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Polydrug use among cannabis users

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Key Points

- Polydrug use can be defined as the concurrent use of more than one drug
- Cannabis is the most commonly used illicit drug among polydrug users
- Users of psychostimulants report using cannabis to ameliorate the 'coming down' from ecstasy, amphetamines or cocaine
- Cannabis is often the first illicit drug an adolescent will try and is sometimes seen as a 'gateway drug' to other illicit drugs and polydrug use behaviour
- Cannabis is linked to mental health presentations in hospitals, with one study finding cannabis use was a factor in nearly 50 percent of mental health hospital separations
- Research indicates that many offenders are polydrug users, yet drug treatment programs typically focus on drugs of concern other than cannabis
- Effective drug treatment offers drug users (particularly heavier users) access to a range of appropriate treatment options that focus on individual needs
- There is increasing evidence that drug diversion interventions are effective in reducing drug use. They also form an important mechanism that provides drug-using offenders access to case-managed care
- Police-based drug diversion interventions, which are one of a number of responses of the criminal justice system to cannabis and other drug use, are designed to address the drug use of people who are early in their drug-using careers. As such, they form an important mechanism for addressing occasional and irregular drug use before it becomes problematic and entrenched behaviour

What is polydrug use?

Research literature most commonly describes polydrug use in one of two ways; as either *concurrent* or *simultaneous* polydrug use. Concurrent polydrug use is where a minimum of two substances are used within the same time-period (for example, within a four-week period). Simultaneous polydrug use is a specific form of concurrent polydrug use where users combine two or more substances on the same occasion. Simultaneous polydrug use is associated with increased risks through the additive and synergetic effects of the combination of chemicals from the different drugs (Smit, Monshouwer & Verdurmen 2002).

Although the proportion of cannabis use in the general population is declining (for example, recent use decreased significantly from 11.3 percent in 2004 to 9.1 percent in 2007), cannabis is still the most commonly used illicit drug across Australia (AIHW 2008). Moreover, evidence suggests that a small (but significant) proportion of regular cannabis users also use other illicit drugs.

Health repercussions of cannabis and other concurrent drug use

In general, polydrug use can increase the risk of the following:

- overdose
- severe paranoia and other mental health problems
- increased heart rate, blood pressure and body temperature (WA Drug and Alcohol Office 2009)

Drug use problems and mental illness are the leading causes of disease and injury in Australians aged 15-24 years, with the two often co-occurring in the same individuals and population groups (Loxley, Toumbourou & Stockwell 2004). Cannabis use can exacerbate existing mental illnesses, or in more vulnerable individuals, it can lead to schizophrenic episodes. According to Loxley, Toumbourou & Stockwell (2004) adolescent use of cannabis significantly increases the chances of using other illicit drugs later on, and leads to polydrug taking behaviours.

Cannabis as a ‘gateway’ to other drug use

The gateway theory has been actively debated for the past few decades (Kandel & Faust 1975; Yamaguchi & Kandel 1984; Stenbacka, Allebeck & Romelsjo 1993). It is based on the premise that adolescents will most likely use cannabis as their first illicit drug; with cannabis seen as a strong predictor for progression from licit drugs (such as alcohol) to other illicit drugs, such as heroin, cocaine and/or ecstasy (Fergusson & Horwood 2000). In particular, a number of studies have found certain associations between cannabis use at an early age, the later risk of using other illicit drugs, and developing polydrug patterns and substance abuse problems (Fergusson & Horwood 1997, 2000; Hall & Lynskey 2005).

Despite these findings, the relationship between cannabis and other drugs may be more complex than the theory suggests. For example, associations between cannabis and other illicit drug use may equally be explained by common underlying factors, such as:

- a predisposition to risk-taking behaviour
- greater availability among cannabis users to other illicit drugs such as cocaine and heroin
- social context and peer influence (Fergusson & Horwood 2000)

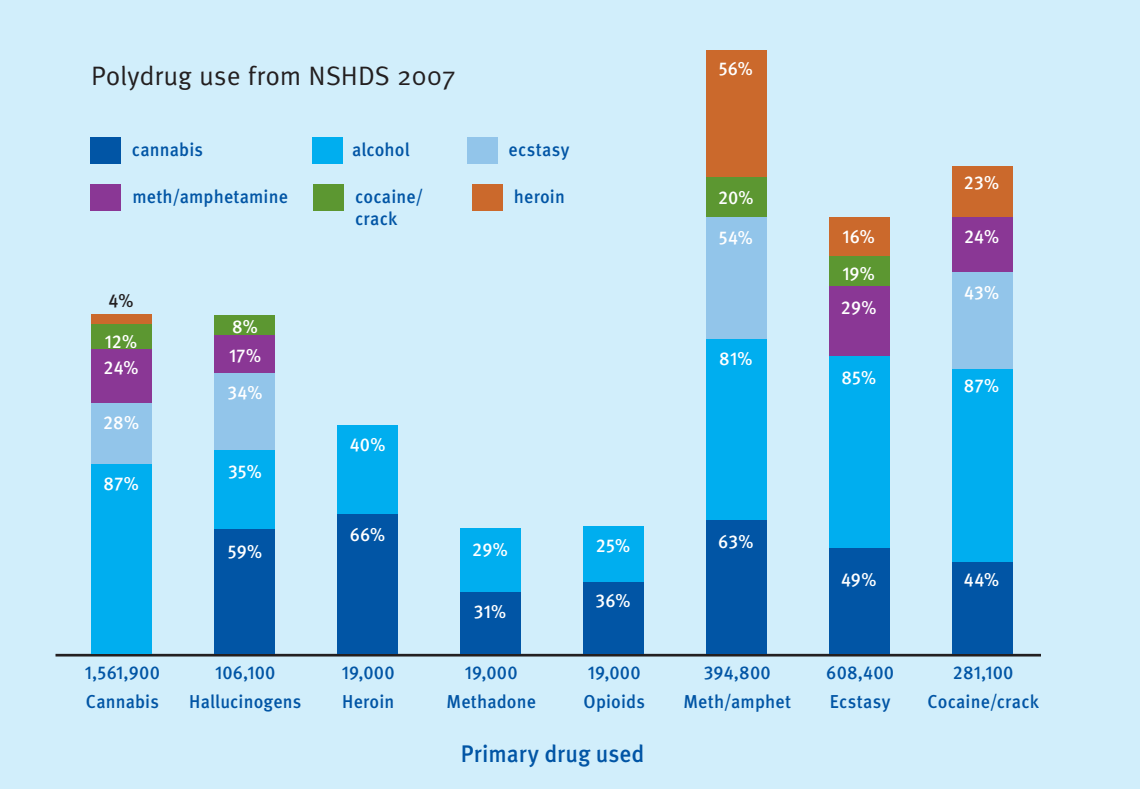
Recent evidence also points to cannabis use contributing to and exacerbating tobacco harms (Van Beurden et al. 2008).

Patterns of polydrug use in the general population

Polydrug use most commonly includes the use of cannabis with licit drugs (such as alcohol and tobacco), although a proportion of cannabis users in the general population also use cannabis with other illicit drugs (Dillon 2007). Cannabis is sometimes used concurrently with other drugs as a method of 'coming down' off those drugs. That is, the effects of cannabis are perceived by users to decrease the negative after-effects of other drugs (such as ecstasy, heroin and/or cocaine).

The 2007 National Drug Strategy Household Survey (AIHW 2008) indicates that among Australians aged 14 years and over cannabis was the main illicit drug used where more than one drug type was used concurrently. Of those people surveyed who indicated that cannabis was the primary drug used, 87.3 percent had used alcohol at the same time as cannabis, while 28.3 percent had used ecstasy, 23.8 percent had used meth/amphetamines, 11.5 percent had used cocaine/crack, and 3.8 percent had used heroin at the same time as using cannabis (Figure 1). Moreover, a significant proportion of people who indicated primary use of another illicit drug also used cannabis. For instance, around two thirds of people who indicated that heroin was the primary drug used also used cannabis.

Figure 1
Proportion (%) of the general population that reports polydrug use



Source: National Drug Strategy Household Survey (AIHW 2008).

Patterns of polydrug use among regular and/or heavy drug users

Research on regular or heavy drug-using population groups finds extensive patterns of polydrug use.

Injecting drug users

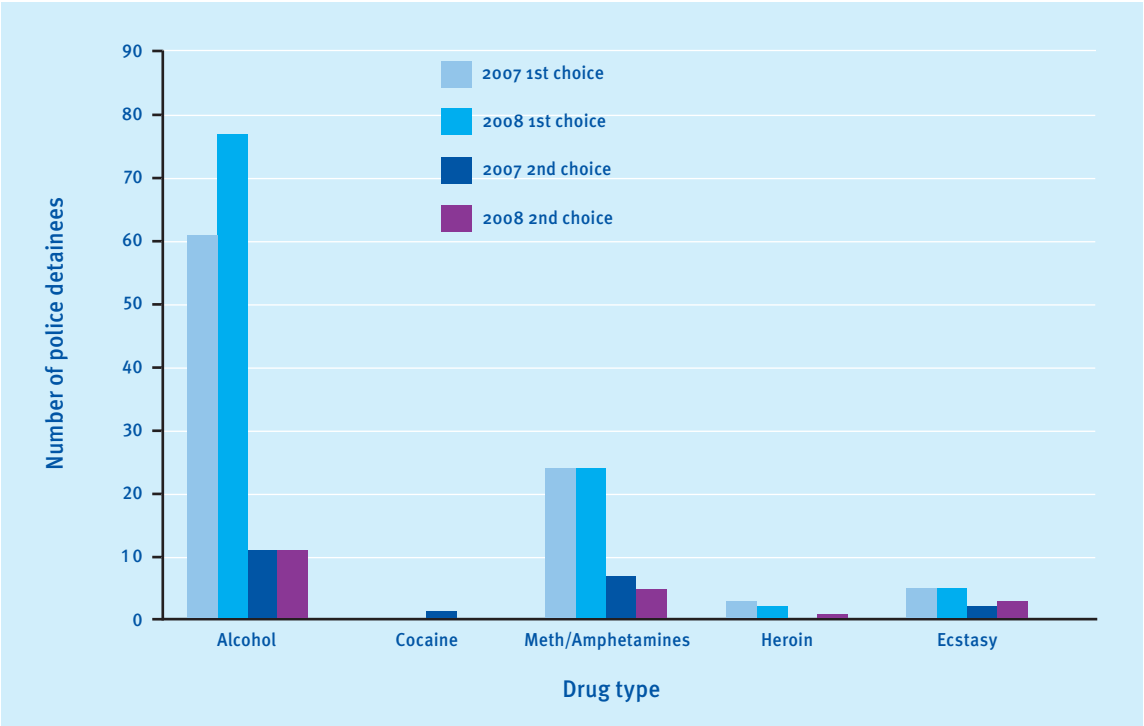
- Findings from the Illicit Drug Reporting System (IDRS), an annual survey of a sample of injecting drug users across all Australian jurisdictions, indicate that the proportion of respondents who report cannabis as their drug of choice is relatively small (6 percent of injecting drug users), yet reports of daily cannabis use is still high (over 40 percent of injecting drug users report daily cannabis use), indicating extensive polydrug use among this key drug-using group (Roxburgh & Burns 2008).
- The majority of injecting drug users across all jurisdictions, and surveyed as part of the IDRS, had used a minimum of three of the following five drugs: cannabis, heroin, cocaine, methamphetamine (any form), and any other opioid in the six months before being surveyed (Stafford et al. 2009).

Police detainees and incarcerated offenders

- The Australian Institute of Criminology's (AIC) Drug Use Monitoring in Australia (DUMA) Program collects (among other things) urinalysis and self-report data on the types of drugs used by police detainees. For instance, averaged across the eight sites, 49 percent of detainees tested positive to cannabis in 2007 (Adams et al. 2008). Furthermore, analysis of 2007/2008 data indicates that 22 percent of detainees claim cannabis as their main drug of choice, with sizeable proportions of that sample also reporting concurrent use of other drugs (especially alcohol and meth/amphetamines) (Figure 2).

Figure 2

Police detainees' (whose main drug of choice is cannabis) other drug choices, 2007-2008



Source: AIC DUMA collection 2007 and 2008 [computer file].

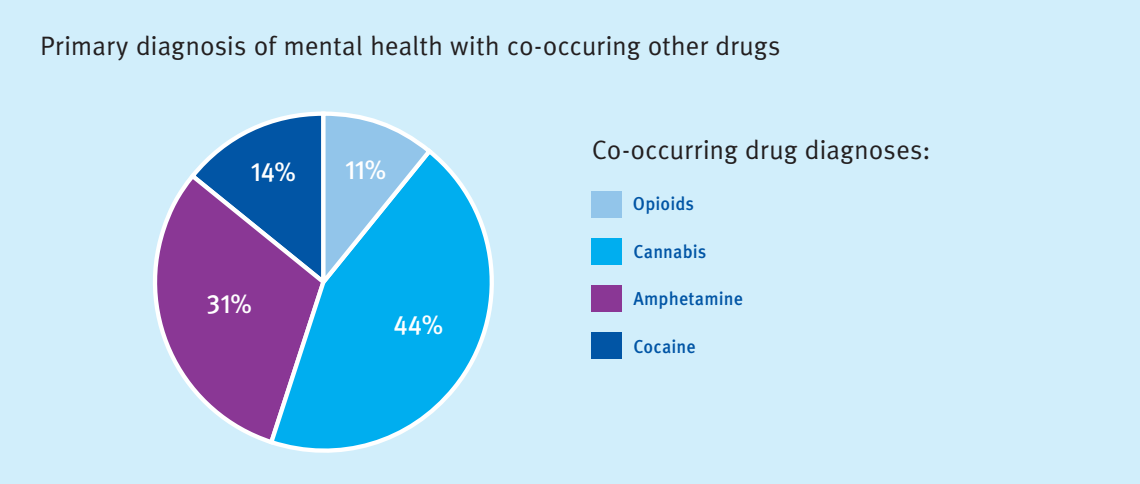
- The AIC's Drug Use Careers of Offenders (DUCO) study, which is a study designed to explore the relationship between inmates' drug using and offending behaviours, indicates extensive polydrug use patterns within prisoner populations. For example, among adult males, 60 percent had used more than one drug at the same time at some stage in their life, while 35 percent of offenders reported being current regular users (that is, in the six months prior to incarceration) of more than one drug type (Makkai & Payne 2003).
- Among adult females in the DUCO study, 80 percent were under the influence of and/or dependent on drugs at the time of their arrest. Forty-seven percent of female inmates used more than one drug in the six months prior to their arrest and 40 percent used cannabis. Moreover, between 60 and 80 percent of regular users of other drugs were also cannabis users; 61 percent of heroin users also used cannabis, 79 percent of cocaine users also used cannabis; 63 percent of amphetamine users also used cannabis and 72 percent of benzodiazepine users also used cannabis. Regular users of cannabis, heroin and amphetamines reported using an average of three other drugs concurrently. A large majority of these women had previously received some type of treatment for one drug only. However, as most women were polydrug users, treatments that only targeted one drug type would have had questionable effectiveness (Johnson 2004).

Polydrug use, cannabis and mental health: evidence that cannabis use in polydrug behaviour contributes to mental health symptoms and disorders

The Methamphetamine Treatment Evaluation Study (MATES) examined (among other things) the contribution of cannabis use to psychotic symptoms among methamphetamine users (Hetherington & McKetin 2008). The study highlights the prevalence of polydrug use in Australia, as well as providing evidence for cannabis as one of the most commonly used illicit substances in polydrug use behaviours. Although the study's focus was on users whose primary drug of concern was methamphetamine, users were also questioned about their cannabis use and possible psychotic symptoms. The study found that 75 percent of participants (n=400) were male, with an average age of 31 years and 80 percent were unemployed. Ninety-eight percent of the group reported lifetime cannabis use, and had used cannabis on an average of 14 days in the past month. Furthermore, 47 percent of participants in the study used cannabis on five or more days a week and 38 percent used methamphetamine on five or more days a week. Over 50 percent of users reported experiencing psychotic symptoms in the previous month, suggesting that the high levels of cannabis, coupled with other drug use (particularly methamphetamine), among users was highly likely to have contributed to the prevalence of psychotic symptoms within this population.

The close relationship between cannabis, other drug use and mental health morbidities has also been observed by others in Australia (for example, Mental Health Council of Australia 2006; Roxburgh & Degenhardt 2008). For instance, Roxburgh and Degenhardt (2008) found high proportions of people presenting with a primary mental health diagnosis also presented with drug use problems as secondary issues of concern (Figure 3). With 44 percent of mental health primary diagnoses co-occurring with cannabis and 31 percent with amphetamines, the role polydrug use (particularly that involving cannabis) plays in users presenting for mental health-related problems becomes evident. Roxburgh and Degenhardt (2008) recommend more integrated models of care which aim to educate young people on the risks of polydrug use and co-morbidity of mental health issues, as well as delivery of brief interventions to those young people presenting to hospitals with drug-related problems, which can effectively reduce drug use (see Edwards et al. 2006 for an evaluation of these interventions).

Figure 3
Principal diagnosis of mental health with percentages of co-occurring drug diagnoses present among those aged 15-54, 2004/2005



Source: Roxburgh & Degenhardt 2008.

What does this evidence mean for criminal justice, health and other relevant policy-makers and practitioners?

While the research evidence indicates that cannabis is not often the first drug of choice among polydrug users, it is clear that cannabis plays an important role in overall polydrug behaviour. This suggests that treatment programs that target only the main drug of concern may not be effective in addressing long-term, sustained drug-using behaviours. The role of treatment in drug diversion interventions (such as intermediate court-based programs – see Willis and Ahmad (2009) for an overview of intermediate court-based diversion programs) that target entrenched drug users would appear pivotal here and some evidence suggests that such programs are effective in reducing drug-using behaviour, or at least providing drug-using offenders access to case-managed care that they may not ordinarily have accessed (Wundersitz 2007; Sondi, O'Shea & Williams 2002).

The timing of treatment is also critical, particularly for women and other users who are early in their drug use careers. For instance, preventing drug dependency may play a crucial role in reducing the number of women who fall into chronic drug and offending behaviours as the time period for women between drug onset and regular drug use is short (Johnson 2004; Bean 2002). Similarly, adolescent health and social problems (including drug use) generally form in a cluster (Loxley et al. 2004; Terry et al. 2000) suggesting that programs and interventions targeted at high-risk adolescents should begin early in their developmental pathway to prevent (or at least minimise) the high risk behaviours that later leads to drug and/or polydrug use. Such programs and interventions have their genesis in a range of settings, including the education, health and welfare, and/or criminal justice sectors.

Police-based drug diversion interventions, which are one of a number of responses of the criminal justice system to cannabis and other drug use, are designed to address the drug use of people who are early in their drug-using careers and so form an important mechanism for addressing occasional and irregular drug use before it becomes problematic and entrenched behaviour.

Research evidence (Payne et al. 2008) indicates that these interventions have a range of positive outcomes including:

- diversion participants do not typically re-offend after being cautioned by police (at least not in the 12 to 18 months after caution)
- most diversion participants with prior offending records are not re-apprehended for any offences after they are diverted and among those that do re-offend, there is a decline in the rate of offending
- high rates of program compliance, with the majority of participants completing the required attendance of education sessions or treatment, regardless of age, gender or Indigenous status

This latter point is particularly encouraging as it suggests that even where drug education and treatment is coerced it generally produces positive results, irrespective of socio-demographic factors. This finding is consistent with international research (Anglin, Prendergast & Farabee 1998; Goldsmith & Latessa 2001; Copeland & Maxwell 2007).

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