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International Standards on Drug Use Prevention

Second updated edition

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Introduction

The first edition of the *International Standards on Drug Use Prevention* was published in 2013, summarizing the evidence of drug use prevention at the global level with a view to identifying effective strategies, ensuring that children and youth, especially the most marginalized and poor, grow and stay healthy and safe into adulthood and old age.

Member States and other national and international stakeholders recognized the value of this tool, and the *International Standards* were, on several occasions, recognized as a useful basis for improving the coverage and quality of evidence-based prevention.¹ In addition, in 2015, the States Members of the United Nations made a series of wide-ranging commitments in the Sustainable Development Goals to be achieved by 2030, and under target 3.5 pledged to strengthen the prevention and treatment of substance abuse. The holding of the special session of the General Assembly on the world drug problem in April 2016 signalled a new era for addressing drug use and drug use disorders through a balanced and health-centred system approach.

In the context of this renewed emphasis on the health and well-being of people, the United Nations Office on Drugs and Crime (UNODC) and the World Health Organization (WHO) are pleased to join forces and present this updated second edition. Like the first edition, the updated second edition of the *International Standards on Drug Use Prevention* summarizes the currently available scientific evidence by providing an overview of recent systematic reviews, and describes interventions and policies found to improve drug use prevention outcomes. In addition, the *International Standards* identify the major components and features of an effective national prevention system. This work builds on, recognizes and is complementary to the work of many other organizations such as the European Monitoring Centre for Drugs and Drug Addiction, the Canadian Centre on Substance Abuse and Addiction, the Inter-American Drug Abuse Control Commission (CICAD), the Colombo Plan for Cooperative Economic and Social Development in Asia and the Pacific, and the National Institute on Drug Abuse, which have developed other standards and guidelines on various aspects of drug use prevention.

It is our hope that the *International Standards* will continue to guide policymakers and other national stakeholders worldwide to develop programmes, policies and systems that are a truly effective investment in the future of children, youth, families and communities.

¹Joint Ministerial Statement of the 2014 high-level review by the Commission on Narcotic Drugs of the implementation by Member States of the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem; Commission on Narcotic Drugs resolution 57/3 on promoting prevention of drug abuse based on scientific evidence as an investment in the well-being of children, adolescents, youth, families and communities; Commission on Narcotic Drugs resolution 58/3 on promoting the protection of children and young people, with particular reference to the illicit sale and purchase of internationally or nationally controlled substances and of new psychoactive substances via the Internet; Commission on Narcotic Drugs resolution 58/7 on strengthening cooperation with the scientific community, including academia, and promoting scientific research in drug demand and supply reduction policies in order to find effective solutions to various aspects of the world drug problem; Commission on Narcotic Drugs resolution 59/6 on promoting prevention strategies and policies; and the outcome document of the thirtieth special session of the General Assembly, entitled “Our joint commitment to effectively addressing and countering the world drug problem” (General Assembly resolution S-30/1, annex).

Prevention is about the healthy and safe development of children

While the primary focus of the *International Standards on Drug Use Prevention* is prevention of drug use, the approach taken in the *International Standards* is holistic, taking into account the use of other psychoactive substances. With regard to the terminology used in the *International Standards*, the reader should consider that “drug use” is used to refer to the use of psychoactive substances outside the framework of legitimate use for medical or scientific purposes in line with the three international drug control conventions.² “Substance use” is used to refer to the use of psychoactive substances regardless of their controlled status, including hazardous and harmful use of psychoactive substances. In addition to drug use, this includes the use of tobacco, alcohol, inhalants and new psychoactive substances (so-called “legal highs” or “smart drugs”).

For the purposes of this document, we considered the following primary objective of the prevention of the use of psychoactive substances: to help people—especially, but not only, young people—to avoid or delay the initiation of the use of psychoactive substances, or, if they have already initiated use, to avert the development of substance use disorders (harmful substance use or dependence).

However, the overall aim of substance use prevention is much broader: to ensure the healthy and safe development of children and youth so that they can realize their talents and potential and become contributing members of their community and society. Effective prevention contributes significantly to the positive engagement of children, youth and adults with their families and in their schools, workplaces and communities.

Enormous advances have been made in prevention science in the past 20 years. As a result, practitioners in the field and policymakers now have a more complete understanding of what makes individuals vulnerable to initiating use of substances: both the individual and environmental factors. The progression to disorders is also better understood.

Lack of knowledge about substances and consequences of their use are among the main factors that increase an individual’s vulnerability. Other powerful vulnerability factors are genetic predisposition, personality traits (e.g., impulsiveness, sensation-seeking), the presence of mental and behavioural disorders, family neglect and abuse, poor attachment to school and the community, social norms and environments conducive to substance use (including the influence of media), and growing up in a marginalized and a deprived community. Conversely, psychological and emotional well-being, personal and social competence, a strong attachment to caring and effective parents, attachment to schools and communities that are well organized and have enough appropriate resources are all factors that contribute to making young people less vulnerable to substance use and other risky behaviours.

Some factors that make young people vulnerable (or, conversely, resilient) to initiation of substance use are closely related to a specific age group. Parenting and attachment to school are vulnerability and resilience factors that have been identified as being particularly influential at the stages of infancy, childhood and early adolescence. For older age groups,

²Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol; the Convention on Psychotropic Substances of 1971; and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

schools, workplaces, entertainment venues and media are all settings that may contribute to making young people more, or less, vulnerable to drug use and other risky behaviours.

Needless to say, marginalized youth in poor communities with little or no family support and limited access to education in school are especially at risk. So are children, individuals and communities suffering the effects of war or a natural disaster.

It is important to emphasize that the vulnerability factors mentioned above are largely beyond the control of the individual—nobody chooses to be neglected by his or her parents!—and are linked to many risky behaviours and related health conditions such as dropping out of school, aggressiveness, delinquency, violence, risky sexual behaviour, depression and suicide. It should not therefore come as a surprise that many drug prevention interventions and policies also prevent other risky behaviours.

Prevention of psychoactive substance use

In the case of controlled drugs, prevention is one of the main components of a health-centred system to address the non-medical use of such substances, as mandated by the three international drug control conventions. The present *International Standards* focus on prevention of the initiation of drug use and the prevention of transition to drug use disorders. They do not address secondary and tertiary prevention interventions, such as treatment of drug use disorders and the prevention of health and social consequences of drug use and drug use disorders, and they do not address law enforcement efforts for drug control.

No effective prevention intervention, policy or system can be developed or implemented in isolation. To be effective, local and national prevention systems should be embedded and integrated in a larger health-centred and balanced system responding to drugs including law enforcement and supply reduction, treatment of drug use disorders and reduction of risk associated with drug use (e.g., aimed at prevention of HIV and prevention of overdoses). The overarching and main objective of such a health-centred and balanced system would be to ensure the availability of controlled drugs for medical and scientific purposes while preventing diversion and non-medical use.

While the main focus of the *International Standards* is the prevention of the use of drugs controlled under the three international drug control conventions (including also the non-medical use of prescription drugs), the *International Standards* draw upon the evidence and lessons accumulated in the study of the prevention of use of other psychoactive substances, such as tobacco, alcohol and inhalants. Besides, the use of non-controlled psychoactive substances has a significant negative impact on the population's health. In fact, tobacco and alcohol use result in a higher burden of disease than the disease burden attributable to the use of controlled drugs. Inhalants are extremely toxic and have devastating consequences for psychosocial development and functioning, which makes clear the urgent need for efforts to prevent the initiation of use. Moreover, in the case of children and adolescents, the brain is still developing, and the earlier they start to use any psychoactive substance, the more likely they are to develop substance use disorders later in life. Last but not the least, nicotine dependence and alcohol use disorders are very often associated with drug use and drug use disorders.

Prevention science

Thanks to prevention science, we also know a lot about what is effective in preventing substance use and what is not. The purpose of the present publication is to organize the findings from these years of research in a format that enhances the ability of policymakers to base their decisions on evidence and science. Unfortunately, many of the limitations of the scientific research that were identified at the time of the first edition of the *International Standards* continue to exist today.

Most of the scientific research originates in a handful of high-income countries in North America, Europe and Oceania. There are few studies from other cultural settings or low- and middle-income countries. Moreover, most studies are “efficacy” studies that examine the impact of interventions in well-resourced, small, controlled settings. There are very few studies that have investigated the effectiveness of interventions in “real-life” settings. Additionally, there are only a limited number of studies that have calculated whether interventions and prevention policy options are cost-beneficial or cost-effective (rather than simply efficacious or effective). Finally, few studies report data disaggregated by sex.

Another challenge is the indication that the number of studies is too low to be able to conclusively identify the “active ingredients”, that is, the component or components that are really necessary for the intervention or policy to be efficacious or effective, including with regard to delivery of the strategies and interventions. (Who delivers them best? What qualities and training are necessary? What methods need to be employed?, etc.)

Finally, as in all medical, social and behavioural sciences, publication bias is a problem in prevention research. Studies reporting new positive findings are more likely to be published than are studies reporting negative findings. This means that our analysis risks overestimating the efficacy and the effectiveness of substance use prevention interventions and policies.

There is a great, urgent need to support and nurture research in the field of substance use prevention globally. It is critical to support prevention research efforts in low- and middle-income countries, but national prevention systems in all countries should invest significantly in the rigorous evaluation of their programmes and policies in order to contribute to the global knowledge base.

What can be done in the meantime? Should policymakers wait for the gaps to be filled before implementing prevention initiatives? What can be done to prevent drug use and other psychoactive substance use, and to ensure that children and youth grow healthy and safe now?

The gaps in the science should make us cautious but not deter us from action. A prevention approach that has been demonstrated to work in one area of the world is probably a better candidate for success than one that is created locally on the basis of goodwill and guesswork alone. This is particularly true for interventions and policies that address vulnerabilities found in many or all cultures (e.g., parental neglect). Likewise, approaches that have already failed or resulted in adverse effects in some countries are prime candidates for failure elsewhere. Prevention practitioners, policymakers and community members involved in drug prevention have a responsibility to take such lessons into consideration.

What we do have is an indication of where the right direction lies. By using this knowledge and building on it by means of more evaluation and research, we can foster the

development of national prevention systems that are based on scientific evidence and that will support children, youth and adults in different settings in leading positive, healthy and safe lifestyles.

The International Standards on Drug Use Prevention

The present publication describes the interventions and policies shown by scientific evidence to be efficacious or effective in preventing substance use and which could serve as the foundation of an effective health-centred national substance use prevention system.

For the sake of simplicity, throughout this document, efforts to prevent drug use are referred to as either “interventions” or “policies”. An “intervention” refers to a set of specific activities, such as a programme, that is delivered in a specific setting in addition to the activities normally delivered in that setting (e.g., drug prevention education sessions delivered in schools). The same activities could also be delivered as part of the normal functioning of the school (e.g., drug prevention education sessions as part of the regular health promotion curriculum). Normally, the evidence about most interventions has been derived from the evaluation of specific “programmes”, of which there can be many per intervention. For example, there are many programmes aiming at preventing drug use through the improvement of parenting skills (e.g., the Strengthening Families Program, the Triple P—Positive Parenting Program and the Incredible Years programme). These are different programmes delivering the same intervention (parenting skills/family skills training). A “policy” refers to a regulatory approach, either in a specific setting or for the general population. Examples include policies about substance use in schools or in the workplace or comprehensive restrictions or bans on the advertising of tobacco or alcohol. Finally, in the interest of brevity, the present *International Standards* sometimes use the term “strategies” to refer to both interventions and policies. That is, a strategy can be either an intervention or a policy.

The *International Standards* also indicate how each strategy should be implemented and note common characteristics found to be linked to efficacy and/or effectiveness. Finally, the present publication discusses how interventions and policies should fit in national prevention systems in a way that supports and sustains their development, implementation, monitoring and evaluation on the basis of data and evidence.

1. The process of updating the *International Standards*

The *International Standards on Drug Use Prevention* have been created and published by UNODC and WHO with the assistance of a globally representative group of 143 researchers, policymakers, practitioners, and representatives of non-governmental and international organizations from 47 countries. Most members of that group of experts were nominated by Member States, as they had all been invited to join the process. In addition, some members of that group had been identified by UNODC because of their research and activities in the field of drug prevention.

All members of the group of experts were requested to provide input with regard to the methodology for updating the *International Standards* and on studies that might be of interest, in any language. In addition, a selection of the members of the group of experts that had been most active met in Vienna in June 2017 to agree on the methodology for the revision of the *International Standards*. The methodology was subsequently finalized jointly

by UNODC and WHO and is attached in appendix II, entitled “Protocol for the overview of systematic reviews on interventions to prevent drug use for the second, updated edition of the *International Standards on Drug Use Prevention*”.

The evidence that forms the core of this update was identified through an overview of systematic reviews published between June 2012 and January 2018 focusing on the primary outcomes of substance use prevention. Primary outcomes of prevention were defined as “initiation of substance use”, “continuation of substance use” and “progression to substance use disorders”.

The purpose of conducting the overview was to identify systematic reviews of the evidence studying the efficacy or effectiveness of interventions and/or policies with regard to preventing substance use (primary outcomes of prevention).

Secondary outcomes of prevention (mediating factors or intermediate outcomes) were not included in the initial search strategy but were considered while consulting with experts and performing manual search and extraction of data from identified literature. Other references to the literature related to the secondary prevention outcomes had been identified through expert advice during the development of the first edition of the *International Standards*.

The search identified more than 28,800 items that were screened and reduced in number, first on the basis of the title, and then on the basis of the abstract.

This was integrated with the studies identified by the members of the group of experts, as well as by manual searches of the Cochrane and Campbell databases. Such manual searches considered both the primary outcomes of substance use prevention and, in the case of strategies targeting children (10 years of age and younger) also secondary outcomes, i.e., mediating factors or intermediate outcomes of substance use prevention.

To be included in the data extraction process, studies had to be systematic reviews of primary studies (with or without meta-analysis), with a focus on substance use interventions or policies aimed at achieving outcomes in terms of prevention of substance use, or, if targeting children aged 10 or below, aimed at achieving outcomes in terms of mediating factors related to substance use.

Therefore, the following types of papers were excluded: epidemiological studies discussing prevalence, incidence, vulnerabilities and resilience linked to substance use; studies regarding treatment strategies or focusing only on the prevention of the health and social consequences of drug use and drug use disorders; primary studies; reviews of reviews; and studies on the general delivery of prevention and/or prevention systems.

Following a first screening based on both abstracts and full text, 392 papers were further reviewed for eligibility. The full list of 392 papers is provided in appendix I. Of that group, 202 studies were found to be eligible and were assessed for risk of bias using the risk of bias in systematic reviews (ROBIS) tool.³ Data were extracted only from reviews that had a low risk of bias (71 reviews). Appendix I provides a separate list of those reviews, and the flow diagram of the review process is presented in appendix III.

³Penny Whiting and others, “ROBIS: a new tool to assess risk of bias in systematic reviews was developed”, *Journal of Clinical Epidemiology*, vol. 69 (2016).

In addition, those 71 reviews were integrated with the reviews from the first edition of the *International Standards*, provided there was no more recent equivalent study identified through the current search. The data extraction table (appendix IV, entitled “Summary of results”) reported all the conclusions included in the studies and served as the basis for the update of the summary of the evidence under each strategy.

The process was further enriched by the utilization of existing WHO guidance providing recommendations on the use of various interventions and policies to prevent substance use as well as other risky behaviours (e.g., violence) or to promote the healthy development of children and youth. Existing WHO guidance, where available, is summarized under each strategy following the summary of the evidence based on the data extraction.

Under each strategy, the *International Standards* list to the extent possible the characteristics of the strategies that are associated with efficacy and/or effectiveness, or the lack thereof. These characteristics were largely identified through expert advice during the development of the first edition of the *International Standards* and have been only minimally revised, pursuant to comments by the group of experts on the first draft of this second updated edition. The final chapter, on national prevention systems, was drafted on the basis of expert advice and has been updated on the basis of comments from the group of experts.

2. Limitations

In using this document, a number of limitations need to be acknowledged. First, the overall search strategy was to capture evidence related to as many potential interventions as possible, instead of focusing on the details of each specific intervention. It is therefore to be expected that the search strategy could miss literature sources and important details related to particular interventions as it would require a more detailed and narrow search strategy.

Secondly, the literature search focused on primary outcomes only (substance use) and did not systematically review evidence on secondary outcomes (i.e., mediating factors of prevention). Therefore, the *International Standards* do not comprehensively address the issue of mediating factors of substance use prevention.

Finally, although the risk of bias of research was evaluated using ROBIS, no grading of the evidence was undertaken. Similarly, no analysis of interventions was undertaken from perspectives other than that of effectiveness (e.g., analysis of harms and benefits, cost-effectiveness, values and preferences, equity, gender balance, human rights, etc.). Therefore, due to the above-mentioned limitations, the *International Standards* do not contain formal recommendations. They present a summary of the results identified through the overview of systematic reviews, and, where possible, that summary is supported by extracts from available international guidelines to cover additional issues and provide more details.

3. The structure of the *International Standards*

The present *International Standards on Drug Use Prevention* consist of three chapters. Chapter I describes the interventions and policies that have been found to be efficacious and/or effective in preventing drug use and other psychoactive substance use.

Interventions and policies are grouped according to the age of the target group, each group representing a major developmental stage in life: pregnancy, infancy and early childhood; middle childhood; early adolescence; and adolescence and adulthood.

Every child is unique, and his or her development will be influenced by a range of social, economic and cultural factors. That is why the exact age ranges have not been given for these different developmental stages. However, for the purposes of this document, the following age ranges can serve as a guide: “infancy and early childhood” refers to preschool children, generally 0–5 years of age; “middle childhood” refers to primary school children, approximately 6–10 years of age; “early adolescence” refers to middle school or junior high school years, 11–14 years of age; “adolescence” refers to senior high school, late teen years, from 15 to 18 or 19 years of age; “adulthood” refers to subsequent years. Although the range has not been used in the *International Standards* for reasons of expediency, the term “young adulthood” (college or university years, 20–25 years of age) is also sometimes referred to, as it is used in many studies.

Some interventions and policies are relevant for more than one age group. In such cases, the description of the intervention or policy is not repeated in the section on each age group, but included only under the age group for which it is most relevant, with a reference to the other developmental stages for which there is also available evidence.

The section on each strategy includes, to the extent possible, the following details: a brief description, the available evidence, and the characteristics of strategies that appear to be linked with efficacy and/or effectiveness or lack thereof.

Brief description. This subsection briefly describes the intervention or policy, its main activities and its theoretical basis. It includes an indication of whether the strategy is appropriate for the population at large (universal prevention), or for population groups whose risk is significantly above the average (selective prevention), or for individuals that are particularly at risk (indicated prevention, which also includes individuals that might have started experimenting and are therefore at particular risk of progressing to disorders). In addition, the *International Standards* indicate whether the strategy includes environmental, development and/or information components.

Available evidence. This is the core of the *International Standards on Drug Use Prevention*. This subsection describes what the available evidence is and the findings reported in it. Effects on primary outcomes (substance use) are reported first, with effects on secondary outcomes of prevention (i.e., mediating factors/intermediate outcomes of prevention) reported subsequently and separately. Wherever available, effect sizes are included, as provided in the original studies, as well as different effects with regard to different target groups and the sustainability of the effects. The geographical source of the evidence is provided for policymakers and prevention programme managers to indicate in which region a given strategy has been effective. Finally, the cost-effectiveness of a strategy is provided, if known. This part of the text is based on the studies included in data extraction or taken from the previous edition. A second box provides, wherever available, WHO guidance on the effectiveness of the strategies with regard to substance use or other health outcomes as presented in the published WHO guiding documents.

Characteristics linked to efficacy and/or effectiveness, or the lack thereof. The *International Standards* also indicate which characteristics have been found by the group of experts to be linked to efficacy and/or effectiveness, or, where available, to ineffectiveness or even adverse effects. These indications should not be taken to imply a relation of cause and effect. As noted above, there is not enough evidence to allow for that kind of analysis. Rather, the intention is to suggest the direction that is likely to bring more chances of

success according to the collective research and practical experience of the group of experts. All strategies should be undertaken in a research environment, applying protocols found to be effective in preventing drug use and addressing vulnerability and resilience factors.

Chapter II briefly describes prevention issues on which further research is particularly required. This includes interventions and policies for which no evidence was found, emerging substance use problems, and particularly vulnerable groups. Wherever possible, a brief discussion of potential strategies is provided.

Chapter III, the final chapter, describes the possible components of an effective national prevention system, building on evidence-based interventions and policies and aiming at the healthy and safe development of children and youth. This is another area where further research is urgently needed, as investigations have traditionally focused on the effectiveness of single interventions and policies. As mentioned, the drafting of the third chapter benefited from the expertise and the consensus of the group of experts.

I. Drug prevention interventions and policies

A. Infancy and early childhood

Children's earliest interactions occur in the family, before they reach school age. Children may develop vulnerabilities through interaction with parents or caregivers who fail to nurture them, lack parenting skills and/or suffer from other difficulties associated with poor health or financial or other hardships (especially in a socially or economically marginalized environment or a dysfunctional family setting). Among other factors, the intake of alcohol, nicotine or drugs during pregnancy negatively affects developing embryos and fetuses.

Such circumstances may impede a child from achieving significant developmental competencies and leave the child vulnerable and at risk of behavioural disorders later in life. The key developmental goals for early childhood are the development of safe attachment to the caregivers, age-appropriate language skills and executive cognitive functions such as self-regulation and pro-social attitudes and skills. The acquisition of those functions and skills is best supported within the context of a supportive family and community.

I. Prenatal and infancy visits

Brief description

In programmes for prenatal visits or during infancy, a trained nurse or social worker visits mothers-to-be and new mothers to give them parenting skills and provide support in addressing a range of issues (health, housing, employment, legal, etc.). Normally, these programmes do not target all women but only specific groups living in particularly difficult circumstances (a selective strategy with a developmental aim).

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition of the *International Standards*, one review and one randomized control trial had reported findings with regard to this intervention.⁴

With regard to primary outcomes, according to the randomized controlled trial, these programmes can prevent substance use later in life, and they can be cost-effective in terms of saving future social welfare and medical costs.

In addition, a review reported findings with regard to some secondary outcomes, as children involved in the programme were less likely to report having internalizing disorders and scored higher on the

⁴Turnbull (2012), with Kitzman (2010) and Olds (2010) reporting on the same trial.

achievement tests in reading and math. Mothers taking part in the programme also reported less role impairment owing to alcohol and other drug use. The evidence is from the United States of America.

Prenatal and infancy visitation programmes are also recommended by WHO to prevent child maltreatment.⁵

Characteristics of prenatal and infancy visit programmes deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They are delivered by trained health workers.
- ✓ Regular visits are made until the child's second birthday: at first, every two weeks, then every month, and less frequently towards the end of the period.
- ✓ They provide basic parenting skills.
- ✓ They support mothers to address a range of socioeconomic issues (health, housing, employment, legal, etc.).

2. Interventions targeting pregnant women

Brief description

Pregnancy and motherhood are periods of major and sometimes stressful changes that may make women receptive to addressing their substance use and substance use disorders.

Alcohol and drug use during pregnancy poses potential health risks to pregnant women and their babies, even in the absence of substance use disorders. All pregnant women should therefore be advised of the potential health risks to themselves and to their babies. As psychoactive substance use during pregnancy is dangerous for the mother and the future child, management of substance use and treatment of pregnant women with substance use disorders can and should be offered as a priority and must follow rigorous clinical guidelines based on scientific evidence. This is an indicated strategy with a developmental aim.

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition of the *International Standards*, two reviews had reported findings with regard to this intervention.⁶

No reviews reported findings with regard to primary outcomes.

With regard to secondary outcomes, providing evidence-based integrated treatment to pregnant women can have a positive impact on child development, child emotional and behavioural functioning, and parenting skills.

The time frame for the sustainability of these results and the origin of the evidence are not clear.

⁵World Health Organization (WHO), *INSPIRE: Seven Strategies for Ending Violence against Children* (Geneva, 2016).

⁶Niccols (2012a) and Niccols (2012b).

WHO guidelines include the following recommendations about substance use during pregnancy:

Tobacco use

Health-care providers should ask all pregnant women about their tobacco use (past and present) and exposure to second-hand smoke as early as possible in the pregnancy and at every antenatal care visit.⁷

Substance use

Health-care providers should ask all pregnant women about their use of alcohol and other substances (past and present) as early as possible in the pregnancy and at every antenatal care visit.

Health-care providers should offer a brief intervention to all pregnant women using alcohol or drugs.

Health-care providers managing pregnant or post-partum women with alcohol or other substance use disorders should offer a comprehensive assessment and individualized care.

Health-care providers should, at the earliest opportunity, advise pregnant women dependent on alcohol or drugs to cease their alcohol or drug use and offer, or refer those women to, detoxification services under medical supervision, where necessary and applicable.

For more detailed recommendations on the management of particular clinical situations in pregnancy (e.g., opioid dependence, benzodiazepine dependence, etc.), the reader is referred to the WHO *Guidelines for the Identification and Management of Substance Use and Substance Use Disorders in Pregnancy*.⁸

3. Early childhood education

Brief description

Early childhood education programmes support the social and cognitive development of preschool children (2–5 years of age) from deprived communities. It is therefore a selective-level intervention with developmental content.

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition of the *International Standards*, two reviews had reported findings with regard to this intervention.⁹

According to those studies, offering early education services to children growing up in disadvantaged communities can reduce cannabis use at the age of 18 years and can also decrease the use of tobacco and other drugs (primary outcomes).

⁷WHO, *WHO Recommendations for the Prevention and Management of Tobacco Use and Second-Hand Smoke Exposure in Pregnancy* (Geneva, 2013).

⁸WHO, *Guidelines for the Identification and Management of Substance Use and Substance Use Disorders in Pregnancy* (Geneva, 2014).

⁹D'Onise (2010) and Jones (2006).

With regard to secondary outcomes, early education can prevent other risky behaviours and support mental health, social inclusion and academic success.

All evidence is from the United States.

Characteristics deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They improve the cognitive, social and language skills of children.
- ✓ They are conducted in daily sessions.
- ✓ They are delivered by trained teachers.
- ✓ They provide support to families on other socioeconomic issues.

B. Middle childhood

During middle childhood, increasingly more time is spent away from the family, most often in school and with same-age peers. Family remains the key socialization agent. However, the roles of day care, school and peer groups start to grow. Factors such as community norms, school culture and quality of education become increasingly important for safe and healthy emotional, cognitive and social development. The role of social skills and pro-social attitudes grows in middle childhood, and they become key protective factors, impacting also the extent to which the school-age child will cope with school and bond with peers.

Among the main developmental goals in middle childhood are the continued development of age-specific language and numeracy skills, and of impulse control and self-control. Also at this age begins the development of goal-directed behaviour, together with decision-making and problem-solving skills. Mental disorders that have their onset during this period (such as anxiety disorders, attention deficit hyperactivity disorder and conduct disorders) may also impede the development of healthy attachment to school, cooperative play with peers, adaptive learning and self-regulation. Often at this time, children of dysfunctional families start to affiliate with peers involved in potentially harmful behaviours, thus putting themselves at increased risk.

1. Parenting skills programmes

Short description

Parenting skills programmes support parents in being better parents, in very simple ways. A warm child-rearing style, whereby parents set rules for acceptable behaviours, closely monitor free time and friendship patterns, help to acquire personal and social skills and are role models, is one of the most powerful protective factors against substance use and other risky behaviours. These programmes can also be delivered to parents of early adolescents. While the reviews largely cover all ages together, and as principles are largely similar, the interventions are discussed only in this section. These interventions can be delivered at both the universal and the selective levels and are largely a developmental kind of intervention.

Available evidence

Five reviews reported findings with regard to this intervention, of which four are from the new overview of systematic reviews.¹⁰

With regard to primary outcomes, these studies report that family-based universal programmes can prevent tobacco, alcohol, drug and substance use in young people, the effect size generally being persistent into the medium and long term (longer than 12 months).

More intensive programmes delivered by a trained facilitator appear to be more consistently effective compared with single sessions or computer-based programmes. Also, particular gender-specific interventions targeting mothers and daughters were reported to be effective.

The evidence summarized above is from studies on family-based prevention interventions implemented in Africa, Asia, the Middle East, Europe, Australia and North America.

WHO also recommends parenting skills programmes to support positive development, prevent youth violence, manage behavioural disorders in children and adolescents and prevent child maltreatment.^{11, 12}

Also recommended to improve child development outcomes are parenting interventions promoting mother-infant interactions, preferably delivered within ongoing mother-and-child health programmes for poorly nourished, frequently ill and other groups of at-risk children.¹³

Moreover, it is recommended that interventions to improve mothers' parenting skills be offered in addition to effective treatment and psychosocial support to mothers with depression or any other mental, neurological or substance use condition, in order to improve child development outcomes.¹⁴

Finally, caregiver skills training should be provided for the management of children and adolescents with developmental disorders, including intellectual disabilities and pervasive developmental disorders (including autism).¹⁵

Characteristics of parenting skills programmes deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They enhance family bonding, i.e., the attachment between parents and children.
- ✓ They support parents by showing them how to take a more active role in their children's lives, e.g., monitoring their activities and friendships, and being involved in their learning and education.
- ✓ They show parents how to provide positive and developmentally appropriate discipline.
- ✓ They show parents how to be a role model for their children.

¹⁰Mejia (2012), Thomas et al. (2016), Foxcroft and Tsertsvadze (2012), Allen et al. (2016) and Kuntsche (2016).

¹¹WHO, *Global Accelerated Action for the Health of Adolescents (AA-HA!)*, *Guidance to Support Country Implementation* (Geneva, 2017).

¹²WHO, *INSPIRE: Seven Strategies for Ending Violence against Children* (2016).

¹³WHO, "Maternal mental health interventions to improve child development: evidence profile" (2012).

¹⁴Ibid.

¹⁵Ibid.

- ✓ They are organized in a way to make it easy and appealing for parents to participate (e.g., out-of-office hours, meals, childcare, transportation, a small prize for completing the sessions, etc.).
- ✓ They typically include a series of sessions (often around 10 sessions, or more sessions in the case of work with parents from marginalized or deprived communities or in the context of a treatment programme where one or both parents suffer from substance use disorders).
- ✓ They typically include activities for the parents, the children and the whole family.
- ✓ They are delivered by trained individuals, in many cases without any other formal qualification.

Characteristics of parenting skills programmes deemed to be associated with lack of efficacy and/or effectiveness or with adverse effects based on expert consultation

- ✗ They undermine the parents' authority.
- ✗ They only provide information to parents about drugs so that the parents can talk about it with their children.
- ✗ They are delivered by poorly trained staff.

Existing guidelines and tools for further information

- International Society of Substance Use Professionals, Universal Prevention Curriculum, Coordinator Series, Course 4: Family-based Prevention Interventions.
- UNODC, *Compilation of Evidence-Based Family Skills Training Programmes* (Vienna, 2010).
- Canadian Centre on Substance Abuse, *Strengthening Our Skills: Canadian Guidelines for Youth Substance Abuse Prevention Family Skills Programs* (Ottawa, 2011).
- UNODC, *Guide To Implementing Family Skills Training Programmes for Drug Abuse Prevention*, (United Nations publications, Sales No. E.09.XI.8).
- WHO, Mental Health Gap Action Programme, Evidence-based recommendations for management of child and adolescent mental disorders in non-specialized health settings.

2. Personal and social skills education

Description

In programmes on personal and social skills, trained teachers engage children in interactive activities to give them the opportunity to learn and practice a range of personal and social skills. These programmes are typically delivered to all children via a series of structured sessions (i.e., this is a universal intervention). The programmes provide opportunities to learn skills to be able to cope with difficult situations in daily life in a safe and healthy way. They support the development of general social competencies, including mental and emotional well-being. These programmes comprise mostly developmental components. That is, they do not typically include content with regard to specific substances, as in most communities children at this young age have not initiated use. This is not the case everywhere, and programmes targeting children who have been exposed to substances (e.g., inhalants)

at this very young age could, if wished, refer to the substance-specific guidance included for “Prevention education based on social competence and influence” in the section on “Early adolescence”, below.

Available evidence

Seven reviews reported findings with regard to this intervention, four of which from the new overview.¹⁶

With regard to primary outcomes, according to these studies, supporting the development of personal and social skills in a classroom setting can prevent tobacco, alcohol and drug use, particularly in a longer follow-up period (longer than one year). Strategies focusing only on resilience were found to be effective only in relation to drug use.

Most of the evidence originates in North America, Europe and Australia, with some studies from Asia and Africa.

Non-specialized health-care facilities should encourage and collaborate with school-based life skills education programmes, if feasible, to promote mental health in children and adolescents.¹⁷

Characteristics of personal and social skills education programmes deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They improve a range of personal and social skills.
- ✓ They are delivered through a series of structured sessions, often providing booster sessions over multiple years.
- ✓ They are delivered by trained teachers or facilitators.
- ✓ Sessions are primarily interactive.

Characteristics of personal and social skills education programmes deemed to be associated with lack of efficacy and/or effectiveness or with adverse effects based on expert consultation

- ✗ Such strategies use non-interactive methods, such as lecturing, as the main delivery method.
- ✗ They provide information on specific substances, including fear arousal.
- ✗ They focus only on the building of self-esteem and on emotional education.

Existing guidelines and tools for further information

- United Nations Educational, Scientific and Cultural Organization (UNESCO), UNODC and WHO, Good Policy and Practice in Health Education: Booklet 10—Education Sector Responses to the Use of Alcohol, Tobacco and Drugs (Paris, 2017).
- International Society of Substance Use Professionals, Universal Prevention Curriculum, Coordinator Series, Course 5: School-based prevention interventions.

¹⁶Hodder et al. (2017), Salvo et al. (2012), McLellan and Perera (2013), McLellan and Perera (2015), Schröder-Günther (2011) and Skara (2003).

¹⁷WHO, WHO Mental Health Gap Action Programme, “Behaviour change techniques for promoting mental health: evidence profile” (2012).

- Organization of American States, CICAD, “CICAD hemispheric guidelines on school based prevention” (Washington, D.C., 2005).
- Canadian Centre on Substance Abuse, *Building on Our Strengths: Canadian Standards for School-based Youth Substance Use Prevention* (Ottawa, 2010).
- WHO, Mental Health Gap Action Programme, “Evidence-based recommendations for management of child and adolescent mental disorders in non-specialized health settings”.

3. Classroom environment improvement programmes

Brief description

Classroom environment improvement programmes strengthen the classroom management abilities of teachers and support children to socialize in their role as a student, while reducing early aggressive and disruptive behaviours. Teachers are typically supported through the implementation of a collection of non-instructional classroom procedures in the day-to-day practices with all students for the purposes of teaching pro-social behaviour as well as preventing and reducing inappropriate behaviour. These programmes facilitate both academic and socio-emotional learning. They are universal as they target the whole class with a developmental component.

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition, one review had reported findings with regard to this intervention.¹⁸

The review did not report findings with regard to the primary outcomes.

With regard to secondary outcomes, according to this study, teachers’ classroom management practices significantly decrease problem behaviour in the classroom, including strong positive effects on disruptive and aggressive behaviour, and strengthen the pro-social behaviour and the academic performance of the children. The time frame for the sustainability of these results is not clear.

All evidence reported above originates in the United States and Europe.

Characteristics of classroom environment improvement programmes deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They are often delivered during the early school years.
- ✓ They include strategies to respond to inappropriate behaviour.
- ✓ They include strategies to acknowledge appropriate behaviour.
- ✓ They include feedback on expectations.
- ✓ They have the active engagement of students.

4. Policies to retain children in school

Brief description

School attendance, attachment to school and the achievement of age-appropriate language and numeracy skills are important protective factors for guarding against substance use among children of this age. A variety of policies have been implemented in low- and middle-income countries to support the attendance of children and improve their educational outcomes.

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition of the *International Standards*, two reviews¹⁹ reported findings with regard to the following policies: building new schools, providing nutrition in schools, and providing economic incentives of various natures to families.

The studies did not report findings with regard to the primary outcomes.

With regard to secondary outcomes, according to these studies, these policies increase the attendance of children in school and improve their language and numeracy skills. Simply providing cash to families does not appear to result in significant outcomes, whereas conditional transfers do. The time frame for the sustainability of these results is not clear.

All this evidence originates in low- and middle-income countries.

Conditional financial incentives to keep children in schools are also recommended by WHO as a strategy to prevent youth violence.²⁰

5. Addressing mental health disorders

Brief description

Emotional disorders (e.g., anxiety and depression) and behavioural disorders (e.g., attention deficit hyperactivity disorder and conduct disorder) are associated with a higher risk of substance use later in adolescence and later in life. In both childhood and adolescence, it is an important prevention strategy to support children, adolescents and parents to address emotional and behavioural disorders as early as possible.

Available evidence

No studies were identified in either the new overview of systematic reviews or the first edition of the *International Standards*.

¹⁹Lucas (2008) and Petrosino (2012).

²⁰WHO, *Global Accelerated Action for the Health of Adolescents (AA-HA!)*.

WHO recommends the following to support children and adolescents (as well as their carers) and to address such disorders as early as possible:²¹

- Behavioural interventions for children and adolescents for the treatment of behavioural disorders.
- Psychological interventions, such as cognitive behavioural therapy, interpersonal psychotherapy for children and adolescents with emotional disorders, and caregiver skills training focused on their caregivers.
- Initiating parent education/training before starting to give medication to a child who has been diagnosed as suffering from attention deficit hyperactivity disorder, with initial interventions including cognitive-behavioural therapy and social skills training, if feasible.
- Pharmacological interventions are offered only in specialized settings.

Existing guidelines and tools for further information

- The WHO Mental Health Gap Action Programme (mhGAP) intervention guide and training manuals (WHO, 2016).

C. Early adolescence

Adolescence is a developmental period when youth are exposed to new ideas and behaviours through increased association with people and organizations beyond those experienced in childhood. It is a time to “try out” adult roles and responsibilities. It is also a time when the “plasticity” and malleability of the adolescent brain suggests that, like infancy, this period of development is a time when interventions can reinforce or alter earlier experiences.

The desire of young adolescents to assume adult roles and more independence at a time when significant changes are occurring in the brain also creates a potentially vulnerable time for poorly thought-out decisions and involvement in potentially harmful behaviours, such as risky sexual behaviours, smoking of tobacco, consumption of alcohol, risky driving behaviours and drug use.

The substance use (or other potentially harmful behaviours) of peers, as well as rejection by peers, are important influences on behaviour, although the influence of parents remains significant. Healthy attitudes and social normative beliefs related to psychoactive substance use are also important protective factors against drug use. Good social skills, and resilient mental and emotional health remain key protective factors throughout adolescence.

Note: Parenting skills interventions can be implemented in middle childhood and early adolescence. The studies identified through the research do not disaggregate results by age. Therefore, rather than repeating the section on parenting skills programmes here, under “Early adolescence”, the reader is referred to the previous section. The same applies to the strategy of “Addressing mental health disorders”, which is discussed under “Middle childhood”, above. Similarly, many of the interventions and policies of relevance to older adolescents can prevent substance use in early adolescence. For reasons of expediency, those interventions and policies, namely alcohol and tobacco policies, media campaigns, brief

²¹WHO, *mhGAP Intervention Guide for Mental, Neurological and Substance Use Disorders in Non-Specialized Health Settings—Version 2.0* (Geneva, 2016).

intervention and community-based multi-component initiatives, are discussed in the following section, on adolescence and adulthood.

1. Prevention education based on social competence and influence

Brief description

During skills-based prevention programmes, trained teachers engage students in interactive activities to give them the opportunity to learn and practise a range of personal and social skills (social competence). These programmes focus on fostering substance and peer refusal abilities that allow young people to counter social pressures to use substances and in general cope with challenging life situations in a healthy way.

In addition, they provide the opportunity to discuss, in an age-appropriate way, the different social norms, attitudes and positive and negative expectations associated with substance use, including the consequences of substance use. They also aim to change normative beliefs on substance use addressing the typical prevalence and social acceptability of substance use among peers (social influence).

Available evidence

Twenty-two reviews reported results for this kind of intervention, 15 of which from the new overview.²²

With regard to primary outcomes, according to these studies, certain programmes based on a combination of a social competence and social influence prevent tobacco use, alcohol use and drug use (preventive effects are small but consistent across studies, also in the long term (longer than 12 months)).

A review of school-based programmes for the prevention of smoking specifically for girls concluded that there was no evidence that such programmes have a significant effect on preventing adolescent girls from smoking, with some promising indication for gender-specific programmes and programmes delivered together with media campaigns.

Programmes targeting individual and environmental resilience-related protective factors in school settings were reported to be effective in preventing the use of drugs, but not use of tobacco or alcohol. Programmes based on the provision of information only, as well as the Drug Abuse Resistance Education (DARE) programme, were reported not to be effective.

It was reported that using peers to deliver programmes, relating to all substances, was effective, with the caveat that care should be taken not to use this method for high-risk groups, as there is a danger of adverse effects (e.g., an increase of substance use). Computer-based delivery methods were generally reported to have a small effect size, for all substances.

In this context, there are indications that programmes targeting young adolescents might better prevent substance use than programmes targeting younger or older children. Most of the evidence

²²Ashton et al. (2015), Champion (2013), de Kleijn et al. (2015), Espada et al. (2015), Faggiano et al. (2014), Foxcroft and Tsertsvadze (2012), Hale et al. (2014), Hodder et al. (2017), Jackson (2012), Jones (2006), Kezelman and Howe (2013), Lee et al. (2016), McArthur et al. (2015), McLellan and Perera (2013), McLellan and Perera (2015), Pan (2009), Roe (2005), Salvo et al. (2012), Schröder-Günther (2011) and West (2004).

is for universal programmes, but there are indications that universal skills-based education may be preventive also among high-risk groups, including young people with mental health disorders.

While most of the evidence originates in North America, Europe and Australia, some studies originated in Asia and Africa.

Programmes that include a social and emotional learning component are also recommended by WHO to prevent youth violence.²³

Characteristics of programmes for prevention education based on social competence and influence deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They use interactive methods.
- ✓ They are delivered through a series of structured sessions (typically 10–15 sessions), taking place once a week, often providing booster sessions over multiple years.
- ✓ They are delivered by a trained facilitator (also including trained peers).
- ✓ They provide an opportunity to practise and learn a wide array of personal and social skills, in particular, coping, decision-making and resistance skills, especially in relation to substance use.
- ✓ They change perceptions of the risks associated with substance use, emphasizing the immediate consequences.
- ✓ They dispel misconceptions regarding the normative nature and the expectations linked to substance use.

Characteristics of such programmes deemed to be associated with lack of efficacy and/or effectiveness or with adverse effects based on expert consultation

- ✗ They use non-interactive methods, such as lecturing, as a primary delivery strategy.
- ✗ They rely heavily on merely giving information, in particular to elicit fear.
- ✗ They are based on unstructured dialogue sessions.
- ✗ They focus only on the building of self-esteem and emotional education.
- ✗ They address only ethical and moral decision-making or values.
- ✗ They use former drug users to provide testimony of their personal experience.

Existing guidelines and tools for further information

- UNESCO, UNODC and WHO, Good Policy and Practice in Health Education: Booklet 10–Education Sector Responses to the Use of Alcohol, Tobacco and Drugs (Paris, 2017).
- International Society of Substance Use Professionals, Universal Prevention Curriculum, Coordinator Series, Course 5: School-based prevention interventions.

- Organization of American States, CICAD, “CICAD hemispheric guidelines on school based prevention” (Washington, D.C., 2005).
- Canadian Centre on Substance Abuse, *Building on Our Strengths: Canadian Standards for School-based Youth Substance Use Prevention* (Ottawa, 2010).

2. School policies on substance use

Brief description

School policies on substance use mandate that substances should not be used on school premises or during school functions and activities by either students or staff. Policies also establish transparent and non-punitive mechanisms to address incidents of use, transforming it into an educational and health-promoting opportunity. These interventions and policies are universal but may include indicated components such as screening, brief interventions and referral. They are often implemented jointly with other prevention interventions, such as skills-based education and/or school-wide policies to promote school attachment and/or supporting parenting skills and parental involvement.

Available evidence

Four reviews reported findings for these interventions, three of which from the new overview. Three of the reviews studied tobacco policies in schools,²⁴ and one studied interventions in tertiary education settings (colleges and universities).

With regard to primary outcomes, the three reviews on tobacco policies, including one on school-based incentives for tobacco prevention, reported different results, with few studies in those reviews reporting evidence of effectiveness and more than half reporting no evidence of effect. The studies providing findings did find a lower probability of tobacco smoking in schools with a smoking ban and a higher probability in schools with more liberal attitudes. There was some evidence that the formality of the policy (e.g., a written policy) and its enforcement had an additional impact on smoking behaviour.

In colleges and universities, some environmental interventions, social norms marketing campaigns and cognitive-behavioural/skills-based interventions might have benefits with regard to the prevention of harmful use of alcohol, with the strongest evidence relating to brief motivational interventions and personalized normative interventions (both computer-based and face-to-face interventions).

Although most evidence originates in North America, Europe and Australia/New Zealand, there is also evidence originating in Asia.

Characteristics of school policies on substance use deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They support normal school functioning, not disrupt it.
- ✓ Policies are developed with the involvement of all stakeholders (students, teachers, staff and parents).

²⁴Coppo et al. (2014), Galanti et al. (2014), Hefler et al. (2017) and Reavley (2010).

- ✓ They clearly specify the substances that are targeted, as well as the locations (school premises) and/or occasions (school functions) to which the policy applies.
- ✓ They apply to everyone in the school (student, teachers, staff, visitors, etc.) and to all psychoactive substances (tobacco, alcohol, drugs).
- ✓ They address infractions of policies through positive sanctions by providing or referring to counselling, treatment and other health-care and psychosocial services, rather than by punishing.
- ✓ They enforce consistently and promptly, including positive reinforcement for policy compliance.

Characteristics of such policies deemed to be associated with lack of efficacy and/or effectiveness or with adverse effects based on expert consultation

- ✗ Inclusion of random drug testing.

Existing guidelines and tools for further information

- UNESCO, UNODC and WHO, Good Policy and Practice in Health Education: Booklet 10–Education Sector Responses to the Use of Alcohol, Tobacco and Drugs (Paris, 2017).
- International Society of Substance Use Professionals, Universal Prevention Curriculum, Coordinator Series, Course 5: School-based prevention interventions.
- Organization of American States, CICAD, “CICAD hemispheric guidelines on school based prevention” (Washington, D.C., 2005).
- Canadian Centre on Substance Abuse, *Building on Our Strengths: Canadian Standards for School-based Youth Substance Use Prevention* (Ottawa, 2010).

3. School-wide programmes to enhance school attachment

Brief description

School-wide programmes to enhance school attachment support student participation, positive bonding and commitment to school. These interventions and policies are universal. They are often implemented jointly with other prevention interventions, such as skills-based education, school policies on substance use and/or supporting parenting skills and parental involvement.

Available evidence

Two reviews reported findings for this intervention, one of which from the new overview.²⁵

With regard to primary outcomes, one study reported that these strategies contribute to preventing use of all substances, and another study reported results only for drug use and no significant results for tobacco and alcohol.

Although most evidence originates in North America, Europe and Australia/New Zealand, there is also evidence originating in Asia.

Characteristics of school-wide programmes to enhance school attachment deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They support a positive school ethos and commitment to school.
- ✓ They support student participation.

Existing guidelines and tools for further information

- UNESCO, UNODC and WHO, *Good Policy and Practice in Health Education: Booklet 10–Education Sector Responses to the Use of Alcohol, Tobacco and Drugs* (Paris, 2017).
- International Society of Substance Use Professionals, *Universal Prevention Curriculum, Coordinator Series, Course 5: School-based prevention interventions*.
- Organization of American States, CICAD, “CICAD hemispheric guidelines on school based prevention” (Washington, D.C., 2005).
- Canadian Centre on Substance Abuse, *Building on Our Strengths: Canadian Standards for School-based Youth Substance Use Prevention* (Ottawa, 2010).

4. Addressing individual psychological vulnerabilities

Brief description

Some personality traits, such as sensation-seeking, impulsiveness, anxiety sensitivity or feelings of hopelessness, are associated with increased risk of substance use. These indicated prevention programmes help those adolescents who are particularly at risk to deal constructively with emotions arising from their personalities instead of using negative coping strategies including hazardous and harmful alcohol use. Therefore, they consist mostly of developmental components.

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition of the *International Standards*, two randomized control trials had reported effect with regard to this intervention in early adolescence and adolescence, and one review had reported evidence with regard to this intervention in²⁶ middle childhood.²⁷

With regard to primary outcomes, according to these studies, programmes addressing individual psychological vulnerabilities can lower the rates of drinking and binge drinking in a two-year follow-up period.

With regard to secondary outcomes, this type of intervention can impact individual mediating factors affecting substance use later in life, such as self-control.

All evidence originates in Europe and North America.

²⁶Conrod (2008), Conrod (2010), Conrod (2011), Conrod (2013) and O’Leary-Barrett (2010) reporting on the same trial.

²⁷Piquero (2010).

Characteristics of programmes addressing individual psychological vulnerabilities deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They are delivered by trained professionals (e.g., psychologist or teacher).
- ✓ Participants have been identified as possessing specific personality traits on the basis of validated instruments.
- ✓ Programmes are organized in a way that avoids any possible stigmatization.
- ✓ They provide participants with skills on how to positively cope with the emotions arising from their personality.
- ✓ They consist of a short series of sessions (2–5 sessions).

5. Mentoring

Brief description

“Natural” mentoring refers to the relationships and interactions between children/adolescents and non-family-related adults such as teachers, coaches and community leaders, and it has been found to be linked to reduced rates of substance use and violence. Mentoring programmes match young people, especially young people from marginalized situations (selective prevention), with adults, who commit to arranging activities and spending some of their free time with the young person on a regular basis.

Available evidence

One systematic review reported findings with regard to this intervention.²⁸

With regard to primary outcomes, this study provided some evidence of the effect of mentoring in preventing alcohol and drug use among youth.

The evidence originated in the United States and Europe.

WHO recommends mentoring as one of the interventions identified as evidence-based interventions to prevent youth violence.²⁹

Characteristics of mentoring programmes deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They provide adequate training and support to mentors.
- ✓ They are based on a highly structured programme of activities.

D. Adolescence and adulthood

As adolescents grow, interventions delivered in settings other than the family and the school, such as in the workplace, the health sector, entertainment venues and the community, become more relevant.

²⁸Thomas et al. (2013)

²⁹WHO, *Global Accelerated Action for the Health of Adolescents (AA-HA!)*.

Note: The evidence summarized for interventions and policies for young adolescents to be delivered in schools (i.e., preventive education, addressing individual vulnerabilities, school policies on substance use), as well as mentoring, report effectiveness also for older adolescents, without disaggregating the data by age group. Those interventions will not be further discussed in the present section.

1. Brief intervention

Brief description

Brief interventions consist of one-to-one counselling sessions that can include follow-up sessions or additional information to take home. They can be delivered by a variety of trained health and social workers to people who might be at risk because of their substance use but who would not necessarily seek treatment. The sessions first identify whether there is a substance use problem and provide immediate appropriate basic counselling and/or referral for additional treatment. The sessions are structured and typically last from 5 to 15 minutes.

Brief interventions are typically delivered in the primary health-care system or in emergency rooms, but they have also been found to be effective when delivered as part of school-based and workplace programmes, and when delivered online or via computers.

Brief intervention sessions typically employ motivational interviewing techniques, which is a psychosocial intervention in which a person's substance use is discussed and the patient is supported in making decisions and setting goals with respect to his or her substance use. In this case, the brief intervention is normally delivered over the course of up to four sessions that can be up to one hour long, but usually consist of sessions of a shorter duration.

Available evidence

Forty-eight reviews reported findings for this intervention,³⁰ 38 of which from the new overview.

With regard to primary outcomes, these studies show that brief interventions and motivational interviewing may significantly reduce substance use. This evidence of effect was found regarding different substances (tobacco, alcohol and drugs) and different age groups (adolescents and adults), with effect sizes reported to be small and not to persist beyond 6–12 months.

The reduction of excessive alcohol consumption among people with psychotic disorders was also reported. Indications of reduction in consumption of alcohol and/or harmful patterns of use were also reported both for youth out of college and in college.

Within the school-based setting, one study concluded that there was limited quality evidence demonstrating that brief school-based interventions were more effective in reducing substance use

³⁰Ashton et al. (2015), Baker et al. (2012), Bertholet (2005), Carey et al. (2012), Carey et al. (2016), Carney (2012), Carney et al. (2014), Christakis (2003), Davis et al. (2017), Dedert et al. (2014), Dedert et al. (2015), Diestelkamp et al. (2016), Donoghue et al. (2014), Dotson et al. (2015), Dunn (2001), Elzerbi et al. (2015), Elzerbi et al. (2017), Foxcroft et al. (2015), Foxcroft et al. (2016), Gulliver et al. (2015), Hennessy and Tanner-Smith (2015), Hennessy et al. (2015), Jensen (2011), Jiang and Gao (2017), Kaner (2007), Kazemi et al. (2013), Landy et al. (2016), Leeman et al. (2015), McGinnes et al. (2016), Merz et al. (2015), Moreira (2009), Newton et al. (2013), Oosterveen et al. (2017), Park and Drake (2015), Peirson et al. (2016), Reavley (2010), Riper (2009), Riper et al. (2014), Scott-Sheldon et al. (2014), Scott-Sheldon et al. (2016), Smedslund (2011), Smedslund et al. (2017), Tait (2003), Tait et al. (2013), Vasilaki (2006), Watson et al. (2013), Wood et al. (2014) and Young et al. (2014).

(tobacco, alcohol, drugs) than the assessment-only condition, and were similar to information provision. Other studies reported some effectiveness with regard to cannabis use and similar results with regard to tobacco and alcohol.

It was reported that computer-based and Internet-based delivery had small effects that were not sustained in the long term (beyond 12 months) for alcohol, with less evidence available with regard to interventions targeting tobacco and cannabis use. One review reported the effectiveness of interventions delivered by telephone. Effect sizes were higher for interventions delivered face-to-face.

One review studying programme delivery in emergency settings noted that the integration of results was hampered by the heterogeneity of studies on both adolescents and adults, and for alcohol and drugs. Effectiveness was noted, including for females and for patients qualifying for treatment.

However, the interventions focusing on alcohol consumption primarily for adolescents and young adults may have limited evidence on tobacco use. Evidence for interventions relating to cannabis were reported to be scarce and inconclusive. Brief interventions and motivational interviewing benefit both adolescents and adults alike. However, the long-term impact on reducing alcohol use was less clear. The reduction of excessive alcohol consumption among people with psychotic disorders was also reported.

WHO recommends screening and brief interventions for hazardous and harmful alcohol use in non-specialist health-care settings, except in areas of low prevalence of alcohol use where the screening of all patients may not be cost-effective but brief interventions can still be appropriate for identified drinkers. Screening for hazardous and harmful alcohol use should be conducted using a validated instrument that can be easily incorporated into routine clinical practice (e.g., the Alcohol Use Disorders Identification Test (AUDIT) and the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)). In settings in which screening is not feasible or affordable, practitioners should explore the alcohol consumption of their patients when relevant. Patients with a hazardous and harmful alcohol use should receive a brief intervention. The brief intervention should consist of a single session of 5–30 minutes duration, incorporating individualized feedback and advice on reducing or ceasing alcohol consumption, and the offer of follow-up. Patients who on screening are identified as having alcohol dependence should be managed according to the existing WHO recommendations.³¹

WHO recommends offering a brief intervention to individuals using cannabis and psychostimulants when they are detected in non-specialized health-care settings (comprising a single session of 5–30 minutes duration, incorporating individualized feedback and advice on reducing or stopping cannabis/psychostimulant consumption, and the offer of follow-up). In addition, WHO recommends that people with ongoing problems related to their cannabis or psychostimulant drug use who do not respond to brief interventions should be considered for referral for specialist assessment.³²

WHO has developed the ASSIST screening test package to facilitate screening and brief interventions for all psychoactive substances including alcohol, tobacco and psychoactive drugs. The effectiveness of interventions for adults has been demonstrated, and further work is required to establish effectiveness of ASSIST-based interventions among adolescents.

³¹WHO, *mhGAP Intervention Guide for Mental, Neurological and Substance Use Disorders*.

³²WHO, “Brief psychosocial interventions: evidence profile” (2012).

Existing guidelines and tools for further information

- AUDIT: the alcohol use disorders identification test—guidelines for use in primary care, 2nd ed., document WHO/MSD/MSB/01.6a.
- Brief intervention for hazardous and harmful drinking: a manual for use in primary care, document WHO/MSD/MSB/01.6b.
- *The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)—Manual for Use in Primary Care* (WHO, 2010).
- Brief Intervention: The ASSIST-linked Brief Intervention for Hazardous and Harmful Substance Use—Manual for Use in Primary Care (WHO, 2010).
- WHO, *mhGAP Intervention Guide for Mental, Neurological and Substance Use Disorders in Non-Specialized Health Settings—Version 2.0* (Geneva, 2016).

2. Workplace prevention programmes

Brief description

The vast majority of substance use occurs among working adults. Substance use disorders expose employees to health risks and difficulties in their relationships with fellow employees, friends and family, and expose them to safety risks in the workplace. Young adults are at particularly high risk, as job strain has been found to significantly increase the risk of young adults who use drugs developing substance use disorders. Employers also bear a significant cost of substance use. Employees with substance use problems have higher absenteeism rates and lower productivity, are more likely to cause accidents and have higher health-care costs and turnover rates. Moreover, employers have a duty to provide and maintain a safe and healthy workplace in accordance with the applicable law and regulations.³³ Prevention programmes in the workplace are typically multi-component, including prevention elements and policies, as well as counselling and referral to treatment.

Available evidence

Four reviews reported findings with regard to this kind of intervention,³⁴ two of them from the new overview.

With regard to primary outcomes, according to these studies, workplace prevention can prevent alcohol use, with possible variability of effect according to gender, as one study reported a positive effect on reducing alcohol consumption among women, but not among men. One review found no effect on the prevention of tobacco use.

In addition, with regard to other health behaviours, another review indicated that workplace interventions may have a positive effect on physical fitness. The period for the sustainability of these results is not clear.

Most of the evidence is from North America and Europe, with some research emerging in Australia and Asia.

³³International Labour Organization, *Management of Alcohol- and Drug-related Issues in the Workplace. An ILO Code of Practice* (Geneva, International Labour Office, 1996).

³⁴Kazemi et al. (2013), Chan and Perry (2012), Thomas (2008) and Webb (2009).

Characteristics of workplace prevention programmes deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They are developed with the involvement of all stakeholders (employers, management and employees).
- ✓ They guarantee confidentiality to employees.
- ✓ They are based on a policy on substance use in the workplace that has been developed by all stakeholders and is non-punitive.
- ✓ They provide brief interventions (including web-based), as well as counselling, referral to treatment and reintegration services to employees who need them.
- ✓ They include a clear communication component.
- ✓ They are embedded in other health- or wellness-related programmes (e.g., for the prevention of cardiovascular diseases).
- ✓ They include stress management courses.
- ✓ They train managers, employees and health workers in fulfilling their roles in the programme.
- ✓ They include alcohol and drug testing only as part of a comprehensive programme with the characteristics described in the points above.

Existing guidelines and tools for further information

- International Society of Substance Use Professionals, Universal Prevention Curriculum, Coordinators Series, Course 6: Workplace-based prevention interventions.
- ILO, SOLVE Training Package: Integrating Health Promotion into Workplace OSH Policies (Geneva, International Labour Organization, Programme on Safety and Health at Work and the Environment (SAFEWORK), 2012).
- Organization of American States, CICAD, “CICAD hemispheric guidelines in workplace prevention” (2009).
- UNODC, in cooperation with the International Labour Organization, guidelines on workplace prevention programmes (forthcoming).

3. Tobacco policies

Brief description

A series of policies to be delivered to the general population in order to reduce the availability and accessibility of tobacco and tobacco smoking.

Available evidence

Four reviews reported findings about policies of this kind, one of which from the new overview, further supporting the WHO³⁵ guidance provided below, particularly with regard to policies in work settings.

The WHO Framework Convention on Tobacco Control sets out clear evidence-based guidance with regard to strategies to reduce the demand for tobacco. These include price and tax measures, which are an effective and important means of reducing tobacco consumption by various segments of the population, in particular young people. In addition, measures for the protection from exposure to tobacco smoke are also described in detail, as scientific evidence has unequivocally established that exposure to tobacco smoke causes death, disease and disability. Finally, additional regulations concern the contents of tobacco products, the disclosures of tobacco products, the packaging and labelling of tobacco products, education, communication, training and public awareness, and tobacco advertising, promotion and sponsorship. With regard to the latter, the Convention notes that a comprehensive ban on advertising, promotion and sponsorship would reduce the consumption of tobacco products.

Existing guidelines and tools for further information

- ✓ Reports and resources of the WHO Tobacco Free Initiative.

4. Alcohol policies

Brief description

A series of policies and interventions to reduce the harmful use of alcohol defined as drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large, and to reduce the patterns of drinking associated with increased risk of adverse health outcomes.

Available evidence

No new reviews were identified in the new overview of systematic reviews.

The WHO global strategy to reduce the harmful use of alcohol of 2010³⁶ summarizes clear evidence-based guidance with regard to interventions and policies that reduce the harmful use of alcohol, grouping them in 10 target areas. Besides leadership, awareness and commitment in protecting the population, responses are called for in the health sector, namely screening and brief interventions in primary health-care and other settings, including for pregnant women and women of child-bearing age. Another area of action concerns the mobilization and empowering of communities in preventing the sale of alcohol to underage drinkers and other at-risk groups and in developing alcohol-free environments and events. Drink-driving policies and countermeasures should be complemented with carefully planned, high-intensity, well-executed public awareness and information campaigns. Another crucial area of policy is the regulation of the availability of alcohol through measures such as establishing a licensing system for retail sales, or public health-oriented government monopolies, regulating the number and location of on-premise and off-premise alcohol outlets, regulating days and hours of retail sales, regulating modes of retail sales of alcohol, regulating retail sales in certain places or during special events, establishing an appropriate minimum age for purchase or consumption of alcoholic beverages, and adopting policies to prevent sales to intoxicated persons and to reduce the impact of marketing. It is particularly important to protect young people from the content of alcohol marketing, especially in low- and middle-income countries where there is currently a low prevalence of alcohol consumption among adolescents and they are now being targeted as new markets. In addition, increasing the price of alcoholic beverages through an effective and efficient system of

³⁶WHO, "Global strategy to reduce the harmful use of alcohol" (Geneva, 2010).

taxation matched by adequate tax collection and enforcement is one of the most effective interventions to reduce the harmful use of alcohol. Complementary policies include reducing the harm from alcohol intoxication and drinking without necessarily affecting the underlying alcohol consumption, particularly with regard to driving, and enacting management policies relating to responsible serving of beverages on premises and training staff in relevant sectors how better to prevent, identify and manage intoxicated and aggressive drinkers. Further areas of action are reducing the public health impact of illicit alcohol and informally produced alcohol, and, monitoring and surveillance.

These policies are also recommended by WHO to prevent unintentional injury (road injury) among adolescents, youth violence and sexual and other forms of gender-based violence,³⁷ and child maltreatment.³⁸

Existing guidelines and tools for further information

- WHO, “Global strategy to reduce the harmful use of alcohol” (Geneva, 2010).

5. Community-based multi-component initiatives

Brief description

At the community level, mobilization efforts to create partnerships, task forces, coalitions, action groups, etc., bring together different actors in a community to address substance use. Some community partnerships are spontaneous. However, the existence of community partnerships on a large scale is normally the product of a special programme providing financial and technical support to communities to deliver and sustain evidence-based prevention interventions and policies over time. Community-based initiatives are normally multi-component and take action in different settings (e.g., schools, families, media, enforcement).

Available evidence

No new reviews were identified in the new overview of systematic reviews.

In the first edition, 13 reviews had reported findings with regard to this intervention.³⁹

With regard to primary outcomes, according to these studies, community-based multi-component initiatives can prevent the use of drugs, alcohol and tobacco.

Although most evidence reported above originates in the United States, Canada, Europe and Australia, a few studies on community-based multi-component initiatives, particularly with regard to tobacco, originate in Asia.

Mobilizing communities to prevent the selling of alcohol to, and consumption of alcohol by, underage drinkers, and to develop and support alcohol-free environments, especially for youth and other at-risk groups is one of the areas of action identified as effective by the WHO global strategy to reduce the harmful use of alcohol.

³⁷WHO, *Global Accelerated Action for the Health of Adolescents (AA-HA!)*.

³⁸WHO, *INSPIRE: Seven Strategies for Ending Violence against Children*.

³⁹Bühler (2008), Carson (2011), Carson (2012), Foxcroft (2011), Gates (2006), Jackson (2012), Jones (2006), Müller-Riemenschneider (2008), Roe (2005), Schröder-Günther (2011), Skara (2003), Spoth (2008a) and Spoth (2008b).

Characteristics of community-based multi-component initiatives deemed to be associated with efficacy and/or effectiveness based on expert consultation

- They support the enforcement of tobacco and alcohol policies at the local level.
- They work in a range of community settings (families and schools, workplace, entertainment venues, etc.).
- They involve universities in supporting the implementation of evidence-based programmes and their monitoring and evaluation.
- Adequate training and resources are provided to the communities.
- Initiatives are sustained in the medium term (e.g., longer than a year).

Existing guidelines and tools for further information

- Canadian Centre on Substance Abuse, *Building on Our Strengths: Canadian Standards for School-based Youth Substance Use Prevention* (Ottawa, 2010).

6. Media campaigns

Brief description

Media campaigns are often the first and/or only intervention delivered by policymakers concerned with preventing the use of drugs among the population, as they are highly visible and have the potential to reach a large number of people relatively easily.

Available evidence

Six reviews reported findings for this kind of intervention, five of them from the new overview.⁴⁰

With regard to primary outcomes, these studies reported contradictory findings with regard to effectiveness in preventing tobacco, alcohol and drug use, with the exception of campaigns focusing on tobacco in combination with other prevention components.

The evidence reported originates from North America, Australia, New Zealand and Europe.

Characteristics of media campaigns deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ They precisely identify the target group of the campaign.
- ✓ They are based on a solid theoretical basis.
- ✓ The messages employed are designed on the basis of strong formative research.
- ✓ They strongly connect with other existing drug prevention programmes in the home, school and community.
- ✓ They achieve adequate exposure of the target group for a long period of time.
- ✓ They are evaluated systematically.

⁴⁰Allara et al. (2015), Carson et al. (2017), Ferri et al. (2013), Gould et al. (2013), Guillaumier et al. (2012) and Hopkins (2001).

- ✓ They target parents, as this also appears to have an independent effect on the children.
- ✓ They are aimed at changing cultural norms about substance use, educating about the consequences of substance use and/or suggesting strategies to resist substance use.

Characteristics of media campaigns deemed to be associated with lack of efficacy and/or effectiveness or with adverse effects based on expert consultation

- ✗ Media campaigns that are badly designed or poorly resourced should be avoided as they can worsen the situation by making the target group resistant to or dismissive of other interventions and policies.

7. Entertainment venues

Brief description

Entertainment venues include bars, clubs and restaurants as well as outdoor or special settings where large-scale events may take place. These venues can have either a positive or negative impact on the health and well-being of citizens, as they provide social meeting spaces and support the local economy, but at the same time they are identified as high-risk settings for many risky behaviours, such as alcohol and drug use, drugged driving and aggression.

Most prevention programmes focusing on entertainment venues have multiple components, including different combinations of the following: training of staff and managers and the managing of intoxicated patrons; changes in laws and policies, e.g., with regard to serving alcohol to minors or to intoxicated persons, or with regard to driving under the influence of alcohol and/or drugs; high-visibility enforcement of existing laws and policies; communication to raise awareness and acceptance of the programme and to change attitudes and norms; and offering treatment to managers and staff.

Available evidence

Three reviews reported results with regard to interventions of this kind,⁴¹ one of which is from the new overview.

With regard to primary outcomes, according to these studies, training of staff, policy interventions and enforcement reported some indication of effects on intoxication, risky alcohol consumption and alcohol-related harm, including in the context of sport events.

All evidence originates in North America, Europe and Australia.

Characteristics of programmes focusing on entertainment venues deemed to be associated with efficacy and/or effectiveness based on expert consultation

- ✓ Staff and management receive training on responsible serving and handling of intoxicated clients.

- ✓ They provide counselling and treatment for staff and management who need it.
- ✓ They include a strong communication component to raise awareness of the programme and encourage its acceptance.
- ✓ They include the active participation of the law enforcement, health and social sectors.
- ✓ They enforce existing laws and policies on substance use in the venues and in the community.

Existing guidelines and tools for further information

- CICAD, “Insights for a drugged driving policy”, document of the fifty-second regular session.

II. Prevention issues requiring further research

I. After-school activities, sports and other structured leisure time activities

In many countries and in many communities, it is popular to organize sports and other drug- or substance-free leisure time activities as a way to give adolescents pro-social and healthy pursuits, preventing them from engaging in risky behaviours including drug use.

The overview undertaken for this second updated edition of the *International Standards* found one review that studied informal education activities for positive youth development and which reported no effect or inconclusive outcomes.

The review of literature undertaken for the first edition of the *International Standards* had identified three reviews reporting practically no studies assessing the impact of organizing sports on substance use or on mediating factors among children. The new overview did not identify new studies. In fact, participation in sports per se is not always associated with lower rates of substance use and has been linked to higher rates of smoking and binge drinking.

The review of evidence that informed the WHO guidelines on preventing youth violence found that after-school and other structured extracurricular leisure time activities that included social skills-training have resulted in reduced delinquency, reduced alcohol and drug use and decreased school dropouts. Some evidence was from low- and middle-income countries, but most studies have insufficiently robust research designs.⁴²

It also has been reported that after-school programmes are frequently intended for young people from poor socioeconomic backgrounds or young people with behavioural problems, and several studies have noted that bringing together high-risk young people may have adverse effects. On the other hand, there are examples of programmes where sport coaching is used as a setting to deliver personal and social skills education, one of which, the “Line Up Live Up” programme, is currently being piloted by UNODC in Africa and Latin America.

In general, policymakers should exercise the utmost caution if choosing to implement this kind of intervention and include a strong research component to assess the impact.

⁴²WHO, *Preventing Youth Violence: An Overview of the Evidence* (Geneva, 2015); *Global Accelerated Action for the Health of Adolescents (AA-HA!)*.

2. Preventing the non-medical use of prescription drugs

The non-medical use of prescription drugs controlled under the international drug control conventions is an increasing problem in many countries, as is the non-medical use of some medicines that are sold over the counter. In some countries, this challenge is second only to cannabis use. Treatment demand for non-medical use of prescription drugs is greatest in North America, but there are reports of significant treatment demand in Europe, Africa, South Asia and Latin America. Depending on the country and substance, some more vulnerable groups (such as youth, women, older adults, health-care professionals, as well as street children and civilians and armed forces in post-conflict situations) appear to be particularly at risk. Moreover, the health and social consequences of the non-medical use of prescription drugs can be as serious as for other controlled drugs.

The overview undertaken for this second updated edition of the *International Standards* did not identify any systematic review with regard to preventing the non-medical use of prescription drugs specifically. However, most of the strategies found to be effective in preventing substance use have strong developmental components and, as such, their effects are not specific to any particular substance and indeed are able to impact various risky behaviours. As such, there is emerging evidence that universal, evidence-based interventions in schools, with families and in communities are effective in preventing the non-medical use of prescription drugs as well.⁴³

Sourcing of prescription drugs occurs through “double doctoring”, fraud, theft and the Internet, as well as via family and friends. Therefore, in addition to these interventions, it may seem reasonable to assume that all of these sources present opportunities for prevention. There are some indications that providing guidelines and authoritative advice to physicians, as well as restricting and monitoring prescriptions and creating registers will change their prescribing behaviour and will limit access to those medications to only patients who need them. Given the great influence of parents on youth, and given that many individuals report sourcing the substances from family, targeting parents to raise their awareness of the need to use prescription drugs only under medical supervision, both for themselves and their children, might be a promising approach. One promising measure would be taking practical steps in the community to safely dispose of prescription drugs that are outdated or no longer being used by the intended recipient. Finally, health-care professionals might need to be trained on an ongoing basis on how to prevent, recognize and manage the non-medical use of prescription drugs and related consequences.⁴⁴

Some additional indications on possible interventions and policies to prevent the non-medical use of prescription drugs can be found in the UNODC discussion paper entitled *The Non-medical Use of Prescription Drugs: Policy Direction Issues* and the CICAD publication entitled “Guide to preventing prescription drug abuse”.⁴⁵

⁴³Spoth et al. (2017), Spoth et al. (2016) and Spoth et al. (2013).

⁴⁴From the draft version of “The surgeon general’s call to action to prevent prescription drug abuse among youth: the dangers of improper use of controlled medications” (2014) (unpublished) and UNODC, *The Non-Medical Use of Prescription Drugs: Policy Direction Issues* (Vienna, 2011).

⁴⁵CICAD/doc.1976/12.

3. Interventions and policies targeting children and youth particularly at risk

The overview undertaken for this second updated edition of the *International Standards* did not identify any systematic review with regard to preventing substance use among children and youth particularly at risk, in spite of evidence indicating that they are often exposed to drugs at a very young age. This group includes, for example, out-of-school children and youth, street children, current and former child soldiers, children and youth among displaced or post-conflict populations, and children and youth in foster care, orphanages and the juvenile justice system.

4. Prevention of the use of new psychoactive substances not controlled under the Conventions

Many countries have witnessed a recent rise in the use of new psychoactive substances that are not controlled under the international drug control conventions (the so-called “legal highs” or “smart drugs”).⁴⁶ The overview undertaken for this second updated edition of the *International Standards* did not identify any systematic review with regard to the prevention of use of these substances. However, as in the case of the non-medical use of prescription drugs, most prevention strategies based on scientific evidence are not substance-specific. This is particularly true of strategies that address vulnerabilities early in life or that strengthen positive coping skills that help individuals not to resort to negative coping skills, including substance use. Therefore, it appears to be reasonable to consider that such strategies might also be effective in preventing the use of these new psychoactive substances. However, this is another area where rigorous research appears to be necessary.

5. The influence of media

Exposure to media exerts a profound influence on the psychosocial development of young people. In particular, popular culture (e.g., celebrities, film, music) can strongly influence the initiation of risky behaviours such as alcohol and tobacco use. Several potential mechanisms may explain this influence, including a desire to acquire the traits that make celebrities special or the spread of behaviours throughout social networks. Due to the unique neuro-developmental context of young people, they are particularly susceptible to the influence of popular culture and their actions are not simply a result of health illiteracy. Although this topic is not covered in this document, further research to examine the issue more closely would be warranted. In addition, and with reference to the relevant section in the previous chapter, it should be noted that the evidence available on the effectiveness of mass media campaigns is extremely limited. In this context, more research on the effectiveness of mass media campaigns is imperative.

⁴⁶ *World Drug Report 2017* (United Nations publication, Sales No. E.17.XI.6).

III. Characteristics of an effective prevention system

An effective national drug prevention system delivers an integrated range of interventions and policies based on scientific evidence, taking place in multiple settings and targeting relevant ages and levels of risk. This should come as no surprise given the complex interplay of factors that make children, youth and adults alike vulnerable to substance use and other risky behaviours. It is not possible to address such vulnerabilities by simply implementing a single prevention intervention, which is often isolated and limited in its time frame and reach. The overarching goal here is to support the healthy and safe development of individuals. Arguably, an effective prevention system would comprise strategies with a mix of environmental and developmental components, with a minor component focusing on information.

To deliver an integrated range of interventions and policies, a system requires strong structural foundations, which are briefly described in this section and include:

- A supportive policy and legal framework.
- Scientific evidence and research.
- Coordination of the multiple sectors and levels involved (national, subnational and municipal/local).
- Training of policymakers and practitioners.
- Commitment to providing adequate resources and to sustaining the system in the long term.

A. Range of interventions and policies based on evidence

The previous section has provided a comprehensive review of the interventions and policies that have been found to be efficacious or effective in preventing substance use. Strategies differ in four main areas: the age of the target group, the level of risk of the target group, the setting in which the strategy is delivered, and the focus of action (environmental, developmental, information). An effective system delivers a range of evidence-based interventions and policies in order to:

- Support children and youth throughout their development and particularly at critical transition periods where they are most vulnerable, e.g., infancy and early childhood, at the transition between childhood and adolescence.
- Target the population at large (universal prevention), but also support groups (selective prevention) and individuals (indicated prevention) that are particularly at risk.
- Address both individual and environmental factors of vulnerability and resilience.

- Reach the population in multiple settings (e.g., families, schools, communities, the workplace).

B. Supportive policy and regulatory framework

No programme or policy can exist in a vacuum. As noted in the introduction, drug prevention is but one of the fundamental components of a health-centred system focused on ensuring that drugs are available for medical and research purposes while preventing diversion and drug use, and that other psychoactive substances do not impact on the burden of health. In this respect, an effective national system would be:

- Embedded in a comprehensive and health-centred system of drug control focused on ensuring the availability of drugs for medical and research purposes, while preventing diversion and drug use, thus including supply reduction, treatment, care and rehabilitation of drug dependence, and prevention of the health and social consequences of drug use (e.g., HIV/AIDS, hepatitis C, drug overdose, driving under the influence).
- Based on the understanding of drug use disorders as health conditions developing as a result of a complex interaction of genetic, biological and psychological factors with the environment and that those disorders need to be treated and not punished.
- Linked to a national public health strategy for the healthy and safe development of children, youth and adults, including the prevention and treatment of and care for substance use disorders, as well as the prevention of other unhealthy or risky behaviours.

In addition, there are important societal characteristics that have a great impact on the implementation and effectiveness of evidence-based prevention, such as the degree of inequality, social capital and social norms with regard to the use of psychoactive substances.

Moreover, the delivery of programmes by both governmental and non-governmental agencies can be greatly enhanced if it is mandated and supported at the national level by appropriate regulation, including the following elements:

- National standards, including quality standards, for drug prevention interventions and policies. In addition to the *International Standards on Drug Use Prevention*, the *European Drug Prevention Quality Standards* were developed by a consortium of research and practice institutions in Europe, which have also developed useful toolkits, including for policymakers that want to fund quality prevention strategies (Toolkit 1); practitioners that want to undertake a self-assessment with a view to improvement (Toolkit 2); and national groups that want to rigorously adapt the European Standards (Toolkit 4) and provide training materials (Toolkit 3). The Portfolio of Canadian Standards for Youth Substance Abuse Prevention of the Canadian Centre on Substance Abuse and Addiction is also an important example.
- It is suggested that, to the extent possible, national standards should require that only evidence-based strategies be implemented. One way of supporting that is to create a registry of evidence-based strategies or make reference to existing registries such as the Blueprints for Healthy Youth Development and those developed in

many European countries, for example, the Xchange prevention registry, a unified European registry currently being piloted and made available by the European Monitoring Centre for Drugs and Drug Addiction.

- National professional standards for drug prevention policymakers and practitioners, possibly within an accreditation system. An accreditation system would also support the professionalization of the field and the creation of organizations of professionals, similar to what has been done in the field of treatment of drug use disorders. A global pilot experience in this regard that can provide useful support is the International Society of Substance Use Professionals.
- A policy requiring schools to implement evidence-based substance use prevention programmes and policies in the context of health or personal/social education and promotion, including standards on how to do so.
- A policy requiring employers to implement substance use workplace prevention policies or programmes, including standards on how to do so.
- A policy requiring health, social and education services to support families to nurture the physical, cognitive and emotional development of their children.

C. A strong basis of research and scientific evidence

An effective national drug prevention system should both be based on scientific evidence and support research efforts to contribute to the evidence base. There are two dimensions to this. First, interventions and policies should be chosen based on an accurate understanding of what the situation really is. This systemic approach will include identifying the population that is most vulnerable or starting to use psychoactive substances, the possible reason why people are initiating use, and which interventions and policies most closely respond to this situation. Second, the effectiveness and, whenever possible, the cost-effectiveness of delivered interventions and policies need to be rigorously evaluated. Results of this rigorous evaluation will allow decision makers to know the impact on outcomes, such as a decrease in initiation of drug use, and to inform and expand the base of knowledge related to prevention interventions. It is also important that this research and its findings be peer-reviewed, published and discussed to the extent possible.

1. Evidence-based planning

With regard to the first dimension of an effective national system, an information system should be in place to provide the necessary understanding of the situation, as well as opportunities to use this knowledge to plan. To address this dimension, an effective national prevention system would include:

- An information system regularly collecting and monitoring information on:
 - Prevalence: what percentages of people (broken down by age, gender and other important characteristics) are using which substance(s)? How often and how much? What are the health and social consequences?
 - Initiation of drug use: at what age are people (especially young people) initiating use of drugs and/or other substances?
 - Vulnerabilities: why are people, especially young people, initiating use of drugs and/or other substances? What is the situation of children with regard to factors

- that are known to be linked to substance use (e.g., poor parenting, poor attachment to school, violence and abuse, etc.)?
- A formal mechanism to regularly feed the data generated by the information system into a systemic planning process that will, in turn, consider the following:
 - Strategies needed: which evidence-based interventions and policies have been effective in addressing the identified situation?
 - Availability and coverage of existing strategies: which of these interventions and policies are currently being implemented? What percentage of the population that needs them are reached by these interventions and policies?
 - Quality of existing strategies: are ongoing interventions and policies based on scientific evidence? (This refers to both the scientific understanding of the vulnerabilities addressed and/or the systematic adaptation of existing evidence-based programmes.)
 - Effectiveness of existing strategies: have the strategies been evaluated (see below) and, if so, what are the results? What do the data generated by the information system tell us with regard to the effectiveness of the prevention system as a whole?
 - Available infrastructures and resources that could be utilized as part of the national prevention system: which institutions implement or should implement prevention? Is the funding centralized or decentralized? How is the funding allocated?
 - What are the gaps between the strategies needed and the availability, coverage, quality and effectiveness of the existing systemic strategies, infrastructures and resources?

2. *Research and planning*

The second dimension of an effective national system relates to the evaluation of specific prevention programmes and policies. As noted, evidence-based strategies identified in the previous section may not necessarily be appropriate for the target, the level of resources or the cultural environment, although in many cases they will be. There may be other programmes or policies that more successfully address these issues. It is imperative that selected programmes and policies:

- Are based on a scientific understanding of the vulnerabilities addressed. In other words, and as an example, it is strongly desirable that programmes and policies are created to address a risk factor or situation that has been found to be linked to increased initiation (or earlier onset or higher prevalence of substance use) on the basis of scientific research and a needs assessment and not merely the feelings of an individual, however well-intentioned and concerned.
- Include a scientific monitoring and evaluation component in order to assess whether these interventions result in the desired outcome. This implies strong collaboration with academic and research institutions (including, but not limited to, universities), as well as the use of experimental or quasi-experimental design. In the field of medicine, normally no intervention would be used unless scientific research had found it to be effective and safe. The same should go for drug prevention interventions.

It should be noted that in the *International Standards on Drug Use Prevention*, the intention was to provide an indication of the effectiveness, or at least the efficacy, of various kinds of interventions and policies, without referring to specific evidence-based programmes. However, the evidence originates in the evaluation of specific programmes, and this means that it can never be assumed that a strategy that is “basically similar” to an evidence-based one will be as effective. For example, while there may be evidence for “prenatal and infancy visitation programmes” overall, some particular programmes of that type are quite effective, whereas others have been shown to be ineffective, even though they may have some of the characteristics deemed to be associated with efficacy and/or effectiveness. This is another reason why evaluation is crucial.

The Canadian Centre on Substance Abuse and Addiction has developed useful tools to support the monitoring and evaluation of prevention, and UNODC has developed a training programme for policymakers on supporting a culture of evaluation of prevention. Finally, Course 3 of the Coordinator Series of the Universal Prevention Curriculum is entirely dedicated to monitoring and evaluation.

Also in the case of the implementation of an evidence-based programme, monitoring and evaluation remain extremely important in the context of a careful adaptation of the programme. In this case, it is suggested that the process should include:

- A careful and systematic process of adaptation that does not touch the core components of the programme, while making it more acceptable to the new socio-economic/cultural context. Ideally, this would take place with the support of the developers of the programme. In this context, the UNODC Guide on family skills training contains a chapter devoted solely to adaptation, while Toolkit 4 of the *European Drug Prevention Quality Standards* provides a careful and detailed process for national stakeholders that want to adapt and adopt those standards, and that would be extremely useful also in this respect.
- A scientific monitoring and evaluation component in order to assess whether the programme is actually effective in the new socioeconomic/cultural context. While a control (and possibly randomized) component is preferable at a piloting stage, a pre- and post-collection of data with a comparison to the original study would already provide a good indication of whether the programme is working in the new context or not. An additional advantage of evidence-based programmes is that all the monitoring and evaluation instruments are already available.

D. Different sectors involved at different levels

National drug prevention systems are about ensuring that children, youth and adults have the opportunity to lead healthy and safe lifestyles in various settings. Therefore, the national sectors to be involved in the delivery of systemic prevention interventions and policies are many and necessitate a clear definition of roles and coordination.

A national drug prevention system would therefore involve relevant national sectors (e.g., education, health, social welfare, youth, labour, law enforcement authorities) in the planning, delivery, monitoring and evaluation of its components:

- Integrated levels of consistent implementation: national (federal), subnational (state/regional/district), municipal and local).

- The full spectrum of key stakeholders. This could include, but is not limited to national and subnational administration, municipal or local governmental service delivery agencies, non-governmental agencies, residents and community leaders, religious communities and leaders, universities and other research institutions, and the private sector, as appropriate.
- Structured and well-defined roles and responsibilities for all stakeholders. There is great value in a partnership and collaboration of various stakeholders working together and taking responsibility for different elements of policy development and implementation.
- A clear mechanism to provide decision makers (whether centralized or decentralized) with strong technical assistance to guide them in implementing evidence-based policies and interventions.
- A strong lead and coordinating agency.

There is not one single way of organizing the delivery of evidence-based prevention strategies. For example, they do not need to take the form of programmes, but can be integrated into the everyday work of institutions and services such as the school, youth work and health and social services. In this case, strategies are planned, managed and coordinated centrally, while the implementation relies on local multi-professional coordination. Other possible examples of how different levels could interact include the following:

- Policymakers at the national level coordinate the development of the national policies, set the quality standards and support the infrastructure for implementation through adequate funding for the delivery of strategies and for training relevant stakeholders.
- Policymakers and/or agencies at the local level deliver interventions and policies, feed data to the information system and actively improve their knowledge and skills.
- Non-governmental organizations, residents and community leaders (which could include religious communities and leaders) mobilize for changes in or acceptance of policies, influencing community norms, delivering evidence-based interventions and policies. It should be noted that community mobilization has been found to be an effective and participatory mechanism to realize evidence-based strategies.
- Universities and research institutions analysing data to promote a better understanding of the substance use situation and to monitor and evaluate national policies, evaluating specific interventions and policies.
- The private sector actively supporting prevention in the workplace and contributing, as appropriate, to evidence-based and innovative interventions.

E. Strong infrastructure of the delivery system

To be delivered effectively, interventions and policies must be supported by adequate resources:

- Agencies delivering interventions and policies need to be adequately financed.
- Practitioners delivering intervention and policies need to be adequately trained on an ongoing basis. The Coordinator Series of the Universal Prevention Curriculum

has been developed and piloted globally, and a European adaptation, UPC-Adapt, is ongoing. It comprises nine courses providing a foundation and a complete overview of the evidence-based practice. A second series for implementers is currently under development.

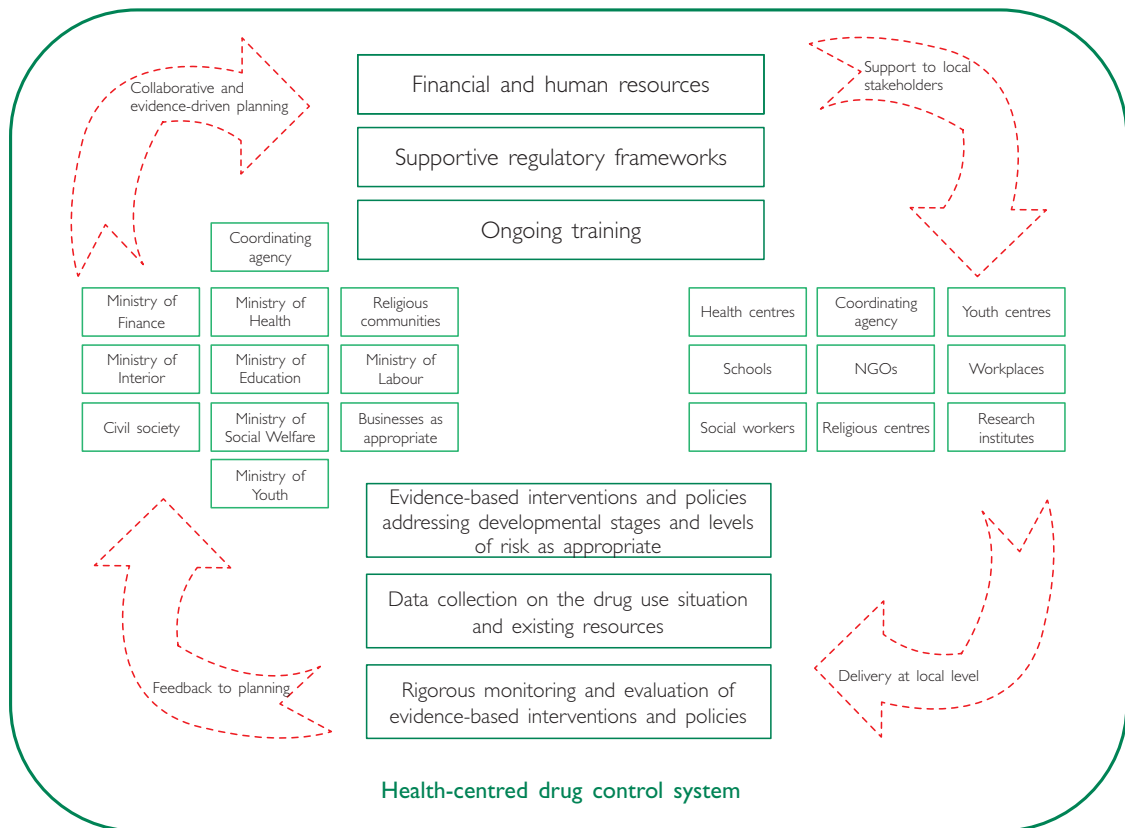
- Policymakers at different levels of planning and developing interventions and enforcing policies need to be adequately trained on an ongoing basis.
- Technical assistance should be provided on an ongoing basis to support implementation and continuous quality improvements.
- Academic and research institutions need to be adequately financed by supporting scientific monitoring and evaluation as part of the implementation of prevention.

F. Sustainability

Drug prevention is effective and cost-effective, but, as with all policies, there needs to be a visible medium- to long-term investment to realize its potential. In this respect, the following are ways to sustain the action of the above-mentioned components:

- A mechanism for the review and adjustment of the national prevention system at regular intervals.
- Delivery of evidence-based interventions and policies planned and resourced to be active at least in the medium term.
- Regular collection of data through the information system, including feedback into the planning/review process.
- Continuous support to research for the rigorous evaluation of interventions and policies.
- Continuous support for the training of practitioners and policymakers involved in the planning, delivery, monitoring and evaluation of drug prevention strategies.

Figure. Schematic representation of a national drug prevention system





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