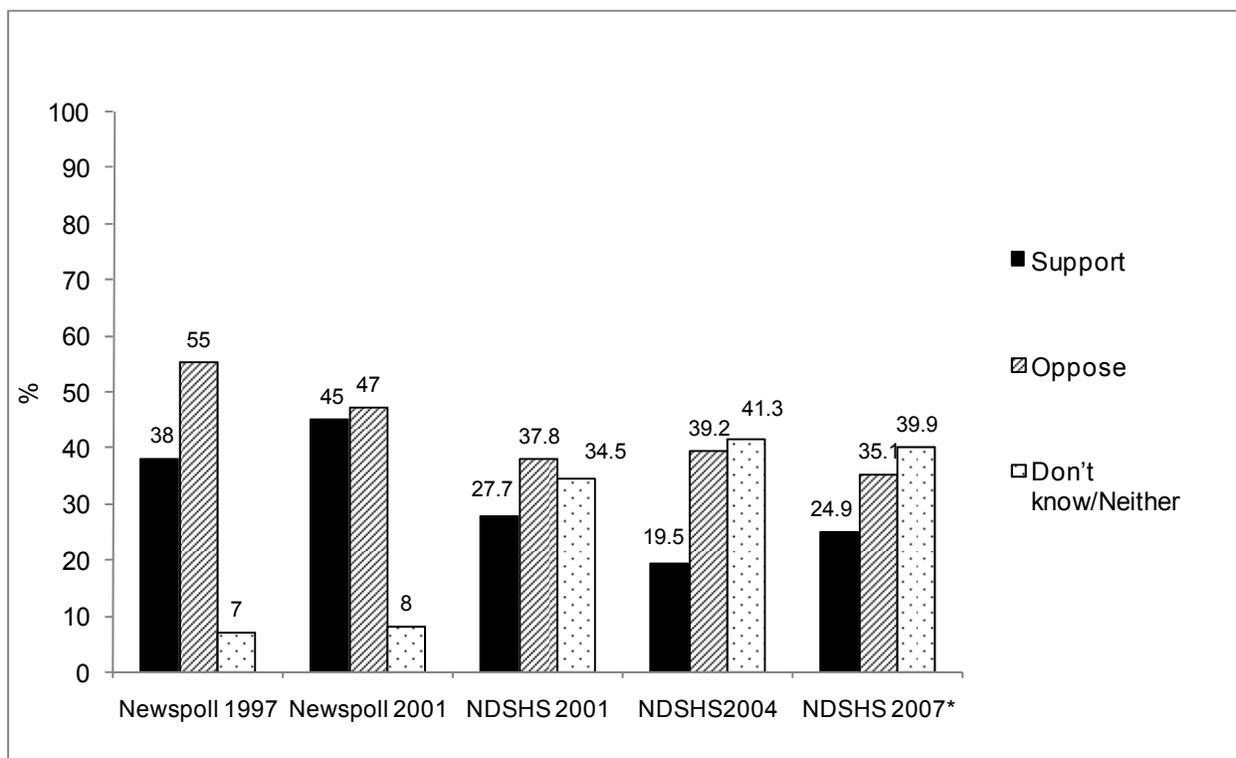


Figure 12 Notes:

Question wording:

Newspoll 1997: 'Now for a question about the treatment of illegal drug use and particularly heroin. A recent meeting of Australian Health, Police and Justice ministers approved a legal trial in the ACT which will involve providing heroin to 40 registered users as a test to help combat illegal drug use. Are you personally in favour or against this trial of providing heroin to registered addicts?

Strongly in favour/Partly in favour/Partly against/Strongly against/Uncommitted'

Newspoll 2001: 'Thinking now about heroin. The National Crime Authority recently suggested that there be medically supervised and government-controlled heroin trials in Australia. Are you personally in favour or against medically supervised and government controlled heroin trials being introduced in Australia? Strongly in favour/Partly in favour/Partly against/Strongly against/Uncommitted'

NDSHS 2001, 2004: 'Thinking about the problems associated with Heroin use, to what extent would you support or oppose measures such as...trial of prescribed heroin? Strongly support/Support/Neither support nor oppose/Oppose/Strongly oppose/Don't know/Can't say/no answer'

Chi-Square calculations were undertaken to determine significant differences between the NDSHS surveys (2001, 2004) only. All differences in response categories are statistically significant ($p < 0.01$). A full list of the significance testing undertaken for this question can be found in Appendix B9.

*2007 Results have been taken from the ASSDA, and have not been subjected to the same statistical analysis as the other NDSHS results.

Since 1997, interest in a trial of prescribed heroin trial has waned and the issue has gone off the agenda somewhat – although the Victorian government did consider a heroin trial in 2000 (Watts, 2003). It appears that the population has become less polarised on this issue since 1997, with the number of people without a clear opinion a growing between 2001 and 2004, and remaining high in 2007. Support for a heroin trial dropped between 2001 and 2004 ($p < 0.01$), but has risen in 2007¹⁸ whilst opposition has also fallen since peaking in 1997, when the issue was high on the public agenda.

Bammer et. al. (1996) conducted a smaller scale survey into attitudes towards a trial of prescribed heroin in 1991, long before the height of political debate in 1997. From a sample of residents in Sydney, Canberra and Queanbeyan, they found 59% support and 33% opposition to the trial, with 8% unsure¹⁹. This represents a much higher level of support for the trial than the surveys shown in the Figure above, which were undertaken some years later. It is likely that political events surrounding the heroin trial, which occurred subsequent to the Bammer study in 1991, would have had some effect on public understanding of the issues surrounding the trial. The increased support found in the Bammer study could also be attributed to the sample, which was taken from local communities in Canberra, Queanbeyan and Sydney. These communities were possibly more exposed and knowledgeable about the problems surrounding heroin use, were more eager to embrace new potential solutions to the problem, and in the case of Canberra, more likely to have the heroin trial take place in their local area.

There are differences in the survey questions that may have affected the results shown in Figure 12, independent of any real world changes in opinion. The wording in the 2001 Newspoll is quite different to that of the 1997 Newspoll, or the Household Surveys. The 2001 Newspoll mentions that the National Crime Authority has suggested that a trial go ahead, and that such a trial would be ‘medically supervised and government-controlled’. Mentioning that a law enforcement agency such as the National Crime Authority supports the heroin trial may increase its perceived legitimacy. In addition, the inclusion of the words ‘medically supervised and government-controlled’ sets up a certain ‘narrative’ around the intervention, what Zadrow has termed the ‘governance of the drug using subject’ (Zadrow, 2006)²⁰. It is implied through these particular words that the intended recipients of the prescribed heroin will be tightly monitored and controlled. It is possible that the inclusion of these words in the question has increased support for the heroin trial in the 2001 Newspoll, particularly when compared with the 2001 Household Survey which contained no such wording.

Another policy issue related to heroin use is the provision of needle and syringe programs (NSP), which provide clean injecting equipment for drug users, with the aim of reducing the transmission of blood-borne diseases. Public opinion about NSP is particularly important, as public support is crucial to the ongoing survival of such initiatives (Treloar & Fraser, 2007). Below we examine public opinion towards NSP, as measured by the NDSHS.

¹⁸ Statistically significant according the AIHW (AIHW, 2008), no statistical analysis of the 2007 data has been undertaken in this review.

¹⁹ The question was: Some people think that there are so many problems caused by illegal drug use that something new urgently needs to be tried. They would say that the proposed trial should go ahead. Other people think setting up a trial is just too risky because it might make the problems even worse. They would argue that it should go ahead. Do you think that a trial should go ahead or that a trial should not go ahead?

²⁰ Zadrow’s original analysis centres around supervised injecting facilities, and not the prescription of heroin, however we feel it is equally valid in this case.

Figure 13: Attitudes toward needle and syringe programs

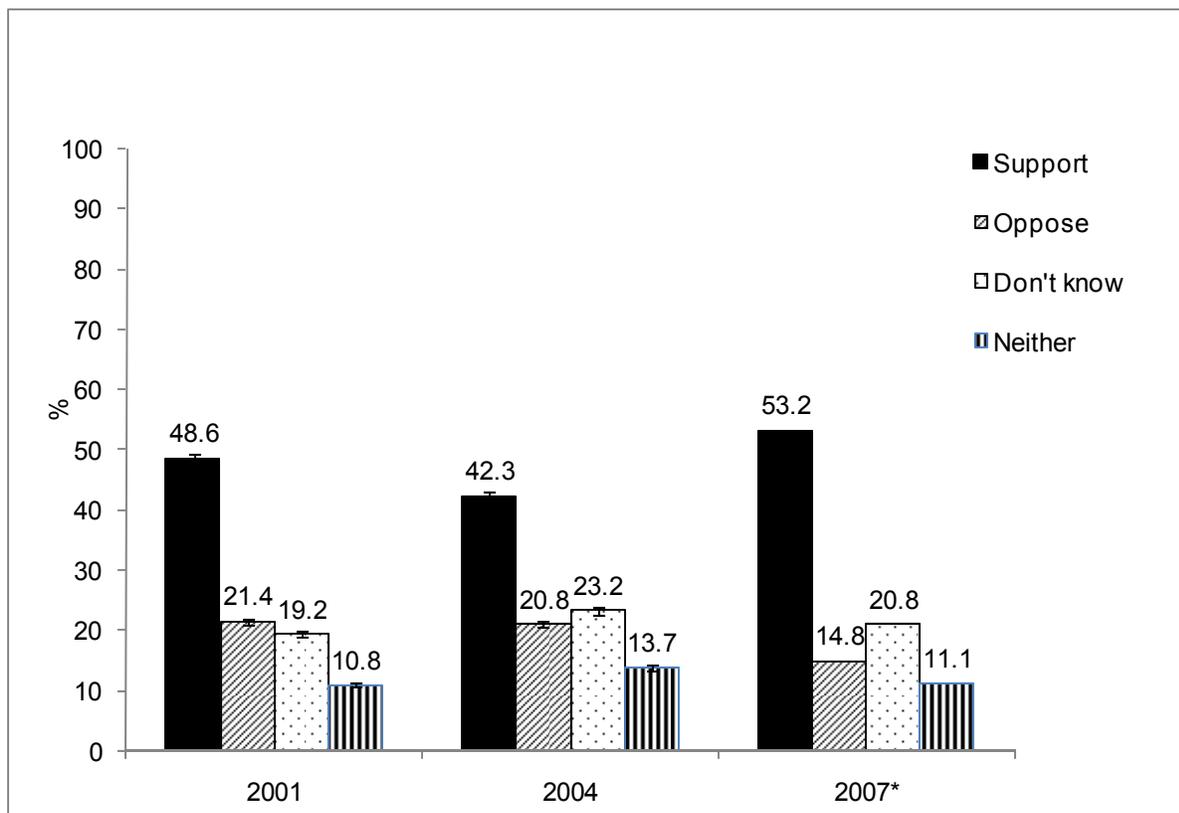


Figure 13 Notes:

Question wording: 'Thinking now about the problems associated with heroin use, to what extent would you support or oppose measures such as free needle/syringe programs?'

This question was also asked in 1998, however data from that year has been excluded from this Figure. This is because the response categories changed between the 1998 and 2001 surveys, with the addition of a 'don't know' category in 2001. In 1998, 54.3% of the sample supported NSPs, 17.5% opposed, and 16.2% neither supported nor opposed (2% missing). Chi-Square calculations were undertaken to determine significant differences between the 2001 and 2004 surveys. All differences were significant ($p < 0.01$) with the exception of 'Oppose' (21.4% to 20.8%). A full list of the significance testing undertaken for this question can be found in Appendix B10.

*2007 Results have been taken from the ASSDA, and have not been subjected to the same statistical analysis as the other NDSHS results.

The results suggest that a majority of Australians support NSP. The differences between the various categories were significant between 2001 and 2004 ($p < 0.01$), with the exception of the "oppose" response. The 2007 NDSHS First Results has shown a statistically significant²¹ increase in support for NSP among respondents (AIHW, 2008). A large proportion of the samples have no meaningful opinion on NSPs – the 'neither' and 'don't know' categories combine for around one third of the respondents across the three surveys (30% in 2001, 36.9% in 2004, and 31.9% in 2007).

NSW Health conducted a smaller study on local attitudes towards K2, a NSP in Kings Cross, in 1997-1998. They found that 82% of local residents supported NSP in NSW in 1997; rising to 88% support in 1998 after K2 was opened. 61% of the sample in both 1997 and 1998 felt that NSP should increase in Kings Cross (MacDonald, Rutter, & Wodak, 1999). The higher levels of support

²¹ Statistically significant according the AIHW, no statistical analysis of the 2007 data has been undertaken in this review.

for this study mirror the pattern of support for a heroin trial; this was a sample of a community who were more familiar with problematic heroin injecting, more informed, and were probably more willing to explore different solutions as a result.

Lenton and Phillips (1997) measured opinion towards NSPs in Western Australia as part of an experiment in advocacy intervention²². They found that *before* their intervention, 75.5% of their sample agreed that injecting drug users should legally be able to obtain needles, whilst 20.1% disagreed. Only 4.3% neither agreed nor disagreed, or didn't know. After the intervention (a three minute piece of audio containing information about injecting drug use), 86.9% agreed, 11.9% disagreed, and 1.1% neither agreed nor disagreed or didn't know. This study had surprisingly high levels of support before the intervention, which climbed further after the intervention was given.

Figure 14: Attitudes towards supervised-injecting facilities

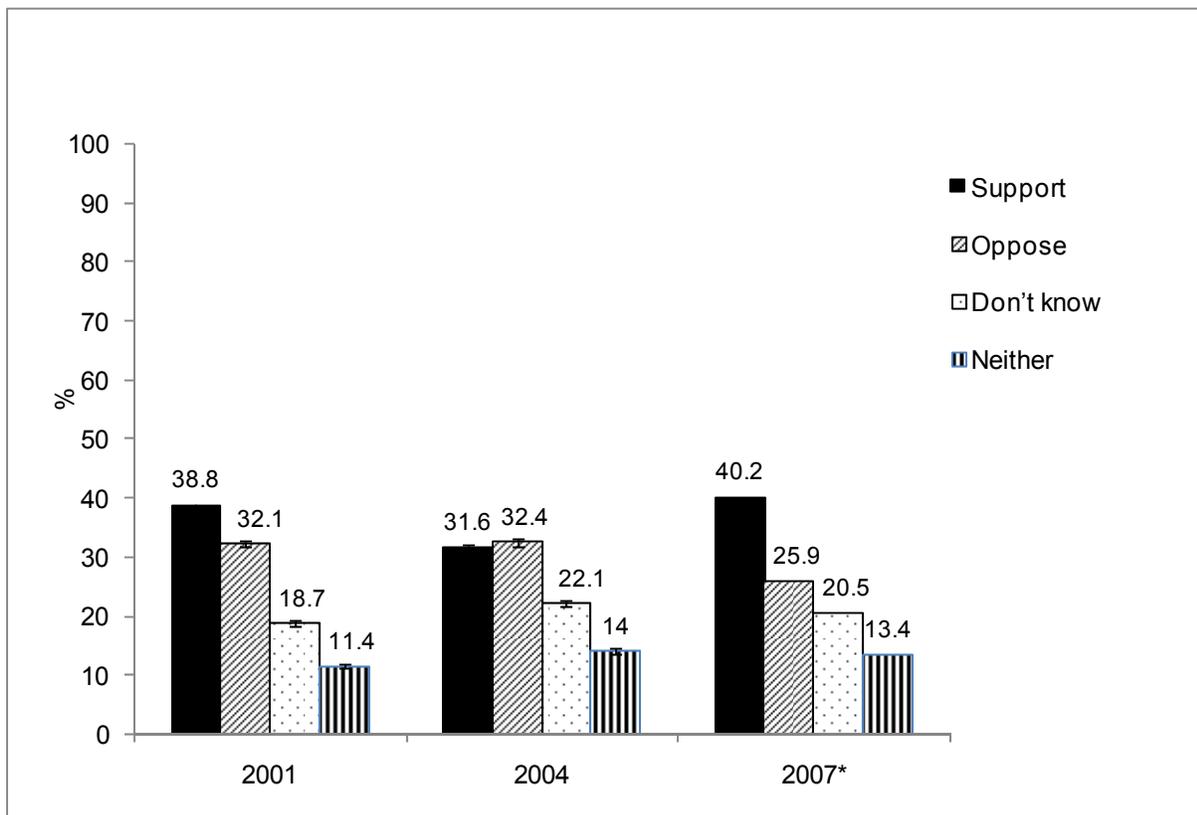


Figure 14 Notes:

Question wording: 'Thinking about the problems associated with Heroin use, to what extent would you support or oppose measures such as regulated injecting rooms?'

This question was also asked in 1998, however data from that year have been excluded. This is because the response categories changed between the 1998 and 2001 surveys, with the addition of a 'don't know' category in 2001. In 1998, 34.5% of the sample supported regulated injecting rooms, 38.5% opposed, and 25% neither supported nor opposed (2.1% missing).

Chi-Square calculations were undertaken to determine significant differences between the 2001 and 2004 surveys. All differences were statistically significant ($p < 0.01$) with the exception of 'Oppose' (18.7% vs. 22.1%). A full list of the significance testing undertaken for this question can be found in Appendix B11.

*2007 Results have been taken from the ASSDA, and have not been subjected to the same statistical analysis as the other NDSHS results.

²² The question was: 'Users of illegal injectable drugs should be legally able to obtain new needles from authorised sources.'

Finally, we look at attitudes towards supervised-injecting facilities, of which there is only one in Australia, the Medically Supervised Injecting Centre in Kings Cross (MSIC), Sydney. The proportion who supported supervised injecting facilities fell significantly between 2001 and 2004 (38.8% to 31.6%, $p < 0.01$), however 2007 NDSHS First Results have shown a statistically significant increase in support for injecting rooms in 2007²³. The proportion of respondents who neither support nor oppose or who don't know rose significantly between surveys, from 30.1% in 2001 to 36.1% in 2004 ($p < 0.01$), and in 2007 was 33.9% of the sample. Opposition towards supervised injecting facilities remained stable between 2001 and 2004, with no significant differences (32% in both years), and appears to have fallen in 2007 (25.9%).

A study into the public opinion towards the Medically Supervised Injecting Centre in Kings Cross has been undertaken by Thein et al. (2005). They sampled local residents and business and found that in 2000, 68% of local residents agreed with the establishment of the MSIC, and this increased to 78% in 2002.

The overall results from 2001 and 2004 on public opinion towards a heroin trial, NSPs, and supervised injecting centres, seemed to reveal an overall trend towards moderation of views (neither support nor oppose) and an increased number of 'don't know' responses. However the 2007 NDSHS has shown a significant increase in support for all three interventions since 2004, and opposition also appears to have declined. In addition, the smaller scale studies into the attitudes of local residents to these interventions have consistently resulted in higher levels of support, than the national surveys. This pattern suggests that those populations who are more directly affected by drug issues, or who may be more knowledgeable about an intervention (for instance, the local residents living near a proposed injecting facility) are more likely to support rather than oppose that intervention.

²³ Statistically significant according the AIHW, no statistical analysis of the 2007 data has been undertaken in this review.

DISCUSSION

The aims of this review were to identify the trends in public opinion in relation to illicit drugs in Australia, and where possible to compare different surveys in order to understand why the surveys may differ in their results.

As at 2004, we have observed that:

- Heroin was most commonly associated with ‘a drug problem’, followed by cannabis.
- Excessive alcohol consumption and tobacco use were considered the most concerning for the general community.
- Around ¼ of the population approved of regular cannabis use by an adult.
- Just under half of all Australians in 2004 opposed legalisation of cannabis, and one quarter supported legalisation.
- There has been a weakening of support for the decriminalisation of the personal use of cannabis.
- There was a focus on law enforcement responses as the most preferred policy intervention for the ‘high harm’ drugs; heroin, cocaine and amphetamines. Education is the most preferred policy intervention to deal with cannabis use.
- There was a high level of support for increased penalties for the sale and supply of illicit drugs.
- Needle Syringe Programs and safe injecting facilities were supported by the Australian community.

Public opinion about illicit drugs in 2004 could be considered generally conservative. Support for cannabis legalisation and decriminalisation dropped from the high watermark of 1998; there was high support for increased penalties for drug sale/supply, and high support for law enforcement as a policy option.

Examining the preliminary 2007 NDSHS results reveals that some of these trends have continued, and some have changed:

- Heroin remains the drug most commonly associated with a drug problem (30.3% of the sample), but is trending downwards. The number of people associating methamphetamine with a drug problem has increased.
- Support for cannabis legalisation has dropped further since 2004.
- Support for increased penalties for the sale and supply of cannabis has increased since 2004.
- Support for harm reduction initiatives has increased significantly from 2004.

These first results for 2007 seem to indicate a continuing conservative trend in some areas; less approval of cannabis use, less support for drug law reform, and a desire for harsher penalties for drug trafficking. However, in contrast to these trends, the public does appear to have changed its views on harm reduction measures. The initial 2007 results suggest a significant increase in support for NSP, safe injecting facilities, and a heroin trial.

In addition, we have (up until 2004) observed in a number of questions a ‘softening’ of attitudes over time; a shift away from highly polarised opinion. To be more precise, the numbers of people

with no clear opinion on these issues has grown. This could possibly mean one of two things. The first is that the general public is growing disinterested and simply does not care about these questions and issues as much as it used to, in the face of other seemingly more important political and social issues. The second possibility for a softening of attitudes is that people are approaching these surveys with a similar level of interest, but despite this are more likely to admit that they ‘do not know’ the answer. Current political discourse around drugs policy is often reflected in conflict between those who support a ‘war on drugs’ or ‘zero tolerance’ approach to drug policy, and those who do not. A zero tolerance approach to drug policy is generally reflected in support for increased penalties for drug crimes, more support for drug law enforcement, and less for harm reduction programs. Whilst such an approach may be popular for elected officials to publicly support, there also exist many contemporary commentators who argue that such an approach is foolish, and that punitive measures do not always have the intended effect (Wallace-Wells, 2007; Wilby, 2007). Even broadcasters such as Alan Jones, who had previously been vociferous in opposition to the ACT trial of prescribed heroin (McArthur, 1999), now entertains the merits of drug legalisation (Jones, 2007). It is feasible that an increase in ‘don’t know’ responses might occur in this environment, where there are entrenched arguments from either side of the policy debate, yet problematic drug use continues to occur.

A strong current of thought in public opinion research argues that individuals are not bound by ideology when forming their opinion, and the public does not hold what we might traditionally term a ‘coherent’ set of beliefs on any particular political issue. For instance, although we might expect that people who hold conservative views on an issue such as abortion will hold similar conservative views on other social issues such as drug use, previous work has argued that this is not actually the case (Converse, 1964; Zaller, 1992). The results from this review would appear to support this argument. Although the Australian public has conservative views on some aspects of illicit drug use, this does not mean that the majority view on every aspect is one of conservatism. An overwhelming opposition to relaxing laws around drug use is combined with a high level of support for harm reduction measures, suggesting that Australians may not be bound to any particular ideological position (such as ‘tough on drugs’) when thinking about drug issues, and instead are concerned more with pragmatic ‘solutions’ to the problem.

A strong trend since the 1998 NDSHS has been a hardening in attitudes towards cannabis. Cannabis is now more associated with ‘a drug problem’, is a greater concern to the general community, its use is approved of less than in 1998, and there is also less support for cannabis legalisation and decriminalisation. It may be true that the heroin drought and the associated decline in heroin harms prompted a renewed focus on cannabis. Certainly there has been an increased interest in the link between cannabis and mental health, with new evidence showing the link between cannabis use and disorders such as schizophrenia (Di Forti, Morrison, Butt, & Murray, 2007; Lubman, Hides, & Jorm, 2007; Rey & Tennant, 2002). It is possible that an increased research and policy focus on cannabis and mental health has affected public opinion on this matter.

Another common finding from these results is that the more specific a question, the more information given in a question, or the tighter the definition, the more ‘permissive’ the response will be. For instance a survey on a particular cannabis expiation scheme will usually result in higher levels of support for that scheme, than a general question about ‘decriminalisation’. Similarly, where the public is better informed through personal experience, media debate, or interventions to explain the rationale and purpose of drug policy, support for specific measures appears to increase. This occurred in both questions around cannabis decriminalisation, as well as harm reduction measures

concerning heroin injecting. This is an important factor to consider when designing opinion surveys. What might appear to be slight alterations in questions and methodology can not only result in slight differences in results, but it is feasible that they can fundamentally alter our conception of what the public's opinion actually is.

This review has not examined the links between drug use and individual attitudes, however previous research has shown the link between the two is clear. Firstly, use of illicit drugs affects ones opinion towards questions such as legalisation or decriminalisation – drug users are more likely to support drug law reform (AIHW, 2005a). It is debateable whether drug use ‘changes’ ones opinion on drug legislation, or whether drug users would hold that opinion regardless. Secondly, an individual's opinions on the harms or risks of drugs have a very strong effect on whether that individual will use, particularly among youth (Bachman, Johnston, & O'Malley, 1990, 1998; Bachman, Johnston, O'Malley, & Humphrey, 1988).

We have forwarded a number of different explanations for the changes in opinion over time, as well as differences in results between surveys. We have considered both measurement issues, that is, differences in methods and questions, as well as any real-world phenomena that may have caused an actual change in public opinion. Although we consider all the explanations given in the results section plausible, they have not been definitively proven. Further study would involve a larger quantitative analysis into factors that may influence public opinion. We also await with interest further results from the 2007 NDSHS to see whether these overall trends are sustained, or whether the national mood has shifted and in what direction.

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APPENDIX A: NATIONAL DRUG STRATEGY HOUSEHOLD SURVEY QUESTIONS: 1985-2007

Social Issues in Australia 1985²⁴

No.	Question	Response
6	When people talk about “a drug problem”, which drugs do you think of?	Alcohol Amphetamines/Speed/Uppers Barbiturates/Reds/Purple Hearts Cocaine Hallucinogens/LSD/Angel Dust/Magic Mushrooms Heroin Glue/Petrol/Solvents/Rush (inhalants) Marijuana/Hash Pain Killers Salt Sugar Caffeine Tobacco/Cigarettes Valium/serapax (tranquilisers) Other None
9	Looking at this card, which one of these things do you think causes the most serious problem for the general community?	Marijuana use Tobacco smoking Heroin use Excessive use of Barbiturates Excessive drinking of alcohol Excessive use of Tranquilisers Sniffing glue/petrol/solvents/rush Use of amphetamines Cocaine/crack use Using hallucinogens
13	In your opinion should the smoking of marijuana be made legal or remain illegal?	Legal Illegal Undecided
14	Should the possession of small amounts of marijuana be...	A jailable, criminal offence A minor, finable offence but not jailable Not an offence Don't know

National Campaign Against Drug Abuse Social Issues Survey 1988²⁵

5	When people talk about a 'drug problem', which drugs do you think of?	Alcohol Amphetamines/Speed/”Uppers” Barbiturates/Reds/Purple Hearts (“downers”) Cocaine/Crack Ecstasy/XTC/Designer Drugs Hallucinogens e.g. LSD, Angel Dust, Magic Mushrooms, “trips” Heroin Inhalants e.g. glue, petrol, solvents, rush Marijuana/Hash
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²⁴ Referred to as ‘NDSHS’ in this review.

²⁵ Referred to as ‘NDSHS’ in this review.

- | | | |
|-------|---|--|
| | | Pain Killers/Analgesics
Salt
Sugar
Tea/coffee (Caffeine)
Tobacco/Cigarettes
Tranquilisers e.g. Valium, Serapax, Sleeping pills
Other
None
Prescribed drugs |
| 8 | Which one of these things do you think is the most serious concern for the general community? | Marijuana/hash use
Tobacco smoking
Heroin use
Sharing needles or syringes
Excessive use of Barbiturates
Excessive drinking of alcohol
Excessive use of Tranquilisers
Sniffing glue/petrol/solvents/rush
Use of ecstasy/designer drugs
Use of amphetamines
Cocaine/crack use
Using hallucinogens
Excessive use of pain killers/analgesics |
| 28.16 | Smoking of marijuana should be legalised | Agree strongly
Agree quite a lot
Agree a little
Disagree a little
Disagree quite a lot
Disagree strongly
Don't know |

National Campaign Against Drug Abuse Social Issues Survey 1991²⁶

- | | | |
|---|---|---|
| 5 | When people talk about a 'drug problem', which drugs do you think of? | Alcohol
Amphetamines/Speed/"Uppers"
Barbiturates/Reds/Purple Hearts ("downers")
Cocaine/Crack
Ecstasy/XTC/Designer Drugs
Hallucinogens e.g. LSD, Angel Dust, Magic Mushrooms, "trips"
Heroin
Inhalants e.g. glue, petrol, solvents, rush
Marijuana/Hash
Pain Killers/Analgesics
Salt
Sugar
Tea/coffee (Caffeine)
Tobacco/Cigarettes
Tranquilisers e.g. Valium, Serapax, Sleeping pills
Other
None |
| 8 | Which one of these things do you think is the most serious concern for the general community? | Marijuana/hash use
Tobacco smoking
Heroin use
Sharing needles or syringes
Excessive use of Barbiturates
Excessive drinking of alcohol
Excessive use of Tranquilisers |

²⁶ Referred to as 'NDSHS' in this review.

Sniffing glue/petrol/solvents/rush
 Use of ecstasy/designer drugs
 Use of amphetamines
 Cocaine/crack use
 Using hallucinogens
 Excessive use of pain killers
 None

25.6 Smoking of marijuana should be legalised

Agree strongly
 Agree quite a lot
 Agree a little
 Disagree a little
 Disagree quite a lot
 Disagree strongly
 Don't know

National Drug Strategy Household Survey 1993

1 When people talk about a 'drug problem', which drugs do you think of?

Alcohol
 Amphetamines/Speed/"Uppers"
 Barbiturates/Reds/Purple Hearts ("downers")
 Cocaine/Crack
 Ecstasy/XTC/Designer Drugs
 Hallucinogens e.g. LSD, Angel Dust, Magic Mushrooms, "trips"
 Heroin
 Inhalants e.g. glue, petrol, solvents, rush
 Marijuana/Hash
 Pain Killers/Analgesics
 Steroids
 Tea/coffee (Caffeine)
 Tobacco/Cigarettes
 Tranquilisers e.g. Valium, Serapax, Sleeping pills
 Other
 None

2 Which of these drugs do you think directly or indirectly causes the most deaths in Australia.

Narcotics (e.g. Heroin)
 Alcohol
 Prescribed drugs (e.g. pain relievers, Valium, Serapax or Sleeping pills)
 Amphetamines (e.g. speed or uppers)
 Tobacco
 Cocaine
 Marijuana/Cannabis

3 Looking at card 2, which one of these things do you think is the most serious concern for the general community?

Marijuana/hash use
 Tobacco smoking
 Heroin use
 Sharing needles or syringes
 Excessive use of Barbiturates
 Excessive drinking of alcohol
 Excessive use of Tranquilisers
 Sniffing glue/petrol/solvents/rush
 Use of ecstasy/designer drugs
 Use of amphetamines
 Cocaine/crack use
 Using hallucinogens
 Excessive use of pain killers/analgesics
 Use of steroids
 None of these

15 To what extent would you support or oppose...

Strongly support

	the personal use of marijuana/cannabis being legal?	Support
	the personal use of heroin being legal?	Neither support nor oppose
	the personal use of amphetamines being legal?	Oppose
	the personal use of cocaine being legal?	Strongly oppose
		Don't know, not stated ²⁷
16	To what extent would you support or oppose increased penalties for the sale or supply of the following drugs? Marijuana/cannabis Heroin Amphetamines Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know, not stated
Q1	For each of the drugs listed below, please indicate whether you personally think that regular use by an adult (including for medical use) is okay, or not okay. Regular use means at least once a month. Marijuana/Hash Tobacco/Cigarettes Heroin Barbiturates Alcohol Tranquilisers Glue/petrol/solvents/Rush to sniff Amphetamines Cocaine/Crack Hallucinogens (LSD, Magic Mushrooms, trips) Pain killers/Analgesics Ecstasy/designer drugs Steroids	OK Not OK

National Drug Strategy Household Survey 1995

A1	Now to start, when people talk about a 'drug problem', which drugs do you think of?	Alcohol Tobacco Tea/coffee/caffeine Barbiturates Tranquilisers, sleeping pills Pain Killers, analgesics Prescribed drugs in general Steroids Inhalants Marijuana/Hash/Cannabis resin Speed/ Amphetamines Heroin Cocaine Ecstasy/Designer Drugs Naturally occurring hallucinogens LSD/Synthetic hallucinogens Needles/injective drugs Narcotics, Hard Drugs generally None No others Other
A2	Looking at this card...which of these drugs do you think directly or indirectly causes the most deaths in Australia?	Narcotics (e.g. Heroin) Alcohol Prescribed drugs Amphetamines

²⁷ There was no 'Don't know' option in the original questionnaire, but a very small number of responses have been labeled this in the data. This occurred in questions 15 and 16 in 1993, questions G3 and G4 in 1995, and questions YY4 and YY5 in 1998.

		Tobacco Cocaine Marijuana/cannabis
A3	And from this card, which one of these things do you think is the most serious concern for the general community?	Marijuana/hash use Tobacco smoking Heroin use Sharing needles or syringes Excessive use of Barbiturates Excessive drinking of alcohol Excessive use of Tranquilisers Sniffing glue/petrol/solvents/rush Ecstasy/designer drug use Amphetamine/Speed use Cocaine/crack use Hallucinogen use Excessive use of pain killers/analgesics Steroid use None of these
E2	In your opinion, should the possession of small quantities of marijuana for personal use be legal or illegal?	Legal Illegal Unsure, Don't know
G3	To what extent would you support or oppose the personal use of the following drugs being made legal? Marijuana (or cannabis) Heroin Speed Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
G4	To what extent would you support or oppose increased penalties for the sale or supply of the following drugs? Marijuana/cannabis Heroin Speed/Amphetamines Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
H1	I'd like to find out how you would allocate \$100 over these three areas to reduce to use of that drug...If you were given \$100 to spend on reducing alcohol use/tobacco use/marijuana use/amphetamine use/heroin or cocaine use?	Education Treatment Law enforcement
S1	In your opinion, for each of the drugs listed below, do you personally think that regular use by an adult is OK, or not OK. Regular use means at least once a month	Tobacco/cigarettes Alcohol Pain killers/analgesics for non-medical purposes Tranquilisers/sleeping pills for non-medical purposes Steroids (non medical) Barbiturates (non medical) Marijuana Heroin Amphetamines Cocaine/Crack Naturally occurring hallucinogens LSD Ecstasy/Designer drugs Glue/Petrol/Solvents/Rush

National Drug Strategy Household Survey 1998

A1	When people talk about a “drug problem”, which two drugs do you first think of?	Alcohol Tobacco Tea/coffee/caffeine Barbiturates Tranquilisers, sleeping pills Pain Killers, analgesics Steroids Inhalants Marijuana/Hash/Cannabis resin Naturally occurring hallucinogens LSD/Synthetic hallucinogens Amphetamines/Speed/Uppers Heroin Cocaine Ecstasy/Designer drugs Other None
A2	Which of these drugs do you think directly or indirectly causes the most deaths in Australia?	Narcotics (e.g. Heroin) Alcohol Prescribed drugs Amphetamines Tobacco Cocaine Marijuana/Cannabis
A3	Which one of these things do you think is the most serious concern for the general community?	Marijuana/hash use Tobacco smoking Heroin use Sharing needles or syringes Excessive use of Barbiturates Excessive drinking of alcohol Excessive use of Tranquilisers Sniffing glue/petrol/solvents/rush Ecstasy/designer drug use Amphetamine/Speed use Cocaine/crack use Hallucinogen use Excessive use of pain killers/analgesics Steroid use None of these
C2	In your opinion, should the possession of small quantities of cannabis/marijuana for personal use be legal, or illegal?	Legal Illegal Unsure, Don't know
X1	In your opinion, for each of the drugs listed below, do you personally think that regular use by an adult is OK, or not OK? Regular use means everyday for tobacco and alcohol, and once month for other drugs Tobacco Alcohol Pain killers for non-medical purposes Tranquilisers/sleeping pills (non-medical) Steroids (non medical) Barbiturates (non medical) Marijuana/cannabis Heroin Amphetamines (speed/uppers)	OK Not OK

	Cocaine/Crack Naturally occurring hallucinogens LSD/Synthetic hallucinogens Ecstasy/Designer drugs Glue/Petrol/Solvents/Rush Methadone (non medical)	
YY3	Thinking about the problems associated with Heroin use, to what extent would you support or oppose measures such as... Free needle/syringe exchanges? Methadone maintenance programs? Treatment with drugs other than methadone? Regulated injecting rooms (sometimes referred to as shooting galleries)? Rapid detoxification therapy (sometimes referred to as 'the Israeli' treatment)?	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
YY4	Considering the following drugs, to what extent would you support or oppose the personal use of the following drugs being made legal? Marijuana (or cannabis) Heroin Amphetamines/speed Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
YY5	To what extent would you support or oppose increased penalties for the sale or supply of the following drugs? Marijuana/cannabis Heroin Speed/Amphetamines Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
YY7- YY11	For each of the following 5 drug categories, how would you allocate \$100 over these three areas to reduce the use of that drug. ...if you were given \$100 to spend on reducing alcohol/tobacco/marijuana/amphetamine/heroin and cocaine use, how much would you allocate to each of these areas...	Education Treatment Law enforcement

National Drug Strategy Household Survey 2001

A1	When people talk about "a drug problem", which are the first two drugs you think of?	Alcohol Tobacco Tea/coffee/caffeine Barbiturates Tranquilisers, Sleeping pills Pain Killers, Analgesics Inhalants/Solvents/Aerosols/Glue/Petrol Marijuana/Hash/Cannabis resin Naturally occurring hallucinogens LSD/Synthetic hallucinogens Amphetamines/Speed Heroin Cocaine Ecstasy/Designer drugs Kava Other None
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A2	Which one of these drugs do you think directly or indirectly causes the most deaths in Australia?	Opiates (e.g. Heroin) Alcohol Prescribed drugs Amphetamines Tobacco Cocaine/Crack Marijuana/cannabis Hallucinogens
A3	Which one of these forms of drug use do you think is the most serious concern for the general community?	Marijuana/hash use Tobacco smoking Heroin use Non-medical use of barbiturates Excessive drinking of alcohol Non-medical use of tranquilisers Sniffing glue/petrol/solvents/rush Use of ecstasy/designer drugs Use of amphetamines Cocaine/crack use Using hallucinogens Non-medical use of pain killers Non-medical use of steroids None of these
B1	Do you think the possession of small quantities of marijuana/cannabis for personal use should a criminal offence, that is, should offenders acquire a criminal record?	Yes No Unsure, Don't know
V4	For each of the drugs below, do you personally approve or disapprove their regular use by an adult?	Tobacco Alcohol Pain killers for non-medical purposes Tranquilisers/sleeping pills (non-medical) Steroids (non medical) Barbiturates (non medical) Marijuana/Cannabis Heroin Amphetamines/Speed Cocaine/Crack Naturally occurring hallucinogens LSD/Synthetic hallucinogens Ecstasy/Designer drugs Glue/Petrol/Solvents/Rush Methadone (non medical)
Y3	Thinking about the problems associated with Heroin use, to what extent would you support or oppose measures such as... Needle and Syringe programs? Methadone maintenance programs? Treatment with drugs other than methadone? Regulated injecting rooms? Trial of prescribed heroin? Rapid detoxification therapy? Use of naltrexone, a drug that blocks the effects of heroin and other opioids	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
Y4	To what extent would you support or oppose the personal use of the following drugs being made legal? Marijuana /Cannabis Heroin Amphetamines/Speed Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
Y5	To what extent would you support or oppose increased penalties for the sale or supply of the following drugs?	Strongly support Support

Marijuana/Cannabis
 Heroin
 Amphetamines/Speed
 Cocaine

Neither support nor oppose
 Oppose
 Strongly oppose
 Don't know

Y6 For each of the following 5 drug categories, how would you allocate \$100 over the three areas of education, treatment and law enforcement. If you were given \$100 to spend on reducing misuse of alcohol/reducing the harm associated with tobacco use/reducing marijuana or cannabis use/reducing amphetamine or speed use/reducing heroin or cocaine use?

Education (e.g. information services)
 Treatment (e.g. counselling, therapy)
 Law enforcement (e.g. stop illegal sale or use)

National Drug Strategy Household Survey 2004

A1 When people talk about “a drug problem”, which are the first two drugs you think of?

Alcohol
 Tobacco
 Tea/coffee/caffeine
 Barbiturates
 Tranquilisers, Sleeping pills
 Pain Killers, Analgesics
 Steroids
 Inhalants/Solvents/Aerosols/Glue/Petrol
 Marijuana /Cannabis
 Naturally occurring hallucinogens
 LSD/Synthetic hallucinogens
 Methamphetamines/Amphetamines
 Heroin
 Cocaine
 Ecstasy
 GHB
 Ketamine
 Kava
 Other
 None

A2 Which one of these drugs do you think directly or indirectly causes the most deaths in Australia?

Opiates / Opioids
 Alcohol
 Prescribed drugs
 Methamphetamines/Amphetamines
 Ecstasy/Designer Drugs
 Tobacco
 Cocaine/Crack
 Marijuana/cannabis
 Hallucinogens

A3 Which one of these forms of drug use do you think is the most serious concern for the general community?

Marijuana/hash use
 Tobacco smoking
 Heroin use
 Non-medical use of barbiturates
 Excessive drinking of alcohol
 Non-medical use of tranquilisers
 Sniffing glue/petrol/solvents
 Use of ecstasy/designer drugs
 Methamphetamines/Amphetamines (speed) use
 Cocaine/crack use
 Hallucinogen use
 Non-medical use of pain killers/analgesics
 Non-medical use of steroids
 None of these

B1	Do you think the possession of small quantities of marijuana for personal use should a criminal offence, that is, should offenders acquire a criminal record?	Yes No Unsure
X3	For each of the drugs below, do you personally approve or disapprove their regular use by an adult?	Tobacco Alcohol Pain killers for non-medical purposes Tranquilisers/sleeping pills (non-medical) Steroids (non medical) Barbiturates (non medical) Marijuana Heroin Amphetamines Cocaine/Crack Naturally occurring hallucinogens LSD Ecstasy/Designer drugs GHB Ketamine Glue/Petrol/Solvents/Rush Methadone (non medical)
YY4	Thinking about the problems associated with Heroin use, to what extent would you support or oppose measures such as... Free needle/syringe exchanges? Methadone maintenance programs? Treatment with drugs other than methadone? Regulated injecting rooms? Trial of prescribed heroin? Rapid detoxification therapy (sometimes referred to as 'the Israeli' treatment)? Use of naltrexone, a drug that blocks the effects of heroin and other opioids	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
YY5	To what extent would you support or oppose the personal use of the following drugs being made legal? Marijuana (or cannabis) Heroin Methamphetamine/Speed Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
YY6	To what extent would you support or oppose increased penalties for the sale or supply of the following drugs? Marijuana/cannabis Heroin Methamphetamines Cocaine	Strongly support Support Neither support nor oppose Oppose Strongly oppose Don't know
YY7	If you were given \$100 to spend on reducing misuse of alcohol use/reducing the harm associated with tobacco use/reducing marijuana use/reducing amphetamine use/reducing heroin or cocaine use?	Education (e.g. information services) Treatment (e.g. counselling, therapy) Law enforcement (e.g. stop illegal sale or use)

APPENDIX B: STATISTICAL ANALYSIS

The data used for NDSHS came from the 1985, 1988, 1991, 1993, 1995, 1998, 2001, and 2004 National Drug Strategy Household Survey (2007 results coming directly from the 2007 *First Results* publication). This survey is currently conducted by the Australian Institute of Health and Welfare (AIHW) for the Commonwealth Department of Health and Aging.

Methodology for the most recent 2001 and 2004 surveys used the self-administered questionnaire (SAQ) and computer-assisted telephone interview (CATI) method to collect information from respondents. All other years used a combination of face to face (with sealed section) and SAQ method. For the first time, the 2004 survey included 12-13 year olds. Owing to the greater sample size, the 2001 and 2004 estimates should be the most reliable.

For purposes of this study, all samples from the eight different years included only those 14 years or older and who had participated in SAQ and face to face interviews. Of those excluded from the 2004 survey were 12-13 year olds (2.9%, n=863) and CATI interviews (18.1% n=5,336). As a result, the 2004 data comprised 23,532 persons of the SAQ main sample (n=22,797) and Queensland booster sample (n=735). Of those excluded from the 2001 survey were CATI interviews (7.6%, n=2,040) for a total of 24,704 persons from only the SAQ (n=22,649) and face to face (n=2,055) sample. Excluding 12-13 year olds and CATI interviews from the analysis has been undertaken to standardise the sample populations.

Analysis:

Given the nature of the data, standard error bars and 95% confidence intervals around proportions were generated for the majority of the graphs to provide sufficient information about the degree of uncertainty around each of the estimates. This allowed for some comparison across surveys. For statistical verification, a chi-square test of independence was used as an approach for peak and trough analysis to compare the trends in proportions across surveys at a 0.05 significance level.

In addition, a one way ANOVA was used to test for a difference in mean dollars that should be spent on education, treatment, and law enforcement for each licit and illicit drug in the 1995-2004 surveys (Figure 7). These drugs included alcohol, tobacco, cannabis, amphetamines, and heroin/cocaine. In order to identify specifically between education, treatment, and law enforcement differences and maintain a significance level of 0.05 for the multiple comparisons, a Tukey's post hoc procedure was used because the sample sizes were equal among the three categories. An ANOVA was also conducted to test for a difference within education, treatment, and law enforcement for all licit and illicit drugs across years. For the univariate measures, Shapiro-Wilk tests reported a p value > 0.05 with similar mean and medians to suggest the data is normally distributed and hence a parametric test may be more appropriate.

Limitations:

All of the analyses are unweighted to the Australian population, and do not take into account a complex survey sampling design which may vary across years. Therefore the results should be viewed with caution because some subgroups of the population would be overrepresented in the sampling. Furthermore, given the different sample sizes, weights and methodological differences

used for each year it is difficult to generate statistical analyses that can be adequately conclusive to the greater population. With respect to different sample sizes, it is important to note the most recent years have a substantial number of respondents participating in the surveys. Thus, the larger the sample size the more likely it is that the observed difference is closer to the actual difference and hence statistically sensitive.

Results:

B1 - When people talk about a 'drug problem', which drugs do you think of? (P=Peak, T=Trough)

Drug	Time	(%) respectively	% Difference	95% CI	p
Heroin	1985 (P)-1993 (T)	(48.12, 29.81)	0.1831	[0.1591, 0.2070]	<0.0001
	1993 (P)-1995 (T)	(29.81, 28.32)	0.0149	[-0.0059, 0.0357]	0.1596 (ns)
	1995 (T)-2001 (P)	(28.32, 50.92)	-0.2260	[-0.2416, -0.2103]	<0.0001
	2001 (P)-2004 (T)	(50.92, 41.45)	0.0947	[0.0855, 0.1039]	<0.0001
Cannabis	1985 (P)-1988 (T)	(31.67, 24.15)	0.0753	[0.0506, 0.10]	<0.0001
	1988 (T)-1993 (P)	(24.15, 28.64)	-0.0449	[-0.0681, -0.0217]	0.0002
	1993 (P)-1995 (T)	(28.64, 28.03)	0.0060	[-0.0146, 0.0267]	0.5660 (ns)
	1995 (P)-1998 (T)	(28.03, 21.40)	0.0663	[0.0500-0.0826]	<0.0001
	1998 (T)-2004 (P)	(21.40, 27.09)	-0.0569	[-0.0668, -0.0470]	<0.0001
Alcohol	1985 (T)-1993 (P)	(5.02, 15.64)	-0.1062	[-0.1207, -0.0917]	<0.0001
	1993 (P)-1998 (T)	(15.64, 12.60)	0.0304	[0.0167, 0.0441]	<0.0001
	1998 (P)-2001 (T)	(12.60, 8.26)	0.0434	[0.0360, 0.0508]	<0.0001
	2001 (T)-2004 (P)	(8.26, 9.66)	-0.0140	[-0.0193, -0.0087]	<0.0001
Speed	1985 (T)-1995 (P)	(0.50, 3.72)	-0.0322	[-0.0387, -0.0257]	<0.0001
	1995 (T)-1998 (P)	(3.72, 10.43)	-0.0671	[-0.0755, -0.0586]	<0.0001
	1998 (P)-2004 (T)	(10.43, 6.42)	0.0401	[0.0333, 0.0469]	<0.0001
Cocaine	1985 (T)-1988 (P)	(6.09, 14.13)	-0.0804	[-0.0973, -0.0635]	<0.0001
	1988 (T)-1991 (P)	(14.13, 14.35)	-0.0022	[-0.0215, 0.0171]	0.8256 (ns)
	1991 (P)-1998 (T)	(14.35, 4.24)	0.1011	[0.0877, 0.1146]	<0.0001
	1998 (T)-2004 (P)	(4.24, 6.87)	-0.0263	[-0.0315, -0.0212]	<0.0001

B2 - Which of these drugs do you think is the most serious concern for the general community?

Drug	Time	(%) respectively	% Difference	95% CI	p
Heroin	1988 (T)-1993 (P)	(24.28, 29.64)	-0.0536	[-0.0769, -0.0304]	<0.0001
	1993 (T)-1998 (P)	(29.64, 34.86)	-0.0521	[-0.0699, -0.0343]	<0.0001
	1998 (P)-2004 (T)	(34.86, 18.32)	0.1653	[0.1548, 0.1759]	<0.0001
Cannabis	1988 (P)-1993 (T)	(6.78, 3.81)	0.0297	[0.0175, 0.0418]	<0.0001
	1993 (T)-2004 (P)	(3.81, 6.39)	-0.0257	[-0.0328, -0.0186]	<0.0001
Alcohol	1988 (T)-1993 (P)	(27.74, 33.49)	-0.0575	[-0.0817, -0.0333]	<0.0001
	1993 (P)-2001 (T)	(33.49, 23.87)	0.0962	[0.0796, 0.1127]	<0.0001
	2001 (T)-2004 (P)	(23.87, 32.02)	-0.0815	[-0.0896, -0.0734]	<0.0001
Tobacco	1988 (T)-1993 (P)	(7.18, 20.67)	-0.1349	[-0.1521, -0.1178]	<0.0001
	1993 (T)-1995 (P)	(20.67, 22.66)	-0.0199	[-0.0387, -0.0010]	0.0392 (ns)
	1995 (P)-1998 (T)	(22.66, 18.14)	0.0452	[0.0300, 0.0604]	<0.0001
	1998 (T)-2004 (P)	(18.14, 23.95)	-0.0581	[-0.0674, -0.0488]	<0.0001
Cocaine	1988 (P)-1993 (T)	(9.13, 2.98)	0.0615	[0.0483, 0.0746]	<0.0001
	1993 (T)-2001 (P)	(2.98, 6.40)	-0.0342	[-0.0406, -0.0277]	<0.0001
	2001 (P)-2004 (T)	(6.40, 4.86)	0.0154	[0.0113, 0.0196]	<0.0001
Ecstasy	1988 (T)-1995 (P)	(0.40, 1.53)	-0.0114	[-0.0160, -0.0067]	<0.0001
	1995 (T)-2004 (P)	(1.53, 7.09)	-0.0555	[-0.0606, -0.0504]	<0.0001

B3 - Which of these drugs do you think directly or indirectly causes the most deaths in Australia?

Drug	Time Variable	(%) respectively	% Difference	95% CI	p
Heroin	1993 (T)-1998 (P)	(15.36, 20.43)	-0.0507	[-0.0650, -0.0364]	<0.0001
	1998 (T)-2001 (P)	(20.43, 22.21)	-0.0178	[-0.0272, -0.0084]	0.0002
	2001 (P)-2004 (T)	(22.21, 12.79)	0.0943	[0.0875, 0.1010]	<0.0001

Cannabis	1993 (T)-2004 (P)	(0.95, 1.10)	-0.0015	[-0.0050, 0.0020]	0.4276 (ns)
Alcohol	1993 (P)-1995 (T)	(44.39, 35.21)	0.0917	[0.0694, 0.1141]	<0.0001
	1995 (P)-2001 (T)	(35.21, 23.14)	0.1208	[0.1047, 0.1368]	<0.0001
	2001 (T)-2004 (P)	(23.14, 24.46)	-0.0133	[-0.0209, -0.0056]	0.0007
Tobacco	1993 (T)-1995 (P)	(31.24, 38.01)	-0.0677	[-0.0894, -0.0459]	<0.0001
	1995 (T)-2001 (P)	(38.01, 41.61)	-0.0360	[-0.0526, -0.0194]	<0.0001
	2001 (T)-2004 (P)	(41.61, 46.75)	-0.0514	[-0.0603, -0.0424]	<0.0001
Cocaine	1993 (T)-1998 (P)	(3.59, 3.88)	-0.0029	[-0.0101, 0.0043]	0.4397 (ns)
	1998 (P)-2001 (T)	(3.88, 1.33)	0.0255	[0.0215, 0.0295]	<0.0001
	2001 (T)-2004 (P)	(1.33, 4.41)	-0.0308	[-0.0338, -0.0278]	<0.0001
Speed	1993 (T)-1995 (P)	(1.58, 4.07)	-0.0249	[-0.0324, -0.0174]	<0.0001
	1995 (T)-1998 (P)	(4.07, 4.37)	-0.0030	[-0.0104, 0.0045]	0.4414 (ns)
	1998 (P)-2001 (T)	(4.37, 1.84)	0.0252	[0.0209, 0.0296]	<0.0001

B4 – Approval of regular drug use by an adult.

Drug	Time Variable	(%) respectively	% Difference	95% CI	p
Alcohol	1993(P)-1995 (T)	(63.54, 53.9)	0.0965	[0.0741, 0.1189]	<0.0001
	1995 (T)-2004 (P)	(53.9, 72.95)	-0.1906	[-0.2073, -0.1738]	<0.0001
Tobacco	1993(T)-1998 (P)	(35.83, 41.62)	-0.0580	[-0.0765, -0.0395]	<0.0001
	1998 (P)-2004 (T)	(41.62, 37.05)	0.0458	[0.0344, 0.0571]	<0.0001
Cannabis	1993 (T)-1998 (P)	(26.54, 31.01)	-0.0446	[-0.0618, -0.0275]	<0.0001
	1998 (P)-2004 (T)	(31.01, 22.21)	0.0879	[0.0776, 0.0983]	<0.0001

B5 - Policy mix: education, treatment, law enforcement spending for cannabis, amphetamines, heroin/cocaine, alcohol and tobacco.

	Education Mean \$ (SD)	Treatment Mean \$ (SD)	Law Enforcement Mean \$ (SD)
Alcohol (1995-2004)	\$41.76 (1.37)	\$30.05 (1.08)	\$28.19 (1.35)
Tobacco (1995-2004)	\$48.33 (2.90)	\$30.39 (0.36)	\$21.28 (2.59)
Canabis (1995-2004)	\$44.23 (2.67)	\$25.52 (1.17)	\$30.26 (1.80)
Amphetamines (1995-2004)	\$36.21 (2.66)	\$24.08 (0.66)	\$39.72 (2.49)
Heroin/Cocaine (1995-2004)	\$33.21 (2.78)	\$24.62 (0.67)	\$42.17 (2.9)
Comparisons significant at the 0.05 level for each response based on drug type			
Alcohol			
Category comparison	Difference between means	95% CI	p
Education vs. Treatment	11.71	[9.20, 14.23]	<0.0001
Education vs. Law enforcement	13.57	[11.06, 16.09]	<0.0001
Treatment vs. Law Enforcement	1.86	[-0.66, 4.38]	ns
Tobacco			
Category comparison	Difference between means	95% CI	p
Education vs. Treatment	17.94	[13.48, 22.39]	<0.0001
Treatment vs. Law enforcement	9.11	[4.65, 13.56]	<0.0001
Education vs. Law enforcement	27.05	[22.59, 31.5]	<0.0001
Cannabis			
Category comparison	Difference between means	95% CI	p
Education vs. Treatment	18.72	[14.81, 22.62]	<0.0001
Treatment vs. Law enforcement	4.74	[0.84, 8.64]	<0.0001
Law enforcement vs. Education	13.98	[10.07, 17.88]	<0.0001
Amphetamines			
Category comparison	Difference between means	95% CI	p
Education vs. Treatment	12.14	[7.92, 16.35]	<0.0001
Treatment vs. Law enforcement	15.64	[11.42, 19.85]	<0.0001
Law Enforcement vs. Education	3.5	[-0.71, 7.72]	ns
Heroin/Cocaine			
Category comparison	Difference between means	95% CI	p
Education vs. Treatment	8.6	[3.96, 13.24]	<0.0001
Treatment vs. Law enforcement	17.56	[12.92, 22.2]	<0.0001
Education vs. Law enforcement	8.96	[4.32, 13.6]	<0.0001

Comparisons significant at the 0.05 level for each response based on drug type

Alcohol

We found the mean dollar for education (\$41.76) to be significantly different from the mean dollar of treatment (\$30.05) and law enforcement (\$28.19) at the 0.05 level. Amount of money that goes into education for alcohol is significantly higher than law enforcement or treatment ($p < 0.0001$). The model accounted for 96.73% of the variability in mean dollar based on education, treatment, and law enforcement. The 95% CI around the mean difference for the pairwise comparisons are as follows: education and treatment: (9.20-14.23) and education and law enforcement (11.06-16.09). A pairwise comparison between treatment and law enforcement was found not to be significant.

Tobacco

The amount of money that goes into education for tobacco is significantly higher than law enforcement or treatment ($p < 0.0001$) and the mean dollars for education (\$48.33), treatment (\$30.39) and law enforcement (\$21.28) were significantly different from each other at the 0.05 level. The model accounted for 97.07% of the variability in mean dollar towards education, treatment, and law enforcement. The 95% CI around the mean difference for the pairwise comparisons are as follows: education and treatment: (13.48-22.39); treatment and law enforcement (4.65-13.56); and education and law enforcement (22.59-31.50).

Cannabis

The amount of money that goes into education for cannabis use is significantly the highest followed by treatment and law enforcement ($p < 0.0001$) and the mean dollars for education (\$44.23), treatment (\$25.52), and law enforcement (\$30.26) were significantly different from each other at the 0.05 level. The model accounted for 95.57% of the variability in mean dollar based on education, treatment, and law enforcement. The 95% CI around the mean difference for the pairwise comparisons are as follows: education and treatment: (14.81-22.62); treatment and law enforcement (0.84-8.64); and education and law enforcement (10.07-17.88). A Shapiro-Wilk test reported a p value < 0.05 ($p = 0.0431$) with a slightly higher mean (\$33.33) than median (\$30.48) to suggest the data may not be normally distributed and a non-parametric test may be more appropriate. Similarly, a Kruskal Wallis test revealed education to be significantly the highest ($p = 0.0154$).

Amphetamines

The amount of money that goes into law enforcement for amphetamine use is significantly the highest followed by treatment and education ($p < 0.0001$) and the mean dollars for treatment (\$24.08) were significantly different from education (\$36.21) and law enforcement (\$39.72) at the 0.05 level. The model accounted for 92.92% of the variability in mean dollar based on education, treatment, and law enforcement. The 95% CI around the mean difference for the pairwise comparisons are as follows: education and treatment (7.92-16.35) and treatment and law enforcement (11.42-19.85). A pairwise comparison between education and law enforcement was found not to be significant.

Cocaine/Heroin

The amount of money that goes into education for cocaine/heroin use is significantly the highest followed by treatment and law enforcement ($p < 0.0001$) and the mean dollars for education (\$42.17), treatment (\$33.21) and law enforcement (\$24.62) were all significantly different from each other at the 0.05 level. The model accounted for 92.54% of the variability in mean dollar based on education, treatment, and law enforcement. The 95% CI around the mean difference for the pairwise

comparisons are as follows: education and treatment (3.96-13.24); treatment and law enforcement (12.92-22.2), and education and treatment (4.32-13.6).

Comparisons significant at the 0.05 level for each drug type based on response			
Education			
Category comparison	Difference between means	95% CI	p
Alcohol vs. Tobacco	6.66	[1.02, 12.11]	<0.0001
Tobacco vs. Speed	12.12	[6.57, 17.66]	<0.0001
Tobacco vs. Heroin	15.12	[9.57, 20.66]	<0.0001
Cannabis vs. Speed	8.02	[2.47, 13.56]	<0.0001
Cannabis vs. Heroin	11.02	[5.47, 16.56]	<0.0001
Alcohol vs. Speed	5.55	[0.01, 11.09]	<0.0001
Alcohol vs. Heroin/Cocaine	8.55	[3.01, 14.09]	<0.0001
Tobacco vs. Cannabis	4.1	[-1.45, 9.64]	ns
Alcohol vs. Cannabis	2.47	[-3.08, 8.01]	ns
Speed vs. Heroin/Cocaine	3	[-2.54, 8.54]	ns
Treatment			
Category comparison	Difference between means	95% CI	p
Tobacco vs. Cannabis	4.88	[3.04, 6.71]	<0.0001
Tobacco vs. Cocaine/Heroin	5.78	[3.94, 7.61]	<0.0001
Tobacco vs. Speed	6.31	[4.47, 8.15]	<0.0001
Alcohol vs. Cannabis	4.54	[2.70, 6.37]	<0.0001
Alcohol vs. Cocaine/Heroin	5.44	[3.60, 7.27]	<0.0001
Alcohol vs. Speed	5.97	[4.13, 7.81]	<0.0001
Alcohol vs. Tobacco	0.34	[-1.5, 2.18]	ns
Cannabis vs. Heroin/Cocaine	0.90	[-0.94, 2.74]	ns
Cannabis vs. Speed	1.44	[-0.40, 3.28]	ns
Heroin/Cocaine vs. Speed	0.54	[-1.30, 2.38]	ns
Law Enforcement			
Category comparison	Difference between means	95% CI	p
Cannabis vs. Cocaine/Heroin	11.92	[6.91, 16.93]	<0.0001
Alcohol vs. Cocaine/Heroin	13.98	[8.57, 18.99]	<0.0001
Tobacco vs. Cocaine/Heroin	20.89	[15.88, 25.9]	<0.0001
Cannabis vs. Speed	9.46	[4.45, 14.47]	<0.0001
Alcohol vs. Speed	11.53	[6.52, 16.54]	<0.0001
Tobacco vs. Speed	18.43	[13.42, 23.44]	<0.0001
Tobacco vs. Cannabis	8.97	[3.96, 13.98]	<0.0001
Tobacco vs. Alcohol	6.91	[1.9, 11.92]	<0.0001
Speed vs. Heron/Cocaine	2.46	[-2.55, 7.47]	ns
Alcohol vs. Cannabis	2.07	[-2.95, 7.08]	ns

B6 – Attitudes towards increasing the penalties for the sale and supply of illicit drugs.

Attitudes towards increase in penalties for sale and supply of cannabis referred to peak (P) and trough (T) between 1995-1998, 1998-2001, and 2001-2004 from NDSHS.

Response	Time Variable	(%) respectively	% Difference	95% CI	p
Support	1995 (P)-1998 (T)	(61.14, 51.28)	0.0987	[0.0805, 0.1168]	<0.0001
	1998 (T)-2001 (P)	(51.28, 55.94)	-0.0467	[-0.0581, -0.0352]	<0.0001
	2001 (P)-2004 (T)	(55.94, 51.91)	0.0403	[0.0315, 0.0492]	<0.0001
Neither	1995 (T)-1998 (P)	(17.61, 21.28)	-0.0367	[-0.0510, -0.0223]	<0.0001
	1998 (P)-2001 (T)	(21.28, 16.21)	0.0506	[0.0415, 0.0598]	<0.0001
	2001 (T)-2004 (P)	(16.21, 18.15)	-0.0194	[-0.0261, -0.0126]	<0.0001
Oppose	1995 (T)-1998 (P)	(21.04, 25.80)	-0.0476	[-0.0630, -0.0322]	<0.0001
	1998 (P)-2001 (T)	(25.80, 20.76)	0.0504	[0.0406, 0.0603]	<0.0001
	2001 (P)-2004 (T)	(20.76, 20.30)	0.0046	[-0.0026, 0.0118]	0.2093 (ns)
Don't know	1995 (T)-1998 (P)	(0.21, 1.64)	-0.0144	[-0.0172, -0.0115]	<0.0001
	1998 (T)-2001 (P)	(1.64, 7.09)	-0.0544	[-0.0585, -0.0504]	<0.0001
	2001 (T)-2004 (P)	(7.09, 9.65)	-0.0256	[-0.0305, -0.0206]	<0.0001

Attitudes towards increase in penalties for sale and supply of heroin referred to peak (P) and trough (T) between 1995-1998, 1998-2001, and 2001-2004 from NDSHS.

Response	Time Variable	(%) respectively	% Difference	95% CI	p
Support	1995 (P)-1998 (T)	(86.47, 81.03)	0.0544	[0.0412, 0.0676]	<0.0001
	1998 (T)-2001 (P)	(81.03, 82.31)	-0.0128	[-0.0217, -0.0039]	0.0045
	2001 (P)-2004 (T)	(82.31, 78.05)	0.0426	[0.0354, 0.0497]	<0.0001
Neither	1995 (T)-1998 (P)	(4.03, 8)	-0.0397	[-0.0478, -0.0316]	<0.0001
	1998 (P)-2001 (T)	(8, 3.66)	0.0434	[0.0377, 0.0492]	<0.0001
	2001 (T)-2004 (P)	(3.66, 4.44)	-0.0079	[-0.0114, -0.0043]	<0.0001
Oppose	1995 (T)-1998 (P)	(9.30, 9.38)	-0.0008	[-0.0116, 0.0099]	0.8810 (ns)
	1998 (P)-2001 (T)	(9.38, 7.19)	0.0219	[0.0154, 0.0284]	<0.0001
	2001 (T)-2004 (P)	(7.19, 8.23)	-0.0104	[-0.0151, -0.0056]	0.2093 (ns)
Don't know	1995 (T)-1998 (P)	(0.21, 1.6)	-0.0139	[-0.0167, -0.0111]	<0.0001
	1998 (T)-2001 (P)	(1.6, 6.85)	-0.0525	[-0.0565, -0.0485]	<0.0001
	2001 (T)-2004 (P)	(6.85, 9.28)	-0.0243	[-0.0292, -0.0195]	<0.0001

Attitudes towards increase in penalties for sale and supply of amphetamines referred to peak (P) and trough (T) between 1995-1998, 1998-2001, and 2001-2004 from NDSHS.

Response	Time Variable	(%) respectively	% Difference	95% CI	p
Support	1995 (P)-1998 (T)	(86.23, 78.69)	0.0754	[0.0619, 0.0888]	<0.0001
	1998 (T)-2001 (P)	(78.69, 79.79)	-0.0109	[-0.0203, -0.0016]	0.0207
	2001 (P)-2004 (T)	(79.79, 75.71)	0.0408	[0.0334, 0.0483]	<0.0001
Neither	1995 (T)-1998 (P)	(4.39, 9.81)	-0.0542	[-0.0628, -0.0455]	<0.0001
	1998 (P)-2001 (T)	(9.81, 5.21)	0.0460	[0.0396, 0.0523]	<0.0001
	2001 (T)-2004 (P)	(5.21, 5.82)	-0.0061	[-0.0102, -0.0020]	0.0034
Oppose	1995 (T)-1998 (P)	(9.17, 9.85)	-0.0068	[-0.0175, 0.0040]	0.2252 (ns)
	1998 (P)-2001 (T)	(9.85, 7.87)	0.0198	[0.0131, 0.0265]	<0.0001
	2001 (T)-2004 (P)	(7.87, 8.83)	-0.0097	[-0.0146, -0.0047]	0.0001
Don't know	1995 (T)-1998 (P)	(0.21, 1.65)	-0.0145	[-0.0173, -0.0116]	<0.0001
	1998 (T)-2001 (P)	(1.65, 7.14)	-0.0548	[-0.0589, -0.0508]	<0.0001
	2001 (T)-2004 (P)	[7.14, 9.65]	-0.0251	[-0.0301, -0.0201]	<0.0001

Attitudes towards increase in penalties for sale and supply of illicit drugs for cocaine referred to peak (P) and trough (T) between 1995-1998, 1998-2001, and 2001-2004 from NDSHS.

Response	Time Variable	(%) respectively	% Difference	95% CI	p
Support	1995 (P)-1998 (T)	(86.31, 79.75)	0.0656	[0.0523, 0.0790]	<0.0001
	1998 (T)-2001 (P)	(79.75, 81.02)	-0.0127	[-0.0219, -0.0036]	0.0059
	2001 (P)-2004 (T)	(81.02, 76.6)	0.0443	[0.0370, 0.0515]	<0.0001
Neither	1995 (T)-1998 (P)	(4.44, 9.15)	-0.0471	[-0.0556, -0.0385]	<0.0001
	1998 (P)-2001 (T)	(9.15, 4.52)	0.0463	[0.0401, 0.0524]	<0.0001
	2001 (T)-2004 (P)	(4.52, 5.41)	-0.0089	[-0.0128, -0.0050]	<0.0001
Oppose	1995 (T)-1998 (P)	(9.04, 9.38)	-0.0034	[-0.0141, 0.0072]	0.5325 (ns)
	1998 (P)-2001 (T)	(9.38, 7.48)	0.0190	[0.0125, 0.0256]	<0.0001
	2001 (T)-2004 (P)	(7.48, 8.52)	-0.0105	[-0.0153, -0.0056]	<0.0001
Don't know	1995 (T)-1998 (P)	(0.21, 1.72)	-0.0151	[-0.0180, -0.0122]	<0.0001
	1998 (T)-2001 (P)	(1.72, 6.98)	-0.0526	[-0.0566, -0.0485]	<0.0001
	2001 (T)-2004 (P)	(6.98, 9.46)	-0.0249	[-0.0298, -0.0199]	<0.0001

B7 – Attitudes towards the legalisation of cannabis for personal use

Response	Time Variable	(%) respectively	% Difference	95% CI	<i>p</i>
Oppose	1993(P)-1998 (T)	(57.03, 44.48)	0.1255	[0.1065, 0.1445]	<0.0001
	1998 (T)-2004 (P)	(44.48, 47.29)	-0.0281	[-0.0396, -0.0166]	<0.0001
Support	1993 (T)-1998 (P)	(26.20, 33.91)	-0.0771	[-0.0943, -0.0599]	<0.0001
	1998 (P)-2004 (T)	(33.91, 25.30)	0.0861	[0.0754, 0.0968]	<0.0001
Neither	1993 (T)-1998 (P)	(16.60, 19.84)	-0.0324	[-0.0469, -0.0178]	<0.0001
	1998 (P)-2004 (T)	(19.84, 17)	0.0283	[0.0193, 0.0374]	<0.0001
Don't Know	1993 (T)-1998 (P)	(0.17, 1.78)	-0.0161	[-0.0190, -0.0132]	<0.0001
	1998 (T)-2004 (P)	(1.78, 10.41)	-0.0863	[-0.0910, -0.0817]	<0.0001

B8 – Attitudes towards cannabis decriminalisation

Response	Time Variable	(%) respectively	% Difference	95% CI	<i>p</i>
Yes	2001 (T)-2004 (P)	(30.51, 30.89)	-0.0038	[-0.0121, 0.0044]	0.3599 (ns)
No	2001 (P)-2004 (T)	(55.34, 52.49)	0.0285	[0.0196, 0.0374]	<0.0001
Don't Know	2001 (T)-2004 (P)	(14.16, 16.62)	-0.0246	[-0.0311, -0.0182]	<0.0001

B9 – Attitudes towards a heroin trial

Response	Time Variable	(%) respectively	% Difference	95% CI	<i>p</i>
Support	2001 (P)-2004 (T)	(27.72, 19.49)	0.0823	[0.0748, 0.0899]	<0.0001
Neither	2001 (T)-2004 (P)	(11.4, 14.21)	-0.0282	[-0.0341, -0.0222]	<0.0001
Oppose	2001 (T)-2004 (P)	(37.8, 39.21)	-0.0142	[-0.0229, -0.0055]	0.0014
Don't Know	2001 (T)-2004 (P)	(23.08, 27.08)	-0.0400	[-0.0477, -0.0322]	<0.0001

B10 – Attitudes toward needle and syringe programs

Response	Time Variable	(%) respectively	% Difference	95% CI	<i>p</i>
Support	2001 (P)-2004 (T)	(48.56, 42.31)	0.0625	[0.0536, 0.0714]	<0.0001
Oppose	2001 (P)-2004 (T)	(21.38, 20.84)	0.0054	[-0.0019, 0.0127]	0.1451 (ns)
Neither	2001 (T)-2004 (P)	(10.83, 13.69)	-0.0286	[-0.0345, -0.0227]	<0.0001
Don't Know	2001 (T)-2004 (P)	(19.23, 23.16)	-0.0393	[-0.0466, -0.0320]	<0.0001

B11 – Attitudes toward supervised injecting facilities

Response	Time Variable	(%) respectively	% Difference	95% CI	<i>p</i>
Support	2001 (P)-2004 (T)	(38.84, 31.55)	0.0629	[0.0544, 0.0713]	<0.0001
Oppose	2001 (T)-2004 (P)	(32.08, 32.36)	-0.0028	[-0.0112, 0.0055]	0.5037 (ns)
Neither	2001 (T)-2004 (P)	(11.42, 14.01)	-0.0260	[-0.0319, -0.0200]	<0.0001
Don't Know	2001 (T)-2004 (P)	(18.67, 22.08)	-0.0341	[-0.0413, -0.0269]	<0.0001

