

Drink a little; take a few drugs: do nurses have knowledge to identify and manage in-patients at risk of drugs and alcohol?

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Abstract

Introduction and Aims. The widespread use of alcohol and other drugs poses particular problems during hospitalisation. Although nurses have been identified as an appropriate group to screen patients and provide acute and ongoing management to people with drug and alcohol-related problems, rates of screening are low. The aims of this study were to identify current practices for screening by nurses working in medical and surgical wards, determine their knowledge relating to problems associated with substance use and identify their self-reported skills in managing patients with drug- and alcohol-related problems. **Design and Methods.** A chart audit of medical records was completed and a survey was distributed to nurses working in the study wards. **Results.** Screening for alcohol and drug use was documented on only 22/79 medical records, and detailed information about quantity and duration of use was recorded in only nine. Overall, the nurses reported that they had little knowledge about substance use problems, and felt that they lacked skills to care adequately for these patients. **Discussion and Conclusions.** The results of this study suggest a need for a comprehensive training and education to ensure that nurses are familiar with policies and protocols for management of patients and to assist nurses to provide evidence-based care and make appropriate referrals to specialist services. [Griffiths RD, Stone A, Tran DT, Fernandez RS, Ford K. Drink a little; take a few drugs: do nurses have knowledge to identify and manage in-patients at risk of drugs and alcohol? *Drug Alcohol Rev* 2007;26:545–552]

Key words: knowledge, nurses, substance use screening, survey.

Introduction

The use of alcohol and other drugs, including tobacco and prescription and over-the-counter medications, is widespread amongst all age groups in the community [1–3]. Harmful use of alcohol and other drugs contributes to medical disorders and is a common cause of hospital admission [4–8]. The Australian Institute of Health and Welfare (AIHW) estimates that in 1997, over 22 000 deaths and more than 250 000 hospital episodes were drug-related and the majority of these, more than 96%, were attributable to tobacco and alcohol [1].

Excessive alcohol consumption accounts for 5% of the total burden of disease in Australia [8] and has an estimated cost of \$4494 million annually [9]. Alcohol caused an estimated 1036 male and 387 female deaths

in New South Wales during 2000, representing 4.4% and 1.8% of all male and female deaths, respectively [6], and over half a million Australians were hospitalised for alcohol-related reasons between 1993 and 2001 [10].

Tobacco smoking continues to be a primary cause of premature and preventable deaths and disease globally [9]. Tobacco smoking is the leading risk factor for total disease burden in Australia, causing almost 10% of disability-adjusted life-years (DALYs) lost [11]. Annually, 19 000 deaths and 142 525 hospitalisations are attributable directly to tobacco use [9].

During 1997/98 around 7% of Australian hospital admissions were attributable to illicit drug use [1], with the majority being for opiate dependence and drug-induced psychoses [12]. The use of illicit drugs is an increasing problem; for example, data from Sydney

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South West Area Health Service (Western Zone) demonstrates that for the period 1 July 2004–30 June 2005, 1303 episodes of care-identified heroin overdose as the cause for admission (personal communication, Director of Drug Health Services).

Despite a growing awareness of drug and alcohol problems and an increased focus on early intervention, screening rates in acute facilities remain low [13,14], resulting in misdiagnosis and poor treatment for the patients [5,15–19]. Results from a survey of patients receiving treatment for psychiatric illness in the United Kingdom found that more than 50% of those surveyed reported lifetime problematic drug and/or alcohol use and 27% reported taking illicit drugs prior to admission. However, only 26% of those patients had a record of problematic drug and or alcohol use in their records [13]. Screening rates are also low among general patients, with only 65% screened for smoking, 54% for alcohol, and 9% for other substances [1]. Similar results for screening of smoking have also been reported by other researchers [17].

Research undertaken in the United States has also demonstrated low rates of detection (40–42%), in-patient intervention (21%) and treatment referral for alcohol use disorders (24%) [5], although staff practices with regard to screening does vary according to speciality. Patients admitted to a psychiatric or medical ward were more likely to be screened than trauma patients admitted to an emergency department [13,14], despite the association between trauma and alcohol [20,21] and associated hospital admissions. Patients admitted to surgical and general wards were less likely to be screened for use of drugs and/or alcohol or referred for treatment [14,19], and 50–90% of alcohol problems are missed by doctors during consultations in the office, due largely to failure to screen for alcohol use [15].

Given that such a high number of medical and social problems have been attributed to drug and alcohol problems, universal screening of patients and compliance by staff to screening and referral policies and procedures are important initiatives. As health and social problems associated with drug and alcohol use is indiscriminate with regard to age, it is important that screening takes place across all age groups.

Nurses have been identified as the appropriate group to screen for drug- and alcohol-related problems and provide acute and ongoing management [22]; however, in practice there is evidence of barriers to screening by nurses. The barriers have been shown to include insufficient time to complete screening, lack of knowledge about drug and alcohol problems and skills to intervene and the potential to compromise patient confidentiality [13]. To encourage screening of patients during routine admission procedures, the Sydney South West Area Health Service (Western Zone) developed the *Drug and Alcohol Policy Manual* (for

Nurses and Midwives) in 2004 [23]. The document includes education material designed for nurses not working in specialist drug and alcohol units, screening tools that are included in the admission procedures for all patients aged 14 years and over and policies for management of patients with drug- and alcohol-related diagnoses. This study was designed to determine nurses' adherence to the one of the policies, *Substance Use Screen Policy*, and their knowledge of management of drug and alcohol problems based on the education material presented in the *Manual*.

Ethics approval to conduct this study was obtained from the Sydney South West Human Research Ethics Committee.

Aims

There were two aims of this study. The first was to complete a chart audit of records in the participating medical and surgical wards to determine the current screening practices for drug and alcohol use during admission, and the referral patterns to Drug Health Services of patients at risk. The second aim was to survey nurses working in medical and surgical wards to determine their knowledge relating to substance use and self-reported skills in managing patients with drug- and alcohol-related problems.

The objectives were to:

- assess nurses' practices in screening patients for substance use;
- identify the number of patients who were screened for alcohol, tobacco and illicit drug use;
- ascertain the current level of nurses' knowledge regarding identification, withdrawal and treatment of alcohol and substance use;
- explore nurses' perceived skills to manage patients at risk of harm from drug and alcohol; and
- identify documented interventions provided by nurses for patients at risk of harm from substance use.

Sample and method

All nurses working in one medical and one surgical ward in a tertiary referral and a district hospital in Sydney participated in data collection. The study used a mixed-methods investigation to obtain comprehensive information [24] about the existing screening practices as well as knowledge and skill level among nurses relating to drug and alcohol management.

While the multi-disciplinary approach to care places a responsibility on all categories of clinicians to identify people at risk, the policy manual was developed specifically for use by nurses, therefore data collection was restricted to that group of clinicians.

The questionnaire was distributed to 119 nurses and 60 were returned, providing a response rate of 50%. Two questionnaires had insufficient information for analysis and therefore were not included in the results, therefore data from 58 surveys were analysed ($n = 58$). To reflect more accurately the relatively small number of respondents, the results are presented as the number of respondents and the percentage response.

Data collection

The Chart Audit and Nurse's Survey were based on previously validated items and published policies and developed for this study by the research team. Both tools were piloted prior to use in a medical ward that was not involved in the main data collection.

Chart audit

To determine existing clinical practice, the medical records of all people ($n = 79$) who were patients in the study wards on the nominated audit day were audited using a tool based on the Patient Nursing History form that is completed routinely during admission of all patients to both facilities. As the number of medical records was relatively small, all were included in the audit. The form contains items to assess patients for alcohol, tobacco and drug use and treatment. The relevant items from the history form and the minimum reporting requirements identified by the Drug and Alcohol Policy Manual [23] were listed with a yes/no option denoting if completed or not. The chart audits were completed by two clinical nurse consultants in drug health, with one nurse completing all audits at one facility. To ensure that medical records were audited consistently, a random sample of 10 charts from each facility were reviewed by both auditors with 100% agreement.

Nurses' survey

One week following the chart audit a self-administered survey was distributed to each nurse working on the four wards. The survey was based on the work of Happell [19] and the National Health and Medical Research Council (NH&MRC) Australian Alcohol Guidelines [22] for the general population and consisted of items relating to demographic details (age, gender, working status) (seven items), self-reported knowledge relating to identification and management of drug and alcohol problems (11 items), skills relating to screening and management of these patients (one item) and the existing practices for management of patients (three items).

One week prior to distribution of the surveys, pre-notification letters and participant information sheets

were sent to the nurse unit managers (NUMs) and all the nurses rostered in the participating wards. The information sheet explained the survey purposes and stressed the confidentiality of data collected. Questionnaires were then distributed by one member of the research team (A. S.) personally, where possible, to the nurses. Nurses rostered to the wards, but who were not working at the time of the distribution, were given their questionnaire by the NUM. Each questionnaire was enclosed in a personally addressed envelope and included a return envelope addressed to the Centre for Applied Nursing Research to enable confidential return to the research team of the completed questionnaires. A follow-up reminder was sent to the NUMs 2 weeks after the questionnaire distribution to maximise the response rate [25].

Data analysis

Data were analysed using the Statistical Package for the Social Sciences (SPSS)TM version 12 for Windows. Most of the data are presented as observed rates. Association between the nurses' professional experience and self-perceived knowledge and competence were determined by Pearson's correlation coefficients. Alpha was set at 0.05.

Results

Chart audit

Screening practices. Seventy-nine individual patient records ($n = 79$) were audited and documented screening for substance use was low. Only 22 (28%) patients were screened for alcohol use; 23 (29%) for tobacco and six (8%) for illicit drugs. The patients screened for tobacco use were also screened for alcohol use, and the patients screened for illicit drugs had also been screened for alcohol and tobacco use.

Of the 23 (29%) patients who were screened, nine were asked only if they used these substances. The following information about alcohol consumption was recorded in 14/22 records: type of alcohol drunk ($n = 2$); size of drink ($n = 2$); quantity of alcohol used ($n = 6$); frequency of alcohol use ($n = 6$); duration of drinking ($n = 1$); previous treatment for alcohol problems ($n = 2$); incidence of previous alcohol withdrawal ($n = 2$); and experiencing current withdrawal discomfort ($n = 1$). No person who reported alcohol consumption was asked the time since their last drink.

The information about cigarette smoking was more complete, with the majority being asked about the number of cigarettes smoked and the frequency of smoking. However, only two were asked the length of time they had been smoking and none were asked if they wanted to quit. No patients reported taking illicit drugs.

Referral practices. There was no documentation of action plans such as brief interventions or referral to a drug health services being initiated for these patients.

Nurse's survey

Demographic characteristics. Of the 58 respondents who returned the completed survey, 52 (88%) were female, of whom 34 (60%) were working full time and 18 (32%) working part time. Fifty-one worked in clinical positions. They were experienced nurses, with 54% having more than 10 years experience, and on average had worked for at least 4 years (3.0–4.9 years) in their current ward. Detailed description of the demographic data is presented in Table 1.

Table 1. Demographic characteristics of survey respondents

Demographic characteristics	Number (%)
Sex* (<i>n</i> = 59)	
Female	52 (88%)
Male	7 (12%)
Age* (<i>n</i> = 52, mean = 36.6 years; 95% CI = 33.8–39.3)	
< 30 years	14 (27%)
30–39 years	17 (33%)
40–49 years	16 (31%)
50 years or more	5 (10%)
Qualification* (<i>n</i> = 58)	
Hospital certificate	13 (22%)
Bachelors degree	22 (37%)
Diploma	9 (15%)
Graduate diploma	1 (2%)
Graduate certificate	5 (8%)
Certificate IV	4 (7%)
Masters degree	1 (2%)
Other	4 (7%)
Employment* (<i>n</i> = 57)	
Full-time	34 (60%)
Part-time	18 (32%)
Casual	5 (9%)
Predominant role* (<i>n</i> = 57)	
Managerial	2 (4%)
Clinical	51 (89%)
Educational	4 (7%)
Professional experience* (<i>n</i> = 55, mean = 12.7 years, 95% CI = 9.9–15.4)	
< 5 years	15 (27%)
5–9 years	10 (18%)
10–14 years	9 (16%)
15 years or more	21 (38%)
Length of time in ward* (<i>n</i> = 56, mean = 4.0 years, 95% CI = 3.0–4.9)	
< 5 years	37 (66%)
5–9 years	13 (23%)
10–14 years	5 (9%)
15 years or more	1 (2%)

*Less than total respondents of 60 due to missing data.

Knowledge relating to specific aspects of drug and alcohol management

Knowledge relating to level of risk. Overall the level of knowledge about safe alcohol drinking was low, with only 21 (38%) aware of the amount (grams) of alcohol present in a standard drink. Knowledge relating to the recommended maximum daily alcohol consumption for men and women was reported correctly by only 20 (33%) and 27 (45%) respondents, respectively. Nineteen (32%) identified the number correctly of alcohol-free days/week that people were recommended to have.

Knowledge relating to substance use assessment, withdrawal and treatment. All items relating to knowledge were based on information included in the *Drug and Alcohol Policy Manual (for Nurses and Midwives)*.

Forced response (agree/disagree) questions were used to assess nurse's knowledge relating to management of alcohol and drug dependence, overdoses and withdrawal. Not all respondents answered each question; nevertheless, overall the respondents demonstrated reasonable knowledge relating to the assessment and management of substance dependence. While the majority of the nurses selected the correct response to questions about symptoms and management of withdrawal from substance use, and signs of substance dependence, only 14 (24%) agreed that symptoms associated with alcohol withdrawal may be managed without medication. Forty-nine (89%) were aware of the importance of administering thiamine (vitamin B₁) prophylactically to people with alcohol dependence. Pupillary constriction is a major sign of heroin overdose in a drowsy or unrousable person and should be treated immediately with naloxone (Narcan). However, only 17/31 (55%) respondents associated that sign correctly with heroin overdose, although 38/40 (95%) respondents knew that naloxone (Narcan) should be administered to these patients. These findings were independent of years of experience as a nurse ($p > 0.05$).

Thirty respondents completed the question relating to the signs and symptoms of amphetamine intoxication. Although people in that state exhibit a range of behavioural and physical signs and symptoms, only one participant cited a maximum of four signs/symptoms. The remainder listed only one of the signs and symptoms (Table 2).

Knowledge relating to general aspects of drug and alcohol management. Nurses were asked to rate their level of knowledge using a four-point scale ranging from 'don't have any knowledge' to 'excellent knowledge' of the general aspects of drug and alcohol management. The majority of respondents reported having little or no knowledge of the signs and symptoms of dependence on alcohol (41; 69%) or other substances (50; 85%), to

Table 2. The nurses' correct answers to substance use diagnosis, withdrawal and treatment

Question	Correct answer	Nurses' correct answers
The diagnosis of substance dependence is characterised by the need for markedly increased amounts of a substance to achieve the desired effect ($n=59$)*	Agree	37 (63%)
The diagnosis of substance dependence is characterised by erratic and dangerous use of substance ($n=59$)*	Disagree	14 (24%)
The diagnosis of substance dependence is characterised by withdrawal symptoms on cessation of a substance ($n=55$)*	Agree	49 (89%)
A long-acting benzodiazepine (e.g. diazepam) is an appropriate agent to manage symptoms of alcohol withdrawal ($n=58$)*	Agree	42 (72%)
It is essential to admit all clients for alcohol detoxification to a patient unit because delirium tremens (DTs), the organic brain syndrome due to alcohol withdrawal, has a high mortality rate ($n=58$)*	Disagree	9 (16%)
Many symptoms associated with alcohol withdrawal may be managed appropriately without medication ($n=58$)*	Agree	14 (24%)
Cases in which paranoid ideation and seizures can occur ($n=56$)*	Benzodiazepine withdrawal, alcohol withdrawal, amphetamine intoxication	44 (79%)
Sign would alert heroin overdose in a drowsy or unrousable client ($n=31$)*	Pupillary constriction	17 (55%)
Prophylactic vitamins should be given to all clients with alcohol dependence ($n=55$)*	Thiamine (vitamin B ₁)	49 (89%)
Medication should be administered as soon as possible if heroin overdose in an unrousable client is suspected ($n=40$)*	Naloxone (Narcan)	38 (95%)

*Less than total respondents of 60 due to missing data.

identify withdrawal states from alcohol (35; 59%) or other substances (48; 82%), to identify overdose (44; 74%) and to manage detoxification from alcohol (48; 82%) or other substances (56; 98%).

Self-reported level of competence in dealing with clients with substance use. Overall, the respondents reported that they lacked skills to care adequately for patients with drug- and alcohol-related problems and that they did not feel competent to identify, refer or provide clinical and educational interventions to patients. They also felt ill-prepared to recognise signs of use of alcohol and other substances. The task nurses felt most competent performing was referring patients to drug and alcohol services; however, that represented the minority of the total respondents (Table 3). Notwithstanding the generally low levels of knowledge and skill, respondents with more than 15 years experience as a nurse reported feeling more confident to identify patients with drug and alcohol problems ($p=0.015$), are more aware of services ($p < 0.01$) and are more likely to refer patients to specialist services ($p < 0.01$).

Existing practice in identifying substance use and providing intervention. Admission procedures require that patients 14 years of age and over are screened routinely for possible drug and alcohol use. The majority of the nurses reported 'always' or 'usually'

screening for alcohol (54; 90%), cigarette smoking (55; 91%) and prescribed medications (54; 91%) (Table 4).

A minority of nurses answered that they 'always' or 'usually' provide some form of brief intervention on the ward (30; 41%) and referral to drug health services (35; 59%) for at-risk patients. The nurses who have more than 10 years experience were more likely to screen patients for alcohol use ($p=0.014$) and cigarette smoking ($p=0.039$).

Discussion

A large number of medical and social problems have been attributed to drug and alcohol use. Screening for drug and alcohol use is an effective way to minimise harm by identifying people at risk and providing appropriate interventions. In addition, screening also provides an indication of the extent of the problem, which is useful for health service planning and informs decisions about the most efficient distribution of resources. However, as this study demonstrates, strategies beyond simply introducing a policy and providing written education material about drug and alcohol use are required to ensure patients are screened and nurses are familiar with management practices.

There was inconsistency between the low level of screening identified by the chart audit and self-report screening practices of the nurses. Although a majority

Table 3. *The nurses' perceived competence in dealing with clients with drug- and alcohol-related problems*

Competence level	Not competent	Only a little competent	Moderately competent	Very competent
Screening for alcohol and other drug problems (<i>n</i> = 59)*	9 (15%)	30 (51%)	18 (31%)	2 (3%)
Identification of alcohol and other drug problems (<i>n</i> = 59)*	11 (19%)	25 (42%)	21 (36%)	2 (3%)
Awareness of specialist alcohol and drug services (<i>n</i> = 59)*	14 (24%)	24 (41%)	16 (29%)	3 (5%)
Referral to alcohol and drug services (<i>n</i> = 59)*	11 (19%)	24 (41%)	16 (27%)	8 (14%)
Brief intervention (e.g. providing information and advice without follow-up) (<i>n</i> = 57)*	18 (32%)	24 (42%)	14 (25%)	1 (2%)
Motivational counselling (persuasive, supportive strategies to allow clients to recognise and address their problems) (<i>n</i> = 58)*	24 (41%)	25 (43%)	8 (14%)	1 (2%)
Relapse prevention (<i>n</i> = 58)*	30 (52%)	23 (40%)	4 (7%)	1 (2%)
Management of detoxification (<i>n</i> = 59)*	24 (41%)	20 (34%)	14 (24%)	1 (2%)
Management of overdose (<i>n</i> = 59)*	21 (36%)	20 (34%)	17 (29%)	1 (2%)
Ongoing management (rehabilitation) of alcohol and other drug use (<i>n</i> = 58)*	27 (47%)	21 (36%)	9 (16%)	1 (2%)

*Less than total respondents of 60 due to missing data.

Table 4. *No. of respondents who regularly screened patients*

Substance use screening	Always	Usually	Occasionally	Rarely/never
Tobacco/cigarettes (<i>n</i> = 60)	41 (68%)	14 (23%)	4 (7%)	1 (2%)
Alcohol (<i>n</i> = 60)	39 (65%)	15 (25%)	6 (10%)	
Cannabis (<i>n</i> = 59)*	26 (44%)	13 (22%)	9 (15%)	11 (19%)
Benzodiazepines (<i>n</i> = 60)	28 (47%)	11 (18%)	7 (12%)	14 (23%)
Stimulants (<i>n</i> = 60)	26 (43%)	10 (17%)	9 (15%)	15 (25%)
Opiates (<i>n</i> = 59)*	27 (46%)	11 (18%)	10 (17%)	11 (18%)
Prescribed medication (<i>n</i> = 59)*	42 (71%)	12 (20%)	3 (5%)	2 (3%)
Other drugs (<i>n</i> = 58)*	19 (33%)	14 (24%)	5 (9%)	20 (34%)

*Less than total respondents of 60 due to missing data.

of the surveyed nurses reported regularly taking a history of alcohol drinking and cigarette smoking, findings of the patient chart audit demonstrate that the documented screening rates are remarkably low. When patients were identified as alcohol users and cigarette smokers, assessment for harmful usage was inadequate and no interventions were documented. This supports other findings that medical and surgical disorders receive more attention than the co-morbid alcohol and drug problems [14] but contradicts the self-reported practice by the majority of nurses that they provide brief interventions on the ward or refer patients to drug health specialist services if a potential problem was identified. These nurses listed a range of services for referral; however, a campaign to promote community-based services may be warranted given that none of the nurses had referred patients to the Drug and Alcohol Treatment Access Line, which is the main contact point for drug and alcohol services.

Despite the fact that the survey respondents were experienced clinicians, overall they report deficits in knowledge and few problem-solving abilities regarding alcohol and other drug use and limited knowledge and experience to intervene with education and counselling strategies. This finding is at odds with other Australian research investigating nurse's knowledge and problem-solving abilities in the management of people with drug- and alcohol-related problems that concluded that, overall, nurses had 'adequate' knowledge and skills to manage these clients [19]. That study did include nurses working in community and inpatient facilities, unlike this study, that included nurses working in medical and surgical wards at two acute care facilities. However, it is unlikely that the use of alcohol and other substances by people hospitalised in our facilities differed to those in the study by Happell *et al.* [19], therefore the deficit in knowledge and skills reported here could be attributed to lack of education

rather than limited opportunity to apply knowledge and skills in practice.

Although the nurses had sufficient knowledge to identify correctly some characteristics of substance dependence and they knew the importance of thiamine in management of alcohol dependence, it is evident that a high proportion of the nurses are unaware of the NH&MRC [22] recommendations for risky and high-risk drinking or the signs and symptoms of psychostimulant intoxication and heroin overdose. This is supported by the finding that a majority of the nurses felt that they lack knowledge to manage detoxification, and identify substance dependence, withdrawal states and overdose. This finding is surprising, given the community education and awareness campaigns that have been disseminated widely across Australia for the past decade. Reducing harm from use of drugs and other substances is a priority for governments and health services across Australia, therefore it is of concern that nurses, who are at the front line to identify and intervene when people at risk are identified, indicate their lack of skill to perform screening, identification and management of the patients and provide them with information, advice and counselling.

The results of the chart audit and survey of nurses supports anecdotal evidence that nurses who are not working in speciality drug and alcohol areas do not feel competent to perform screening, identification and management of patients with drug and alcohol dependence. These findings are consistent with data from other Australian [26] and international [5] research. Nurses are not alone in this regard, with trauma surgeons also reporting that when they do test for blood alcohol levels, less than one-third record the findings and/or refer patients for appropriate follow-up during their hospitalisation [13].

As expected, the nurses' professional experience was found to be associated with their skills and practices. Those who have been practising for more than 15 years feel confident to identify patients with drug and alcohol problems, are more aware of services available and are more likely to refer patients to specialist services. Those practising for more than 10 years are more likely to screen patients for alcohol consumption and cigarette smoking.

Limitations of the study

Despite the robust conduct of the study, the sample size of both the nurse's survey and patient chart audit was small, which should be considered when interpreting the results. Nevertheless, the study provides valuable information regarding nurses' knowledge of substance use and has major implications for professional education and monitoring of clinical practice.

Conclusion

The results of the present study suggest that, in addition to development of policy and procedure manuals, there is need for a comprehensive training and education to provide general nurses with skills and knowledge to screen for substance use and to identify substance dependence, withdrawal phenomena and management of the detoxification and overdose. It is also essential to raise nurses' awareness of available specialist drug health services and empower them with skills and strategies to deal with patients who present with or are at risk of drug and alcohol problems.

Screening for drug and alcohol use is both an effective way to minimise harm through ensuring more effective diagnosis and treatment, and a way of building upon the evidence base. Data from screening could be used also as evidence for identifying trends relating to the harmful use of specific drugs. This would also assist the National Drug Strategy in developing strategies that reflect effective practices for reversing such trends.

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