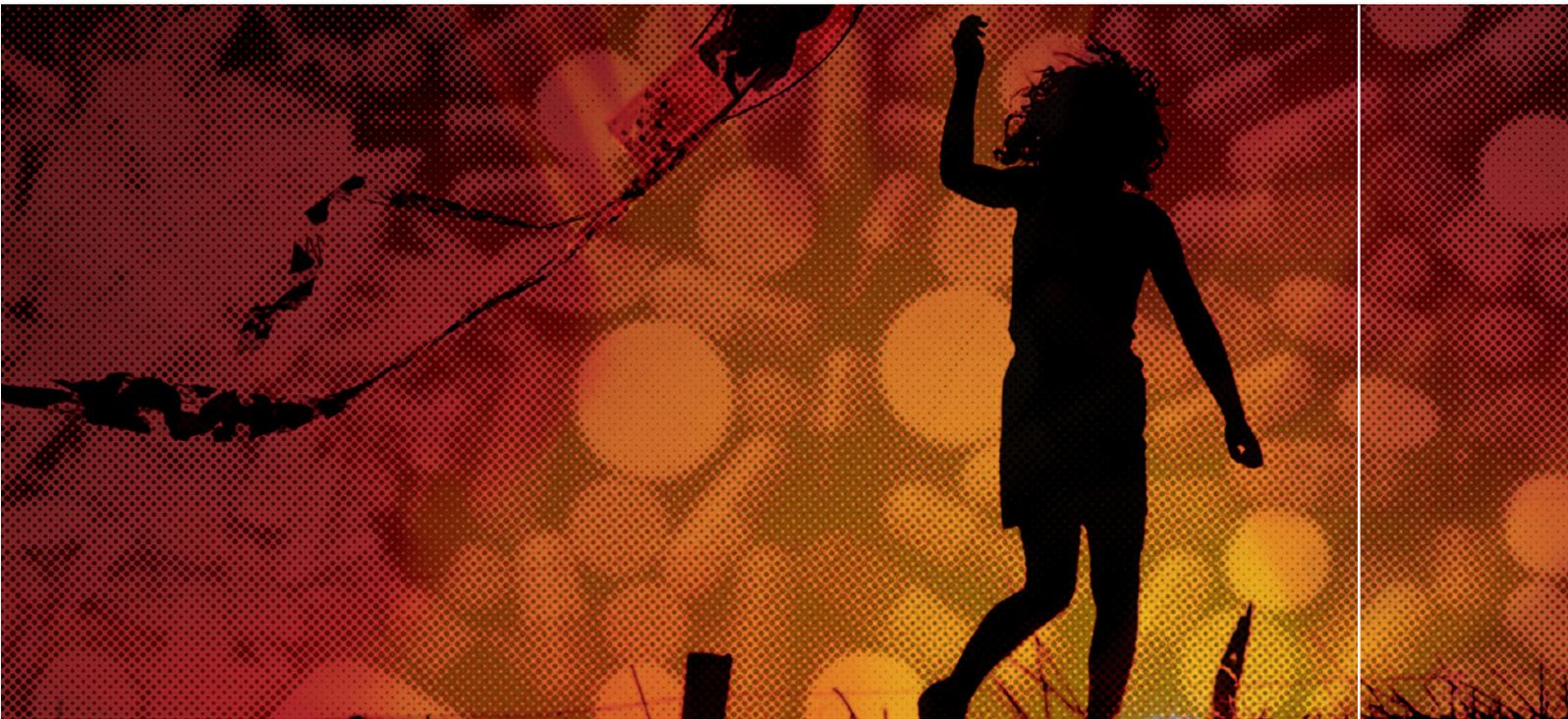




UNITED NATIONS  
*Office on Drugs and Crime*



# **Preventing amphetamine-type stimulant use among young people**

A policy and programming guide



UNITED NATIONS OFFICE ON DRUGS AND CRIME  
Vienna

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# I. Introduction

## What are amphetamine-type stimulants?

Amphetamine-type stimulants (or ATS) are drugs that belong to the stimulant class of drugs and as such they excite or speed up the central nervous system.

The most common ATS are amphetamines (including methamphetamine) and ecstasy. Pharmaceutical companies manufacture some of these for limited medical use, while most are made by illegal laboratories for non-medical purposes.

Methylphenidate (Ritalin®), a stimulant medication used in the treatment of attention deficit hyperactivity disorder (ADHD) is sometimes used non-medically.

The present policy guide will focus on these three main ATS drugs: amphetamines and methamphetamine, ecstasy and methylphenidate.

## Why give attention to amphetamine-type stimulants?

In the past 15 years, many parts of the world—both developing and developed—have witnessed a significant increase in the availability and use of ATS. Regions experiencing the greatest increase are North America, Europe, South-East Asia and Australia. Of an estimated 200 million people who use drugs worldwide, some 35 million people are said to use ATS. This is more than those reported to use cocaine (13 million) and opiates (16 million) combined [1].

ATS use can result in a range of immediate and long-term harm to individuals and is exacting a great toll on families and communities around the world. Of particular concern is ATS use by smoking or injection, which carry a very high abuse and dependence liability [2], as well as an increased risk of contracting blood-borne viruses, particularly HIV.

## Why focus on preventing amphetamine-type stimulant use?

To date, much attention related to ATS has focused on supply reduction, prevention of the negative health and social consequences of drug abuse and treatment measures. All of these areas of activity are important, but they cannot have a real impact on demand

without being buttressed by effective prevention. Reduction in the supply of illicit drugs is a necessary element within a drug strategy, but many regions lack resources to devote to supply reduction efforts and the cost effectiveness of supply reduction measures is still unclear. There remains limited research support for any pharmaceutically assisted treatments for ATS; indeed some regions lack a capacity for any treatment whatsoever. ATS-focused measures aimed at preventing the negative health and social consequences of drug abuse have a reasonable scientific basis and are well established in some regions; however these measures are controversial in other regions.

A general drug prevention strategy provides an important basis and context for preventing ATS use, but a general strategy cannot on its own be expected to adequately address the problem of ATS. A specific focus on ATS is necessary in many regions and communities because of their prevalence, the culture of hazardous use within some populations and the significant harm associated with these substances.

There is currently a gap in the knowledge on how to prevent or delay use of ATS among young people. In any population of young people, whether among the mainstream of society or not, there is a large portion of individuals that are not using ATS, or are using them experimentally, and who would benefit from measures and messages that encourage non-use. The present guide has been prepared to assist policymakers in focusing preventive efforts on these young people.

*“We believe that a real priority for the immediate future is to address the preventive needs of non-users or casual users, since in focusing always on users, we are constructing a discourse exclusively on use as if the other young people, those who do not use drugs, did not exist.”*

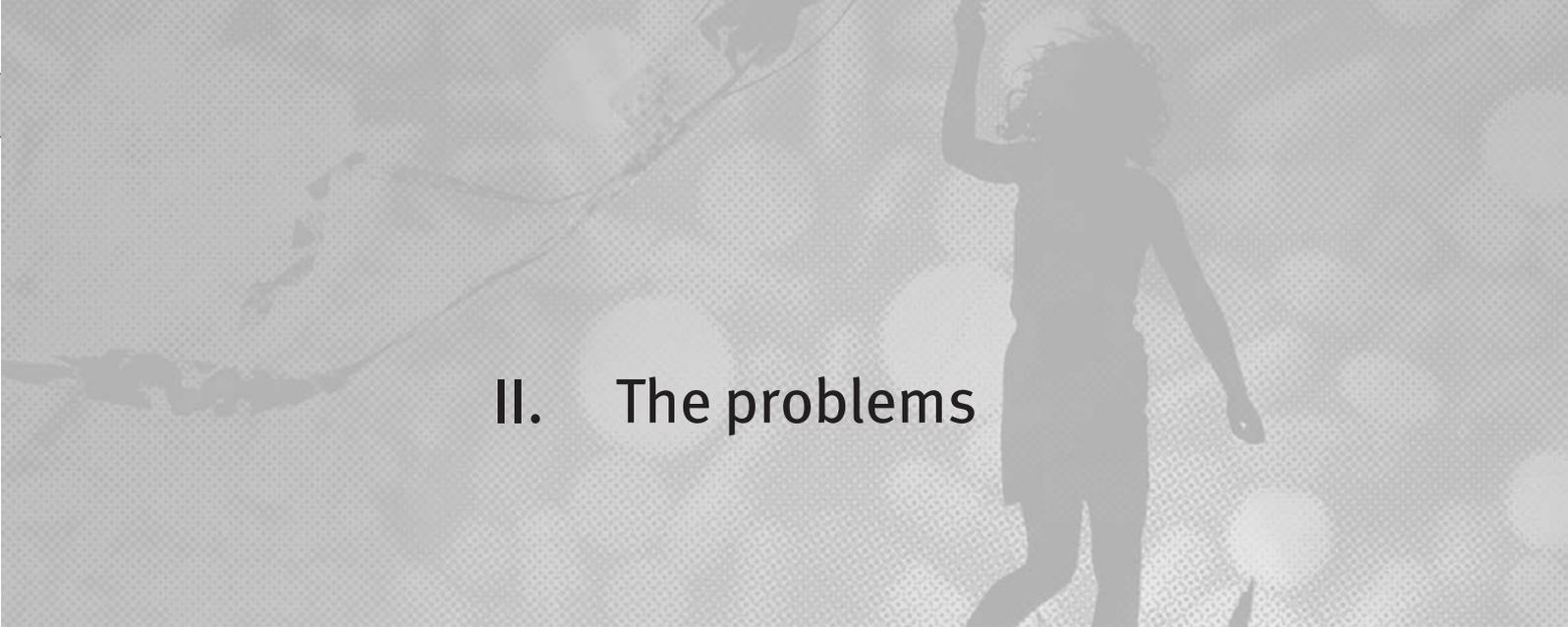
— Calafat and others (2001) [3]

## About this guide

The present guide is aimed at policymakers in the field of drug abuse prevention. As such, it concentrates on providing essential information on the reasons why it is crucial to work to prevent ATS abuse and the most important principles to do so effectively.

The process used to prepare the guide was to review the best evidence available—that found in scientific journals and on Government and other credible websites. A discussion paper was prepared on the basis of this evidence. A group of expert practitioners and researchers was brought together for a three-day meeting to review the discussion paper and to give suggestions for developing two guides: one for practitioners and one for policymakers. Following the meeting, the guides were drafted, reviewed by the meeting participants, and finalized.

Briefly, the first part of this guide will highlight the main problems with ATS use and the various kinds of impact it can have at the social, personal and physiological levels. In the second part, the guide discusses some key principles to keep in mind while developing policy and programmes on ATS prevention. The authors have made an effort to relate each principle to real examples. The information has been kept succinct and to the point. For those who are interested, a further discussion on how to put into operation the principles and approaches presented in the present guide will be included in the companion guide: *Preventing amphetamine-type stimulant use among young people: a guide for practitioners*.



## II. The problems

### High rates of use

Although there are still many gaps in the picture, our understanding of ATS use worldwide is better than it has ever been [4].

Overall, during the 1990s, the rates of ATS use increased more than any other drug worldwide; ATS are the next most commonly used illicit substances after cannabis among high school students in all regions, except in South-East Asia, where ATS use rates are among the highest in the world and may exceed cannabis.

*Over 12 million Americans have used methamphetamine in their lifetimes.*

— United States National Synthetic Drugs Action Plan (2004) [5]

The particular drugs of concern differ by region [4]:

- Rates of methamphetamine use are the dominant ATS concern in South-East Asia;
- Ecstasy and amphetamine have been the dominant concern in Europe;
- Methamphetamine and ecstasy are concerns in both North America and Australia;
- Non-medical use of medications prescribed for ADHD (Ritalin® and Adderall®) appears to be an issue only in North America and Australia.

Adolescent and young adult ATS use patterns:

- The usual age of first use of ATS is not readily available and no doubt varies from region to region, but (where data are available) appears to occur in mid-adolescence [6, 7]
- Although gender differences tend to be small, and there are exceptions, a greater percentage of boys typically use ATS [7, 8]
- There are clear age differences: rates of ATS use (along with most other substances) always increase from early adolescence to early adulthood [9, 10]
- Less information is available on ATS use among students in developing regions; however, it appears that rates are lower in developing regions than in Australia, Europe and North America [11-13]
- Although the situation no doubt varies from country to country, most young people who complete school and settle into a conventional lifestyle reduce their use of ATS and other substances [14-17]

## Use among specific populations

It is impossible to identify all the patterns of ATS use around the world, many of which shift rapidly owing to changes in local fashions and conditions. However, several populations are known to engage in hazardous patterns of ATS use in various regions.

### *Street and other especially vulnerable youth*

Among those viewed as being especially vulnerable are working children, refugees, disabled youth, incarcerated and institutionalized youth, indigenous youth and young people who have been sexually abused. These young people often live on the street and out of reach of mainstream services. Once on the street, youth may use substances to alleviate a range of problems, from physical discomfort from the cold, hunger, noise and overcrowding, to fear associated with dangerous jobs [18]. For example, street children in developing regions use methamphetamine to ease the pain of hunger.

It is extremely difficult to determine the number of youth affected or their substance use patterns, but some information is available:

- A study of drug abuse among working children in the Philippines found that most of the children between 7 and 17 years of age used “rugby” (glue) and “shabu” (methamphetamine) [20];
- A study of vulnerable young people (ages 12-24) in the United Kingdom found that as vulnerability increased, the likelihood of drug use increased, and amphetamines were the most commonly used substances [21];
- A survey of a sample of street youth (ages 14-30) conducted in Vancouver, Canada, in 2000 found that 71 per cent had tried ATS and 57 per cent had used them more than 10 times [22].

Because vulnerable young people are pushed to the margins of their societies, they have difficulty tapping into community support and their drug use often escalates and becomes entwined with a number of other problems [23].

### *Lesbian, gay, bisexual and transgender youth*

There are indications that gay, lesbian, bisexual and transgender (LGBT) youth need to be viewed as vulnerable to ATS and other substance use. Reasons include coping with their sexual identity; the strain linked to coming out to family, friends, and classmates; general stigmatization; and the availability of drugs in the club scene [24-26].

Substance use is reported to be strongly associated with the gay nightclub, dance party and parade scene, where drugs are often seen as important to creating a sense of community [24, 28]. ATS are often used to enhance sexual experience among gays [29-31].

*The link between crystal meth and suicide is an important issue among Indigenous youth in Canada.*

— National call for action on the impact of crystal meth in First Nations communities, 2005 [19]

*Four out of five LGBT high school students indicated that they didn't know one supportive adult in school.*

— Kosciw (2004) [27]

A national survey in the United States reported that:

- Some 28 per cent of LGBT students drop out of school (compared to 8 per cent of heterosexual students);
- Some 33 per cent of LGBT students attempt suicide (compared to 8 per cent of heterosexual students);
- LGBT youth make up 20-40 per cent of the homeless youth population in the United States [27].

Various studies in different regions have found ATS and other drug use to be higher among LGBT youth than the general population of young people:

- An Australian study found that 76 per cent of LGBT young people aged 20-29 years had ever used amphetamines, compared with 20 per cent of the general population of 20-29 year olds [24];
- A study in British Columbia, Canada, found a “markedly elevated risk for use of methamphetamine, ecstasy and other drug use among students who identified themselves as gay or bisexual” [32];
- The Department of Public Health in Seattle, United States, found that gay men under the age of 25 were twice as likely to have used crystal methamphetamine in the past year (11 per cent had injected the drug at least once) and three times as likely to have used ecstasy as their general population counterparts [33].

### *Dance and party enthusiasts*

During the 1990s, ecstasy became synonymous with the rave, techno and nightlife culture in various parts of the world. “To enjoy dancing” was the most common reason given for using ecstasy among young people [3]. Ecstasy remains the most commonly used “club drug” [34] (amphetamine is common in some locations [35]). While ecstasy is used in other contexts (for example at home and at private parties [31]) it remains closely linked to dance and rave events [34].

*Drug use among people in nightlife settings is much higher than in the general population and most prevalent among the relatively affluent outgoing urban youth...*

— European Monitoring Centre for Drugs and Drug Addiction policy briefing, 2002

Findings from various studies have suggested that ecstasy users are often middle class and white, and found them to be well educated and working or studying. While little harm is reported as a result of some ecstasy use [36], the use of multiple substances—a hazardous pattern of use—is commonly reported [37, 31]. Ecstasy dance-related fatalities are rare but do occur and are attributed to dehydration (and, in an attempt to prevent dehydration, over-hydration), interaction between several drugs and individual vulnerability among a small percentage of people [38].

### *High school and university students*

Stimulant medicines such as methylphenidate (commonly known as Ritalin®) and amphetamine (primarily Adderall® and Dexedrine®) are used by students to enhance athletic performance and to improve their ability to study. These drugs have become increasingly available through students with prescriptions for these medicines selling

or giving them away [40]. Some, particularly girls, use methamphetamine to suppress appetite (it is available on prescription (for example, Desoxyn®) for short-term use to combat obesity).

## Effects and harm

Clearly, there is a range of significant harm linked to the use of ATS. While reviewing effects and harm, it is important to be aware that each of the ATS has a certain symbolic image that carries unconscious but powerful expectations [31, 41]. Many of these images of ATS use arise from media reports. It is important for policymakers to take a measured view of these reports and determine the actual nature of the harm linked to various forms of ATS use.\* The media only provide one source of information about trends related to ATS and often this perspective is skewed by considerations of newsworthiness. It is therefore important that policymakers and programme managers rely on accurate scientific data and, where possible, conversations with frontline staff and youth.

### *Effects and harm linked to methamphetamine and amphetamine use*

Methamphetamine (called speed, crystal meth, meth, ice, or crank) has a particularly high potential for abuse and addiction among the various types of ATS. It can be found as an odourless, bitter powder or in a solid form as a rock or looser clumps with a waxy feel (in white, pink, brown, or yellow, depending on the chemicals used to make it). Methamphetamine can also be sold in capsules or tablets, generally referred to as speed in this form. The “high” experienced when using methamphetamine has been compared to that of cocaine, although methamphetamine is relatively cheap when compared to cocaine and the effects last much longer [42].

Effects and hazards associated with methamphetamine and amphetamine use range from what might be considered mild negative effects, such as nausea, sweating or chills, to serious and potentially life-threatening conditions (such as convulsions, stroke and kidney failure) and dependence. Long-term neurological consequences are not yet fully understood. They are, however, real, serious and of increasing concern.

The most serious health implications of amphetamine and methamphetamine, resulting from chronic use, are dependence, characterized by compulsive drug-seeking and drug use, and a phenomenon known as amphetamine or methamphetamine psychosis. The latter is a mental condition similar to episodes of schizophrenia. It is characterized by confusion, delirium and panic as well as a range of hallucinations. It is accompanied by very unpleasant sensations (such as a feeling of insects crawling on the skin), suspiciousness and paranoid delusions. Intense paranoia may lead to aggressive behaviour or violence, including homicidal and suicidal tendencies.

\* For example, ecstasy has a reputation for being used in lower risk ways than methamphetamine (i.e., by middle class youth who use it to enhance their enjoyment in dance situations), and that continues to be the case for many ecstasy users. However, there is also good evidence that there are others who increase their use of ecstasy over a period of time, and are likely to use it in the riskier ways mentioned above and possibly develop a dependency.

*Around finals week, you can always hear the buzz coming from the Adderall and Ritalin markets in the halls of dormitories. Yet don't those demanding the drugs, in an attempt to improve their academic performance, realize they are gaining an unfair advantage?*

— Littman (2005) [39]

As with other dependence-producing drugs, stopping use (that is, withdrawal) can cause very unpleasant conditions characterized by extreme fatigue, depression, anxiety, or sometimes severe agitation or even paranoia with aggression, as well as an intense craving for the drugs.

### *Effects and harm linked to ecstasy use*

Ecstasy is a street name for methylenedioxymethamphetamine (MDMA) and is usually classified as a hallucinogen with stimulant effects. It is a chemical made in illegal drug laboratories and also goes by other names such as E, XTC, Adam, Euphoria, X, MDM and Love Doves. The pills can be any colour and may have a design on one side such as a dove or a diamond. It can also come as a powder, which is snorted or, less commonly, dissolved and injected. Purity and quality are highly variable and unpredictable. In some regions, ecstasy is consistently quite pure, while in others ecstasy tablets may contain other substances, such as ketamine, a depressant, p-methoxyamphetamine (PMA), a hallucinogen, or ephedrine, a stimulant.

The prevalence of serious acute adverse effects from ecstasy use is low; however short-term mood changes, including the “midweek hang-over” following weekend use, and impairments in short-term memory function are common consequences of ecstasy use.

For several reasons, the unpredictability of acute effects is a chief concern with ecstasy. The variety of drugs and mixtures sold as ecstasy means that the effects and harm arising from the use of a pill presented as “ecstasy” are difficult to predict. Moreover, ecstasy users tend to use two or more drugs on an occasion, further increasing the unpredictability (and likelihood) of adverse effects. Lastly, it appears that some individuals are more susceptible to toxic effects than others.

“Serotonin syndrome” can result from ecstasy use and lead to an extreme and dangerous rise in body temperature, which can be compounded by use in hot environments like dance clubs and long periods of activity without proper hydration.

The longer term effects of ecstasy on the brain (i.e., cognitive, behavioural and emotional effects) are not yet clear. What appears to be clear, however, is that the effects do not depend on an extensive history of MDMA use and that they may not be completely reversible.

### *Effects and harms linked to non-medical use of methylphenidate (Ritalin®)*

Methylphenidate, as a stimulant medication, increases the activity of the central nervous and cardiovascular systems. For persons with ADHD, for whom it is prescribed, methylphenidate has a paradoxical reverse effect (as do other stimulants) in that it reduces hyperactivity, impulsiveness and inattentiveness.

It has a high margin of safety and a therapeutic dose is much lower than the amounts used non-medically. Among those using methylphenidate non-medically, swallowing

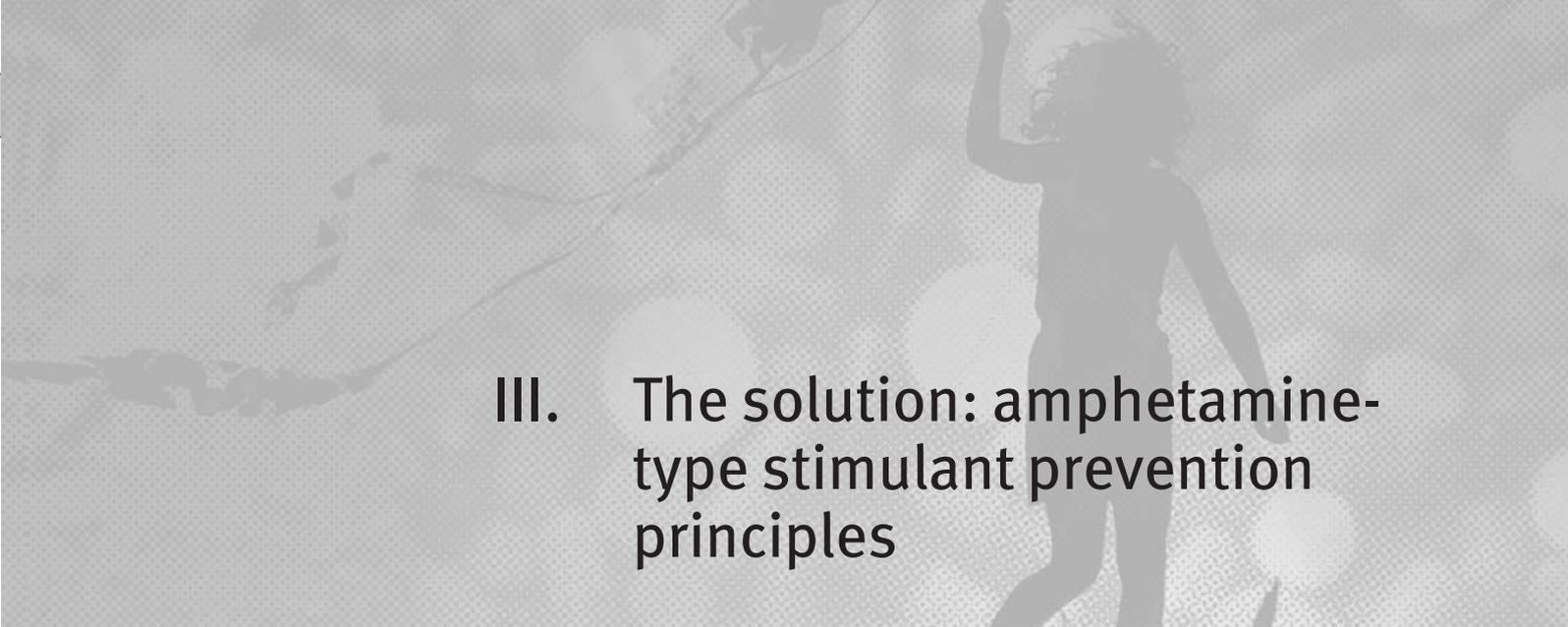
the tablets is typical of those seeking to stay awake. However, for those seeking a euphoric effect, snorting or injecting the ground/dissolved tablets are the preferred methods of administration.

Effects increase with dose and include nervousness, headache, insomnia, anorexia and rapid heart rate. Overdose brings on agitation, hallucinations, psychosis, lethargy, seizures, hypertension and hyperthermia. Withdrawal from chronic use results in effects similar to those of withdrawal from other ATS (i.e., lethargy, apathy, depression and paranoia) [43].

## Economic costs

In recent years, the World Health Organization (WHO) has attempted to quantify the causes of ill health in the world. While it is particularly challenging to arrive at estimations for an illegal activity such as the use of illicit drugs, WHO has estimated that illicit drugs represent 0.8 per cent of the burden of ill health in the world. ATS would in turn represent a portion of the costs attributed to illicit drugs. This might seem a minute proportion compared to other health issues, including tobacco and alcohol use. However, it should be noted that this proportion increases to 2.3 per cent in developed countries and that, in those countries, the use of illicit drugs is among the first 10 leading health risk factors. Moreover, it should be noted that, for reasons of availability of data, WHO based its calculation only on data on the injecting of illicit drugs. These figures are therefore likely to underestimate the problem at least in part, but they nevertheless indicate a significant outlay of public resources [44].

When it comes to ATS and other illegal drugs, health problems are not the only concern however. A study in New Zealand estimated that illicit trade in ATS drugs in that country may have effectively doubled the monetary value of the illegal trade in drugs in less than 10 years, equalling the trade in cannabis [45]. This trade and various crimes linked to ATS use (such as crimes to acquire ATS and violent crimes as an effect of use) add greatly to criminal justice costs in a society. Social services and child welfare costs are also a part of the picture [46]. Also, a portion of young ATS users have had their lives disrupted by ATS use. Because they are young, the resulting loss of productivity could be quite significant for a society. In countries and communities where methamphetamine is produced, environmental harm and costs caused by illegal laboratories and their safe removal are considerable. So, although they have not been quantified, the various social and economic costs associated with ATS are undoubtedly significant for various societies.



### III. The solution: amphetamine-type stimulant prevention principles

ATS clearly represent a considerable cost and range of harm to individuals, families and communities. Prevention must be a central part of a response to ATS use problems because the other options cannot, in themselves, be expected to address these problems fully. A general drug prevention strategy cannot be expected to address ATS concerns without additional specific attention. Little research exists on ATS prevention, but it is possible to adapt measures that have been shown by research to be either proven or promising. An adaptation of this body of prevention research points to the principles outlined below.

#### Principle 1

#### **Locate the amphetamine-type stimulant use prevention plan within a larger drug strategy and youth development frameworks**

Prevention and health promotion activities that have the aim of preventing or delaying onset of use in a population or selected portion of the population have enormous potential to reduce demand.

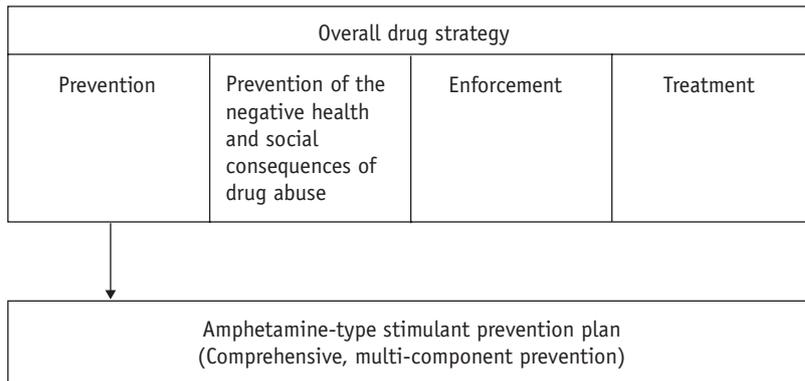
That said, an ATS prevention plan should be complemented by plans for treatment, prevention of the negative health and social consequences and enforcement, within an overall ATS strategy. Policy needs to direct those involved to integrate their efforts so that they are not working at cross purposes. At the macro level, legal and regulatory measures (for example, precursor legislation and other supply reduction measures) can provide strong reinforcement to ATS demand reduction programming.

In turn, the ATS strategy is best located within an overall drug strategy. A drug strategy that is effective in preventing or delaying alcohol, tobacco and cannabis use will, in doing so, prevent or delay much ATS use, because there is a very similar set of risk and protective factors at play in both cases. ATS use is often preceded by the use of these other substances. Beyond this preventative effect, a well-developed plan or strategy to prevent youth substance abuse can be augmented by a similarly comprehensive ATS-specific plan as the need arises.

A drug strategy also needs to recognize that substance abuse problems are part of a range of problem behaviours and should not be viewed in isolation; it is important to create strategic linkages with others concerned with youth development and

problem behaviours, such as crime, suicide and educational problems, to address their shared pathways.

Figure I.  
Amphetamine-type stimulant prevention  
within a larger drug strategy



## Principle 2

**Base the prevention plan on a clear knowledge of the amphetamine-type stimulant use problem and the resources that can be applied to it**

ATS-specific task forces, strategies and funding bodies must base their aims on reliable information on the nature and extent of the ATS situation in their jurisdiction. This profile of the problem is best arrived at by gathering credible information from as many sources as possible. Sources of ATS-specific data will vary from region to region but may include police departments (ATS-related crime), hospital emergency departments, drug treatment centres, medical networks, Government health and social services offices and university researchers.

Whatever sources or methods are used, it is important to know the general age at which ATS are first used, the level of use by youth of different ages, gender differences, general age of heaviest use, forms of risky use and problems experienced. The assessment must also determine the risk and protective factors at play among youth in the community. During this phase, it is important to account for the resources and support available to the prevention plan.

*“Considering the low prevalence of methamphetamine use in the general student population, a universal methamphetamine-specific school-based prevention program is not indicated. Rather, the drug should be addressed in a much broader comprehensive program addressing substance use issues in general.”*

— Western Canadian Summit on Methamphetamine (2004) [47]

## Principle 3

**Clarify the targets of amphetamine-type stimulant use prevention**

In any population of young people, whether they are in the mainstream or not, there is a large portion that is not using ATS, or are using ATS experimentally, who would benefit from measures and messages that promote non-use. Some of these young

people live with reasonable advantages (i.e., protective factors) and benefit from broad universal prevention;\* some are more vulnerable because they are exposed to one or more risks in their lives. Vulnerable groups include those who have been physically or sexually abused, indigenous youth, those with poor school connections, the homeless, young offenders, youth “in care”, youth with mental health problems, gay, lesbian, bisexual and transgender youth, those involved in the sex trade and children of substance-abusing parents.

*It is important to clearly identify target populations, motivations, risk factors, and demographics to design prevention and education strategies that are tailored to address the specific needs of local communities.*

— DeMay (2005) [48]

Risk factors tend to cluster among some young people and there is reason to consider these vulnerable youth at greater risk of ATS and other drug use problems as a result. For example, a study in the United Kingdom found that 39 per cent of young people in more than one vulnerable group had used drugs frequently in the previous year, compared with 18 per cent of those in just one vulnerable group [21]. Evidence indicates that these children and youth benefit from selective prevention that aims to build protective factors in their lives.

#### Principle 4 Engage the youth target group meaningfully in policy and programme design and implementation

*Meaningful involvement creates a “virtuous circle”, signalling to all that young people are their own best resource for dealing with their substance use issues.*

— Adapted from Landsdown (2003) [50]

As early as possible, even at the point of assessing the situation, it is important to involve the young people that you intend to target with an ATS prevention plan. It is important to be fully committed to this principle—a half measure will be viewed by young people as tokenism, decoration or manipulation [49]. There are numerous ways of involving young people and there are challenges to doing so effectively; however, when approached respectfully, young people are usually eager to be involved and will improve the design, implementation and evaluation of the plan [50].

#### Principle 5 Strive for a comprehensive, coordinated response

The term “comprehensiveness” is used to refer to an initiative that involves a number of different components addressing different risk and protective factors in different settings. Comprehensiveness is necessary because evidence is generally stronger for multi-component initiatives than for those with a single component. Comprehensiveness can be reflected in a number of different ways in an ATS prevention plan.

\* The terms “universal prevention”, “selective prevention” and “indicated prevention” were first described by R. Gordon in 1987 (see “An operational classification of disease prevention”, *Preventing Medical Disorders*, J. A. Steinberg and M. M. Silverman, eds., United States Department of Health and Human Services, 1987) to replace the terms, primary and secondary prevention (tertiary prevention refers to treatment) and were adapted by the United States Institute of Medicine Committee on Prevention of Mental Disorders in 1994. The model was applied to substance use issues by the United States National Institute on Drug Abuse in a 1997 publication, *Preventing Drug Use among Children and Adolescents: A Research-based Guide for Parents, Educators, and Community Leaders* (see note 61 at the end of the present guide).

- At the community level, comprehensiveness usually refers to initiatives that include a mix of school, media, parent training and regulatory elements. There is good evidence supporting community level comprehensive prevention programmes [51, 52]. It also refers to the need for a mix of programming that follows children and youth in time through their development. This is important because most evaluations show that, as time passes, programme effects erode and need to be replenished [53].
- At the organizational level, comprehensiveness can refer to the range of programming that can occur within one organization or institution, such as schools or municipalities. Schools can combine classroom instruction, school action teams, peer helper programmes, parent education, school policies and mentoring for at-risk students. Municipal governments can coordinate recreation programmes, community policing and neighbourhood support programmes and also have leverage through by-laws and zoning [55, 56].

*In an integral healthy settings approach to high-risk substance use at clubs and pubs, stakeholders all work together, such as the clubs and pubs, the municipality and the police, addiction care services, the municipal health authorities and last but not least the youngsters themselves.*

— Bolier, van Hasselt and Sannen (2005) [54]

Regardless of the level of comprehensiveness, coordination is a key element. If carried out in a coordinated fashion, as mentioned in principle 1 above calling for a comprehensive approach to the whole problem of ATS abuse, encompassing prevention and treatment, the various elements can reinforce each other and build important momentum.

## Principle 6 Choose programmes that are proven or show promise

### *What is universal prevention?*

The purpose of ATS universal prevention programming is to support those who are not using these substances in continuing not to use them, and to persuade those who are using them experimentally or occasionally, to choose not to continue. There are four universal prevention approaches that are supported by research: (a) communication/persuasion methods; (b) school-based skill-building methods; (c) the alternatives approach; and (d) policy-based or environmental approaches.

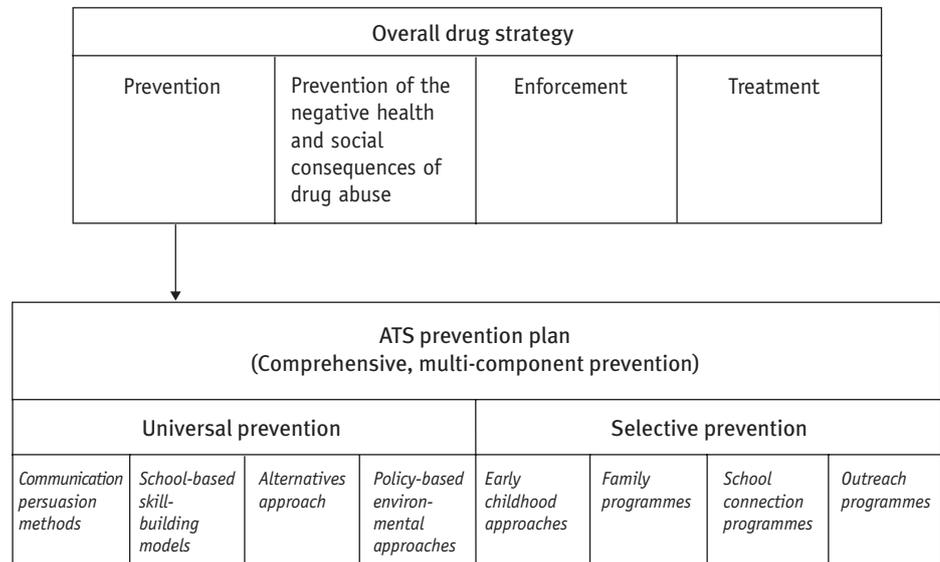
### *What is selective prevention?*

ATS selective prevention measures target young people who experience one or more risk factors that make it more likely they will use ATS [58]. The most promising way to work with these youth is through measures that build protective factors (for example, building personal and social skills and establishing connections with family members, school and the broader community) in their lives. Methods that are supported by research include: (a) early childhood and early school interventions; (b) family programming for higher risk families; (c) school connection programmes; and (d) outreach approaches. A further discussion on how to put into operation the approaches presented below will be included in the forthcoming UNODC publication *Preventing amphetamine-type stimulant use among young people: a guide for practitioners*.

*Scare tactics have been used in many areas in an effort to discourage a particular behaviour. For example, a statistic commonly circulated in Alberta (Canada) is that 42 per cent of people who try methamphetamine will become addicted the first time, and that 96 per cent become addicted if they try it more than once. There is no evidence to support this claim.*

— Alberta Alcohol and Drug Abuse Commission (undated) [57]

Figure II.  
Proven and promising universal and selective prevention programmes



## Universal prevention

### Communication methods

These messages can be delivered through a number of avenues, but the most common are the media (Internet, television, comics, etc.), peers, parents, dance clubs and youth mediators (for example, disc jockeys, recreation leaders, coaches and teachers). Combining several of these avenues helps to reinforce the messages, maximize exposure and increase effectiveness.

*The ecstasy use prevention campaign, Project Europe, carried out in Hamburg, Amsterdam and London, used a peer-to-peer strategy. People from the rave scene itself were trained to spread information on the dangers of ecstasy and other designer drugs, through dialogue.*

— Calafat and others (undated) [41]

It must be remembered that while media campaigns may seem attractive for many reasons (excellent visibility, expensive and therefore good for implementation rates, etc.), they are not a silver bullet for prevention. At best they can be used to raise awareness within a community, but for them to succeed in preventing ATS abuse, they must work in tandem with initiatives on the ground and in the community. For instance, a media campaign that highlights the dangers of ATS should also promote access to non-governmental organizations, services or specialists who can actually help communities to implement prevention programmes.

*A comic format was used to communicate ATS-related information to young people in Australia. Entitled "On the Edge", the comic was distributed to youth centres and other locations where young people were likely to be present.*

— Baker, Lee and Jenner, eds. (2004) [59]

When developing any form of messaging, it is important to pay attention to the norms, values, aspirations and language of young people and youth culture. The best way to ensure appropriate message development is to involve youth participants in the design process [60].

It is tempting to use a fear-based message to try to steer young people away from ATS use. Fear-arousing messages or messages that focus solely on the negative aspects of drug use may be initially accepted by youth, but can lose credibility once young people

receive more accurate or balanced information or see a friend use a drug without any significant negative consequences.

It is important to remember that young people tend to pay greater attention to messages that focus on short-term, negative, particularly social, consequences (such as looking unattractive or doing something that may be regretted), than to those giving attention to longer term consequences.

### *School-based skill building models*

Based on a review of school programmes that rigorous evaluation has shown to be effective in preventing substance abuse [61], an intensity of one session per week over 10 weeks could be suggested as the minimum to produce results in school programmes. Sometimes this is simply not possible, so between three and five “booster” sessions in years that follow an initial 10-session programme to reinforce earlier lessons help to sustain effects (although full programming each year is preferable). To be effective, school-based programmes need to combine elements of knowledge and skill development. An interactive group process has been shown to be a critical component of universal school prevention programmes (interaction in this case means peer-to-peer, not simply between instructor and youth) [62].

The model that is best supported by the literature is the “social influences model”. This model conceptualizes adolescent use of substances to be the result of social influences from peers and the media to smoke, drink alcoholic beverages, or use other drugs.

A related approach is the “normative method”, which challenges the young person’s view of how common or accepted substance use is in their school or community [63].

Another model supported by research is the “life skills model” [64-66]. Based on social learning theory, the types of skills covered in a life skills programme include decision-making, goal-setting, stress management, assertiveness and communication skills.

An efficient way to address ATS use concerns in a school setting is through a comprehensive school health approach. Schools using this approach integrate four elements—instruction, preventive health services, supportive social support and a healthy physical environment—and create links with the community at large.

*A 12-lesson programme on “party drugs” based on the life skills approach was implemented in Germany. The results of the programme were not reported, but students indicated that they most appreciated the free discussion based on a climate of acceptance.*

— Freitag (1998) [66]

### *The alternatives approach*

The alternatives approach is a commonly used prevention strategy. Although there is little research to support this approach at this point, it has an appealing logic to it: if they are involved in other satisfying activities, young people are less likely to use substances.\* Moreover, substance use is an important avenue for socializing, so those who choose not to use substances need other opportunities to make and build friendships.

\* Caution is advised, however, because some research has found that bringing youth together can result in “deviancy training” by unintentionally connecting higher risk youth in a low-control situation.

*In Australia, community organizations provide opportunities for young people to socialize in a safe environment by providing alcohol and drug-free dance parties that incorporate supervision, screening on entry and safety-net services. These events also provide an opportunity to deliver drug prevention messages.*

— Community Solutions, Participant at the Expert Group Meeting (2005)

*In Stockholm, the Clubs against Drugs project has used sound programme design principles to mobilize 17 youth-oriented clubs to commit to a series of measures designed to keep drugs from their premises.*

— J. Gripenberg, Participant at the Expert Group Meeting (2005)

There is some indication that youth who are attracted to ATS use are sensation-seeking; it would therefore make sense to work with young people to design activities that appeal to this need (for example, outdoor adventure or extreme sports) [67]. In other cases, there may simply be a need for a place to meet and belong to, such as club houses, chill-out cafés and Internet cafés [68].

### *Policy-based or environmental approaches*

Some public health experts contend the nightclub industry has a responsibility to contribute to the healthy socialization of young people because it looms so large in their lives and because other institutions (for example, the family and religious institutions) are now less influential with youth. By developing a firm policy against use of illegal substances, including ATS, on premises and training staff to identify drug use and exchanges, it is possible to reduce use by both guests and staff in these venues. We must remember, however, that such initiatives work only when there is a minimum critical mass of very popular venues participating in the campaign. Training staff from one or two out-of-the-way clubs will not have any impact at all.

### *Selective prevention*

Selective prevention aims to build protective factors among young people exposed to one or more risk factors. Selective prevention programming that has multiple, integrated elements involving more than a single domain (such as the family, school or community), is more likely to have positive results than stand-alone interventions [69].

*In the United States, the Fast Track project is seeking to increase school bonding, academic performance, and improve relationships with parents during the early primary school years (starting in grade 1). The ultimate goals are to reduce drug use, delinquency, risky sexual behaviour, and mental health problems during adolescence.*

— Conduct Problems Prevention Research Group (2004) [72]

Several selective prevention measures have been shown to prevent or delay use of substances (including ATS use) and are briefly described below.

#### *Early childhood and early school interventions*

Children living in difficult environments clearly benefit from selective prevention interventions in their pre-school (age 0-6) and early school (age 7-12) years. Programmes that combine child and parent components (often including home visits) have shown benefits in preventing a number of later behaviours—including substance use—in long-term studies at both the early childhood and early school period [70-72].

*The Strengthening Families Program includes parenting skills, communication skills, and conflict-resolution. The format involves whole families coming together in a school, community centre, or other public place. The programme offers free meals, transportation, and childcare to help parents attend.*

— Kumpfer (undated) [73]

#### *Family programming for higher risk families*

It appears that “family-based” interventions are more effective than “parent-only” programming in building protective factors [73]. Research has found that even relatively brief (five to seven sessions) family programmes that address communication, coping and disciplinary skills can be effective in delaying the onset of substance use among adolescents in at-risk families, compared with a comparison group after a four year follow-up [74].

### *School connection programmes*

School programmes that select at-risk young people (those who are not succeeding in school, have few peer contacts or are not involved in extra-curricular activities, for example) have proven effective in re-engaging students and reducing the risk of substance use [75].

### *Outreach approaches*

The most vulnerable young people are often hard to reach, particularly if they no longer attend school. Outreach services are often necessary to reach and engage these young people. Accordingly, programmes for vulnerable youth may be situated in shopping malls, in hospital emergency wards, or in one-stop service centres on the street.

*The Reconnecting Youth programme developed in the United States is aimed at youth 14 to 18 years old at risk for school dropout. These youth may also experience other problems, such as substance abuse, aggression, depression, or suicide risk behaviours. Reconnecting Youth involves peers, school personnel, and parents to deliver interventions that address three programme goals: decreased drug involvement; increased school performance; and decreased emotional distress.*

— Eggert and others (1994) [75]

## **Principle 7** **Ensure that activities are evaluated**

While the need for prevention programme evaluation has been noted for years, many prevention efforts remain unevaluated. Governments and other funding bodies need to give evaluation greater priority by highlighting the benefits of evaluation in continuously improving a programme and, most importantly, by offering technical and financial support (which is generally agreed to require at least 10 per cent of other costs) for evaluation [76].

*The MPowerment programme, which has been widely replicated in the United States, uses formal and informal outreach methods to engage and empower young gay and bisexual men (ages 18-29) to address health issues. A core group of young gay men with the support of paid staff design and carry out all project activities. Methods used include formal and informal outreach, discussing health practices (e.g. safer sex, not using drugs) and distributing literature and condoms, and drug-free social events.*

— S. Kingston, Participant at the Expert Group Meeting (2005)

Although still rare, prevention policymakers and programmers need to begin to routinely consider programme costs in relation to outcomes. The intensity and cost of some of the programmes reported here vary widely. Displaying pamphlets at a hospital or shopping centre may be inexpensive, but if it does not show any effect, it really has no value. On the other hand, an “information talk” of five minutes or less by trained peer workers at a rave may be relatively inexpensive, and yet show modest effect. Comprehensive multi-component programming is more likely to be effective than single-intervention approaches but will inevitably be more costly. So, programmes need to begin collecting cost data and weighing outcomes against their costs. The good news is that there are early signs that both universal and selective prevention programmes for youth can be cost-effective [77, 78].

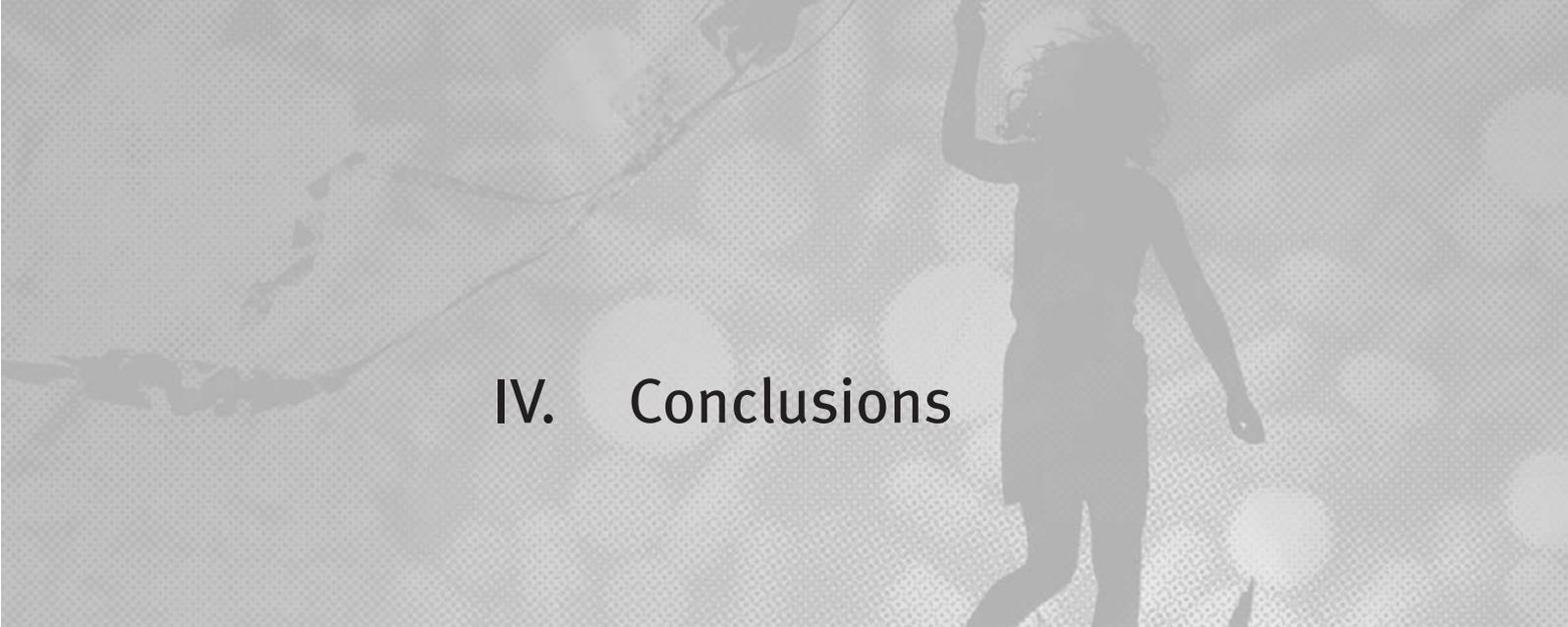
## **Principle 8** **Pay attention to workforce development and organizational capacity**

Most research-based prevention measures require the training of intermediaries, whether parents, teachers, club staff or para-professionals. Even programmes that have been shown to be effective will be seriously hampered by leaders or intermediaries who are unable to deliver the programmes or services as they were designed to be delivered.

Guidelines on good practice may be useful in shifting practice, but alone, are not likely to be sufficient. Similarly, training is important but in many cases it does not result in the desired adoption of practices. This is because there are other factors that can either help or hinder uptake of evidence-based practices (such as supportive organizational policies, defined profession and career incentives, etc.). Policymakers need to view training within a workforce development perspective that accounts for the various factors that influence adoption of best practices.

The prevention field in many jurisdictions is driven by short-term, project-based funding—in too many cases, prevention activity is undertaken without the prospect of sustained funding. In such an environment, it is difficult to retain prevention workers and to build organizational capacity.





## IV. Conclusions

No drug group has grown in use as ATS have in the past 15 years and there is a range of harm associated with their use. Problematic youthful ATS use can take a great toll on the young person and those who are close to them. It can also result in long-term social welfare, criminal justice, health and lost productivity costs to the community. This guide has provided guidance on a topic for which there is little information—the prevention of ATS use among young people. Accompanied by concerted efforts in the areas of enforcement, prevention of the negative health and social consequences of drug abuse and treatment, prevention policy and programming can make an important contribution to addressing ATS use concerns in a region or community.

While ATS continue to be a concern in many regions, other substances will undoubtedly emerge in years to come. Consequently, while addressing ATS-specific concerns, it is important to build infrastructure for the prevention of all substances. If that infrastructure does not currently exist in a region or community, a comprehensive, sustained approach to addressing ATS use—while effective in preventing or delaying ATS use—will also be a step in the direction of building capacity for substance use prevention generally. When this happens, the benefits to individuals, families and communities will be substantial.



## References

1. United Nations Office on Drugs and Crime, *World Drug Report 2006* (United Nations publication, Sales No. E.06.XI.10).
2. M. Srisurapanont, N. Jarusuraisin and P. Kittirattanapaiboon, "Treatment for amphetamine dependence and abuse", *Cochrane Database of Systematic Reviews*, No. 4, 2001.
3. Fabrizio Schifano, "A bitter pill: overview of ecstasy (MDMA, MDA) related fatalities", *Psychopharmacology*, vol. 173, Nos. 3-4 (2004), pp. 242-248.
4. United Nations Office on Drugs and Crime, *Ecstasy and Amphetamines: Global Survey 2003* (United Nations publication, Sales No. E.03.XI.15).
5. United States of America, Office of National Drug Control Policy, *National Synthetic Drugs Action Plan: The Federal Government Response to the Production, Trafficking, and Abuse of Synthetic Drugs and Diverted Pharmaceutical Products* (Washington, D.C., 2004).
6. Australian Institute of Health and Welfare, *2004 National Drug Strategy Household Survey: First Results*, Drug Statistics Series No. 13, AIHW catalogue No. PHE 57 (Canberra, 2005).
7. Edward M. Adlaf and Angela Paglia-Boak, *Drug Use Among Ontario Students 1977-2005: Detailed OSDUS Findings*, Research Document Series No. 16 (Toronto, Centre for Addiction and Mental Health, 2005).
8. Megge Miller and Glenn Draper, *Statistics on Drug Use in Australia 2000*, Drug Statistics Series No. 8, AIHW catalogue No. PHE 30 (Canberra, Australian Institute of Health and Welfare, 2001).
9. Lloyd D. Johnston and others, *Monitoring the Future: National Results on Adolescent Drug Use: Overview of Key Findings*, 2005, National Institute on Drug Abuse publication No. 06-5882 (Bethesda, Maryland, 2006).
10. Center for Substance Abuse Research, University of Maryland, "Ritalin® and Adderall® abused by students as party drugs and study aids", CESAR FAX, vol. 12, issue 48, December 2003, available at <http://www.cesar.umd.edu/cesar/cesarfax/vol12/12-48.pdf>.
11. People's Daily Online (China), "White-collar workers increasingly using illegal drugs", 21 September 2005, available at [http://english.peopledaily.com.cn/200509/21/eng20050921\\_209881.html](http://english.peopledaily.com.cn/200509/21/eng20050921_209881.html).
12. E. Wansi and others, "Rapid assessment of drug abuse in Cameroon", *Bulletin on Narcotics*, vol. XLVIII, Nos. 1 and 2 (1996), pp. 79-88.
13. Denise De Michel and Maria Lucia O. S. Formigoni, "Drug use by Brazilian students: associations with family, psychosocial, health, demographic and behavioral characteristics", *Addiction*, vol. 99, No. 5, 2004 (abstract).
14. Jerald Bachman and others, *Smoking, Drinking and Drug Use in Young Adulthood: The Impacts of New Freedoms and New Responsibilities* (Mahwah, New Jersey, Lawrence Erlbaum Associates, 1997).
15. L. Williams and H. Parker, "Alcohol, cannabis, ecstasy and cocaine: drugs of reasoned choice amongst young adult recreational drug users in England", *International Journal of Drug Policy*, vol. 12, No. 5 (2001), pp. 397-413.

16. Edward M. Adlaf, Andrée Demers and Louis Gliksman, eds., *Canadian Campus Survey 2004* (Toronto, Centre for Addiction and Mental Health, 2005), pp. i-vi, available at [http://www.camh.net/Research/Areas\\_of\\_research/Population\\_Life\\_Course\\_Studies/canadian\\_campus0905.pdf](http://www.camh.net/Research/Areas_of_research/Population_Life_Course_Studies/canadian_campus0905.pdf).
17. Kirsten von Sydow and others, "Use, abuse and dependence of ecstasy and related drugs in adolescents and young adults: a transient phenomenon? Results from a longitudinal community study", *Drug and Alcohol Dependence*, vol. 66, No. 2 (2002), pp. 147-159.
18. World Health Organization, *Working with Street Children, Module 3: Understanding Substance Use Among Street Children, A Training Package on Substance Use, Sexual and Reproductive Health including HIV/AIDS and STDs*, publication No. WHO/MSD/MDP/00.14 (Geneva, World Health Organization, 2000)
19. Assembly of First Nations, "National call for action on the impact of crystal meth in First Nations communities" (Regina, Federation of Saskatchewan Indian Nations, Assembly of First Nations, 2005)
20. Magdalena Lepiten, *Philippines Children's Involvement in the Production, Sale and Trafficking of Drugs in Cebu City: A Rapid Assessment* (Geneva, International Labour Organization, International Programme on the Elimination of Child Labour, 2002).
21. J. Becker and S. Roe, "Drug use among vulnerable groups of young people: findings from the 2003 Crime and Justice Survey", United Kingdom, Home Office Research Findings No. 254 (London, Research, Development and Statistics Directorate, 2005).
22. Centre for Addictions Research of British Columbia, "Methamphetamine: good practice in policies and programs" (draft manuscript).
23. Sofia Gruskin, Karen Plafker and Allison Smith-Estelle, "Understanding and responding to youth substance use: the contribution of a health and human rights framework", *American Journal of Public Health*, vol. 91, No. 12 (2001), pp. 1954-1963.
24. Alison Murnane and others, *Beyond Perceptions: A Report on Alcohol and Other Drug Use Among Gay, Lesbian, Bisexual, and Queer Communities in Victoria* (Australian Drug Foundation, 2000).
25. Bryan N. Cochran and others, "Challenges faced by homeless sexual minorities: comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts", *American Journal of Public Health*, vol. 92, No. 5 (2002), pp. 773-777.
26. D. E. Bontempo and A. R. D'Augelli, "Effects of at-school victimization and sexual orientation on lesbian, gay, or bisexual youths' health risk behavior", *Journal of Adolescent Health*, vol. 30, No. 5 (2002), pp. 364-374.
27. Joseph G. Kosciw, *The 2003 National School Climate Survey: The School-related Experiences of our Nation's Lesbian, Gay, Bisexual and Transgender Youth* (New York, Gay, Lesbian and Straight Education Network, 2004).
28. Andrew Giese, "A deadly mix: Viagra and 'club drug' use found prevalent", ABC News, 27 August 2002.
29. Perry N. Halkitis, B. N. Fischgrund and J. T. Parsons, "Explanations for methamphetamine use among gay and bisexual men in New York City", *Substance Use and Misuse*, vol. 40, Nos. 9-10 (2005), pp. 1331-1345.

30. Amin Ghaziani and Thomas D. Cook, "Reducing HIV infections at circuit parties: from description to explanation and principles of intervention design", *Journal of the International Association of Physicians in AIDS Care*, vol. 4, No. 2 (2005), pp. 32-46.
31. Louisa Degenhardt, Jan Copeland and Paul Dillon, "Recent trends in the use of 'club drugs': an Australian review", *Substance Use and Misuse*, vol. 40, Nos. 9-10 (2005), pp. 1241-1256.
32. Thomas M. Lampinen, Doug McGhee and Ian Martin, "Use of crystal methamphetamine and other club drugs among high school students in Vancouver and Victoria", *British Columbia Medical Journal*, vol. 48, No. 1 (2006).
33. S. Kingston, "Hands-on meeting presentation", Expert Group Meeting on Good Practices for the Prevention of Amphetamine-type Stimulant Abuse among Youth, organized by the United Nations Office on Drugs and Crime in Bangkok, December 2005.
34. Louisa Degenhardt, Bridget Barker and Libby Topp, "Patterns of ecstasy use in Australia: findings from a national household survey", *Addiction*, vol. 99, No. 2 (2004), pp. 187-195.
35. S. Barrett and others, "Patterns of simultaneous polysubstance use in Canadian rave attendees", *Substance Use and Misuse*, vol. 40, Nos. 9-10 (2005), pp. 1525-1537.
36. Brian C. Kelly, "Conceptions of risk in the lives of club drug-using youth", *Substance Use and Misuse*, vol. 40, Nos. 9-10 (2005), pp. 1443-1459.
37. B. Scholey and others, "Increased intensity of ecstasy and polydrug usage in the more experienced recreational ecstasy/MDMA users: a WWW study", *Addictive Behaviors*, vol. 29, No. 4 (2004), pp. 743-752.
38. Fabrizio Schifano, "A bitter pill: overview of ecstasy (MDMA, MDA) related fatalities", *Psychopharmacology*, vol. 173, Nos. 3-4 (2004), pp. 242-248.
39. Mark Littman, "Classroom doping", *The Daily Pennsylvanian*, 10 October 2005 (University of Pennsylvania, website accessed 16 June 2006).
40. Christiane Poulin, "Medical and nonmedical stimulant use among adolescents: from sanctioned to unsanctioned use", *Canadian Medical Association Journal*, vol. 165, No. 8 (2001), pp. 1039-1044.
41. Amador Calafat and others, *Characteristics and social representation of ecstasy in Europe* (Palma de Mallorca, Spain, IREFREA, 1998).
42. Patrick Zickler, "Long-term abstinence brings partial recovery from methamphetamine damage", National Institute on Drug Abuse, NIDA Notes, vol. 19, No. 4 (2004), available at [http://www.drugabuse.gov/NIDA\\_notes/NNvol19N4/LongTerm.html](http://www.drugabuse.gov/NIDA_notes/NNvol19N4/LongTerm.html).
43. Wendy Klein-Schwartz, "Abuse and toxicity of methylphenidate", *Current Opinion in Pediatrics*, vol. 14, No. 2 (2002), pp. 219-223.
44. World Health Organization, *Neuroscience of psychoactive substance use and dependence* (Geneva, 2004).
45. Chris Wilkins and others, *The Socio-Economic Impact of Amphetamine Type Stimulants in New Zealand* (Auckland, Centre for Social and Health Outcomes Research and Evaluation, Massey University, 2004).
46. National Coalition for Child Protection Reform, "Epidemic of hype: how hysteria over methamphetamine has become the latest excuse to 'take the child and run'" (Alexandria, Virginia, updated 10 June 2006, available at <http://www.nccpr.org/reports/epidemi-cofhype.doc>).

47. Vancouver Coastal Health, *Western Canadian Summit on Methamphetamine: Bringing Together Practitioners, Policy Makers and Researchers, Consensus Panel Report* (Vancouver, 2005).
48. Kristen DeMay, "Methamphetamine prevention", Western Center for the Application of Prevention Technologies (1 May 2005), accessed on 16 June 2006 at <http://captus.samhsa.gov/Western/resources/tip/tip-2005-05.rtf>.
49. McCreary Centre Society, "Degrees of involvement: the ladder of participation" (December 2002), available at [http://www.mcs.bc.ca/ya\\_ladd.htm](http://www.mcs.bc.ca/ya_ladd.htm).
50. Gerison Landsdown, "Youth participation in decision-making", *World Youth Report 2003: The Global Situation of Young People* (United Nations publication, E.03.IV.7), chap. 10.
51. Mary Ann Pentz, "Costs, benefits and cost-effectiveness of comprehensive drug abuse prevention", *Cost-Benefit/Cost-Effectiveness Research of Drug Abuse Prevention: Implications for Programming and Policy*, William J. Bukoski and Richard I. Evans, eds., National Institute on Drug Abuse, Research Monograph Series No. 176 (Rockville, Maryland, 1998).
52. L. Perry and others, "Project Northland: outcomes of a community-wide alcohol use prevention program during early adolescence", *American Journal of Public Health*, vol. 86, No. 7 (1996), pp. 956-965.
53. Richard I. Evans, *A historical perspective on effective prevention*, *Cost-Benefit/Cost-Effectiveness Research of Drug Abuse Prevention: Implications for Programming and Policy*, William J. Bukoski and Richard I. Evans, eds., National Institute on Drug Abuse, Research Monograph Series No. 176 (Rockville, Maryland, 1998).
54. L. Bolier, N. van Hasselt and A. Sannen, "Factsheet: drug prevention at clubs and pubs: an integral prevention approach to high-risk drinking and drug use at clubs and pubs: the facts" (Utrecht, Netherlands Institute of Mental Health and Addiction, Trimbos Instituut, 2005).
55. Allensworth, "The research base for innovative practices in school health education at the secondary level", *Journal of School Health*, vol. 64, No. 5 (1994).
56. Paglia and R. Room, *Preventing Substance Use Problems Among Youth: A Literature Review and Recommendations*, (Toronto, Centre for Addiction and Mental Health Addiction Research Foundation Division, 1998).
57. Alberta Alcohol and Drug Abuse Commission, *Community Action on Drug Abuse Prevention* (undated), available at [http://corp.aadac.com/content/corporate/other\\_drugs/community\\_action\\_manual.pdf](http://corp.aadac.com/content/corporate/other_drugs/community_action_manual.pdf).
58. Kimberly Edmonds and others, *Drug prevention among vulnerable young people*, (Liverpool, United Kingdom, National Collaborating Centre for Drug Prevention, Centre for Public Health, Liverpool John Moores University, 2005).
59. Amanda Baker, Nicole K. Lee and Linda Jenner, eds., *Models of Intervention and Care for Psychostimulant Users*, 2nd ed., National Drug Strategy Monograph Series No. 51 (Canberra, Australia, Department of Health and Ageing, 2004), p. 141.
60. "Youth programmes take a pop-culture approach", *AIDS Alert*, August 2000 (<http://www.ahcpub.com/online.html>).
61. White and M. Pitts, "Educating young people about drugs: a systematic review", *Addiction*, vol. 93, No. 10 (1998), pp. 1475-1487.

62. Nancy S. Tobler, "Lessons learned", *The Journal of Primary Prevention*, vol. 20, No. 4 (2000).
63. W. B. Hansen and J. W. Graham, "Preventing alcohol, marijuana and cigarette use among adolescents: peer pressure resistance training versus establishing conservative norms", *Preventive Medicine*, vol. 20, No. 3 (1991), pp. 414-430.
64. Nancy S. Tobler, "Drug prevention programs can work: research findings", *Journal of Addictive Diseases*, vol. 11, No. 3 (1993).
65. J. Botvin and others, "Preventing adolescent drug abuse through a multi-modal cognitive-behavioural approach: results of a 3-year study", *Journal of Consulting and Clinical Psychology*, vol. 58, No. 4 (1990), pp. 437-446.
66. Marcus Freitag, "In-school prevention of the use of party drugs: initial experience and evaluation results", *Ecstasy: Use and Prevention, Empirical Research Results and Guidelines* (Cologne, Germany, Federal Centre for Health Education, 1998), vol. 2, pp. 161-174.
67. Margaret Usha D'Silva and others, "Drug use prevention for the high sensation seeker: the role of alternative activities", *Substance Use and Misuse*, vol. 36, No. 3 (2001), pp. 373-385.
68. P. Tossmann and others, *Demand Reduction Activities in the Field of Synthetic Drugs in the European Union: Final Report* (Lisbon, European Monitoring Centre on Drugs and Drug Abuse, 1999).
69. Catherine Spooner, Wayne Hall and Michael Lynskey, *Structural Determinants of Youth Drug Use*, (Canberra, Australian National Council on Drugs, 2001).
70. S. Lonczak and others, "Effects of the Seattle social development project on sexual behavior, pregnancy, birth, and sexually transmitted disease outcomes by age 21 years", *Archives of Pediatrics and Adolescent Medicine*, vol. 156, No. 5 (2002).
71. L. J. Schweinhart, H. V. Barnes and D. P. Weikart, *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27*, Monographs of the High/Scope Educational Research Foundation No. 10 (Ypsilanti, Michigan, High Scope Press, 1993).
72. Conduct Problems Prevention Research Group, "The fast track experiment: translating the developmental model into a prevention design", *Children's Peer Relations: From Development to Intervention*, Janis B. Kupersmidt and Kenneth A. Dodge, eds. (Washington, D.C., American Psychological Association, 2004), pp. 181-208.
73. Karol L. Kumpfer, "Effectiveness of a culturally tailored, family-focused substance abuse program: the strengthening families program", paper presented to the National Conference on Drug Abuse Prevention Research, Washington, D.C., 19-20 September 1996, available at <http://165.112.78.61/MeetSum/CODA/Effectiveness.html>.
74. R. Mathias, "Shortened family prevention programs yield long-lasting reductions in adolescent drug abuse", *NIDA Notes, Research Findings*, vol. 17, No. 2 (National Institute on Drug Abuse, 2002).
75. L. Eggert and others, "Preventing adolescent drug abuse and high school dropout through an intensive school-based social network development program", *American Journal of Health Promotion*, vol. 8, No. 3 (1994), pp. 202-215.
76. M. C. Carmona and others, *A Guide for Evaluating Prevention Effectiveness*, Center for Substance Abuse Prevention Technical Report (Rockville, Maryland, Substance Abuse and Mental Health Services Administration, 1998).

77. Jonathan P. Caulkins and others, *An Ounce of Prevention, a Pound of Uncertainty: The Cost Effectiveness of School-Based Drug Prevention Programs* (Santa Monica, California, RAND Drug Policy Research Center, 1999).
78. Browne and others, "When the bough breaks: provider-initiated comprehensive care is more effective and less expensive for sole-support parents on social assistance", *Social Science and Medicine*, vol. 53, No. 12 (2001), pp. 1697-1710.

## Annex. Sources for additional information

### Examples of drug strategies

National Drug Strategy of Australia (<http://www.nationaldrugstrategy.gov.au/>)

National Drug Strategy of the United Kingdom of Great Britain and Northern Ireland (<http://www.drugs.gov.uk/>)

*Preventing harm from psychoactive substance use* (Vancouver, Canada, Drug Policy Program, 2005) [www.city.vancouver.bc.ca/fourpillars/pdf/PrevHarmPsychoSubUse.pdf](http://www.city.vancouver.bc.ca/fourpillars/pdf/PrevHarmPsychoSubUse.pdf)

### Examples of strategies specifically related to amphetamine-type stimulants

Crystal Meth and Other Amphetamines: An Integrated Strategy, British Columbia, Canada, 2004 ([http://www.healthservices.gov.bc.ca/mhd/pdf/meth\\_final.pdf](http://www.healthservices.gov.bc.ca/mhd/pdf/meth_final.pdf))

*2005 Statewide Strategy Recommendations: A Comprehensive Plan for New Mexico Communities*, New Mexico Methamphetamine Working Group, September 2005 ([http://www.drugpolicy.org/docUploads/NM\\_Methamphetamine2005Recommendations\\_Final.pdf](http://www.drugpolicy.org/docUploads/NM_Methamphetamine2005Recommendations_Final.pdf))

Methamphetamine Action Plan of New Zealand, 2003 (<http://www.ndp.govt.nz/publications/methamphetamineactionplan.html>)

### Information on epidemiology networks

Community Epidemiology Work Group, National Institute on Drug Abuse of the United States of America (<http://www.drugabuse.gov/CEWG/Reports.html>)

South African Community Epidemiology Network on Drug Use (<http://www.sahealthinfo.org/admodule/sacendu.htm>)

### Information on rapid assessment methodology

G. V. Stimson and others, "Rapid assessment and response: methods for developing public health responses to drug problems", *Drug and Alcohol Review*, vol. 18, No. 3 (1991) pp. 317-325.

*Rapid Assessment and Response Technical Guide*, World Health Organization (<http://www.who.int/docstore/hiv/Core/acknowledgements.html>)

### Information on clarifying the target group

Catherine Spooner, Wayne Hall and Michael Lynskey, *Structural Determinants of Youth Drug Use*, Australian National Council on Drugs, 2001 ([http://www.ancd.org.au/publications/pdf/rp2\\_youth\\_drug\\_use.pdf](http://www.ancd.org.au/publications/pdf/rp2_youth_drug_use.pdf))

*Preventing Amphetamine-Type Stimulant Use among Young People: A Guide for Practitioners*, United Nations Office on Drugs and Crime (United Nations publication), table 3: Potential risk and protective factors.

### Information on involving youth in assessing a local situation

*A Strong Start: Good Practices in Using a Local Situation Assessment to Begin a Youth Substance Abuse Prevention Project*, United Nations/World Health Organization Global Initiative on the Primary Prevention of Substance Abuse (United Nations publication E.04.XI.22), (Vienna, 2004) ([http://www.unodc.org/pdf/globalinitiative/initiative\\_goodpractice\\_assessing\\_strong\\_start.pdf](http://www.unodc.org/pdf/globalinitiative/initiative_goodpractice_assessing_strong_start.pdf))

### Information on engaging youth in your plan

"Youth participation: what is it about?", McCreary Centre Society ([http://www.mcs.bc.ca/ya\\_base.htm](http://www.mcs.bc.ca/ya_base.htm))

Gerison Landsdown, "Youth participation in decision-making", *World Youth Report 2003: The Global Situation of Young People* (United Nations publication, E.03.IV.7), chap. 10 (<http://www.un.org/esa/socdev/unyin/documents/ch10.pdf>)

### Information on comprehensive prevention

"Studying comprehensive drug abuse prevention strategies", United States National Institute on Drug Abuse, NIDA Notes, vol. 14, No. 5 (December, 1999) ([http://www.drugabuse.gov/NIDA\\_Notes/NNVol14N5/Studying.html](http://www.drugabuse.gov/NIDA_Notes/NNVol14N5/Studying.html))

"Communities and schools promoting health", Canadian Association for School Health (<http://www.safehealthyschools.org/index.htm>)

### Information on evidence-based prevention

Yuko McGrath and others, "Drug use prevention among young people: a review of reviews — evidence briefing update", United Kingdom National Institute for Health and Clinical Excellence, 2006 (<http://www.publichealth.nice.org.uk/>)

David Hawks, Katie Scott and Myanda McBride, *Prevention of Psychoactive Substance Use: A Selected Review of What Works in the Area of Prevention*, World Health Organization, 2002 ([http://www.who.int/substance\\_abuse/publications/en/prevention\\_substance\\_use.pdf](http://www.who.int/substance_abuse/publications/en/prevention_substance_use.pdf))

### Information on evaluating substance abuse prevention programmes

*Overall Evaluation: Baseline Assessment Guidelines and Instruments*, UNDCP/WHO Global Initiative on Primary Prevention Of Substance Abuse, World Health Organization/United Nations International Drug Control Programme, 2002 ([http://whqlibdoc.who.int/hq/2002/WHO\\_MSD\\_MER\\_02.10.pdf](http://whqlibdoc.who.int/hq/2002/WHO_MSD_MER_02.10.pdf))

"Building a successful prevention program. Step 7: Evaluation", United States Center for Substance Abuse Prevention, Western Center for the Application of Prevention Technologies. (<http://captus.samhsa.gov/western/resources/bp/step7/index.cfm>)

Jonathan P. Caulkins and others, *An Ounce of Prevention, a Pound of Uncertainty: The Cost Effectiveness of School-Based Drug Prevention Programs*, Santa Monica, California, RAND Drug Policy Research Center, 1999 ([http://www.rand.org/pubs/monograph\\_reports/MR923/](http://www.rand.org/pubs/monograph_reports/MR923/))

### **Information on workforce development in the drug field**

Section on workforce planning of the Drug Strategy of the United Kingdom (<http://www.drugs.gov.uk/drug-strategy/workforce-planning/>)

“Workforce development”, a policy position paper by the Alcohol and Other Drugs Council of Australia ([http://www.adca.org.au/policy/policy\\_positions/2.11Workforce\\_development\\_23.10.03.pdf](http://www.adca.org.au/policy/policy_positions/2.11Workforce_development_23.10.03.pdf))

### **Other useful sources**

*Ecstasy and amphetamines: Global Survey 2003*, United Nations publication, Sales No. E.03.XI.15, United Nations Office on Drugs and Crime, 2003 ([http://www.unodc.org/pdf/publications/report\\_ats\\_2003-09-23\\_1.pdf](http://www.unodc.org/pdf/publications/report_ats_2003-09-23_1.pdf))

Linda R. Gowing and others, *Ecstasy, MDMA and Other Ring-substituted Amphetamines (summary)*, World Health Organization, 2001 ([http://whqlibdoc.who.int/hq/2001/WHO\\_MSD\\_MSB\\_01.3\\_summary.pdf](http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.3_summary.pdf))

United States Government, Methresources (<http://www.methresources.gov/>)

Ecstasy: Use and Prevention, Empirical Research Results and Guidelines, Cologne, Germany, Federal Centre for Health Education, 1998 ([http://www.bzga.de/bzga\\_stat/pdf/60801070.pdf](http://www.bzga.de/bzga_stat/pdf/60801070.pdf))

Parliament of Victoria Drugs and Crime Prevention Committee, Inquiry into Amphetamine and “Party Drug” Use In Victoria, final report, May 2004

Best practices in school drug education, Centre for Health and Drug Education, Australia (<http://www.aboutdrugeducation.com/>)



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