

The current issue and full text archive of this journal is available at
www.emeraldinsight.com/0965-4283.htm

Identifying and preventing health problems among young drug-misusing offenders

Preventing
health problems

247

Trevor Bennett and Katy Holloway
*University of Glamorgan, Pontypridd, UK*Received 11 September 2007
Revised 8 January 2008
Accepted 8 January 2008

Abstract

Purpose – The purpose of this paper is to identify the health problems and treatment needs of drug-misusing offenders and to draw out the implications of the findings for health education and prevention.

Design/methodology/approach – This analysis is based on data collected as part of the New English and Welsh Arrestee Drug Abuse Monitoring (NEW-ADAM) programme. The survey was based on interviews and urine sample collection with over 3,000 arrestees.

Findings – The research found that young arrestees experienced a wide range of drug-related and general health problems. The implications of this are discussed in the context of programmes implemented as part of the government's drug strategy.

Originality/value – The NEW-ADAM surveys provide an original source of information on the drug and general health needs of young people at the first point of entry in the criminal justice system.

Keywords Drugs, Strategy, Schools, Health education

Paper type Research paper

Introduction

There are a wide variety of health problems that can be experienced by drug users, including dependency, infectious diseases, harmful physiological effects, and risk of overdose and death. These problems are important not only for the individual drug user, but also for those people (such as family members or the police) who come into regular contact with them. They are also important in that they increase the burden on the health service and its personnel, including general practitioners and hospital-based services.

Drug users have a wider range of health problems than members of the general population (Neale, 2004) (if you say research shows you need more than one ref) Brooke *et al.* (2000) studied the health backgrounds of prisoners on remand with substance misuse problems and found that they reported more childhood adversity, conduct disorder, self-harm, past psychiatric treatment and current mood disorder than the general population. There is also evidence that drug users contract infections at a higher rate than the general population. The Health Protection Agency (2005) reported a range of diseases among drug users including abscesses, skin infections, MRSA, wound botulism, and tetanus. Gossop *et al.* (2002) found that the annual mortality rate among users in treatment in the UK was about six times higher than that for a general, age-matched population.

Drug misusers also commonly report higher rates of mental health disorders than the general population (Farrell *et al.*, 1998). A study by Weaver *et al.* (2002) in the UK found that 75 per cent of users of drug services experienced mental health problems. Most had affective disorders (e.g. depression) or anxiety disorders. Approximately

Health Education
Vol. 108 No. 3, 2008
pp. 247-261
© Emerald Group Publishing Limited
0965-4283
DOI 10.1108/09654280810867114

one-third of the sample experienced co-morbidity (co-occurrence of a number of psychiatric disorders). Another study of psychological health problems among patients in treatment found that one in five drug users had previously received treatment for a psychiatric health problem other than substance misuse (Marsden *et al.*, 2000).

One of the most common health effects of drug misuse discussed in the literature is dependence. Dependence is not only a problem in its own right, but can lead to the continuation and exacerbation of other problems associated with drug misuse. It also makes desistance from drug use harder and can lead to drug misuse dominating users' lives. Information provided by a survey conducted by the Office of National Statistics (ONS) of psychiatric morbidity among 10,000 adults in Great Britain showed that the lifetime prevalence of dependence in the general population for any illicit drug was 4 per cent (Singleton *et al.*, 2003). Most people who were classified as dependent said that they were dependent on cannabis (3 per cent of the population) and most scored "1", the highest possible score on a five-point scale of levels of dependence. A survey of female prisoners conducted in 2001 found that almost half of the women interviewed reported being dependent on at least one drug and the most common drug of dependence was heroin (33 per cent of inmates) and crack (24 per cent of all inmates) (Borrill *et al.*, 2003).

Another health problem relates to the practice among drug users of intravenous injection. Many drug users (especially those dependent on heroin) choose to administer their drugs this way. This is potentially a very harmful way of administering drugs for a number of reasons. It carries various kinds of health risk to the user such as abscesses, blood clots, septicaemia, and the risk of overdose. It also carries various kinds of health risk to others, including cross infection when equipment is shared, health problems relating to the disposal of used syringes, and the spread of diseases such as the HIV virus. The prevalence of injecting in the drug user population has been investigated through the statistics collected as part of the Regional Drug Misuse Database of clients attending treatment facilities. According to the published statistics, 65 per cent of drug users had injected a drug. Men were more likely than women to have done so and older users were more likely than younger users to have injected (Department of Health, 2002). The Unlinked Anonymous Prevalence Monitoring Program (UAPMP) of drug users attending agencies in the UK in 2004 showed that in London one in 29 male and one in 20 female injecting drug users were HIV infected (Health Protection Agency, 2005).

Overall, the research shows that non-medical use of drugs is associated with various health problems that are a burden not only on the user but on society generally. Unfortunately, the research does not always breakdown the findings by age and it is difficult to know which problems are experienced by young drug users in particular. The research also tends to be based on users in treatment. Much less is known about drug users who do not present for treatment and drug users who have multiple social problems and might not wish to be known to the authorities.

One of the most problematic and hard-to-reach groups is drug-misusing offenders. The most common method of obtaining the views of offenders is to interview prisoners. A more innovative and recent method is to interview and conduct urine tests on arrestees at the first point of contact with the criminal justice system and, for some, at the first point of contact with any treatment agency. The current paper presents the findings of a study based on interviews and urine specimen collection among drug-misusing arrestees. The aim of the paper is to identify and compare health

problems and treatment needs among younger and older arrestees and to draw out the implications of the findings for health education and prevention.

Methods

This analysis is based on data collected as part of the New English and Welsh Arrestee Drug Abuse Monitoring (NEW-ADAM) programme. The data used for the analyses presented in this paper were collected over the last two years of the three-year programme from May 2000 to March 2002. During this time, surveys were conducted in 16 custody suites in 13 police force areas across England and Wales. The surveys were based on arrestees currently held for official processing (usually in relation to a suspected offence). Arrestees were selected for interview over a 24-hour period for seven days a week during the survey period of approximately 30 days. The surveys aimed to sample 100 per cent of arrestees considered eligible for interview. Arrestees were deemed ineligible if they were unfit for interview, unable to comprehend the interview or provide informed consent, a potential danger to the interviewer, or under the age of 17. Arrestees were also excluded if they had been in custody for more than 48 hours or if they were not at liberty prior to entering the custody suite. The subjects included male and female arrestees. Further details of the methods used can be found in Holloway and Bennett (2004).

A total of 9,499 arrestees were processed through the 16 custody suites during the 30-day periods of each survey. About 60 per cent of these arrestees (5,628) were deemed eligible for interview and approximately 64 per cent of all eligible arrestees (3,618) were approached for interview. The main reason for non-approach was that there was insufficient time before their release to conduct the interview. Overall, 87 per cent of arrestees approached (3,135) agreed to be interviewed. Details of the achieved sample are shown in Table I. Overall, 49 per cent of the sample were aged 17 to 24 (henceforth referred to as the “younger” group) and 51 per cent were aged 25 and above (the “older” group). Among the younger group, 86 per cent were male, three-quarters were white, and 40 per cent had been arrested on suspicion of committing a property (theft) offence.

The main method of data collection was a personal interview using a structured questionnaire. The questionnaire included (among other things) questions on use of 19 illicit drug types and offending behaviour in relation to ten offence types. The 19 drugs included heroin, crack and cocaine, and a range of other drugs, including cannabis, amphetamines, ecstasy, diazepam, and temazepam. Arrestees were asked to report only illicit use of these drugs and not licit use as a result of obtaining them on prescription. They were asked about drug misuse ever, in the last 12 months, in the last 30 days and in the last three days.

In addition to completing the questionnaire, arrestees were also asked to provide a urine specimen that would be analysed for the presence of seven drug types: cannabis, opiates (including heroin), cocaine (including crack), benzodiazepines, amphetamines, methadone and alcohol. Prior to the interview, arrestees who had agreed to participate in the survey were advised that at the end of the interview they would be asked to provide a urine specimen. The arrestees were informed that providing a specimen was voluntary and that they would be interviewed even if they did not provide a specimen. They were also reassured that the results of the urinalysis would be treated in strict confidence. Ninety per cent of interviewed arrestees (2,833) provided specimens.

	Younger 17-24 (per cent)	Older 25 or more (per cent)	Total (per cent)	Sig. of difference
<i>Sex</i>				
Male	86	86	86	ns
Female	15	14	14	
<i>Ethnic group</i>				
White	76	82	79	***
Non-white	24	18	21	
<i>Marital status</i>				
Single	85	53	68	***
Other	15	47	32	
<i>Employment status</i>				
Unemployed	49	44	47	**
Other	51	56	53	
<i>Offence arrested for</i>				
Property (theft) offence	40	38	39	ns
Other offence	60	62	61	
Total $n = 3,135$	1,547	1,588	3,135	

Table I.
Demographic
characteristics of younger
and older arrestees

Notes: Includes all arrestees ($n = 3,135$). ns = not significant, * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Some missing cases

Results

Urinalysis

Of the 1,388 young arrestees (aged 17-24) who provided a urine specimen, almost three-quarters (72 per cent) tested positive for at least one of the five illicit drug types. Over one-third (34 per cent) tested positive for two or more drug types. Significantly more younger than older arrestees tested positive for cannabis, while significantly more older than younger arrestees tested positive for benzodiazepines, opiates (including heroin), and cocaine (including crack). There was no significant difference in the proportion of younger and older arrestees testing positive for alcohol. These findings are consistent with the view that younger arrestees are more likely than older ones to have recently used “recreational” drugs, while older arrestees are more likely than younger ones to have used “habitual” drugs (see Table II).

Self-reported drug use in the last 12 months

The association between higher prevalence of recreational drug use among younger arrestees and higher prevalence of habitual drug use among older arrestees is also identified in the self report results (see Table III). Younger arrestees were more likely than older arrestees to report using cannabis, amphetamines and ecstasy in the last 12 months, whereas older arrestees were more likely to report using heroin, crack and methadone. This pattern of findings was true for both male and female arrestees. The only significant gender difference was that younger females were no less likely than older females to have used heroin and crack. For further discussion on variations in drug use by gender see Holloway and Bennett (2007). Significantly more younger than older arrestees reported using one or more of the drugs listed (excluding alcohol) in the last 12 months and were more likely to report multiple drug use.

	Younger 17-24 (per cent)	Older 25 or more (per cent)	Total (per cent)	Sig. of difference
Cannabis	55	41	48	***
Amphetamines	6	6	6	ns
Benzodiazepines	10	20	15	***
Opiates (including heroin)	27	38	33	***
Cocaine (including crack)	21	30	26	***
Alcohol	22	24	23	ns
Any drug ¹	72	66	69	**
Multiple drugs ²	34	43	39	***
Total <i>n</i> = 2,833	1,388	1,445	2,833	

Notes: Includes all arrestees who provided urine specimens (*n* = 2,833). ns = not significant, **p* < 0.05; ***p* < 0.01; ****p* < 0.001. ¹Any drug = positive test result for one or more of cannabis, amphetamines, benzodiazepines, opiates or cocaine; ²Multiple drugs = positive test result for two or more of cannabis, amphetamines, benzodiazepines, opiates or cocaine

Table II.
Urinalysis results

	Younger 17-24 (per cent)	Older 25 or more (per cent)	Total (per cent)	Sig. of difference
Cannabis	76	60	67	***
Amphetamines	21	18	19	*
Ecstasy	36	19	27	***
Heroin	28	37	32	***
Cocaine powder	26	25	26	ns
Crack cocaine	27	34	31	***
Alcohol	89	84	87	***
Any drug ¹	83	71	77	***
Multiple drugs ²	57	52	55	**
Total <i>n</i> = 3,135	1,547	1,588	3,135	

Notes: Includes all arrestees (*n* = 3,135). ns = not significant, **p* < 0.05, ***p* < 0.01, ****p* < 0.001. ¹Any drug = self-reported use of any of the above drugs (excluding alcohol) in the last 12 months. ²Multiple drugs = self-reported use of two or more drugs (excluding alcohol) in the last 12 months

Table III.
Self-reported drug use in
the last 12 months

Overall, the results show an extremely high prevalence of drug use among this sample of young arrestees. Over one-quarter reported using heroin, cocaine powder, or crack in the previous 12 months and almost 90 per cent reported using alcohol.

Rate of drug use in the last 30 days

In order to examine rate of use, respondents were asked to estimate the number of days over the last 30 days that they used each of the drugs types reported. Rates of 15 days or more were recorded as “high” (on the grounds that this amounted at least to use every other day) and rates below this were recorded as “low”. The results show that almost three-quarters of both younger and older arrestees consumed one or more drug types in the last 30 days at a high rate. Young people were significantly more likely than old people to report using cannabis at a high rate. Older arrestees were significantly more likely than younger arrestees to report using cocaine powder at a

high rate. Overall, the results show that, in relation to cannabis and heroin, the majority of young people reported use at a high rate and in relation to crack and methadone just under half reported high-rate use. Hence, the problems of drug misuse among this sample cover both prevalence and incidence of use.

General health

Arrestees were also asked about whether they had visited a GP in the last three days and the nature of their health problems. Over one-quarter of all arrestees had recently visited a GP. This included just under one-fifth of young arrestees and over one-third of older arrestees. The reasons given for attending a GP concerned mental health problems and drug-related health problems. The most common mental health problem was depression (50 per cent of younger and 53 per cent of older arrestees) and the most common drug-related reasons concerned heroin addiction (88 per cent of younger and 79 per cent of older arrestees). Other problems included asthma or respiratory problems, heart problems, hypertension, kidney or bladder problems, epilepsy and diabetes.

Injecting

One of the most worrying aspects of drug misuse is the practice of administering drugs by intravenous injection. This practice carries a wide range of health risks including septicaemia, abscesses and infections. The research found that one-quarter of younger arrestees reported injecting one or more drugs in the previous 12 months. This was significantly higher among young female arrestees (27 per cent) than among young male arrestees (17 per cent). It was also significantly higher among young white arrestees (23 per cent) than among young non-white arrestees (4 per cent). The rate of injecting was highest among arrestees who had used heroin. Just over half of the younger group had injected heroin in the last year and slightly more among the older group. Other drugs that were injected included ecstasy, amphetamine, cocaine and crack.

Sharing equipment

Another practice among drug misusers that carries considerable health risks is the custom of sharing drug taking equipment (needles and syringes). As part of the interview, arrestees who reported having injected drugs were asked whether or not they had shared injecting equipment. The results showed that nearly one-quarter (24 per cent) of all arrestees who had injected drugs in the last 12 months had shared injecting equipment. This was slightly higher among the younger group of injectors (25 per cent) than the older group (22 per cent) although the difference was not statistically significant.

Hepatitis

Injecting illegal drugs and sharing equipment can spread infectious diseases. One of the most common infections contracted by drug misusers is hepatitis (particularly hepatitis B and C). All arrestees were asked if they they had tested positive for one of the three forms of hepatitis. Among injectors, 3 per cent of all younger arrestees and 12 per cent of older arrestees said that they had received test results confirming that they were positive for hepatitis.

Dependence

Previous research has shown that a proportion of regular drug users become dependent on their drugs. This proportion increases when users consume addictive drugs such as heroin and crack. All arrestees who had used drugs in the last 12 months were asked if they were currently dependent on each of six drug types. Almost half of older arrestees and over one-third of younger arrestees said that they were currently dependent on one or more of the six drug types listed (see Table IV). The highest rate of dependence was linked to heroin use with two-thirds of young heroin users reporting being dependent on the drug and over 70 per cent of older heroin users.

Treatment

Arrestees who reported using drugs in the last 12 months were asked whether they were in treatment in the last 12 months. Overall, over 90 per cent of drug-misusing arrestees said that they were not in treatment in the previous 12 months. The proportion was significantly higher among younger drug users (95 per cent) than older users (78 per cent). All arrestees who were not currently in treatment were asked if they wanted to be in treatment. Approximately one-third of arrestees currently not in treatment said that they wanted to be. This percentage was slightly higher among older (37 per cent) compared with younger (23 per cent) arrestees. The proportion of arrestees reporting an unmet need for treatment was considerably higher among those who reported being dependent on one or more drugs (55 per cent of younger and 74 per cent of older arrestees) than those not dependent (6 and 9 per cent respectively). These findings are particularly important bearing in mind that it is one of the aims of the Government's drugs strategy to get drug-misusing offenders into treatment (Table V).

Discussion

The research has shown that young arrestees experienced a wide range of health problems. They reported many physical and mental health ailments that required them to visit a GP. Some reported having hepatitis. The majority were drug users and the majority of these used drugs at a high rate. Many were physically or psychologically dependent on one or more drugs. A notable proportion administered their drugs by intravenous injection and a proportion of these shared their drug-using equipment with

	Younger 17-24 (per cent)	Older 25 or more (per cent)	Total (per cent)	Sig. of difference
Ecstasy	2	1	2	ns
Cannabis	17	12	15	**
Amphetamines	4	5	5	ns
Cocaine	1	5	3	**
Crack	27	37	32	**
Heroin	66	72	70	*
Any drug ¹	38	48	43	***
Total <i>n</i> = 2,403	1,280	1,123	2,403	

Notes: Includes only those arrestees who reported use of the specified drug type in the last 12 months. ns = not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. ¹Any drug = self-reported dependence on any of ecstasy, amphetamines, cannabis, crack, heroin or cocaine in the last 12 months

Table IV.
Current dependence on selected drug types

	Younger 17-24 (per cent)		Sig. of diff.	Older 25 or more (per cent)		Sig. of diff.
	Dependent	Not dependent		Dependent	Not dependent	
Currently in drug treatment	10	2		18	7	
Currently not in drug treatment	90	98	***	82	93	***
Total <i>n</i>	484	792		533	588	
Currently not in treatment but would like treatment	55	6		74	9	
Currently not in treatment and would not like treatment	45	94	***	26	91	***
Total <i>n</i>	434	777		435	548	

Notes: Includes all arrestees who reported using cannabis, ecstasy, amphetamines, cocaine, heroin or crack in the last 12 months (*n* = 2,403). Dependent = those arrestees who said that they were currently dependent on one or more of cannabis, ecstasy, amphetamines, cocaine, heroin or crack. ns = not significant, **p* < 0.05, ***p* < 0.01, ****p* < 0.001. Some missing cases

Table V.
Need for drug treatment

other drug users. Despite all of their various health risks and health problems, fewer than ten per cent said that they were currently receiving any kind of drug treatment.

Drug misuse among the criminal population and its links to crime and other personal and social problems are issues addressed specifically by the Government's drugs strategy. It is appropriate, therefore, to consider the extent to which the provisions implemented as part of this strategy might be effective in reducing the drug-related health problems identified above.

The source document of the current drugs strategy, discusses two main approaches to preventing drug misuse and its associated problems among offenders ("Updated Drug Strategy, 2002", Home Office, 2002). The first is prevention which aims to reduce the likelihood of young people starting drug misuse and to reduce the rate of escalation of early drug misuse among those who have started. This is implemented primarily through health education in schools and public information campaigns. The second is a harm-reduction approach which aims to reduce the negative effects of drug misuse among those who have already become substantially involved in drugs. This is implemented at various stages within the criminal justice system mainly through the use of drug treatment.

Health education interventions

The Updated Drugs Strategy (Home Office, 2002) identified two national programmes aimed at preventing young people from misusing drugs. The first is the programme of drug education in schools implemented as a statutory part of the National Curriculum and supported by Schools Drug Advisors who help develop and deliver the programme. The second is a public information and education programme called "Talk to Frank". This is a Home Office funded media campaign, which aims to provide relevant information about drugs and drug misuse to young people, their families and the general public. While these approaches would not have a direct effect on the problems identified above among drug misusing offenders, it might help prevent young people from initiating drug use and crime careers.

Drugs education in schools is a statutory requirement of the National Curriculum Science Order (Department for Education and Employment and the Qualifications and Curriculum Authority, 1999). It must be provided in all schools, including special schools and pupil referral units, and begins at primary school and continues through each of the key stages (Department for Education and Skills, 2004). The main aims of drug education are:

- to minimise the number of users who adopt dangerous forms of misuse;
- to persuade those who are experimenting or misusing to stop; and
- to enable pupils who are misusing, or who have concerns about the misuse of drugs, to seek help (Ofsted, 2005, p. 28).

Official guidance recommends that drug education in the classroom is delivered by staff who are “confident and skilled in drug issues” (Department for Education and Skills, 2004, pp. 20-21). However, it is for individual schools to decide precisely how drug education is organised (Department for Education and Skills, 2004, p. 34).

There have been several evaluations of the effectiveness of school-based drug education programmes. White and Pitts (1998), for example, conducted a systematic review of 11 evaluations of school-based interventions and found that ten of the 11 reported a favourable impact on illicit drug use at a one-year follow up. The authors concluded that the majority of the studies showed positive effect sizes. However, they noted that programme impacts were often so small as to be of little practical importance. Ennett *et al.* (1994) conducted a systematic review and meta-analysis of evaluations of the Drug Abuse Resistance Education (DARE) programme. The programme was designed for school children and was based on a core curriculum of 17 lessons. The aim of the programme was to provide the personal and social skills necessary to resist the pressure to take drugs. The systematic review was based on 8 studies that met the selection criteria. The results showed that the mean effect size for all studies combined for tobacco use was positive and statistically significant. However, no significant effects were reported for alcohol or marijuana use. The author concluded that the effectiveness of school-based education in changing adolescent drug use behaviour should not be overstated.

More recently, the National Institute of Health and Clinical Excellence published a review of systematic reviews on drug use prevention among young people (National Institute for Health and Clinical Excellence, 2006). The review was based on seven systematic reviews that were found to be of sufficiently high quality to be included in the review of reviews. Four of the seven studies included school-based prevention programmes. Each of the four studies found some positive effects in relation to some elements of the programme. However, the reviewers concluded that the results were not sufficiently strong to provide proven levels of evidence of effectiveness. The report concluded that the lack of methodologically sound research evidence made it difficult to determine whether drug prevention programmes aimed at young people work. The lack of UK evaluations also made it difficult to draw any conclusions about their effectiveness in the UK.

In order to address the problem of limited evidence on outcomes, the government has implemented the Blueprint programme designed to establish a programme of drug-education in schools and to provide evidence on its effectiveness (Baker, 2006). The programme is designed for 11-13 year old pupils and involves schools, parents, the community, health policy and the media. The results of the evaluation have not yet been published and are expected to be published next year.

Overall, the use of health education in schools as a means of reducing drug misuse has not been particularly positive. There are three main reasons for this. The first is that there have not been many evaluations of the programmes conducted, especially in the UK. The second is that there have not been many evaluations that are sufficiently methodologically sound to generate convincing results or to be included in systematic reviews. The third is that those that are methodologically sound have tended to show very small effect sizes.

The “Talk to Frank” media campaign comprises a programme of public information and education aimed to make information on drug misuse available to parents, young people, and professionals (Home Office, 2007). The programme arose out of the Updated Drugs Strategy and the decision to replace the National Drugs Helpline with a project that might have wider appeal. The programme has gone through various stages of development with different interventions at each stage. The first stage aimed to build awareness and was based on television and radio advertising campaigns, posters, youth magazine advertising, and a telephone and web-based helpline. More recently, the programme has expanded to include public relations activities with parents, support packs for practitioners, and street marketing campaigns.

The programme has been evaluated by the Frank organisation itself as part of its periodic reviews. As part of their 2006 review, the organisation commissioned a nationally representative survey of young people and parents (Home Office, 2006). The results of the survey showed that 39 per cent of young people and 23 per cent of parents expressed a spontaneous awareness of the Frank campaign and 68 per cent of young people and 49 per cent of parents said that they were aware when prompted. Further, 29 per cent of young people and 43 per cent of parents said that they are “very likely” to call Frank in the future if they have queries. Other findings relating to awareness and perceptions were generally in a favourable direction. However, no information was provided on the impact of the programme on behavioural changes such as the prevention of drug misuse or harm reduction.

The results of systematic reviews of the research on the effectiveness of media campaigns generally have been mixed.

Snyder *et al.* (2004), for example, conducted a meta-analysis of the results of 48 US health mass media campaign evaluations. The mean effect size for all studies combined was $r = 0.09$, indicating that the average campaign changed behaviour in a positive direction among approximately 8 per cent of the population. The positive effects were greatest among seat belts campaigns ($r = 0.15$), with slightly lower effect sizes for drinking campaigns ($r = 0.09$) and smoking campaigns ($r = 0.05$). The authors concluded that public health campaigns have small positive effects on behaviour. However, cessation of an addictive behaviour was generally more difficult to attain than cessation of non-addictive behaviour. The authors advised that campaign planners should set only modest goals when using mass media campaigns to change behaviour.

Derzon and Lipsey (2002) conducted a meta-analysis on the effectiveness of media campaigns aimed specifically at reducing drug misuse. The review was based on 72 published and unpublished reports of campaigns that were designed to prevent or reduce substance use among youths. Of the 72 studies, 48 reported outcomes on substance use behaviour, 39 reported effects on substance use attitudes and 24 reported outcomes on substance use knowledge. The findings on the effect of the programmes on behaviour showed that samples exposed to mass media campaigns and those not exposed to interventions (the comparison groups) both reported negative

outcomes. In other words, substance misuse tended to increase following a media intervention. The increase was generally less among samples exposed to the media interventions than those not exposed. This was true for both alcohol use and drugs. However, tobacco use increased among the exposed samples and reduced among samples not exposed. The results of the effectiveness of media campaigns on attitudes and knowledge showed that they were generally associated with positive results. When campaigns were launched, attitudes and knowledge generally improved. This occurred among both exposed and non-exposed groups, with the exposed samples showing greater positive effects than the non-exposed samples.

The authors concluded that, as a result of generally poor evaluation design, it was difficult to arrive at any substantive conclusions about the effectiveness of media campaigns. Overall, participant samples exposed to media interventions tended to show a greater positive change in attitudes and knowledge and a lower negative change in behaviour than the comparison samples. However, the poor methodological quality of the studies (in particular in terms of matching experimental and control conditions) meant that the finding could not be taken as convincing evidence that media interventions are effective.

Evaluations of media campaigns designed to prevent drug misuse among young people generally show either small positive effects or small negative effects on drug use behaviour. Overall, the research to date does not generate conclusive evidence on the effectiveness of these campaigns in reducing drug misuse.

Treatment interventions

The second arm of the Government's drugs strategy is to use the criminal justice system as a means of moving drug-misusing offenders into treatment. The results of the NEW-ADAM programme showed that less than 10 per cent of drug-misusing arrestees were currently in drug treatment. Approximately one-third of arrestees not currently receiving treatment reported an unmet need for treatment. This increased to over 50 per cent among those arrestees who reported current dependence on one or more illicit drug types. It is important therefore that treatment services are made available to this type of drug-misusing offender.

In 2004/2005, the National Drug Treatment Monitoring System (NDTMS) for England identified a total of 160,453 clients in treatment for substance misuse. Twenty-four per cent of these (39,301) were aged under 25 and 5 per cent (8,815) were aged under 18 (National Treatment Agency for Substance Misuse, 2006). The type of drug problems experienced by younger and older clients was shown to be different. The most common drug of misuse at entry among those aged under 18 was cannabis (67 per cent of all clients), whereas, the most common drug of misuse among those aged 18 and over was heroin (67 per cent). The referral sources of young and older clients also tended to be different. When the client was aged under 18, the referral source was most commonly the criminal justice system (33 per cent) and "other sources" (36 per cent). When the client was aged 18 or over the most common source was self referral (National Treatment Agency for Substance Misuse, 2006).

The most common types of treatment for young drug misusers aged 11-17 over the period 2003 to 2004 (the most recent data providing an age breakdown) was structured counselling (52 per cent) followed by specialist prescribing (21 per cent) and 'other structured interventions' (18 per cent) (National Treatment Agency for Substance Misuse, 2005). Several other reports provide information on the types of treatment given to young drug misusers. The Department of Health UK Guidelines on clinical

management noted that drug treatment was different for young people compared with adults and supported in the case of the latter brief interventions, family-based interventions and psychosocial approaches (Department of Health, 2007). A research study by Addaction and Turning Point found that specialist drug treatment for young people mainly involved counselling, brief interventions, solution-focused therapy, motivational interviewing, cognitive behavioural theory, relapse prevention, group work, and alternative therapies (Didlock and Cheshire, 2005). A survey of service provision for young drug users in Scotland found that the most common services offered to young people was counselling, followed by other forms of support and advice. Some young people aged over 16 were offered prescribing services, but these were usually restricted to rapid reduction (Burniston *et al.*, 2002).

There have been few reviews of research specifically on the effectiveness of drug treatment for young people. The UK guidelines report on clinical management concluded that the evidence-based for substance misuse treatment for under-18s in the UK and the US was “almost non-existent” (Department of Health, 2007, p. 86). However, the report suggested that evidence on effectiveness of treatment for adults and young adults might be cautiously extrapolated to those under 18. It recommended psychosocial treatment interventions for young people who were not physically dependent on drugs (including motivational therapies, cognitive behavioural treatments, and family based support) and pharmacological treatment for those dependent on alcohol, opiates, or benzodiazepines (Department of Health, 2007, p. 87).

A systematic review of the research literature on the effectiveness of drug treatment specifically for young people (up to age 16) has been conducted by the Effective Interventions Unit in Scotland (Burniston *et al.*, 2002). The review was based on 11 primary research studies. The interventions identified as having a “strong” or “fairly strong” effect in reducing drug misuse were: behavioural therapies, counselling, family therapies, 12-step programmes, and therapeutic communities. Interventions coded as having a “weak” or “no effect” were health education counselling, school-based programmes and what was described as “general drug treatment”. The authors pointed out that some programmes had harmful effects (in the sense of increasing drug misuse), including school-based life skills programmes.

A more recent study investigated the impact of three different kinds of criminal justice drug intervention on children and young people (Matrix Research and Consultancy and the Institute for Criminal Policy Research, Kings College, 2007). The interventions were implemented as part of the launch of the government’s Drug Intervention Programme which aimed to reduce drug use and drug-related crime. The three interventions were arrest referral (ages 10-17), drug testing (ages 14-17), and Drug Treatment and Testing Requirements (ages 14 and over). The research found that neither arrest referral nor drug testing were effective in reducing subsequent drug misuse. There were no findings reported on Drug Treatment and Testing Requirements on the grounds that there were too few orders implemented during the time of the research to arrive at a conclusion.

The bulk of research evidence of treatment effectiveness for drug misuse does not provide a breakdown of outcome by age. Nevertheless, it is worth noting briefly what this research generally has found in relation the effectiveness of different treatment modalities. A recent review of this research published by the National Treatment Agency examined the effectiveness of four categories of treatment: pharmacotherapies, psychological treatments, rehabilitation and therapeutic communities, and other interventions (Gossop, 2007). According to the report, methadone maintenance

treatment was associated with significant reductions in illicit drug, while methadone reduction treatment was associated with no significant change or increased use of illicit opioids. Research on the effectiveness of motivational interviewing generally showed favourable outcomes, with one review of randomised trials reporting an overall reduction in substance misuse in 11 of 15 studies investigated. Residential rehabilitation and therapeutic communities were also associated with lower abstinence rates, with improved outcomes for patients who spent longer in treatment. Finally, the report reviewed miscellaneous programmes including detoxification, cannabis treatment, and needle exchange programme. The review concluded in relation to cannabis treatment for adolescents that evaluations have produced mixed results, with some studies showing decreased use, some showing no change, and some showing increased use following treatment (Gossop, 2007).

Overall, evaluations of drug treatment for young people provide some evidence that some programmes are effective in reducing drug use. In particular, the kinds of treatment that are currently provided to young people, such as psychosocial approaches and prescribing, have all been shown to be effective under research conditions. In practice, this usually means that relative reductions in drug misuse occurred during the course of the treatment or during a short-term follow-up. Less is known about the effectiveness of these kinds of treatments on drug misuse in the longer term.

Conclusions and implications for policy

The paper has argued that young arrestees experience a wide range of health problems. Some of these are directly related to drug misuse and some are an indirect product of it. The current drugs strategy tackles drug misuse and its associated problems in two main ways. The first is to prevent drug misuse among young people (including potential drug-misusing offenders) by focusing on a programme of drug education in schools and public information campaigns. The second approach aims to reduce drug misuse and its associated harms among existing drug-misusing offenders through drug treatment.

The results of research on the effectiveness of health education in schools and media campaigns have not been especially encouraging. One of the problems has been the lack of good-quality research to make a proper assessment. However, the evidence that does exist tends to show modest benefits in terms of drug use behaviour. There is also very little research on the longer term effects of these programmes. In order for drugs education in schools to impact on drug use among young adults the effects would have to last a long time. They would also have to be targetted at the group of young people who are most at risk. In practice, these are likely to be excludées, truants and young people not attending traditional schools. There is little convincing evidence to demonstrate that the health and other problems of drug-misusing offenders identified in this research could be significantly reduced using schools programmes and media campaigns.

The results of research on drug treatment as a means of reducing drug misuse among young people are more promising. The range of treatment methods currently applied to young people and young adults have been shown to be effective on the basis of methodologically sound research methods, including randomised controlled trials. The problems of the long-term effectiveness of these programmes continues to exist and in some cases in might be necessary for treatment to be repeated in order to maintain its effectiveness over time. However, the evidence that currently exists does

suggest that drug treatment might be an effective means of reducing the health and other drug-related problems among young people, including drug-misusing offenders.

References

- Baker, P.J. (2006), "Developing a blueprint for evidence-based drug prevention in England", *Drugs: Education, Prevention and Policy*, Vol. 13 No. 1, pp. 17-32.
- Borrill, J., Maden, A., Martin, A., Weaver, T., Stimson, G., Farrell, M., Barnes, T., Burnett, R., Miller, S. and Briggs, D. (2003), "Substance misuse among white and black/mixed race female prisoners", in Ramsay, M. (Ed.), *Prisoners' Drug Use and Treatment: Seven Studies*, Home Office Research Study 267, Home Office, London.
- Brooke, D., Taylor, C., Gunn, J. and Maden, A. (2000), "Substance misuse as a marker of vulnerability among male prisoners on remand", *British Journal of Psychiatry*, Vol. 177, pp. 248-51.
- Burniston, S., Dodd, M., Elliott, L., Orr, L. and Watson, L. (2002), *Drug Treatment Services for Young People: A Research Review*, Scottish Executive: Effective Interventions Unit, Edinburgh.
- Department for Education and Employment and the Qualifications and Curriculum Authority (1999), *The National Curriculum for England: Non-statutory Frameworks for Personal, Social and Health Education and Citizenship at Key Stages 1 and 2; Personal, Social and Health Education at Key Stages 3 and 4*, HMSO, London.
- Department for Education and Skills (2004), *Drugs: Guidance for Schools*, Department for Education and Skills, Nottingham.
- Department of Health (2002), *Statistics from the Regional Drug Misuse Databases for the Six Months Ending March 2001*, Department of Health, London.
- Department of Health (2007), *Drug Misuse and Dependence: UK Guidelines on Clinical Management*, Department of Health (England), the Scottish Government, Welsh Assembly Government and Northern Ireland Executive, London.
- Derzon, J.H. and Lipsey, M.W. (2002), "A meta-analysis of the effectiveness of mass-communication for changing substance-use knowledge, attitudes and behavior", in Crano, W.D. and Burgoon, M. (Eds), *Mass Media and Drug Prevention: Classic and Contemporary Theories and Research*, Lawrence Erlbaum Associates, Mahwah, NJ.
- Didlock, N. and Cheshire, R. (2005), *Developing the Evidence Base: Young People with Substance Misuse Problems*, Turning Point/Addaction, London.
- Ennett, S.T., Tobler, N.S., Ringwalt, C.L. and Flewelling, R.L. (1994), "How effective is drug abuse resistance education? A meta-analysis of project DARE outcome evaluations", *American Journal of Public Health*, Vol. 84 No. 9, pp. 1394-401.
- Farrell, M., Howes, S., Taylor, C., Lewis, G., Jenkins, R., Bebbington, P., Jarvis, M., Brugha, T., Gill, B. and Meltzer, H. (1998), "Substance misuse and psychiatric co-morbidity: an overview of the OPCS National Psychiatric Morbidity Survey", *Addictive Behaviours*, Vol. 23 No. 6, pp. 909-18.
- Gossop, M. (2007), *Treating Drug Misuse Problems: Evidence of Effectiveness*, National Treatment Agency for Substance Misuse, London.
- Gossop, M., Steward, T., Treacy, S. and Marsden, J. (2002), "A prospective study of mortality among drug misusers during a four-year period after seeking treatment", *Addiction*, Vol. 97, pp. 39-47.
- Health Protection Agency (2005), *Shooting Up: Infections among Injecting Drug Users in the United Kingdom 2004, An Update: October*, Health Protection Agency, London.
- Holloway, K. and Bennett, T. (2004), *The Results of the First Two Years of the NEW-ADAM Programme*, Home Office Online Research Report 19/04, Home Office, London.

-
- Holloway, K. and Bennett, T. (2007), "Gender differences in drug misuse and related problem behaviors among arrestees in the UK", *Substance Use and Misuse*, Vol. 42 No. 6, pp. 899-921.
- Home Office (2002), *Updated Drug Strategy 2002*, Home Office, London.
- Home Office (2006), *Frank Review 2004-2006*, Home Office, London.
- Home Office (2007), *Drugs: Our Community, Your Say: A Consultation Paper*, Home Office, London.
- Marsden, J., Gossop, M., Stewart, D. and Farrell, M. (2000), "Psychiatric symptoms among clients seeking treatment for drug dependence: intake data from the National Treatment Outcome Research Study", *British Journal of Psychiatry*, Vol. 176, pp. 285-9.
- Matrix Research and Consultancy and the Institute for Criminal Policy Research, King's College (2007), *Evaluation of Drug Interventions Programme Pilots for Children and Young People: Arrest Referral, Drug Testing and Drug Treatment and Testing Requirements*, Home Office Online Report 07/07, Home Office, London.
- National Institute for Health and Clinical Excellence (2006), *Drug Use Prevention among Young People: A Review of Reviews*, NICE, London.
- National Treatment Agency for Substance Misuse (2005), *Statistics from the National Drug Treatment Monitoring System (NDTMS) 1 April 2003-31 March 2004*, NTA, London.
- National Treatment Agency for Substance Misuse (2006), *Statistics from the National Drug Treatment Monitoring System (NDTMS) 1 April 2004-31 March 2005*, NTA, London.
- Neale, J. (2004), "Measuring the health of Scottish drug users", *Health and Social Care in the Community*, Vol. 12 No. 3, pp. 202-11.
- Ofsted (2005), *Drug Education in Schools: A Report from Her Majesty's Inspector of Schools*, available at: www.ofsted.gov.uk/assets/3952.pdf (accessed 7 September 2007).
- Singleton, N., Bumpstead, R., O'Brien, M., Lee, A. and Meltzer, H. (2003), "Psychiatric morbidity among adults living in private households, 2000", *International Review of Psychiatry*, Vol. 15, pp. 65-73.
- Snyder, L.B., Hamilton, M.A., Mitchell, E.W., Kiwanuka-Tondo, J., Fleming-Milici, F. and Proctor, D. (2004), "A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States", *Journal of Health Communication*, Vol. 9, pp. 71-96.
- Weaver, T., Charles, V., Madden, P. and Renton, A. (2002), *Comorbidity of Substance Misuse and Mental Illness Collaborative Study (COSMIC)*, Summary of Research Funded by the Department of Health, National Treatment Agency, London.
- White, D. and Pitts, M. (1998), "Educating young people about drugs: a systematic review", *Addiction*, Vol. 93 No. 10, pp. 1475-87.

Corresponding author

Trevor Bennett can be contacted at: thbennet@glam.ac.uk