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Prevention of Drug Use and Treatment of Drug Use Disorders in Rural Settings

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PREVENTION OF DRUG USE AND TREATMENT OF DRUG USE DISORDERS IN RURAL SETTINGS

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CONTENTS

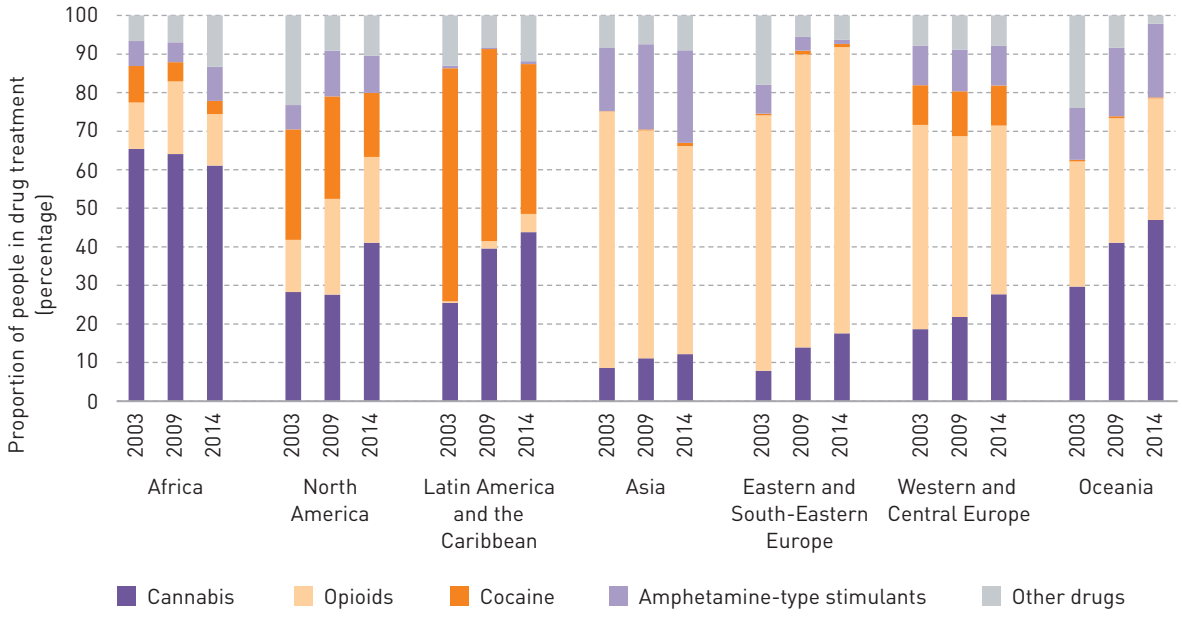
1. INTRODUCTION

1.1 Background

Drug use[1] has traditionally been viewed as an urban and inner city problem. However, with the past decade's increase in prevalence of substance use disorders and substance-related mortality in rural areas, there is growing international recognition that the problem of drug and other substance use has spread to rural settings across the globe. This is true for both developing and industrialized countries. The use of opioids (including heroin and the non-medical use of prescription medications), methamphetamine, cocaine, cannabis and other substances is growing. Figure 1.1 provides an overview of the trends in global drug use among people in treatment by geographic region.

The United Nations Office on Drugs and Crime (UNODC) estimated that more than 247 million people between the ages of 15 and 64 used at least one drug in 2014.[2] This represents an increase of 39 million users since 2006. Of this group, approximately 29 million people (12 per cent) have a drug use disorder. In 2016, 183 million people had used cannabis, 34 million had used amphetamines and 33 million had used opioids. Roughly half of all opioid users used heroin or opium, and the remaining half used diverted prescription opioids.[3]

FIGURE 1.1 PRIMARY DRUG USE AMONG PEOPLE IN TREATMENT, BY REGION, 2003, 2009 AND 2014



Source: UNODC, *World Drug Report 2016*, page 9.

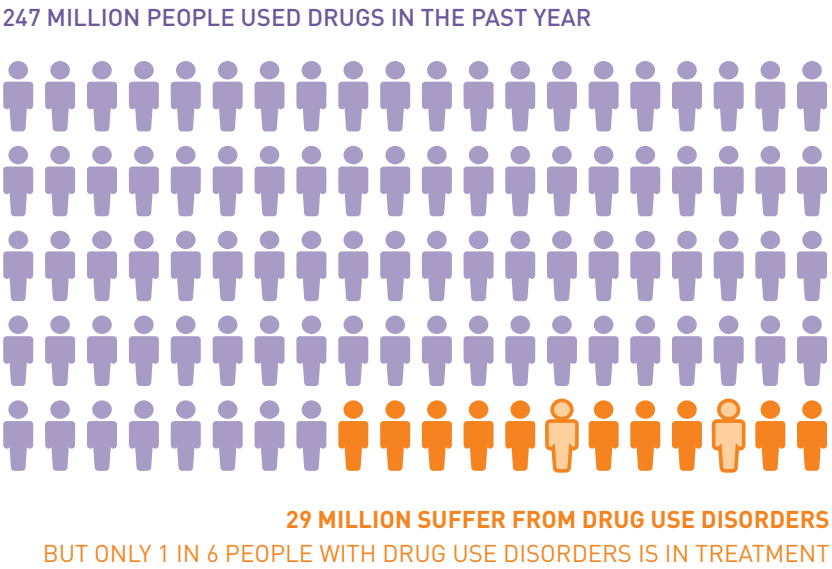
[1] Throughout this document the term "drug use" is used to refer to the non-medical use of substances controlled under the international conventions, while "substance use" is used to refer to the use of any psychoactive substances regardless of their control status.

[2] United Nations Office on Drugs and Crime, *World Drug Report 2016*. Vienna: United Nations Office on Drugs and Crime. (Sales No. E.16.XI.7).

[3] United Nations Office on Drugs and Crime, *World Drug Report 2013*. Vienna: United Nations Office on Drugs and Crime.

Although data on the prevalence of rural drug use are not available for many countries, existing evidence suggests differing patterns of use. For example, evidence from the United States suggests that the rates of drug use across urban and rural settings are very similar. In contrast, evidence from countries such as Afghanistan reflects the growing nature of drug use in rural areas of developing countries, where drug use is greater in rural settings than in urban settings.[4] The evidence from South America regarding rural and urban drug use is less clear. Some studies have documented the growth of drug trafficking and related problems in rural Colombia, Mexico and other countries as being driven primarily by the limited alternative opportunities in depressed rural economies.[5] Older studies have suggested that, despite the greater prevalence of drug use in urban settings, government officials in Chile, Ecuador and Mexico recognized the emergence of frontier patterns of use and that rural use is associated with traditional consumption (opium in Asia, coca leaves in Latin America).[6] Given the evidence, it is reasonable to assume that rural settings are being equally damaged, if not more severely, by this growing global trend. The differing evidence across disparate countries also highlights the need for policymakers to undertake studies to quantify the prevalence of substance use in rural settings.

FIGURE 1.2 NUMBER OF PEOPLE WITH DRUG USE DISORDERS RECEIVING TREATMENT WORLDWIDE



Source: UNODC, *World Drug Report 2016*, page 9. Available: https://www.unodc.org/doc/wdr2016/WORLD_DRUG_REPORT_2016_web.pdf

[4] Simon, M. "The Drug Trade in Afghanistan: Understanding Motives Behind Farmers' Decisions to Cultivate Opium", *Foreign Policy Journal*, 2015, November 15: 1-13.

[5] Aguilera-Reza, G. and Feron, E. "The Story of Drug Trafficking in Latin America", Borderland Beat, 2014, June 11. Available: http://www.borderlandbeat.com/2014/06/the-story-of-drug-trafficking-in-latin.html. Downloaded: 2016, December 4, 2016.

[6] UNODC. Number 6: Economic and Social Consequences of Drug Abuse and Illicit Trafficking. UNODC Technical Series, 1998, January 1. Available: https://www.unodc.org/pdf/technical_series_1998-01-01_1.pdf. Downloaded: 2016, December 4.

Rural settings are affected by a number of socioeconomic disparities that are recognized contributing factors to substance use. These characteristics include the following:[7,8]

- *Socioeconomic status:* low income, unemployment, income inequality, lower educational levels, limited opportunities for advancement and lack of health services
- *Social capital:* low social support and reduced community involvement
- *Neighbourhood factors:* inadequate sanitation, housing, quality education and employment opportunities; neighbourhood violence; high availability of substances; laws and norms permissive towards substance use, etc.
- *Environmental events:* natural disasters, war, conflict, climate change, environmental degradation and migration
- *Social change* associated with changes in income, urbanization and environmental degradation

Although socioeconomic disparities are highly linked to substance use, affluent societies are also impacted by increasing patterns of substance use.[9] It is also important to note that the influence of individual socioeconomic characteristics will vary across different rural settings. For example, social cohesion and support may be higher in rural settings in some countries than in others. It should also be noted that these drivers of substance use are relevant in both urban and rural settings; however, the combination and influence of these drivers are likely to differ across these settings. Again, these differing patterns of use and the influence of socioeconomic drivers of substance use across disparate countries highlight the need for policymakers to support studies to identify the substance use issues unique to their countries.

Although many of these characteristics are known drivers of substance use, chronic substance use exacerbates these factors as the lives of affected individuals spin out of control. Drug dependence often leads to reduced functioning and increases the risk for a self-perpetuating cycle of poverty, criminality, low productivity and health problems. The course of substance use disorders makes it difficult to break this cycle and move forward. At the same time, societal stigma related to substance use disorders further marginalizes rural users and creates additional barriers to recovery. It is generally more difficult to seek treatment for behaviour disorders of an illegal nature than it is for legal behavioural problems, especially in areas where population density is low and there are reduced possibilities of receiving help anonymously.

Substance use disorders have a significant impact on global health. Results from the 2010 Global Burden of Disease (GBD) study found that substance use disorders accounted for 0.4 per cent of the total global years of life lost in 2010 and 3.9 per cent of total global years lost to disability.[10] The 2010 GBD reported that opioid, cocaine and amphetamine dependence combined accounted for approximately 44,000 cause-specific deaths and 702,000 excess deaths. Alcohol use disorders accounted for an additional 111,000 cause-specific deaths and 1,954,000 excess deaths.[11] Whiteford and colleagues further found that substance use disorders accounted for 14.7 per cent of all mental, neurological and substance use disorders-related disability adjusted life years (DALYs). Heavy users of opioids, amphetamines and

[7] Patel, V., C. Lund, S. Heatherill, S. Plagerson, J. Corrigal, and others. 2009. "Social Determinants of Mental Disorders." In *Priority Public Health Conditions: From Learning to Action on Social Determinants of Health*, edited by E. Blas and A. Sivasankara Kurup. Geneva: World Health Organization.

[8] Anderson, P. "Global Use of Alcohol, Drugs and Tobacco", *Drug and Alcohol Review* (Nov. 2006), 25, 489-502.

[9] UNODC. *World Drug Report:* 2. Drug Statistics and Trends. Vienna: UNODC. 2010.

[10] Patel, V., D. Chisholm., T. Dua, R. Laxminarayan, and M. E. Medina-Mora, eds. 2015. "Mental, Neurological, and Substance Use Disorders", *Disease Control Priorities,* third edition, vol. 4. Washington, D.C.: World Bank.

[11] Whiteford H.A., Degenhardt L., Rehm J. et al. "Global burden of disease attributable to mental and substance use disorders: Findings from the Global Burden of Disease Study 2010", *Lancet* 2013; 382: 1575-86.

cocaine have mortality rates that are 3 to 14 times higher across the lifespan than the general population.[12,13]

These statistics do not take into account the full range of individual, family and societal costs, including lost productivity, increased criminal behaviour, incarceration, related physical health problems and infectious diseases. They also do not account for the negative consequences of use that are experienced by children and family members of substance users. Substance use is correlated with substantial economic costs, including unemployment, reductions in employability (individuals have lower chances of entering or remaining in the workforce), reduced productivity, higher rates of work-related accidents and greater rates of absenteeism.[14] Children and adolescents who use drugs and alcohol are at higher risk of poor school performance, school dropout, conflict with family and friends, and criminal involvement.[15,16,17] There are also significant costs to criminal justice, health-care and other social service institutions.

The positive news is that there are cost-effective, evidence-based tools to intervene in this cycle of substance use. Prevention programmes, targeting children, youth and adolescents, and adults can delay or prevent initiation of substance use and reduce the likelihood of problematic use. Treatment can help those suffering from substance use disorders to control and reduce the negative effects of their early or chronic use.[18] Recovery services can support these individuals on their path to improved daily functioning, improved quality of life and a substance-free life.

Rural settings, however, often suffer from limited access to the substance use prevention, treatment and recovery programmes, services and specific policies (as rural areas are covered in national policies) necessary to intervene in this global health crisis. Although many rural settings in industrialized and developing countries experience these challenges, rural areas of low- and middle-income countries, due to their resource constraints and high levels of need, face disproportionate difficulties in addressing substance use issues.[19]

1.2 Purpose of this Guide

This Guide will serve as an awareness-raising tool and guidance for policymakers, public health officials, local authorities and other stakeholders in dealing with substance use issues in rural settings in their respective countries.

It will "set the stage" for the identification, assessment, planning and implementation of both prevention interventions and policies, as well as interventions targeting rural drug users, by:

[12] Degenhardt, L., C. Bucello, B. Mathers, C. Briegleb, H. Ali, M. Hickman and J. McLaren. 2011. "Mortality among Regular or Dependent Users of Heroin and Other Opioids: A Systematic Review and Meta-Analysis of Cohort Studies", *Addiction* 106 (1): 32–51.

[13] Stenbacka, M., A. Leifman, and A. Romelsjo. 2010. "Mortality and Cause of Death among 1,705 Illicit Drug Users: A 37-Year Follow-Up", *Drug and Alcohol Review*. 29 (1): 21–27.

[14] Degenjardt, L., Stockings, E., Strang, J., Marsden, J., and Hall, W. Chapter 6: "Illicit Drug Dependence." In Patel, V., D. Chisholm., T. Dua, R. Laxminarayan and M. E. Medina-Mora, eds. 2015. *Mental, Neurological, and Substance Use Disorders. Disease Control Priorities,* third edition, vol. 4. Washington, D.C.: World Bank.

[15] Donnermeyer, J. "The Economic and Social Costs of Drug Abuse Among the Rural Population." In *Rural Substance Abuse: State of Knowledge and Issues*. NIDA Research Monograph, No. 168 [Printed in 1997].

[16] Gardner L. and Shoemaker D. "Social Bonding and Delinquency: A Comparative Analysis", *Sociol Q*. 1989; 30(3): 481-499.

[17] Elliott, D.; Huizinga, D. and Menard, S. *Multiple Problem Youth: Delinquency, Substance Use, and Mental Health Problems*. New York: Springer-Verlag, 1989.

[18] UNODC and WHO. *International Standards for the Treatment of Drug Use Disorders* — Draft for Field Testing. Available: https://www.unodc.org/documents/commissions/CND/CND_Sessions/CND_59/ECN2016_CRP4_V1601463.pdf. Downloaded, 2016, December 4.

[19] Patel, V., C. Lund, S. Heatherill, S. Plagerson, J. Corrigal and others. 2009. "Social Determinants of Mental Disorders." In *Priority Public Health Conditions: From Learning to Action on Social Determinants of Health*, edited by E. Blas and A. Sivasankara Kurup. Geneva:World Health Organization.

- Describing substance use problems in rural settings and factors contributing to them.
- Identifying tools that can be used to assess the scope of rural substance use in their countries.
- Describing evidence-based prevention, treatment and recovery strategies that can be implemented in rural areas.
- Providing examples of successful promising and evidence-based strategies implemented in diverse rural areas worldwide.

This document also discusses the possibilities and benefits of engaging local rural communities in this process, and the synergies of developing comprehensive strategies covering prevention, treatment and rehabilitation.

1.3 Intended audience

This Guide is intended for a broad range of policymakers in the Member States. At the national level, the target audience includes officials from ministries and departments of health, education, mental health, substance use, public health, public safety, agriculture and economic development. Policymakers from all of these governmental agencies have a stake in reducing and treating drug use. It will also be useful to staff from non-governmental organizations (NGOs) that are important partners in addressing social issues in Member States. Finally, the Guide will be useful for community policymakers and leaders, as it provides guidance to local communities on strategies for tackling their substance use problems.

1.4 How to use this Guide

This Guide is intended to be shared widely with policymakers and other stakeholders concerned with the problems of substance use in rural settings. It provides an understanding of several key economic and social disparities driving rural substance use and the barriers to treatment experienced by rural people with substance use disorders.

It also provides a process to:

- Assess the prevalence, underlying causes and consequences of drug use in rural settings.
- Identify gaps in prevention, treatment, and recovery policies, programmes and services.
- Engage key partners to collaborate in preventing and ameliorating the problems associated with rural drug use.
- Locate and deploy available resources.
- Set practical goals for work concerning prevention, treatment and recovery, and in reducing the negative health consequences caused by substance use.
- Select and adapt evidence-based prevention, treatment and recovery programmes, services and policies relevant to the needs of rural settings, and to evaluate them in order to assess sustainability and effectiveness.

2.
THE CONTEXT OF RURAL PLACE

2.1 Defining rurality

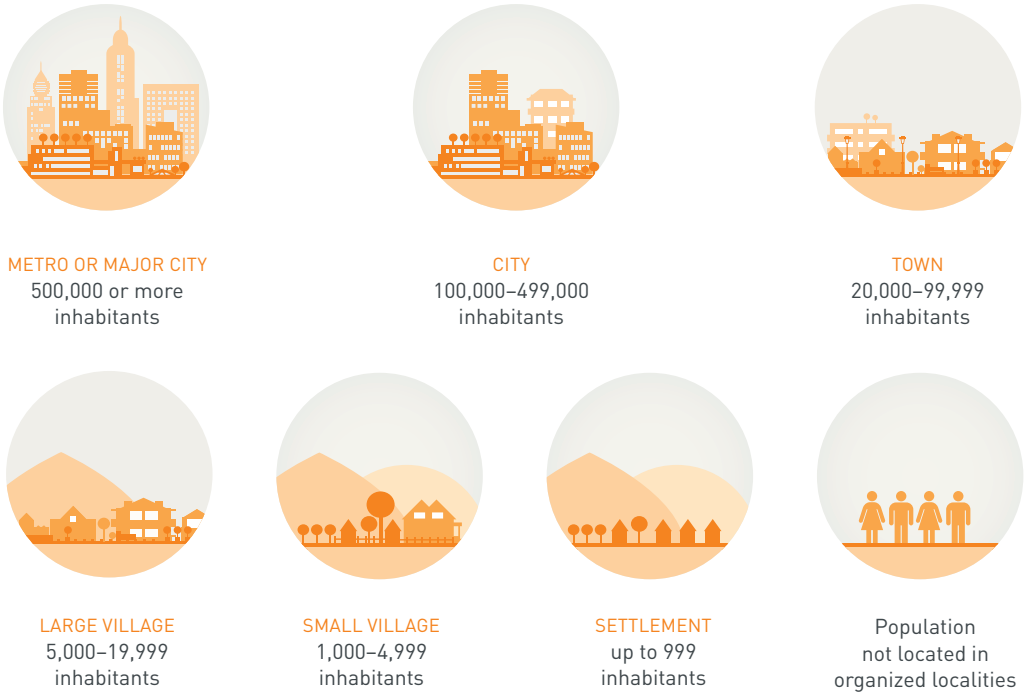
In order to best serve communities in rural settings, it is necessary to be able to identify and define those communities. Rurality is a variable concept with differing definitions from country to country,[20] and no internationally agreed upon definitions of urban and rural are applicable to all countries.[21] The United Nations Office of Economic and Social Affairs system to classify urban and rural areas uses the concept of locality (i.e., a distinct population cluster) and population size as outlined below in box 2.1.

Internationally, many countries create their own definition of an urban centre (which may change over time) and consider all residual areas outside of those urban areas to be rural. In other words, rural is defined as not being urban. The International Labour Organization's national inventory of national-level statistical definitions for rural/urban areas reinforces this lack of

BOX 2.1 THE RURAL CLASSIFICATION SYSTEM OF THE UNITED NATIONS OFFICE OF ECONOMIC AND SOCIAL AFFAIRS

Locality is defined as a distinct population cluster (also designated as inhabited place, population centre, settlement, etc.), in which the inhabitants live in neighbouring sets of living quarters and which has a name or a locally recognized status.

Population size is broken down by the following groupings:



[20] United Nations Department of Economic and Social Affairs, Population Division, 2011.

[21] United Nations Department of Economic and Social Affairs. *Population Density and Urbanization*. Available from: http://unstats.un.org/unsd/Demographic/sconcerns/densurb/default.htm. Downloaded: November 1, 2016.

agreement on ways to define rural/urban areas, although there are some common characteristics considered, including population size, population density, predominance of agricultural/non-agricultural activities, and administrative areas.[22] The following discussion of the rural classification systems used by Australia, the United Kingdom and the United States provides insight into the use of these different characteristics to classify urban and rural settings.

The United States Federal Government has more than 15 separate rural classification systems, with different definitions used to determine eligibility for funding under different programmes.[23,24] These systems capture different aspects of rurality, including population density (classified somewhat differently from programme to programme), adjacency to larger urbanized areas, commuting patterns from rural to urbanized areas, and location in an area designated as an isolated rural or frontier setting. The combination of characteristics varies, based on the needs and intent of the programme and the extent to which the goal is either to be more inclusive and encourage participation or exclusionary to minimize eligibility for the funding programme. The adjacency and commuting pattern characteristics are used when exploring the influence of geographic proximity of larger urban areas on rural communities that may influence workforce issues, economic disparities, access to health care, drug trafficking patterns and other issues.

The Australian Government uses a rural classification system known as Rural, Remote and Metropolitan Areas classification.[25] Developed originally in 1994, this system includes seven different categories of classification: two metropolitan, three rural and two remote. The classification is based on statistical local areas (SLAs) and allocates each SLA in Australia to a category based primarily on population numbers and an index of remoteness. The index of remoteness is used to allocate non-metropolitan SLAs to a rural or remote zone (for details see box 2.2).

The United Kingdom uses a rural classification system based on population density and 10 different settlement and context forms.[26] Urban areas are built up areas that have populations above 10,000. Rural areas are those that are not urban. The Rural-Urban Classification of Output Areas (box 2.3) consists of six rural and four urban settlement/context combinations.

These examples provide low-and middle-income developing countries with guidance on classifying rural versus urban areas. The approach to classifying rural and urban areas is important, as residents of rural areas are more heterogeneous than ever. The "new" rural is characterized by significant variation in racial/ethnic and age composition, economic well-being, and livelihoods. More economic, social and political interactions are occurring at the interface of rural and urban spaces[27,28,29] and these interactions

[22] International Labour Organization. Inventory of official national-level statistical definitions for rural/urban areas. Available: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/genericdocument/wcms_389373.pdf. Downloaded: 2016, December 4.

[23] *Washington Post.* "The federal definition of 'rural' — times 15", 2013, June 6.

[24] United States Department of Agriculture Economic Research Services 2016, June 7, http://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/what-is-rural.aspx.

[25] Rural, Remote and Metropolitan Areas (RRMA) classification. Available: http://www.aihw.gov.au/rural-health-rrma-classification/. Downloaded: 1 Nov. 2016.

[26] Government Statistical Service. The 2011 Rural-Urban Classification for Output Areas in England. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/539133/RUC0A_leaflet_May2015v2.pdf. Downloaded: November 1, 2016.

[27] Lichter, D.T., and Brown, D.L. (2011). "Rural America in an urban society: changing spatial and social boundaries", *Annual Review of Sociology*, 37, 565-592.

[28] Lichter and Brown, 2011 and 2014.

[29] Lichter, D.T., and Brown, D.L. (2014). "The new rural-urban interface: lessons for higher education", *Choices*, 1st quarter.

BOX 2.2 AUSTRALIA'S RURAL, REMOTE AND METROPOLITAN AREAS CLASSIFICATION ZONE CATEGORIES

Metropolitan zone

M1	Capital cities
M2	Other metropolitan centres (urban centre population > 100,000)

Rural zone

R1	Large rural centres (urban centre population 25,000-99,999)
R2	Small rural centres (urban centre population 10,000-24,999)
R3	Other rural areas (urban centre population < 10,000)

Remote zone

Rem 1	Remote centres (urban centre population > 4,999)
Rem 2	Other remote areas (urban centre population < 5,000)

BOX 2.3 UNITED KINGDOM RURAL-URBAN CLASSIFICATION SYSTEM

Urban (over 10,000 population):

Not sparse: major conurbation (i.e., extended urban area), minor conurbation, city and town

Sparse: city and town

Rural

Not sparse: town and fringe, village, hamlets and isolated dwellings

Sparse: town and fringe, village, hamlets and isolated dwellings

have implications for drug distribution, drug use behaviours, prevention strategies and treatment options. The key to developing effective policies, practices and interventions related to substance use disorders is to select the spatial units and characteristics of rurality that are most important and relevant to stakeholders and capture demographic and population changes as they occur. It is also important to be clear about the limitations of chosen definitions.

2.2 Global changes in rural population areas

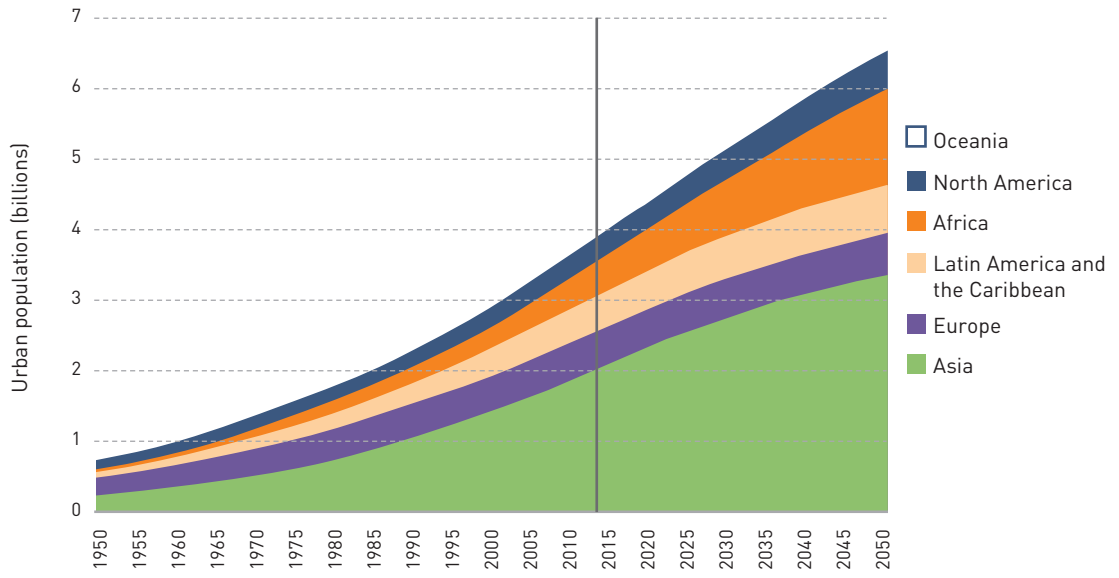
Over the past 65 years, global populations have increasingly concentrated in urban areas (table 2.1). The percentage of the population living in rural areas across major geographic regions has declined since 1950 (figure 2.1). In addition to changing distribution patterns, the total number of rural people in these regions has

TABLE 2.1 CHANGES IN RURAL POPULATION PATTERNS

Geographic region	Percentage of the population living in rural areas	
	2000	2014
World	53	47
East Asia and the Pacific	59	44
Europe and Central Asia	32	29
Latin America and the Caribbean	25	20
Middle East and North Africa	41	36
North America	21	19
South Asia	73	67
Sub-Saharan Africa	69	63

Source: World Bank. Rural population refers to people living in rural areas as defined by national statistical offices.

FIGURE 2.1 GROWTH OF URBAN AGGLOMERATIONS, 1950-2025



Source: United Nations Department of Economic and Social Affairs, Population Division. *World Urbanization Prospects: The 2014 Revision*, page 12.

declined, with the exception of the Middle East/North Africa and South Asia regions, which have experienced 1 per cent and 0.70 per cent population increases (data not shown). Larger population concentrations in these two regions have influenced the overall change rate at a worldwide level (0.20 per cent). These migration patterns are influenced by declining economic conditions in rural communities and increased opportunities in urban areas. Outmigration further exacerbates the socioeconomic drivers of substance use in rural areas.

2.3 Isolation, travel and distance barriers

The relative isolation of rural communities and longer travel distances to urban areas act as barriers to seeking and accessing health and other services by rural residents. Studies have shown that long travel distances and the costs of travel are significant barriers to accessing substance use treatment and care, particularly for services that require daily encounters such as methadone treatment.[30] Research also indicates that rural residents frequently have fewer public transportation options and may depend on family members to drive them to appointments. Research also shows that shorter travel distances are associated with longer stays and greater completion rates for substance use treatment. Longer travel reduces the likelihood that rural individuals will follow up on referrals for care and the likelihood of receiving recovery services. At the same time, longer travel distances decrease the willingness of substance use and other health-care staff to travel to rural communities to provide services. Rural areas also suffer from lower access to digital services, including a lack of connections, challenges in obtaining equipment, unreliable electrical supply, and limited experience with the tools and equipment to expand access to care using technology.

2.4 Indigenous populations

More than 370 million people worldwide self-identify as indigenous, with most living in rural and remote areas.[31] There are more than 5,000 identified indigenous groups, including the Aborigines of Australia, Alaskan Natives, American Indians, the Inuit of the Arctic, the Maori in Aotearoa/New Zealand, Native Hawaiians, and the tribal peoples of Africa, Asia, India and South America. Indigenous peoples often have their own language, culture and spiritual beliefs. Key concepts associated with indigenous populations include the definition of the concept of "indigenous peoples".

While there is no universal definition of "indigenous peoples", there are criteria by which indigenous peoples globally can be identified and from which each group can be characterized. People are typically considered indigenous because they are:

- Descendants of those who lived in an area before colonization; or
- Because they have maintained their own social, economic, cultural and political institutions since colonization and the establishment of new States.

Indigenous people often face discrimination and suffer from a greater range of socioeconomic disparities than other rural residents. Based on past mistreatment of indigenous populations, some countries such as Australia, Canada, New Zealand and the United States have implemented health-care programmes and services solely for use by indigenous people, such as the Indian Health Service in the United States, which cares for individuals living on reservations. These systems of care often have significant quality and access issues.[32] Many indigenous people suffer from a range of substance use disorders[33] and often have higher rates of drug- and alcohol-related mortality compared to non-indigenous people. This is the case with American Indians and Alaska Natives compared to other United States racial or ethnic groups.[34] Also,

[30] Pullen, E. and Oser, C. "Barriers to Substance Abuse Treatment in Rural and Urban Communities: A Counselor Perspective", *Substance Use and Misuse*. 2014; 49(7): 891-901.

[31] International Workgroup for Indigenous Affairs. "Who are Indigenous Peoples?" Available: http://www.iwgia.org/culture-and-identity/identification-of-indigenous-peoples. Downloaded: November 1, 2016.

[32] Marrone, S. "Understanding Barriers to Health Care: A Review of Disparities in Health Care Services Among Indigenous Populations", *International Journal of Circumpolar Health,* 66:3 2007: 188-198.

[33] Catto M. and Thomson, N. (2008). "Review of illicit drug use among Indigenous people", *Australian Indigenous Health Bulletin*; 8(4), article 1.

[34] http://www.samhsa.gov/specific-populations/racial-ethnic-minority

in Australia, substance use plays a significant role in the gap between indigenous and non-indigenous Australians in life expectancy and health (Catto and Thomson, 2008).[35]

The use of substances is influenced by individual, cultural and community contexts. Prevention and treatment programmes are more effective when they recognize and understand these contextual issues. As such, the effective development of these strategies require input from the community as well as relevant cultural and professional groups including tribal groups, families, traditional healers, religious entities, legal authorities and local health-care providers in developing community strategies. Lessons learned in New Zealand show that the indigenous people respond best to models that they develop and deliver themselves (by Māori for Māori). Good practice resources such as those developed by a specialist Māori health service called He Waka Tapu (www.hewakatapu.org.nz) have been successfully implemented.

2.5 Rurality as a driver of substance use disorders

2.5.1 Prevalence of substance use disorders in rural areas

Drug and other substance use is a growing problem in rural settings across the globe. Although comprehensive data are not available on rural drug use worldwide, it is instructive to examine overall trends in the prevalence of drug use. The *World Drug Report 2016*[36] of UNODC noted that the number of people suffering from drug use disorders has increased disproportionately for the first time in six years (to more than 29 million people) despite the fact that the percentage of adults (aged between 15 and 64 years) who used at least one drug in 2014 remained stable at 5 per cent of the adult population. Cannabis, now being legal in some parts of the world, is the most commonly used drug worldwide, followed by amphetamines. Although opiates and prescription opioids are less commonly used, their use has been growing over the past decade, and the negative effects associated with opioid use are significant and include high risk of overdose.

UNODC further noted that variations in drug use patterns complicate efforts to address the problem at regional levels. For example, South America has exhibited increased cocaine use since 2010. The use of heroin has been on the rise in the United States since 2007. Although usage data are not available, expert analyses of trends, treatment admission reports and local law enforcement records suggest an increase in the use of amphetamines in East and South-East Asia and in rural parts of the United States.

Despite the lack of global prevalence data on drug use, available data from different countries indicate that rural areas suffer from drug use. For example, an INL survey of drug use in Afghanistan (which included toxicology testing) found that 31 per cent of households and 11 per cent of the population tested positive for one or more drugs.[37] Drug use was found to be three times greater in rural areas than in urban ones. People living in rural areas in South Africa, particularly those with lower socioeconomic status, have higher prevalence of binge drinking and related fetal alcohol spectrum disorder.[38] The negative health

[35] "Substance use among Aboriginal and Torres Strait Islander people", Australian Institute of Health and Welfare, February 2011, page 1.

[36] United Nations Office on Drugs and Crime, *World Drug Report 2016*. Vienna: United Nations Office on Drugs and Crime. (Sales No. E.16.XI.7).

[37] "International Narcotics Control Strategy Report: Volume 1. Drug and Chemical Control", March 2016. (Bureau for International Narcotics and Law Enforcement Affairs, United States Department of State, March 2016).

[38] May et al, 2016.

consequences of substance use disorders (SUDs) in rural settings are very serious and require immediate responses. Moreover, studies conducted in the United States found that the use of methamphetamine and prescription opioids is higher among adolescents and young adults living in rural areas compared to urban areas.[39,40,41] Similarly, rural youth have greater prevalence of underage drinking and problem drinking (i.e., binge drinking, heavy drinking, and driving under the influence) than their urban peers.[30]

2.5.2 Socioeconomic characteristics of rural settings as a driver of substance use

Further supporting the need to focus on rural substance use is that fact that rural areas are characterized by a number of socioeconomic disparities that are recognized contributing factors to drug and other substance use. Before continuing this discussion, it should be recognized that many of these socioeconomic characteristics are not unique to rural settings. Poverty, lack of educational opportunities, unemployment and limited economic opportunities are just a few examples of socioeconomic factors that impact rural and urban settings (such as inner cities). As the focus of this document is on the development of strategies to address substance use in rural settings, our focus will be on the influence of socioeconomic factors in combination with factors unique to rural settings (e.g., long travel distances, geographic isolation, inadequate infrastructure and resources, etc.) on substance use.

FIGURE 2.2 SOCIOECONOMIC CHARACTERISTICS OF RURAL SETTINGS AS DRIVERS OF SUBSTANCE USE

Socioeconomic characteristics that serve as drivers of substance use include the following:[42,43]

- *Socioeconomic status:* low income, unemployment, higher prevalence of manual labour occupations that increase risk of injury (and the use of prescription and illicit opioids and other pain relievers), income inequality, lower educational levels, limited opportunities for advancement and lack of health services
- *Social capital:* low social support
- *Neighbourhood factors:* inadequate housing, overcrowding, neighbourhood violence and high availability of substances

[39] Hartley, D. "Substance Abuse Among Rural Youth: A Little Meth and a Lot of Booze", Maine Rural Health Research Center, Muskie School of Public Service, University of Southern Maine: Portland, Maine. June 2007.

[40] Monnat, S. and Rigg, K., 2015a. "Examining Rural/Urban Differences in Prescription Opioid Misuse among U.S. Adolescents", *Journal of Rural Health*, 32(2):204-218.

[41] Monnat, S. and Rigg, K., 2015b. "Rural Adolescents are More Likely than their Urban Peers to Abuse Prescription Painkillers. National Fact Sheet 32", Carsey School of Public Policy. University of New Hampshire. https://carsey.unh.edu/publication/prescription-painkiller-abuse

[42] Patel, V., C. Lund, S. Heatherill and others, 2009. "Social Determinants of Mental Disorders." In *Priority Public Health Conditions: From Learning to Action on Social Determinants of Health*, edited by E. Blas and A. Sivasankara Kurup. Geneva: World Health Organization.

[43] Anderson, P. "Global Use of Alcohol, Drugs and Tobacco", *Drug and Alcohol Review* (November 2006), 25, 489-502.

- *Environmental events:* natural disasters, war, conflict, and climate change and degradation
- *Social change* associated with changes in income, urbanization, migration and government policies

Chronic substance use exacerbates these factors as the lives of individuals with substance use disorders spin out of control, triggering a self-perpetuating cycle of poverty, low productivity and health problems. The course of the disease makes it very difficult to break this cycle and move forward. Substance use disorders can be particularly difficult to overcome in rural settings due to limited resources for prevention, treatment and recovery. At the same time, societal stigma related to substance use disorders further marginalizes users and creates additional barriers to recovery.

Although stigma is an issue in both rural and urban environments, the impact of stigma is typically more pronounced in rural settings, where the smaller populations and limited number of treatment options limit the anonymity of individuals suffering from substance use disorders.

According to the Population Reference Bureau (PRB), there is an urban-rural divide worldwide which is being created by the increasing urbanization across the globe (table 2.2).[44] For example, Africa and Asia, two evolving continents, are becoming increasingly urban. Despite this fact, the results of the PRB study suggest that Africa will remain predominantly rural for the next 20 years or more.

TABLE 2.2 ESTIMATED PERCENTAGE CHANGE IN WORLD AND REGIONAL URBAN POPULATION, 2014-2050

Region	Percentage of population that is urban in 2014	Percentage of population that will be urban in 2050 (estimated)
World	54	66
More developed	78	85
Less developed	48	63
Least developed	31	50
Continent		
Africa	40	56
Latin America and the Caribbean	80	86
Asia	48	64
North America	82	87
Europe	73	82
Oceania (Australia, New Zealand, South Pacific Islands)	71	74

Source: Adapted from: Carl Haub and Toshiko Kaneda, 2014, "World Population Data Sheet" (Washington, D.C.: Population Reference Bureau, 2014); and United Nations Population Division, "World Urbanization Prospects: The 2014 Revision" (New York: United Nations, 2014).

[44] Population Reference Bureau. "The Urban-Rural Divide in Health and Development: Data Sheet 2015." Available: www.prb.org. Downloaded: November 1, 2016.

BOX 2.4 POPULATION HEALTH AND ECONOMIC DISPARITIES IMPACTING RURAL AREAS

- Rural women have more children than urban women.
- Child marriages are more common.
- Rural youth are less likely to stay in school, with young men having higher educational advantages and higher completion rates in both settings than young women (with the United States being one exception).
- Higher rates of poverty.
- Higher infant mortality rates and a lower likelihood of receiving antenatal care and skilled care at delivery.
- A greater percentage of children that are underweight, a greater incidence of food insecurity, and lower access to safe drinking water and sanitation.
- Higher rates of maternal mortality among women living in rural areas and poorer communities, with 99 per cent of all maternal deaths occurring in developing countries.[a]

[a] See http://www.who.int/mediacentre/factsheets/fs348/en/

BOX 2.5 ADDITIONAL RURAL DISPARITIES RESULTING FROM THE TRAFFICKING AND PRODUCTION OF DRUGS

- Chronic rates of poverty encourage the trafficking and production of drugs in rural communities.
- Rural residents engaging in illegal drug activities for survival are exposed to significant legal risks.
- Rural areas also suffer greater environmental ecological damage from deforestation and the disposal of chemicals used in drug production.

The PRB 2015 Data Sheet also identified a number of economic and health disparities plaguing rural settings (compared to urban areas), as outlined in box 2.4 above.

Moreover, the UNODC *World Drug Report 2016* recognized the additional burden placed on rural settings due to drug trafficking and production (box 2.5).

Increasing concern within the international community about this growing worldwide problem has been an incentive for research, which has resulted in the development of evidence-based tools to intervene in this cycle of drug use. These evidence-based tools include:[45]

- Prevention interventions, to delay or prevent initiation of substance use and to reduce the progression to disorders and the likelihood of problem use later on in life

[45] Dua T., Barbui C., Clark N., Fleischmann A., Poznyak V., van Ommeren M., et al. (2011). "Evidence-Based Guidelines for Mental, Neurological, and Substance Use Disorders in Low- and Middle-Income Countries: Summary of WHO Recommendations", *PLoS Med* 8(11): e1001122.

- Treatment to help those suffering from drug use disorders to control their chronic disease, and addressing health and social consequences of drug use
- Recovery services to support individuals on their path to leading a drug-free life

2.5.3 Substance use as normative behaviour in rural communities

Race, ethnicity, religion and community context play important roles in influencing substance use for minority, indigenous and other vulnerable populations in rural communities and in implementing spatially and culturally appropriate prevention and treatment interventions.[46] For example, many culturally distinct groups have traditionally used mind-altering substances in rituals and have established codes of behaviour about what constitutes problem use. One example includes the use of peyote among American Indian tribes, which evolved into a ceremonial process to combat chronic alcohol addiction.[47,48] These cultural influences guide group behaviour and influence their use of drugs and other substances as well as their willingness to seek treatment.[49]

Research has shown that some Hispanic/Latin American women maintain the cultural norms of their countries of origin and resist social pressures to engage in substance use.[50] Upon immigration to a new community, their cultural norms constitute a protective factor. Over time, as individuals adapt to their "new" culture, this protective factor declines. Similarly, UNODC found that religious beliefs were considered a protective factor against opioid use among Afghan women, but the poor economic realities in rural communities and the shortage of available treatment services often overcomes the religious protective factor.

At the same time, cultural and religious connections can be harnessed as part of prevention and treatment strategies. An example includes the development of a treatment programme targeting native Alaskan youth that incorporates culturally sensitive, subsistence living skills and elder healers to treat huffing and other substance use disorders among this population. This culturally focused programme can help individuals to regain their ethnic identity, reconnect to a functional social network, and reintegrate into local society.

The use of drugs and other substances is influenced by individual, cultural and community contexts. Prevention and treatment programmes are more effective when they recognize and understand these contextual issues. As such, developing effective strategies requires input from the community stakeholders and relevant cultural and professional groups, including tribal groups, families, traditional healers, religious entities, legal authorities and local health-care providers.

2.5.4 Rurality as a barrier to substance use prevention and treatment

As discussed earlier, the greater travel distances and costs associated with living in a rural community are considerable barriers to accessing prevention and especially treatment. Often there are fewer programmes and services available in rural versus urban areas. Other barriers for those living in rural areas relate to lack of public transportation, treatment

[46] Westermeyer J. "Cross-cultural aspects of substance abuse", In: Galanter M., Kleber H.D., eds., *Textbook of Substance Abuse Treatment*. Arlington, Va: American Psychiatric Publishing; 2004:89-98.

[47] Heath D.W. "Cultures and substance abuse", *Psychiatr Clin North Am*. 2001;24:479-496.

[48] Abbott P.J. "American Indians and Alaska Native aboriginal use of alcohol in the United States", *Am Indian Alsk Native Ment Health Res*. 1996;7:1-13.

[49] Horvath, A., Misra, K., Epner, A., and Cooper, G. Edited by Zupanick, C. *Addiction And Sociological Influences: Culture And Ethnicity*. Available: http://www.amhc.org/1408-addictions/article/48420-addiction-and-sociological-influences-culture-and-ethnicity.

[50] Mora, J., 2002. "Latinas in cultural transition: addiction, treatment and recovery", In: Straussner, S.L.A., Brown, S. (eds.), *The Handbook of Addiction Treatment for Women: Theory and Practice*. Jossey Bass, San Francisco, pp. 323–347.

BOX 2.6 BARRIERS TO EFFECTIVE SUBSTANCE USE TREATMENT EXPERIENCED BY RURAL RESIDENTS

- Fewer treatment options for rural clients
- Lack of educational resources for clients
- Limited continuing education opportunities for counsellors
- Lack of good facilities (e.g., building resources)
- Challenges in getting to treatment facilities, including the lack and cost of public transportation
- Client distance from treatment centres
- Reliance on friends and family for transportation
- Challenges in meeting housing and other support needs of people in treatment
- Need for mental health, medical and dental services

delays (due to shortages of available services) and limited access to supporting services (box 2.6).[51]

As discussed previously, factors such as poverty, unemployment and limited access to education or healthcare services exacerbate rural vulnerability to substance use and its negative consequences. While this is true for many rural communities in both industrialized and developing countries across the globe, low- and middle-income countries in particular suffer from the lack of national, regional and local resources necessary to mount an effective response to drug use.[52,53]

The transmission of HIV, hepatitis and other bloodborne diseases creates additional challenges for people who inject drugs (PWID) living in rural areas where much needed, effective HIV prevention interventions are in short supply. According to the United States Bureau for International Narcotics and Law Enforcement Affairs, Myanmar has one of the highest global rates of HIV infection attributable to injecting drug use, with an HIV prevalence rate among PWID of 28.3 per cent in 2014.[54] Georgia and Kyrgyzstan had over 50,000 and 25,000 PWID respectively. Rural areas in developed countries are not exempt from problems related to injection drug use. A rural community of 4,200 people in Scott County, Indiana, United States, experienced a public health emergency in 2015, with 169 new cases of HIV within a six-month period which were traced to the injection use of the prescription drug Opana (oxymorphone).[55]

2.5.5 Rurality as a protective and risk factor for substance use

Rural communities may also offer a stronger sense of community and belonging, which may act as a protective buffer against risky behaviours including substance use.[56] This is thought to be due to greater

[51] Pullen E., Oser C. "Barriers to Substance Abuse Treatment in Rural and Urban Communities: A Counselor Perspective", *Substance Use and Misuse*. 2014; 49(7): 891-901.

[52] Patel V., Thornicroft G. (2009). "Packages of care for mental, neurological, and substance use disorders in low- and middle-income countries", PLoS Medicine Series. *PLoS Med* 6: e1000160. doi:10.1371/journal.pmed.1000160.

[53] Patel V. et al. "Treatment and prevention of mental disorders in low-income and middle-income countries", *Lancet*, 2007, 370 (9591): 991-1005.

[54] "International Narcotics Control Strategy Report: Volume 1. Drug and Chemical Control", March 2016. (Bureau for International Narcotics and Law Enforcement Affairs, United States Department of State, March 2016).

[55] Gale, J. *Rural Communities in Crisis: Strategies to Address the Opioid Crisis*. National Rural Health Association: Kansas City, MO, 2016.

[56] Monnat and Rigg, 2015.

neighbourhood cohesion and the existence of generational networks.[57] At the same time, the presence of these networks can be a risk factor for substance use, as tighter kinship networks in rural settings are associated with greater drug diversion.

2.5.6 Rural consequences of drug use

Much of the literature analysing differences in substance use patterns across the urban-rural continuum comes from the United States research community.[58] Research on substance use in the United States has found little difference in prevalence rates between urban and rural areas on a national level.[59,60,61] However, these studies have identified subtle differences across different populations and levels of rurality (box 2.7).

As a result of these studies, it is reasonable to assume that overall substance use in some rural settings will be similar to that of urban settings. What is clear, however, is that certain subpopulations and/or individuals living with substance use disorders in rural settings will also experience greater consequences of their substance use than their peers in urban settings due to higher rates of stress-related drug, alcohol and suicide mortality (including overdoses).[62]

2.5.7 Gaps in rural health-care access and delivery systems

The International Labour Organization (ILO) has conducted extensive work on the inequities in rural health protection across the globe and identified "significant, if not extreme differences between rural and urban population in terms of health coverage and access at global, regional, and national levels" (box 2.8).[63]

BOX 2.7 ALCOHOL USE BY RURAL ADOLESCENTS

- Rural youth had higher rates of alcohol and methamphetamine use than urban youth.
- Use rates for rural adolescents increase by level of rurality: the more rural the location, the higher the rates of use.
- Young adults living in large rural areas had higher rates of substance use than their urban peers.
- Those living in the most rural areas had nearly twice the rate of methamphetamine use as urban young adults.

[57] Clark, T.T., Nguyen, A.B., and Belgrave, F.Z. (2011). "Risk and protective factors for alcohol and marijuana use among African-American rural and urban adolescents", *Journal of Child and Adolescent Substance Abuse*, 20, 205-220.

[58] McInnis, O.A., Young, M.M., Saewyc, E. and others. (2015). *Urban and Rural Student Substance Use*, Ottawa, Ont.: Canadian Centre on Substance Abuse.

[59] Gfroerer, J.C., Larson, S.L., and Colliver, J.D. (2007). "Drug use patterns and trends in rural communities", *Journal of Rural Health*, 23 (Suppl. 1), 10-15.

[60] Lambert, D., Gale, J., and Hartley, D. "Substance Abuse by Youth and Young Adults in Rural America", *Journal of Rural Health*, 24(3): 221-228.

[61] Rigg, K.K. and Monnat, S.M., 2015. "Urban vs. Rural Differences in Prescription Opioid Misuse among Adults in the United States: Informing Region Specific Drug Policy", *International Journal of Drug Policy* 26(5): 484-491.

[62] Monnat, S. *Despair, Drugs and Death: Understanding Spatial Differences in U.S. 'Stress-Related' Mortality*. Available: http://ipsr.ku.edu/pophealth/2016/materials/Monnat.pdf. Downloaded: 201, December 4, 2016.

[63] *Global evidence on inequities in rural health protection: new data on rural deficits in health coverage for 174 countries*, Xenia Scheil-Adlung (ed.); International Labour Office, Social Protection Department. Geneva: ILO, 2015. (Extension of Social Security series, No. 47).

BOX 2.8 GAPS AND INEQUITIES IN HEALTH-CARE ACCESS AND COVERAGE IN RURAL AREAS

The ILO found that:

- Fifty-six per cent of the rural population globally lacks health care compared to 22 per cent of the urban population.
- Rural populations in Africa are the most deprived.
- Rural areas suffer from extreme workforce shortages.
- There is an estimated shortage of 7 million health-care workers in rural areas compared to a shortage of 3 million in urban areas.

These gaps not only severely impact access to care but result in lower-quality services when care is available. They also note that per capita spending deficits are twice as large in rural areas. The ILO concluded that these inequities result in higher levels of unnecessary suffering and death in rural areas. Their findings corroborate the earlier discussed gaps in substance use treatment in rural areas worldwide and particularly in low- and middle-income countries.[64]

In addition to these coverage gaps, the ILO described the poor conditions of rural health and transport infrastructures. This makes it difficult for rural residents to access high-quality substance use treatment and care and discourages health professionals from living and working in rural areas. Providers may also be reluctant to relocate to rural areas, as they may perceive the educational and employment opportunities for their families to be poor.

The ILO also noted that rural delivery systems are more inefficient than those in urban areas due to:

- Lack of management information about the numbers and locations of existing health workers (making it difficult to deploy resources where they are most needed).
- Poor stocking systems for the distribution of essential drugs and supplies, which can result in gaps in supplies in remote areas.
- Lack of support services, which distracts clinical staff from service delivery; and ongoing problems with referral systems that makes it difficult to access specialty care due to transportation issues.

2.5.8 Gaps in financing for substance use services in rural areas

A survey of member States in the six World Health Organization (WHO) regions found that less than 50 per cent of the responding countries reported having a budget line directed towards the treatment of substance use disorders.[65] Among those with a specific budget line for substance use disorders, countries in South-East Asia (70 per cent) and the Western Pacific (66.6 per cent) were most likely to have a budget allocated for this purpose, while countries in the African Region (32.6 per cent) were least likely to likely to have a budget allocated for substance use treatment. Low-income countries were more likely to finance substance use treatment services through an integrated budget line (covering mental health, alcohol and drug use treatment

[64] Patel, V., C. Lund, S. Heatherill and others, 2009. "Social Determinants of Mental Disorders." In *Priority Public Health Conditions: From Learning to Action on Social Determinants of Health*, edited by E. Blas and A. Sivasankara Kurup. Geneva: World Health Organization.

[65] World Health Organization. *Atlas on Substance Use* (2010), Chapter 2. Geneva: World Health Organization, 2010.

together). In terms of payment systems for substance use treatment, low-income and lower middle-income countries tend to rely primarily on out-of-pocket payments. This is likely to place an inordinate burden on rural people with substance use disorders, given the higher poverty levels previously identified in rural settings, and serves to restrict access to treatment for rural residents.

Conclusion

This Guide describes possible ways for policymakers to address rural substance use and to support prevention and treatment in rural settings. The evidence clearly points to significant disparities in socioeconomic challenges, health-care access and health-care funding in rural areas worldwide. This evidence also confirms concerns regarding the level of substance use in rural areas, the substantial negative impact on the lives of individuals, families and communities suffering from substance use disorders, and the negative health and social consequences that threaten the viability and future of rural communities.

On a more positive note, effective evidence-based substance use prevention, treatment and recovery strategies can be readily adapted to the cultural needs of rural settings, thereby reducing the impact on and negative consequences for rural residents. Not only is it possible to address substance use problems in a cost-effective manner and reduce the disparate burden it inflicts on rural communities, it is the right thing to do.

3. SYSTEM ASSESSMENT AND PLANNING

3.1 Policy framework

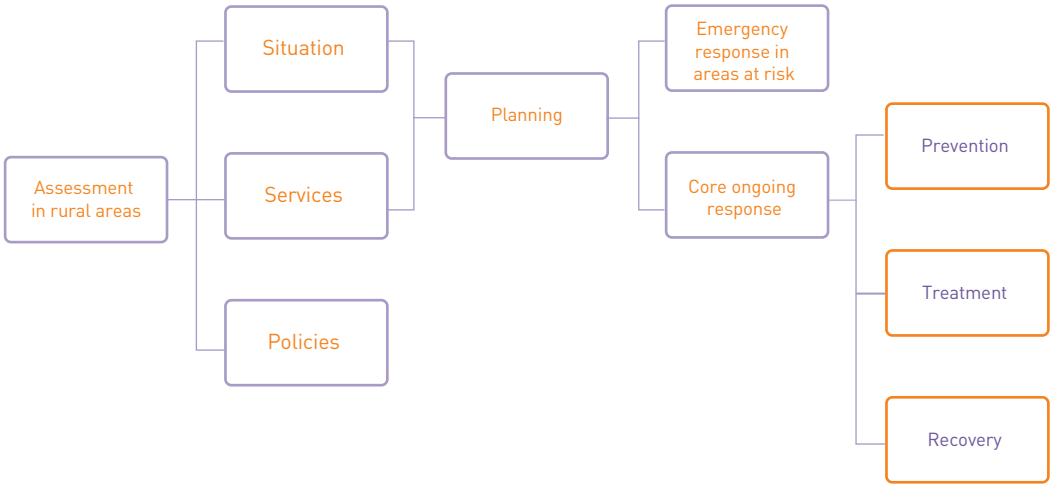
The development of a multi-level system assessment process to identify the existing needs and gaps in substance use prevention, treatment and recovery in rural areas, and to develop appropriate interventions to address identified gaps, is based on the premise that all residents, regardless of their place of residence in a given country, should benefit from evidence-based prevention programmes and policies. The planning of such prevention, treatment and rehabilitation responses should be firmly based on rigorous assessment, taking account of the substance use situation and the related factors influencing it, as well as of the existing responses and supportive policy frameworks and gaps in them (see figure 3.1 below).

Understanding the substance use situation at the community level, as well as the complex set of factors influencing it, is the first step in addressing it effectively with appropriate prevention and treatment policies, programmes and services. This calls for regularly collecting information on substance use and related factors, as well as evaluating the existing response system, and utilizing all this information in the planning process, as highlighted by the *International Standards on Drug Use Prevention*.[66] Whilst all principles of the UNODC-WHO *International Standards for the Treatment of Drug Use Disorders* are critical in regard to evidence-based prevention, treatment and care of drug use disorders, the following principles are especially relevant for the assessment and strategic planning process:

Principle 1 states that treatment must be available, accessible, attractive and appropriate for the needs of all citizens living in both urban and rural settings.

Principle 5 calls for substance use treatment services to respond to the needs of special subgroups and conditions. Rural populations are often composed of numerous vulnerable subgroups with different cultural, ethnic and/or religious belief structures or with differing levels of marginalization. Treatment and

FIGURE 3.1 ASSESSMENT AS A CORNERSTONE OF PLANNING THE NATIONAL RESPONSE



[66] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Available: https://www.unodc.org/documents/prevention/UNODC_2013_2015_international_standards_on_drug_use_prevention_E.pdf. Downloaded: September 22, 2016.

prevention services should consider their unique vulnerabilities and needs and include outreach services to establish contact with people who may not seek treatment because of stigma and marginalization.

Principle 6 recommends that the assessment and strategic planning processes engage key stakeholders, including members of the target populations and their families, community members and representatives from non-governmental organizations (NGOs), religious groups, government and social service organizations. It should also link with relevant general and specialized health and social services to provide a continuum of comprehensive care to their patients.

Finally, Principle 7 calls for the planning and implementation of services in a logical, step-by-step sequence that ensures the strength of links between *(a)* policy; *(b)* needs assessment; *(c)* treatment planning; *(d)* implementation of services; *(e)* monitoring of services; *(f)* evaluation of outcomes; and *(g)* quality improvements. One key standard under Principle 7 calls for the roles of national, regional and local agencies, as well as engaged local organizations, to be defined and mechanisms for effective coordination to be established so that the service system functions in an integrated and coordinated fashion.

Building upon these principles, the following section will discuss a multi-level (e.g., national, regional and local) rapid assessment process to identify and address substance use issues in rural communities.

At the national level, the multi-level rapid assessment process should:

- Identify rural areas and populations of the Member State.
- Assess the policy context for the development of substance use prevention and treatment programmes.
- Identify relevant stakeholder groups.
- Conduct an inventory of treatment and prevention resources.
- Describe the organizational structure for acute health care, mental health care, substance use treatment, public health services, education and other services relevant to prevention and treatment responses at the national and subnational levels.
- Assess the substance use situation in the country, including differences in substance use across rural and urban areas, factors contributing to and driving substance use, and the impact on the lives and health of its citizens to support the development and communication of national substance use prevention and treatment priorities.
- Define a process to work with rural leaders to assess the need for and the development of substance use prevention, treatment and recovery services at the community level in a systematic and sustainable manner.
- Identify and assemble the resources needed by rural communities to assess and address local substance use issues, including technical assistance, assessment tools and financial support.

A regional/community-level assessment should be conducted to identify the resources, gaps and opportunities to develop strategies to prevent and treat substance use in rural settings. This process, also discussed in the chapters on treatment and prevention, should be conducted as outlined below:

- Identify and mobilize coalitions and partnerships to collaborate on strategies to address substance use disorders
- Assess community substance use issues
  - Define the community/geographic area of concern
  - Review any relevant history of community collaboration and efforts to address substance use
  - Collect and analyse available quantitative and qualitative data on local substance use and on related risk and protective factors
  - Identify available resources, programmes and services that can support local strategies

  - Assess the barriers to treatment seeking (e.g., stigma and criminal sanctions concerning the use of illegal drugs)
- Analyse problems, gaps and community priorities
  - Quantify the scope of substance use disorders in the community
  - Identify related consequences (e.g., spread of HIV, criminal activity, overdose deaths, truancy, etc.)
  - Incorporate the coalition/collaborative partners' experience to frame problems and goals
  - Identify local contributing and protective factors related to substance use
  - Prioritize local problems through an objective process using local input
  - Develop problem and goal statements reflecting community concerns
- Create a strategic plan to address community-identified priorities
  - Develop prevention, treatment and recovery services to address local priority substance use issues
  - Address local factors that contribute to substance use
  - Strengthen protective factors
  - Identify the costs and benefits of addressing substance use issues to family members and society
  - Identify the needs the needs of subpopulations that might influence their willingness to seek and access treatment, including women, children and indigenous populations
  - Identify the needs of related populations (e.g., What are the needs of the children while parents are in treatment?)

3.2 Planning for a rapid assessment and response

In an ideal world, the development of a rural substance use system of care and the related prevention response would be conducted through a strategic planning process. The process should be based on the results of a comprehensive needs assessment or established information collection system. Data/information to be collected includes:

- Population-level data on the prevalence of substance use (by substance type) by subgroups of the rural population
- Drivers of substance use in a specific setting
- Existing prevention responses and their reach, appropriateness and effectiveness
- Availability, comprehensiveness and use of existing treatment services
- Distribution of the negative effects of substance use across rural populations (see also chapter 3 of the *International Prevention Standards*)[67]

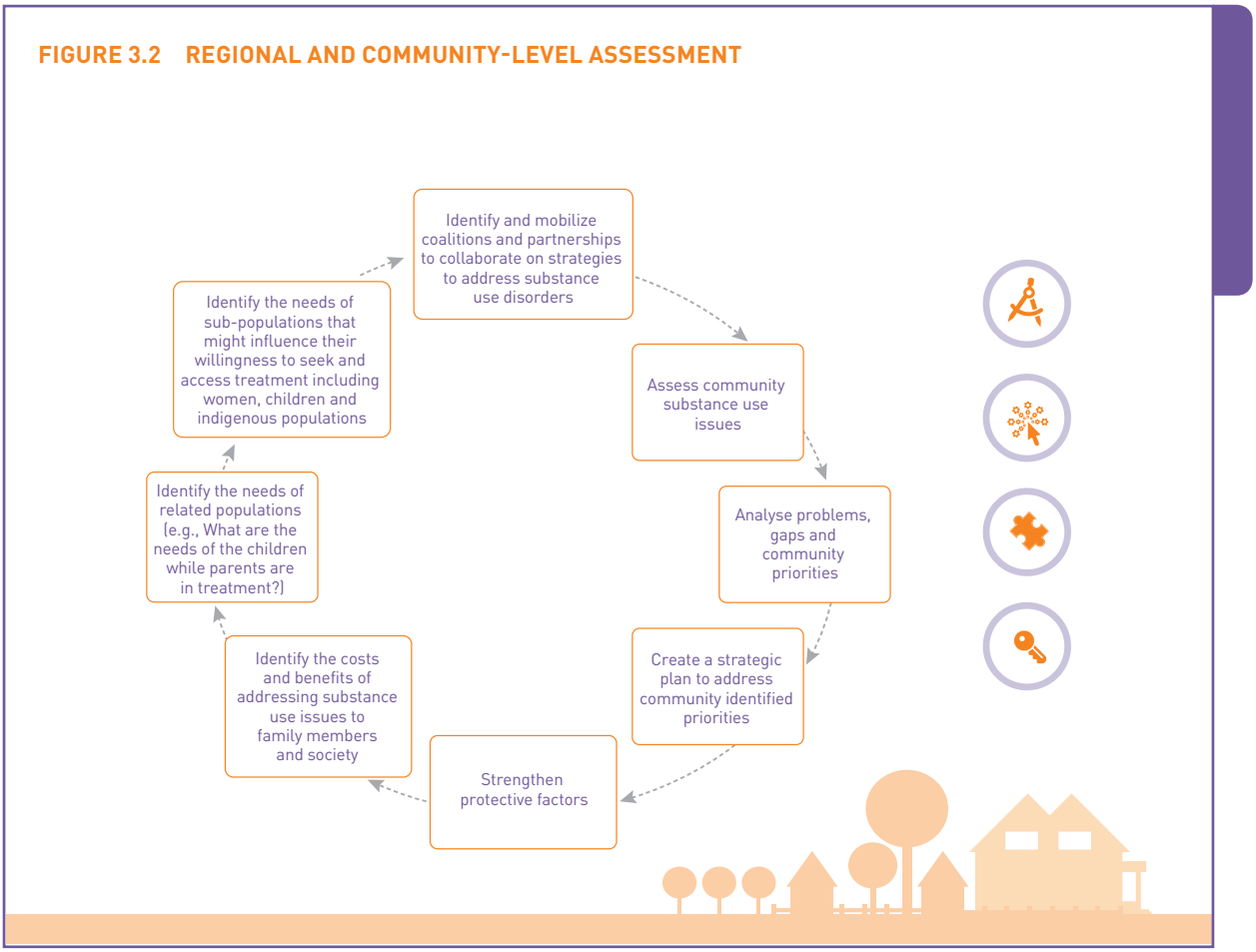
However, these data may not be available for many rural areas of Member States. In a 2011 study, Degenhardt and colleagues found that data on prevalence estimates for methamphetamine, cannabis, cocaine and opioids needed improvements in quality and coverage and that dependence estimates were lacking even in high-income countries.[68]

Additionally, evolving drug use problems involving rural populations, injecting drug users, people living with HIV, young people, refugees and asylum seekers, and other vulnerable populations require a more

[67] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Available: https://www.unodc.org/documents/prevention/UNODC_2013_2015_international_standards_on_drug_use_prevention_E.pdf. Downloaded: September 22, 2016.

[68] Degenhardt, L., Bocelli, C., Nelson, P., Roberts, A., Hall, W., Lynskey, M., and Wiessing, L. "What data are available on the extent of illicit drug use and dependence globally? Results of four systematic reviews", *Drug and Alcohol Dependence*, 117(2011): 85-101.

FIGURE 3.2 REGIONAL AND COMMUNITY-LEVEL ASSESSMENT



rapid assessment and response.[69,70,71,72] These situations often require a response to an emergent public health problem where information is needed quickly, resources to conduct more traditional, research-based assessments are in short supply, and agencies must intervene quickly to minimize further negative effects.

A method known as rapid assessment and response (RAR) has been developed to address these situations. It is often applied in developing and transitional countries to describe the current situation of substance use, the associated consequences and available services, and to identify interventions to minimize the health and social impact of substance use.[73] Characteristics of a RAR include the following:

- Rapidity
- An intervention focus

[69] Fitch, C., Stimson, G., Rhodes, T., and Poznyak, V. "Rapid assessment: An international review of diffusion, practice, and outcomes in the substance use field", *Social Science and Medicine*, 59 (2004): 1819-1830.

[70] Fitch, C. and Stimson, G. RAR-Review: An international review of rapid assessments conducted on drug use. A report from the WHO Drug Injection Study Phase II. Department of Mental Health and Substance Dependence, World Health Organization: Geneva, Switzerland, 2003.

[71] Comiskey, C., O'Sullivan, K., and Milnes, J. "Regional drug user services in times of scarce financial resources: Using a rapid assessment response approach to evaluate, plan, and prioritize essential services", *Substance Use and Misuse*, 47 (2012): 754-264.

[72] Guidelines for the Development and Implementation of Drug Abuse Rapid Situation Assessments and Responses. ODCPP. 1999 Vienna.

[73] Ibid.

- Multisectoral engagement: including health, community, government, education and law enforcement
- Multi-level analysis: individual, community and structural (e.g., existing governmental, NGO, health-care organizations)
- A community-based approach: engaging community members from the beginning
- A predominantly qualitative nature: particularly applicable for the assessment of alcohol and other substance use, which is often hidden or stigmatized

Rapid assessments typically aim to collate information on the following topics:

- Substances use problems, including patterns and trends in use
- Populations and settings most affected by substance use
- Factors that drive substance use and how substances are used
- Negative effects associated with substance use
- Existing prevention programmes and policies
- Existing health care, mental health care, educational and social services and resources relevant to substance use prevention and treatment
- Other existing services available to substance users and their families
- Priority interventions to address gaps in services at the individual and community levels

A number of RAR studies have been conducted, including a study on alcohol and other substance use in populations displaced by conflicts in Iran (Islamic Republic of), Kenya, Liberia, Pakistan, Thailand, northern Uganda and many more.[74,75,76,77] Moreover, several RAR studies have been conducted in the general population to collect drug use prevalence data in Côte d'Ivoire, Kenya, Madagascar, Mauritius, Nigeria, Senegal, Seychelles, United Republic of Tanzania/Zanzibar and many others. RAR has also been used in industrialized countries, including rural areas of Canada, Ireland, the United Kingdom and the United States, with the purpose of quickly gathering information on substance use in a defined community/area to support the development of appropriate interventions. In addition, WHO and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)[78] have undertaken intense efforts in developing RAR tools and conducting additional efforts in this area.

RAR methods involve the formulation of hypotheses on a specific issue, the collection of secondary and primary data from multiple sources, their combination and triangulation to either confirm, infirm or deny these hypotheses. Examples of data to support a RAR include the following:

Quantitative data: secondary and primary data

- Population and socioeconomic data
- Policy documents focused on substance use prevention, treatment and recovery
- Official statistical data (secondary data): population surveys, national and international school surveys, research reports, types of drugs seized and

[74] Ezrd, N., Oppenheimer, E., Burton, A., Schilperoord, M., MacDonald, D., Adelekan, M., Sakarati, A., and Van Ommeren, M. "Six rapid assessments of alcohol and other substance use populations displaced by conflict", *Conflict and Health*, 2011, 5(1):1-15).

[75] Fitch, C. and Stinson, G. *RAR-Review: An International Review of Rapid Assessment Conducted on Drug Use. A Report from the WHO Drug Injection Study, Phase II*. 2003. World Health Organization: Geneva, Switzerland.

[76] Kermode, M. and Muani, V. (2006). "Injection practices in the formal and informal healthcare Sectors in rural north India", *Indian Journal of Medical Research* 124, November 2006, pp. 513-520.

[77] Alem A. "The prevalence and socio-demographic correlates of khat chewing in Butajira, Ethiopia", *Acta Psychiatrica Scandinavia* Suppl., 1999; 397: 84-91.

[78] http://www.emcdda.europa.eu/html.cfm/index6500EN.html

trafficking patterns, drug arrest records and convictions, number of people in treatment, substance use service utilization, data on existing prevention responses, substance-related deaths, hospital and treatment centre records, HIV and sexually-transmitted disease surveillance data, substance use and mental health disorder prevalence data, data on possible risk and protective factors (such as school attendance, data from social care and welfare systems on different vulnerabilities, etc.)

- Community surveys (primary data)

Qualitative data: primary data

- Focus-group interviews
- Key stakeholder/informant interviews
- Mapping
- Direct observation
- Field notes
- Community forums
- Public hearings
- Community and political leader interviews

RAR has been used to develop interventions for substance use issues impacting a variety of vulnerable populations. To maximize effectiveness, these assessments and interventions, however, should be viewed as local systems of care and connected to the larger systems of care in United Nations Member States.

Annex A provides a modified version of a system-of-care self-assessment tool that also incorporates the principles of RAR to facilitate a rapid response. This tool can be used with key stakeholders as part of an overall evaluation process. A wide range of key stakeholders should be encouraged to complete the self-assessment tool and the results should be incorporated into the overall assessment report.

3.3 Global aspects with regard to the development of a multi-level system assessment process

The starting point for the development of substance use prevention, treatment and recovery programmes, services and policies for rural settings is an assessment process. To accommodate the diverse needs of Member States, the assessment process described in this section identifies the data, information and resources necessary to identify and address rural substance use problems. It recognizes that some countries, particularly low- and middle-income countries, may not have the data capacity to monitor substance use and mental health issues.[79] It is estimated that as many as one-third of countries do not have a formal process for monitoring mental health data and that much of the available data may not be adequate to support planning and programme development. In the absence of adequate substance use prevalence and utilization data, it is necessary to use whatever sources of data are available and to work simultaneously to address data capacity issues. The key to conducting an effective assessment process is to use the best data available. This section discusses alternative data sources that can be used to support the assessment process in rural areas.

3.4 System-level assessment: policy assessment and context at national and provincial levels

The first step in the development of a national strategic plan to address rural substance use issues is to

[79] Funk M., Saraceno, B., Drew, N., and Grigg, M. "Mental health policy and plans: promoting an optimal mix of services in developing countries", *International Journal of Mental Health*, 2004, 33(2):4-16.

undertake an assessment of rural substance use prevalence rates, and prevention and treatment gaps. This high-level analysis should involve key stakeholders at the national, provincial and local levels to fully describe the policy context and where substance use services fit into the overall health-care system. The initial stage of the assessment process is to describe the national policy context in which the development of interventions to support rural communities will take place. The following information should be assembled and analysed.

3.4.1 National financing and organizational context for treatment and prevention

It is important to understand the organizational structure of the Member States' health-care delivery system, other infrastructures in which treatment and prevention interventions could potentially be delivered, as well as the legal frameworks in which strategies to address rural substance use and its consequences will be implemented. Key financing and organizational issues include:

- The regulatory oversight of the health-care delivery system at the national level and where oversight for substance use services resides
- The role of other key actors in the delivery and financing of health care, including provincial and/or community governments, the private sector and (NGOs)
- The context in which treatment and prevention interventions are and could be delivered, which, depending on the country, might include health care, educational settings (ranging from day care to tertiary education), social care and welfare, youth sector, employers, entertainment venues, media stakeholders, and others
- National policies on legal and illegal substances and respective sanctions that may affect treatment, on prevention and treatment coordination and delivery, and on services offered by criminal sanctions agencies
- How substance use services and mental health services are funded, and how decisions are made in terms of what substance use services are covered

3.4.2 Substance use service delivery system context

After describing the system and financing-level context in which the development of strategies to enhance access to substance use-related programmes and services in rural communities will occur, the next phase is to assess and describe the state of provincial and/or local-level delivery systems for physical health, mental health and substance use services. This analysis will provide the foundation upon which to build interventions to address rural substance problems. Questions that need to be addressed here include:

- Where does regulatory responsibility reside for the operation of delivery systems (e.g., hospitals, clinics, primary care services, specialty care, mental health and substance use services)?
- What is the level of integration, if any, between primary care, mental health, substance use and public health systems of care?
- What is the level of coordination between different treatment and prevention stakeholders and programmes? Is there a national-level coordinating body?
- To what extent is the prevention response coordinated at the national level and integrated into/coordinated with other related service structures? What is the quality and coverage of the prevention response (e.g., assessed on the basis of the extent to which it covers all the relevant age-groups, populations and levels of risk, is in line with evidence, and is evaluated for effectiveness)? Who are the key stakeholders and decision makers relevant for prevention policies and programmes? What is the existing capacity and what opportunity for capacity-building exists? Further insights into this assessment might be provided by the *International Standards on Drug Use Prevention*, in chapter 3.

- How are providers reimbursed for the delivery of substance use services?
- Who are key decision makers in provincial and/or local systems of care?

3.4.3 Availability of national data to support rural substance use system reform

As discussed earlier, many low- and middle-income countries have limited data capacity to monitor mental health and drug/substance use issues and to support planning efforts.[80] As such, it is very important to understand what health-care and other relevant data exists, the quality of the data, the level of detail available, and the capacity for using available data for analysing capacity and monitoring system performance. Ideally, it would be important to have the following data to support planning and monitoring efforts:

- The demographic characteristics (e.g., age, gender, racial/ethnic composition) of people living in rural areas
- The socioeconomic characteristics (e.g., education levels, income, poverty rates, seasonal employment) of people living in rural areas
- Supply of drugs in rural areas
- The location of health-care services across urban and rural areas
- Prevalence rates and distribution patterns of major health issues, including substance use by gender, age, co-occurring disorders, urban/rural residence, and by province/community level
- Utilization of substance use services
- Existence and coverage of prevention programmes and policies
- Distribution of prevention and treatment services relative to the location of individuals with substance use disorders
- The social and economic consequences of rural substance use to the users, their families (especially children), and to the community as a whole
- The gap between service capacity and need by location (as measured by where individuals with substance use disorders resided and where services are located)

3.4.4 Identifying substance use prevention and treatment by level of rurality and marshalling support for the development of rural interventions

An essential element of the assessment process is the identification and prioritization of substance use problems by level of rurality (using the rural classification system adopted by the Member State) in order

BOX 3.1. ISSUES TO BE EXAMINED WHEN ADDRESSING SUBSTANCE USE DISORDER INTERVENTIONS IN RURAL AREAS

Availability: Are the services adequate?

Accessibility: Are they able to use those services?

Affordability: Are they able to pay the price?

Acceptability: Does it appeal to them?

[80] Ibid.

to target areas with the greatest need. Given the limited delivery system, workforce and economic resources available in many rural communities, this is an essential part of the assessment to ensure the best use of scarce resources.[81]

Finally, it is critical to understand the level of support and resources available for the development of strategies to support rural communities in general and for the development of rural substance use strategies in particular:

- Who are the key stakeholders/champions at the national, provincial and local levels that can influence the allocation of resources and development of strategies to address rural substance use?
- Are there governmental agencies, academic programmes or NGOs that provide technical assistance and/or support to rural communities?
- Is there funding available to support these efforts?
- How can these resources be accessed and coordinated?

3.4.5 Role of law enforcement in addressing substance use disorders

Law enforcement plays an important role in addressing rural substance use issues from two perspectives. First, it plays a central role in intervening in drug supply issues. Stemming the availability of drugs as well as local drug production is vital to reducing the drug use in rural communities. At the same time, the extent to which law enforcement works with health-care and social service systems to address substance use as a chronic disease (rather than a criminal activity) directly influences the willingness of rural residents to acknowledge substance use disorders and seek treatment. As such, it is important to assess the attitude and strategies of national, provincial and local law enforcement agencies on these issues and engage them as partners in efforts to address rural substance use disorders. One particularly important law enforcement strategy is the ability to facilitate access to treatment as an alternative to incarceration and other punitive sanctions. On the other hand, law enforcement agencies are often not well-positioned to be involved in prevention activities, and, as such, should not be expected to play a significant role in prevention efforts.

3.4.6 Capacity and workforce issues

An essential element of efforts to enhance the response of rural substance use prevention and treatment systems of care involves the assessment of capacity and workforce supply issues. Any assessment should clearly identify the number, distribution and type of providers trained and credentialed to treat substance use disorders:

- What is the capacity of clinic training programmes in the Member State to produce a sustainable substance use workforce? (e.g., How many programmes exist? Where are they located? How many and what types of clinical providers are they able to produce? What are the costs? What is the state of current enrolment?)
- What are the licensing/credentialing requirements?
- How do estimates of workforce production align with estimates of workforce demands?
- Is it possible to estimate the number of providers in training and willing to practice in rural settings?

It is also essential to understand the issues that influence the willingness of substance use treatment providers to practice in rural areas:

- Are compensation levels adequate to recruit and retain substance use treatment providers in rural settings?
- What are the opportunities and resources to support the development of viable substance use treatment practices?

[81] Ibid.

- What are the employment and/or educational opportunities for the provider's spouse and family? Are they linked to other professional issues such as availability of peer engagement and support, professional development, supervisory resources, access to consultative support for complex cases, and/or the quality of the treatment facilities?

One other workforce issue that must be assessed is the extent to which substance use treatment can be integrated with local primary care and mental health systems. People with substance use disorders are substantially more likely to suffer from co-occurring mental health disorders and physical health problems. The ability to integrate these services is driven by factors that include supply issues for primary care and mental health services, reimbursement issues, provider attitudes related to the treatment of substance use disorders, and the availability of resources to support integrated care.

Furthermore, in order to develop a comprehensive substance use response in rural settings, it is important to assess the available prevention workforce, including those with prevention-specific training as well as those with strong potential to deliver prevention-related programmes due to their professional roles and capacities. This includes assessing the extent to which programmes exist to train prevention professionals, the support for specific prevention programmes, and whether prevention-related tasks are included in the work descriptions of different professional groups.

3.4.7 The impact of stigma on willingness to access substance use treatment

Stigma remains a significant barrier to the willingness to access treatment by those suffering from substance use disorders. This stigma can be present within professional training programmes, political systems, health systems, law enforcement and criminal justice systems, and communities. It is important to adapt and implement evidence-based stigma reduction programmes developed by organizations such as the World Health Organization, the Substance and Mental Health Services Administration, the Addiction Technology Transfer Center, and the Canadian Centre for Addiction and Mental Health (see annex A for further information and links to these resources).

3.5 Local context for the development of rural prevention, treatment and recovery strategies for addressing drug and substance use

The need to understand the prevalence of substance use in rural settings, the capacity of the existing prevention and treatment infrastructure, and the use of treatment services by rural residents has already been discussed in this chapter. To support the identification and adaptation of prevention, treatment and recovery strategies targeting rural settings, the local community context in which these services will be developed must be clearly understood. Issues that must be assessed include:

- Local cultural, religious and normative beliefs that influence substance use and one's willingness to seek treatment
- Availability of substance use treatment services as well as physical, mental health, prevention and recovery resources
- The presence of local leaders to champion community-based strategies to address substance use
- The extent of community willingness to acknowledge and address rural substance use issues
- The capacity and willingness to use telemedicine and other technology-based treatment modalities to expand access to care

A local planning and action framework is needed to identify local priorities, goals and visions for addressing substance use issues at the community level. Rural communities need evidence-based assessment and strategic planning models to identify, adapt and implement substance use prevention, treatment and recovery services. They also need technical assistance support to implement a local planning and action process.

3.6 Assessment framework, and monitoring and evaluation

3.6.1 Developing a national assessment report framework

To support the strategic planning process and engage local stakeholders, it is essential that a report summarizing the findings and assessment data be prepared and disseminated to the stakeholders for review and comment. The key to the report is a clear summary that includes the following items:

- Quantitative and qualitative data collected during the assessment process
- A discussion of the limitations of the data
- A list of key stakeholders involved in the assessment process
- A discussion of how the report can be used in the strategic planning process
- A list of priority substance use issues identified by stakeholders to inform the strategic planning process
- A discussion of next steps with measurable time frames, process goals and outcomes for the strategic planning process

The goal is to develop a report framework that summarizes the results of the assessment process and reflects the needs of the stakeholders involved in the strategic planning process.

An example of a useful tool is the *Assessment Instrument for Mental Health Systems*, version 2.2, of WHO.[82] Although not specific to substance use prevention and treatment, the instrument provides a similar process for mental health systems of care and a useful report framework. Other examples include the *Guidelines for the Development and Implementation of Drug Abuse Rapid Situation Assessments and Responses*;[83] the *Strategic Prevention Framework for the State Incentive Grant Program* of SAMHSA and related strategic planning reports from state substance use and mental health authorities; the System of Care programme of the National Technical Assistance Center for Children's Mental Health; and strategic plans developed by agencies such as WHO and EMCDDA, as well as by state substance use and mental health authorities in the United States and other United Nations Member States.

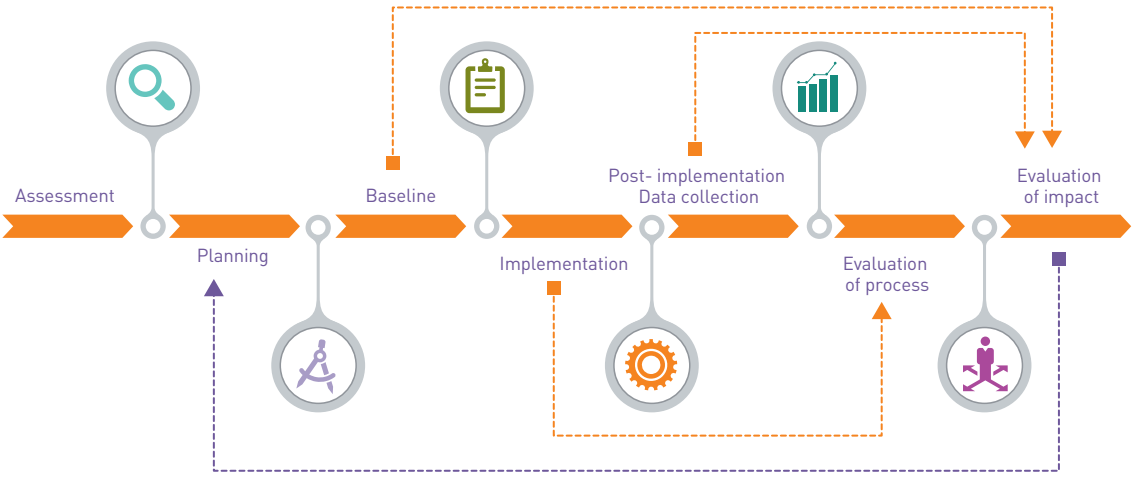
3.6.2 Ongoing monitoring and evaluation

The goal of this assessment process is to collect and analyse data to improve rural substance use systems of care, to use that data to support a strategic planning process to identify and prioritize interventions at the provincial or community levels, and to provide baseline data to monitor the impact of those interventions. As discussed earlier, data and findings from

[82] World Health Organization. *Assessment Instrument for Mental Health Systems—WHO-AIMS*, version 2.2. WHO Press: Geneva, Switzerland (2005).

[83] *Guidelines for the Development and Implementation of Drug Abuse Rapid Situation Assessments and Responses*. ODCPP. 1999, Vienna.

FIGURE 3.3 OVERVIEW OF AN ASSESSMENT, PLANNING, IMPLEMENTATION AND EVALUATION PROCESS



the assessment process should be made available to all stakeholders to inform strategic planning efforts and evaluate the impact of strategic plans. As policy-makers shift their focus from this national assessment to implementation at the community level, a modified version of this assessment focused on the unique needs of individual communities should be conducted to engage local leaders and stakeholders, identify local priorities, resources and barriers to action, identify key cultural, normative and/or religious beliefs that need to be acknowledged and accommodated in developing community strategies, and encouraging community buy-in.

Moving forward with the implementation of provincial- or community-level strategies will require national health authorities and their partners to provide technical assistance and other resources to support community engagement in the assessment, development and implementation of targeted prevention, treatment and recovery services based on identified needs. As part of this process, we encourage national health authorities and their partners to develop a consistent assessment and planning framework for use across individual communities, and to identify resources and personnel to support these communities.

Conclusion

When conducting a system assessment and planning process to identify and implement substance use prevention, treatment and rehabilitation programmes in rural settings, the key principles of the UNODC-WHO *International Standards for the Treatment of Drug Use Disorders* as well as the framework of the UNODC *International Standards on Drug Use Prevention* may be helpful tools. As the necessary detailed data may not be available or evolving drug use problems may require a more rapid assessment of and response to time-critical situations, a process known as rapid assessment and response (RAR) may be applied in order to describe the current situation of substance use, the associated consequences and available services, and to identify interventions to minimize the health and social impact of substance use.

When conducting a system-level assessment of rural substance use issues, the following aspects should be taken into account at the national and provincial levels:

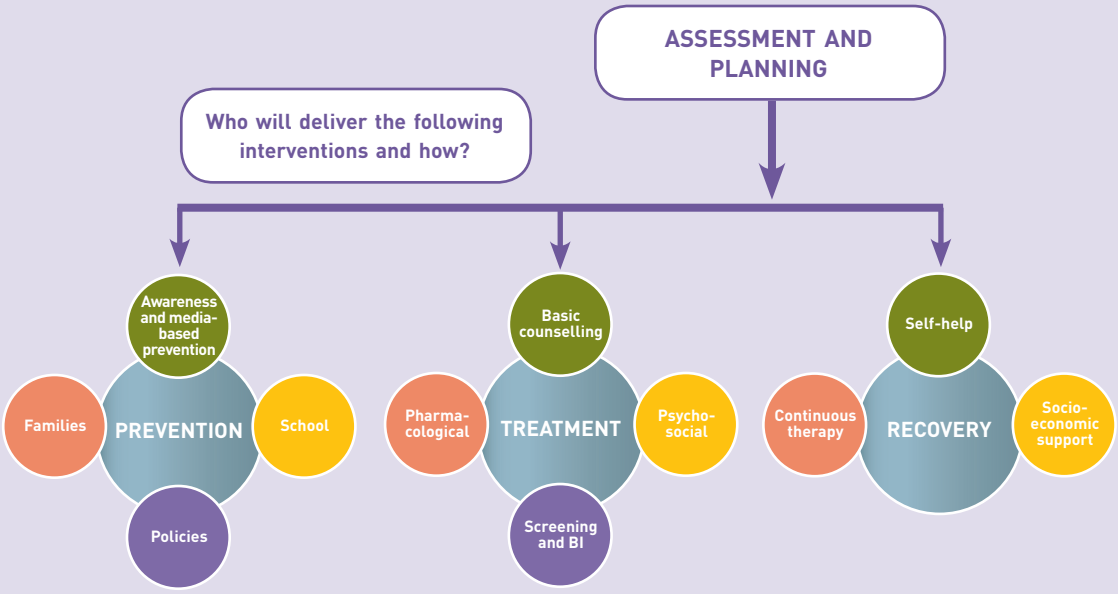
- Define the financing and organizational context of the Member State's health-care delivery system and of other relevant infrastructures in which efforts to develop strategies to address rural substance use and related problems will be implemented.
- Assess and describe the state of provincial and/or local-level delivery systems for physical health, mental health and substance use services.
- Understand what health-care and other relevant data exists, the quality of the data, the level of detail available, and the capacity for using available data to analyse capacity and monitor system performance.
- Define and describe the rural areas within a Member State, and have a process to prioritize efforts in communities with the greatest need.
- Assess the attitude and strategies of national law enforcement agencies related to substance use disorder treatment and care, and engage them as partners in efforts to address rural substance use disorders.
- Identify existing treatment system capacity and related workforce supply issues.
- Identify strategies and resources to support rural stakeholders in developing and sustaining local responses to substance use issues, including different models to build system capacity, and provide technical assistance support by connecting them with national substance use and research entities.
- Recognize that treatment programmes must address barriers to treatment imposed by the stigmatization of substance use and the tendency to view substance use as a criminal activity or moral failing.

In regard to the local context for the development of rural prevention, treatment and recovery strategies to deal with substance use, the following issues must be addressed:

- Local cultural, religious and normative beliefs
- Availability of resources
- Presence of local leaders to champion community-based strategies
- Extent of community willingness to acknowledge and address rural drug issues

To support the strategic assessment and planning process, it is essential that a report summarizing the findings and assessment data be prepared and disseminated to key stakeholders for review and comment. Moreover, as part of the assessment process, it is very important to focus on the use of assessment data for monitoring and evaluating the implementation of strategies to address rural substance use. This assessment will then permit the planning of the concrete delivery of evidence-based prevention, treatment and rehabilitation programmes and services in rural settings, as illustrated in the figure below, and discussed in the forthcoming chapters.

OVERVIEW OF A COMPREHENSIVE DRUG DEMAND REDUCTION RESPONSE, PLANNED ON THE BASIS OF ASSESSMENT



4. EVIDENCE-BASED DRUG PREVENTION STRATEGIES FOR RURAL SETTINGS

4.1 Introduction

The consequences of substance use in rural settings can be severe and can exacerbate existing individual and socioeconomic disparities. At the individual level, substance use can contribute to the deterioration of physical and mental health and the development of social problems, as evidenced in rural settings across the globe.[84,85,86] Prevention is a central component of a comprehensive strategy to address substance use and to support the health, well-being and productivity of the population. It is particularly important in rural settings, where many youth and adolescents are marginalized, living in poverty, and face a range of disparities that put them at an increased risk of substance use and its negative consequences. Prevention strategies that are evidence-based, sustained over time, and reach a range of different age-groups and populations, can significantly support the health and well-being of rural youth and adolescents. These strategies have been shown to be effective in preventing not just substance use, but also related high-risk behaviours such as delinquency, driving under the influence or other criminal activities. Moreover, preventing substance use also prevents its negative health and social consequences for the community at large (e.g., communicable diseases) or for family members, in particular children, of those using drugs. Furthermore, many substance prevention programmes have been shown to positively impact protective factors such as mental health resilience or academic attainment.[87,88,89] Given these benefits, it logically follows that the prevention of substance use is not only the right thing to do for individuals, it can also support rural settings in a significant way. Evidence-based prevention is cost effective; saving an average of 10 dollars in future substance use-related health, social and criminal costs for every dollar invested in prevention.[90,91,92,93,94]

The primary goal of substance use prevention is to help non-substance users avoid or delay the initiation of substance use. For those who are already substance users, prevention seeks to minimize the likelihood that they will develop substance use disorders (e.g., dependence). Prevention also has a broader purpose, which is to support the healthy and safe development of children and youth and to allow them to realize their talents and potential by becoming contributing members of their community and society. To accomplish these goals, the use of an evidence-based prevention strategy is essential. Evidence-based prevention strategies can be defined as:

[84] Missouri Department of Health. "The burden of substance use on the State of Missouri." Available: https://dmh.mo.gov/ada/docs/burdenofsaonmissouri.pdf. Downloaded: Sept. 22, 2216.

[85] National Rural Health Alliance. "Illicit Drug Use in Rural Australia, Fact Sheet 33": June 2015. Available: http://ruralhealth.org.au/sites/default/files/publications/nrha-factsheet-illicit-drugs-0615.pdf. Downloaded: Sept. 22, 2016.

[86] Fiki (2007) "Globalization and Drug and Alcohol Use in Rural Communities in Nigeria: A Case Study", *The Journal of Sociology and Social Welfare*: vol. 34: issue 2, article 4.

[87] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Vienna: UNODC, 2015.

[88] National Institute for Drug Abuse. "DrugFacts: Lessons from Prevention Research", Updated March 2014. Available: https://www.drugabuse.gov/publications/drugfacts/lessons-prevention-research. Downloaded: Sept. 22, 2016.

[89] Community Anti-Drug Coalitions of America. Youth Engagement Series. Available: http://www.cadca.org/youthengagement. Downloaded: Sept. 22, 2016.

[90] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Vienna: UNODC, 2015.

[91] Hawkins, J.D.; Catalano, R.F.; Kosterman, R.; Abbott, R.; and Hill, K.G. "Preventing adolescent health-risk behaviours by strengthening protection during childhood", *Arch Pediatr Adolesc Med* 153:226-234, 1999.

[92] Pentz, M.A.; "Costs, benefits, and cost-effectiveness of comprehensive drug abuse prevention", In: Bukoski, W.J. and Evans, R.I., eds. *Cost-benefit/cost-effectiveness research of drug abuse prevention: Implications for programming and policy*. NIDA Research Monograph No. 176. Washington, DC: United States Government Printing Office, pp. 111-129, 1998.

[93] Spoth, R.; Guyull, M.; and Day, S. "Universal family-focused interventions in alcohol-use disorder prevention: Cost effectiveness and cost benefit analyses of two interventions", *J Stud Alcohol* 63:219-228, 2002a.

[94] Miller, T.R. and Hendrie, D. *Substance abuse prevention dollars and cents: A cost-benefit analysis*. Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention. Rockville, MD: DHHS Pub. No. (SMA) 07-4298, 2009.

> "Programs, policies or other strategies that have been evaluated and demonstrated to be effective in preventing health problems based upon the best-available research evidence, rather than upon personal belief or anecdotal evidence."[95]

This definition emphasizes the importance of applying and conducting prevention research to ensure that "prevention efforts are informed by best practice, and shown to influence risk and protective factors associated with prioritized substance use and related health problems at the community, state, territory, and tribal levels."[96] Given the previously discussed context for substance use in rural settings (e.g., socioeconomic disparities that drive substance use, limited resources and the negative impact on the lives of rural residents), the use of non-evidence-based prevention strategies risks wasting scarce resources on programmes that will not impact the cycle of substance use, but instead allow the burdens and costs of substance use on rural settings to continue.

The risk of becoming a substance user is influenced by a complex set of risk factors (e.g., genetic and personality traits, deviant attitudes, poverty, availability of substances) and protective factors (e.g., parental support, resilient mental health) across societal, community, family and individual levels, that also change with age.[97, 98, 99] The factors influencing substance use are shared across the different types of substances used, as well as among a broad range of risky behaviours and unhealthy conditions. Consequently, evidence-based prevention planning and mobilization can benefit rural settings due to the positive impact these programmes have on substance use as well as community risk factors such as violence, mental health issues and criminal behaviour.

Prevention programmes and policies should target the specific, modifiable risk and protective factors identified in the community.[100] Adapting the strategy and programmes to the specific community and population characteristics is similarly important to improve their effectiveness.[101, 102, 103] The importance of selecting evidence-based prevention strategies that are a good fit for a given rural setting cannot be overstated. Unfortunately, a prevention strategy not grounded in evidence and an understanding of the local context may also result in no impact, or worse still, in unintended negative consequences.

[95] Health Policy Institute of Ohio. Online guide: Guide to evidence-based prevention. Columbus, OH: Health Policy Institute of Ohio, December 2013.

[96] SAMSHA Center for the Application of Prevention Technologies. Practicing effective prevention. Available: http://www.samhsa.gov/capt/practicing-effective-prevention. Downloaded: Oct. 24, 2016.

[97] Wills T.A. and Cleary S.D. "How are social support effects mediated? A test with parental support and adolescent substance use", *J Pers Soc Psychol* 1996;71:937.

[98] Gerstein, D.R., and Green, L.W., eds. *Preventing Drug Abuse: What Do We Know?* Washington, D.C.: National Academy Press, 1993.

[99] Dishion, T.; McCord, J.; and Poulin, F. "When interventions harm: Peer groups and problem behaviour", *American Psychologist*, 54:755-764, 1999.

[100] Hawkins, J.D.; Catalano, R.F.; and Arthur, M.W. "Promoting science-based prevention in communities", *Addictive Behaviours*, 27 (2002): pp. 951-976.

[101] Oetting, E.; Edwards, R.; Kelly, K.; and Beauvais, F. "Risk and protective factors for drug use among rural American youth", In: Robertson, E.B.; Sloboda, Z.; Boyd, G.M.; Beatty, L.; and Kozel, N.J., eds. *Rural Substance Abuse: State of Knowledge and Issues*. NIDA Research Monograph No. 168. Washington, D.C.: United States Government Printing Office, pp. 90-130, 1997.

[102] Olds, D.; Henderson, C.R.; Cole, R. and others. "Long-term effects of nurse home visitation on children's criminal and antisocial behaviour: 15-year follow-up of a randomized controlled trial", *JAMA* 280(14):1238-1244, 1998.

[103] Brody, G.H.; Kogan, S.M.; Chen, Y.-F.; and Murry, V.M. "Long-Term Effects of the Strong African American Families Program on Youths' conduct problems", *J Adolesc Health* 43:474-481, 2008.

While the potential benefits of supporting quality prevention programmes and policies in rural settings are clear, providing support is not always easy.[104, 105, 106] The development and operation of substance use prevention policies and programmes in rural settings is affected by numerous challenges, including the lack of a trained workforce, limited possibilities for building the capacities of the potential workforce, and limited infrastructure. At the same time, poor economic conditions and other risks can make rural populations highly vulnerable to substance use and its consequences. Despite these challenges, rural settings can experience multiple positive factors such as close social ties and a homogenous culture. They may prove to be not only important protective factors against substance use, but also good building blocks for comprehensive and effective prevention planning.

This chapter aims to provide guidance on how to address the above-mentioned prevention considerations, with a specific focus on community-based models. It will discuss the rationale for and potential advantages for policymakers of investing in evidence-based prevention in rural settings and focusing on the community. It will outline a process for engaging with communities to plan, implement and evaluate prevention programmes and policies based on a thorough assessment of local needs, as well as the possible content of a community-based prevention strategy. Most importantly, the chapter will outline a number of potential strategies for addressing the barriers to implementing quality prevention resources in rural settings.

4.2 Focusing on the community

The challenge of prevention in rural settings involves reaching a sufficiently broad number of children, youth and adults with rigorously planned and implemented, evidence-based strategies in settings that often have limited infrastructure and resources, as well as high-risk populations. Community-level frameworks to plan and implement prevention interventions and policies, combined with multiple strategies to target contextual risk factors across different settings, have been identified as a successful strategy for delivering prevention and to reduce substance use. A body of evidence supports this focus on community- and coalition-building in the development of substance use prevention strategies as well as rural systems of care.[107, 108, 109, 110, 111, 112, 113] Community-level interventions facilitate the development of strategic responses tailored to local needs. In addition, they provide a framework for building on and extending existing local resources and structures, and for enhancing quality planning, implementation, local

[104] Missouri Department of Health. "The burden of substance use on the State of Missouri." Available: https://dmh.mo.gov/ada/docs/burdenofsaonmissouri.pdf. Downloaded: Sept. 22, 2216.

[105] National Rural Health Alliance. "Illicit Drug Use in Rural Australia, Fact Sheet 33": June 2015. Available: http://ruralhealth.org.au/sites/default/files/publications/nrha-factsheet-illicit-drugs-0615.pdf. Downloaded: Sept. 22, 2016.

[106] Fiki (2007) "Globalization and Drug and Alcohol Use in Rural Communities in Nigeria: A Case Study", *The Journal of Sociology and Social Welfare*: vol. 34: issue 2, article 4.

[107] Griffin K. and Botvin G. "Evidence-Based Interventions for Preventing Substance Use Disorders in Adolescents", *Child and adolescent psychiatric clinics of North America*. 2010; 19(3):505-526.

[108] Gale, J., Hanson, A., and Elbaum Williamson, M. "Rural Opioid Prevention and Treatment Strategies: The Experience in Four States", Maine Rural Health Research Center. Working Paper #62. Portland, ME: Muskie School of Public Service, University of Southern Maine. October 2015.

[109] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Vienna: UNODC, 2016.

[110] Health Foundation of Greater Cincinnati (2010). "Supporting Community-Based Substance Abuse Prevention", Cincinnati, OH: Health Foundation of Greater Cincinnati.

[111] Woong-Cheon. "Best Practices in Community-Based Prevention for Youth Substance Reduction: Towards Stength-Based Positive Development Policy", *Journal of Community Psychology*, vol. 36, No. 6, 761-779 (2008).

[112] Kristjansson A. L. et al. "Adolescent substance use, parental monitoring, and leisure-time activities: 12 year outcomes of primary prevention in Iceland", *Preventive Medicine* 51 (2010) 168-171.

[113] Buhler A. and Thrul J. *Prevention of addictive behaviours*. European Monitoring Centre of Drugs and Drug Addiction (2015). Portugal, Lisbon.

CASE STUDY

IMPLEMENTING "COMMUNITIES THAT CARE" IN SEMI-RURAL SETTINGS, COLOMBIA

The NGO *Corporación Nuevos Rumbos* (CNR) has been implementing *Comunidades Que se Cuidan* (CQC), a Colombian version of Communities That Care, in 15 communities across Colombia, 13 of them semi-rural, with support of the Pan American Health Organization and the Government of Colombia, with encouraging results. CQC is a preventive system originally created at the University of Washington (Seattle), and implemented in eight countries of America, Europe and Oceania. The system is based on the public health approach and the social development strategy for community empowerment. The core idea is to teach communities to make decisions based on data regarding drug and alcohol consumption and the identification of protective and risk factors. The implementation of CQC has been limited by the absence of evidence-based, evaluated prevention programmes in South America. For this reason, CNR developed and tested a programme and protocol for conducting brief interventions based on motivational interviewing, with the aim of identifying risk levels and offering support to students at risk.[a,b]

A rural community near Bogotá implemented CQC and developed activities aimed at controlling alcohol sales to minors among retailers, which was a common practice, and at encouraging adults to support the healthy behaviour of their children and to behave more responsibly themselves regarding alcohol use. The outcomes were evaluated using an adapted and validated Colombian version of the Communities That Care Youth Survey. The results showed a significant decrease of use of alcohol (77.7 per cent first wave, 70.6 per cent, second wave: p=<0.01), cocaine (1.2 per cent and 0.2 per cent: p=<0.05) and inhalants (4.2 per cent and 2.7 per cent: p=<0.05). The implementers considered one of the crucial success factors to be the support of the local authorities, who attended meetings, supported sustainable community involvement, provided financial resources to pay the Community Board Coordinator, published news regarding CQC via the local newspaper and radio station, and publicly acknowledged the importance of CQC on many occasions. The focus on parents and availability of alcohol, both crucial influences for youth substance use, as well as on organizing traditionally poorly-organized communities and providing them with neutral and non-judgmental information were also considered strengths of the process.

FIVE PHASES OF COMMUNITIES THAT CARE (CTC)

[a] Mejía-Trujillo, J., Pérez-Gómez A., Reyes-Rodríguez M.F. "Implementation and adaptation in Colombia of the Communities That Care", *Adicciones*, 27 (4), 253-264. http://www.adicciones.es/index.php/adicciones/article/view/750/719

[b] Pérez-Gómez, A., Mejía-Trujillo, J., Brown, E.C. and Eisenberg, N. (2016). "Adaptation and implementation of a science-based prevention system in Colombia: challenges and achievements", *Journal of Community Psychology,* 44(4), 538-545.

ownership and sustainability. The creation of broad community-based partnerships, task forces, coalitions or action groups can mobilize an expansive range of community stakeholders to address substance abuse. Some community partnerships may evolve spontaneously; however, they more typically develop in response to funding and technical assistance opportunities that support the creation and implementation of collaborative evidence-based prevention interventions and policies over time.[114] Because money, providers and services in rural settings are in short supply, broad-based coalitions are recommended in these settings, as they provide a mechanism to utilize local capacities and resources to tailor relevant responses to local problems that cannot be solved by any one entity working alone. The role of central-level decision makers is crucial here. They can provide political mandates and facilitate access to key local-level governmental sectors such as education or health care. They can also facilitate the access of stakeholders in rural settings to resources to support capacity-building and support, for example, connections between academia and community-level actors. Central-level decision makers can also encourage the creation of policy-practice-research connections to support delivery of effective prevention programming in rural settings via collaborative, community-based strategies.

Characteristics of community-based, multi-component initiatives that are associated with positive prevention outcomes include:

- Support for the enforcement of tobacco and alcohol policies
- Delivery of prevention services in a range of community settings, such as schools, workplaces, entertainment venues, etc.
- Involvement of universities to support the implementation, monitoring and evaluation of evidence-based programmes
- Provision of adequate training and resources to the communities
- Sustained support of initiatives in the medium term (e.g., longer than a year)[115]

Many established models[116] and resources[117] exist to support the community-based programmes that this chapter draws from.

4.3 Factors influencing substance use: the ecological model

To develop an effective prevention response, it is important to understand the complex interaction among personal and environmental characteristics and risk and protective factors that contribute to substance use. A good framework and tool for identifying the factors contributing to substance use in a given rural community is the social ecological model for human development pioneered by Bronfenbrenner.[118,119] This model describes the factors influencing substance use in terms of the individual's internal state, microsystem (e.g., family, peers, school, faith groups, health services),

[114] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Vienna: UNODC, 2016.

[115] Ibid.

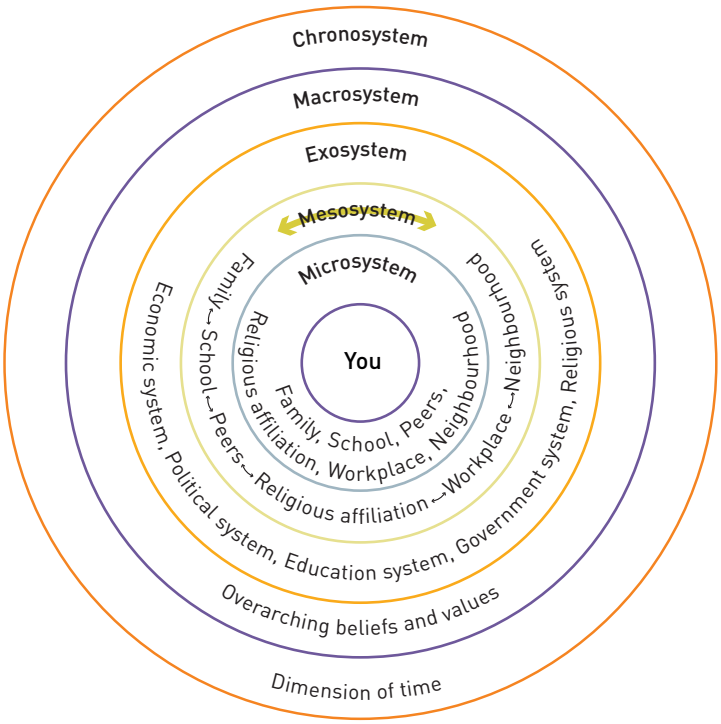
[116] See, for example, http://www.samhsa.gov/capt/applying-strategic-prevention-framework, http://www.cadca.org/, http://www.communitiesthatcare.net/, http://helpingkidsprosper.org/

[117] CCSA (2010), Community-Based Standards, Canadian Standards for Youth Substance Abuse Prevention, Canadian Centre on Substance Abuse, Ottawa, Canada, available at http://www.ccsa.ca

[118] Bronfenbrenner, U. (1994). "Ecological models of human development", In T. Husen and T.N. Postlethwaite (eds.), *International Encyclopedia of Education* (2nd ed., vol. 3, pp. 1643-1647). Oxford, England: Pergamon Press.

[119] Bronfenbrenner, U. (2005). "The bioecological theory of human development", In U. Bronfenbrenner (ed.), *Making human beings human: Bioecological perspectives on human development* (pp. 3-15). Thousand Oaks, CA: Sage.

FIGURE 4.1 BRONFENBRENNER'S SOCIAL ECOLOGICAL MODEL FOR HUMAN DEVELOPMENT



mesosystems (the connections between the structures of the individual's microsystem), exosystem (the larger social system in which the individual lives, including community organizations, political infrastructure, mass media, local business climate, employers) and macrosystem (e.g., cultural values, customs, laws, normative beliefs about substance use; see figure 4.1). It illustrates how substance use is influenced by a complex set of risk factors (see box 4.1) at various levels of the ecological model.[120,121] As discussed later in this chapter, it can be an effective tool for identifying stakeholders and the most suitable interventions for a comprehensive prevention strategy, as well as for adapting and implementing the interventions, and, finally, for evaluating their impact.

[120] Hawkins, J.D.; Catalano, R.F.; and Arthur, M.W. "Promoting science-based prevention in communities", *Addictive Behaviours*, 27 (2002): pp. 951-976.

[121] Somani, S. and Meghani, S. "Substance Abuse among Youth: A Harsh Reality", *Emergency Medicine*, 2016, 6:4, http://dx.doi.org/10.4172/2165-7548.1000330.

BOX 4.1 EXAMPLES OF RISK FACTORS FOR SUBSTANCE USE

Community (exosystem)

- Availability of substances
- Community laws and norms favourable towards substance use
- Media portrayal of alcohol use
- Transitions and mobility
- Low neighbourhood attachment and community disorganization
- Low socioeconomic status

Family (microsystem)

- Family history of the problem behaviour
- Family management problems
- Family conflict
- Favourable parental attitudes and involvement in the problem behaviour

Peers and school (microsystem)

- Friends who engage in the problem behaviour
- Favourable attitudes towards the problem behaviour
- Limited educational and recreational resources
- Tolerance for/failure to recognize ongoing substance use issues

Individual

- Genetic susceptibility to alcohol or drug use
- Engaging in alcohol or drug use at a young age
- Early and persistent problem behaviour, such as aggressiveness or emotional distress
- Favourable attitudes towards substance use
- Lack of commitment to school, church or other social/community organizations
- Academic failure beginning in late elementary school

Sources: Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health, 2016. United States Department of Health and Human Services. Available at: https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf; Hawkins, J.D.; Catalano, R.F.; and Arthur, M.W. "Promoting science-based prevention in communities", *Addictive Behaviours*, 27 (2002): pp. 951-976.

4.4 Good practices and a process for planning, implementing and sustaining community-based prevention in rural settings

Community-based prevention interventions typically follow a structured process. First steps include identifying, engaging and mobilizing relevant community stakeholders across different community sectors and population groups, including minorities, as partners in the process. Assessing available stakeholders, resources and needs is another crucial step; this is followed by planning, implementation and evaluation of the prevention activities. Different community engagement tools and models structure this process slightly differently, and offer different tools and structures for it, but all include the main components introduced in more detail in this chapter, and which are summarized in box 4.2 below. Further examples of guidance and tools for the different steps in engaging communities in such a process

is provided by the Community Based Standards[122] of the Canadian Centre on Substance Abuse and the Strategic Prevention Framework of SAMHSA[123] (see diagram in case study below). The European Drug Prevention Quality Standards is another excellent tool to support project planning, implementation and evaluation, as it describes the full project cycle in detail and identifies the different issues that must be considered at different phases of the process.[124] The purpose of this overview is to guide national-level stakeholders in supporting the development of prevention strategies in rural settings, and to provide them with resources to support their efforts.

[122] http://www.ccsa.ca/Resource%20Library/2010_CCSA_Community-based_Standards_en.pdf

[123] Introduction available at the SAMHSA website: http://www.samhsa.gov/capt/applying-strategic-prevention-framework.

[124] Brotherhood, A. and Sumnall, H.R. (2011). *European drug prevention quality standards: a manual for prevention professionals*. European Monitoring Centre for Drugs and Drug Addiction, Manual 7. Luxembourg: Publications Office of the European Union. Available from: http://prevention-standards.eu/manual/

CASE STUDY

COMMUNITY MOBILIZATION VIA THE IMPLEMENTATION OF THE STRATEGIC PREVENTION FRAMEWORK, PERU

The Community Anti-Drug Coalitions of America (CADCA) works to reduce substance use internationally through the establishment of multisectoral substance use prevention community coalitions and offers training, technical assistance and other resources to build effective community coalitions. Since the programme's inception, CADCA has helped build over 195 coalitions in 25 countries on five continents. The community coalition in Huaro, a small rural town located in the Andes Mountains of Peru (Province of Quisipicanchi), began in 2015 with four Huaro community leaders participating in a CADCA Training programme. Following the training sessions, these four leaders recruited representatives from the necessary community sectors to formally establish the coalition. Today, the coalition is composed of 16 members, including health and law enforcement professionals, government and municipality representatives, church and school staff, and youth and community leaders, whose main mission is to prevent alcohol and marijuana consumption among young people. Consumption of alcoholic beverages has been a part of the inhabitants' culture, rooted in the Catholic religion and Inca culture, for centuries. In recent times, the cultural acceptance of alcohol has become a risk factor for youth who not only drink alcoholic beverages but also consume and sell marijuana in the community's only high school. The coalition performed a community assessment, which entailed a survey of neighbours and interviews with community leaders, and used the results to support strategic planning and capacity-building through the implementation of the Substance Abuse and Mental Health Services Administration's Strategic Prevention Framework (see diagram below).

The coalition focused on addressing alcohol consumption by minors and the sale of alcoholic beverages by vendors to minors in 2016. On a policy level, the coalition proposed and introduced a new ordinance to the local municipal government related to the sale and consumption of alcoholic beverages, which was approved. The coalition was also given formal permission to carry out substance use prevention activities in the school environment to inform youth of the new ordinance and the risk factors associated with substance use. The coalition members identified 40 vendors of alcoholic beverages and informed each one about the new ordinance and the consequences of selling alcohol to minors. To further raise awareness, the coalition organized a series of training workshops for business owners who sell alcohol, the first of which took place in November 2016. In collaboration with the local police, the municipality and the regional government, the coalition has been able to implement a regulatory system comprised of verifications and sanctions on businesses who do not comply with the new ordinance.

THE FIVE STEPS AND TWO GUIDING PRINCIPLES OF THE STRATEGIC PREVENTION FRAMEWORK[a]

[a]SAMHSA, strategic prevention framework, available under http://www.samhsa.gov/capt/applying-strategic-prevention-framework

BOX 4.2. STEPS FOR PLANNING, IMPLEMENTING AND SUSTAINING COMMUNITY-BASED PREVENTION PROGRAMMES

Assess

- Needs (substance use, factors contributing to it, existing prevention response and related service structures and the gaps in them)
- Resources (capacities, infrastructures, frameworks, financial resources)
- Community readiness

Mobilize and organize

- Identify and engage "champions" and stakeholders to be involved in the planning and implementation process
- Build capacity
- Mobilize and build support in the wider community

Plan

- Identify priorities, goals, vision
- Plan logical and structured prevention programmes based on the assessment and existing evidence about what works, e.g., via logic model exercise
- Adapt programmes
- Plan monitoring and evaluation, possibly using the data from the assessment as your baseline data for assessing the change in substance use and related factors
- Build capacity

Implement

Evaluate

- Monitor and evaluate process
- Evaluate effectiveness
- Use results to improve, motivate and sustain

4.4.1 Mobilizing, organizing, and empowering community stakeholders

The guidelines for system-level assessment discussed in chapter 2, together with the ecological model, provide a framework for identifying community stakeholders and leaders. The process should be representative and inclusive, ensuring participation of community organizations and leaders across key community sectors, institutions and groups. Key participants should include schools, the health-care system, local government, faith-based organizations and other community organizations. Engaging them as partners throughout the process to assess and identify priority problems and resources, and to select, adapt and implement the most suitable prevention strategies, can help generate community buy-in and support for the initiative. In addition, this participation can support planning for prevention strategies most relevant to the needs of the community, as well as to ensure the quality of implementation and the sustainability of the activities. Often, a key group is engaged as a project partner to actually carry out the assessment, planning, implementation and evaluation processes. The wider community is mobilized to inform, participate in and support these prevention efforts. Once the process has achieved evidence of reductions in substance use due to prevention initiatives, disseminating the results can help to generate further support for the prevention activities. Identifying, mobilizing and organizing the key stakeholders is closely tied to the process of assessing community needs, priorities and resources, as discussed next.

4.4.2 Assessing and identifying readiness, needs and resources

The system- and national-level assessment, discussed in chapter 2, as well as the ecological model discussed earlier in this chapter, provide a context and tools for identifying substance use-related needs, possibilities and resources in rural settings. Assessing substance use, the factors contributing to it, as well as existing prevention programmes and gaps in their quality and coverage, provides a good starting point for planning a programme tailored to the specific needs of the given community. When conducting a participatory process to assess the most crucial factors contributing to substance use in a given community, it is important to highlight the benefits of grounding the assessment and the planning based on it on empirical evidence and scientific literature, rather than on common sense or traditional values. Assessing the resources in the community includes taking inventory of the stakeholders, professional capacities in different fields of prevention, infrastructures such as those in education, health care or social work that could be utilized, as well as financial resources. Finally, understanding community readiness to address substance use is key to selecting appropriate prevention strategies for the given community, or in some cases deciding that there are other priorities beyond prevention. An example could be a community in a drug production area where alternative development could be an appropriate approach.[125] When people accessing resources critical for prevention are not on board, it is important to focus on ways to increase their level of readiness to engage in prevention planning.

This step of assessing needs, resources and readiness is a multi-stage process, which typically includes the following elements:

- Assessing substance use and related problems (this might include prevalence in different subpopulations, in different locations, initiation age, transition to disorders, types of substances used, patterns of use (frequency, dosage, mode of administration), hot spots of use, risk groups and trends over time))

[125] The United Nations Guiding Principles on Alternative Development provide a useful reference document for such approaches, United Nations General Assembly Resolution A/RES/68/196 Available at https://www.unodc.org/documents/commissions/CND/Drug_Resolutions/2010-2019/2013/A_RES_68_196.pdf.

- Assessing the consequences of substance use (such as morbidity, communicable diseases such as HIV, mortality, unemployment, lost productivity, crime, foster care and other related costs)
- Assessing factors contributing to the problem behaviours (the "risk and protective factors")
- Assessing existing prevention response and gaps in it, and in existing regulatory frameworks (e.g., policies regarding tobacco and alcohol or prevention education in schools)
- Assessing resources (such as identifying key community stakeholders, available trained workforce and expertise on different topics, financial resources, possible infrastructures to be engaged, equipment)
- Assessing community readiness (by interviewing key respondents and community leaders)
- Building strategies based on community needs, possibilities and readiness
- Building capacities, conducting training sessions

Assessing community readiness is a crucial part of this process, and one of the first steps that need to be taken to effectively create change. Based on the assessment, capacity can be built to increase the readiness, and strategies with the best fit to the community's current stage can be identified. Assessing community readiness can in itself be defined as a multi-step process to identify the capacity of a community to implement programmes, policies and other changes, including:[126]

- Identification of the issue
- Defining the community
- Conducting key respondent/community leader interviews
- Score in the interviews to determine levels of readiness
- Develop strategies based on level of readiness
- Conduct trainings and build community readiness as needed

Many tools, ranging from relatively simple assessments suitable for low-resource environments to more complicated, survey-based tools, are available for assessing community readiness.[127]

In conducting these assessments, it is essential that local community leaders and stakeholders be engaged in a process to improve local participation, address local contextual and cultural factors, and enhance community buy-in. This is another opportunity in which the social ecological model can provide guidance in identifying the key community leaders. The key leaders to be interviewed from the community might entail people from the following sectors and institutions:

- Law enforcement
- School
- Community members at large
- Social services
- Medical representatives
- City/tribal government
- Spiritual/religious community
- Mental health

The interviews might seek to gather information, for example, on the following topics:

- Existing prevention-related efforts (programmes, activities, policies, etc.)
- Knowledge in the community about such efforts
- Who the leaders specific to this issue in your community are

[126] Indiana Prevention Resource Center. Community Readiness. Available: http://www.drugs.indiana.edu/spf/docs/Comparison%20of%20Community%20Readiness%20Assessment%20Tools.pdf. Downloaded: September 22, 2016.

[127] Substance Abuse and Mental Health Service Administration's Center for the Application of Prevention Technologies. "Tools to Assess Community Readiness to Prevent Substance Misuse", Available: http://www.samhsa.gov/capt/sites/default/files/resources/community-readiness-tools.pdf. Downloaded: September 22, 2016.

- What the community climate is like, especially relating to substance use
- How knowledgeable community members are about this issue
- What resources might exist for prevention efforts

There are many developed instruments available for conducting key respondent/community leader interviews, including tools developed by the Community Partners Institute[128] and the community report tool developed by the Indiana Prevention Resource Center[129] that can be modified for different rural settings and that provides a useful structure and template for such assessments. Resources to support the assessment of the substance use situation and the related risk/protective factors include a set of standardized indicators used in global surveys,[130] or the EMCDDA Instrument Bank[131] may be useful. Utilizing data available from different data sources (such as international or national surveys, health-care, or law enforcement registries) and combining different types of data (qualitative and quantitative) allows the assessment team to strategically collect new data to supplement existing data and form a comprehensive picture of the situation while optimizing the use of resources. Quality assessment is necessary to develop a culturally-relevant community-level prevention plan.[132,133] Completion of this community-level assessment process typically requires guidance from assessment and prevention experts, and community stakeholders may find it difficult to conduct the assessment without external guidance and resources. This provides an opportunity for national-level stakeholders to engage with local community leaders.

4.4.3 Creating an action plan and building capacities

Creating an effective action plan requires:

1. An understanding of the issues and problems impacting the community (the assessment process);

2. An agreed upon list of the priority issues (determined by community members); and

3. A clear understanding of how proposed intervention strategies will address the priority issues (programme theory of change). This last element is important and is often an overlooked component of prevention planning.

Programme logic models provide a useful tool for thinking through this process, and the United States Substance Abuse and Mental Health Service Administration (SAMHSA) provides a useful sample for creating one.[134] A process to select prevention strategies that explicitly target the identified priority substance use issues requires establishing connections between:

- Problems identified by communities
- Community-specific risk and protective factors that influence/contribute to those problems

[128] Community Partners Institute. Tri-Ethnic Center for Prevention Research. "How to Use Community Readiness Interviews", available: (http://www.drugs.indiana.edu/spf/docs/TriEthnicCRS_combined.doc. Downloaded: September 22, 2016.

[129] Indiana Prevention Resource Center. "Community Resource Guide Template", available: http://www.drugs.indiana.edu/spf/docs/Community%20Resource%20Assessment%20Template%20(Updated%20FY15).docx. Downloaded: September 22, 2016.

[130] Such as Health Behaviour of School Children (www.hbsc.org) or the Global school-based student health survey (www.who.int/chp/gshs/en/)

[131] http://www.emcdda.europa.eu/eib

[132] Community Partners Institute. Tri-Ethnic Center for Prevention Research. "How to Use Community Readiness Interviews", available: http://www.drugs.indiana.edu/spf/docs/TriEthnicCRS_combined.doc. Downloaded: September 22, 2016.

[133] Indiana Prevention Resource Center. "Community Resource Guide Template", available: http://www.drugs.indiana.edu/spf/docs/Community%20Resource%20Assessment%20Template%20(Updated%20FY15).docx. Downloaded: September 22, 2016.

[134] Substance Abuse and Mental Health Service Administration, Center for the Application of Prevention Technologies. Available: http://www.samhsa.gov/capt/applying-strategic-prevention-framework/step3-plan/building-logic-models. Downloaded: September 22, 2016.

- Planned interventions that build on the resources and opportunities identified in the community
- Anticipated short- and long-term changes of the planned interventions that address prioritized contributing factors

The logic modelling process can help to identify gaps in reasoning, potential mismatches between programme plans and desired outcomes, programmatic bottlenecks that may inhibit implementation, and needed resources, and provides a substantial start to the action plan. Connecting programme activity to well-defined outcomes is an important step for evaluating programme success.

The additional elements needed to complete the action plan include the specific action steps necessary to implement and operate the planned prevention strategies, staffing issues (who will undertake specific action/implementation steps), required financial resources, and any external training or technical assistance needed by the communities. This is an area where national-level entities, NGOs and/or academic organizations can play an important technical assistance role to help communities. The provision of resources, staffing and technical assistance to support this community-based process, which may include capacity-building opportunities and making evidence-based programmes available in a meaningful way, is essential. Capacity-building is further discussed in case study of chapter 4.4.5 .

4.4.4 Selection of prevention strategies, adaptation and adherence to fidelity in implementation

The selection of specific prevention strategies should be based on a thorough assessment and the involvement of key community stakeholders, and can be guided by the process to create a logical model, as discussed above. Criteria to guide the selection of specific prevention interventions, as identified by SAMSHA, include:

- The intervention is evidence-based
- It is a good conceptual fit with the needs and priorities of the community
- It is a good practical fit with the community's cultural context, resources and capacity to implement the intervention, and existing prevention activities

In addition to evidence-based strategies, evidence-informed prevention approaches can be valuable components of a comprehensive community-based strategy to respond to substance use. Evidence-informed strategies (for which a full evaluation has not been completed) should be used with caution, as a prevention strategy that is a poor fit for a given community my result in more damage than good. A poorly chosen prevention strategy may result in no impact (wasting scarce resources), or worse still, result in unintended negative consequences, including the further stigmatization or social marginalization of participants, or increased experimentation with substances among youth. Examples of ineffective strategies that have been associated with iatrogenic (negative) outcomes include:

- Giving information on specific substances before the typical age of initiation, and in general focusing on non-interactive information-giving as a stand-alone intervention, particularly when utilizing fear arousal techniques
- Random drug testing
- Failing to maintain appropriate confidentiality and poorly managing the selection process in indicated and selective level approaches
- Selecting people in recovery to serve on part of the prevention team in a given setting (e.g., bringing an ex-addict, possibly with a criminal record, to a school setting)[135]

[135] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention*. Vienna: UNODC, 2015.

In light of the above, evidence-based or informed approaches are strongly recommended, as they are the best way to ensure that the programme makes the intended positive impact on substance use, that scarce resources are used as intended, and that no negative consequences are created. However, implementing evidence-based approaches often requires substantial resources, including money for copyright fees and the need to demonstrate specific professional competencies for implementation and evaluation. Thus, in addition to evidence-based programmes, community-based prevention programmes sometimes include other components, such as raising awareness and conducting different community improvement activities, that, even if not being evidence-based as such, should be informed by the evidence of what works in prevention and on the specific risks and audience characteristics present in the given community.

Awareness-raising can be informed by the use of etiological literature or local data on the specific risk and protective factors or substance use prevalence. It can serve many purposes, and contribute significantly to the sustainability of the prevention activities by supporting fundraising and outreach for prevention and treatment programmes. It can also support rehabilitation efforts. However, exercising caution in these awareness-raising activities is warranted to avoid creating any stigma as a by-product of disseminating anti-substance use messages.

Different community improvement activities that do not fall into the domain of evidence-based prevention can also be informed by evidence. These may include supporting protective factors identified as a priority by the community stakeholders, such as community cohesion, family-school bonds, or healthy recreational possibilities. These types of efforts may also support general community services and infrastructures and have a potential positive impact on substance use and well-being. They can form a useful component of the overall approach, and can also be rewarding and motivating for community stakeholders. However, caution is needed to ensure a cost-effective use of time and resources, as these activities, even if in general they contribute towards positive community change, are not evidence-based and typically are not sufficient to yield measurable positive change in substance use.

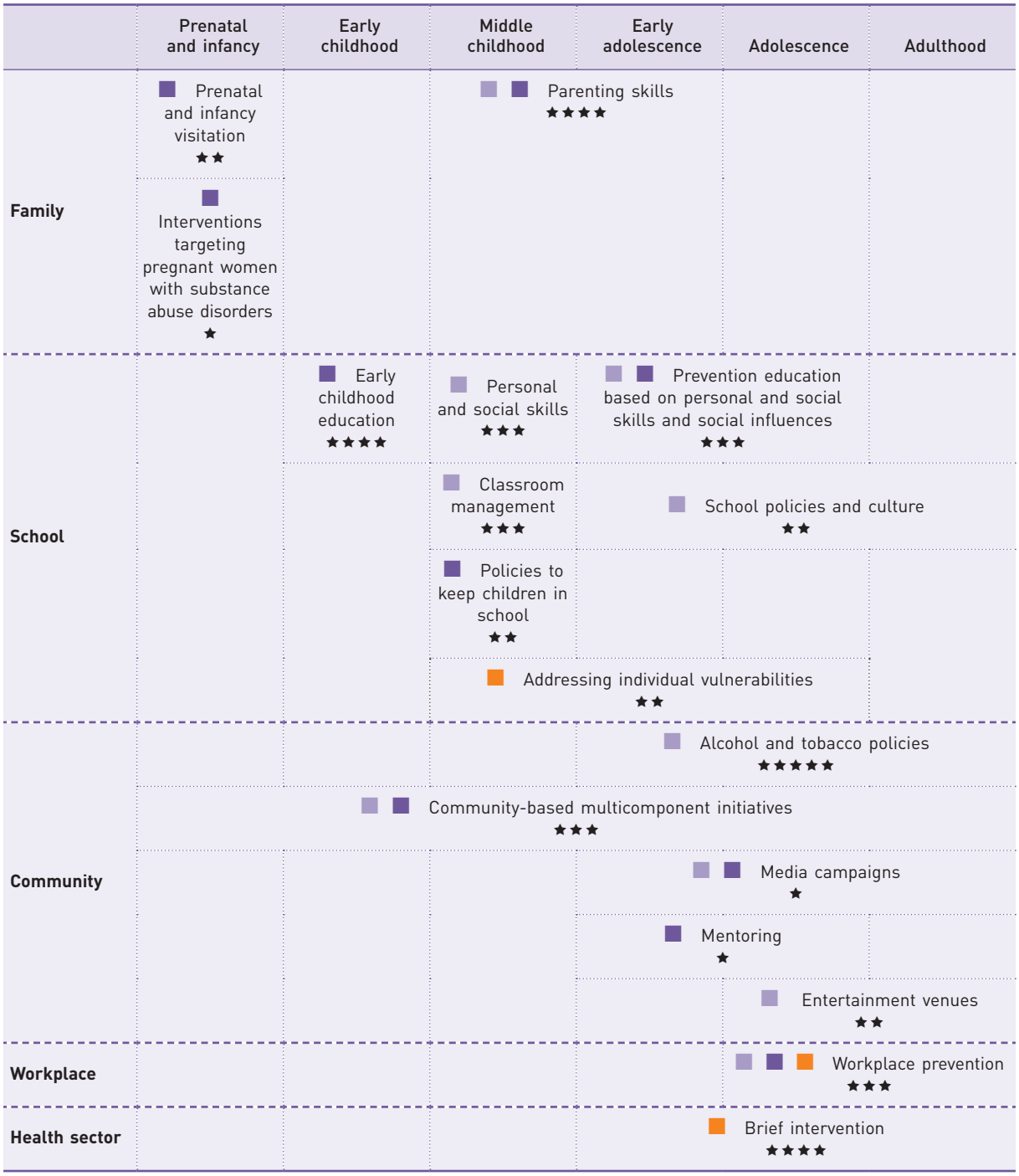
The core components of the community action plan should thus comprise evidence-based programmes and enforcement of policies on availability and accessibility of substances. The menu of prevention strategies that are supported by evidence (table 4.1 below), as described in the UNODC *International Standards on Drug Use Prevention*,[136] may be one helpful starting point for communities to identify the type of response and setting(s) needed to best meet their priorities and needs. This menu comprises approaches appropriate for different community settings, including:

- Enforcement of substance use-related policies
- Family-based prevention programmes supporting parenting skills and family functioning
- Skills-based prevention in educational settings
- Prevention approaches suitable for health-care and workplace settings
- Prevention activities utilizing media

The UNODC *International Standards on Drug Use Prevention* describe interventions and policies that have been found to be effective in preventing substance use. Besides describing and providing a rationale for each approach, they also list the characteristics that, according to the evidence, have been associated with good prevention outcomes, and identify the different expected outcomes and levels of efficacy. As illustrated in table 4.1 below, the *Standards* describe the approaches by listing the approaches by target population (e.g., families, schools) and setting (e.g., the community, workplace, or health care). The

[136] Ibid.

TABLE 4.1 SUMMARY OF INTERVENTIONS AND POLICIES FOUND TO YIELD POSITIVE RESULTS IN PREVENTING SUBSTANCE USE



Note: Strategy with an indication of efficacy (★ limited/★★ adequate/★★★ good/★★★★ very good/★★★★★ excellent). See above for a description of the information implied by this indication.

= Universal — strategy appropriate for the population at large.

= Selective — strategy appropriate for groups that are particularly at risk.

= Indicated — strategy appropriate for individuals that are particularly at risk.

approaches are also grouped by the developmental stage of the targeted individuals, which can be helpful for ensuring that all key age-groups, including the critical transitional periods, are covered. Finally, they indicate the level of risk among the targeted populations. Universal approaches are often recommended to achieve wide coverage. However, it should be noted that, while universal programmes often effectively support those at heightened risk, targeted efforts to address the needs of at-risk populations are likely to have benefits for the wider community as well. For example, reducing substance use also reduces the related negative consequences of substance use, such as crime, domestic violence and excess demands on the health-care, social service and criminal justice systems. Community-based prevention programmes often combine two or more effective programmes, such as family-based and school-based programmes, and, as the National Institute on Drug Abuse (NIDA) has noted, there are indications that it can be more effective than a single programme alone.[137, 138, 139, 140]

For identifying specific evidence-based programmes, the different available databases and registries can be helpful resources. These include databases developed by NIDA,[141] SAMHSA,[142] the Blueprints for Healthy Youth Development,[143] the European *"Exchange on Drug Demand Reduction Action" registry,*[144] or the UNODC compilation of family skills programmes.[145] The European Drug Prevention Quality Standards describe in detail the full project cycle and the different considerations that must be taken into account in the different phases of the cycle. It provides another excellent tool for discussing the quality of the project planning, implementation and evaluation, and can provide further support for selecting and adapting an existing programme, or to those seeking to develop a new prevention programme.[146] It should be recognized that the development of a new programme may be less cost-effective than adapting an existing intervention, and require a considerable amount of resources, including expertise, time and financial resources.

Effectively implementing an evidence-based strategy also requires close attention to the issue of fidelity and adaptation, which is discussed later in this chapter. Fidelity is a concept that assesses the extent to which a programme is implemented as intended by its developer.[147] Fidelity to the conceptual and clinical underpinnings of a prevention strategy increases the likelihood that its impact will be similar to the settings where its evidence base was developed. One further resource on ensuring quality adaptation and fidelity is "Finding the Balance".[148]

[137] National Institute on Drug Abuse, "DrugFacts—Lessons from Prevention Research", March 2014. Available: https://www.drugabuse.gov/publications/drugfacts/lessons-prevention-research. Downloaded: 2016, December 7, 2016.

[138] Battistich, V.; Solomon, D.; Watson, M.; and Schaps, E. "Caring school communities", *Educational Psychologist* 32(3):137–151, 1997.

[139] Spoth, R.L.; Redmond, C.; Trudeau, L.; and others. "Longitudinal substance initiation outcomes for a universal preventive intervention combining family and school programs", *Psychol Addict Behav* 16(2):129-134, 2002c.

[140] Stormshak, E.A.; Dishion, T.J.; Light, J.; and Yasui, M. "Implementing family-centred interventions within the public middle school: linking service delivery to change in student problem behaviour", *J Abnorm Child Psychol* 33(6):723-733, 2005.

[141] https://www.drugabuse.gov/publications/preventing-drug-abuse-among-children-adolescents-in-brief/chapter-4-examples-research-based-drug-abuse-prevention-programs

[142] http://nrepp.samhsa.gov/

[143] University of Colorado Boulder, Institute of Behavioral Science, Center for the Study and Prevention of Violence. "Blueprints for Health Youth Development", available: http://www.blueprintsprograms.com/. Downloaded: September 22, 2016.

[144] The European Monitoring Centre for Drugs and Drug Addiction. "Best Practice Portal: Prevention Interventions for School Students", available: http://www.emcdda.europa.eu/best-practice/prevention/school-children. Downloaded: September 22, 2016.

[145] https://www.unodc.org/docs/youthnet/Compilation/10-50018_Ebook.pdf

[146] European Drug Prevention Quality Standards. "Overview of European Drug Prevention Quality Standards", available: http://prevention-standards.eu/standards. Downloaded: September 22, 2016.

[147] Castro F. et al. "The Cultural Adaptation of Prevention Interventions: Resolving Tensions Between Fidelity and Fit", *Prevention Science* 5(1) 2004.

[148] "Finding the balance: Program Fidelity and Adaptation in Substance Abuse Prevention", United States. Department of Health and Human Services. Center for Substance Abuse Prevention. 2002. Available at http://www.csun.edu/sites/default/files/FindingBalance1.pdf.

A process evaluation is used to monitor the extent to which intervention is being implemented as designed. Programme success is influenced not only by the strength and appropriateness of an intervention; it is also influenced by the quality of the implementation process. A process evaluation also provides information that can be used to adjust an implementation strategy, thereby enhancing programme impact over time.

4.4.5 Evaluating and using evaluation results

The creation of the previously discussed logic model, within the framework of the ecological model, also provides a tool to plan an evaluation of those efforts by using the programme theory of change to connect programme strategies and activities to desired short, intermediate and long-term outcomes. A process evaluation examining how the programme was implemented is the necessary first step to measuring programme impact and determining the extent to which a programme is achieving its intended goals. This evaluation of effectiveness should be planned at the beginning of the programme, to allow for collecting baseline data and establishing control conditions when needed.

The logic model and ecological model can be useful tools especially for defining the key mediating factors that the prevention programmes are targeting (e.g., parenting practices, child behaviours, etc.) to support the evaluation of programme impact. Besides using control groups, measuring change in the mediators, rather than substance use behaviours only, will allow the programme to assess its impact even though external forces beyond the programme may be influencing substance use in a given community. Furthermore, they allow an examination of the impact of programmes targeting younger children and youth who do not yet experiment with substance use in the short term. In addition, monitoring substance use and its consequences at a wider level may be a practical way to assess the success of the overall programme, especially if such data are already available, for example, via national surveys, data from health-care and law enforcement registries and other sources.

Evaluating a community-based prevention programme, which may include a range of interventions targeting different issues and which may be implemented in isolated and low-resource settings, carries its own challenges. It may be difficult to collect data, to identify similar settings or communities to serve as "control groups", or to account for the many other factors influencing substance use. It often takes time before the desired changes in substance use behaviour can be observed. Programme evaluation is another area where rural communities and prevention staff typically need additional technical assistance and support. Models connecting community project groups and prevention professionals to universities in order to evaluate prevention programmes have generated positive results.[149,150] While it is beyond the scope of this policy guide to provide detailed evaluation advice, SAMHSA, in the context of its Strategic Prevention Framework, has assembled a useful list of resources[151] and basic guidance on conducting community-based evaluations and communicating the evaluation results.[152]

[149] Spoth R. and Greenberg M. "Impact Challenges in Community Science-with-Practice", *Am J Community Psychol* (2011) 48:106-119.

[150] Spoth, R. et al. "Longitudinal Effects of Universal Preventive Intervention on Prescription Drug Misuse", *Am J of Public Health* (2013) 103:4.

[151] See http://www.samhsa.gov/capt/tools-learning-resources/evaluation-tools-resources

[152] See http://www.samhsa.gov/capt/applying-strategic-prevention-framework/step5-evaluate

CASE STUDY

PROMOTING SCHOOL-COMMUNITY-UNIVERSITY PARTNERSHIPS TO ENHANCE RESILIENCE, UNITED STATES

Five core components of the PROSPER delivery system

PROSPER (PROmoting School-community-university Partnerships to Enhance Resilience) is a model based on a collaborative approach, fostering strong partnerships among communities, schools and universities, for effective preventive intervention delivery. It provides a good example of a rigorously evaluated community model, utilizing cooperation with universities for evaluation and capacity-building and support, for implementation of evidence-based prevention programmes. It builds on existing infrastructures, and facilitates practitioner-scientist partnerships, linking community-based stakeholders to universities. The PROSPER Partnership Model is comprised of three tiers. At the local level, community-based teams consisting of a Cooperative Extension-based team leader, a school representative, human service agency representatives, and other community stakeholders, such as youth and parents, implement evidence-based programmes for middle school youth and their families. At the state level, university researchers and Cooperative Extension programme leaders serve as a state management team that provides ongoing guidance and support, especially related to data collection, evaluation and reporting. A team of prevention coordinators receives guidance from the state management team as they provide proactive coaching to the community teams to ensure their evidence-based programmes are implemented with fidelity and that the effort is sustained over time.

The PROSPER Partnership Model works through a community mobilization and planning process much like the one described in this chapter. It includes: *(a)* recruiting and building a local team; *(b)* assessing local needs and resources; *(c)* selecting one family and one school evidence-based intervention from a menu; and *(d)* supporting the quality implementation of the interventions through ongoing monitoring and evaluation. A core component of this delivery system is the structured developmental process and standardized tools it offers for monitoring and evaluation. Process evaluation entails analysing factors such as programme participant attendance, adherence to the programme protocols, community team and overall partnership functioning, as well as areas where further technical support is needed. The information is used to ensure that the work at the community level can be sustained with quality over many years.

The PROSPER Partnership Model was evaluated through a randomized controlled trial involving approximately 11,000 middle school-aged youth and their families from 28 communities in Iowa and Pennsylvania. Youth participating in programmes delivered with the PROSPER Partnership Model scored significantly lower on a number of negative behavioural outcomes, including drunkenness, cigarette use, marijuana use, use of other substances and conduct problem behaviours, up to six and a half years past baseline; in many cases higher-risk youth benefited more.[a,b] The PROSPER Partnership Model and the programmes it supports also have been shown to be cost effective and cost beneficial.[c,d]

[a] Spoth, R., Redmond, C., Shin, C., Greenberg, M., Feinberg, M., and Schainker, L. (2013). "PROSPER community-university partnership delivery system effects on substance misuse through 6½ years past baseline from a cluster randomized controlled intervention trial", *Preventive Medicine,* 56, 190-196.

[b] Spoth, R. L., Trudeau, L. S., Redmond, C., Shin, C., Greenberg, M. T., Feinberg, M. E., and Hyun, G. H. (2015). "PROSPER partnership delivery system: Effects on conduct problem behavior outcomes through 6.5 years past baseline", *Journal of Adolescence,* 45, 44-55.

[c] Crowley, D. M., Jones, D. E., Coffman, D. L., and Greenberg, M. T. (2014). "Can we build an efficient response to the prescription drug abuse epidemic? Assessing the cost effectiveness of universal prevention in the PROSPER trial", *Preventive Medicine,* 62, 71-77.

[d] Spoth, R., Guyll, M., and Day, S. X. (2002). "Universal family-focused interventions in alcohol-use disorder prevention: Cost-effectiveness and cost-benefit analyses of two interventions", *Journal of Studies on Alcohol and Drugs* 63(2), 219-228.

4.5 Good practices for addressing barriers to implementing prevention in rural settings

4.5.1 Working with high-risk populations

While it has been long recognized that some features of rural settings can support healthy lifestyles and facilitate effective prevention programming, many others face greater disparities that are associated with higher rates of substance use.[153, 154] These disparities include higher rates of poverty; fewer jobs and other opportunities for advancement; dependence on dwindling extractive industries; changing migration patterns influencing racial and ethnic composition; ageing populations; poorer health status with greater rates of chronic disease; and lower access to acute health-care services including primary care, mental health, substance use, and oral health services. Given this combination of factors, many argue that living in a rural community is, by definition, a health disparity. For example, studies of substance use in different rural contexts identified that high school youth living on farms had a greater risk of substance use than those living in towns despite having otherwise similar risk profiles.[155]

Within these complex rural settings, it is possible to identify specific subpopulations that are at higher risk of substance use due to their levels of poverty, social or cultural isolation, and/or other factors, by applying the social ecological model. Other examples of at-risk populations that might be marginalized in a given community include those with language, religious or cultural issues. In particular, some religious communities may adopt very negative and moralistic attitudes towards substance use that can discourage participation in prevention and treatment programmes. Targeting and adapting prevention programmes for these populations may be needed. Engaging members of at-risk populations in the development and adaptation of prevention strategies can generate significant benefits for the programme and the individuals directly. Their participation can help to develop programmes that are more responsive to the group's needs, reflect prevailing community culture and achieve greater participation and buy-in. From the individual perspective, it can help participants develop important skills. Caution is warranted, however, as participants may be stigmatized and labelled through the selection process.[156] There are also indications that such group-based approaches may reinforce antisocial behaviour, especially among youth.[157]

4.5.2 Use of telemedicine and other technologies and media to enhance rural prevention efforts

Given the limited resources and access to prevention and treatment services in rural settings as well as the travel barriers imposed by living in isolated rural areas, the potential use of tele-health and other technologies to enhance prevention programming and outreach is generating a great deal of interest among prevention practitioners, policymakers and community leaders.

[153] Gale, J. (2010). "Rural America: A look beyond the images", *Health Progress: Journal of the Catholic Health Association of the United States, 91*(5), 8-13.

[154] Population Reference Bureau. "The Urban-Rural Divide in Health Development", 2015 Data Sheet. Available: http://www.prb.org/pdf15/urban-rural-datasheet.pdf. Downloaded: September 22, 2016.

[155] Rhew, I. C., Hawkins, J. D. and Oesterle, S. (2011). "Drug use and risk among youth in different rural contexts", *Health and Place,* 17(3), 775-783.

[156] Sorhaindo, A., Bonell, C., Fletcher, A. and others. "Being targeted: Young women's experience of being identified for a teenage pregnancy prevention programme", 2016 Jun; 49:181-90.

[157] Rorie, M., Gottfredson, S., Cross, A. and others. "Structure and deviancy training in after-school programs", *Journal of Adolescence* 34 (2011) 105-117.

The current evidence is promising regarding the use of technology-based prevention interventions; however, the full body of evidence is building slowly. For example, meta-analyses of computer-based interventions for alcohol and tobacco use involving brief interventions and cessation support suggest that these programmes show promising results.[158,159,160,161,162,163] They suggest that Internet, computer and telephone applications are effective in addressing alcohol use and smoking, particularly those that are personalized and interactive. It seems that programmes targeting those already using alcohol and tobacco have more potential for effectiveness than those targeting non-users. As an example, brief interventions delivered online or via computers to secondary school students have been found to yield positive results.[164]

Besides providing support for reducing the consumption of alcohol and tobacco, there are some positive examples of using Internet-assisted approaches to build life and coping skills and promote mental health and good parenting practices. These experiences suggest that it is feasible to apply these mobile technologies more widely in delivering prevention measures.[165,166] This could be valuable for targeting specific subpopulations, such as lesbian, gay, bisexual and transgender (LGBT) populations or specific personality types that might be otherwise difficult and resource-intensive to reach. Furthermore, online or telephone-based approaches can be used to support face-to-face programmes by providing booster sessions, engaging participants in face-to-face or group encounters, or for data collection.

In addition to using tele-health technology to provide direct mental health, substance use and physical health-care services, it can also be used effectively to provide consultative support and supervision as well as other capacity-building support to rural practitioners who often practice with little professional support and with limited possibilities to participate in in-service training. In some instances, these technologies have also been used successfully for data collection. In addition to tele-health, mobile teams are a promising approach for many rural settings and can be used to provide services such as brief interventions. Although the evidence base for specific mobile and technology-based prevention strategies is still developing, the potential to address travel barriers and the maldistribution of prevention and treatment resources in rural settings cannot be ignored.

The rapid growth in communication technology (e.g., Skype, Facetime, instant messaging) and social media suggests additional potential for substance use prevention, and further study is needed to understand the role that technology can play in expanding access to prevention services in rural settings. These studies should examine capacity issues in rural settings (e.g., broadband capacity, telecommunications

[158] Carey, K. B., Scott-Sheldon, L. A. J., Elliott, J. C. and others (2012). "Face-to-face versus computer-delivered alcohol interventions for college drinkers: A metaanalytic review, 1998-2010", *Clinical Psychology Review*, 32, 690-703.

[159] Rooke S., Thorsteinsson E., Karpin A. and others. "Computer-delivered interventions for alcohol and tobacco use: a meta-analysis", *Addiction* 2010; 105:1381-90.

[160] Champion, K., Newton, N., Barrett, E., and Teeson, M. "A systematic review of school-based alcohol and other drug prevention programs facilitated by computers or the Internet", *Drug and Alcohol Review* (March 2013), 32, 115-123.

[161] Riper H. et al. "Effectiveness of guided and unguided low-intensity internet interventions for adult alcohol misuse: a meta-analysis", (2014) *PLoS ONE* 9(6).

[162] Civljak M. et al. "Internet-based interventions for smoking cessation", *Cochrane Database Syst Rev* (2013)7.

[163] Institute of Health Economics. "Telehealth in Substance Abuse and Addiction: Review of the Literature on Smoking, Alcohol, Drug Abuse, and Gambling", Institute of Health Economics: Alberta, Canada, June 2016.

[164] Champion, K., Newton, N., Barrett, E. and Teeson, M. "A systematic review of school-based alcohol and other drug prevention programs facilitated by computers or the Internet", *Drug and Alcohol Review* (March 2013), 32, 115-123.

[165] Sourander A. et al. "Internet Assisted Parent Training Intervention for distruptive Behaviour in 4-year old children: A Randomized Clinical Trial", *JAMA Psychiatry* (2016) 1:72(4).

[166] Torniainen-Holm M. et al. "The effectiveness of email-based exercises in promoting psychological wellbeing and healthy lifestyle: a two year follow-up", (2016) *BMC Psychology* 4:21.

infrastructure, as well as technology skills, attitudes and levels of digital literacy among rural populations) as well as the efficacy of technology-based prevention programmes across different populations and substance use patterns.

Finally, in rural areas different forms of media, whether electronic or not, can be utilized for disseminating persuasive messages for supporting behaviour change and prevention in a feasible manner. In isolated areas, media-based interventions may provide an economical way of reaching large audiences, and may enable populations to be reached without a trained workforce, once the messages have been developed. Besides social and other electronic media, radio and television, posters, flyers and other forms of printed media, as well as exhibitions and community meetings, can also be utilized depending on what would maximize contact with the target audience. Messages disseminated via media may be tailored to change or enforce certain substance use-related behaviours, influence opinion leaders, or support awareness of and support for other prevention and treatment activities in the community. As with all prevention, it is crucial that media-based prevention is in line with the evidence in order to be effective. It is important to precisely identify and tailor the messages to a specific target group and targeted behaviours. Furthermore, the development of the messages should be based on a solid theoretical basis and utilize theories of persuasion and behavioural change and formative research including testing in order to evaluate the impact, achieve adequate exposure, and finally be connected to other prevention programmes in the community. The disseminated messages should use factual information, address appropriate physical and social outcomes of substance use when relevant, suggest concrete strategies to resist substance use or change behaviour, or aim at changing cultural norms regarding substance use. The messages should never appeal to fear or exaggerate the consequences of substance use. [167]

4.5.3 Addressing cultural sensitivities and adapting prevention initiatives to the needs of rural settings

A major challenge in developing and implementing successful rural prevention programmes involves the need to ensure that they are sensitive to the cultural beliefs and practices of different populations inhabiting rural settings. As discussed in chapter 1, rural populations often include different ethnic and cultural populations, such as indigenous people. Given the diversity of rural settings across different geographical areas, the treatment and prevention model described in this Guide is designed to support fidelity to individual evidence-based prevention strategies, but allows for modification of the framework across different ethnic, racial and cultural populations. As it is likely that the evidence-based prevention strategy at hand has not been implemented and tested within the unique cultural context of the given rural community, it is often necessary to adapt the original intervention to improve community acceptance and to better respond to the cultural, political or resource context of the community. The adaptation/modification of an existing intervention for different ethnic, racial or cultural populations should be done with care. The following principles, provided by SAMSHA, can assist in adapting evidence-based strategies:[168]

- Select programmes with the best initial fit to local needs and conditions (to reduce the need for later adaptations).
- Select programmes with the largest intended impact. Smaller, more targeted interventions are more sensitive to change, while those with a larger intended impact are generally less so.

[167] United Nations Office on Drugs and Crime. *International Standards on Drug Use Prevention.* Vienna: UNODC, 2015.

[168] SAMHSA Center for the Application of Prevention Technologies. Step 4—Implement. Available: http://www.samhsa.gov/capt/applying-strategic-prevention-framework/step4-implement. Downloaded: September 22, 2016.

CASE STUDY

ONLINE SCREENING, SWEDEN AND ELSEWHERE

Screening tools can be useful for drug use treatment and also benefit prevention, especially when followed by brief interventions and motivational interviewing. Many evidence-based tools exist for them. One example is an online tool called DUDIT (Drug Use Disorders Identification Test). It is a self-assessment tool that gives an overall assessment of the possible problems and disadvantages related to a person's drug use. It is an online tool, and therefore might be appropriate for geographically dislocated places. DUDIT has been evaluated in a sample of adult heavy drug users from prison, probation and inpatient detoxification settings, and in a general Swedish population sample.[a] DUDIT screens effectively for drug-related problems in clinically selected groups and has been translated into 18 languages (available at: http://www.emcdda.europa.eu/best-practice/eib/dudit). In addition, the Pompidou Group of the Council of Europe is currently piloting the test in certain South-East European countries: Bosnia and Herzegovina, Croatia, Greece, Montenegro, Romania, Serbia, and the former Yugoslav Republic of Macedonia. DUDIT has also been translated into the languages of those countries (available at: https://drughelp.eu/language.php.)

Similar tools have also been successfully developed and utilized elsewhere. For example, CUPIT, developed originally in New Zealand, is another self-assessment online tool to identify problematic cannabis use. It is freely available in open domain in an interactive self-adding format (http://www.massey.ac.nz/massey/learning/departments/school-of-psychology/research/cupit/cupit_home.cfm) and has produced positive outcomes. It is validated for cannabis users from age 13 on and appropriate for use among the general population.[b,c] CUPIT has been used in treatment programmes and also in universities and colleges in the United States and Canada, and has been translated into Dutch, German and Spanish.[d]

[a] Berman, A. H., Bergman, H., Palmstierna, T. and Schlyter, F. (2005). "Evaluation of the Drug Use Disorders Identification Test (DUDIT) in Criminal Justice and Detoxification Settings and in a Swedish Population Sample", *European Addiction Research,* 11(1), 22-31.

[b] Bashford, Jan, Flett, Ross and Copeland, Jan (2010). "The Cannabis Use Problems Identification Test (CUPIT): development, reliability, concurrent and predictive validity among adolescents and adults", *Addiction,* 105, 615-625.

[c] Annaheim, B. "Who is smoking pot for fun and who is not? An overview of instruments to screen for cannabis-related problems in general population surveys", *Addiction Research and Theory*, October 2013; 21(5): 410-428.

[d] Hoch, E. et al (2014) "CANDIS treatment program for cannabis use disorders: Findings from a randomized multi-site translational trial", *Drug and Alcohol Dependence* 134.

- Change capacity before changing the programme. Local systems may be resistant to change, but this is preferable to changing the impact with the related potential loss of efficacy.
- Consult experts, as they may have insight on how the intervention has been adapted in the past and the impact of those adaptations on the efficacy of the intervention.
- Change the intervention carefully. Retain core components associated with programme efficacy.
- Understand and retain consistency with the underlying evidence base, using the science to guide adaptations.
- Add rather than subtract to reduce the likelihood of eliminating an essential programme element. Rely on cultural leaders and culturally competent programme staff to implement effective cultural adaptations that are tailored to the values, attitudes, beliefs and experiences of target populations.

Key steps in the adaptation process that have proven successful include:

- Creating a cultural adaptation team to oversee the process
- Translating and adapting the materials to the local language and culture
- Measuring the baseline prior to implementation
- Inclusion of a strong monitoring component
- Evaluating the cultural component[169]

Adapting interventions from the "ground up", reflecting the values, beliefs and world views of the populations in any given rural community, rather than a "top down" approach, is suggested by Okamoto, Helm and colleagues.[170,171,172] This is yet another instance where the social ecological model can be of assistance. In this context, community stakeholders should be engaged in the selection, adaptation and implementation of evidence-based strategies. The goal is to incorporate their shared experiences and knowledge of community and cultural norms, politics, history and attitudes towards substance use to enhance the cultural relevance of local prevention strategies, ensure engagement and participation, and improve the efficacy of these programmes.

Conclusion

Prevention is an important and integral component of efforts to reduce substance use and its related consequences. Prevention efforts with sufficient quality and reach can effectively prevent substance use. Using evidence-based prevention approaches is likely to have benefits that extend beyond reductions in substance use, and also contributes to lowering the incidence of other related risky behaviours and conditions, such as mental health issues, domestic violence or social marginalization, yielding important public health savings. Reducing or avoiding preventable substance use can extend scarce resources available for prevention and the treatment of substance use and its consequences. For rural settings, models focusing on engaging community stakeholders and building on resources existing within communities are viable options for developing and sustaining prevention responses appropriate to local circumstances. Encouraging evidence is emerging on various mobile possibilities that can be valuable in reaching rural populations in order to offer prevention programmes. Finally, grounding the prevention response in a community engagement strategy can also create synergies between the prevention, treatment and rehabilitation components of a comprehensive community response to substance use in rural settings. Chapter 5 will address issues related to the development of substance use disorder treatment services, followed by a discussion on recovery in chapter 6.

[169] UNODC. *Guide to implementing family skills training programmes for drug abuse prevention.* Geneva, Switzerland: United Nations Office on Drugs and Crime.

[170] Okamoto, S., LeCroy, C., Tann, S., Rayle, A., Kulis, S., Dustman, D. and Berceli, D. "The Implications of Ecologically Based Assessment for Primary Prevention with Indigenous Youth Populations", *Journal of Primary Prevention,* 2006 March; 27(2): 155–170. .

[171] Helm S., Okamoto S.K., Medeiros H., et al. "Participatory Drug Prevention Research in Rural Hawai'i With Native Hawaiian Middle School Students. Progress in community health partnerships", *Research, Education, and Action.* 2008;2(4):307-313.

[172] Helm S., Okamoto S.K., Maddock J., Hayes D., Lowery T., Rajan R. "Insights in Public Health: Developing the Ho'ouna Pono Substance Use Prevention Curriculum: Collaborating with Hawaiian Youth and Communities", *Hawai'i Journal of Medicine and Public Health*. 2013;72(2):66-69.

5. EVIDENCE-BASED DRUG TREATMENT STRATEGIES FOR RURAL SETTINGS

5.1 Introduction

According to UNODC, there has been worldwide growth in substance use,[173] therefore improving access to treatment for substance use disorders is a major health policy priority. Despite the clearly documented need, access to substance use treatment continues to be a significant problem in both urban and rural settings across the globe.[174, 175] This is particularly true in developing countries, where studies have shown that the resources allocated to mental health care and substance use treatment, which include drug and other substance use, are not consistent with the burden of need, and more than a quarter of developing countries do not have a specified mental health budget.[176] As previously discussed, rural areas often suffer from a number of socioeconomic disparities, including higher levels of poverty and unemployment, lower education levels as well as health disparities, including higher rates of chronic disease, lower access to specialized health-care treatment services, and inadequate health-care resources. These disparities make it difficult to develop comprehensive substance use systems of care. As a result, rural residents are likely to suffer from delayed and inadequate access to the full range of treatment services needed to treat their substance use disorders.

5.2 Challenges to developing comprehensive rural substance use treatment services

Urban substance use treatment systems tend to provide a greater range of services than rural systems of care[177] and are better positioned to serve vulnerable populations such as minorities and women.[178] Rural areas typically suffer from a lack of substance use treatment services and underutilization of those services that are available.[179,180,181] These areas frequently lack the continuum of services necessary to assess, diagnose, treat and evaluate individuals with substance use disorders.[182]

A number of issues contribute to this lower level of access to substance use treatment by rural residents, including:

- Fewer treatment facilities
- Fewer substance use treatment professionals interested in practicing in a rural setting
- Geographic barriers presented by longer travel distances
- Limited public transportation options
- Lower levels of anonymity
- The continued stigmatization and criminalization of individuals with substance use disorders[183,184]

[173] United Nations Office on Drugs and Crime, *World Drug Report 2016* (United Nations publication, Sales No. E.16.XI.7)

[174] Salwar, J. and Katz, C. "A Review of Substance Use Disorder Treatment in Developing World Communities", *Ann Glob Health*. 2014 Mar-Apr;80(2):115-21.

[175] Pullen, E. and Oser, C. "Barriers to Substance Abuse Treatment in Rural and Urban Communities: A Counselor Perspective", *Subset Use Misuse*. 2014 June; 49(7): 891-901.

[176] Funk M., et al. "Mental health policy and plans: promoting an optimal mix of services in developing countries", *International Journal of Mental Health*, 2004, 33(2):4-16.

[177] Oser, C., Leukefeld, C., Tindall, M. and others. "Rural drug users: factors associated with substance abuse treatment utilization", *International Journal of Offender Therapy and Comparative Criminology*. 2011; 55:567-586.

[178] Borders T.F. and Booth B.M. "Research on rural residence and access to drug abuse services: where are we and where do we go?" *J Rural Health*. 2007; 23(Suppl):79-83. [PubMed: 18237329]

[179] Ibid.

[180] Hutchinson, L. and Blakely, C. "Rural Healthy People 2010: a companion document to Healthy People 2010, vol. 2", College Station, TX: Southwest Rural Health Research Center; 2010. *Substance abuse trends in rural areas: a literature review*.

[181] Clay, R. "Rural substance abuse: overcoming barriers to prevention and treatment", *Substance Abuse and Mental Health Service Administration Newsletter*. 2007; 15:1-5.

[182] Lenardson, J.D. and Gale, J.A. (Aug. 2007). "Distribution of substance abuse treatment facilities across the rural-urban continuum", Portland, ME: University of Southern Maine, Muskie School of Public Service, Institute for Health Policy.

[183] Oser, C., Leukefeld, C., Tindal, l. M. and others. "Rural drug users: factors associated with substance abuse treatment utilization", *International Journal of Offender Therapy and Comparative Criminology*. 20.11;55:567-586.

[184] Sexton, R.L., Carlson, R.G., Leukefeld, C.G. and Booth B.M. "Barriers to formal drug abuse treatment in the rural south: a preliminary ethnographic assessment", *Journal of Psychoactive Drugs*. 2008; 40:121-129.

FIGURE 5.1 ELEMENTS CONTRIBUTING TO A LOWER LEVEL OF ACCESS TO SUBSTANCE USE TREATMENT SERVICES FOR THE RURAL POPULATION[a, b]

[a]Oser, C., Leukefeld, C., Tindal,l. M., Garrity, T., Carlson, R., Falck, R., Wang, J., and Booth, B. "Rural drug users: factors associated with substance abuse treatment utilization", *International Journal of Offender Therapy and Comparative Criminology.* 20.11;55:567–586.

[b]Sexton, R.L., Carlson, R.G., Leukefeld, C.G., and Booth B.M. "Barriers to formal drug abuse treatment in the rural south: a preliminary ethnographic assessment", *Journal of Psychoactive Drugs.* 2008; 40:121–129.

Rural substance use disorder treatment services are less likely to provide more intensive, specialized services or services tailored to the needs of vulnerable populations, or those with unique cultural needs.[185,186]

The development and operation of rural substance use treatment programmes are hindered by numerous challenges including:

- Difficulty recruiting appropriately trained and credentialed clinical staff
- Population densities that are insufficient to support viable services
- Limited access to referral and specialty services
- Poor economic conditions, lower rates of health insurance coverage and financing, and higher rates of poverty that further hamper the ability to develop a self-sustaining practice

[185] Gamm, L.D. "Mental Health and Substance Abuse Services Among Rural Minorities", *The Journal of Rural Health*. 2004; 20:206-210.

[186] Sung, H.E., Mahoney, A.M. and Mellow, J. "Substance abuse treatment gap among adult parolees: prevalence, correlates, and barriers", *Criminal Justice Review*. 2011; 36:40-57.

The next section will provide policymakers with a guide to understanding the issues related to developing substance use treatment programmes appropriate to the needs of rural communities. It is intended to ensure that policymakers understand the peculiarities and special needs of substance use treatment services in rural settings. It also provides evidence-based treatment models relevant to the needs of rural settings and describes the development of regional systems of substance use treatment and care that maximize the use of scarce specialty services.

5.3 Developing substance use treatment services in rural areas

The results of the assessment process described in chapter 3 provide a starting point for the development of rural substance use treatment services. The data collected during the assessment will help to quantify the prevalence of substance use and associated negative effects in rural areas of Member States; identify the existing substance use, mental health and acute care treatment infrastructure; provide an inventory of available resources; and identify gaps in and barriers to service delivery. It will also provide a solid foundation to establish priorities that will inform the development of a strategic plan to improve access to substance use treatment and care in rural settings.

5.4 The components of a comprehensive substance use treatment system of care

The UNODC *International Standards for the Treatment of Drug Use Disorders* provide a comprehensive set of recommendations to guide the development of an effective system of care to address substance use disorders (box 5.1).

BOX 5.1. UNODC-WHO INTERNATIONAL STANDARDS FOR THE TREATMENT OF DRUG USE DISORDERS

Principle 1. Treatment must be available, accessible, attractive and appropriate for needs

Substance use disorders (SUDs) can be treated effectively if people have access to a continuum of services that match their needs at each specific phase of their disorder, including outreach, screening, inpatient and outpatient treatment, long-term residential treatment, rehabilitation and recovery support services. These services should be affordable, accessible and available in urban and rural settings.

Principle 2: Ensuring ethical standards in treatment services

Treatment of SUDs should be based on the universal ethical standards of respect for human rights and dignity. This includes responding to the right to enjoy the highest attainable standard of health and well-being, ensuring non-discrimination and removing stigma. The individual affected should be recognized as a person suffering from a health problem and deserving treatment similar to patients with other psychiatric or medical problems.

Principle 3: Promoting treatment of SUDs by effective coordination between the criminal justice system and health and social services

SUDs should be seen primarily as a health problem rather than a criminal behaviour, and wherever possible, drug users should be treated in the health-care system rather than the criminal justice system. The criminal justice system should collaborate closely with the health and social system by offering the option of entering treatment as an alternative to criminal prosecution or imprisonment. If incarceration is warranted, treatment should be offered to prisoners with SUDs during their incarceration and after their release. People in the justice system should be provided treatment and care at a standard equal to that which is offered to all others in society.

Principle 4: Treatment must be based on scientific evidence and respond to specific needs of individuals with SUDs

Evidence-based practices and accumulated scientific knowledge on the nature of SUDs should guide interventions and investments in substance use dependence treatment. Organization of treatment for SUDs should be based on a chronic care philosophy rather than acute care interventions. A long-term model of treatment and care is most likely to promote a lifelong recovery, a sustained cessation of drug use, absence of drug-related problems, and enhanced physical, psychological, interpersonal, occupational and spiritual health. Existing interventions should be adapted to the cultural and financial situation of the country without undermining the core elements identified by science as crucial for effective outcomes.

Principle 5: Responding to the needs of special subgroups and conditions

Subgroups affected by SUDs require special consideration and often specialized care. Such groups include adolescents, elderly persons, women, pregnant women, sex workers, sexual and gender minorities, ethnic and religious minorities, individuals in criminal justice systems and individuals that are socially marginalized. Working with special groups requires differentiated and individualized treatment planning that considers their unique vulnerabilities and needs. Children/adolescents should not be treated in adult settings. Women entering treatment should have special protection and services.

Principle 6: Ensuring good clinical governance of treatment services and programmes for SUDs

Treatment services for SUDs require an accountable and effective method of clinical governance that facilitates the achievement of treatment goals and objectives. Treatment policies, programmes, procedures and coordination mechanisms should be defined in advance and clarified to all therapeutic team members, administrations and target populations. Staff attrition in this field is recognized and organizations need to have in place a variety of measures to support their staff and encourage the provision of good services.

Principle 7. Integrated treatment policies, services, procedures, approaches and linkages must be constantly monitored and evaluated

SUDs are a complex and multifaceted health problem requiring a comprehensive system of care that integrates drug use, mental health and primary care treatment through a multidisciplinary team that coordinates psychiatric and psychological care, social services support work, support for housing and job skills/employment, legal assistance and specialist health care (HIV, hepatitis, other infections). The treatment system must be constantly monitored, evaluated and adapted. This requires planning and implementation of services in a logical, step-by-step sequence that insures the strength of links between *(a)* policy; *(b)* needs assessment; *(c)* treatment planning; *(d)* implementation of services; *(e)* monitoring of services; *(f)* evaluation of outcomes; and *(g)* quality improvements.

Source: UNODC-WHO, *International Standards for the Treatment of Drug Use Disorders*, 2016.

It is beyond the scope of this document to provide an in-depth clinical discussion of every potential treatment modality for the different substances used by rural people with substance use disorders. Rather, the intent of this chapter is to:

- Provide an overview of the essential components of a regional comprehensive system of substance use treatment and care in rural settings, building on a base of primary care-oriented treatment service at the local level.
- Discuss the adaptation and implementation of services to facilitate their delivery in resource-constrained rural settings.
- Explore ways to connect rural service systems to regional and national substance use systems of care to provide the full continuum of substance use treatment services.
- Investigate options to integrate substance use services with the mental health and acute care health systems.
- Review the use of technology to expand access to substance use services at the local level by reducing travel burdens to distant services options; integrate local services with regional and national substance use, mental health and acute care health systems; and monitor the effectiveness of substance use treatment and care for rural populations.

The goal is to ensure that rural people with substance use disorders receive the full range of coordinated, evidence-based services necessary to treat their disorders at the appropriate stage of their conditions and to reduce the negative health consequences caused by substance use. People living in rural communities deserve the same ease of access to the same standard of quality of care for substance use disorders that is available to individuals living in urban areas. The development of an effective rural system of substance use treatment and care requires that treatment services meet the following criteria:

- Available to all patients with substance use disorders living in rural communities
- Accessible to individuals in need by overcoming barriers imposed by geography, stigma, demand (e.g., waiting lists, closed service panels) and attitudes towards certain patient populations
- Affordable for both individuals in need as well as for the health-care system and society as a whole
- Evidence-based with a proven track record of effectiveness
- Diversified, offering a range of interventions in various settings and for various stages of the disease in order to address the diverse needs of all people with substance use disorders[187]

Given the previously discussed challenge of developing viable treatment programmes in rural communities, it is highly unlikely that rural service systems will be able meet all of these criteria for all patients and all conditions at any given time. Therefore, the development of rural systems of care requires:

- A regional system focus offering local services that meet the greatest need at the community level and that are sustainable over time.
- Creating access to more specialized treatment services in larger geographic areas where the population base and density are sufficient to ensure viability.

[187] United Nations Offices on Drugs and Crime/World Health Organization. *International Standards for the Treatment of Drug Use Disorders*, March 2016, Geneva, Switzerland: United Nations Office on Drugs and Crime.

BOX 5.2. ASPECTS TO BE EXAMINED WHEN PLANNING AND IMPLEMENTING SUBSTANCE USE DISORDER-RELATED SERVICES IN RURAL COMMUNITIES.

Availability of substance use disorder (SUD) services in rural settings

- Fewer centres: Only 8.9 per cent of centres are located in rural areas in the United States
- Restricted range of services—single treatment model
- Specialized services may not be available for racial minorities, women etc.
- SUD treatment is offered in a mental health treatment setting
- Economic viability restricts availability
- Case management can be a challenge
- Lack of resources—smaller budgets and staff team

Availability: staff issues

- Difficulty in finding qualified staff
- Lack of training opportunities and continuing education
- Challenges in making clinical supervision available
- Retaining staff—reduced options for growth, restricted educational and work opportunities for their families
- Difficult work conditions—work load, long hours, difficult terrain, professional isolation increasing risk of burnout
- Affects availability of quality services

Accessibility

- Need to travel long distances
- Poor connectivity, bad roads and climatic barriers
- Lack of public transport facilities
- Impacts continuity of services and recovery
- Poor access to technology can hamper access to information about services as well as services that can be accessed through phone and Internet
- Waiting lists

Affordability

- Lack of funding
- Cost of treatment/insurance coverage
- Few non-profit service providers or low-cost options
- Stock or supply of essential medications can be unstable, even in government-run units, and out-of-pocket expenses cause hardship

Acceptability

- Stigma leading to guilt, shame can increase denial and interfere with treatment as well as recovery
- Cultural stereotypes and internalized stigma can lead to treatment avoidance
- Issues of anonymity
- Attitudes, values and knowledge can influence choices

Acceptability: cultural factors

- Race, ethnicity, religion and community norms influence substance use patterns as well as treatment
- Health beliefs, healing practices, views of substance use, rituals that involve substance use vary
- Treatment staff's level of cultural competence can influence acceptability of treatment—communication, physical proximity, level of formality, expression of feelings, etc.
- Ensuring culturally appropriate tools and treatment approaches is essential

5.5 Understanding substance use and addiction

Drug dependence is considered a multifactorial health disorder that often follows the course of a relapsing and remitting chronic disease.[188] In its fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, the American Psychiatric Association has combined the categories of substance use and substance dependence contained in previous editions into a single substance use disorder measured on a continuum from mild to severe.[189] While each specific substance is classified as a separate use disorder (e.g., opioid use disorder, alcohol use disorder, etc.), nearly all substance disorders are diagnosed based on the same primary criteria.

Individuals with SUDs experience different patterns of problem use, as described by Thorley's model of substance use and related harms (figure 5.2),[190] which identifies three levels of substance use:

- Intoxication: harms arising from a single occasion of use
- Regular use: harms arising from regular or excessive use over time
- Dependence: harms arising from the inability to stop using drugs and/or other substances

Through the use of overlapping circles, Thorley's model recognizes that there are not unique problem areas and that individuals can have problems in multiple areas throughout the course of their disorders.

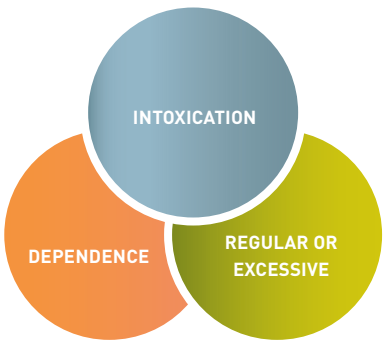
Problems of intoxication involve the consequences of use while under the influence of a substance, typically involving impaired judgment. These harms can be:

- Physical (e.g., overdose or poisoning, falls, accidents, drowning, pregnancy or exposure to sexually transmitted diseases through unprotected sexual encounters, and exposure to blood borne illnesses through the sharing of injecting paraphernalia, etc.)
- Social (e.g., arguments, fighting, domestic violence, child neglect)
- Legal (e.g., driving under the influence, arrest for possession, assaults, accidental deaths, other criminal behaviour)

Problems from regular or excessive use are cumulative and reflect the exacerbation of the problems of intoxication including:

- Physical and mental health issues (e.g., exacerbation of co-occurring mental health issues; development of psychological and psychiatric problems, sleep disorders, brain damage, diabetes and heart disease; and deterioration of daily functioning)
- Social problems (e.g., homelessness, job loss, family issues, inability to care for children, loss of parental custody, financial problems, social ostracization)

FIGURE 5.2 THORLEY'S MODEL OF DRUG USE AND RELATED HARMS



Source: Modified from: Australian Government Department of Health. (2004). Module 6: How Drugs Work. Available: http:/www.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-front6-oh-toc~drugtreat-pubs-front6-oh-11~drugtreat-pubs-front6-oh-11-2.

[188] Ibid.

[189] Norko, M. and Fitch, W.L. "DSM-5 and substance Use Disorders: Clinicolegal Implications", *J Am Acad Psychiatry Law* 42:443-52, 2014

[190] Thorley, A. "Medical Responses to Problem Drinking", *Medicine:* (3rd Series), 35: 1816-1822.

- Legal (e.g., multiple arrests, risk of incarceration for substance use, drug dealing and criminal behaviour to support use habits)

For those with more severe substance use disorders that involve physical and mental dependence (previously referred to as addiction), the consequences build over time and with extended use. These problems include:

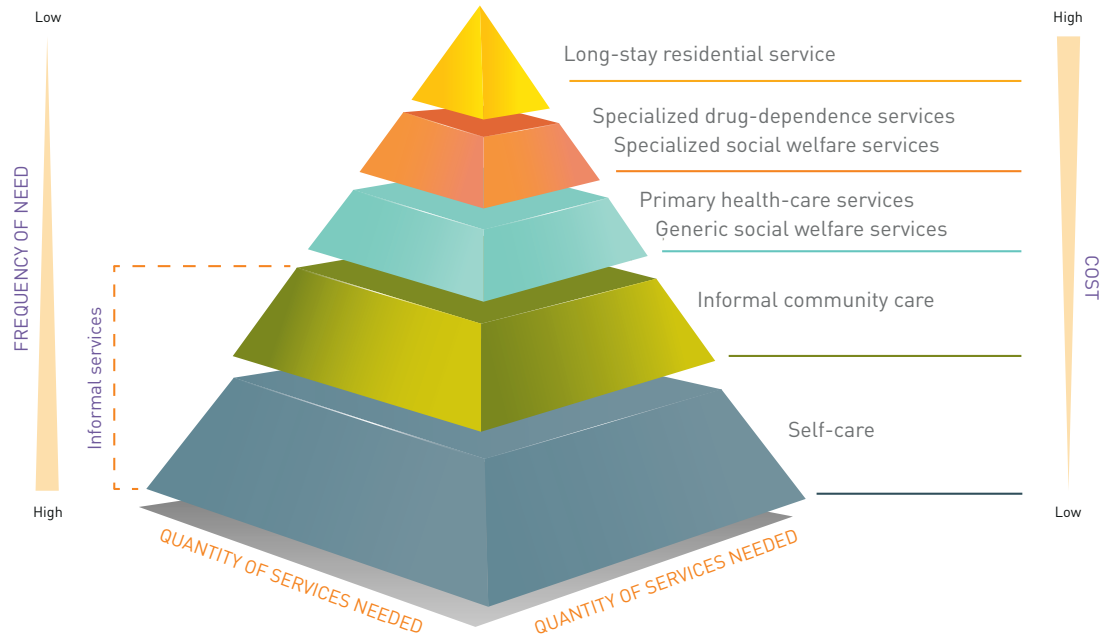
- Withdrawal when attempting to cease use
- Mental disorders such as phobias, anxiety and psychotic episodes
- Deterioration of physical health and capacity; severe deterioration of daily functioning; breakdown of social, family and work-related commitments; and long-term legal problems

The path from periodic substance use to dependence is not preordained for all users. Many who experiment with substance use do not become regular users. Similarly, many regular users do not become dependent.

5.6 Developing rural community-based systems of substance use treatment and care

The challenge of developing treatment services in rural settings involves moving from the smaller, lower-resourced local community to connect upward to the larger system level. UNODC's adaptation of the World Health Organization's pyramid of mental health services for a system of care for substance use (figure 5.3) provides a useful starting point for conceptualizing an effective substance use treatment system of care by building from the rural community level up.

FIGURE 5.3 SERVICE ORGANIZATION PYRAMID FOR SUBSTANCE USE DISORDER TREATMENT AND CARE



Source: United Nations Office on Drugs and Crime (2014). *Guidance for Community-Based Treatment and Care Services for People Affected by Drug Use and Dependence in South-East Asia*.

It does so by:

- Focusing on a community-based system of care that acknowledges the view of substance use disorders (including dependence) as a chronic, relapsing disease (figure 5.4).
- Recognizing the value of informal services (i.e., self-care and informal community care) and the primary care system in treating individuals with less severe substance use disorders.
- Using technology (e.g., tele-health, mobile phones, etc.) to expand access to more specialized services at the local level in order to better reach rural settings.
- Recognizing the need for specialty substance use services and residential care for individuals with more severe SUDs delivered at a regional level and requiring a larger population base to sustain them.

The WHO/UNODC substance use disorder service organization pyramid also provides a framework for the development of a regional system of substance use treatment and care that includes at a lower level the realities of rural settings. Under a regional system of care framework:

- Informal and primary care services, which are needed by the greatest number of people and at the lowest cost, can be provided in the local community.
- Specialized drug use treatment and long-term residential services, which are needed only by a proportion of people with drug use disorders and are more expensive to operate, should be organized on a regional basis.

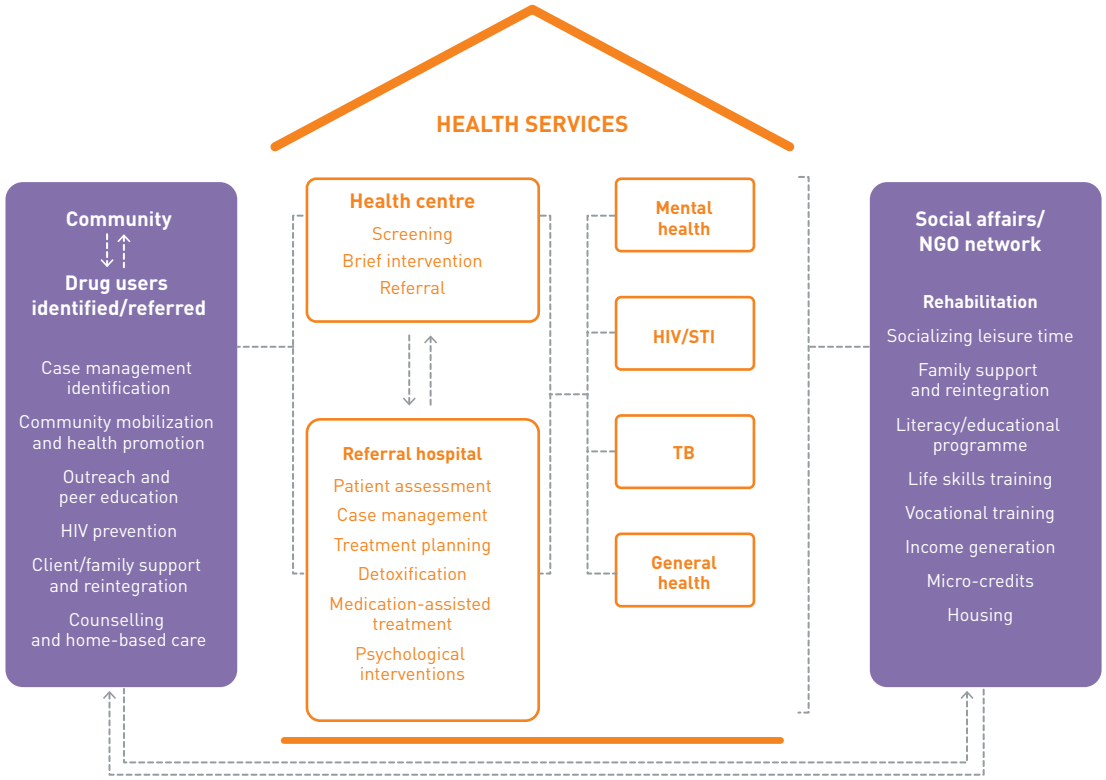
In a community-based network, broad partnerships can be formed between different service providers from the

BOX 5.3. KEY PRINCIPLES OF COMMUNITY-BASED TREATMENT

- The development of a continuum of care offering a broad range of interventions from outreach and basic support to social reintegration—with no "wrong door" for entry into the system
- Delivery of services in the community—as close as possible to where substance users live
- Minimal disruption of social links and employment
- Integrated into existing health and social services
- Involves and builds on community resources, including families
- Participation of people who are affected by substance use, their families and the community-at-large in service planning and delivery
- Comprehensive approach, taking into account different needs (health, family, education, employment, housing)
- Close collaboration between civil society, law enforcement and the health sector
- Provision of evidence-based interventions
- Informed and voluntary participation in treatment
- Respect for human rights and dignity, including confidentiality
- Acceptance that relapse is part of the treatment process and will not stop an individual from re-accessing treatment services

Source: United Nations Office on Drugs and Crime (2014). *Guidance for Community-Based Treatment and Care Services for People Affected by Drug Use and Dependence in South-East Asia*.

FIGURE 5.4 MODEL OF COMMUNITY-BASED TREATMENT



Source: UNODC Manual for the Training of Policymakers on the Nature, Prevention and Treatment of Drug Use Disorders, 2016, page 183.

public health and social services sectors as well as with other community stakeholders, as can be seen from the model in the figure above. This model shows that the referral hospital is located at regional level and the health centre (primary health service) and informal services (community and NGOs) are situated at the local level.

Decisions on service mix and location of regional services should reflect the needs of surrounding rural communities and prevailing patterns of substance use and recognize geographic realities, transportation challenges and local travel patterns. These decisions should also balance the need for an appropriate continuum of services to address the full range of needs for rural residents against the realities of serving a population base sufficient to maintain a viable service mix. Finally, this framework suggests the role of technology in connecting providers and patients in rural settings to the more distant, regionalized specialty services.

5.7 Addressing resource constraints in rural community-based systems of substance use treatment and care

In developing a community-based system of care, it is important to acknowledge the reality of the resource constraints in rural settings. The limited availability of resources and the small population base of many rural settings limit the ability to support specialized services. A central goal of a regional system of

substance use treatment and care is to match the right level of services to an individual's needs and to support existing services such as primary health care to deliver elements of evidence-based drug dependence treatment, starting with screening and brief interventions to slightly more complex interventions, thereby minimizing the unnecessary use and related costs of specialty treatment services by those whose needs can be appropriately met in a less intensive system of care.

Doing so provides a better match to each individual's needs, reduces the overall cost of care, reduces the burden of travel for those whose needs can be effectively treated in the community and conserves the use of scarce specialty treatment resources for

CASE STUDY

PROVIDING DETOXIFICATION AND FOLLOW-UP FOR ALCOHOLISM FOR AND WITH RURAL COMMUNITIES, SOUTH INDIA, RURAL AREAS

Objective: to make a cost-effective community treatment programme, especially for villagers, available at their doorstep (18 years of operation).

Project background:

The TT Ranganathan Clinical Research Foundation—also known as the TTK Hospital—has been working in the field of addiction for the past 27 years. In 1989, a schoolteacher in a rural village in Tamil Nadu, India, drew the attention of the TTK hospital team to the prevalence of alcoholism in rural areas, resulting in students dropping out of school. The team recognized the difficulty villagers faced in accessing treatment that was only available in cities and big towns. So they designed a community programme especially for people in rural areas, "making treatment available at the doorstep." With the success of the first programme, conducting community programmes became one of the centre's main activities. Each year, six on-site programmes are held in rural communities, mostly for alcohol-dependent patients. On an experimental basis, two camps have been set up for injecting drug users under the sponsorship of UNODC. Two training programmes were also organized for functionaries of NGOs in an attempt to provide exposure to issues related to the "camp approach" for injecting drug users.

Lessons learned:

Critical components in organizing camp programmes:

- Working in partnership with the community/host organization, prior to, during and after the camp
- Identifying alcoholics living in one specific area through multiple entry points
- Motivating the client and providing home detoxification
- Developing a comprehensive treatment programme and providing it in the community itself
- Providing support to family members through a separate programme
- Creating support in the community and maintaining momentum

Outcome/achievements: health conditions have improved tremendously.

Clients work regularly, assume household responsibilities and contribute to the well-being of their families. They have electricity in their homes; repay debts; send their children to school; and get their daughters married. There is absolutely no violence, and they enjoy the respect of their community.

Source: UNODC, Treatnet: International Network of Drug Dependence Treatment and Rehabilitation Resource Centres. Good practice document Community Based Treatment Good Practice, Vienna, September 2008, page 78, Downloaded from: http://www.unodc.org/docs/treatment/CBTS_AB_24_01_09_accepted.pdf

those with more severe substance use disorders. Tele-health and mobile technology, as well as travelling (also known as mobile or itinerant) services can be used to expand access to more specialized services at the local level.

The previous case study describes an approach to providing treatment for alcohol disorders in involving local communities and a specialized treatment service based in a larger city.

This next study outlines a tool developed jointly by the Alaska Department of Health and Social Services and the Alaska Mental Health Trust Authority in order to classify the levels of community state-wide as part of its mental health and substance use planning process.

CASE STUDY

CLASSIFICATION OF THE LEVELS OF COMMUNITY, ALASKA

Alaska, as a United States state, has a great deal in common with many rural countries across the globe: a large geographic land mass with many small, remote villages, significant travel barriers, highly dispersed populations, high rates of poverty, resource shortages and a large population of indigenous people. As part the state's planning process, state public health and mental health planning officials created this tool to classify communities to develop a realistic understanding of what can be supported at the individual community level and to build a regional system of care.

Table 5.1 describes the components of Alaska's system of care and what services can be supported at different community levels. This gap analysis highlights key issues in the development of rural substance use systems of care:

- Many small rural settings do not have the population base or resources to sustain a basic level of substance use services.
- The more specialized services require a greater population base to be sustainable.
- Substance use services in rural settings must be built from the ground up, focusing on self-care, informal community care and, where available, primary care services.
- To facilitate the delivery of the full continuum of services needed by those suffering from SUDs, a regional service strategy is required.
- Given the distance of many rural settings from larger communities where specialized SUDs services are typically located, the use of technology to support and integrate the different parts of the service system becomes critical.
- Transportation strategies are also critical to facilitate access to specialty services, particularly those requiring an overnight stay (e.g., inpatient or residential services).

TABLE 5.1 GAPS IN MENTAL HEALTH AND SUBSTANCE USE SERVICES IN ALASKA, BY COMMUNITY LEVEL

Level of community/ characteristics	Level I: Frontier/village	Level II: Subregional centre or town	Level III: Regional centre or small city	Level IV: Urban centre	Level V: Metropolitan area
Population	25+ in immediate community	500+ in immediate community; a subregional population of at least 1,500	2,000+ in immediate community, providing services to a regional population of at least 5,000	25,000+ in immediate community providing services to a larger regional or state-wide population	200,000+ in immediate community
Inpatient	Not feasible	Not feasible	Sometimes available (with gaps)	Available	Available
Residential services	Not feasible	Not feasible	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)
Emergency/ assessment/ outpatient	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)	Available	Available
Direct and rehabilitation	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)	Sometimes available (with gaps)	Sometimes available (with gaps)
Specialty services					
Children's services	Minimally available	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)	Sometimes available (with gaps)
Specialized medical services	Not feasible	Not feasible	Available	Available	Available
Transportation services	Minimally available	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)	Sometimes available (with gaps)
Outreach/ screening	Minimally available	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)	Sometimes available (with gaps)
Community prevention, education, public awareness	Minimally available	Minimally available	Sometimes available (with gaps)	Sometimes available (with gaps)	Sometimes available (with gaps)

Legend:
Available (adequate): The service is widely available and meets most needs.
Sometimes available (gaps exist): The service is generally available in many communities of this size (but not in all such communities, or is not available to all residents, given resource limitations).
Minimally available: The service is mostly unavailable in communities of this size.
Not feasible: There is no general agreement that these services are feasible at this level of community.

5.8 Developing a continuum of substance use services in a rural community-based system of care

This section will review the component services that make up a continuum of substance use services in a rural community-based system care. A continuum of care is a treatment system with multiple levels of services appropriate to the needs of individuals with substance use disorders at different stages of their illness.[191] Patients enter treatment at a level consistent with their needs and move between levels of care as their needs change. An effective continuum of care facilitates the transfer of patients between levels of care and uses the efficient transfer of the patients' records to facilitate that movement.

The American Society of Addiction Medicine (ASAM) has identified five primary levels in a continuum of care for substance use treatment:

- Level 0.5: Early intervention services
- Level I: Outpatient services
- Level II: Intensive outpatient/partial hospitalization services (Level II is subdivided into levels II.1 and II.5)
- Level III: Residential/inpatient services (Level III is subdivided into levels III.1, III.3, III.5, and III.7)
- Level IV: Medically-managed intensive inpatient services

A comprehensive continuum of care contains multiple entry points in both primary and specialty care settings, with the choice between the two driven by the level of patient acuity and availability. A continuum of substance use treatment and care typically includes:[192]

- *Outreach services*. An affirmative process to reach out and engage patients in treatment for his or her substance use disorder.
- *Screening, brief intervention and referral to treatment (SBIRT)*. An evidence-based intervention use to identify, reduce and prevent problem use, use and dependence on alcohol and drugs, typically in primary care settings.[193]
- *Detoxification (detox)*. A set of interventions to manage acute intoxication and withdrawal for individuals who are dependent on substances such as opioids, benzodiazepines (mood stabilizers) or alcohol. Detox seeks to minimize the negative effects and discomfort caused by withdrawal and can be provided on an inpatient, residential, or outpatient basis depending on a patient's acuity and needs.[194]
- *Structured psychosocial supports,* including cognitive behavioural therapy (CBT), motivational interviewing (MI) and relapse prevention (RP), have a developing evidence-base for many drugs. Psychosocial supports are more effective when used in combination with pharmacological treatment, particularly for opioid users.
- *Residential treatment and therapeutic communities.* Structured living environments designed to support abstinence and recovery from substance use with the length of stay determined by the patient's acuity and needs.

[191] Mee-Lee, D. and Shulman, G.D. "The ASAM placement criteria and matching patients to treatment", in: Graham, A.W.; Schultz, T.K.; Mayo-Smith, M.F. and others, eds. *Principles of Addiction Medicine, Third Edition*. Chevy Chase, MD: American Society of Addiction Medicine, 2003, pp. 453-465.

[192] National Quality Forum. "Evidence-based treatment practices for substance use disorders: Workshop proceedings", Washington, DC: National Quality Forum, 2005.

[193] Substance Abuse and Mental Health Services Administration. "Systems-Level Implementation of Screening, Brief Intervention, and Referral to Treatment", Technical Assistance Publication (TAP) Series 33. HHS Publication No. (SMA) 13-4741. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013.

[194] Center for Substance Abuse Treatment. "Detoxification and Substance Abuse Treatment", Treatment Improvement Protocol (TIP) Series 45. DHHS Publication No. (SMA) 06-4131. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006.

- *Pharmacological treatments* are most effective when used in combination with psychosocial supports for the treatment of opioids (e.g., methadone, buprenorphine, naltrexone and naloxone), alcohol (e.g., naltrexone, composite and disulfiram) and tobacco (e.g., nicotine replacement therapies, bupropion and varenicline). These medications have different uses, including facilitating withdrawal, controlling cravings, reversing overdoses (naloxone) and/or reducing the neurological "benefits" of substance use (naltrexone).
- A combination of outpatient, intensive outpatient, partial hospitalization, residential, inpatient and medically-managed intensive inpatient services.

As discussed earlier, there are significant challenges involved with developing a continuum of substance use services serving rural areas. Ideally, local substance use treatment services should be based in primary care and/or general care settings. Specialized services are typically better provided on a regional basis covering a larger population and allowing for a more efficient use of scarce personnel and resources. These recommendations are also backed by studies such as "Enhancing the care continuum in rural areas: survey of community health center-rural hospital collaborations" (United States),[195] which conclude that the rural health care services continuum may benefit from increased collaborations between community health centres (CHCs) and critical access hospitals (CAHs), specifically in the United States, and potentially beyond. Findings indicate that collaborations between CAHs and CHCs are a largely untapped resource.

5.9 Expanding access to substance use treatment services by enhancing primary care capacity

As reflected in UNODC's service organization pyramid, the primary care sector is an important foundational component of a regional substance use treatment system. A number of evidence-based interventions provide models to expand the capacity of primary care providers to deliver substance use treatment. Examples of these models include the previously described SBIRT tool to enhance the early identification and treatment of substance use disorders, medication-assisted therapy using buprenorphine and naltrexone to treat opioid use disorders, and the development of integrated substance use, mental health and primary care services.[196] Individuals living with a substance use disorder frequently suffer from one or more physical health problems such as lung disease, hepatitis, HIV, cardiovascular disease and cancer, and mental disorders such as depression, anxiety, bipolar disorder and schizophrenia.[197] Treatment of substance use disorders in an integrated setting allows for the treatment of the full range of a patient's physical health and substance use treatment needs and is typically less stigmatizing than treatment in a specialty substance use treatment programme.

[195] Samuels M.E., Xirasagar S., Elder K.T. and Probst J.C., *J Rural Health.* 2008, Winter; 24(1): 24-31. doi: 10.1111/j.1748-0361.2008.00133.x. Available: https://www.ncbi.nlm.nih.gov/pubmed/18257867, Downloaded: 10/11/16.

[196] SAMHSA/HRSA Center for Integrated Health Solutions. "Innovation in Addiction Treatment: Addiction Treatment Providers Working with Integrated Primary Care Services", Washington, DC: SAMHSA/HRSA Center for Integrated Health Solutions, 2013, May.

[197] Mertens, Jr.; Lu, Y.W.; Parthasarathy, S. and others. "Medical and psychiatric conditions of alcohol and drug treatment patients in an HMO", 2003, *Arch of Internal Medicine*, 63:2511-2517.

5.10 Specific treatment issues and populations

The shortages of substance use providers in rural settings creates a challenge in serving the needs of certain populations, including people with co-occurring medical and psychiatric issues; women, children and adolescents; people in the criminal justice system; and indigenous peoples. Rural providers frequently are generalists caring for a wide range of patients. They may not be sufficiently specialized to address the unique needs of those populations. For example, studies have found that 20 per cent of all persons in the general population with a substance use disorder had at least one independent (i.e., non-substance-induced) mood disorder, and 18 per cent had at least one current independent anxiety disorder.[198]

Individuals with co-occurring disorders tend to be worse off than those with substance use or mental disorders. They are more likely to suffer from poor health, high unemployment, unstable housing and a history of suicide attempts. At the same time, they are less likely to receive appropriate care, particularly in rural settings without specialty mental health services.[199]

FIGURE 5.5 CO-OCCURRING MEDICAL AND PSYCHIATRIC ISSUES

[198] Mericle A.A., Ta V.M., Holck P. and Arria A.M. "Prevalence, Patterns, and Correlates of Co-Occurring Substance Use and Mental Disorders in the US: Variations by Race/Ethnicity", *Comprehensive Psychiatry*. 2012;53(6):657-665. doi:10.1016/j.comppsych.2011.10.002.

[199] Kamenov, K., Cabello, M., Caballeri, F.F. and others. "Factors related to social support in neurological and mental disorders", *PLoS ONE* 11(2): e0149356. doi:10.1371/journal.pone. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0149356

CASE STUDY

FAMILY SPIRIT, UNITED STATES[a]

Family Spirit is a home-visiting intervention for American Indian teenage mothers—who generally experience high rates of substance use, school dropout and residential instability—from pregnancy through 36 months post-partum. The intervention is designed to increase parenting competence (parenting knowledge and self-efficacy), reduce maternal psychosocial and behavioural risks that could interfere with effective parenting (drug and alcohol use, depression, externalizing problems) and promote healthy infant and toddler emotional and social adjustment. It also aims to prepare toddlers for early school success, promote parents' coping and life skills, and link families to appropriate community services.

The intervention consists of 63 structured lessons delivered one-on-one by health educators in participants' homes, starting at about 28 weeks of gestation and continuing to 36 months post-partum. The lessons address topics such as prenatal care, infant care, child development, family planning and healthy living, and are provided by lay professionals known as health educators. Each home visit lasts 60 minutes and includes a warm-up conversation, lesson content, question-and-answer period, and review of materials and handouts. Health educators are trained American Indian paraprofessionals. Although Family Spirit targets many factors, it influences reductions in substance use for the mothers.

The programme has received a score of four (out of four points) for readiness for dissemination by SAMHSA's National Registry of Evidence-Based Programs and Practices. Each lesson includes an overview for Health Educators to review prior to a home visit that covers the objectives of each lesson and materials needed. A reference manual supports implementation by providing additional information about the lessons. Training materials are comprehensive and engaging and highlight key content for trainers to reinforce with trainees. During the training, prospective health educators are rigorously evaluated on their comprehension of programme materials and capacity to administer the programme. Maternal depression and child development screening instruments are also included.

Results: Mothers participating in the randomized clinical trial demonstrated lower use of marijuana and any other illegal drugs from 2 to 36 months post-partum, reductions in mothers' depressive symptoms, improved parenting knowledge, improved perceptions of infant and toddler behaviour, and increased parenting self-efficacy. Participation in Family Spirit also reduced children's clinical risk of future problems including internalizing and externalizing behaviours as well as emotional dysregulation.

Source: SAMHSA's Registry of Evidence-Based Programs and Practices. Available: http://legacy.nreppadmin.net/ViewIntervention.aspx?id=361. Downloaded: 5 December 2016.

[a] John Hopkins Bloomberg School of Public Health. "Family Spirit", available: http://www.jhsph.edu/research/affiliated-programs/family-spirit/. Downloaded: 4 December 2015.

Women, children and adolescents also create challenges for rural substance use treatment systems. In addition to the challenges created by shortages of substance use providers with experience in treating women, children or adolescents, cultural prohibitions against treating women, children or adolescents in the same settings as men further burden already stressed delivery systems.[200] At the same time, women, children and adolescents have unique biopsychosocial needs that characterize the issues they face in treatment.

The case study above provides an example of an evidence-based prevention programme also contributing to treatment, which targets the needs of American Indian teenage mothers, who often experience high rates of substance use, school dropout and residential instability.

[200] Center for Substance Abuse Treatment. "Substance Abuse Treatment: Addressing the Specific Needs of Women", Rockville (MD): Substance Abuse and Mental Health Services Administration (United States); 2009. (Treatment Improvement Protocol (TIP) Series, No. 51.) Chapter 1: Creating the Context. Available from: https://www.ncbi.nlm.nih.gov/books/NBK83256/

Services for people in the criminal justice system

A 2004 survey by the United States Department of Justice found that approximately 70 per cent of state and 64 per cent of federal prisoners regularly used drugs prior to incarceration and that 25 per cent of violent offenders in state prisons committed their offences under the influence of drugs.[201] Treatment offers the best alternative for interrupting the drug use/criminal justice cycle for offenders with substance use disorders. Although incarceration provides an excellent opportunity to provide substance use and mental health services, shortages of specialty substance use and specialty mental health providers means that many of these individuals do not receive the services they need. Failure to provide treatment is likely to create a cycle of relapse, continued criminal behaviour and further incarceration.[202, 203] Treatment also reduces the costs associated with lost productivity, crime and incarceration caused by drug use. The evidence shows that treatment can help offenders to change their attitudes, beliefs and behaviours; avoid relapse; and successfully remove themselves from a life of substance use and crime. The evidence also shows that mandated treatment can be just as effective as voluntary admission to rehab centres. Investment in programmes to serve this population can reduce ongoing health- and after-care, criminal justice and societal costs, particularly in low-resource rural areas.

Indigenous communities

Indigenous communities also create challenges for rural substance use systems of care. As discussed in previous chapters on substance use prevalence and prevention in rural areas of low- and middle-income countries, indigenous people often face discrimination and suffer from a range of substance use disorders.[204] Race, ethnicity, religion and community context play an important role in understanding substance use for indigenous people in rural settings and implementing culturally appropriate prevention and treatment interventions.[205] These cultural influences guide group behaviour and influence their use of substances as well as their willingness to seek treatment.[206] At the same time, they often face similar discrimination when attempting to access substance use treatment services. To be effective, treatment services should accommodate the religious and cultural contextual issues of indigenous people. Tribal groups, families, traditional healers, religious entities, legal authorities and local health-care providers should be engaged in the development of culturally relevant substance use treatment services.

[201] National Institute on Drug Abuse. "Drug Addiction Treatment in the Criminal Justice System", available: https://www.drugabuse.gov/related-topics/criminal-justice/drug-addiction-treatment-in-criminal-justice-system. Downloaded: August 8, 2016.

[202] Giertsen, H., Nylander, P-Å., Asmussen, Frank, V. and others. (2015). "Prisoners' experiences of drug treatment and punishment in four Nordic countries", *Nordic Studies on Alcohol and Drugs* 2015 (32): 2, 145-164. http://www.degruyter.com/view/j/nsad.2015.32.issue-2/issue-files/nsad.2015.32.issue-2.xml.

[203] Tourunen, J., Weckroth, A. and Kaskela, T. (2012). "Prison-based drug treatment in Finland: History, shifts in policy making and current status", *Nordic Studies on Alcohol and Drugs*, 29; 575-588.

[204] Catto M., Thomson N. (2008). "Review of illicit drug use among Indigenous people", *Australian Indigenous Health Bulletin*; 8(4), article 1.

[205] Westermeyer J. "Cross-cultural aspects of substance abuse", in: Galanter M., Kleber H.D., eds. *Textbook of Substance Abuse Treatment*. Arlington, VA: American Psychiatric Publishing; 2004:89-98.

[206] Horvath, A., Misra, K., Epner, A. and Cooper, G. Edited by Zupanick, C. "Addiction And Sociological Influences: Culture And Ethnicity", available: http://www.amhc.org/1408-addictions/article/48420-addiction-and-sociological-influences-culture-and-ethnicity.

5.11 The use of technology, lay health care professionals and itinerant teams to expand access to substance use treatment services in rural settings

Technology has the potential to address access issues created by shortages of specialty substance use treatment services in rural areas. The evidence for the use of technology to expand access to psychosocial treatment services has been promising. Examples include computer-based training for cognitive behavioral therapy (CBT4CBT), an Internet-delivered behavioural intervention called the Therapeutic Education System (TES) consisting of 62 interactive multimedia modules aimed at increasing positive reinforcement for non-drug using activities, and a smart phone app known as Addiction—Comprehensive Health Enhancement Support System (A-CHESS) that offers emotional and therapeutic support on an around-the-clock basis.[207]

Another telecommunications-based application that has been successfully implemented in rural areas is Project ECHO, an evidence-based consultative and educational model serving providers through 44 international hubs in 21 counties.[208] Project ECHO supports rural providers in Argentina, Australia, Brazil, Canada, India, Kazakhstan, Kenya, Kyrgyzstan, Namibia, the United Republic of Tanzania, the United States, Uruguay and other countries by providing consultative support and education to increase their capacity. Project ECHO is different to tele-health in that it does not involve the provision of direct service. Rather, it links specialists at academic or tertiary care "hubs" with primary care clinicians (the "spokes") in local communities through scheduled Project ECHO clinics which serve as virtual grand rounds/case reviews. The specialists often mentor the community providers who have the opportunity to present and receive feedback on difficult cases.

Tele-health, in comparison, has been used to provide access to specialty substance use and mental health providers as well as providing peer support services. Based on evidence accumulated from pilot projects in rural areas of South Africa, telepsychiatry has the potential to play an important role in treating substance use.[209] Chakrabarti reached a similar conclusion following an extensive review of videoconferencing-based telepsychiatry for mental health and substance use issues.[210] Although the author noted some limitations in the evidence base, he concluded that advances in research and technology are likely to overcome the challenges to telepsychiatry and recommended the use of the technology as an adjunct to conventional care through the development of hybrid models which incorporate traditional and telepsychiatric forms of mental health and substance use treatment and care.

Similarly, videoconferencing, mobile apps, advice lines, telephone and Skype mentoring and support programmes, and Internet-based services can be used to inexpensively engage rural patients in their treatment through the provision of a range of specialty and mental health-based services. Fairburn and Patel discussed the evolving role of these expanded forms of digital technology in low resource settings and noted

[207] Luo, S. and Campbell, A. Will Technology Change the Future of Addiction Treatment? Available: http://www.rehabs.com/pro-talk-articles/will-technology-change-the-future-of-addiction-treatment/. Downloaded: August 8, 2016.

[208] University of New Mexico School of Medicine. ECHO Hubs and Superhubs: Global. Available: http://echo.unm.edu/locations-2/echo-hubs-superhubs-global/. Downloaded: 23 January 2017.

[209] Wynchank, S. and Fortuin, J. "Telepsychiatry in South Africa—Present and Future", *South African Journal of Psychiatry.* 16(1): 16-19. March 2010.

[210] Chakrabarti, S. "Usefulness of telepsychiatry: A critical evaluation of videoconferencing-based approaches", *World Journal of Psychiatry.* 5(3): 286-304. 22 September 2015.

CASE STUDY

SUPPORTING RURAL SUBSTANCE USE PROVIDERS IN INDIA THROUGH PROJECT ECHO

Problem: The need for specialty care in India, especially in rural settings, is substantial and growing.

Solution: Development of a "superhub" known as ECHO India. Mental health and substance use programming is sponsored by the National Institute of Mental Health and Neurosciences Virtual Knowledge Network.

Project ECHO (Extension for Community Healthcare Outcomes) is a telecommunications-based programme that links expert specialist teams at an academic hub with primary care clinicians in local communities. Primary care clinicians, the spokes in the Project ECHO model, become part of a learning community, where they receive mentoring and feedback from specialists. Together, they manage patient cases so that patients get the care they need. Users can access live multipoint videoconference sessions (NIMHANS ECHO Telehealth clinic) through any Internet-enabled laptop, smart phone or PC. The programme has been operational for two years.

Current behavioural health modules include: Skill Building in Treatment of Alcohol and Tobacco Use Disorders for Doctors and Counsellors; Adult ADHD; Social Therapies; Integrative Health; Screening and Assessment; Psychological Management; Forensic Aspects of Addiction; Biological Functions; and Substance Induced Psychotic Disorders.

Source: National Institute of Mental Health and Neurosciences Virtual Knowledge Network. Available: http://vlc.nimhans.ac.in/. Downloaded: October 6, 2016.

their potential to support the global dissemination of psychological treatments, including substance use treatments.[211] They predicted that digital interventions would find their place within systems of care and that online clinics would become more commonplace. They also called for additional research to identify best practice in each of the domains of technology assisted treatment.

Potential limitations to the use of these technologies in rural settings include limited high-speed Internet access, cellular phone coverage, electricity supplies, access to computers and other technology, and experience in using technology for these purposes. The above-mentioned studies confirm the continued existence of these issues in rural settings and call for the development of interventions to address these barriers.

Apart from technology-based solutions, providers have also begun to use lay health-care professionals to provide basic psychosocial care and other services, operating under the supervision of licensed health-care and substance use providers in rural settings lacking health-care professionals. Mutamba and colleagues[212] reviewed 15 studies using lay health providers to delivery psychosocial services. Six were located in rural developing countries. Although the number of studies was small and the evidence not conclusive, the authors concluded that the results

[211] Fairburn, C. and Patel, V. "The impact of digital technology on psychological treatments and their dissemination", *Behavior and Research* 88(2017): 19-25.

[212] Mutamba B.B., van Ginneken N., Smith Paintain L., Wandiembe S., Schellenberg D. "Roles and effectiveness of lay community health workers in the prevention of mental, neurological and substance use disorders in low and middle income countries: a systematic review", *BMC Health Services Research*. 2013;13:412. doi:10.1186/1472-6963-13-412.

CASE STUDY

USE OF CONVENTIONAL AND TELE-HEALTH SOLUTIONS TO ADDRESS DEPRESSION, PSYCHOSIS, POST-TRAUMATIC STRESS DISORDER AND SUBSTANCE USE IN THE BADAKSHAN PROVINCE OF AFGHANISTAN[a]

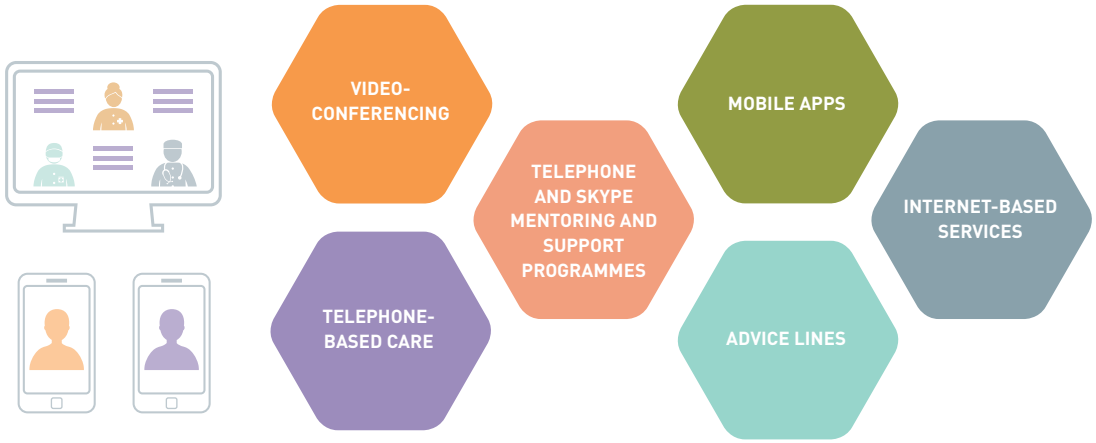
In recognition of the high rate of mental health and substance use issues, the Afghanistan Ministry of Public Health (MoPH) undertook a project to address four common mental health and substance use issues in the Badakshan Province of Afghanistan using both conventional and tele-health solutions.The interventions included town health meetings with communities, health-related text messages to young adults and the implementation of a mobile application to support health-care providers through project-provided smart phones. One hundred community health workers and 25 facility-based health-care providers used the application that included registration of patients in the community, blended learning tools, interactive treatment guidelines based on adaptation of the WHO Mental Health Action Gap Programme (mhGAP) and a teleconsultation capacity. Specific goals of this project were to: increase awareness and knowledge of mental health and substance use issues; reduce stigma against mental health in the community (particularly young adults); build mental health capacity of community and hospital health-care providers; encourage standardized care; and improve the referral process. A mid-project evaluation has provided evidence of significant reductions in stigma, improvements in awareness about mental health and substance use issues, improvements in the knowledge of health-care providers, and the acceptance of technology by community members and providers. The authors concluded that the intervention is practical and low cost, and shows the potential for scaling the application for use in other provinces.

[a]Khoja, S., Scott, R., Husyin, N., Durrani, H., Arif, M., Faqiri, F., Hedayat, E., and Yousufzai, W. "Impact of simple conventional and telehealth solutions on improving mental health in Afghanistan", *Journal of Telemedicine and Telecare,* 2016, 22(8): 495-498.

were promising enough to warrant further study. The Afghanistan case study discussed above also highlighted the use of community health workers to address mental health and substance use services. Similarly, Mendenhall and colleagues studied task-shifting where mental health care was provided by non-specialists in Ethiopia, India, Nepal, South Africa and Uganda.[213] They concluded that task-shifting to non-specialists is an appropriate and acceptable mental health-care strategy in low and middle income countries. In addition, using itinerant teams of health-care professionals travelling to rural communities to provide psychosocial care and other services may be a feasible solution to extending the coverage of treatment and care services to isolated locations, too.

[213] Mendenhall E., De Silva M.J., Hanlon C., et al. "Acceptability and feasibility of using non-specialist health workers to deliver mental health care: stakeholder perceptions from the PRIME district sites in Ethiopia, India, Nepal, South Africa, and Uganda", *Soc Sci Med* 2014; 118: 33–42.

FIGURE 5.6 TELE-HEALTH OPTIONS TO INCREASE ACCESS TO TREATMENT AND PEER SUPPORT SERVICES FOR RURAL POPULATIONS



5.12 Medication-assisted treatment for opioid use disorders

Medication-assisted treatment (MAT) for the treatment of opioid use disorders has been identified as a key model for the treatment of patients with opioid use disorders.[214,215] MAT uses opioid agonists (methadone) and partial agonists (buprenorphine) to block the euphoric and sedating effects of other opioids, reduce the craving for other opioids and mitigate the symptoms of opioid withdrawal, and has been shown to be more effective than detoxification and abstinence in reducing opioid use. Treatment programmes that include MAT and psychosocial intervention are more effective than those that include only one component. Although studies have documented the effectiveness of methadone maintenance in rural areas, they have also identified regional differences in retention rates and mortality for first-time users of MAT therapy.

[214] Eibl, J.; Gomes, T.; Martins, D. and others. "Evaluating the effectiveness of first-time methadone maintenance therapy across northern, rural, and urban regions of Ontario, Canada", *Journal of Addiction Medicine*, 9(6), Nov/Dec 2015: 440-446.

[215] Agency for Healthcare Research and Quality. Evidence-Based Practice Center Technical Brief Protocol: Medication-Assisted Treatment Models of Care for Opioid Use Disorder, 2016, February 24. Available: https://effectivehealthcare.ahrq.gov/ehc/products/636/2190/medication-assisted-treatment-protocol-160224.pdf. Downloaded: 5 December 2016.

Conclusion

The provision of substance use treatment services, particularly in rural areas, remains a challenge due to limited resources, few providers, long travel distances, stigma and a variety of cultural contextual factors that limit the willingness of rural people to seek treatment. Given these challenges, the use of a regional approach to the delivery of services is critical. Using a regional strategy, core services can and should be provided at the community level, and more specialized services can be delivered on a regional basis, where sufficient resources and population can be aggregated to ensure sustainability. It is also necessary to ensure the development of a coordinated continuum of services in rural areas to ensure that rural people have the same level of access as their urban counterparts.

It is also of great importance to acknowledge and address the needs of uniquely vulnerable populations, including women, children, adolescents, people in the criminal justice system and the elderly. Finally, creativity is necessary to marshal and deploy new technologies, alternative treatment models, and lay providers to supplement existing treatment services and expand access to care.

6. RECOVERY AND PEER SUPPORT PROGRAMMES

6.1 The importance of recovery and peer support programmes in substance use disorder treatment

Recovery and peer support is an essential component of an effective substance use system of care, along with prevention and treatment. Recovery is not a separate stage of the process of coping with a substance use disorder. Rather, it is an integral component of the process of becoming sober and begins the moment an individual decides to seek care for his or her substance use problems. This chapter provides an overview of the concepts of recovery and peer support and discusses strategies for incorporating recovery programming into rural substance use treatment systems of care.

When exploring the concept of recovery and the need for long-term management of substance use disorders, it is useful to remember that substance use disorders are best managed as a chronic and relapsing disorder, much like hypertension, asthma and diabetes, rather than acute illnesses such as injury or infection.[216] Individuals affected by substance use disorders should be offered medical and psychosocial interventions over a lifetime, with intensity matching the severity of symptoms.

It is also important to remember that the evidence supports the efficacy and cost-effectiveness of the treatment of substance use disorders and that treatment is associated with reductions in substance use, related problems, costs to society, as well as an improved well-being of the person and family members, and the safety of a rural society as a whole. Given the nature of substance use disorders, however, post-treatment relapse and re-admission are very common.[217] As a result, the majority of patients currently in treatment have been in treatment before. The evidence suggests that the risk of relapse does not appear to abate until after 4 to 5 years of abstinence. It further shows that sustained recovery is possible in up to 40 per cent of patients with substance use disorders, and that the combined effects of treatment and recovery programming lead to better functioning for those with substance use disorders.

The challenge of developing recovery and peer support services in rural settings are similar to those involved with developing prevention and treatment services. As has been discussed in previous sections, rural areas suffer substantially from an array of socioeconomic disparities that are associated with greater rates of substance use, including poverty, lack of educational opportunities and poor access to and utilization of basic services including health-care and social services.[218,219,220] Rural populations are dispersed over wider geographic areas with limited access to public transportation.[221] Rural treatment systems typically have access to fewer resources and have greater difficulty in recruiting specialty providers. As a result, they provide a lower array of direct substance use disorder treatment (including detoxification) and ancillary (including mental health) services and

[216] United Nations Office on Drugs and Crime/World Health Organization. *International Standards for the Treatment of Drug Use Disorders*, March 2016, Geneva, Switzerland: United Nations Office on Drugs and Crime.

[217] Ibid.

[218] Pruitt L.R. "The forgotten fifth: rural youth and substance abuse", *Stanford Law and Policy Review*. 2009; 20:259–304.

[219] Hutchinson, L. and Blakely, C. Rural Healthy People 2010: A companion document to Healthy People 2010. Vol. 2. Substance abuse trends in rural areas: a literature review. College Station, TX: Southwest Rural Health Research Center; 2010.

[220] Clay R., "Rural substance abuse: overcoming barriers to prevention and treatment", *Substance Abuse and Mental Health Service Administration Newsletter*. 2007; 15:1-5.

[221] Gamm L.D. "Mental Health and Substance Abuse Services Among Rural Minorities", *The Journal of Rural Health*. 2004; 20:206–210.

are less likely to serve the needs of vulnerable populations and those with specials needs.[222,223] Rural areas also suffer greater issues with stigma and a lack of anonymity given the more limited availability of services.[224] These same challenges and lack of resources make it difficult to develop recovery and peer-support services in rural areas. Thus, intense cooperation between the various treatment settings and the creation of recovery centres and substance-free meeting houses can contribute towards alleviating these rural restrictions.

6.2 What is recovery?

The Substance Abuse and Mental Health Administration (SAMHSA) of the United States defines recovery as follows:

> "Recovery from alcohol and drug problems is a process of change through which an individual achieves abstinence and improved health, wellness and quality of life."[225]

Supporting this definition are the four dimensions that define a healthy life in recovery:

1. *Health*. Overcoming or managing one's disease(s) or symptoms and making informed, healthy choices that support physical and emotional well-being.
2. *Home*. Having a safe and stable place to live.
3. *Purpose*. Participating in meaningful daily activities and having the independence, income and resources to participate in society.
4. *Community*. Engaging in relationships and social networks that provide support, friendship, love and hope.[226]

It is well acknowledged, as also outlined by SAMHSA, that recovery involves multiple components involving the long-term treatment of an individual's substance use disorder by calling for the provision of assertive community treatment, illness management and peer-operated services. SAMHSA also noted that recovery can be supported though evidence-based practices that address the social determinants of health such as supported employment, education and housing.

It is important to recognize that recovery does not begin once an individual has completed treatment. Rather, it is integral to the treatment process and begins when an individual decides to address his or her substance use disorder. In many ways, recovery support services can set the stage for a successful commitment to treatment by providing support and reinforcement for the difficult process of change that lies ahead. Recovery support services can be provided by a wide range of treatment providers, schools and peer support, faith-based and community-based groups. The key at the community level is to explore opportunities to build on the strengths of community and faith-based organizations and engage them in recovery-oriented systems of care.

[222] Oser C., Leukefeld C., Tindall M. and others. "Rural drug users: Factors associated with substance abuse treatment utilization", *International Journal of Offender Therapy and Comparative Criminology*. 2011; 55:567–586.

[223] Hutchinson, L. and Blakely, C. Rural Healthy People 2010: A companion document to health people 2010. Vol. 2. Substance abuse trends in rural areas: a literature review. College Station, TX: Southwest Rural Health Research Center; 2010.

[224] Sexton R.L., Carlson R.G., Leukefeld C.G. and Booth B.M. "Barriers to formal drug abuse treatment in the rural south: a preliminary ethnographic assessment", *Journal of Psychoactive Drugs*. 2008; 40:121-129.

[225] Substance Abuse and Mental Health Services Administration. "SAMHSA's Working Definition of Recovery: 10 Guiding Principles of Recovery", Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012.

[226] Ibid.

6.3 Integrating recovery into treatment

In recognition of the fact that substance use disorders are best managed as chronic and relapsing disorders and the important role of recovery in helping individuals to address their substance use disorders, UNODC and the World Health Organization (2016) identified recovery management as one of six treatment modalities in the 2016 publication, *International Standards for the Treatment of Drug Use Disorders.*[227] In this document, UNODC defines recovery management as a:

> "Long-term recovery-oriented model of care for patients with drug use disorders that follows stabilization of abstinence achieved during outpatient or residential treatment. It focuses on reducing the risk of relapse to drug use by supporting change in an individual's social functioning, personal well-being, as well as in their place in their community and wider society. Recovery management is focused on stabilizing, supporting and strengthening one's recovery over the lifespan and moves the focus to the patient taking increasing personal responsibility for managing their disease building on the strengths and resilience of individuals."

SAMHSA, the National Institute for Drug Abuse (United States) and other international stakeholders support a similar concept of recovery-oriented systems of care (ROSC).[228] Here, a ROSC is defined as a:

> "Coordinated network of community-based services and supports that is person-centred and builds on the strengths and resiliencies of individuals, families and communities to achieve abstinence and improved health, wellness and quality of life for those with or at risk for alcohol and drug problems."

In recognition of the typical patterns of relapse associated with recovery from substance use disorders, it is very important to have a planned response for what to do if there is a risk for relapse, as well as what to do after relapse, particularly in rural areas where there are fewer opportunities for treatment. A clear plan is necessary to help prevent relapse and shorten the relapse periods.

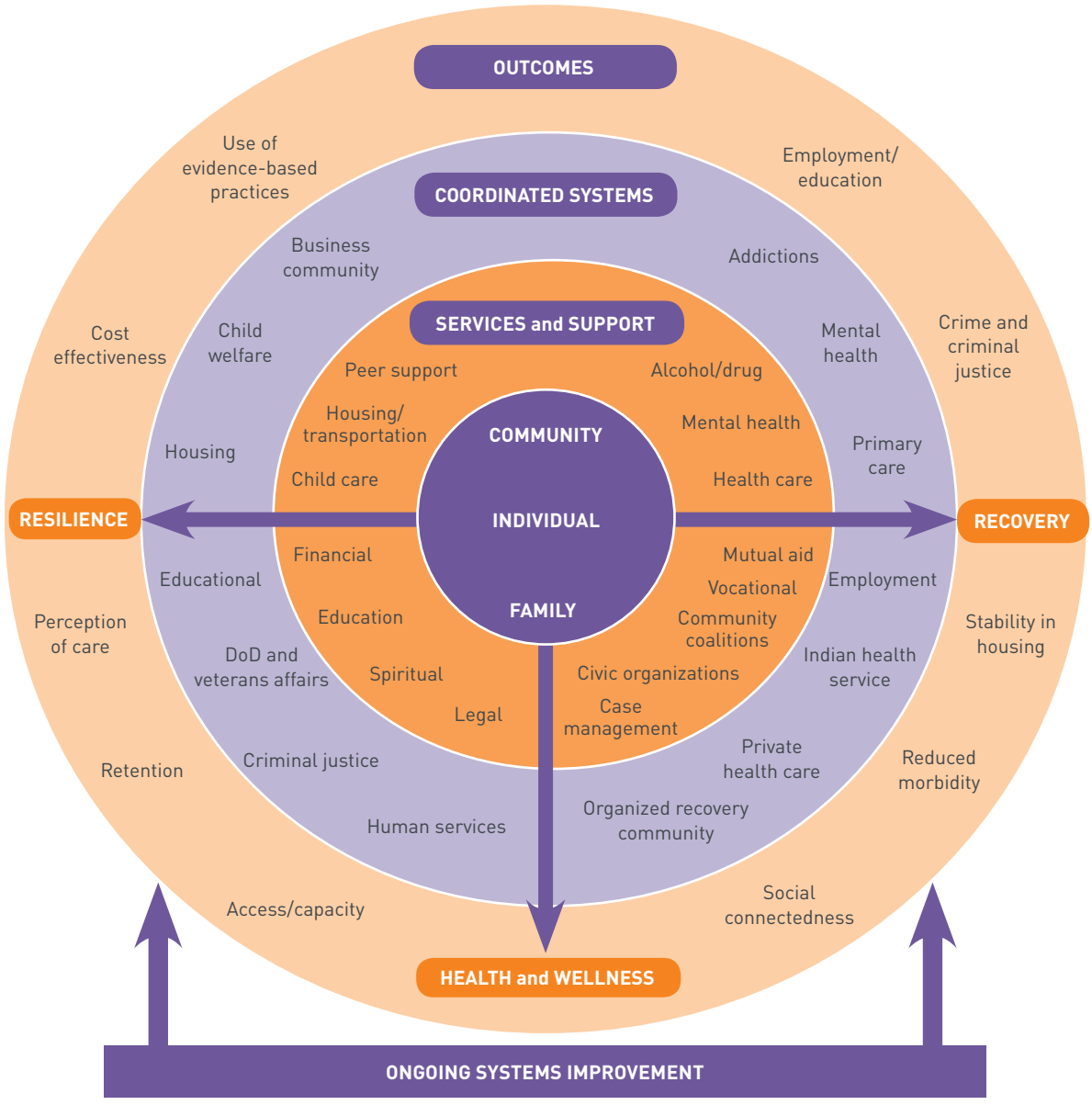
6.4 Conceptual framework for a recovery-oriented system of care

A conceptual framework for a recovery-oriented system of care is summarized in figure 6.1, and box 6.1 below represents a broad-based effort, albeit developed in the national context of United States, to reach a definition of recovery, its guiding principles and the elements of recovery-oriented systems of care.

[227] United Nations Office on Drugs and Crime/World Health Organization. *International Standards for the Treatment of Drug Use Disorders*, March 2916, Geneva, Switzerland: United Nations Office on Drugs and Crime.

[228] SAMHSA. "Recovery Oriented Systems of Care Resource Guide", Rockville, MD: SAMHSA, September 2010.

FIGURE 6.1 CONCEPTUAL FRAMEWORK OF A RECOVERY ORIENTED SYSTEM OF CARE



Source: Sheedy C.K. and Whitter M., *Guiding Principles and Elements of Recovery-Oriented Systems of Care: What Do We Know from the Research?* HHS Publication No. (SMA) 09-4439. Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, 2009.

BOX 6.1 PRINCIPLES AND ELEMENTS OF RECOVERY

Principles of recovery

- Emerges from hope and the potential for a better future
- Is person driven and requires self-responsibility, self-determination and self-direction
- Occurs via many pathways, as each individual has his or her own unique needs, strengths, preferences, goals, culture and background
- Is holistic, involving all aspects of an individual's life
- Is supported by peers and allies who provide encouragement, reinforcement and support
- Is supported through relationships and social networks that validate and support a person's ability to change
- Is culturally-based and reflects an individual's values, traditions and beliefs
- Is supported by addressing trauma—an underlying contributing factor to substance use
- Involves individual, family and community strengths and responsibility
- Is based on respect and acceptance of people affected by substance use problems[a]

Elements of recovery-oriented system of care[b]

- Person-centred
- Inclusive of family and other ally involvement
- Individualized and comprehensive services across the lifespan
- Systems anchored in the community
- Continuity of care
- Partnership-consultant relationships
- Strength-based
- Culturally responsive
- Responsiveness to personal belief systems
- Commitment to peer recovery support services
- Inclusion of the voices and experiences of recovering individuals and their families
- Integrated services
- System-wide education and training
- Ongoing monitoring and outreach
- Outcomes-driven
- Research-based
- Adequately and flexibly financed

[a] Substance Abuse and Mental Health Services Administration. "SAMHSA's Working Definition of Recovery: 10 Guiding Principles of Recovery", Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012.

[b] Sheedy C.K. and Whitter M., *Guiding Principles and Elements of Recovery-Oriented Systems of Care: What Do We Know from the Research?*, HHS Publication No. (SMA) 09-4439. Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, 2009.

6.5 Conceptual framework of recovery management

Under the UNODC/WHO conceptualization of recovery management,[229] activities offer patients opportunities to maintain stable relationships with the health-care system, social services and treatment facilities. Typically, counsellors coordinate case management, engage patients frequently, provide positive support, encourage engagement in the community and manage stressful situations. Counsellors help to connect patients with other professionals who can help with social reintegration and refer them to social workers, psychologists, medical practitioners, reproductive health professionals, legal services officers and others in response to specific needs. These interventions are coordinated by case managers in the context of facilitating continuing care.

Moreover, the UNODC/WHO approach[230] includes activities that promote and strengthen internal and external resources to help affected individuals resolve problems related to substance use and manage the vulnerability to recurrence of such problems. Some of those activities are already present in the patient's home, neighbourhood and community, while others can be developed. These activities have also been found to increase social reintegration and improve chances of stable remission and the maintenance of recovery:

- A supportive partner and a network of family and friends that can monitor the stability of recovery, abstinence from substances and compliance with treatment
- Meaningful work with appreciation in the workplace that replaces stigma and discrimination
- Engagement with individuals and social networks that share abstinence-oriented norms and support recovery goals
- Political, humanitarian and spiritual involvement to provide meaning to life's stressors and develop a stronger purpose in life
- Strengthening the individual's resilience, self-efficacy and confidence to manage daily challenges, maintain commitment to recovery and avoid relapse
- Increasing social participation and integration in educational and vocational pursuits, including volunteering or community involvement
- Remediating legal and financial problems
- Active involvement in self-help, religious or other support groups is associated with sustained recovery

6.6 The difference between recovery-oriented systems of care and recovery management

Having outlined the conceptual frameworks for recovery-oriented systems of care and recovery management, the following paragraphs outline the definitions of each of these two concepts.

Recovery-oriented systems of care can be defined as follows:

- They address the needs of the general population, at-risk populations, users of alcohol and drugs, individuals who are substance dependent and individuals with chronic dependence.
- They also focus on informing, educating and empowering individuals and communities; providing prevention, early intervention, treatment and recovery services; implementing policy and practice changes; mobilizing community partnerships; and evaluating services for systems improvement.
- As such, it is a broad-based strategy for organizing systems of care.[231]

[229] https://www.unodc.org/docs/treatment/111SUSTAINED_RECOVERY_MANAGEMENT.pdf

[230] Ibid.

[231] SAMHSA. Recovery Oriented Systems of Care Resource Guide. Rockville, MD: SAMHSA, September 2010.

Recovery management programmes can be characterized as follows:

- They are typically oriented to individuals with chronic substance use disorders in order to assist them in achieving long-term recovery.
- Activities include assertive engagement processes, strength-based assessments, recovery-focused and person-centred treatment, and recovery support services, training on self-care, post-treatment check-ups and the use of community resources to support sustained recovery.
- They incorporate peer support services.
- Recovery management is a subset of the recovery-oriented systems of care concept.

The previously outlined UNODC/WHO conceptual discussion of recovery management also reflects this distinction through its emphasis on long-term recovery strategies and targeting the services to individuals with more complex needs and multiple treatment failures.[232]

6.7 Implementing recovery-oriented systems of care at the national level

Although somewhat different conceptually, recovery-oriented systems and recovery management programmes build upon each other. The evidence supports the provision of recovery management services to individuals with more complex substance use needs within local systems of care. In the United States, a number of states, including California, Michigan, North Carolina, Texas, Vermont, Virginia and Wisconsin, are using the principles of recovery-oriented systems of care to reform their substance use treatment services.[233] As discussed in the introduction, treatment and recovery are not separate activities. Recovery services can be valuable in supporting and sustaining commitment to and engagement in treatment. Peer recovery services and other support programmes should be integrated into treatment programmes. The following examples from the United States, Europe and the United Republic of Tanzania provide lessons on integrating recovery principals into substance use treatment systems. The state of Vermont, United States, has begun to formalize a recovery-oriented system of care through the development of a strategic plan, a mission statement and a system change approach called the "resiliency and recovery-oriented system of care" (RROSC). These efforts are supported by Vermont's Blueprint for Health, which provides a parallel state-wide structure and a vehicle to more effectively manage chronic diseases using a public health model. As part of this effort, Vermont has initiated telephone recovery check-ups, fostered peer support and strengthened an integrated approach to RROSC.

The concept of the recovery-oriented system of care is beginning to receive attention beyond the United States. At a United Nations General Assembly Special Session on drug demand reduction held in March 2015, representatives from EURAD, a European non-profit drug policy foundation, urged Member States to support drug demand reduction measures, including prevention, early detection, treatment, reduction of the health and social consequences, and recovery. In particular, they advocated for the development of recovery-oriented systems of care in the community.

The following case study describes the development of a recovery-oriented system of care in the largely rural United Republic of Tanzania (70 per cent of the population is rural) and Zanzibar Archipelago (a semi-autonomous region of the United Republic of Tanzania).

[232] United Nations Office on Drugs and Crime/World Health Organization. *International Standards for the Treatment of Drug Use Disorders*, March 2916, Geneva, Switzerland: United Nations Office on Drugs and Crime.

[233] SAMHSA. *Recovery Oriented Systems of Care Resource Guide*. Rockville, MD: SAMHSA, September 2010.

CASE STUDY

ESTABLISHING A RECOVERY-ORIENTED SYSTEM OF CARE IN ZANZIBAR, EAST AFRICA

In 2007, the Great Lakes Addiction Transfer and Technology Center and Detroit Recovery Project (United States) began working with the United Republic of Tanzania Ministry of Health and Social Welfare's Zanzibar Department of Substance Abuse and Prevention, the Mainland Non-Communicable Disease, Mental Health and Substance Abuse Department, and Drug Control Commission to establish a recovery-oriented system of care in Zanzibar, where there are no existing services and with more 80 per cent of the population living in rural areas.[a] It later expanded the model to mainland United Republic of Tanzania. The goal was to reduce HIV rates among substance users across the United Republic of Tanzania, address the growing use of heroin and expand access to treatment services by implementing peer-to-peer mentoring, recovery-oriented systems of care and Narcotics Anonymous (12-step) programmes.[b,c] The model was used to develop substance use treatment services on the island of Zanzibar and to build system capacity in mainland United Republic of Tanzania.

To ensure a system-wide level of coordination, this project involved the collaboration of a wide range of stakeholders, including officials from Zanzibar's Department of Substance Abuse, Prevention and Rehabilitation within the Ministry of Health and Social Welfare. The project was subsequently expanded to include key officials from the United Republic of Tanzania's Drug Control Commission (DCC), MOHSW—Non Communicable Diseases/Mental Health and Substance Abuse, MUHAS-TAPP and treatment and recovery organizations. Project officials engaged an imam from Detroit's Muslim Center to help implement the project. This was a very important in adapting the model to the predominantly Muslim country and helped to legitimize the project. The imam helped explain addiction and the recovery process from the perspective of the Muslim community and was successful in helping to ensure that the recovery process fit with Muslim philosophy.[d] Officials believe the project has been successful, with more than 50 recovering injecting drug users as peers, expanded membership in local 12-step recovery fellowships, the development of methadone recovery support services and the creation of 11 recovery/sober houses, including one specific to women. This collaboration has led to an expansion in addiction treatment services and partnerships with faith-based and non-governmental agencies, leading to an expansion in "recovery pathways", ultimately reducing high-risk HIV and HCV behaviours among injecting drug users.

[a] http://worldpopulationreview.com/countries/tanzania-population/

[b] Health Resources and Services Administration. AIHA HIV/AIDS Twinning Center Program Evaluation. Rockville, MD: HRSA, May 2013.

[c] White, W.L. (2013). "Expanding addiction recovery resources in East Africa: An interview with Lonnetta Albright, Andre Johnson, Calvin Trent, PhD, and David Whiters, PhD", available: www.williamwhitepapers.com. Downloaded: October 10, 2016.

[d] Ibid.

These examples provide important lessons to aid in the incorporation of recovery services in rural systems of care. The development of programmes to recruit, train and engage peer recovery specialists (who are frequently in recovery themselves), promotion of 12-step and other self-help programmes, development of sober living resources and promotion of programmes to improve educational attainment or promote job skills are relatively low-cost interventions that can be implemented in low-resource rural environments and integrated into rural treatment systems.

6.8 Implementing recovery management in rural areas

Peer support and recovery programmes, like many substance use resources, are typically concentrated in urban areas. While rural settings often lack the resources to develop these programmes, there are aspects of peer support and recovery programmes that can be implemented in low-resource rural environments. This section will discuss different approaches to developing rural recovery programmes

BOX 6.2. PEER SUPPORT AND RECOVERY OPTIONS FOR RURAL SETTINGS

Building on the power of community

- Identify, engage and extract individuals from cultures of addiction as early as possible
- Suppress the physical, economic and cultural conditions contributing to cultures of substance use
- Cultivate new cultures of recovery and encourage their growth
- Match and link individuals and families to cultures of recovery
- Provide sustained post-treatment support
- Provide educational programmes and public awareness programmes to reduce stigma

Outreach

- Direct or participate in recovery-focused community and professional education programmes
- Develop intervention models for the full range of substance use disorder (SUD) problems
- Promote screening and brief interventions by primary care doctors and the acute care system aimed at early identification and resolution
- Develop integrated responses that span from outreach to SUD treatment and recovery
- Conduct street and institutional engagements that capitalize on windows of opportunity to engage those with SUDs
- Improve access via streamlined intake, induction for those on waiting lists and barrier removal
- Develop ancillary services to support engagement (e.g., day care and transportation)
- Enhance retention through institutional outreach (e.g., a recovery coach whose job is to regularly monitor, engage and remotivate)
- Elevate the visibility of local recovery role models in collaboration with local recovery community organizations and ministries
- Provide reminders before appointments by a variety of means, follow up on missed appointments
- Deliver services in natural, non-stigmatized sites
- Maintain contact with and involve clients and families in the treatment and post-treatment recovery support process
- Enhance staff knowledge of local recovery options
- Deliver post-treatment recovery support services in natural settings (e.g., homes, schools, recovery centres)
- Use technology to engage and support recovery; develop online recovery groups

Inreach

- Engage family and social network members in the recovery process not only to support the individual in recovery but to address their own needs as well
- Develop consumer and alumni councils
- Provide recovery mentoring through a formal peer process (paid or volunteer)

- Formalize relationships with religious, spiritual and secular recovery and mutual aid groups
- Encourage development of local recovery community organizations, support centres and institutions
- Increase recovery community representation in planning and managing substance use systems of care
- Invite recovery community representatives to educate staff and clients
- Promote recovery options and choice that acknowledges multiple pathways
- Use recovery focused instruments and protocols
- Include indigenous healers within multidisciplinary treatment teams
- Include primary care physicians as part of the treatment team
- Contract with recovery community organizations to provide recovery coaching to clients discharged from treatment

Recovery community building

- Collaborate with recovery community organizations to prepare and release an annual community "recovery report card" with data on key recovery benchmark measures
- Encourage the development of alternative recovery support groups, specialty meetings and related structures (e.g., clubhouses)
- Forge partnership (non-paternal, non-manipulative) relationships with local recovery community organizations
- Promote pro-recovery policies at the national, state and local levels
- Promote the development of a full continuum of treatment and recovery support services
- Provide training and technical assistance to enhance the quality and diversity of local recovery support services
- Support and participate in recovery celebration events
- Develop special community re-entry supports for those persons seeking recovery following prolonged institutionalization
- Cultivate mechanisms of community reintegration and citizenship, for example, pro-recovery social activities and opportunities for community service
- Provide guides to lead individuals into relationships with one or more communities of recovery and into activities within the larger community that are conducive to long-term recovery
- Provide outlets for artistic expression of recovery community members through music, art, theatre, literature and comedy
- Challenge regulatory policies that lead to the depersonalization of addiction treatment

Source: White, W. "The mobilization of community resources to support long-term addiction recovery", *Journal of Substance Abuse Treatment*, 36 (2009): 146-158.

CASE STUDY

DEVELOPING A COMMUNITY RECOVERY STRATEGY IN A TRIBAL COMMUNITY IN RURAL BRITISH COLUMBIA, CANADA

The long struggle of the Shuswap tribal community in Alkali Lake, British Columbia, with alcohol earned the community the nickname "Alcohol Lake". In 1971, two community leaders made a commitment to stop drinking and, as part of their recovery, began to address the alcohol problems within their community.

When one was later elected Chief of the Shuswap tribe, he began promoting Alcoholics Anonymous meetings, arresting bootleggers, confronting the drunkenness of public officials and staging interventions to get community members into treatment. Tribal traditions were revitalized for both the adults and children of the community. Educational and job development programmes were initiated for those in recovery.

Over a period of 10 years, these sustained efforts reduced the prevalence of alcohol problems among the tribe from nearly 100 per cent to less than 5 per cent.[a] An important element of this community system was the focus on tribal traditions as a way of developing culturally sensitive programmes and engaging community members through their shared heritage. As described by Evans and colleagues, native frameworks of recovery are typically framed in terms of "have always been", and "continue to be", framed in a link between hope for the individual and hope for a community and its people.[b] The authors noted that community recovery is an ongoing process that is still underway in Alkali Lake.[c, d]

[a] Taylor, V. (1987). "The triumph of the Alkali Lake Indian band", *Alcohol Health and Research World*, 12(1), 57.

[b] Evans, A.C., Lamb. R. and White, W.L. (2013). "The community as patient: Recovery-focused community mobilization in Philadelphia, 2005-2012", *Alcoholism Treatment Quarterly*, 31(4), 450-465.

[c] Ibid.

[d] Haggerson, P. (2011). "The honour of all: Twenty-five years of inspiring recovery from alcoholism", *Counselor*, 12(5), 10-13.

and provide examples that can be followed by other communities. Box 6.2 outlines the different peer support and recovery options that can be implemented as part of an overall system of substance use services.[234]

Recovery management recognizes the complex nature of substance use disorders and emphasizes the importance of cooperation across substance use, mental health and acute settings and with the individual's providers from each of these systems of care. An effective recovery strategy includes practical plans to address the potential for relapse and guides the individual in recovery as well as his or her family and friends in the event of a relapse. As with the areas of prevention and treatment, technology can provide a resource to support recovery, particularly for those living in isolated rural settings. Box 6.2 identifies the various peer support and recovery options that can be implemented as part of an overall system of substance use services.[235]

It should be recognized that many of these strategies, at their core, represent efforts to engage, educate and coordinate community resources, programmes and services to support individuals in entering and maintaining recovery. They also reflect the concept of

[234] White, W. "The mobilization of community resources to support long-term addiction recovery", *Journal of Substance Abuse Treatment*, 36(2009): 146-158.

[235] Ibid.

CASE STUDY

DEVELOPING RURAL SUPPORT GROUPS—THE SOUTH AFRICAN DEPRESSION AND ANXIETY GROUP, SOUTH AFRICA

The South African Depression and Anxiety Group (SADAG) has been active in developing more than 200 support groups to help individuals with mental health issues and substance use disorders (SUDs) to cope with their illnesses throughout rural South Africa. Recently, SADAG focused on the development of rural-based substance use self-help and support groups in the Northern Cape and North West provinces of the country as well as Tzaneen.[a] It has focused on the development of peer counsellor programmes in those rural areas. SADAG has been working with teachers, nurses, church leaders, traditional healers, police officers, prison officials and community members to implement programmes in remote areas, conducting widespread education on substance use and mental health problems, and treatment options. A key area of concentration was on reducing stigma. SADAG has developed talking books that discuss substance use issues to assist individuals with low literacy levels. Their strategy is to develop services from the ground up with local input. SADAG staff, through informal community gatherings, educates families about coping with family members with SUDs and mental health issues. They also work with patients to empower them with self-help skills designed to assist them in recognizing their symptoms and preventing relapse.

[a]South Africa Depression and Anxiety Group. "Finding Help: Support Groups", available: http://www.sadag.org/index.php?option=com_content&view=category&id=93&Itemid=193. Downloaded: October 14, 2016.

recovery capital (RC) articulated by White and Cloud.[236] RC is defined as the "breadth and depth of internal and external resources that can be drawn upon to initiate and sustain recovery from alcohol and drug (AOD) problems". The most important aspect of RC is to recognize that people with substance use disorders (SUDs) have resources. Resources or capital could be at the individual level (physical, such as safe shelter, or human, such as knowledge, problem-solving abilities, etc.), family/social level (family or kinship networks) and community-level support in terms of community resources and culture. Being able to recognize the client's strengths and resources rather than view them only in terms of the pathology is important. It reflects the fact that individuals have differing needs at the various stages of their disease; for example, an individual's need for direct substance use treatment such as detoxification services during the acute phases of their SUD. At later stages of their SUD, when they have begun to manage their cravings for and use of drugs, their focus may shift to maintaining sobriety, reintegrating with society, repairing relationships with family or finding gainful employment—ideally with support from peers and support groups. It also suggests that a sole emphasis on developing treatment services (or addressing the socioeconomic drivers of substance) is likely to be less successful than addressing both areas of need simultaneously.

6.9 Using technology to support recovery

Given the shortage of prevention, treatment and recovery services in many rural areas of low- and middle-income countries, the use of technology such

[236] White, W. and Cloud, W. (2008). "Recovery capital: A primer for addictions professionals", *Counselor*, 9(5), 22-27.

as mobile phones, tablets and other devices should be explored. This is one critical way to maintain contact and engagement of individuals in their recovery. Recent work by Lord and colleagues has suggested the potential for the implementation of substance use recovery mobile phone applications (apps) in community settings.[237] Other studies are beginning to demonstrate the potential of technology to support recovery, particularly in rural areas, by assisting recovering individuals in maintaining contact with their therapists and counsellors without leaving their communities.[238]

Another study by Molfenter and colleagues explored the adoption of technology-based services including telephone-based care, web-based screening and treatment, videoconferencing, smartphone mobile apps and virtual worlds by third-party payers in five states and one county in the United States.[239] Payers found the use of videoconferencing and smartphone mobile devices to be the most attractive, as they met specific needs and had relatively low costs of entry. Videoconferencing allowed access to scarce medical services such as the provision of buprenorphine services in areas that lack physician prescribers. Smartphones and mobile devices allowed for the creation of an ongoing relationship with patients. Similarly, providers in the Department of Telemedicine and the Department of Psychiatric and Behavioural Sciences at the Mayo Hospital in Lahore, Pakistan, have explored the pairing of existing telepsychiatry programme with current substance use treatments services to expand treatment access to rural areas of Pakistan.[240]

When applying technology to support recovery, it is crucial to address the barriers to the expanded use of technology in rural areas as outlined by WHO.[241] These barriers include the lack of the necessary infrastructure to provide reliable electricity and Internet access (with mobile phone technology being more readily available); costs, both initial and ongoing, related to technology implementation; and heavy reliance on donor funding. Despite the challenges, technology can help to extend geographic access by overcoming the distance between physician and patient to replace traditional office visits; it can facilitate communications between health workers, programmes and patients outside regular office visits; and can improve diagnosis and treatment through technology-based clinical decision-making tools.

6.10 Addressing the social determinants of health

Earlier in this Guide, we discussed the role of socioeconomic disparities (such as jobs, housing, education, mentorship and pathways to poverty) as drivers of substance use. Individuals returning to rural communities after completing a substance use treatment programme often find it difficult to build a normal life for themselves again. These individuals report that issues of social disparity (e.g., the difficulties in finding a job or housing) make recovery more difficult.

[237] Lord, A., Moore, S., Ramsey, A., Dinauer, S., and Johnson, K. "Implementation of a substance use recovery support mobile phone app in community settings: Qualitative study of clinician and staff perspectives of facilitators and barriers", *JMIR Mental Health,* 2016, April-June; 3(2)" e24.

[238] Murphy S.M., Campbell A.N.C., Ghitza U.E. and others. "Cost-Effectiveness of an Internet-Delivered Treatment for Substance Abuse: Data from a Multisite Randomized Controlled Trial", *Drug and Alcohol Dependence,* 2016 (in press).

[239] Molfenter T., Boyle M., Holloway D. and Zwick J. "Trends in telemedicine use in addiction treatment", *Addiction Science and Clinical Practice*. 2015;10:14.

[240] Qadir, M. and Mahzar, N. "Treatment and rehabilitation of drug addicted patients through telemedicine in Punjab, Pakistan", available: https://www.medetel.eu/download/2016/parallel_sessions/presentation/day3/Treatment_and_Rehabilitation.pdf. Downloaded: October 14, 2016.

[241] Trevor Lewis, Christina Synowiec, Gina Lagomarsino and Julian Schweitze, "E-health in low- and middle-income countries: findings from the Center for Health Market Innovations", available: http://www.who.int/bulletin/volumes/90/5/11-099820/en/. Download: October 31, 2016.

CASE STUDY

ODISHA RURAL LIVELIHOODS PROJECT, IN INDIA AND UGANDA

One example of improving the socioeconomic status of the poor, especially women and disadvantaged groups, although not directly focused on substance use issues, is the Odisha Rural Livelihoods Project in India.[a] It does so through self-help groups and by building and mobilizing community institutions, creating community investment funds and providing specific livelihood funds.

These self-help groups have reached over 929,000 households in rural India and are recognized as an effective tool to improve the socioeconomic status of the rural poor. Similar self-help finance groups have been successfully implemented in rural Uganda.[b]

[a]The World Bank. "In Rural India, It Takes a Village — and Women's Self-help Groups — to Improve Livelihoods", available: http://www.worldbank.org/en/news/video/2015/09/04/in-rural-india-it-takes-a-village-and-womens-self-help-groups-to-improve-livelihoods. Downloaded: October 12, 2016.

[b]Flynn, R. "A Case Study of Rural Finance Self-Help Groups in Uganda and Their Impact on Poverty Alleviation and Development" (2013). Independent Study Project (ISP) Collection. Paper 1688. http://digitalcollections.sit.edu/isp_collection/1688.

As a supplement to more formal recovery programmes, it is important for policymakers and rural advocates to focus on addressing the socioeconomic disparities impacting rural settings by investing in:

- Education, job counselling and training, and housing programmes in rural areas
- Mentorship programmes to help those in recovery to develop the cooperation, skills and confidence to maintain sober lifestyles

The development of these types of programmes in rural areas can help to create a pathway out of poverty for those in recovery. Moreover, they also serve as prevention strategies to intervene in the drivers of substance use in rural settings.

As can been seen from the evidence and the case study highlighted above, programmes targeting education, job skills and other life skills can help reduce socioeconomic disparities, known drivers of substance use in rural areas and beyond. At the same time, participation in local peer support programmes can provide individuals in recovery with an opportunity to engage in meaningful, self-fulfilling activities that can help maintain their sobriety, ideally without having to leave their community.

Conclusion

As discussed at the beginning of this chapter, recovery services should:

- Form an integral part of substance use systems of care.
- Begin when an individual makes the decision to seek treatment and can facilitate successful engagement in treatment by providing support and encouragement during the difficult process of giving up drugs and other substances.
- Support an individual with SUDs to re-engage in treatment if and when relapses occur.
- Provide a "pathway" to sobriety, particularly when that pathway is outlined by others who have suffered with their own SUDs.

It is also important to address both the internal and external community-based characteristics (i.e., recovery capital) that complement formal services to support recovery. This should be done through a broad-based community engagement strategy that engages faith-based organizations, service agencies, business, schools and other key community stakeholders to address local social disparities that can inhibit recovery and encourage substance use.

Recovery is an essential component of rural systems of care, along with comprehensive treatment and prevention strategies. The evidence base clearly demonstrates that recovery is possible over time, even though many with substance use disorders will relapse multiple times before succeeding in recovery. This argues for a long-term approach that defines clear plans of action, integrates recovery into treatment, and recognizes and accommodates rural people with substance use issues. Although the development of rural recovery programmes can be difficult due to certain barriers and the resource constraints of many rural settings, the programmes highlighted are successful examples of rural recovery initiatives. At the same time, technology, including mobile phones, tablets and laptops, can be used to support recovery.

Finally, formal recovery programmes can be supported by efforts to specifically address the socioeconomic disparities suffered by rural settings through broad-based community engagement strategies involving a wide range of community stakeholders and organizations. Such efforts should build on community assets and resources to construct internal and external recovery capital, peer support services and a path forward that supports and maintains recovery for rural people with SUDs.

7.
FINAL CONCLUSION

This document describes possible ways for policymakers, managers, practitioners and the community at large to address rural substance use and to support prevention and treatment in rural settings. The evidence clearly points to significant disparities in socioeconomic challenges, health-care access and health-care funding in rural areas worldwide. Moreover, it confirms concerns regarding the level of substance use in rural areas, the substantial negative impact on the lives of individuals, families and communities suffering from substance use disorders, and the negative health and social consequences that threaten the viability and future of rural communities.

In order to identify and implement substance use prevention, treatment and rehabilitation programmes in rural settings, it is critical to conduct a system assessment. This analysis will then permit policymakers to plan the concrete delivery of evidence-based prevention, treatment and rehabilitation programmes and services in rural settings. The key principles of the UNODC-WHO International Standards for the Treatment of Drug Use Disorders as well as the framework of the UNODC International Standards on Drug Use Prevention may provide helpful tools in this endeavour.

Prevention is an important and integral component of efforts to reduce substance use and its related consequences. Using evidence-based prevention approaches is likely to have benefits that extend beyond reductions in substance use, and also contribute to lowering the incidence of other related risky behaviours and conditions, such as mental health issues, domestic violence or social marginalization, yielding important public health savings. For rural settings, models focusing on engaging community stakeholders and building on resources existing within communities, as well as mobile possibilities, are viable options for developing and sustaining prevention responses appropriate to local circumstances.

The provision of substance treatment services, particularly in rural areas, remains a challenge due to limited resources, few providers, long travel distances, stigma and a variety of contextual cultural factors that limit the willingness of rural people to seek treatment. Given these challenges, the use of a regional approach to the delivery of services is crucial. It is also necessary to ensure the development of a coordinated continuum of services in rural settings to ensure that people living in these areas have the same level of access as their urban counterparts. It is also of great importance to acknowledge and address the needs of uniquely vulnerable populations, including women, children, adolescents, people in the criminal justice system and the elderly. Finally, creativity is necessary to marshal and deploy new technologies, alternative treatment models and lay providers in order to supplement existing treatment services and expand access to care.

Last but not least, recovery is an essential component of rural systems of care, along with comprehensive treatment and prevention strategies. The evidence base clearly demonstrates that recovery is possible over time, even though many with substance use disorders will relapse multiple times before succeeding in recovery. This argues for a long-term approach that defines clear plans of action, integrates recovery into treatment, and recognizes and accommodates rural people with substance use issues, in addition to making use of the latest technologies.

In conclusion, effective evidence-based substance use prevention, treatment and recovery strategies can be readily adapted to the cultural needs of rural settings, thereby reducing the impact on and negative consequences for rural residents. Not only is it possible to address substance use problems in a cost-effective manner and reduce the disparate burden it inflicts on rural communities, it is also clearly the right thing to do.

ANNEXES

Annex A

Toolkit

In supporting substance use prevention and treatment in rural settings, the following list of sources might provide useful first steps for expanding the guidance provided in this document.

Prevention

- Canadian standards for Community-based Youth Substance Abuse Prevention (http://www.ccsa.ca/Resource%20Library/2010_CCSA_Community-based_Standards_en.pdf)
- Compilation of Evidence-based Family Skills Training Programmes (https://www.unodc.org/documents/prevention/family-compilation.pdf)
- International Standards on Drug Prevention (https://www.unodc.org/unodc/en/prevention/prevention-standards.html)
- ISSUP (https://www.issup.net/training/universal-treatment-curriculum)
- Registries of evidence based programs (http://preventionhub.org/en/practice/examples-effective-practice)
- The European Drug Prevention Quality Standards (http://preventionhub.org/en/practice/examples-effective-practice)
- Universal Prevention Curriculum (UPC) (https://www.issup.net/training/universal-prevention-curriculum)
- UNODC Guidelines on drug prevention and treatment for girls and women (https://www.unodc.org/documents/drug-prevention-and-treatment/unodc_2016_drug_prevention_and_treatment_for_girls_and_women_E.pdf)

Treatment

- Guidance for community-based treatment and care services for people affected by drug use and dependence in South-East Asia (https://www.unodc.org/documents/southeastasiaandpacific/cbtx/cbtx_guidance_EN.pdf)
- International Standards For The Treatment Of Drug Use Disorders, Draft For Field Testing (https://www.unodc.org/documents/commissions/CND/CND_Sessions/CND_59/ECN72016_CRP4_V1601463.pdf)
- ISSUP (https://www.issup.net/training/universal-treatment-curriculum)
- Policymakers Training on the Treatment of Drug Use Disorders (no0training/universal-treatment-curriculum)
- UNODC Drug Dependence Treatment: Community based treatment, Treatnet (https://www.unodc.org/docs/treatment/CBTS_AB_24_01_09_accepted.pdf)

- UNODC Guidelines on drug prevention and treatment for girls and women (https://www.unodc.org/documents/drug-prevention-and-treatment/unodc_2016_drug_prevention_and_treatment_for_girls_and_women_E.pdf)
- UNODC Treatnet (http://www.unodc.org/treatment/)
- WHO Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence (http://www.who.int/substance_abuse/publications/opioid_dependence_guidelines.pdf)

Annex B

Self-assessment of needs, capacities and strategies to address substance use disorders

This tool builds on the systems of care tool developed by Beth A. Stroul, M.ED. and Robert M. Friedman, PH.D. for the Georgetown University National Technical Assistance Center for Children's Mental Health and the National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program and the Rapid Assessment and Response (RAR) tools developed by the World Health Organization.

Geographic area: ..... Date completed: .....

Assessment completed by:

Name: ..... Title: .....

Agency/Ministry: .....

Telephone: ..... E-mail address: .....

Instructions

This assessment is designed as a tool to collect data to support the development of a system of care (SOC) providing substance use prevention, treatment and recovery services in rural areas of Member States. It is designed to provide a summary of the key policy, regulatory, financing, organizational context and resource issues that should be considered in developing a coordinated system of substance use treatment and care in rural areas. Substance abuse is a complex problem. Effective treatment of substance use disorders requires a continuum of substance use, mental health and physical health services. To be effective, these should operate as a coordinated system of care and not as isolated, stand-alone services.

This tool identifies the contextual information necessary to support a full assessment of key rural substance use issues including the prevalence of substance use disorders in rural areas, available prevention, treatment and recovery services, gaps in prevention, treatment and recovery services, assets that can be deployed, national and local collaborative partners to support this work, required workforce and funding resources, and the policy and community context in which a rural substance use system of care will be developed. Rating capacity and system functioning objectively, when appropriate, will enhance the usefulness of this tool in developing rural prevention, treatment and recovery services.

To complete the assessment, identify the relevant data available to quantify the scope of the problem in rural communities and the existing system capacity to address substance use disorders. Additionally, rate the status of the component elements of an overall strategy to address rural substance use disorders (where indicated).

I. Policy, regulatory, and financing context

Describe the overall national and/or provincial-level policy, regulatory and financing context in which the development of a rural system of care to address substance use disorders will occur.

1. Establishing management responsibility and accountability for substance use SOCs in rural communities

a. *Governmental oversight: What government (national or provincial) agencies/ministries are responsible for leading efforts to develop rural substance use SOCs?*

Identify the lead agency/ministry and key staff. .....

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Identify any other agencies/ministries (and key staff) that will play a role in these efforts. .....

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To what extent are these agencies/ministries engaged in or prepared for the development of rural substance use systems of care (e.g., assigned staff, resources, data capacity, administrative support, etc.)?

Not prepared ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively prepared ☐

Notes: .....

b. *Rural community oversight: What organization(s) have management responsibility and accountability for the rural substance use system of care at the community level (e.g., agency, office, non-governmental organization)?*

Are there other organizations that should be engaged at the community level (e.g., Health and social service, law enforcement, aid, religious and/or business organizations)? .....

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To what extent are these engaged in or prepared for the development of rural substance use SOCs (e.g., assigned staff, resources, data capacity, administrative support, etc.)?

Not prepared ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively prepared ☐

Notes: .....

2. Strengthening interagency/organizational collaboration

a. Cultivating strong interagency/organizational relationships and partnerships to coordinate and/or finance systems of rural substance use SOCs.

How well do the list of participating agencies/organizations list above work together?

Not prepared ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively prepared ☐

How can collaboration between these agencies/organizations be improved? .....

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Notes: .....

3. Promulgating rules, regulations, standards, guidelines and practice protocols

a. How well do existing guidelines, standards or practice protocols support rural substance use SOCs?

Not well ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Very well ☐

Notes: .....

Identify new guidelines, standards or practice protocols needed to support these efforts. .....

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Notes: .....

4. Improving cultural and linguistic competence at the policy level and incorporating strategies to eliminate disparities

How well do existing policies encourage cultural and linguistic competence in rural substance use services?

Not prepared ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively prepared ☐

Notes: .....

How well do existing policies address disparities to accessing substance use services?

Not well ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Very well ☐

Notes: .....

Identify policy and strategic changes necessary to improve cultural and linguistic competence in rural substance use SOCs.

Identify policy and strategic changes necessary to reduce disparities in access.

What groups should be included to improve cultural and linguistic competence and eliminate disparities? (e.g., Religious leaders, cultural leaders, community members)

II. Understanding the prevalence of substance use and associated negative effects in rural communities

1. What are the primary substance use problems in the community by substance?

Alcohol ☐

Cannabinoids—Marijuana, hashish ☐

Opioids—Heroin, opium ☐

Stimulants—Cocaine, amphetamine, methamphetamine ☐

Club drugs—MDMA (methylenedioxymethamphetamine), flunitrazepam, GHB ☐

Dissociative drugs—Ketamine, PCP and analogues, Salvia divinorum, dextromethorphan (DXM) ☐

Hallucinogens—LSD, mescaline, psilocybin ☐

Other compounds—Anabolic steroids, inhalants ☐

Is prevalence data available for each substance?

What is the use of different substances by different populations?

What is the priority substance use problem in the community?

III. Developing or expanding services and support based on the system-of-care approach

Implementing the systemic changes needed to develop an array of community-based services and support that are individualized, coordinated, person and family-guided, and culturally and linguistically competent to support expansion of rural substance SOCs.

1. Creating a broad array of services

Describe the existing system of care in the immediate community (describe by type of care level of care, delivery system and number of providers):

Substance abuse services .....

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Mental health services .....

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Primary care and medical services .....

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Prevention services .....

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Recovery and support services .....

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Describe the existing system of care in the province/district (describe by type of care level of care, number of providers, delivery system and travel distance):

Substance abuse services .....

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Mental health services .....

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Primary care and medical services .....

Prevention services .....

Recovery and support services .....

Describe any gaps in services:

Are there waiting lists for any of the above services? If so, how long? .....

What services are not available locally? .....

Are any of these services available at a regional (or higher) level in the system? .....

What services are not available at all (within a reasonable travel distance)? .....

Is it possible to estimate the additional level of services necessary to address these gaps? .....

2. Expanding care coordination and care management

To what extent do rural SOCs incorporate care coordination and care management services?

Not well ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Very well ☐

Notes: .....

What opportunities are available to expand care coordination and care management services in rural substance use SOCs? .....

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Notes: .....

3. Expanding person and family involvement in service delivery

To what extent do rural SOCs engage persons and family in the planning and delivery of services?

Not well ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Very well ☐

Notes: .....

What changes are needed to incorporate a patient/family-driven orientation in rural substance use SOCs?

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Notes: .....

4. Building a rural substance use system of care

Implementing evidence-informed and practice-based substance use prevention, treatment and recovery services

To what extent is there support (e.g., funding, technical assistance, etc.) for implementing evidence-informed and practice-based evidence services within rural SOCs?

None ☐ Some ☐ Moderate ☐ Significant ☐ Extensive support ☐

Notes: .....

What can be done to encourage a focus on evidence-based substance use interventions? .....

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What resources are needed to support adoption of evidence-informed and practice-based substance use services? .....

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5. Improving the cultural and linguistic competence of services

To what extent are services adaptable to the cultural and linguistic diversity of rural communities?

Not well ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Very adaptable ☐

Notes: .....

What support is necessary to improve the adaptation of services to reflect the cultural diversity of the rural community? .....

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What local groups should be engaged in adapting services to reflect the cultural diversity of the community?

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6. Reducing racial, ethnic and geographic disparities in service delivery

To what extent is there a focus on reducing racial, ethnic and geographic disparities in service delivery (e.g., workforce issues, distribution of services, etc.)?

None ☐ Some ☐ Moderate ☐ Significant ☐ Extensive focus ☐

Notes: .....

What can be done to reduce reducing racial, ethnic and geographic disparities in service delivery? .....

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What resources are needed? .....

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7. Implementing or expanding the use of technology

To what extent is technology (e.g., electronic medical records, tele-health, videoconferencing, e-therapy) being used to support improved access to services?

Not at all ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensive use ☐

Notes: .....

How can the use of technology be expanded? .....

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What are the barriers to technology use? (e.g., Broadband access, lack of equipment, lack of skilled personnel, lack of phone access?) .....

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What resources are needed? .....

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IV. Improving financing strategies

Improving financing mechanisms to support rural substance use SOCs.

1. Use of national funding

To what extent is national funding available to expand services in rural communities?

Not available ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively available ☐

Notes: .....

Can national funding be supplemented with other sources of funding (e.g., eternal aid organizations, other sources of funding) to expand rural SOCs? .....

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Identify other funding sources that can be accessed? .....

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2. Use of regional or provincial funding

Are regional or provincial funds available to support the expansion of rural substance use SOCs?

Not available ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively available ☐

Notes: .....

If so, how can these funds be used to support the expansion of rural substance use SOCs? .....

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3. Use of local funding

Are local funds available (e.g., taxing authorities, special funding districts) to finance rural substance use SOCs?

Not available ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively available ☐

Notes: .....

4. Redeploying funds from higher-cost to lower-cost services

Are there opportunities to redeploy funds from higher-cost to lower-cost services to support rural substance use SOCs?

What can be done to support the redeployment of funds to support rural substance use SOCs?

What agencies/funders should be included in these discussions?

How would these funds be used?

5. The role of non-governmental organizations (NGOs) in supporting rural substance use SOCs?

What is the role of NGOs in financing and organizing rural substance use SOCs?

Notes:

What opportunities exist to coordinate funding across service systems to support rural substance use SOCs?

V. Supporting the rural substance use system of care workforce

Implementing mechanisms to provide ongoing training, technical assistance and coaching to providers in rural substance use SOCs.

1. Providing training, technical assistance, and coaching

To what extent are training, technical assistance and coaching services available to support the rural system of care workforce?

Not available ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively available ☐

What resources exist to provide training and technical assistance to providers in rural substance use SOCs to improve their capacity to provide care?

What resources are needed to provide training and technical assistance to providers in rural substance use SOCs?

How is new information on evidence-informed treatments, medications and policies communicated to providers in rural substance use SOCs?

What are the training and technical assistance needs of rural substance use care providers that are not being met?

Notes (be specific):

2. Creating training and technical assistance capacity

What can be done to create capacity to support providers in rural substance use SOCs?

What resources are needed to develop this capacity? .....

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What organizations can be engaged to develop this capacity? .....

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How can technology be used to support the training of rural providers? .....

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3. Implementing workforce development strategies

How effective are strategies to recruit and prepare the future workforce to work within rural substance use SOCs?

Not effective ☐ Somewhat ☐ Moderately ☐ Significantly ☐ Extensively effective ☐

Describe existing strategies (if any): .....

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What organizations should be involved in these strategies (or in developing strategies needed)? .....

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What resources are needed? .....

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4. Diversifying the rural workforce

Implementing strategies to diversify the workforce by including staff with cultural and language diversity, paraprofessionals, families and youth to support expansion of rural substance use systems of care.

What strategies are in place to increase the diversity of the rural substance use workforce? .....

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If none, how can they be implemented? .....

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If yes, how can they be improved? .....

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What groups should be involved? .....

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What resources are needed? .....

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VI. Using data

What is the capacity to collect and analyse data to improve rural substance use SOCs?

None ☐ Limited capacity ☐ Developing ☐ Significant ☐ Extensive capacity ☐

Notes: .....

What resources are needed to improve data capacity to support the delivery of rural substance use care systems? .....

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What organizations should be involved? .....

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VII. Cultivating rural leadership

Is there organized leadership/advocacy for rural substance use issues?

Who are they? Where are they located? (e.g., Government (national, provincial, local)? Professional associations? Others?)

What can be done to cultivate rural leaders to support rural substance use SOCs at different levels of the system?

How can rural leaders be engaged to support the development of rural substance use SOCs?

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