ncpic
national cannabis prevention and information centre

barriers to cannabis treatment

Dr Stephanie Taplin and Prof Jan Copeland, Ph.D.
National Cannabis Prevention and Information Centre, NDARC

introduction

Australian data on treatment service provision reveal that cannabis was the second most common principal drug of concern for which treatment was sought in 2005-06, accounting for 35,636 (25%) of all closed treatment episodes; nearly half (46%) of all treatment episodes included cannabis as a drug of concern[1] (AIHW, 2007). In 2005–06, a substantial number of people entered treatment for cannabis dependence via police or court diversion (28%). Counselling was the most common treatment type provided for all cannabis users (33%), followed by information and education (24%), then detoxification services (14%), the vast majority (72%) of which was provided in non-residential treatment facilities (AIHW, 2007). There were lower rates of 'treatment completed' for cannabis (47.2%) compared to other principal drugs of concern (AIHW, 2007), which may be a reflection of the higher rates of police and court diversion to treatment compared to other drug types, and an indication of their not being ready to stop using cannabis.

While most people who use illicit drugs do not require treatment, it is estimated that those accessing services at any one time are only a minority of the dependent users who might benefit from treatment (Agosti & Levin, 2004; Treloar & Holt, 2006). This is a particular concern for individuals who are cannabis dependent (Vendetti et al., 2002), a minority of whom enter treatment and for whom there appears to be a high level of unmet need for treatment. Agosti and Levin (2004) found that amongst those with cannabis dependence, only 29% sought treatment during the past year. Stephens et al. (2007) reported that of those who met the criteria for cannabis dependence or abuse in 2003, only 9.8% reported receiving treatment, a lower proportion than for other drug types. Roughly one-third of Canadians who had used cannabis in the past year reported being concerned about their level of use and 5% reported cannabis-related health, social and legal problems (Adlaf, Begin & Sawka, 2005, as cited in Rush & Urbanoski, 2007). Research on a non-treatment sample of long-term Australian users found 92% met the lifetime DSM-III-R criteria for cannabis dependence (Swift, Copeland & Hall, 1998; Copeland, Swift & Rees, 2001).

Gfroerer and Epstein (1999) used data from lifetime cannabis users included in the US National Household Survey on Drug Abuse to estimate the number of people who will need treatment for the years 2000 to 2020. By generating estimates under alternative assumptions about future rates of initiation, it was projected that if current rates of initiation continued, the need for treatment would increase by 57% by 2020. Gfroerer and Epstein (1999) argued that the need for treatment will remain high even if initiation rates decrease dramatically, because of the ageing baby boom cohort. It is expected that similar patterns will be experienced in Australia where there have been some recent increases in cannabis use amongst older users who also appear to use it more often than younger users. The 2004 NDSHS found that amongst recent users, those aged 30-39 were more likely than those in any other age group to have used cannabis every day, and those aged 40 years and over were more likely to have used it once a week or more often (AIHW, 2007). Furthermore, whilst there have been recent decreases in the number of people reporting cannabis use in the younger age groups, between 2001 and 2004 there was an increase in the number of daily cannabis users over the age of 29 years (AIHW, 2002; 2007). These trends will be monitored in the next household survey.

evidence from the literature on barriers to cannabis users' treatment seeking and engagement

facilitators to treatment seeking

As the literature on the barriers to treatment-seeking amongst cannabis users is relatively sparse, the literature on the barriers to treatment-seeking more generally has been examined as part of this review and is outlined in the following section.

1 Alcohol and other Drug Treatment Services -National Minimum Data Set (AODTS-NMDS) does not include people receiving opioid maintenance pharmacological treatment and is therefore an overestimate of cannabis as a proportion of all AOD treatments.

findings from the general substance use literature

Reviews of the literature on barriers and facilitators to treatment have generally found that the use of services amongst those with substance use disorders has been linked to socio-demographic factors (female gender, unemployment, older age, race, and having been arrested), socioeconomic factors (insurance systems and health systems), psychosocial, social, and medical factors (additional somatic problems) as well as factors related to mental or substance use problems themselves (e.g., type of disorder, severity, comorbidity, and impairment). Among those with substance use disorders, specific clinical characteristics including a higher severity of dependence, more family substance use behaviour, earlier onsets of substance use, and comorbid mental disorders have been found to be associated with service use (Perkonigg et al., 2006; Green-Hennessy, 2002; Kessler et al., 2001).

Saunders, Zygowicz and D'Angelo (2006) hypothesise that there are different stages in the treatment–seeking process, particularly in relation to alcohol, and that different barriers operate at these stages. They suggest that the intensity or frequency of negative life events and psychosocial impairments related to drinking is predictive of treatment-seeking, particularly in the early stages (Saunders, Zygowicz & D'Angelo, 2006). Their study of 145 drinkers both receiving and not receiving treatment for alcohol problems found that person-related barriers were the most important predictors of treatment-seeking, and they suggested that strategies to reduce feelings of stigma and increase people's faith in treatment may increase treatment participation (Saunders, Zygowicz & D'Angelo, 2006).

Hser and colleagues (1997), in their review of the literature, present the case for a "treatment careers perspective", whereby many drug users go through cycles of treatment, abstinence, and relapse. They suggest that treatment entry appears to occur late in the development of substance-use problems: those who are older and have been using illicit drugs for a longer period, and are more advanced in their drug-using career are more likely to seek treatment (Hser, Grella, Anglin, Longshore, & Prendergast, 1997). Hser and colleagues (1997) suggest that social forces, ranging from family, peer and community influences, drug availability, policy activities, and the treatment service system (financing, eligibility, adequacy of services) provide pressure or support for drug use and treatment utilisation. Help-seeking appears to be promoted when drug use contributes to problems in interpersonal relationships and other areas of functioning, and assistance is often sought primarily to relieve these related problems (Hser, Grella, Anglin, Longshore, & Prendergast, 1997). Several other studies have found that increased negative events, especially substance-related events, have preceded treatment entry (for example Klingemann, 1991; Marlatt, Tucker, Donovan, & Vuchinich, 1997).

Mojtabai, Olfson and Mechanic (2002) examined a sample of 1,792 participants in the National Comorbidity Study who were diagnosed with a mood, anxiety or substance disorder. They found, as had previous studies, that a key variable when deciding to seek help is the perception of need. Many who have mental health problems do not think they need treatment because they believe the symptoms are temporary or not serious. Alternatively, individuals may not perceive a need because they do not recognise their problem as a mental health problem, do not know that appropriate help is available, believe that treatment will not help, do not find services accessible, are embarrassed about seeking help, or fear stigmatisation (Mojtabai, Olfson & Mechanic, 2002).

Some research highlights the low level of knowledge of drug treatment, overall, among people who use illicit drugs (Copeland, 1997; Treloar & Holt, 2006). A number of authors suggest that drug users who have better knowledge and understanding of treatment services are more likely to seek treatment (Hartnoll & Power, 1989; Oppenheimer, Sheehan & Taylor, 1988; Treloar & Holt, 2006).

A number of studies support the idea that pre-treatment interventions and strategies may be effective in facilitating treatment entry and increasing treatment retention for substance abusers (Wechsberg, Zule, Riehman, Luseno, & Lam, 2007). Mojtabai and colleagues (2002) suggest that strategies aimed at changing attitudes and motivating help-seeking are essential for encouraging people who do not perceive a need for professional care to use services. There is some limited evidence that screening and targeted educational campaigns affect attitudes and help-seeking behaviour (Mojtabai et al., 2002).

Fiorentine, Nakashima and Anglin (1999) found that what clients "bring" into treatment is frequently less important than what they find when they get there. Individuals typically enter treatment with an array of serious legal, family, financial, health, and other life problems (Gerstein & Harwood, 1990);

and they will engage in treatment when they believe that treatment, ancillary services, and counsellor activities will address these life problems. The findings from this and previous research (Fiorentine & Anglin, 1996; Fiorentine & Anglin, 1997) suggest that increasing the opportunity for counselling, providing transportation services to clients who need them, providing useful treatment and ancillary services, and strengthening the client–counsellor relationship, may improve the effectiveness of drug treatment. Stephens et al. (2007) suggest that brief, low-cost, low-demand interventions that reduce stigma associated with treatment and do not insist on abstinence as the only goal may be appealing, particularly for users who are in the earlier stages of change or are unsure whether they need treatment or want to quit.

findings from the cannabis literature

Whilst some research has focussed on the predictors of initiation and cessation of cannabis use, there appears to be little research that has specifically looked at the reasons that prompt a cannabis user to enter treatment. Most of the studies that have been undertaken in this area have examined the characteristics and behaviours of the individual, with little or no work examining the institutional level influences or the ways in which the treatment system may encourage cannabis users to enter and engage.

A number of studies have emphasised age as one of the most important predictors of the initiation and cessation of cannabis use (Kandel and Logan, 1984; O'Malley, Bachman & Johnston, 1984; Chen & Kandel, 1995; Chen & Kandel, 1998). Chen and Kandel (1998) used event history analysis to analyse the drug histories of a representative community sample of 706 cannabis users. In addition to age and gender, they found that the reason for using cannabis was an important predictor of cessation: using cannabis for social reasons accelerated cessation, whilst using cannabis to change one's mood mitigated against cessation. Frequent users, those who started using early, and those who use illicit drugs other than cannabis are more likely to continue their cannabis use (Chen & Kandel, 1998). Becoming pregnant and a parent is the most important social role leading to cannabis cessation for women (Chen & Kandel, 1998). Gfroerer and Epstein (1999) suggest that the need for cannabis treatment may be best predicted by the age of cannabis use onset for an individual.

Research with samples of cannabis users presenting to treatment have reported significant psychological distress (Budney, Radonovich, Higgins, & Wong, 1998; Copeland, Swift & Rees, 2001; Stephens, Roffman & Simpson, 1993). Solowij and colleagues (2002) found that concern about perceived cognitive impairment was one of many problems associated with cannabis use that led the users in that US study to seek treatment (Solowij, Stephens, Roffman, Babor, Kadden, Miller et al., 2002). A recent US study found that being single, failing to graduate from high school, past treatment, and major depression in the past year were positively associated with help-seeking behaviour (Agosti & Levin, 2004). The researchers also found that people with cannabis dependence were more likely to contact a professional if they had previously sought treatment and had alcohol dependence with major depression. The severity of cannabis dependence was not predictive of treatment-seeking (Agosti & Levin, 2004). Similarly, an Australian study of 229 adults recruited into a treatment program via advertisements found that the frequency of cannabis use was only loosely associated with treatment usage (Copeland, Swift & Rees, 2001). This sample had less variation in their usage patterns, however, than other studies.

Two recent studies have examined the reasons for stopping cannabis use, irrespective of whether or not the person had entered treatment. Swift, Hall and Copeland (2000) describe their one-year follow-up of a sample of long-term cannabis users recruited in Sydney. They found that, on the whole, cannabis use patterns remained fairly stable, with two thirds (66%) reporting current use levels had persisted for at least one year. However, nearly two thirds of this sample (62%) had attempted to moderate their use in the period between baseline and follow-up, with the majority doing so unassisted (92% of those who had decreased/stopped). The most commonly reported reasons for moderating use were: physical or psychological health concerns (43% of those who had moderated), boredom with cannabis use or concerns they were using too much (27%), lack of money (26%), and life circumstances (12%). Relapse was most commonly due to stress or negative moods (27%), availability (25%) and enjoyment of smoking (18%).

A study of 25 long-term cannabis users who stopped using without treatment, found that the most common reason respondents reported for stopping cannabis use on their own was that they had changed their view of cannabis to be less positive (76%); 64% reported that their use had a negative effect on them and 52% reported a social influence to quit (Ellingstad, Sobell, Sobell, Eickleberry, & Golden, 2006). Other reasons given for stopping

their cannabis use were related to health and legal problems or fears and that it was too costly.

Some authors have emphasised the importance of matching clients to outcome goals that are consistent with their abilities and beliefs. Lozano, Stephens and Roffman (2006) suggest that those experiencing more negative consequences as a function of cannabis use may be more motivated to strive for abstinence in order to ameliorate problems. Greater feelings of dependence may also lead them to be less likely to believe that moderate use is a viable outcome.

A number of studies have reported that individuals with cannabis-related problems readily respond to advertisements for treatment, that the majority of respondents do not abuse other substances, and that these respondents report significant psychosocial and psychiatric impairment and multiple signs of cannabis dependence (Budney et al., 1998; Copeland, Swift & Rees, 2001; Stephens, Roffman & Simpson, 1993; Roffman & Barnhart, 1987; McRae et al., 2007). Further, studies have shown that most have not sought treatment previously (Budney et al., 1998) but expressed an interest in receiving treatment (Roffman & Barnhart, 1987; Copeland, Swift & Rees, 2001). Although these respondents are not necessarily representative of the broader population of cannabis-users seeking treatment, the findings from these studies have implications for increasing treatment entry. Roffman and Barnhart (1987) suggest that more emphasis be given to using non-coercive recruitment strategies to encourage cannabis users to enter treatment. Previous studies have found that cannabis users have been successfully recruited via advertisements into brief interventions for cannabis dependence (Copeland, Swift & Rees, 2001; Stephens, Roffman, Fearer, Williams, & Burke, 2007).

barriers to treatment-seeking

a) Findings from the general substance use literature

Reviews of the literature on barriers to treatment for illicit drug users have found that the most frequently cited barriers to drug treatment tend to relate to problems in accessing services and 'service structural' barriers such as lack of treatment places, long waiting times, the costs associated with treatment, meeting program eligibility criteria and transport (Hartnoll & Power, 1989; Hser, Maglione, Polinsky, & Anglin, 1998; Treloar & Holt, 2006; Stephens et al., 2007).

The most often cited social barrier to treatment entry is the social stigma associated with being labelled an illicit drug user (Copeland, 1997; Cunningham, Sobell, Sobell, Agrawal, & Toneatto, 1993; Marlatt, Tucker, Donovan, & Vuchinich, 1997; Knight, Logan & Simpson, 2001; Treloar & Holt, 2006; Luoma, Twohig, Waltz, Hayes, Roget, Padilla et al., 2007). Marlatt and colleagues (1997) in their review of help-seeking for substance abuse comment that the frequent reticence of substance abusers to seek help, especially from formal treatment programs, seems to be rooted, not in denial of their substance-related problems, but in concerns about privacy, labelling, and the stigmatising effects of current treatments. Structural factors such as treatment cost and accessibility are less influential (Marlatt, Tucker, Donovan, & Vuchinich, 1997).

In the latter stages of treatment-seeking, when the person has recognised that professional help is needed, it has been suggested that treatment-related barriers, such as the poor or inadequate availability of services and other access issues become more important (Saunders, Zygowicz & D'Angelo, 2006). Person-related barriers, such as doubting the need for treatment, fear of embarrassment, stigmatisation by admitting the need for or attending treatment, ignorance and negative attitudes about treatment, and a preference for solving the problem without treatment, however, have all been found to be major factors in delaying or avoiding treatment in these latter stages (Saunders, Zygowicz & D'Angelo, 2006).

There is also concern by the public, including those with drug use disorders, regarding the effectiveness and worth of available treatment (McLellan & Meyers, 2004). Digiusto and Treloar (2007) investigated equity of access and barriers to treatment for illicit drug users in Australia. They interviewed 492 drug users who were currently in, or had previously received, drug treatment and 193 who had never received drug treatment. They found that the treatment group had more need for treatment, in terms of a higher prevalence of drug-related problems, than those who had never been treated. The never-treated participants had more negative perceptions of treatment staff and were more likely to believe that no appropriate treatment exists. They suggested that this finding supports a need for better marketing of the nature and benefits of treatment and for expanded delivery of motivational interventions, particularly in primary health-care settings.

Similarly, Luoma and colleagues (2007) examined the impact of stigma on 197 patients in substance abuse treatment services and found that most reported fairly frequent contact with various forms of stigma. In order to examine the possibility that the

stigma process does not primarily begin to impact on the person until they have entered the treatment system and received a label (Link et al., 1989, as cited in Luoma et al, 2007), a linear regression predicting the number of previous treatment episodes from their three stigma scales was performed. This demonstrated that the level of stigma-related rejection experiences and the number of drugs used in their lifetime predicted the number of previous episodes of treatment, even after controlling for all other explanatory variables. They suggested that greater levels of stigma-related rejection make it more difficult to "succeed" in treatment, which in turn leads to greater chance of relapse and return to treatment for those experiencing more stigma.

Some studies have found that people with substance use problems are more likely to present to the general mental health sector for treatment, rather than the specialist drug and alcohol treatment sector. Perkonigg et al. (2006), using data from a prospective-longitudinal study exploring prevalence and incidence, familial and other risk factors, comorbidity and the course of substance use and substance use disorders in a representative population sample of adolescents and young adults in Germany, found an extremely low rate of lifetime service use in the specialised substance use care sector. Only a fraction of those who might be in need of a specialised treatment had ever used these services specifically tailored to substance use problems, a finding which they speculate may be associated with stigma. Green-Hennessy (2002) suggested that certain groups, particularly women, find the idea of psychiatric problems more palatable than that of substance abuse problems and hence gravitate toward mental health services.

Additional barriers to treatment may apply to different groups. Wechsberg, Zule, Riehman, Luseno and Lam (2007) comment that the demands of drug treatment programs are often based on models that lack cultural sensitivity to minorities or women. For example, some people may find aspects of the initial involvement in these programs – such as self-disclosure, trust in virtual strangers, being urged to "surrender" or admit they are "powerless" – to be alien and culturally inappropriate. Copeland's study (1997) of women who had ceased used without formal treatment found that the principal barriers to entering formal treatment services among this group included social stigma and labelling, lack of awareness of the range of treatment options, concerns about childcare, the perceived economic and time costs of residential treatment, concerns about the confrontation models used by some treatment services, and stereotypical views of clients of treatment services.

Lack of suitable and specific services for women, young people, Aboriginal and Torres Strait Islanders, and people from culturally and linguistically diverse backgrounds have also been cited as barriers to treatment. There is generally a paucity of services in rural and remote areas where stigma can also be an issue, particularly in small communities where individuals are easily identified approaching treatment services.

b) Findings from the cannabis use literature

There has been little specific research undertaken on barriers to treatment for cannabis users. However, as Stephens and colleagues comment, 'there are probably numerous cannabis users who experience problems but are reluctant to approach treatment because of their ambivalence about stopping and the inherent implication that they must admit to a drug problem' (Stephens et al., 2004: 1323).

One of the few studies on this issue interviewed 25 long-term daily cannabis users who had stopped using cannabis for at least one year without treatment, about their past substance use, antecedents to change, and factors supportive of change (Ellingstad et al., 2006). Respondents reported the most significant barrier to entering treatment was the belief that cannabis use was not enough of a problem or did not warrant treatment (80%). Other barriers to cannabis treatment included wanting to quit without treatment (76%), the stigma, or being labelled a drug user (listed by 48% of respondents). Less commonly the sample reported having negative feelings about treatment (44%), issues with confidentiality (36%), unwillingness to share problems (36%), being unaware of treatment options (32%), financial costs (28%), and embarrassment (24%) (Ellingstad et al., 2006).

Strike, Urbanoski and Rush (2003) report that several studies have shown that individuals who are dependent on cannabis are less confident in their ability to abstain than are individuals with other drug dependencies. Furthermore, treatment agencies are often ill-prepared to provide appropriate treatment for cannabis dependence. Results from their study show that while people may present for treatment their preparedness to change their behaviour is low. They suggest that treatment providers and researchers need to better understand the relationships between help-seeking, motivation to change and potential treatment outcomes.

The stigma of entering into treatment for illicit drugs has been reported as a barrier to treatment for cannabis users in a number of studies (Stephens, Roffman, Fearer, Williams, Picciano, Joseph, & Burke, 2004; SAMHSA, 2005; Luoma, Twohig, Waltz, Hayes, Roget, Padilla, & Fisher, 2007). Many clients feel their problems from cannabis use are different and not appropriately dealt with by treatments that focus on drugs in general (Stephens, Roffman & Simpson, 1994). Stephens, Roffman and Simpson (1993) found that cannabis users were attracted to cannabis-specific treatment programs who had not previously approached generic drug treatment programs.

It has been suggested that the motives for use are more important than psychopathology in predicting problematic cannabis use in adolescents and young adults (Chabrol et al., 2005). Building on this theme, Brodbeck et al. (2007) followed up 2,031 people over two years, 374 of whom were cannabis users. Their aim was to provide a better understanding of the factors that discriminate problematic and non-problematic cannabis use. They found that cannabis users showed more distress, less positive health behaviour and higher hedonism than non-users, but that those who used cannabis to help them 'cope' showed lower mental health, more symptoms of psychopathology, more psychological distress and more adverse life events. They suggest that secondary prevention for cannabis users should target young adults with 'coping' motives for use and that people who use cannabis for social reasons do not seem to need interventions to prevent psychological or psychosocial distress or adverse life events (Brodbeck at al., 2007).

pre-treatment drop-out and retention

Even after intake and acceptance into a program, individuals are often ambivalent about starting treatment, and the risk of dropout is high. Often, substance users do not stay long enough in treatment to benefit (Hser et al., 1997). Up to 50% of substance users will drop off a waiting list between initial assessment and treatment entry (Weisner et al., 2001; Vendetti et al., 2002; Redko, Rapp & Carlson, 2006), and longer waiting times have been found to increase attrition (Stark, Campbell & Brinkerhoff, 1990; Hser et al., 1997; Vendetti et al., 2002; Redko, Rapp & Carlson, 2006).

As with other drug types, dropout rates from cannabis treatment are high, the vast majority of clients do not achieve abstinence during treatment, and relapse is frequent (Dennis et al., 2004; McRae, Budney, & Brady, 2003; Moore & Budney, 2003; Stephens et al., 2002; Stephens, Roffman, & Simpson, 1994; Arendt et al., 2007). Vendetti et al. (2002) found that pre-treatment drop-out among people with cannabis dependence was associated with social stability and socioeconomic factors: individuals who were not employed, were unmarried, less educated, and younger were more likely to be pre-treatment drop-outs. They also found that individuals who did not perceive themselves to be 'dependent' on cannabis (or who would not admit to being dependent) were almost four times more likely to be pre-treatment drop-outs than those who reported that they were dependent, even though the two groups had comparable use patterns and described similar cannabis-related problems. Their model indicated that pre-treatment drop-outs used other drugs (i.e. sedatives or cocaine) on more days than did those who initiated treatment for cannabis dependence. More active targeting of these potential drop-outs was recommended.

recommendations and summary

summary

There is a dearth of research examining treatment seeking by cannabis users, with the problems associated with other drugs often considered to be more pressing by researchers and treatment providers (Strike, Urbanoski & Rush, 2003). More recently it has been recognised that treatment providers and researchers need to better understand the relationships between help-seeking, motivation to change and potential treatment outcomes for cannabis users (Strike, Urbanoski & Rush, 2003).

The general substance use literature has found that treatment entry usually occurs late in the development of substance-use problems: those who are older and have been using illicit drugs for a longer period, and are more advanced in their drug-using career are more likely to seek treatment. Several studies have found that increased negative events, especially substance-related events, have preceded treatment entry. The perception of need has been found to be a key variable in deciding whether to seek help.

A number of studies have emphasised age as one of the most important predictors of the initiation and cessation of cannabis use. Research undertaken with samples of cannabis users presenting to treatment has reported significant psychological distress. Those using cannabis as a way of 'coping' appear to need additional assistance to reduce their use than do those using it for predominantly social reasons.

Reviews of the literature on barriers to treatment for illicit drug users have found that the most frequently cited barriers to drug treatment tend to relate to problems in accessing services and 'service structural' barriers such as lack of treatment places, long waiting times, the costs associated with treatment, meeting program eligibility criteria and transport. The most often cited social barrier to treatment entry is the social stigma associated with being labelled as an illicit drug user. Some research highlights the low level of knowledge of drug treatment, overall, among people who use illicit drugs.

There has been little specific research undertaken on barriers to treatment for cannabis users. One study found that the most significant barrier to entering treatment was the belief that cannabis use was not enough of a problem or did not warrant treatment. Other barriers to cannabis treatment included wanting to quit without treatment, the stigma, or being labelled a drug user. The stigma of entering into treatment for illicit drugs has been reported as a barrier to treatment for cannabis users in a number of studies. Many clients feel their problems from cannabis use are different and not appropriately dealt with by treatments that focus on drugs in general. Some authors suggest that cannabis users are less confident in their ability to abstain than are those with other drug dependencies. Furthermore, treatment agencies are often ill-prepared to provide appropriate treatment for cannabis dependence.

recommendations

The following strategies to increase the likelihood that cannabis users will enter treatment have been formulated using the literature reviewed for this paper.

- ***Accessible information about cannabis treatment***

Many cannabis users, particularly those who have not previously been in treatment, have little knowledge about the available treatment options and their effectiveness. Some studies have had success recruiting cannabis users via advertisements into brief interventions for cannabis dependence. Any advertising should be non-stigmatising for the cannabis user.

- ***A variety of treatment options is needed***

It has been suggested that brief, low-cost, low-demand interventions that reduce stigma associated with treatment and do not insist on abstinence as the only goal may be appealing, particularly for cannabis users who are in the earlier stages of change or are unsure whether they need treatment or want to quit. Those more entrenched users with more severe problems may need higher interventions with additional services. Specialist services for women, young people, Aboriginal and Torres Strait Islanders, and people from culturally and linguistically diverse backgrounds could be explored.

- ***Provision of treatment outside the mainstream drug treatment sector to be explored***

Some research has found that people are more likely to present to the mental health sector for treatment than to drug treatment services; the provision of treatment in this sector could be explored. Some research has found that the provision of specialist cannabis treatment separate from general drug treatment services was preferred by cannabis users.

- ***Targeting of potential pre-treatment drop-outs***

Some authors have argued that the reasons people are using cannabis should be examined and treatment tailored appropriately. Those using cannabis as a way of 'coping' appear to need additional assistance to reduce their use than those using it for predominantly social reasons who do not seem to need interventions to prevent psychological or psychosocial distress or adverse life events. One study found that cannabis users who did not see themselves as dependent, were younger and less stable and used other drugs, were more likely to drop out before engaging in treatment. More active targeting of these potential drop-outs was recommended. A number of studies support the idea that pre-treatment interventions and strategies may be effective in facilitating treatment entry and increasing treatment retention for substance abusers. Strategies aimed at changing attitudes and motivating help-seeking can encourage people who do not perceive a need for professional care to use services could be explored.

references

Agosti, V. & Levin, F.R. (2004). Predictors of treatment contact among individuals with cannabis dependence. *The American Journal of Drug and Alcohol Abuse 30*, 121-127.

AIHW. (2002). *Alcohol and other drug treatment services in Australia 2000-01: First Report on the National Minimum Data Set*. Drug Treatment Series No.1. Australian Institute of Health and Welfare. Canberra.

AIHW. (2007). *Alcohol and other drug treatment services in Australia 2005-06: Report on the National Minimum Data Set.* Drug treatment data briefing. Canberra. Australian Institute of Health & Welfare.

Arendt, M., Rosenberg, R., Foldager, L., Perto, G., & Munk-Jorgesen, P. (2007). Psychopathology among cannabis-dependent treatment seekers and association with later substance abuse treatment. *Journal of Substance Abuse Treatment 32*, 113-119.

Brodbeck, J., Matter, M., Page, J., & Moggi, F. (2007). Motives for cannabis use as a moderator variable of distress amoung young adults. *Addictive Behaviours 32,* 1537-1545.

Budney, A.J., Radonovich, K.J., Higgins, S.T., & Wong, C.J. (1998). Adults seeking treatment for marijuana dependence: A comparison with cocaine-dependent treatment seekers. *Experimental & Clinical Psychopharmacology 6*, 419-426.

Chabrol, H., Duconge, E., Casas, C., Roura, C., & Carey, K.B. (2005). Relations between cannabis use and dependence, motives for cannabis use and anxious, depressive and borderline symptomatology. *Addictive Behaviours 30*, 829-840.

Chen, K. & Kandel, D.B. (1995). The natural history of drug use from adolescence to the mid-thirties in a general population sample. *Journal of Public Health 85*, 41-47.

Chen, K. & Kandel, D.B. (1998). Predictors of cessation of marijuana use: An event history analysis. *Drug and Alcohol Dependence 50*, 109–121.

Copeland, J. (1997). A qualitative study of barriers to formal treatment among women who self-managed change in addictive behaviours. *Journal of Substance Abuse Treatment 14*, 183-190.

Copeland, J., Swift, W. & Rees, V. (2001). Clinical profile of participants in a brief intervention program for cannabis use disorder. *Journal of Substance Abuse Treatment 20*, 45-52.

Cunningham, J.A., Sobell, L.C., Sobell, M.B., Agrawal, S., & Toneatto, T. (1993). Barriers to treatment: Why alcohol and drug abusers delay or never seek treatment. *Addictive Behaviours 18*, 347-353.

Dennis, M., Godley, S.H., Diamond, G., Tims, F.M., Babor, T., Donaldson, J., Liddle, J., Titus, Y., Kaminer, C., Webb, C., Hamilton, N., & Funk, R. (2004). The Cannabis Youth Treatment (CYT) study: Main findings from two randomized trials. *Journal of Substance Abuse Treatment 27*, 197-213.

Digiusto, E. & Treloar, C. (2007). Equity of access to treatment, and barriers to treatment for illicit drug use in Australia. *Addiction 102*, 958-969.

Ellingstad, T., Sobell, L., Sobell, M., Eickleberry, L., & Golden, C. (2006). Self-change: A pathway to cannabis abuse resolution. *Addictive Behaviors 31*, 519-530.

Fiorentine, R. & Anglin, M.D. (1996). More is better: Counselling participation and the effectiveness of outpatient drug treatment. *Journal of Substance Abuse Treatment 13*, 341-348.

Fiorentine, R. & Anglin, M.D. (1997). Does increasing the opportunity for counseling increase the effectiveness of outpatient drug treatment? *American Journal of Drug and Alcohol Abuse 23*, 369-382.

Fiorentine, R., Nakashima, J. & Anglin, M.D. (1999). Client engagement in drug treatment. *Journal of Substance Abuse Treatment 17*, 199-206.

Gerstein, D.R. & Harwood, H.J. (Eds.). (1990). *Treating Drug Problems: Volume 1.* Washington, DC: National Academy Press.

Gfroerer, J.C. & Epstein, J.F. (1999). Marijuana initiates and their impact on future drug abuse treatment need. *Drug and Alcohol Dependence 54*, 229-237.

Green-Hennessy, S. (2002). Factors associated with receipt of behavioural health services among persons with substance dependence. *Psychiatric Services 53*, 1592-1598.

Hartnoll, R. & Power, R. (1989). Why most of Britain's drug users are not looking for help. *Druglink 4*, 8-9.

Hser, Y.I., Grella, C.E., Anglin, M.D., Longshore, D., & Prendergast, M.L. (1997). Drug treatment careers: A conceptual framework and existing research findings. *Journal of Substance Abuse Treatment 14*, 543-558.

Hser, Y.I., Maglione, M., Polinsky, M.L., & Anglin, M.D. (1998). Predicting drug treatment entry among treatment-seeking individuals. *Journal of Substance Abuse Treatment 15*, 213-220

Kandel, D.B. & Logan, J.A. (1984). Patterns of drug use from adolescence to early adulthood – I. Periods of risk initiation, stabilisation, and decline in drug use from early adolescence to early adulthood. *American Journal of Public Health 74*, 660-666.

Kessler, R.C., Aguilar-Gaxiola, S., Berglund, P.A., Caraveo-Anduaga, J.J., DeWit, D.J., Greenfield, S.F., Kolody, B., Olfson, M., & Vega, W.A. (2001). Patterns and predictors of treatment seeking after onset of substance use disorder. *Archives of General Psychiatry 58*, 1065-1071.

Klingemann, H. (1991). The motivation for change from problem alcohol and heroin use. *British Journal of Addiction 86*, 727-44.

Knight, D.K., Logan, S.M. & Simpson, D.D. (2001). Predictors of program completion for women in residential substance abuse treatment. *American Journal of Drug & Alcohol Abuse 27*, 1-18.

Lozano, B.E., Stephens, R.S. & Roffman, R.A. (2006). Abstinence and moderate use goals in the treatment of marijuana dependence. *Addiction 101*, 1589-1597.

Luoma, J.B., Twohig, M.P., Waltz, T., Hayes, S.C., Roget, N., Padilla, M., & Fisher, G. (2007). An investigation of stigma in individuals receiving treatment for substance abuse. *Addictive Behaviours 32*, 1331-1346.

Marlatt, G.A., Tucker, J.A., Donovan, D.M., & Vuchinich, R.E. (1997). Help-seeking by substance –abusers: The role of harm reduction and behavioural-economic approaches to facilitate treatment entry and retention. **In L.S. Onken, J.D. Blaine & J.J. Boren.** *Beyond the therapeutic alliance: Keeping the drug dependent individual in treatment*. NIDA Research Monograph 165. US Department of Health & Human Services.

McLellan, A.T. & Meyers, K. (2004). Contemporary addiction treatment: A review of systems problems for adults and adolescents. *Biological Psychiatry 56*, 764-770.

McRae, A.L., Budney, A.J. & Brady, K.T. (2003). Treatment of marijuana dependence: A review of the literature, *Journal of Substance Abuse Treatment 24*, 369-376.

McRae, A.L., Hedden, S.L., Malcolm, R.J., Carter, R.E., & Brady, K.T. (2007). Characteristics of cocaine- and marijuana-dependent subjects presenting for medicaiton treatment trials. *Addictive Behaviours 32*, 1433-1440.

Mojtabai, R., Olfson, M. & Mechanic, D. (2002). Perceived need and help-seeking in adults with mood, anxiety or substance use disorders. *Archives of General Psychiatry 59*, 77-84.

Moore, B.A. & Budney, A.J. (2003). Relapse in outpatient treatment for marijuana dependence, *Journal of Substance Abuse and Treatment 25*, 85-89.

O'Malley, P.M., Bachman, J.G. & Johnston, L.D. (1984). Period, age, and cohort effects on substance use among American youth, 1976-82. *American Journal of Public Health 74*, 682-688.

Oppenheimer, E., Sheehan, M. & Taylor, C. (1988). Letting the client speak: Drug misusers and the process of seeking help. *British Journal of Addiction 83*, 635-647.

Perkonigg, A., Settele, A., Pfister, H., Hofler, M., Frohlich, C., Zimmerman, P., Lieb, R., & Wittchen, H.U. (2006). Where have they been? Service use of regular substance users with and without abuse and dependence. *Social Psychiatry and Psychiatric Epidemiology 41*, 470-479.

Redko, C., Rapp, R.C. & Carlson, R.G. (2006). Waiting time as a barrier to treatment entry: Perceptions of substance users. *Journal of Drug Issues 36*, 831-852.

Roffman, R.A. & Barnhart, R. (1987). Assessing need for marijuana dependence treatment through an anonymous telephone interview. *The International Journal of the Addictions 22*, 639-651.

Rush, B. & Urbanoski, K. (2007). Estimating the demand for treatment for cannabis-related problems in Canada. *International Journal of Mental Health & Addiction 5*, 181-186.

Saunders, S., Zygowicz, K. & D'Angelo, B. (2006). Person-related and treatment-related barriers to alcohol treatment. *Journal of Substance Abuse Treatment 30,* 261-270

Solowij, N., Stephens, R.S., Roffman, R.A., Babor, T., Kadden, R., Miller, M., Christiansen, K., McRee, B., & Vendetti, J. (2002). Cognitive functioning of long-term heavy cannabis users seeking treatment. *Journal of the American Medical Association 287*, 1123-1131.

Stark, M.J., Campbell, B.K. & Brinkerhoff, C.V. (1990). Hello, may we help you? A study of attrition prevention at the time of the first phone contact with substance-abusing clients. *The American Journal of Drug & Alcohol Abuse 16*, 67-76.

Stephens, R.S., Roffman, R.A. & Simpson, E.E. (1993). Adult marijuana users seeking treatment. *Journal of Consulting & Clinical Psychology 61*, 1100-1104.

Stephens, R.S., Roffman, R.A. & Simpson, E.E. (1994). Treating adult marijuana dependence: A test of the relapse prevention model. *Journal of Consulting & Clinical Psychology 62*, 92-99.

Stephens, R.S., Babor, T.F., Kadden, R., & the Miller Research Group. (2002). The Marijuana Treatment Project: Rationale, design and participants. *Addiction 97*.

Stephens, R.S., Roffman, R.A., Fearer, S.A., Williams, C., & Burke, R.S. (2007). The Marijuana Check-up: Promoting change in ambivalent marijuana users. *Addiction 102*, 947-957.

Stephens, R.S., Roffman, R.A., Fearer, S.A., Williams, C., Picciano, J.F., & Burke, R.S. (2004). The Marijuana Check-up: Reaching users who are ambivalent about change. *Addiction 99*, 1323-1332.

Strike, C.J., Urbanoski, K.A. & Rush, B.R. (2003). Who seeks treatment for cannabis-related problems? *Canadian Journal of Public Health 94*, 351-354.

Substance Abuse and Mental Health Services Administration (SAMHSA). (2005). *Overview of findings from the 2004 National Survey on Drug Use and Health*, U.S. Department of Health and Human Services, Washington, DC, 26-29 DHHS Publication No. (SMA) 05-4061.

Swift, W., Copeland, J. & Hall, W. (1998). Choosing a diagnostic cut off for cannabis dependence. *Addiction 93*, 1681-1692.

Swift, W., Hall, W. & Copeland, J. (2000). One year follow-up of cannabis dependence among long-term users in Sydney, Australia. *Drug and Alcohol Dependence 59*, 309-318.

Treloar, C. & Holt, M. (2006). Deficit models and divergent philosophies: Service providers' perspectives on barriers and incentives to drug treatment. *Drugs: Education Prevention and Policy 13*, 367-382.

Vendetti, J., McRee, B., Miller, M., Christiansen, K., Herrell, J., & The Marijuana Treatment Project Research group. (2002). Correlates of pre-treatment drop-out among persons with marijuana dependence. *Addiction 97*, 125-134.

Wechsberg, W., Zule, W.A., Riehman, K.S., Luseno, W.K., & Lam, W.K.K. (2007). African-American crack abusers and drug treatment initiation: Barriers and effects of a pre-treatment intervention. *Substance Abuse Treatment, Prevention and Policy 2*.

Weisner, C., Mertens, J., Tam, T., & Moore, C. (2001). Factors affecting the initiation of substance abuse treatment in managed care. *Addiction 96*, 705-16.