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Key findings

- Cannabis use is relatively common among the general population in Australia, and groups of users sampled for the Illicit Drug Reporting System (IDRS) and the Ecstasy and Related Drugs Reporting System (EDRS).
- Cannabis is readily available among these groups and relatively cheap to obtain.
- Examination of trends over time shows that recent use among the IDRS and EDRS samples has remained relatively stable.
- Daily cannabis use, which increases the risk of developing dependence, was more prevalent among the IDRS sample (40%) than the EDRS sample (14%). Proportions reporting daily cannabis use among the IDRS sample have remained stable over time, while proportions reporting daily use in the EDRS have declined.
- Examination of daily cannabis use among EDRS participants revealed larger proportions reporting; unemployment; daily alcohol and tobacco use; higher psychological distress; attendance at medical/health services in relation to drug use; and arrest in the preceding 12 months, compared with those cannabis users who had not used on a daily basis.
- Daily cannabis use did not appear to distinguish IDRS participants on many outcomes, which may be indicative of more extensive polydrug use among this group compared to the EDRS sample.
- Indicators of cannabis-related harm show mixed trends. Overall, cannabis-related arrests have remained stable, indicating that the enforcement of cannabis-related offences has not dramatically changed over time. Hospital presentations and treatment episodes related to cannabis use have increased.
- Despite the apparent increase in demand for treatment of cannabis-related problems in Australia, there is relatively little research to date on the efficacy of psychotherapeutic interventions for problematic cannabis use.

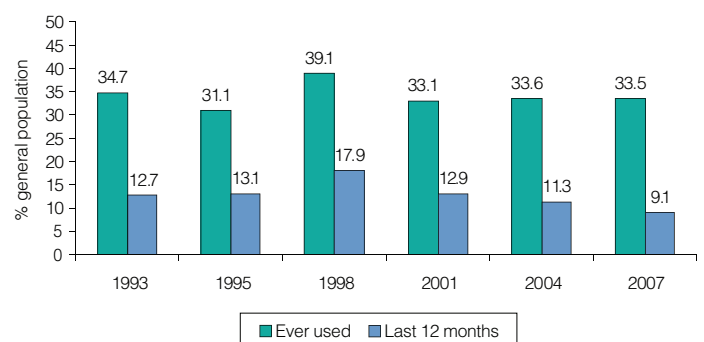
Cannabis use among sentinel groups of drug users: Findings from the Illicit Drug Reporting System (IDRS) and the Ecstasy and Related Drugs Reporting System (EDRS)

Use of cannabis in the general population

Cannabis is the most commonly used illicit drug in Australia. The 2007 National Drug Strategy Household Survey noted approximately one-third (34%) of respondents reported lifetime cannabis use (Australian Institute of Health and Welfare, 2008). However, recent cannabis use (i.e. use in the past 12 months) has declined among the general population; from 18% in 1998 to 9% in 2007 (Figure 1) (Australian Institute of Health and Welfare, 1999). In the 2004 National Drug Strategy Household Survey, rates of self-reported recent cannabis use were relatively similar across jurisdictions (ranging between 10% and 14%) with the exception of the NT where 20% of respondents reported recent use (Australian Institute of Health and Welfare, 2005). Note the 2007 state and territory supplement was not available at time of publication.

Internationally, rates of cannabis use have been constant in many European countries (European Monitoring Centre for Drugs and Drug Addiction, 2007), whilst decreases have been recorded in the United Kingdom (The Information Centre, 2007) and the United States (Substance Abuse and Mental Health Services Administration, 2007), particularly among young people.

Figure 1: Prevalence of cannabis use in Australia, 1993-2007



Source: National Drug Strategy Household Survey (1993-2007)

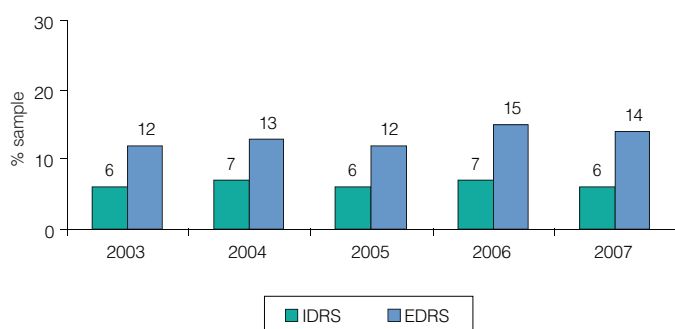
Cannabis use among IDRS and EDRS participants

Population surveys provide important information about trends in illicit drug use in the broader community. However, it is also important to examine patterns of use among purposive samples of regular drug users. The Illicit Drug Reporting System (IDRS) and the Ecstasy and Related Drugs Reporting System (EDRS) are national monitoring systems conducted annually in each capital city in Australia. Results from the regular drug user components of each project are examined below in relation to trends in cannabis use.

Cannabis as drug of choice

In 2007, small proportions of both the IDRS and EDRS samples nominated cannabis as their drug of choice, although the proportion was higher in the EDRS sample (6% in the IDRS and 14% in the EDRS sample) (Figure 2). The proportion in each sample that nominated cannabis as their drug of choice has remained relatively constant over the five-year period (2003-2007).

Figure 2: Cannabis as drug of choice, IDRS and EDRS samples, 2007

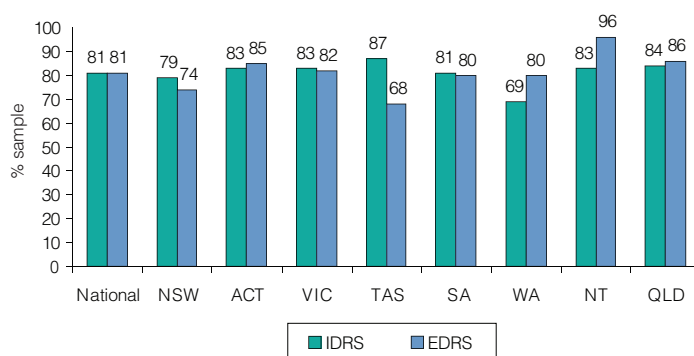


Source: IDRS and EDRS participant interviews, 2003-2007

Recent cannabis use

Recent cannabis use (i.e. use in the preceding six months) among both the IDRS and EDRS samples was common in all jurisdictions in 2007. Smaller proportions of Tasmanian respondents in the EDRS sample reported recent cannabis use relative to the IDRS sample (68% vs 87% respectively). In contrast both WA and the NT reported higher rates of cannabis use in the IDRS as opposed to the EDRS samples (Figure 3).

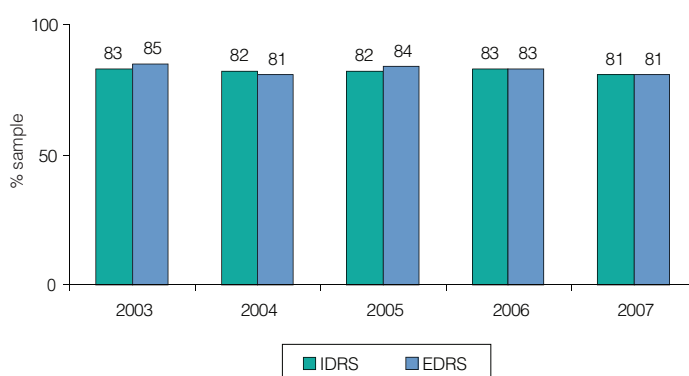
Figure 3: Recent cannabis use by jurisdiction, IDRS and EDRS samples, 2007



Source: IDRS and EDRS participant interviews, 2007

Examination of trends over time shows that the proportions of the IDRS and EDRS samples reporting recent cannabis use have remained relatively constant. In 2007 there was no difference between proportions reporting recent use (81% each) (Figure 4).

Figure 4: Recent cannabis use among the IDRS and EDRS samples, 2003-2007

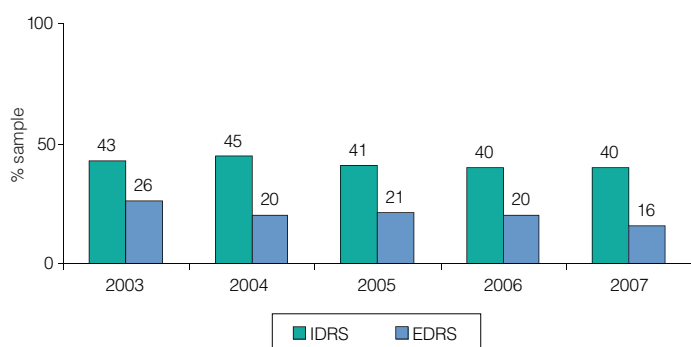


Source: IDRS and EDRS participant interviews, 2003-2007.

Daily cannabis use

There was a difference between the two samples with respect to the proportion reporting daily cannabis use. Just under half (40%) of the IDRS participants reported daily cannabis use in the 2007 survey, and this figure has remained relatively stable between 2003 and 2007. However, daily cannabis use was less prevalent among EDRS participants with less than one-fifth (16%) reporting having used daily in 2007. Consistently lower proportions of the EDRS samples have reported daily use each year (Figure 5).

Figure 5: Daily cannabis use among the IDRS and EDRS samples, 2003-2007



Source: IDRS and EDRS participant interviews, 2003-2007.

Characteristics of daily cannabis users in the IDRS and EDRS samples, 2007

Table 1 presents data on daily cannabis users from both samples looking at a range of variables.

IDRS daily cannabis users

The majority of daily cannabis users among the IDRS sample were male (67%) and one-fifth (20%) identified as being of Aboriginal and/or Torres Strait Islander (A&TSI) descent. A substantial minority (11%) reported daily alcohol use, and just under half (46%) reported having driven under the influence of any drug in the preceding six months. One-third (33%) reported having driven under the influence of cannabis.

EDRS daily cannabis users

As with the IDRS sample, the majority of daily cannabis users among the EDRS sample were male (64%). However, much fewer reported identifying as being of A&TSI descent (5%). Also similar to the IDRS sample, a substantial minority (14%) of daily cannabis users from the EDRS reported daily alcohol use. Approximately two-thirds (62%) reported having driven under the influence of any drug, almost all of whom reported doing so under the influence of cannabis (59%) (Table 1).

Table 1: Demographics and harms among daily cannabis users, IDRS and EDRS samples, 2007

	IDRS daily users (N=360)	EDRS daily users (N=118)
% male	67	64
Mean age in years	35.5	26
% Aboriginal and/or Torres Strait Islander	20	<5
% unemployed	80	30
% currently in drug treatment	46	10
% daily alcohol use*	11	14
% daily tobacco use*	94	72
% driven under influence of any drug*	41	62
% driven under influence of cannabis*	33	59
% reporting high to very high distress according to the K10*	55	34
% arrested in past 12 months	41	15

*during the preceding six months

Comparison between the IDRS and EDRS daily cannabis users

The differences between the IDRS and EDRS daily cannabis users reflect, more broadly, the differences between these two samples as a whole (refer to the April 2008 IDRS bulletin for demographic comparisons) (Campbell et al., 2008). That is, the IDRS sample tends to be older, with a larger proportion reporting; unemployment, engagement in drug treatment, and contact with law enforcement.

Comparison between daily and non-daily cannabis users – IDRS sample

There was little difference in the characteristics of the IDRS participants that did and did not use cannabis on a daily basis. This reflects findings that this group is likely to be engaged in entrenched drug use, involving a more extensive range of drugs (Black et al., 2008a). Many of the characteristics listed in the Table may therefore be related to factors associated with polydrug use and an associated lifestyle, rather than to daily cannabis use per se.

Comparison between daily and non-daily cannabis users – EDRS sample

Within the EDRS sample, however, there were differences between daily and non-daily cannabis users (Table 2). Daily cannabis users reported; higher unemployment rates; higher rates of current treatment; more daily alcohol and tobacco use; higher rates of having driven under the influence of cannabis; high to very high psychological distress according to the Kessler 10; higher attendance rates at a medical/health service in relation to their drug use; and arrests in the preceding 12 months (Table 2).

Table 2: Differences between daily and non-daily cannabis users among the EDRS sample, 2007

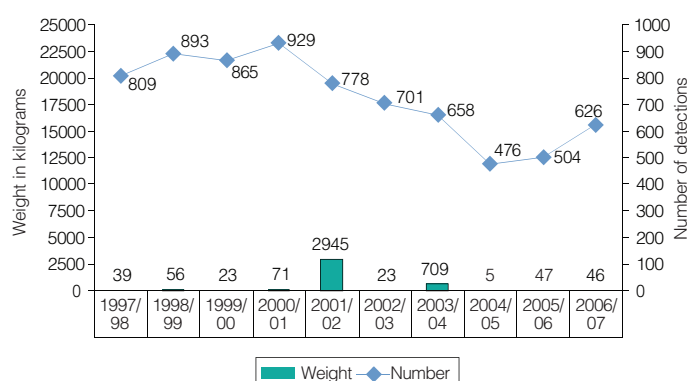
	EDRS non-daily users (N=480)	EDRS daily users (N=118)
% male	60	64
Mean age in years	25	26
% Aboriginal and/or Torres Strait Islander	<5	<5
% unemployed	15	30
% currently in drug treatment	3	10
% daily alcohol use*	7	14
% daily tobacco use*	43	72
% driven under influence of any drug*	59	62
% driven under influence of cannabis*	37	59
% reporting high to very high distress according to the K10*	19	34
% reported attending medical/health service in relation to drug use*	20	31
% arrested in past 12 months	9	15

*during the preceding six months

The cannabis market in Australia

Cannabis production occurs in many parts of Australia and much of the cannabis consumed in Australia is believed to be domestically produced. However, there are also numerous cannabis detections made by the Australian Customs Service each year (Figure 6) (Australian Customs Service, 2007).

Figure 6: Weight and number of detections of cannabis made at the border by the Australian Customs Service, financial years 1997/98-2006/07

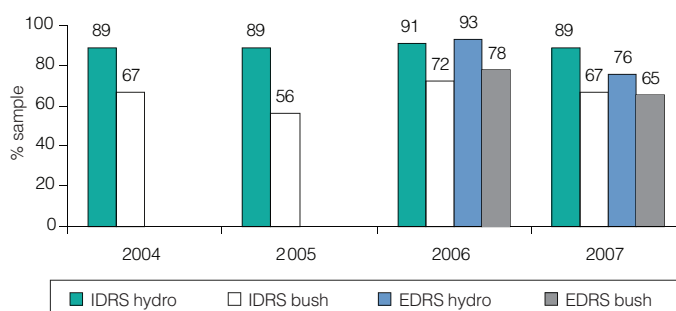


Source: Australian Customs Service (2007)

Availability reported in the national IDRS and EDRS samples

Figure 7 shows participant reports of cannabis availability. The majority of both the IDRS and EDRS samples reported that hydroponic (i.e. indoor cultivated – ‘hydro’) cannabis was readily available. Outdoor grown, or ‘bush’ cannabis did not appear to be as readily available as ‘hydro’; however, over half of both the samples reported it was ‘easy’ to ‘very easy’ to obtain. Among the IDRS sample, there has been little change in ‘hydro’ availability over time, while the availability of ‘bush’ has fluctuated. Among the EDRS sample, availability of both ‘hydro’ and ‘bush’ cannabis appears to have declined between 2006 and 2007 (Figure 7).

Figure 7: Proportion of those who commented reporting cannabis as ‘easy’ to ‘very easy’ to obtain, IDRS and EDRS samples 2004-2007



Source: IDRS and EDRS participant interviews, 2004-2007.

NB: Cannabis availability data was not collected in the EDRS in 2004 or 2005.

Prices reported in the IDRS and EDRS samples

Cannabis prices among both the IDRS and EDRS samples have remained relatively stable over time. A larger proportion of the IDRS sample report purchasing grams and in 2007, prices ranged from \$20 per gram in NSW to \$25 in QLD. There is little difference reported between the price for a gram of ‘bush’ or ‘hydro’ among IDRS participants. In contrast with the IDRS sample, participants from the 2007 EDRS were more likely to report purchasing cannabis by the ounce and quarter ounce. This may reflect a higher source of disposable income. There were relatively minor fluctuations in prices over time. In the 2007 EDRS sample, prices for a quarter ounce of ‘hydro’ ranged from \$70 in VIC to \$90 in the NT, while prices for a quarter ounce of ‘bush’ ranged from \$50 in SA to \$90 in NSW. For further information on the prices of cannabis refer to the 2007 EDRS and IDRS Drug Trend Reports (Black et al., 2008a; Black et al., 2008b).

Potency reported in the IDRS and EDRS samples

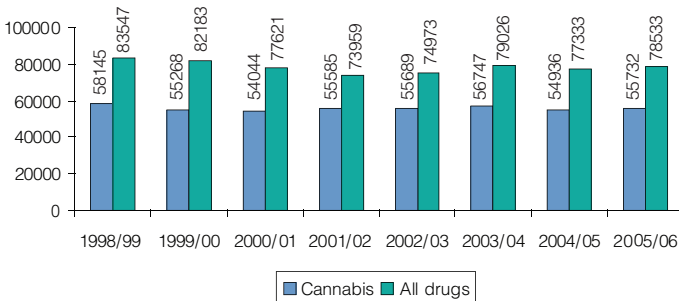
Perceived potency of a drug is influenced by many factors, including other drug use patterns and an individual's tolerance to drugs. Despite the lack of objective data on the potency of cannabis in Australia, higher proportions of both the 2007 IDRS and EDRS samples reported 'hydro' cannabis as being of 'high' potency compared to proportions reporting 'bush' cannabis as 'high' potency. The perceived potency of cannabis appears to have remained relatively stable over time.

Cannabis-related harms

There are a range of harms associated with regular cannabis use including; an increased risk of psychosis and depression (Arendt et al., 2005; Degenhardt and Hall, 2006; Fergusson et al., 2006; Hall, 2006; Patton et al., 2002); respiratory problems when smoked (Moore et al., 2004); contact with law enforcement (Lenton, 2004); and use of other illicit substances (Patton et al., 2007). There is also evidence that daily cannabis use can lead to the development of cannabis dependence, with estimates suggesting that approximately one in ten regular cannabis users go on to develop dependence (Hall and Pacula, 2003; Swift et al., 2001).

Numbers of cannabis-related arrests have remained relatively unchanged over time, with these arrests comprising approximately 70% of all drug-related arrests in Australia. These data suggest that there has been little change in the enforcement of cannabis-related offences over time (Figure 8).

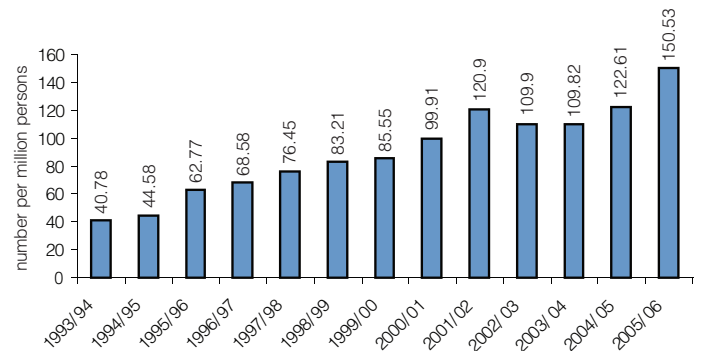
Figure 8: Number of cannabis arrests and all other drug arrests, 1998/99-2005/06



Source: ABCI 2001 – 2002. ACC 2003 – 2006.

Presentations to hospital for cannabis-related problems (predominantly for cannabis dependence) have increased over time, particularly among the older age groups (Figure 9).

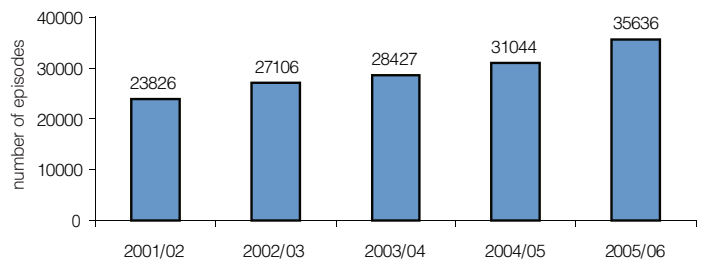
Figure 9: Number per million persons of principal cannabis-related hospital separations in Australia among persons aged 15-54, 1993/94-2005/06



Source: Roxburgh et al. (2008)

According to figures from the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS-NMDS), cannabis is the second most common principal drug of concern (after alcohol) for which treatment is sought in Australia (Australian Institute of Health and Welfare, 2007a). It should be noted however, that this collection does not include pharmacotherapy treatment for heroin. Cannabis was the most common principal drug of concern among the 10 to 19 year age group, comprising 50% of all treatment episodes among this group. The 20 to 29 year age group accounted for the greatest proportion (41%) of all cannabis treatment episodes. The increase in treatment episodes may, in part, be due to the expansion of drug diversion programs in Australia (Australian Institute of Health and Welfare, 2007).

Figure 10: Number of closed treatment episodes where cannabis was the principal drug of concern, 2001-2006



Source: AODTS-NMDS (Australian Institute of Health and Welfare, 2007b)
Note: Excludes closed treatment episodes for clients seeking treatment for the drug use of others.

Treatment interventions

Despite the apparent increase in demand for the treatment of cannabis-related problems in Australia, the literature on the efficacy of available psychotherapeutic interventions is limited. A recent Cochrane review (Denis et al., 2006) and meta-analysis (Dutra et al., 2008) retrieved only seven randomized control studies in total. The interventions under investigation ranged from motivational enhancement therapy (MET) (Babor et al., 2004; Sinha et al., 2003) to cognitive behavioural therapy (CBT) (Copeland et al., 2001; Stephens et al., 2000), and CBT with additional contingency management techniques (Budney et al., 2000). All three forms of therapy were associated with reductions in cannabis related problems and cannabis use (Babor et al., 2004; Budney et al., 2000; Copeland et al., 2001; Stephens et al., 2000).

Summary and implications

- Cannabis use remains common among samples of regular drug users as well as the general population.
- Daily cannabis use was particularly prevalent (40%) in the IDRS sample in 2007, despite fewer than 10% of this group reporting cannabis as their drug of choice. This is likely to be related to the availability and cost of their primary drug of choice (primarily reported to be heroin/opioids or methamphetamine) (Black et al., 2008b), as well as the availability and cost of cannabis. It also highlights extensive polydrug use amongst this group.
- Given that a substantial proportion of respondents sampled for the IDRS are engaged in treatment programs for opioid dependence (Black et al., 2008b), the high rates of daily cannabis use among this group suggests that these programs need to consider targeting other drug use, as well as the impact of polydrug use on treatment outcomes for this group.
- A substantial minority (16%) of EDRS participants reported daily cannabis use. Higher proportions of the daily cannabis users reported; unemployment; daily alcohol and tobacco use; high to very high psychological distress according to the Kessler 10 scale (Kessler et al., 2002); and attendance at a medical/health service in relation their drug use than those not reporting daily cannabis use.
- Daily cannabis use is known to increase the risk of developing dependence, as well as mental health problems, and the findings from the EDRS sample suggest that the daily cannabis users are clearly experiencing problems related to their drug use. The health service that is reported as most utilised by EDRS participants is general medical practice (Black et al., 2008a), which suggests that general practitioners may be well placed to conduct brief assessments of drug and alcohol use, as well as providing simple messages about drug and alcohol-related harm and referral where appropriate.

- Daily tobacco use among the daily cannabis users from the EDRS sample may also compound the risks of developing respiratory problems. The link between cannabis smoke and cancer is not as straightforward as it is for tobacco smoke and cancer (Hashibe et al., 2005), and further research on these risks is clearly required.
- Likewise, daily tobacco use among the daily cannabis users from the IDRS sample is likely to be having a negative impact on the general health of this group of (predominantly opioid and/or methamphetamine) injecting drug users, which is often relatively poor; previous research has shown that opioid-related hospital presentations are often accompanied by a broad spectrum of other physical health problems (Roxburgh and Degenhardt, 2008).
- The relatively high proportions of daily cannabis users reporting high to very high psychological distress (on the Kessler 10) in both the IDRS and EDRS samples clearly highlights the need for more integrated mental health and drug use services.
- Finally, the demand for treatment of cannabis-related problems is increasing in Australia, as evidenced in hospital presentations and treatment episodes. Yet to date, there is a relatively small literature on the efficacy of psychotherapeutic interventions for cannabis use. Clearly more research is required to investigate; how to engage people in treatment programs for cannabis; optimal treatment length; ways to maintain longer term reductions in cannabis use and related problems; and ways to make interventions more accessible (e.g. a trial web-based interventions).

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