

# Chapter I.

## Improving substance use prevention and treatment services for young people

1. According to the UNODC *World Drug Report 2018*, it is estimated that over 31 million people who use drugs suffer from drug use disorders, and many of them are young people.<sup>3</sup> Drug use has a significant economic and social impact for countries, families and communities, in particular the impact it has on the future opportunities of young people.<sup>4</sup> The situation calls for renewed efforts to support the prevention of substance use and the treatment of drug use disorders, including services aimed at reducing the adverse health consequences of drug use. Through 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” and Sustainable Development Goal 1 (reducing poverty), Goal 3 (good health and well-being), Goal 4 (quality education) and Goal 10 (reducing inequality), among other Sustainable Development Goals, Member States have reaffirmed their commitment to

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<sup>3</sup>The United Nations uses the terms “youth” and “young people” interchangeably and defines “youth” as meaning those persons aged 15–24, without prejudice to other definitions used by Member States and other entities. Although the age of initiation of drug use tends to correspond to that age group, it is important to start prevention interventions early in life, including at the prenatal stage and in early and middle childhood.

<sup>4</sup>For the purposes of the present report, the term “the prevention of the use of psychoactive substances” refers to efforts to avoid or delay the initiation of the use of psychoactive substances, or, if use has started, to avert the development of substance use disorders (harmful substance use or dependence). The much broader aim of prevention is 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 significantly contributes to the positive engagement of children, youth and adults with their families, schools, workplace and community. “Treatment” is defined as the management of substance use disorders of individuals in order to reduce their drug use and cravings for drug use, treat co-morbidity, improve the health, well-being and social functioning of the affected individual, and prevent future harms by decreasing the risk of complications and relapse.

adopting a balanced and health-centred approach to substance use prevention and treatment.

2. Article 38 of the Single Convention on Narcotic Drugs of 1961<sup>5</sup> underscores the importance of measures to prevent and treat drug dependence. That article, as contained in the 1961 Convention as amended by the 1972 Protocol,<sup>6</sup> and article 20 of the Convention on Psychotropic Substances of 1971<sup>7</sup> both state that the parties shall give special attention to and take all practicable measures for the prevention of abuse of drugs and for the early identification, treatment, education, aftercare, rehabilitation and social reintegration of the persons involved and shall coordinate their efforts to those ends.

3. Further, the conventions also state that parties shall as far as possible promote the training of personnel in the treatment, aftercare, rehabilitation and social reintegration of abusers of psychotropic substances, as well as assist persons whose work so requires to gain an understanding of the problems of abuse of drugs.

4. The drafters of the conventions, however, did not prescribe particular approaches or methods to achieve those objectives, particularly in consideration of the different conditions in the diverse countries. They may have also considered that over the course of time there would be scientific advances that would enhance understanding of the problem of drug dependence, accompanied by the development of new methods to prevent and treat this problem. The conventions leave it to Governments to

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<sup>5</sup>United Nations, *Treaty Series*, vol. 520, No. 7515.

<sup>6</sup>*Ibid.*, vol. 976, No. 14152.

<sup>7</sup>*Ibid.*, vol. 1019, No. 14956.

identify the “practicable measures” to be developed to prevent and treat drug dependence, but they also underscore the importance of having trained personnel in the area of prevention and treatment, who would receive further training as new knowledge and skills become available.

5. At the time of the drafting of the conventions, there was only limited scientific research on the physiological and psychological effects of psychoactive substance use on young people and on the most effective methods for the prevention and treatment of such use among young people. However, over the past 40 years, that knowledge base has grown considerably. Prevention strategies based on that scientific evidence indicate the effective ways to work with families, schools and communities and to implement treatment approaches specifically designed for the needs of adolescent substance users. Those prevention strategies ensure that children and young people, especially the most marginalized and poor, have opportunities to grow and stay healthy and safe into adulthood and old age.

6. Apart from the international drug control conventions, the importance of protecting children from drug use and dependence is also reiterated in article 33 of the Convention on the Rights of the Child,<sup>8</sup> in which States parties undertake to “take all appropriate measures, including legislative, administrative, social and educational measures, to protect children from the illicit use of narcotic drugs and psychotropic substances as defined in the relevant international treaties, and to prevent the use of children in the illicit production and trafficking of such substances”.

7. In addition, the need to address drug use and dependence, in particular among young people, has been the subject of numerous resolutions and declarations of the Commission on Narcotic Drugs, the Economic and Social Council, and the General Assembly in its special sessions on the world drug problem held in 1998 and 2016.

8. Chapter I of the INCB annual report for 2009<sup>9</sup> focused on prevention, summarizing the accumulated scientific advances in prevention for young people and made the following recommendations:

- Governments should establish a clear focal point for primary prevention, develop a national drug control strategy and a public health framework, and build capacity for collaboration and working

together with organizations and institutions to achieve prevention aims.

- Governments should establish mechanisms to improve understanding of drug use and the factors that influence drug use, build and disseminate knowledge of best practices, evaluate their efforts and develop the primary prevention workforce.
- UNODC should collaborate with others to develop standards against which Governments may measure their efforts in primary prevention. Specifically, UNODC should collaborate with the United Nations Children’s Fund, the International Labour Organization, UNESCO, WHO, relevant non-governmental organizations and the private sector to develop, promote and disseminate resources to help Governments strengthen the quality of their primary prevention work.

9. More recently, in the INCB annual report for 2017,<sup>10</sup> chapter I (Treatment, rehabilitation and social reintegration for drug use disorders: essential components of drug demand reduction) addressed the treatment needs of special populations including adolescents. In that chapter, the many challenges in addressing those needs were noted, and it was underscored that there was a need for more research on the effects that medications used in the treatment of adults had on children and adolescents and for more research on effective psychosocial interventions for adolescents.

10. The present chapter of the annual report for 2019 focuses on the use of psychoactive substances among young people and on improving the implementation of evidence-based prevention and treatment services, and it builds on and expands the findings and recommendations of the INCB annual reports for 2009 and 2017. In the 10 years since the publication of the INCB annual report for 2009, Governments have made progress in the implementation of prevention programmes, but only recently has it been recognized that the results of science and their application to policy and practice could make a significant difference in the worldwide response to substance use.

11. A series of UNODC publications on drug prevention, treatment, care and rehabilitation respond to the need to support Member States in meeting their commitments to “promote, develop, review or strengthen effective, comprehensive, integrated drug demand reduction programmes, based on scientific evidence and covering a range of measures, including primary prevention, early

<sup>8</sup>Ibid., vol. 1577, No. 27531.

<sup>9</sup>E/INCB/2009/1.

<sup>10</sup>E/INCB/2017/1.

intervention, treatment, care, rehabilitation, social reintegration and related support services”.<sup>11</sup> Some of those publications discussed, in particular, the issues of interventions and services targeting children and youth, including the UNODC *International Standards on Drug Use Prevention*, first published in 2013 and revised jointly with WHO in 2018; the *International Standards for the Treatment of Drug Use Disorders* of 2017; and *Booklet 10: Education Sector Responses to the Use of Alcohol, Tobacco and Drugs* of the Good Policy and Practice in Health Education Series, published by UNESCO, WHO and UNODC in 2017. Those publications reflect the current state of the research and evidence in these fields, but they will need to be updated as future, additional evidence becomes available.

12. While there is often widespread awareness and concern among policymakers and the public about substance use, in particular substance use among young people, there may not be an awareness of the evidence-based prevention and treatment strategies currently available to intervene effectively at any point to prevent the initiation and progression of substance use, and of the kind of treatment that can be implemented for those who need it. These effective strategies, which are the result of more than 30 years of research and field testing, are currently being implemented in various parts of the world. It is important for government experts and civil society to recognize these strategies and develop policies incorporating the most effective ways to support and deliver evidence-based substance use prevention and treatment services for young people.

13. In many countries, great attention has been given to the issue of substance use among young people, and that attention can lead to the impression among young people themselves that substance use is normal – that is, that “everyone is doing it”. For example, the recent adoption of legislation supporting medical use – and recently, non-medical or “recreational” use – of cannabis in some countries, the decriminalization of cannabis use in some other countries and the easy access to a number of psychoactive substances may decrease the perceived risk among young people regarding the social, emotional or physical consequences of substance use.<sup>12</sup> There is

<sup>11</sup> Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem (See *Official Records of the Economic and Social Council, 2009, Supplement No. 8 (E/2009/28)*, chap. I, sect. C).

<sup>12</sup> Charlotte Skoglund and others, “Public opinion on alcohol consumption and intoxication at Swedish professional football events”, *Substance Abuse Treatment and Prevention Policy*, vol. 12, No. 21 (May 2017); Tina Van Haverre and others, “Drug use and nightlife: more than just dance music”, *Substance Abuse Treatment and Prevention Policy*, vol. 6, No. 18 (July 2011).

evidence that such misperceptions can lead to the initiation of use among young people.<sup>13</sup> Governments and society have learned from the history of tobacco use how important it is to protect children and young people from initiating use of these psychoactive substances through the implementation of evidence-based prevention interventions and policies.

14. In spite of the concerns, available research shows that worldwide, substance use among the general population is not actually as prevalent as it may seem at first glance. For example, the international epidemiological data available show that among young people (under the age of 24), the majority (over 80 per cent) do not use any controlled substance.<sup>14</sup> Nevertheless, there is also evidence that some young people are made particularly vulnerable due to poverty and extreme social conditions. Evidence-based drug prevention and treatment targeting youth have a demonstrated effect on substance use and substance use disorders, their health and social consequences, as well as on aggressiveness, youth violence and – in the case of family skills training – child maltreatment. Therefore, there is a strong mandate for evidence-based prevention and treatment under several targets of the Sustainable Development Goals, most notably target 3.5, on strengthening the prevention and treatment of substance abuse, but also target 3.3, on ending the epidemic of AIDS and combating hepatitis, target 3.4, which includes promoting mental health and well-being, target 16.1, on significantly reducing all forms of violence, and target 16.2, on ending all forms of violence against children. In addition, evidence-based substance use prevention and treatment contribute to the reduction of poverty (Sustainable Development Goal 1) and the reduction of gender inequality and socioeconomic inequality (Goals 5 and 10), as well as contributing to making cities safe and resilient (Goal 11).

15. The INCB annual reports for 2009 and 2017 addressed the scientific advances made to date in the prevention and treatment of substance use disorders. The present chapter provides an update on those advances and the resulting improved understanding of use of psychoactive substances, the nature and extent of use among young people, how initial use during adolescence can lead to substance use dependency and disorders and, in

<sup>13</sup> Sarah-Jeanne Salvy and others, “Proximal and distal social influence on alcohol consumption and marijuana use among middle school adolescents”, *Drug and Alcohol Dependence*, vol. 144 (November 2014), pp. 93–101; Megan S. Schuler and others, “Relative influence of perceived peer and family substance use on adolescent alcohol, cigarette, and marijuana use across middle and high school”, *Addictive Behaviors*, vol. 88 (January 2019), pp. 99–105.

<sup>14</sup> *World Drug Report 2018* (United Nations publication, Sales No. E.18.XI.9).

particular, the effective prevention and treatment strategies identified by science to address drug use and drug use disorders among young people.

16. Several important areas should be noted:

- Improved international epidemiological data that heighten concerns about, and advance our understanding of, substance use among adolescents and young adults, specifically those aged 15–24
- The defining of the field of prevention science and the potential for its practical application
- The reconceptualization of the aetiology of substance use and vulnerability to progression from substance use to substance use disorders
- The reframing of substance use prevention within a public health context to incorporate prevention interventions that address the level of risk and vulnerability (i.e., universal, selected and indicated interventions) and the treatment needs of young people, who require an array of services that differ from those needed by adults
- The UNODC-WHO *International Standards on Drug Use Prevention* (revised 2nd ed., 2018) and the *International Standards for the Treatment of Drug Use Disorders* (2017), mentioned above, which summarize the research literature and present evidence-based prevention and treatment principles and strategies, including the components of a national drug prevention and treatment service system

### Epidemiology of psychoactive substance use by young people

17. There are considerable differences from region to region in the trends and patterns of substance use, in general and for young people in particular, that are related to different issues and different cultural and social circumstances. For example, there is a higher prevalence of use of amphetamine-type stimulants in Asia, while in Latin America coca paste and cocaine are widely used in addition to cannabis. Similarly, between North America and Europe there are significant differences in the patterns of substance use.

18. The most recent available epidemiological data on substance use among young people (aged 15–24 years) are provided in the UNODC *World Drug Report 2018*,

which contains in its booklet 4, on drugs and age, key findings pertaining to young people:

- Substance use and associated health consequences are highest among young people (in particular those aged 18–25).
- Global estimates of substance use among young people under the age of 18 are difficult to obtain due to the limited number of surveys carried out in some regions, and due to the different ways of measuring prevalence and categories for age groups used in the various surveys available.
- In general, it has been found that males have higher rates of use than do females, although it has been noted that the gender difference has been narrowing in some regions.
- Cannabis is widely used by young people. Based on data from 130 countries, the UNODC global estimate of cannabis use in 2016 was that 13.8 million, or 5.6 per cent of young people aged 15–16, had used cannabis at least once in the year prior to the survey. In Oceania, the past-year prevalence rate for that age group was 11.4 per cent; in the Americas, 11.6 per cent; in Africa, 6.6 per cent; in Europe, 13.9 per cent; and in Asia, 2.7 per cent.
- Although collecting and harmonizing data on the cause of death for different countries is challenging, the WHO Global Health Estimates 2015 show that while deaths of young people aged 15–29 from all causes accounted for only 4.8 per cent of all deaths in 2015, that age group accounted for 23.1 per cent of all deaths attributed to drug use disorders that year.<sup>15</sup>
- Owing to the pharmacology of these psychoactive substances and the physiology of the developing brains of young people, use eventually comes to be driven by the desire for the effects of the psychoactive substance, regardless of the social and psychological factors that had originally played a role in initiation and early use.
- The paths that lead young people to substance use disorders are complex. Many factors play a role in the progression from substance use to substance use disorder. Although many who initiate use of psychoactive substances eventually discontinue

<sup>15</sup>WHO, Global Health Estimates 2015: Deaths by Cause, Age and Sex and by Country and Region, 2000–2015 (Geneva, 2016).

use, those who are most vulnerable because of physiological, social, emotional and developmental factors may progress to the use of multiple substances and/or an increased frequency of use.

- Many young people are involved in the drug supply chain, among other reasons, due to poverty and a lack of opportunities for social and economic advancement. Such involvement puts them at risk of further involvement in criminal behaviours, violence, incarceration and premature death.

19. The age of onset of substance use is of greatest global concern because research shows that the earlier the age of onset, the greater the likelihood of developing substance use disorders due to the effects of these substances on the developing brain.<sup>16</sup> Degenhart and others<sup>17</sup> have presented comparisons of age of onset of use for alcohol, tobacco, cannabis and cocaine for the 17 countries that participated in the World Mental Health Survey Initiative. The authors show that the median age of onset of use for these substances is similar in those countries: 16–19 years for alcohol and tobacco, 18–19 years for cannabis and 21–24 years for cocaine. The information suggests that children and adolescents should be targeted long before they reach the age of first use, by means of evidence-based prevention interventions and policies.

20. Longitudinal studies that have followed children into adulthood indicate that the earlier the age of onset for alcohol, tobacco and cannabis use, the greater the likelihood of use of drugs such as opiates and cocaine.<sup>18</sup> Epidemiological and laboratory research has explored this relationship and has shown that genetic, biological and societal factors are associated with this progression.<sup>19</sup>

<sup>16</sup>Ibid.

<sup>17</sup>Louisa Degenhardt and others, “Toward a global view of alcohol, tobacco, cannabis, and cocaine use: findings from the WHO World Mental Health Surveys”, *PLoS Medicine*, vol. 5, No. 7 (July 2008).

<sup>18</sup>Denise Kandel, “Stages in adolescent involvement in drug use”, *Science*, vol. 190, No. 4217 (November 1975), pp. 912–914. Michael T. Lynskey and others, “Escalation of drug use in early-onset cannabis users vs. co-twin controls”, *Journal of the American Medical Association*, vol. 289, No. 4 (January 2003), pp. 427–433.

<sup>19</sup>Arpana Agrawal, Carol A. Prescott and Kenneth S. Kendler, “Forms of cannabis and cocaine: a twin study”, *American Journal of Medical Genetics, Part B Neuropsychiatric Genetics*, vol. 129B, No. 1 (May 2004), pp. 125–128; Denise Kandel and Eric Kandel, “The gateway hypothesis of substance abuse: developmental, biological and societal perspectives”, *Acta Paediatrica*, vol. 104, No. 2 (February 2015), pp. 130–137; Stephen Nkansah-Amankra and Mark Minelli, “Gateway hypothesis’ and early drug use: additional findings from tracking a population-based sample of adolescents to adulthood”, *Preventive Medicine Reports*, vol. 4 (May 2016), pp. 134–141; and Michael M. Vanyukov and others, “Common liability to addiction and ‘gateway hypothesis’”: theoretical, empirical and evolutionary perspective, *Drug and Alcohol Dependence*, vol. 123, Suppl. 1 (June 2012), pp. S3–S17.

21. Research indicates that adolescents begin use of alcohol, tobacco and cannabis due to their positive perceptions of availability and the social approval or the normative nature of substance use, and their lack of awareness of the risks associated with substance use.<sup>20</sup> Effective prevention interventions address the misconceptions held by adolescents. Interventions that change their misperceptions, in particular their perception of the normative nature of substance use, are associated with positive outcomes.<sup>21</sup>

22. Young people from families with high socioeconomic status try cannabis (episodic experimentation) more often than young people from lower socioeconomic status. However, the risk of developing cannabis use disorders is more closely associated with a lower socioeconomic status, lower academic achievement and early school leaving. That is because young people from families with high socioeconomic status dispose of greater sociocultural resources to master and regulate their consumption.<sup>22</sup>

23. The strong evidence of the link between alcohol and tobacco use and the use of other psychoactive substances that are the primary concern of the international conventions underlines the need to also address the use of tobacco and alcohol in the implementation of programmes for preventing substance use.

24. The impact on children of their parents’ substance use can be significant and may result in long-term emotional and physical morbidity among children that will manifest itself in early adulthood. These effects include the direct health effects of maternal substance use,

<sup>20</sup>Lloyd D. Johnston and others, *Monitoring the Future National Survey Results on Drug Use, 1975–2012*, vol. I: *Secondary School Students* (Ann Arbor, Institute for Social Research, University of Michigan, 2013); Katherine M. Keyes and others, “The social norms of birth cohorts and adolescent marijuana use in the United States, 1976–2007”, *Addiction*, vol. 106, No. 10 (October 2011), pp. 1790–1800; and Yvonne M. Terry-McElrath and others, “Risk is still relevant: time-varying associations between perceived risk and marijuana use among US 12th grade students from 1991 to 2016”, *Addictive Behaviors*, vol. 74 (November 2017), pp. 13–19.

<sup>21</sup>Kenneth W. Griffin and Gilbert J. Botvin, “Evidence-based interventions for preventing substance use disorders in adolescents”, *Child and Adolescent Psychiatric Clinics of North America*, vol. 19, No. 3 (July 2010), pp. 505–526; Li C. Liu, Brian R. Flay and Aban Aya Investigators, “Evaluating mediation in longitudinal multivariate data: mediation effects for the Aban Aya Youth Project Drug Prevention Program”, *Prevention Science*, vol. 10, No. 3 (September 2009), pp. 197–207; and Catherine J. Lillohoj, Linda Trudeau and Richard Spoth, “Longitudinal modeling of adolescent normative beliefs and substance initiation”, *Journal of Alcohol and Drug Education*, vol. 49, No. 2 (June 2005).

<sup>22</sup>François Beck, Romain Guignard and Jean-Baptiste Richard, “Actualités épidémiologiques du cannabis”, *La Revue du Practicien*, vol. 63, No. 10 (December 2013), pp. 1420–1424.

including low birthweight, fetal alcohol syndrome,<sup>23</sup> respiratory problems due to second-hand smoke,<sup>24</sup> increased child abuse and neglect,<sup>25</sup> other health issues<sup>26</sup> and long-term developmental issues,<sup>27</sup> as well as the increased possibility of substance use among children.<sup>28</sup> These effects are far-reaching and have both social and economic implications in all countries.<sup>29</sup> Therefore, for these age groups – infancy through late adolescence – it is important to address not only the effects of the child's or adolescent's own substance use but also the effects of parental/family use, which can affect both children and adolescents who use substances and those who do not.

## Understanding the progression from use to abuse

25. Epidemiological research in the 1970s paved the way for understanding the determinants of the initiation of substance use and the progression to deeper involvement with substances. Two studies, published in 1992 and 1993, summarized those findings. The first study, by authors

<sup>23</sup>Sylvia Roozen and others, "Worldwide prevalence of fetal alcohol spectrum disorders: a systematic literature review including meta-analysis", *Alcoholism: Clinical and Experimental Research*, vol. 40, No. 1 (June 2016), pp. 18–32; and Thitnart Sithisarn, Don T. Granger and Henrietta S. Bada, "Consequences of prenatal substance use", *International Journal of Adolescent Medicine and Health*, vol. 24, No. 2 (December 2012), pp. 105–112.

<sup>24</sup>United States, Department of Health and Human Services, *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General* (Atlanta, Georgia, 2006).

<sup>25</sup>Brad Donohue and others, "Contribution of illicit/non prescribed marijuana and hard-drug use to child abuse and neglect potential while considering social desirability", *British Journal of Social Work*, vol. 49, No. 1 (January 2019), pp. 77–95.

<sup>26</sup>Tessa L. Crume and others, "Cannabis use during the perinatal period in a State with legalized recreational and medical marijuana: the association between maternal characteristics, breastfeeding patterns, and neonatal outcome", *Journal of Pediatrics*, vol. 197 (June 2018), pp. 90–96.

<sup>27</sup>Peter A. Fried, "Conceptual issues in behavioral teratology and their application in determining long-term sequelae of prenatal marijuana exposure", *Journal of Child Psychology and Psychiatry*, vol. 43, No. 1 (March 2002), pp. 81–102.

<sup>28</sup>Pamela C. Griesler and others, "Nonmedical prescription opioid use by parents and adolescents in the US", *Pediatrics*, vol. 143, No. 3 (March 2019); Kimberly L. Henry, "Fathers' alcohol and cannabis use disorder and early onset of drug use by their children", *Journal of Studies of Alcohol and Drugs*, vol. 78, No. 3 (May 2017), pp. 458–462; and Shulamith Straussner and Christine Fewell, "A review of recent literature on the impact of parental substance use disorders on children and provision of effective services", *Current Opinion in Psychiatry*, vol. 31, No. 4 (July 2018), pp. 363–367.

<sup>29</sup>Henrick Harwood, Douglas Fountain and Gina Livermore, *The Economic Costs of Alcohol and Drug Abuse in the United States, 1992* (Rockville, Maryland, National Institute on Drug Abuse and National Institute on Alcohol Abuse and Alcoholism, 1998).

Hawkins and others (1992),<sup>30</sup> outlined the risk factors associated with the initiation of substance use; those risk factors included both contextual factors (e.g., laws and norms favourable to substance use behaviours, availability of substances, extreme economic deprivation and neighbourhood disorganization) and individual and interpersonal factors (e.g., physiological measures, family history of substance use, attitudes toward substance use, poor/inconsistent family management, family conflict and a low level of family bonding). The second study, by Glantz and Pickens,<sup>31</sup> indicated that while contextual factors played a significant role in the initiation of substance use, it was the individual and interpersonal factors, in particular the physiological, neurological and genetic factors, that were found to have a greater influence on the progression to substance abuse.

26. Two more recent studies reached the conclusion that genetic factors constitute a significant part of a person's vulnerability to dependence, including the effects of the environment on gene expression and function.<sup>32</sup> For example, a recent study found that use of cannabis and alcohol appeared to be influenced by common genetic factors.<sup>33</sup> Certain genetic profiles play an important role in an individual's vulnerability to substance use and progression to dependence. Prevention interventions designed specifically for individuals who are genetically predisposed to vulnerability to drug use have been shown to be effective in altering those individuals' substance use trajectories and improving their life outcomes.<sup>34</sup>

27. Research has shown that the initiation of use of some substances does not always lead to substance abuse.<sup>35</sup> There is evidence that individuals are more likely to spontaneously desist from use of substances such as alcohol, cocaine, heroin and amphetamines, which may have more immediate negative physical and

<sup>30</sup>David J. Hawkins, Richard F. Catalano and Janet Y. Miller, "Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention", *Psychological Bulletin*, vol. 112, No. 1 (July 1992), pp. 64–105.

<sup>31</sup>Meyer D. Glantz and Roy W. Pickens, "Vulnerability to drug abuse: introduction and overview", in *Vulnerability to Drug Abuse*, Meyer D. Glantz and Roy W. Pickens, eds. (Washington, D.C., American Psychological Association, 1993), pp. 1–14.

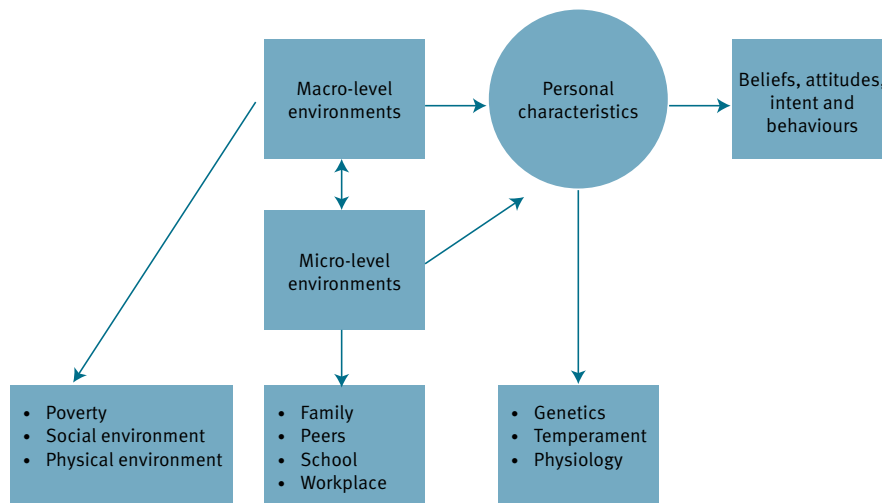
<sup>32</sup>Carolyn E. Sartor and others, "Common genetic contributions to alcohol and cannabis use and dependence symptomatology", *Alcoholism: Clinical and Experimental Research*, vol. 34, No. 3 (March 2010), pp. 545–554.

<sup>33</sup>Ibid.

<sup>34</sup>Gene H. Brody and others, "Differential sensitivity to prevention programming: a dopaminergic polymorphism-enhanced prevention effect on protective parenting and adolescent substance use", *Health Psychology*, vol. 33, No. 2 (February 2014), pp. 182–191.

<sup>35</sup>Jerald G. Bachman and others, *The Decline of Substance Use in Young Adulthood: Changes in Social Activities, Roles, and Beliefs* (East Sussex, United Kingdom, Psychology Press, 2014).

Figure I. Vulnerability model



Source: Zili Sloboda, "School-based prevention: evolution of evidence-based strategies", in *Adolescent Substance Abuse: Evidence-Based Approaches to Prevention and Treatment*, Carl G. Leukefeld and Thomas P. Gullotta, eds. (New York, Springer, 2018).

psychological effects than do tobacco or cannabis.<sup>36</sup> Theoretically, at any one time, in the same geographical area, there can be four distinct groups involved in substance use:<sup>37</sup>

- Resolute non-users, who are committed to not using any psychoactive substance
- Vulnerable non-users, who may not be currently using any psychoactive substance but who may, for psychological, social or emotional reasons, initiate use
- Early initiators, who may have initiated use of one or more psychoactive substances and may or may not be experiencing negative consequences of such use
- Users at an advanced stage of substance use, who have progressed beyond the initiation of substance use with or without health or social consequences

28. These observations arising from the above-mentioned studies would suggest that there is a need for an array of integrated prevention and treatment services within communities to address the specific needs of the population.

<sup>36</sup>G. Bischof and others, "Factors influencing remission from alcohol dependence without formal help in a representative population sample", *Addiction*, vol. 96, No. 9 (September 2001), pp. 1327–1336 and Linda C. Sobell Timothy P. Ellingstad and Mark B. Sobell, "Natural recovery from alcohol and drug problems: methodological review of the research with suggestions for future directions", *Addiction*, vol. 95, No. 5 (May 2002), pp. 749–764.

<sup>37</sup>William D. Crano and others, "The at-risk adolescent marijuana nonuser: expanding the standard distinction", *Prevention Science*, vol. 9, No. 2 (June 2008), pp. 129–137.

29. Most children and adolescents fall within one of the first three groups. As noted below, each of these groups requires specific forms of evidence-based prevention and treatment interventions.

30. All human beings share the same developmental age-related benchmarks for becoming healthy, productive members of society. The attainment of those benchmarks can be enhanced or hampered by individual characteristics, as well as by the influence of proximal agents such as parents, family and school, and by distant agents such as economic and social conditions, media, social media and national policies. Research conducted on genetic, physical and environmental factors and their interactions in order to determine the vulnerabilities to substance use and other such behaviours has led to a reconceptualization of risk and protective factors that has the potential to refine prevention and treatment delivery and implementation systems for children and adolescents.<sup>38</sup>

31. Figure I shows this new perspective in simplified form. The figure helps to elucidate the concept of vulnerability and assists a further understanding of risk and protection as the interface between the physical, psychological and genetic make-up of an individual and by the influences on that individual's physical, cognitive, emotional and social development: parents and family, school, faith-based organizations, peers, workplace and close-knit versus more distant communities.

<sup>38</sup>Zili Sloboda, Meyer D. Glantz and Ralph E. Tarter, "Revisiting the concepts of risk and protective factors for understanding the etiology and development of substance use and substance use disorders: implications for prevention", *Substance Use and Misuse*, vol. 47, Nos. 8 and 9 (June 2012), pp. 1–19.

32. The framework shown in figure I illustrates the factors involved in human motivation and change processes. It shows how the various environmental levels and personal characteristics interact in the decision-making that takes place before substance use and the performance of other problem behaviours.

33. Genetics and other biological factors play a significant role in the achievement of developmental benchmarks, that is, the goal of each stage of development, from infancy to early adulthood, including intellectual ability, language development, cognitive, emotional and psychological functioning, and the attainment of social competency skills.

34. The extent to which developmental benchmarks are achieved determines our level of vulnerability to influences from our environment. Our vulnerability liability may vary over our lifespan. However, children who do not achieve early developmental benchmarks, for a variety of reasons, are most likely to fail in the achievement of later benchmarks and, as a result, face problems in adulthood.

35. Environmental factors can either lessen or enhance that vulnerability. The risk of substance use increases because of environmental experiences, such as adverse childhood experiences, that are associated with heightened stress or adversity. The environmental influences are viewed as being at two major levels: those in close proximity to the individual – the micro-level environments, which include parents and family, school and peers – and those that are more distant – the macro-level environments, which include both our physical and social setting, including the Internet and social media. The broader community environment and the need to respect the rule of law and other societal norms also influences the vulnerability of young people. An example is that of marginalized urban areas where criminal organizations, frequently associated with drug trafficking, dominate the territory and the authorities are unable to assert their control, provide citizens with access to even basic health and social services or give young people the assistance necessary to develop their potential.

36. Although the Internet and social media offer new ways to deliver preventive education, they have also created increased opportunities for both the marketing and the social transmission of risky products and behaviour and have thus contributed to an increased exposure to substance use by normalizing use and presenting users' experiences in a positive light. For example, some YouTube bloggers and influencers disseminate information about new substances and new ways of administering them;

they emphasize the so-called “positive” effects and downplay the negative consequences of substance use, and as a way of defending their choices, they provide young people with extensive but not necessarily factual information on substance use.

37. The two levels of influence – the micro- and macro-level environments – do not operate independently as they influence our behaviour: they also affect one another. For instance, family stability and even parenting behaviours can be challenged when one or both caregivers are unemployed for long periods of time.<sup>39</sup>

38. It is the interface where the micro- and macro-level environments interact with the individual that shapes cognitive and emotional development, as well as beliefs, attitudes and behaviours that serve to socialize human beings to become productive members of their communities. These interfacial connections can either be positive (protective) or negative (risky). They also provide opportunities for interventions to improve or enhance positive growth. So, it is possible for vulnerable children who receive positive parenting to overcome the challenges they face, while similarly vulnerable children who are neglected by their parents are less likely to be as successful.<sup>40</sup>

39. Cultural factors and context play a role as well. If a culture strongly discourages substance use, the rate of substance use may be lower. However, if substance use is an integral part of a culture's rituals or celebrations, there may be few disincentives to prevent a person from starting and continuing substance use, unless restrictions are built into those cultural rituals. Cultural definitions of roles, in particular gender roles, may also inhibit or underscore the use of substances.

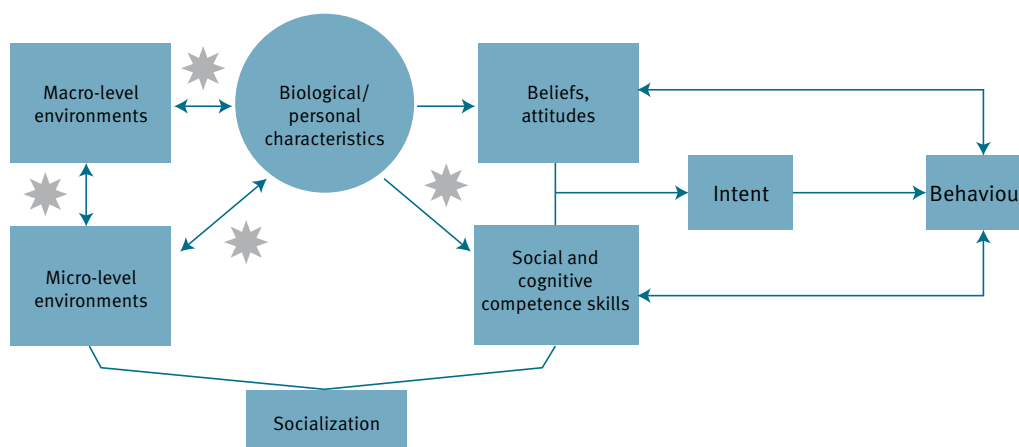
40. We can draw examples of these processes from our own experiences. Think about a child living in poverty

<sup>39</sup>Geert Dom and others, “The impact of the 2008 economic crisis on substance use patterns in the countries of the European Union”, *International Journal of Environmental Research and Public Health*, vol. 13, No. 1 (January 2016); Mark A. Bellis and others, “National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviors in England”, *BMC Medicine*, vol. 12, No. 72 (May 2014); Dieter Henkel, “Unemployment and substance use: a review of the literature (1990–2011)”, *Current Drug Abuse Reviews*, vol. 4, No. 1 (2011), pp. 4–27; Heta Moustgaard, Mauricio Avendano and Pekka Martikainen, “Parental unemployment and offspring psychotropic medication purchases: a longitudinal fixed-effects analysis of 138,644 adolescents”, *American Journal of Epidemiology*, vol. 187, No. 9 (September 2018), pp. 1880–1888 and University of Oxford, “Unemployment triggers increase in child neglect, according to new research”, 3 November 2017.

<sup>40</sup>Karl G. Hill and others, “Person-environment interaction in the prediction of alcohol abuse and alcohol dependence in adulthood”, *Drug and Alcohol Dependence*, vol. 110, Nos. 1 and 2 (July 2010), pp. 62–69.



Figure II. Prevention intervention points



Source: Zili Sloboda, *Universal Prevention Curriculum for Substance Use*.

Note: Stars indicate points of intervention.

and whose parents are absent – because of incarceration or dependence, or because they are working two or three jobs. Now think about a child in this situation but who has a grandparent or other caring, supportive adult who can help her meet her developmental benchmarks. Or think about this child entering a school where she feels safe and accepted. Such a child is more likely to develop pro-social attitudes and engage in pro-social and healthy behaviours because of that bonding or attachment process. Feelings of belonging and being supported are key to human development. Now let us think about this girl without a safe and supportive family member or school environment. What if there were a street gang that filled her need for a sense of belonging? And what if that gang trafficked drugs or engaged in criminal behaviour?

41. These are not hypothetical situations; they are drawn from real life. Evidence-based prevention interventions are designed to help parents and families in stress to focus on positive parenting to help their children. They are designed to help schools create safe and positive environments where children, as well as school staff, can enjoy an effective learning environment.

### The vulnerability model and prevention interventions

42. Figure I also serves to guide the development of prevention approaches as shown in figure II. It suggests that the socialization process (i.e., learning the culture, attitudes, beliefs, language and behaviour of the society within which we live) also acts as the process of prevention where key socialization agents (e.g., parents and other family members, teachers, laws and regulations) are helped to

improve their socialization skills, such as by improving parenting or teaching skills, or modify the social and physical settings to make it more difficult to engage in negative behaviours. Thus, through evidence-based prevention interventions, the family, school and community environments can become positive forces in raising a child to resist engaging in substance use or other risky behaviours. The stars in figure II indicate opportunities for prevention interventions.

43. As can be seen in the model in figure II, it is “intent”, shown in the figure, that has been found to predict the initiation of substance use and has become the target of effective interventions, particularly for children and young people in their early teens prior to the “at-risk” years. Theories of human behaviour inform us that intentions are based on beliefs and attitudes, knowledge, social and cognitive competencies, and skills related to any behaviour. Effective prevention interventions are those that address these mediating factors to alter or change the behaviour of those on a negative life course by promoting positive developmental outcomes and reducing negative behaviours and, for those who have no intention of using psychoactive substances, to reinforce those positive factors.

### International Standards on Drug Use Prevention and other evidence-based prevention resources

44. Research progress has led to a number of products designed to help prevention planners identify evidence-based prevention interventions that match the

Figure III. Summary table of evidence-based strategies identified in the UNODC-WHO *International Standards on Drug Use Prevention* (2nd ed., 2018)

	PRENATAL AND INFANCY	EARLY CHILDHOOD	MIDDLE CHILDHOOD	EARLY ADOLESCENCE	ADOLESCENCE	ADULTHOOD
Family	Prenatal and infancy visitation		Parenting skills			
	Interventions for pregnant women					
School		Early childhood education	Personal and social skills education	Prevention education based on social competence and influence		
			Classroom management		Addressing individual vulnerabilities	
			Policies to keep children in school	School-wide programmes to enhance school attachment		
Community				School policies on substance use		
				Alcohol and tobacco policies		
	Community-based multi-component initiatives					
				Media campaigns		
Workplace				Mentoring		
					Prevention programmes in entertainment venues	
					Workplace prevention programmes	
Health sector	Interventions for pregnant women		Addressing mental health disorders			
				Brief intervention		

Strategy identified in the first edition of the *Standards*
 Strategy added in the second updated edition of the *Standards*

Source: UNODC and WHO.

characteristics and meet the needs of their communities. The most notable is the UNODC-WHO *International Standards on Drug Use Prevention* (2nd ed., 2018). This guide outlines the key content, structures and delivery strategies that have been found to be consistent across interventions. Figure III summarizes the content of the *Standards* document.

45. Figure III identifies the settings in which the interventions take place (family, school, community, workplace and health sector, as listed in the left column), and interventions are organized according to the age group being targeted (prenatal and infancy, early childhood, middle childhood, early adolescence, adolescence and adulthood, as listed across the top).

46. Examples of programmes focusing on the micro-level environment are those that include family and parenting skills. Such programmes provide support for treatment, prenatal medical care, and support for housing and other needs. The Triple P-Positive Parenting Program<sup>41</sup> is another family support and parenting skills

<sup>41</sup>Matthew R. Sanders, “Development, evaluation and multinational dissemination of the Triple P-Positive Parenting Program”, *Annual Review of Clinical Psychology*, vol. 8 (April 2012), pp. 345–379.

programme that includes a system of parenting programmes that operate on a tiered continuum of increasing strength and intensity. A third example of an effective family intervention is the “Strengthening Family Program 10–14” programme.<sup>42</sup> This programme has components for parents only, for children only, and for parents and children together, focused on parenting skills and family bonding, and is delivered over the course of seven weeks.

47. Examples of school-based, evidence-based prevention policies and interventions include school curricula such as LifeSkills Training<sup>43</sup> and Unplugged.<sup>44</sup> Both of these programmes target personal and social skills, including decision-making skills, goal-setting skills and

<sup>42</sup>Richard Spoth and others, “Research on the strengthening families program for parents and youth 10–14: long-term effects, mechanisms, translation to public health, PROSPER partnership scale up”, in *Handbook of Adolescent Drug Prevention: Research, Intervention, Strategies, and Practices* (Washington, D.C., American Psychological Association, 2015), pp. 267–292.

<sup>43</sup>Gilbert J. Botvin and others, “Preventing illicit drug use in adolescents: long-term follow-up data from a randomized control trial of a school population”, *Addictive Behaviors*, vol. 25, No. 5 (September–October 2000), pp. 769–774.

<sup>44</sup>Federica D. Vigna-Taglianti and others, “‘Unplugged’, a European school-based program for substance use prevention among adolescents: overview of results from the EU-Dap trial”, *New Directions for Youth Development*, vol. 2014, No. 141 (April 2014), pp. 67–82.

analytical skills to assess information on psychoactive substances and violence. These skills are designed so that students understand and resist pro-drug influences and make decisions not to use any psychoactive substance. To reinforce this decision, the programmes address misperceptions regarding normative beliefs about psychoactive substances, reinforce intentions not to use substances, and provide opportunities to practise refusal skills with their classmates within a variety of simulated real situations that they face or may face in the future. Another very effective programme that enhances the classroom climate and enhances bonding in the school setting is the Good Behaviour Game.<sup>45</sup>

48. Examples of evidence-based policies are those that target the accessibility and use of psychoactive substances, such as school policies regarding use on school property. The following are the keys to a successful policy: the choice of persons involved in developing the policy; having clearly stated responses to infractions, not only for students but also for school staff, that are not punitive (i.e., leading to suspension, expulsion, or firing) but supportive (through referrals for further evaluation and counselling); and making school staff, students, parents and other key stakeholders aware of the policies and their enforcement.

49. Effective environment-based regulatory approaches include limiting access to medications with psychoactive qualities by requiring a prescription from a licensed health practitioner and reducing accessibility to tobacco, alcohol and, where appropriate, cannabis for children and adolescents. Other regulations found to be effective when enforced include banning the smoking of cigarettes in public places, limiting the amount of alcohol served in a bar, tavern or restaurant, and limiting access to substances that are precursors for the manufacture of some illicit drugs such as benzyl methyl ketone, ephedrine and pseudoephedrine, which are used in making methamphetamines.

50. The *Standards* also include research on approaches found to be ineffective and, in some cases, iatrogenic. Such approaches include testing for drug use in schools, testing in workplaces without the support of evidence-based substance use policies, and programmes that focus on scare tactics or provide only information without further addressing the elements for evidence-based interventions mentioned above.

<sup>45</sup>Nicholas S. Ialongo and others, "Proximal impact of two first-grade preventive interventions on the early risk behaviors for later substance abuse, depression, and antisocial behavior", *American Journal of Community Psychology*, vol. 27, No. 5 (October 1999), pp. 599–641.

## Advances in evidence-based treatment approaches for young people

51. The history of research on treatment is longer than that on prevention. The present section focuses on progress made over the past 45 years in understanding the treatment needs of substance users of all ages, in particular for young people. Because the brain is still developing throughout adolescence into early adulthood, and as psychoactive substances impact brain functioning, adolescents experience a more rapid transition from initiation of substance use to dependence compared with adults, whose brain development is more complete. Therefore, the treatment of adolescents needs to be different from that of adults. Winters and others (2011)<sup>46</sup> state that this observation was made as early as 1952. By the 1980s, the acknowledged differences in substance use patterns and consequences, as well as developmental issues, gave support to exploring specialized treatment options for adolescents.

52. Epidemiological data on the use of psychoactive substances by adolescents indicate that their substance use experiences as addressed in treatment will differ from those of adults. For instance, adolescents are more likely to use inhalants and cannabis and binge drink. In addition, as Izenwasser (2005)<sup>47</sup> and others have found, the effects of use of these substances (in particular, alcohol and nicotine) are more extreme for adolescents than for adults, particularly for males. Adolescents have higher rates of binge use than do adults and have lower problem recognition, are more focused on short-term implications of use and have higher rates of diagnosed co-morbid psychiatric problems as compared with adults.<sup>48</sup> Treatment for adolescents may therefore be challenging.

53. The UNODC-WHO *International Standards for the Treatment of Drug Use Disorders* make specific recommendations regarding the treatment of adolescents. Those recommendations include focusing on psychosocial/behavioural approaches to treatment, while involving the

<sup>46</sup>Ken C. Winters, Adrian M. Botzet and Tamara Fahnhorst, "Advances in adolescent substance abuse treatment", *Current Psychiatry Reports*, vol. 13, No. 5 (October 2011), pp. 416–421.

<sup>47</sup>Sari Izenwasser, "Differential effects of psychoactive drugs in adolescents and adults", *Critical Reviews of Neurobiology*, vol. 17, No. 2 (2005), pp. 51–68.

<sup>48</sup>Sandra A. Brown and others, "Treatment of adolescent alcohol-related problems", in *Recent Developments in Alcoholism*, vol. 17, Marc Galanter, ed. (New York, Springer, 2005), pp. 327–348; and Margo Gardner and Laurence Steinberg, "Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: an experimental study", *Developmental Psychology*, vol. 41, No. 4 (July 2005), pp. 625–635.

family and taking into account other social aspects of the child's or adolescent's life in the treatment process. Treatment must take into consideration the cognitive development and life experiences of children and adolescents and for that reason may vary according to the age and developmental level of the child or adolescent. The lack of developmentally appropriate knowledge and skills and the potential adolescent propensity towards risk-taking and sensitivity to peer pressure also require special accommodation in treatment.

54. Although more research is needed in this field, it has been found that children and adolescents may experience less motivation to adhere to treatment than do adults and will think about issues in more concrete terms, be less introspective and be less likely to engage in “talking” therapies. These special features of treatment for children and adolescents are related to the aetiological model discussed above, suggesting that treatment must take into consideration the child/adolescent substance users' interface with their micro- and macro-level environments and their specific vulnerabilities that may be associated with not only the initiation of substance use but also its progression.

55. Key treatment components that have been found to contribute to positive outcomes for adolescents include the following: involvement, whenever safe, of the adolescent's family in the treatment process, even in therapeutic communities; use of a motivational approach that focuses on minimizing the adverse public health and social consequences of drug abuse; psychosocial treatment approaches combined with individualized treatment approaches to address special needs such as mental health issues; life skills training and cognitive behavioural interventions; motivational enhancement therapy; family-based therapies, from brief strategic family therapy to multi-systemic family therapy; and basic education.<sup>49</sup>

56. Winters and others (2011)<sup>50</sup> suggest combining these evidence-based treatment interventions for young people within the context of the five treatment levels suggested by the American Society of Addiction Medicine

<sup>49</sup>Emily K. Lichvar and others, “Residential treatment of adolescents with substance use disorders: evidence-based approaches and best practice recommendations”, in *Adolescent Substance Abuse: Evidence-Based Approaches to Prevention and Treatment*, 2nd ed., Carl G. Leukefeld and Thomas P. Gullotta, eds. (New York, Springer, 2018), pp. 191–214. National Institute on Drug Abuse, “Principles of adolescent substance use disorder treatment: a research guide”, NIH Publication No. 14-7953 (Rockville, Maryland, 2014); and UNODC and WHO, *International Standards for the Treatment of Drug Use Disorders: Draft for Field Testing* (Vienna, 2017).

<sup>50</sup>Winters, Botzet and Fahnhorst, “Advances in adolescent substance abuse treatment”.

(2001),<sup>51</sup> which include: (a) early intervention services (consisting of educational or brief intervention approaches); (b) outpatient treatment lasting up to six hours per week, depending on the progress being made through the treatment plan; (c) intensive daily outpatient treatment for up to 20 hours per week, for two months up to one year; (d) residential/inpatient treatment for one month up to one year; and (e) medically managed intensive inpatient treatment limited to adolescents whose substance use and related problems are severe enough to require 24 hours of primary medical care until stabilization is achieved.

57. The need for screening assessments to determine the special needs of substance-using adolescents has long been recognized, and several such instruments have been developed and validated. The National Institute on Drug Abuse of the United States supports two such tools: the Brief Screener for Alcohol, Tobacco and Other Drugs (BSATD) and the Screening to Brief Intervention (S2BI). These two-minute screeners, among others, are recommended for use by health-care providers to determine whether an adolescent needs a treatment intervention. If a child or adolescent is referred for treatment, it is incumbent on the treatment facility to screen for at least three risk factors: intoxication, evidence of self-harm and evidence of harm to others. If those factors are noted, the child/adolescent may need to be referred to an inpatient facility for observation and appropriate treatment.<sup>52</sup> Recent research has shown that brief interventions have been successful for adolescents in preventing their progression from use to problematic use.<sup>53</sup>

## Implications for policy development worldwide: conclusions and recommendations

58. Prevention of drug use, treatment of drug dependence and rehabilitation and social reintegration of the persons involved is one of the key provisions of international drug control systems. The main goal of the international drug control conventions is to protect people's health from harm caused by the non-medical use of

<sup>51</sup>D. Mee-Lee and others, *ASAMPPC-2R: ASAM Patient Placement Criteria for the Treatment of Substance-Related Disorders*, 2nd revised ed. (Chevy Chase, Maryland, American Society of Addiction Medicine, 2001).

<sup>52</sup>UNODC and WHO, *International Standards for the Treatment of Drug Use Disorders*.

<sup>53</sup>Lilia D'Souza-Li and Sion K. Harris, “The future of screening, brief intervention, and referral to treatment in adolescent primary care: research directions and dissemination challenges”, *Current Opinion in Pediatrics*, vol. 28, No. 4 (August 2016), pp. 434–440.

controlled substances while ensuring the availability of those substances for medical and scientific purposes. Drug use prevention and the treatment of drug dependence, especially among young people, are key elements to achieve that goal by ensuring that young people can achieve healthy development and become productive members of society.

59. The UNODC-WHO *International Standards on Drug Use Prevention* (2nd ed., 2018) summarize the scientific evidence demonstrating the effectiveness of drug use prevention efforts. In many documents and resolutions, such as the outcome document of the thirtieth special session of the General Assembly, on the world drug problem, Governments have recognized the *International Standards* as a useful tool for promoting evidence-based prevention. The *International Standards on Drug Use Prevention*, together with the UNODC-WHO *International Standards for the Treatment of Drug Use Disorders* (2017), are unique documents as they provide not only summaries regarding the components of evidence-based prevention interventions and policies and treatment for substance use but also comprehensive models of national systems of care that provide for financial and multi-ministerial collaborative support for programming at the local level, support for the delivery of comprehensive prevention interventions that are evidence-based, and an ongoing data collection system that monitors service delivery and provides feedback for updating the national care system and allows for the inclusion of rigorously evaluated new interventions and policies. Youth services such as juvenile detention, education and family services should be incorporated into such a broader national care system.

60. The Board recommends the use of those two above-mentioned sets of international standards when implementing programmes for the prevention of drug use and the treatment of drug dependence among young people. In addition to preventing drug use, it has been established that evidence-based prevention strategies also prevent many other risky behaviours, promoting the healthy and safe development of children and young people.

### *Understanding the issue*

61. A first priority for countries is the development of national epidemiological data systems to inform their policies on the prevention and treatment of psychoactive substance use among young people. Although some countries have data systems that do more than simply monitor substance use through school and/or population (e.g., household) surveys, only a few countries have surveillance systems in place.

### *Developing professional expertise*

62. A second priority is the development of professional expertise in the field of substance use prevention and treatment, which should include national training and credentialing systems for prevention and treatment professionals engaged in decision-making/planning and implementation, and research with a special focus on the needs of young people. In many jurisdictions, credentialing is currently available for treatment and prevention professionals but not necessarily required. Like for other professions, it is important that the underlying science, knowledge, skills, competencies and ethical standards be internationally accepted by means of an international professional organization or organizations that maintain this base and propose updates for improved services and service delivery on the basis of rigorous research regarding the biological, neurological, psychological and sociological aspects of substance use. The Board recommends that Governments build, with the assistance of UNODC and WHO, the expertise of prevention and treatment professionals in delivering evidence-based interventions effectively, in order to achieve positive outcomes.

### *Early start and broad prevention strategies*

63. Substance use and dependence are caused by various factors, and they tend to start in adolescence, but current research demonstrates that vulnerability to drug use may originate in what happened earlier in an individual's development, during childhood and early adolescence. For that reason, intervention should start at an early age and not be delayed until the age of first use. There are interventions that can and should be delivered at the specific stages of pregnancy, infancy, childhood and middle childhood, supporting mothers, parents and schools to promote the healthy development of children, as these interventions have been shown to be effective in preventing substance use and other risky behaviours during adolescence.

### *Multiple approaches*

64. A variety of factors (mainly genetic and environmental) determine vulnerability to substance use and dependence, and, to address these problems effectively, it is necessary to adopt a wide range of interventions and not one single approach. Various environments and settings such as family, school, the workplace, the community, media and leisure activities need to be considered in the development of substance use prevention programmes. Also, different approaches may be required for

different populations. For example, vulnerable populations, such as children with a substance-dependent parent, homeless and street children, children in custodial settings, orphans and abandoned children, migrants and refugee children and children exploited for sex work, need specific, targeted interventions that are different from those used with other children. Prevention should include strategies for the population at large (universal prevention), for groups that are particularly at risk (selective prevention) and for individuals that are particularly at risk (indicated prevention).

65. For the most vulnerable and youth engaged in substance use behaviours, it is necessary to adopt a wide network of outreach and basic social assistance services that have a strong emphasis on screening and assessment. These youth must be provided with a range of effective substance use disorder treatment interventions on the continuum of care that allows them to engage with family, schools, the workplace and the community, with the intention of building a network of support.

### *Family*

66. The setting that is most influential for the development of children and adolescents is the family, and prevention approaches focusing on family have been found to be particularly effective. Family skills training focusing on supporting parents and helping families to work better have been found to be more effective. In these programmes, parents are encouraged to raise their children in a warm and responsive manner and to become involved in their children's lives and learn how to communicate effectively with their children and use constant monitoring and the enforcement of rules and limits. Drug-specific content in these programmes pertains to the parents' own substance use and, depending on the developmental stage of the child in question, to the expectations that the parents have about the child's substance use and how to communicate about drug issues. Such interventions achieve positive preventive outcomes for both boys and girls in the short and long run with regard to substance use and other problem behaviour.

### *School and education*

67. In drug prevention, the school setting (including pre-school and elementary school, for which age-appropriate activities are delivered) serves as an access path for measures promoting knowledge and personal and social skills of individuals to attenuate individual risk factors of substance use. Research has shown that programmes that only

provide information about the danger of drugs and programmes that only use lecturing as a way to deliver substance use prevention have been found to be associated with no effectiveness or even adverse effects. Programmes that work are those that focus on the development of personal and social skills, discuss the normative nature of use and reflect on the expectations and perception of risk, using a set of interactive sessions (not just a one-time event) with well-trained facilitators. The aim is to improve several personal or social skills, such as self-awareness, creative thinking, relationship skills, problem-solving, decision-making, coping with stress and emotions, and to improve school bonding and academic achievements. The evidence available suggests that developing individual social skills is the most effective form of school-level intervention for the prevention of early substance use. The presentation of information on drugs that is aimed at generating fear is ineffective among young people. Aside from implementing individual-oriented interventions, preventive effects can also be achieved by targeting the general climate and drug-specific rules of schools.

68. Schools also serve as a potential point for screening and assessment of children and adolescents. A well-trained school nurse, school psychologist or even an educator can administer a screening instrument to assist in making a referral to substance use disorder treatment when appropriate. In addition, it is critical that young persons in a treatment programme continue to engage in the process of education to the extent possible.

### *Community*

69. Together with the family, the community can provide a preventive developmental context by setting clear standards and values with regard to the use of drugs, and by providing opportunities for adolescents to learn skills, contribute to community life and be recognized for their contribution. Tight bonds with the family and the community in general motivate young people to adopt healthy standards of behaviour. Community interventions – both prevention and treatment interventions – work better when combined and consistent with school and family interventions and messages.

### *Environment policies, such as those commonly implemented for alcohol and tobacco use*

70. The first use of alcohol and nicotine at a young age is related to later initiation of cannabis use; thus, the prevention of alcohol and tobacco use is also relevant for the prevention of substance use.

### *Leisure, sports and entertainment venues*

71. The effectiveness of specific drug prevention efforts in leisure settings – for example, peer education programmes at festivals or activities in sports clubs, including the promotion of physical activities – has not yet been studied in depth. Sports clubs have been described as both a setting with great potential for promoting good health and a risk environment for substance use, but effectiveness studies are not available. Furthermore, providing low-resource intensive leisure activities to children and young people is a popular non-drug-specific prevention intervention, but these activities have not been empirically studied with regard to their effect in attenuating substance use or risk factors of substance use.

### *Health sector*

72. The community health sector can prevent progression to substance use disorders (when it is in touch with individuals already using drugs) by providing brief interventions. In the few, short and structured sessions of these interventions, trained health or social workers first identify whether there is a problem of substance use and then provide basic counselling or referral to additional treatment.

### *Media*

73. In addition to the factors of availability and affordability, some societal norms favourable to substance use create an additional risk factor. As described above, affordability and availability may be influenced by enforcement of laws and regulations. In addition, children, adolescents and young adults face norms of substance use informally through the approval or disapproval expressed by peers, parents, teachers, neighbours and other community members. Media campaigns are one way to influence those informal social norms. Accordingly, one frequently used component of State and community programmes is to conduct awareness campaigns or expand media coverage in order to increase awareness of and focus on drug-related issues. More research is needed on the effectiveness of mass media campaigns and the use of social media because the available evidence is very limited.

### *Treatment for young people*

74. Young people have unique substance use patterns and treatment needs that are different than those for adults. Any use of psychoactive substances by young people is cause for concern, even if they are merely experimenting, as substance use exposes them to more risk behaviour and increases the risk and severity of later substance use disorders. Evidence-based treatment is beneficial for young people who use substances even if they are not suffering from diagnosable substance use disorders.

75. The Board recommends that Governments refer to the recommendations contained in chapter I of its annual report for 2017, entitled “Treatment, rehabilitation and social reintegration for drug use disorders: essential components of drug demand reduction”, and, more broadly, to the UNODC-WHO *International Standards for the Treatment of Drug Use Disorders* (2017).

### *The way forward*

76. The scientific evidence reviewed and presented in this section illustrates that effective and feasible interventions and policies are available for drug prevention and treatment. However, the gaps in both evidence and effectiveness research underline the fact that more evaluation of impact is needed. Reaching groups that have heightened vulnerability remains a challenge, while the question of how to adapt interventions developed in optimal conditions to real-life, local contexts has not yet been fully answered. Many activities labelled as drug prevention or drug treatment are not evidence-based; their coverage is limited, and their quality is unknown at best.

77. In summary, countries need to move away from a model in which the prevention of substance use and the treatment of substance use disorders are delivered by well-intentioned individuals who are delivering interventions in an isolated manner. Interventions should be based on the specific situation and should systematically employ and expand the use of evidence-based tools, supporting practitioners and policymakers in developing their knowledge, skills and competencies and building a critical mass of genuine prevention and treatment specialists capable of promoting the safe and healthy development of children, young people, families and communities through the effective prevention of substance use and treatment of substance use disorders.