EVIDENCE-BASED RESOURCE GUIDE SERIES

Substance Misuse Prevention for Young Adults

SAMHSA
Substance Abuse and Mental Health Services Administration

Acknowledgments

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MESSAGE FROM THE ASSISTANT SECRETARY FOR MENTAL HEALTH AND SUBSTANCE USE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

As the first U.S. Department of Health and Human Services Assistant Secretary for Mental Health and Substance Use at the Substance Abuse and Mental Health Services Administration (SAMHSA), I am pleased to present the Evidence-based Practice Guidebook: Substance Misuse Prevention for Young Adults. In response to the charge of the 21st Century Cures Act to disseminate information on evidence-based practices and service delivery models, the National Mental Health and Substance Use Policy Lab has developed the Evidence-Based Resource Guide Series focused on the prevention and treatment of substance use disorders and mental illnesses. With this specific resource guidebook, SAMHSA's goal is to inform parents, families, practitioners and communities of prevention strategies for young adults ages 18-25, a group at increased risk for substance misuse.

According to the 2018 National Survey on Drug Use and Health (NSDUH), eight percent of Americans aged 12 or older used an illicit substance in the past 30 days. However, for young adults aged 18 to 25, approximately 24 percent used illicit drugs in the past 30 days. These emerging adults also have some of the highest rates of alcohol and substance misuse. While often described as youthful "experimentation" that is transitional in nature, substance misuse among young adults can have devastating consequences to an individual's health and social support system. For some, the pattern of misuse in young adulthood may lead to more problematic use and progression to substance use disorders (SUD).

This guide discusses effective prevention practices to mitigate risk factors associated with substance misuse and promote protective factors among: all young adults generally; young adults at significantly higher risk for substance misuse; and young adults who are not diagnosed with a SUD but are engaging in substance misuse.

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U.S. Department of Health and Human Services

FOREWORD

Evidence-Based Resource Guide Series Overview

The Substance Abuse and Mental Health Services Administration (SAMHSA), and specifically the National Mental Health and Substance Use Policy Laboratory, is pleased to fulfill the charge of the 21st Century Cures Act and disseminate information on evidence-based practices and service delivery models to prevent substance misuse, and help individuals with substance use disorders (SUD), serious mental illnesses, and serious emotional disturbances get the treatment and support needed for recovery.

Individuals at risk for substance misuse, serious mental illness and emotional disturbances vary in many ways. They live in families and communities in all parts of the country, come from the full spectrum of socio-economic backgrounds, and face a wide range of circumstances and challenges that influence their lives from childhood through adulthood.

Moreover, underlying this variation are deeper social and emotional experiences and conditions, as well as possible pre-dispositions that for some heighten the risk for substance misuse or impaired mental and

emotional health, and advance the progression toward SUD or mental illness. The variation among those at risk for SUD or mental illness and the factors related to heightened risk add complexity to the task of identifying effective prevention services, treatments, and supports for SUDs and mental illnesses.

Yet, substantial evidence is available to strengthen our understanding of behavioral health disorders, and help us identify the types of services, treatments, and supports that reduce substance use, lessen mental illness symptoms, and improve individuals' quality of life. Communities are eager to take advantage of what has been learned to help individuals in need.

The Evidence-Based Resource Guide Series is a comprehensive and modular set of resources intended to support health care providers, health care system administrators, and community members to meet

the needs of individuals at risk for, experiencing, or recovering from addictions and mental illness.

An important area of focus for SAMHSA is preventing substance misuse among young adults. This guide will review research findings and literature, examine emerging and best practices, and identify gaps in knowledge and challenges in implementation.

Each guide in the series was developed with input from an expert panel made up of federal, state, and non-federal participants. The expert panel provided input based on their knowledge of health care systems, implementation, evidence-based practices, provision of services, and policies that foster change. Panels included a unique group of accomplished scientists, researchers, providers, administrators from provider and community organizations, and federal and state policy makers.

Content of the Guide

This guide contains a foreword and five chapters. The chapters are modular and do not need to be read in order. Each chapter is designed to be brief and accessible to health care providers, health care system administrators, community members and others working to prevent substance misuse in young adults.

FW Evidence-Based Resource Guide Series Overview

Introduction to the series.

1 Preventing Substance Misuse Among Young Adults

Overview of the magnitude of substance misuse during young adulthood, factors that contribute to increased risk generally, and for specific population groups, as well as applications for prevention.

2 Effectiveness of Substance Misuse Prevention Among Young Adults

Current evidence of effectiveness of programs and practices to prevent substance misuse by young adults.

3 Evidence-Based Programs for Preventing Substance Misuse Among Young Adults

Examples of programs that use evidence-based practices for preventing substance misuse by young adults.

4 Guidance for Selecting and Implementing Evidence-Based Practices and Programs

Practical information to consider when selecting and implementing programs and practices to prevent substance misuse by young adults.

5 Resources for Evaluation and Quality Improvement

Guidance and resources for implementing evidence-based programs and practices, monitoring outcomes, and improving quality.

Focus of the Guide

Young adults (18-25 years) are at an increased risk of substance misuse. Individuals in this age range are typically self-focused and engaged in exploring their identities, experiencing increased independence and new choices and possibilities, as well as changes in residence, employment, education, and relationships.

These emerging adults also have some of the highest rates of alcohol and substance misuse. While often described as youthful "experimentation" that is transitional in nature, substance misuse among young adults can have devastating consequences to an individual's health and social support system. For some, the pattern of misuse in young adulthood may lead to more problematic use and progression to SUD.

This guide discusses effective prevention practices to mitigate risk factors associated with substance misuse and promote protective factors among:

- all young adults generally;
- young adults at significantly higher risk for substance misuse; and
- young adults who are not diagnosed with a SUD but are engaging in substance misuse.

CHAPTER

1

ISSUE BRIEF

Preventing Substance Misuse Among Young Adults

Young adulthood—typically defined as the period from ages 18 to 25 years—is a time of transition. This period is often characterized by identity exploration, self-focus, increased independence, and new choices and possibilities, as well as changes in residence, employment or education, and romantic relationships.[1] It is also a time when many individuals initiate or increase alcohol and other substance use such as tobacco or nicotine, and more recently with increasing frequency, marijuana.

For those who show heavier patterns of drinking, frequent binge drinking, regular nicotine intake, or early onset of substance use, interventions are required to prevent serious consequences of problem use and alter the path toward substance use disorder (SUD).[2] Such interventions include practices shown to delay substance use initiation in adolescents and reduce substance misuse and its associated consequences in young adulthood.

Effective prevention practices address factors that place young adults at increased risk for substance misuse–or protect them from substance misuse–and often focus on youth who may be more vulnerable due to their life circumstances, sexual orientation, and pre-existing health conditions.

This chapter provides information on the patterns of substance misuse, risk, and protective factors, and consequences of misuse—and describes how this knowledge applies to best prevention practices.

Substance Misuse Among Young Adults

Youth transitioning into adulthood have some of the highest rates of alcohol and substance misuse. For instance, in 2018, an estimated 35 percent of young adults aged 18 to 25 were binge drinkers (drank five or more drinks on a single occasion) in the past month compared to 4.7 percent of 12 to 17-year-olds and 25 percent of adults aged 26 or older.[3]

In 2018, more than one-fifth (19.1 percent) of young adults aged 18 to 25 smoked cigarettes in the past month. This percentage is larger than that for other age groups.[4]

Of greater concern is the current popularity and rise in e-cigarette use. In 2014, the prevalence of e-cigarette use among young adults was (13.6 percent).[5] By 2016, the prevalence of e-cigarette use among young adults aged 18–24 had risen to 23.5 percent.[6] Recent data on a popular brand of e-cigarette suggests that by the time youth reach young adulthood, current e-cigarette

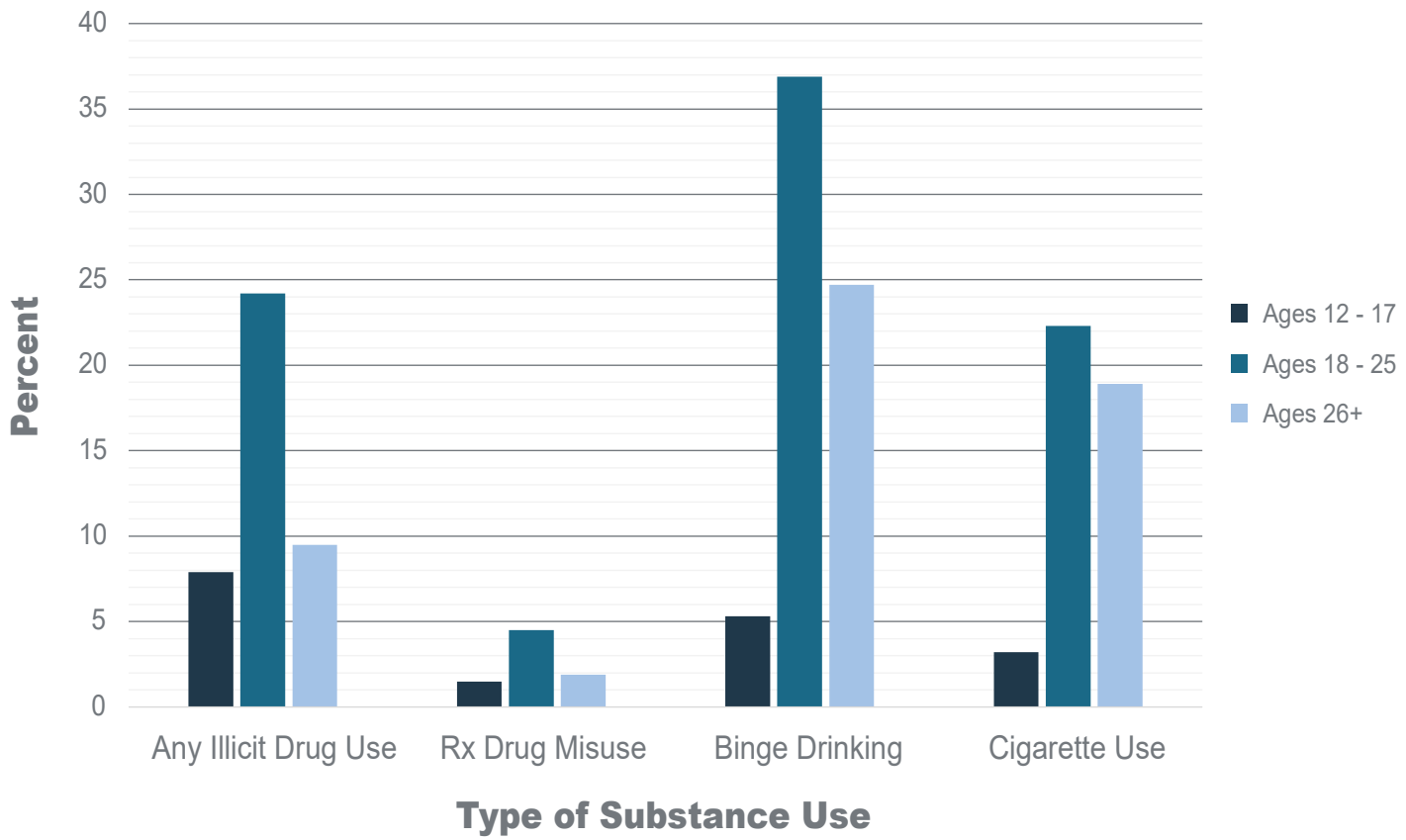
users are using regularly (vs. experimenting) and may already be addicted to nicotine. Among current users aged 15–17 years, 55.8 percent reported use on three or more days in the past month, and more than a quarter reported use on 10 to 30 days.[7]

Young adults are also more likely to use illicit substances. In 2018, 8 percent of Americans aged 12 or older used an illicit substance in the past 30 days. For young adults aged 18 to 25, approximately 24 percent used illicit drugs in the past month. The most commonly misused was marijuana.[4]

Furthermore, this population is more likely than other age groups to think that substance use is not harmful. Percentages of people who perceived great risk of harm from weekly binge drinking were lowest among young adults aged 18 to 25 (37.5 percent), followed by adolescents aged 12 to 17 (43.2 percent), then by adults aged 26 or older (45.4 percent). Young adults aged 18 to 25 were also less likely than adolescents aged 12 to 17 or adults aged 26 or older to perceive great risk from smoking marijuana monthly or weekly.[4]

Among young adults, those living in rural areas may be at greater risk as they have higher rates of alcohol and methamphetamine use than urban youth and are more likely to have engaged in driving under the influence of alcohol or other illicit substances.[8] Other demographic groups also have higher rates of substance use during emerging adulthood than their counterparts: males (vs. females); those who are single (vs. those in committed relationships), and those experiencing lengthy unemployment (vs. those in college or employed).[9] While males have higher rates of substance use than females, research shows that women often use and respond to substances differently which has implications for prevention. For example, compared to men, women are more likely to misuse prescription drugs to self-treat for problems other than pain, such as anxiety or tension.[10]

Figure 1. Past Month Substance Use by Age Groups–2018[4]



Key Definitions

- **Protective Factor:** Factors that directly decrease the likelihood of substance use and behavioral health problems or reduce the impact of risk factors on behavioral health problems.
- **Prevention Practice:** A practice is a type of approach, technique, or strategy—for example, skill building with young adults or messaging regarding the harmful effects of marijuana on the brain of young adults— intended to prevent initiation or escalation of substance use.
- **Prevention Program:** A program is a set of predetermined, structured, and coordinated set of activities. Some programs are proprietary, and some programs may be the intellectual property of the originator(s). A program can incorporate different practices. Guidance for implementing a specific practice can be developed and distributed as a program.
- **Risk Factor:** Factors that increase the likelihood of beginning substance use, of regular and harmful use, and of other behavioral health problems associated with use.
- **Substance Misuse:** Risky use of substances without addiction, including heavy or excessive use of alcohol, underage drinking, any use of illicit substances, and use of prescription medications without medical justification.

Trends in substance use among young adults vary by substance. Past-month cigarette use among young adults has been declining since 2002; cocaine use is decreasing; alcohol use has held steady; and marijuana use has steadily increased.[4] However, trends in marijuana use vary by college attendance with daily marijuana use continuing to rise for non- college young adults, but not for college students.[11] The percentage of young adults in 2018 who were current heroin users was higher than the percentages in most years between 2002 through 2007, but it was similar to the percentages in 2008 through 2016.[4]

Risk and Protective Factors

There are several explanations for increased risk of substance misuse among young adults. During adolescence, the limbic areas of the brain (which include the reward center) develop before the frontal lobe (which governs processing, natural inhibitions, decision-making, and cognitive flexibility).[12, 13] The frontal lobe completes development in the second decade of life.[13]

This imbalance in the maturity of brain operations, researchers argue, may result in immaturity, excess emotionality, drive towards reward-seeking, unreliable judgment, and consequentially, risk for substance misuse and SUD.[12, 14]

Other researchers have offered psychosocial explanations for the increased risk.[1] Substance use is considered part of identity exploration as young adults want to have a wide range of experiences before they settle into adult life. Additionally, as these individuals move away from home, the influence of parents becomes less important and the influence of friends increases. Peer networks may be more likely to encourage rather than discourage substance use.

The Socio-Ecological Developmental Model

In context, substance use among young adults is often the result of multiple contributing factors. Young adults are influenced not only by their specific personality traits or genetics but also by their relationships with others, the institutions and communities to which they belong, and the broader society in which those institutions are embedded.

For this reason, we apply a socio-ecological model to understand research on young adults. This model consists of multiple levels that consider the different contexts and settings within which a person interacts as they age. What goes on at each level is influenced by and influences the other. Contexts include the following:[15, 16]

- **Individual:** Factors specific to the individual, such as age, education, income, genetics, health, and psychosocial strengths.
- **Relationship:** An individual's closest social circle—family members, peers, teachers, and other close relationships— that contribute to their range of experience and may influence their behavior.
- **Community:** The settings in which social relationships occur, such as schools, workplaces, online communities, and neighborhoods.
- **Societal:** Often referred to as social determinants of health, societal level factors include the conditions in the environment in which people live that affect their health and well-being. These conditions include, for example, historical trauma, discrimination, social constructions of gender, laws limiting access to substances, and media portrayal of substance use.

- Empirical evidence supports this lens, revealing that several factors place young adults at increased risk for substance misuse. **Table 1-A** lists risk factors identified by at least two longitudinal studies.[9] Some of these factors emerge during childhood and adolescence and provide early opportunities to intervene. Other factors are more related to young adulthood and point to the importance of social contexts that involve greater freedom and less social control, such as attending college and living in a community with laws and norms favorable toward use. Therefore, risk factors not only emerge at different stages of development, but across different contexts or levels.

Table 1-A. Risk Factors for Substance Misuse in Young Adulthood[9]

Childhood (C), Adolescence (A), Young Adulthood (YA). Risk factors measured in the developmental periods indicated predict substance misuse in young adulthood.

Socio-Ecological Level	Developmental Period		
	C	A	YA
Individual			
Adolescent substance use		✓	
Constitutional factors	✓		
Early and persistent antisocial behavior	✓	✓	✓
Early initiation of substance use	✓		
Internalizing behaviors (e.g., depression, anxiety, social withdrawal)	✓	✓	
Relationships			
Family management problems	✓	✓	
Family history of substance use	✓	✓	
Family conflict	✓	✓	✓
Favorable parental involvement in substance use	✓	✓	
Friends who engage in substance use		✓	✓
Community / School			
College attendance/environment			✓
College fraternity/sorority membership			✓
Academic failure	✓	✓	✓
Lack of commitment to school		✓	
Societal / Community			
Availability of substances			✓
Laws/norms favoring substance use, firearms, and crime			✓
Income and parental education	✓		✓

Although research on protective factors is limited, studies show that solid bonds and support from family of origin, as well as healthy beliefs and strong values, can protect young adults from substance misuse.[9] Other research shows additional factors protect young adults from substance misuse, for example: social, emotional, behavioral, and moral competence; self-efficacy; spirituality; resiliency; opportunities for positive social involvement; recognition for positive behavior; and being in a committed relationship with a partner who does not misuse alcohol or other substances.[17]

For young adults, an adaptive and protective coping strategy is help seeking—or knowing when to seek help, feeling confident in one's abilities, and comfortable enough to seek care for distress or suspected mental health disorders. This is an especially important issue for individuals who may feel like they can and should deal with mental health issues alone, are accustomed to parents arranging care, or do not readily recognize they may have a problem. **Table 1-B** lays out barriers and facilitators to help- seeking in young adults that should be addressed.[18]

Table 1-B. Barriers and Facilitators to Mental Health Help-Seeking Among Young Adults[18]

Barriers	Facilitators
Fear of being stigmatized	Positive experience with help-seeking
Limited confidentiality and trust	Social support of encouragement from others
Difficulty identifying symptoms	Perceiving problem as serious
Concern about provider characteristics	Confidentiality and trust in provider
Self-reliance	Ease of expressing emotion and openness
Limited knowledge about mental health services	Education and awareness
Stress about help-seeking	Positive attitudes toward help-seeking

Risk and protective factors operate in ways that inform interventions to prevent or reduce substance misuse among young adults:

- ***They are correlated and cumulative.*** Risk factors tend to be positively correlated with one another and negatively correlated to protective factors. In other words, people with some risk factors have a greater chance of experiencing even more risk factors, and they are less likely to have protective factors. Risk and protective factors also tend to have a cumulative effect on the development of behavioral health problems, including substance misuse. Young adults with multiple risk factors have a greater likelihood of experiencing substance misuse problems or engaging in other related harmful behaviors while individuals with multiple protective factors are at a reduced risk. These correlations underscore the importance of intervening early and implementing programs and practices that target multiple, rather than single, factors.
- ***Individual factors can be associated with multiple outcomes.*** Though preventive programs and practices are often designed to produce a single outcome, both risk and protective factors can be associated with multiple outcomes. For example, negative life events are associated with substance misuse as well as anxiety, depression, and other harmful behavioral health problems.

Prevention efforts targeting a set of risk or protective factors have the potential to produce positive effects in multiple areas.

- ***They are influential over time.*** Risk and protective factors can have influence throughout a person's lifespan. For example, early stressful life events (e.g., poverty, family disruption) and negative parent-child interactions disrupt children's ability to regulate their behavioral responses which can evolve into problem behavior in middle to late childhood and potentially substance use in early adolescence.[19] Risk and protective factors within one particular context— such as the family—may also influence or be influenced by factors in another context. Effective parenting has been shown to mediate the effects of multiple risk factors, including poverty, divorce, parental bereavement, and parental mental illness.

Substance Use and Mental Health

Young adults with serious mental health conditions have higher rates of SUD than those without. Moreover, when compared to other developmental periods, co-occurrence of serious mental health conditions and SUDs is concentrated in young adults. Specifically, 2.6 percent of young adults have a co-occurring SMI and SUD compared to 1.7 percent of adults aged 26 to 49 years and 0.5 percent of adults aged 50 years and older.[4]

Several factors differentiate adolescents who developed single mental health diagnoses from those who developed comorbid mental health and SUDs. These include higher levels of perceived family support, higher income levels, and better parental marital adjustment.[20]

Of greatest concern are consequences of substance misuse among young adults with mental health diagnoses who already face significant obstacles navigating the developmental challenges of adulthood.[21] These consequences include greater risk for dropping out of school, unemployment, and legal problems[22, 23] and functional impairment.[24]

Vulnerable Population Groups

In addition to those with SMI, other population groups are at increased risk for substance use during young adulthood.

Sexual Minority Young Adults. Because they are more likely than heterosexual youth to experience certain stressors, such as stigma, discrimination, harassment and violence, young adults who are sexual minorities are at increased risk for various behavioral health issues, including substance misuse. Surveys have found that sexual minorities have higher rates of substance misuse and SUDs than people who identify as heterosexual.[25] Although research specific to young adults who identify as LGBTQ+ is limited, a meta-analysis based on studies of adolescents found that lesbian, gay, and bisexual youth were 90 percent more likely to use substances than heterosexual youth, and the difference was pronounce in some subpopulations.[26] Bisexual adolescents misused substances at 3.4 times the rate of heterosexual adolescents, and lesbian and bisexual females misused substances at four times the rate of their heterosexual counterparts. Similarly, studies have found that transgender adolescents are more likely to engage in problem drinking and substance use behaviors than their cisgender peers.[27-29]

Young Adults Who Are Homeless. Substance use among young adults experiencing homelessness is higher than that of peers who are not homeless.[30] It is estimated that 39 to 70 percent of youth experiencing homelessness misuse alcohol and other substances.[31, 32] Social networks, economic factors, and more negative expectation about the future also are associated with relatively high levels of substance use among this population.[33] Polysubstance use is also common among young adults experiencing homelessness; and those who use substances are more likely to have co-occurring mental health disorders such as depression, anxiety, and conduct disorders, and to engage in high-risk behaviors, including risky sex.[34, 35]

Young Adults Aging out of Foster Care. Youth in foster care are thought to be at greater risk of substance misuse because of their documented experiences with trauma and maltreatment and exposure to parental alcohol and substance use. A review of the evidence provides partial support for these concerns, revealing that alcohol and marijuana misuse is similar among foster and non-foster youth and recent alumni.[36] However, use of illicit substances is higher among foster youth than the general population; and the prevalence of SUDs is markedly higher among youth in foster care.

Juvenile Justice-Involved Young Adults. Young people involved in the juvenile justice system have substantially higher rates of SUD than their counterparts.[37] Young offenders are also more likely to experience traumatic adverse childhood experiences (e.g., parental abuse and neglect, exposure to neighborhood violence), which may contribute to substance misuse in adolescence. If substance misuse and the constellation of related problems that system- involved youth face are not addressed early, the risk for recidivism and SUD increases into young adulthood.[38]

Young Adults in the Military. Heavy alcohol and tobacco use, and especially prescription drug misuse, are much more prevalent among young adult veterans and members of the armed forces than among their civilian counterparts.[39] Reasons for these differences include stresses associated with deployment, combat exposure, and the unique culture of the military.[40] Military personnel also experience combat-related injuries and strains associated with carrying heavy equipment. These injuries produce pain[41] that physicians may treat with highly addictive pain-reliever prescriptions that can become difficult to stop using once started.

Young Adults in College Fraternities or Sororities. College students who belong to fraternities and sororities have higher rates of substance use than their college peers who do not join such organizations. This is because those who use substances before college, especially those who engage in heavy drinking, may be more likely to join groups that support their drinking norms; and once enrolled, the social subculture serves to reinforce and contribute to an increase in their heavy drinking.[42] Compared to other college students, young men who belong to fraternities are at greater risk of heavy drinking well into adulthood, with one study finding that by age 35 almost half of residential fraternity members reported alcohol use disorder symptoms.[43]

Young Adults with Attention Deficit Hyperactivity Disorder (ADHD). Children with ADHD are at increased risk of developing a SUD as young adults.[44-48] People with ADHD are twice as likely to develop a SUD as the general population.[49,50] Explanations for increased risk include self-medication to temper moods or cope with stress, demoralization, and feelings of failure often associated with this chronic condition.[51] Other explanations focus on abnormal brain structures in youth and adults with ADHD including relatively smaller areas of the brain that control processes like reasoning, memory, and problem solving, and responses like fear and pleasure;[52] differential development of areas that govern emotion, motivation, and the ability to associate actions with consequences;[14] and different patterns of impulse.[53]

Youth Perceptions of Substance Misuse

The attitudes and beliefs that young adults have about substance misuse depend on the substance and have changed over time. Perceptions of harm are especially important. A person's belief that using substances will cause them harm together with their belief that abstaining or reducing their use will lead to improved health is thought to predict the extent of their substance use.

Marijuana Use: Overall, people's perception of marijuana harm has decreased as more states have legalized use of medical and recreational marijuana. Despite growing evidence about the negative effects of marijuana on maturing brains, 71 percent of young adults report they do not view regular marijuana use as very harmful. In 2017, the experimental use of marijuana was perceived to be risky by only about 7 to 10 percent of this population.[9]

Illicit Substance Use: Among young adults aged 19-30 years old, 46 to 50 percent believed the use of cocaine involved great risk, 71 to 74 percent believed the use of heroin involved great risk, and 44 to 48 percent believed the use of narcotics other than heroin involved great risk. In addition, among young adults, 30 to 41 percent of them saw a great risk in the experimental use of LSD.[9]

Alcohol Use: In 2017, 38 to 42 percent of young adults saw binge drinking or occasions of heavy drinking (having five or more drinks in a row) on weekends as dangerous. This increased perception of risk is attributed to the success of media campaigns against drunk driving and the increase of the drinking age in the United States. However, the perception that having one or two drinks per day is dangerous continues to be low.[9]

Tobacco Use: In 2017, 84 to 86 percent of young adults perceived regular pack-a-day cigarette smoking as a high-risk behavior. However, in recent years, 18-year-olds consistently showed lower perceived risk of cigarette smoking than other adults.[9]

E-Cigarettes: The most commonly cited reasons for using e-cigarettes among both adolescents and young adults are curiosity, flavoring/taste, and low perceived harm compared to other tobacco products. Unlike adults, adolescents and young adults do not report using e-cigarettes as an aid to quit conventional cigarettes.[5]

Prescription Drug Misuse: Young adults are least concerned about the consequences of prescription drug misuse. They believe that these substances are generally used for legitimate purposes, and thus are not as harmful as other illicit substances.[10]

Negative Consequences of Substance Use

Young adults who misuse substances and/or develop a SUD are more likely to struggle to attain traditional adult roles and responsibilities such as forming and maintaining healthy relationships and attaining and holding a job.[54] Substance misuse is also associated with more immediate repercussions with most evidence coming from studies focused on drinking. For example, about half of college students report past-year hangovers, nausea, and vomiting due to drinking, and about one-fourth report blackouts (or memory loss while intoxicated).[55] Excessive drinking among young adults is also associated with increased physical and sexual assaults, insults and humiliation, preventing others from studying/sleeping, and vandalism.[55, 56] Of particular concern are the effects of substances on the developing brain, links to chronic disease, and injury and death resulting from motor vehicle accidents.

Effects of Substances on the Brain

Until the age of 25, the human brain is still developing and thus vulnerable to neurotoxins like alcohol and other substances, and to activities like violence, driving under the influence, and others.[57] Substance misuse can permanently change brain areas, resulting in lower intelligence (IQ), reduced motivation, increased impulsivity, and reduced attention span.[4,12,22] Substances are most likely to negatively affect the following parts of the developing brain during emerging adulthood:

- ***The basal ganglia.*** This part of the brain plays an important role in positive forms of motivation. It supplies pleasurable effects of healthy activities like eating, socializing, and sex. It is also involved in the formation of habits and routines.
- ***The amygdala.*** This part of the brain plays a role in the perception and management of stress including anxiety, irritability, and unease. When an individual stops taking substances or the drug-high fades, this area of the brain increases the sense of anxiety and unease.
- ***The prefrontal cortex.*** This is the last part of the brain to mature in humans, and fully matures in the mid-20s. It powers the ability to plan, solve problems, make decisions, and exert self-control over impulses.
- ***The brain stem.*** This essential part of the brain controls basic functions critical to life, such as heart rate, breathing, and sleeping.

Substance Use and Chronic Disease

Alcohol-, tobacco- and other substance-related problems among young adults can have long-term effects on physical well-being.[58] Substance misuse is associated with health issues including cardiovascular diseases, respiratory diseases, cancers, liver damage, kidney damage, mental disorders, prenatal defects and others.[12] Injectable substances can increase the risk of infections such as the human immunodeficiency virus (HIV) and hepatitis C (a serious liver disease).[4]

More importantly, for those young adults with chronic underlying diseases such as asthma and diabetes, there is an immediate negative impact of substance misuse on their already compromised well-being. For this group, the foreshortened timetable of negative repercussions raises the stakes in terms of health outcomes and requires that health care providers and social supports remain vigilant and understand how to intervene.

Substance Use and Motor Vehicle Collisions

IImpaired driving is especially prevalent among young adults. In 2018, 15.3 percent of those aged 16 to 25 reported that they drove under the influence (DUI) of alcohol or selected substances, whereas, 10.2 percent of those 26 and older drove under the influence.[4] Self-reports of DUI peaks for those ages 20 to 25 with 21.2 percent reporting DUI. National Highway Safety Administration (NHTSA) data is even more alarming, indicating that the highest percentage of drunk drivers (with Blood Alcohol Concentrations (BACs) of 0.08 g/dL or higher) were aged 21 to 24 (at 27 percent), followed by those aged 25 to 34 (at 26 percent).[59] Young adults are also more likely than other age groups to ride with an impaired driver—with 33 percent of recent high school graduates reporting having done so at least once in the past year.[60] Of greater concern are injury and death associated with DUI. In 2017, 42 percent of drivers involved in fatal drunk-driving crashes were young drivers aged 16 to 24.[59]

Conclusion

Understanding the scope, etiology, and consequences of substance misuse among young adults helps inform the selection of appropriate, practical, and acceptable interventions to prevent SUDs among them.

Scientists have developed a broad range of practices and programs that positively alter the balance between risk and protective factors for substance use in young adults. Well-researched evidence-based programs can significantly reduce early use of tobacco, alcohol, and other substances.[61] These prevention programs work to boost ***protective factors*** and eliminate or reduce ***risk factors*** for substance use. The next chapter provides information on what constitutes an evidence-based program and provides examples of prevention programs evaluated and shown to reduce alcohol or other substance use during adolescence or the progression to harmful use during young adulthood.

Key Points

1. Young adults are at increased risk of substance misuse, with most commonly misused substances being alcohol, marijuana, and tobacco or nicotine.
2. Risks for misuse include individual, relationship, community, and societal factors that interact to influence them as they age.
3. Risk factors may emerge during childhood, adolescence, and/or adulthood.
4. Less is known about factors that protect young adults from substance misuse.
5. Some groups of young adults are especially vulnerable to substance misuse due to co-occurring mental or developmental disorders, life circumstances, and/or the way others treat them.
6. Substance use can permanently affect the developing brain leading to addiction and other negative changes in cognitive functioning.
7. Preventive intervention is needed to delay onset of substance use during adolescence and reduce substance misuse and associated harms during young adulthood.
8. Effective prevention practices aim to mitigate risk factors associated with increased substance misuse by promoting protective factors for universal, selective, and indicated populations.

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CHAPTER

2

Effectiveness of Substance Misuse Prevention Among Young Adults

Prevention can reduce the burden of substance misuse and its associated costs during young adulthood. There is strong scientific evidence supporting the effectiveness of prevention programs and policies aimed at preventing the initiation of substance use during adolescence and reducing problematic use and negative consequences during young adulthood. This chapter reviews the evidence base (programs and policies supported by research) for the use of prevention strategies with young adult populations.

Evidence-Based Prevention Programs and Policies

Appendix 2 includes brief information on universal, selective, and indicated prevention programs evaluated and shown to reduce alcohol or other substance use during adolescence or the progression to harmful use during young adulthood. Programs included are based on a series of extensive reviews of published research studies. Programs developed for individuals who already had a substance use disorder (SUD) were excluded.

Sources and Process

The review of published research primarily focused on refereed professional journals, which were searched using relevant EBSCO databases (e.g., PubMed, Medline, PsycINFO). Government reports, annotated bibliographies, and relevant books and book chapters were also reviewed. In addition, programs were searched in *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health*; the Centers for Disease Control and Prevention (CDC) *Guide to Community Preventive Services*; and the Office of Juvenile Justice and Delinquency Prevention (OJJDP) *Model Programs Guide* (operated by CrimeSolutions.gov). From these collective sources, a set of over 400 core prevention programs was identified for possible inclusion in this guide. Of those, 70 met the evaluation criteria (see Appendix 2).

Evaluation Criteria

Programs were included only if they met the program criteria listed below. These criteria are the same as those used in *Facing Addiction in America* as well as *Blueprints for Health*.

- **Experimental design:** All programs were evaluated using a randomized trial design or a quasi-experimental design that used an adequate comparison group. The prevention effects described compare the group or individuals that received the prevention intervention with those who did not.

- **Sample specification:** The behavioral and social characteristics of the sample for which outcomes were measured must have been specified.

- **Outcome assessments:** These assessments must have included pretest, posttest, and follow-up findings. The need for follow-up findings was considered essential given the frequently observed dissipation of positive posttest results. Follow-up data had to be reported more than six months beyond the time point at which the primary components of the intervention were delivered in order to examine the duration and stability of intervention effects. Evaluation studies of institution- and community-based programs or policies were exempt from this rule regarding follow-up data.

- **Effects:** Programs were included only if they produced outcomes showing a measurable difference in substance use or substance use-related outcomes between intervention and comparison groups based on statistical significance testing. Programs that broadly affected other behavioral health problems or risk and protective factors but did not show reductions in at least one direct measure of substance use were excluded.

- **Additional quality-of-evidence criteria:** The program provided evidence that seven quality of evidence criteria were met: (1) reliability of outcome measures, (2) validity of outcome measures, (3) pretest equivalence,(4) intervention fidelity, (5) analysis of missing data, (6) degree and evaluation of sample attrition, and (7) appropriate statistical analyses.

Populations Targeted

Prevention programs and practices are most effective when they are matched to their target population's level of risk and fall into three broad categories:[1]

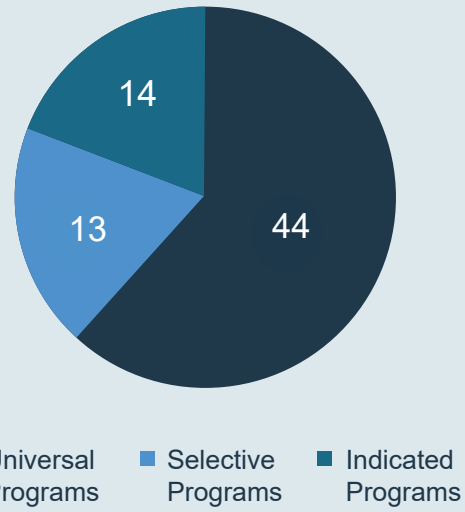
- **Universal programs and practices** take the broadest approach and are designed to reach all individuals. Universal prevention programs and practices might target all individuals in schools, whole communities, or workplaces.
- **Selective programs and practices** target biological, psychological, or social risk factors that are more prominent among high-risk groups than among the wider population. Examples include prevention education for college students or peer support groups for young adults with a family history of SUDs.
- **Indicated programs and practices** target individuals who show signs of being at risk for a SUD. These types of interventions include referral to support services for young adults who violate substance use policies or screening and consultation for families of young adults admitted to hospitals with potential alcohol-related injuries.

Most of the programs identified in Appendix 2 target universal populations.

Prevention Program Types

Using the criteria discussed within this chapter, a total of 70 programs were identified as evidence-based for preventing substance misuse among young adults. Appendix 2 includes information on each of the programs.

The programs fall into these three categories: (1) Universal, (2) Selective, and (3) Indicated. In this chart, one program is counted in two categories since the approach is different depending on the age group targeted.



Prevention Practices

Evidence suggests that prevention programs demonstrating evidence of effectiveness in reducing substance misuse and its consequences in young adulthood often incorporate practices informed by theories that explain what might cause substance misuse and what might change factors that contribute to it. Most of the evidence we have on effective programs and practices comes from evaluations of programs implemented during childhood and adolescence. Many of these programs have lasting effects, as their participants continue to show delayed or reduced substance misuse well into young adulthood when compared with nonparticipants.

Practices That Focus on Childhood and Adolescence with Impacts Lasting into Young Adulthood

Programs implemented in childhood and adolescence with protective effects lasting into young adulthood typically have employed these practices:

Behavior Modification and Behavior Management

Behavior modification encourages individuals to change problem or harmful behaviors by providing rewards in exchange for good behavior, whereas behavior management encourages individuals to effectively address problem behaviors through persuasion and teaching the individual how to behave in a prosocial way.

Classroom Management

This practice includes systems that emphasize student expectations for behavior and learning, promote active learning and student involvement, and identify important student behaviors for success.[2]

Full Service Schools

These schools provide comprehensive academic, social, and health services (e.g., mentoring, tutoring, and mental health services) for students, students' family members, and community members.

Home Visiting Services

Services are provided by trained professionals who meet regularly in the homes of selective expectant parents or families with young children to teach positive parenting skills and parent-child interactions; promote strong parent-child communication to stimulate language development; provide information and guidance on a range of health-related topics; conduct screenings and provide referrals to address postpartum depression, substance misuse, and family violence; screen children for developmental delays and facilitate early diagnosis and intervention; and connect families to other services and resources as appropriate.[3]

Parenting Skills Education

Content will vary depending on age of child or youth, but typically aims to enhance (1) family functioning and management (e.g., practice in developing, discussing, and enforcing family policies on substance misuse, training in substance use education and information, training on rule-setting, techniques for monitoring activities, praise for appropriate behavior, and moderate, consistent discipline that enforces defined family rules) and (2) family bonding (e.g., through skills training on parent supportiveness of children, parent-child communication, and parental involvement).

Social and Emotional Skills Education

This type of approach helps children and adults learn to understand and manage emotions, set goals, show empathy for others, establish positive relationships, and make responsible decisions[4] and can also help youth develop social competencies with communication, self-efficacy, assertiveness, and substance resistance.

Practices That Focus on Young Adults

Compared to programs for children and adolescents, there are fewer programs with demonstrated evidence of effectiveness that are designed to reduce substance misuse among young adults. Evidence-based programs implemented in young adulthood typically have employed these practices:

Cognitive Restructuring

This practice is drawn from cognitive therapy and helps individuals identify, challenge, and alter thought patterns and beliefs that support substance misuse.

Community Mobilization

This approach brings together multiple sectors to address substance misuse among young adults by assembling necessary resources, disseminating information, generating support, fostering cooperation, and developing a plan of action informed by evidence-based practice.

Social Norms Campaigns or Education

These practices focus on positive messages about healthy behaviors and attitudes that are common to most people in a group (i.e., athletes, fraternity members, college students) and are designed to correct misconceptions that normalize substance use behaviors.[5]

Environmental Changes

The focus is to alter the social, legal, or physical context in such a way as to help individuals make healthy choices and often combines multiple practices (e.g., communication campaigns, screening and brief intervention, policy, enforcement).[6]

Policy Enforcement

This practice includes making sure that laws and regulations designed to reduce access to alcohol and other substances are implemented effectively by holding adults accountable, providing deterrents to using or incentives for not using, restricting use and sale, and restricting types of advertising.

Screening and Brief Intervention

This intervention includes a validated screening tool sensitive to a given substance use problem followed by a brief intervention based on the results of the screening that includes tailored feedback about screening results, concrete advice based on medical concern, and support for individual goals.

Wraparound Services

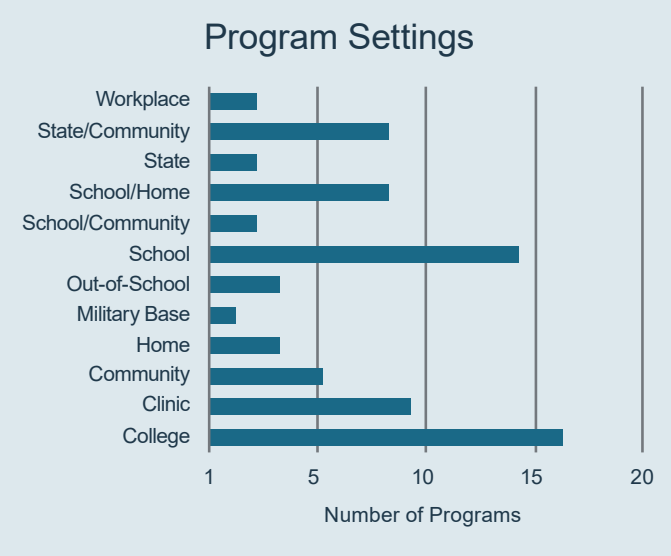
Wraparound services provide comprehensive, holistic, and tailored youth- and family-driven responses to young adults who face serious mental health or behavioral challenges.[7]

Prevention Settings

Program developers typically design interventions for implementation in specific settings. These settings are often places where adolescents and young adults congregate.

The majority of the programs in Appendix 2 are implemented in college settings, followed by those implemented in elementary, middle, and high school settings.

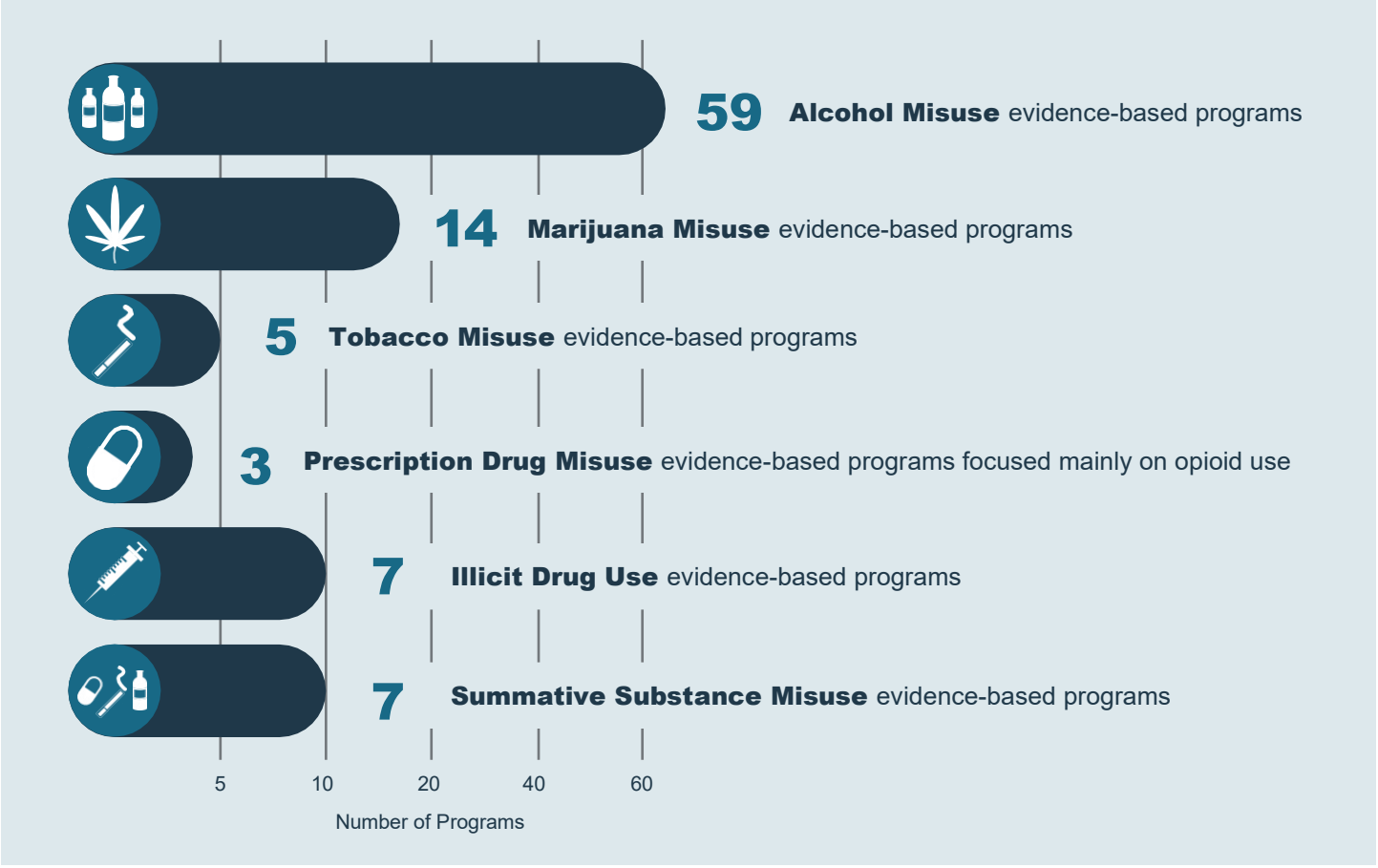
Three programs, one delivered in a clinical setting and two others delivered at home, were computer-assisted. Adolescents and young adults make ample use of online technologies to socialize and seek health information. More research and development are needed to understand how online and mobile health technologies might be harnessed to address substance misuse among young adults. For example, although mobile health applications proliferate, few have been evaluated to test their effectiveness in producing behavior change.



Focus on Substance Misuse

Appendix 2 includes programs associated with changes in substance misuse among young adults. While this guide focuses on young adults, the programs listed in Appendix 2 include programs associated with changes in substance use behaviors among adolescents. This is because substance misuse during adolescence is a strong predictor of substance misuse in young adulthood.

The majority of the programs focus on alcohol misuse (59 programs). More research and development are needed to understand whether existing programs and practices that are tested and proven effective with alcohol can be adapted to address other substances, or whether more innovative approaches are needed to address risk and protective factors unique to other types of substance misuse among young adults.



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CHAPTER

3

Evidence-Based Programs for Preventing Substance Misuse Among Young Adults

This chapter highlights seven programs evaluated and proven effective in reducing substance misuse and/or its consequences among young adults. Most of the programs target alcohol misuse as that is the most commonly used substance during young adulthood.

Choosing Programs

As seen in Chapter 2, researchers have evaluated and found that many programs prevent or reduce substance misuse and its consequences during adolescence and young adulthood. Seven of these programs were selected by the expert panel to be featured in this chapter. Two of the programs, Family Check-Up and Communities Mobilizing for Change on Alcohol target adolescent substance use which has been linked to substance misuse in young adulthood, whereas, the other programs target young adult substance misuse. Some of the programs are designed and implemented with racially and ethnically diverse populations.

Format of the Chapter

Following is a succinct description of each of the seven programs, including a brief program description, an explanation of the program's mechanisms of change, substances targeted, the population with which the program was tested, risk factors addressed and protective factors promoted, settings where tested, program duration, implementation considerations, substance misuse outcomes, and supporting evaluation studies. The format of each description is uniform to enable the reader to quickly find and compare information across programs.

Adults in the Making

Substances Targeted

Alcohol (primary target) and other substances

Target Population

African American youth in the last two years of secondary school and their parents residing in six rural Georgia counties with high poverty and unemployment rates

Risk Factors Addressed

- Communities with high poverty rates
- Limited access to youth programs
- Racial discrimination
- Parent-child conflict
- Friends who engage in alcohol and other substance use

Protective Factors Promoted

- Development of problem-solving skills
- Goal-setting
- Skillful response to racial discrimination
- Ability to self-regulate
- Use of developmentally-appropriate emotional and instrumental social support
- Responsible decision-making and taking responsibility for one's actions

Setting

Group meetings at community facilities in rural Georgia counties

Duration

Six weekly group meetings at a community facility, with a total program time of 12 hours

Description

Adults in the Making (AIM) is a family-centered intervention designed to promote resilience and prevent substance use by enhancing protective factors for African American youth as they enter adulthood. Protective processes addressed in the intervention include developmentally appropriate emotional support, educational mentoring, and strategies for dealing with discrimination.

AIM provides adolescents experiencing racism with strategies for self-control and problem-focused coping. The intervention also supports youth in developing and pursuing educational or career goals, and connects them with community resources. AIM consists of separate skill-building courses for parents and youth, followed by a joint parent-youth session, where parents are able to exhibit the skills they learned in the skill-building training.

Mechanism of Change

The AIM program promotes social and emotional competencies by drawing on stress-coping and social cognitive theories. Stress-coping theory argues that substance misuse and risky sexual behavior are consequences of life stress and negative life events, and social cognitive theory suggests that supportive and positive family relationships foster the ability to develop problem-solving skills.[1]

As such, AIM seeks to safeguard against the negative impact of life stressors on African American youth in rural areas by promoting positive family relationships so that youth are better suited to handle life stressors and less inclined to engage in risky substance use as they grow into adulthood. AIM also focuses on enhancing youth's ability to self-regulate, which includes the ability to set goals and solve problems—especially in settings where racial discrimination is present and where they are likely to be exposed to substance use by friends and acquaintances.

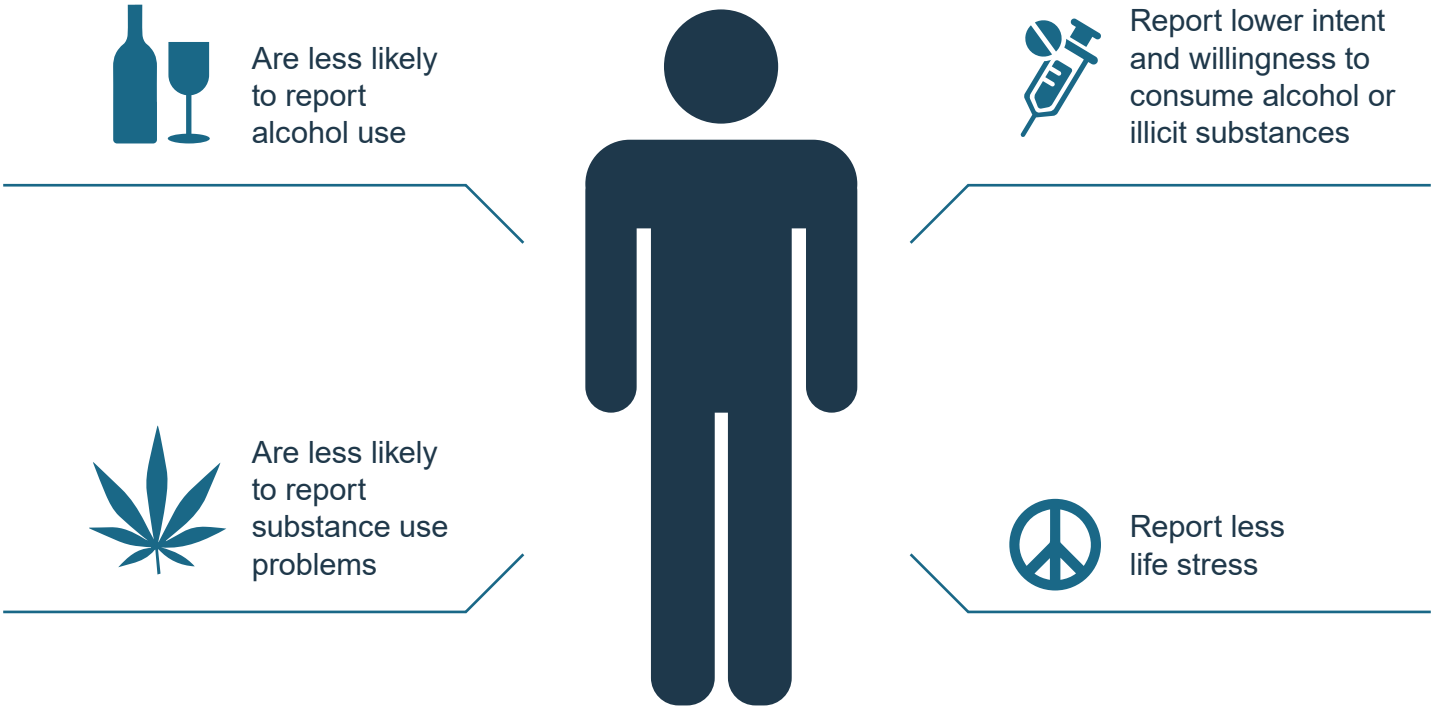
Implementation Requirements

- Training for youth and parent group facilitators (AIM group leaders who led the youth and parent training sessions were instructed during three training sessions over four days)
- Meeting facility for training activities
- Support for youth and parent transportation
- Cost for participant recruitment and program marketing

Outcomes

AIM is most effective for individuals with more contextual risk factors. Contextual risk factors include conflict with parents, friends who engage in alcohol and other substances, and perceived racial discrimination.

Individuals with relatively more contextual risk factors that participate in AIM:[1,2]



Substance Targeted

Alcohol

Target Population

Alcohol retailers and consumers

Risk Factor Addressed

Easy access to alcohol by minors

Protective Factor Promoted

Limited access to alcohol by minors

Settings

Implemented at the federal and state level; state laws governing alcohol pricing vary widely

Duration

Varies according to legislation

Alcohol Taxes

Description

Alcohol price increases involve raising the unit price of alcohol by raising excise taxes (often included in the price of alcohol) and/or sales taxes (charged in addition to the price of alcohol). The revenue generated from tax increase(s) can be used to support public health and public safety services. Alcohol taxes are implemented at the state and federal level, and are beverage-specific (i.e., they differ for beer, wine, and spirits). States may adjust taxes regularly so their effects do not erode over time due to inflation.

Mechanism of Change

Alcohol excise taxes are a type of regulatory policy designed to reduce easy access to alcohol. The policy is based on the premise that as the price of alcohol increases, the demand for alcohol will decrease. In addition to tax-related polices, there are several other regulations that may directly or indirectly affect the prices of alcoholic beverages.

Examples include:

- regulations on wholesale and retail distribution
- bans on price-related promotions (e.g., happy hours)
- targeted minimum-pricing policies.

Many states also implement other regulatory policies that reduce the availability of alcoholic beverages, including:

- limits on the places where or times when alcoholic beverages can be sold or
- dram shop laws

These regulations raise the time and legal costs associated with obtaining alcohol.[3]

Implementation Requirements

- Familiarity with local, state, and federal tax policies and regulations
- Knowledge of governmental processes required for the development and implementation of policies and regulations
- Stakeholders supportive of price increases
- Communication campaign to build stakeholder support for alcohol price increases
- Educational materials based on research and reliable data about effectiveness of alcohol price increases

Implementation Resources

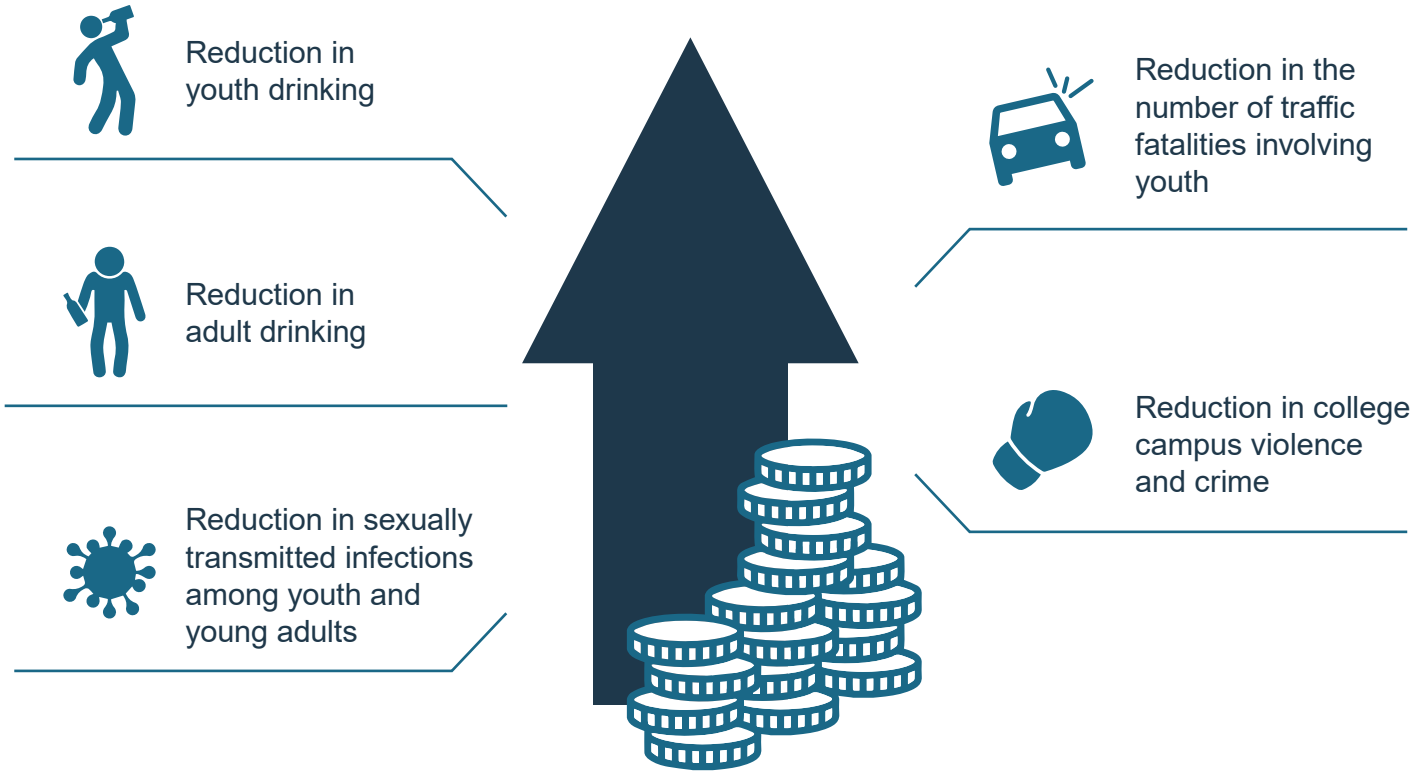
National Institute on Alcohol Abuse and Alcoholism's **Alcohol Policy Information System** provides detailed information on a wide variety of alcohol-related policies in the United States at both state and federal levels, as well as policy information regarding recreational cannabis use.

Centers for Disease Control and Prevention's **Pricing Strategies for Alcohol Products** provides brief information on implementation considerations as well as links to other tools.

Outcomes

In populations with a high prevalence of heavy drinkers (defined as more than 5 percent of the population), the most effective and cost-effective intervention is taxation.

Alcohol price increases are associated with:



Brief Alcohol Screening and Intervention for College Students Program

Substance Targeted

Alcohol

Target Population

College students who drink alcohol heavily and have experienced or are at risk for alcohol-related problems

Risk Factors Addressed

- Personal beliefs that favor risky alcohol use
- Social norms that favor risky alcohol use
- Family history of alcohol misuse or use disorder

Protective Factors Promoted

- Personal efficacy to change behavior
- Healthy goal-setting and decision making

Settings

University settings (including health clinics, mental health centers, residential units, and administrative offices); private office space is needed for confidential interviews

Duration

Two 60 – 90 minute interviews over three months, with a brief online assessment survey taken by the student after the first session

Description

Brief Alcohol Screening and Intervention for College Students (BASICS) is a harm reduction program for college students who drink alcohol heavily and have experienced or are at risk for alcohol-related problems. The program is aimed at revealing the discrepancy between the student's risky drinking behavior and his/her goals and values, and motivating students to reduce alcohol use in order to decrease the negative consequences of drinking. BASICS consists of two individual interviews with a brief assessment survey completed by the student between the two sessions.

The first interview gathers information about the student's recent alcohol consumption patterns, personal beliefs about alcohol, and drinking history, while providing instructions for self-monitoring any drinking between sessions and preparing the student for the online assessment survey. Information from the online assessment survey is used to develop a customized feedback profile used in the second interview, which compares personal alcohol use with alcohol use norms, reviews individualized negative consequences and risk factors, clarifies perceived risks and benefits of drinking, and provides options to assist in making changes to decrease or abstain from alcohol use.

Mechanism of Change

BASICS employs the practice of screening and brief intervention (SBI), a preventive service that identifies and helps individuals who are drinking too much but who do not have an alcohol use disorder.

SBI is based on the premise that people are different when it comes to readiness to change their drinking behavior. Some people may be unaware that they have a drinking problem; some recognize that their drinking is problematic; others plan small steps toward changing their drinking; and still others modify their drinking behaviors.

SBI is also based on the understanding that people have specific psychological needs related to self-determination—they want to feel capable, connected, and in control. Individuals can change their behavior when helped to see how:

- their drinking may be harmful;
- their drinking may prevent them from meeting important psychological needs; and
- responsible drinking or abstaining from drinking can help them be capable, connected, and in control.

Implementation Requirements

- Tailored assessment and feedback tools to the specific setting and population
- Training for program personnel on knowledge of alcohol use among college students and clinical techniques for non-confrontational interviewing
- Health educators, chemical dependency professionals, clinical or counseling psychologists, and clinical social workers who can deliver BASICS

Implementation Resources

BASICS developers can provide on-site and off-site training. For information about training, see the **Addictive Behaviors Research Center (ABRC)**.

The American Public Health Association's manual **Alcohol Screening and Brief Intervention: A Guide for Public Health Practitioners** provides public health professionals with information and resources needed to conduct SBI.

The Centers for Disease Control and Prevention's **Planning and Implementing Screening and Brief Intervention for Risky Alcohol Use: A Step-by-Step Guide for Primary Care Practices** helps primary care providers adapt alcohol SBI to the unique needs of their practice.

The National Institute on Alcohol Abuse and Alcoholism and the American Academy of Pediatrics' **Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide** describes how to implement screening and interventions for youth at risk for alcohol-related problems.

Outcomes

College students that participated in BASICS had significant positive outcomes at one-year follow-up compared to those that did not receive BASICS.[4-6] Those that participated in BASICS maintained improved alcohol-related outcomes up to 4 years post-intervention.

Reduction in alcohol consumption[4-6]

Fewer alcohol-related problems[4,5]

Reduction in frequency of alcohol consumption[4]

Lower peak blood alcohol concentration[6]

Communities Mobilizing for Change on Alcohol

Substance Targeted

Alcohol

Target Population

Youth ages 15-20

Risk Factors Addressed

- Social norms that favor underage drinking
- Easy access to alcohol by minors
- Weak enforcement of legal sanctions

Protective Factors Promoted

- Policies, practices, and norms that deter underage drinking

Settings

Upper Midwestern communities; the Cherokee Nation (northeastern Oklahoma)

Duration

The community develops a timeline and schedule for implementing activities as part of the planning process

Description

Communities Mobilizing for Change on Alcohol (CMCA) is designed to reduce youth access to alcohol by changing community and law enforcement policies, attitudes, and practices, and by targeting commercial and noncommercial availability of alcohol to underage drinkers. A community organizer works with several community institutions, including local public officials, law enforcement, alcohol merchants, the media, and local schools to:

- Assess community needs and resources with regard to underage drinking prevention;
- Develop a strategic plan to address these needs; and
- Collaborate with media partners to raise public awareness of the initiative and attract new supporters.

The goals of these collaborative efforts are to select and implement strategies that will eliminate illegal alcohol sales to minors, obstruct the provision of alcohol to youth, and ultimately reduce alcohol use by teens.

Mechanism of Change

CMCA is a multi-staged environmental change approach based on democratic traditions of local citizen action to hold local institutions and community leaders responsible for creating safe and healthy communities. Drawing on the social influence model, it seeks to modify individuals' opinions, beliefs, and behaviors about substance use, by modifying the opinions, beliefs and behaviors of others in their surrounding communities.

CMCA and other community organizing programs also draw on collective efficacy theory, or helping communities realize and act on their potential to organize and execute change to improve the lives of their members. Moreover, CMCA combines the principles of social influence and collective efficacy with a focus on policies that restrict minors' access to alcohol.

Implementation Requirements

A part-time community organizer to coordinate and implement the CMCA process.

Implementation Resources

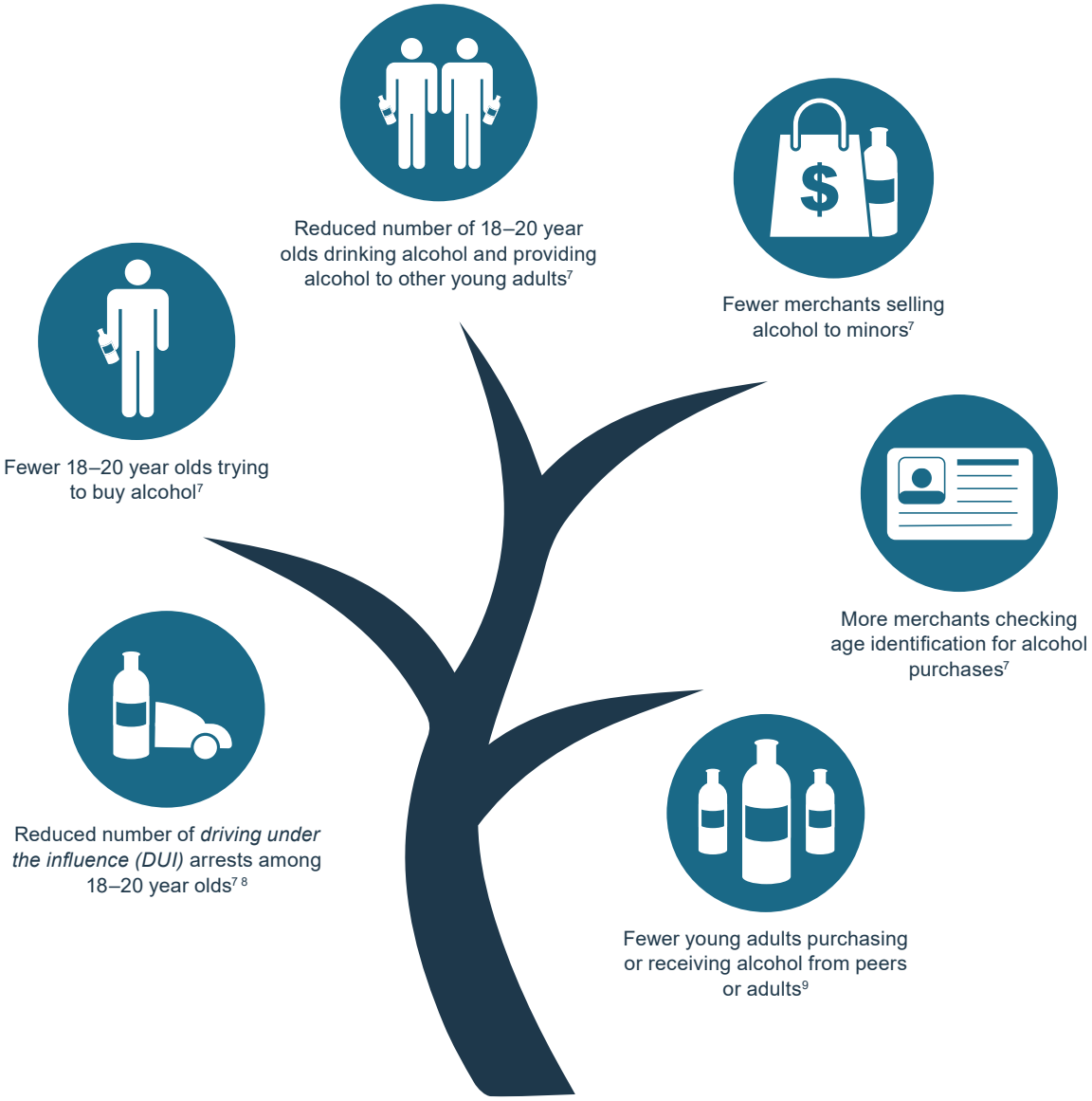
CMCA program developers have created an **implementation guide**.

Youth Leadership Institute provides **training and consultation** on the CMCA program.

CMCA developers have produced numerous resources that are freely available to all communities through the **University of Minnesota Alcohol Epidemiology Program website**.

Outcomes

Compared to matched comparison communities, CMCA communities experience greater positive outcomes.[7-10]



Family Check-Up

Substances Targeted

Alcohol, tobacco, and marijuana use

Target Population

Early adolescents with emotional, behavioral, and academic problems

Risk Factors Addressed

- Coercive parenting practices
- Adolescent adjustment or socialization problems

Protective Factors Promoted

- Parents support of adolescents' positive behaviors
- Parents setting healthy limits
- Parents monitoring adolescents' activities
- Close parent-adolescent relationships

Setting

Public middle schools

Duration

The initial three sessions are brief. Follow-up with referrals to community resources and services varies in duration from three to fifteen direct contact hours depending on resources utilized (e.g., individual counseling, support groups, skills classes, family counseling, etc.)

Description

Family Check-Up (FCU) is a family-centered program that provides parents with the tools they need to manage their children's behaviors effectively and to build strong relationships with their children. Originally designed for parents of young children, FCU was later adapted for parents of adolescents. The adolescent version takes a phased approach. A trained parent consultant staffs the school's family resource center and screens all students for behavioral, emotional and academic problems. The consultant invites families of students who are determined to be at risk for behavioral problems via a screening process to participate in a three-session intervention.

- **Session one**: the parent consultant meets with the parents and adolescents for one hour and interviews parents and adolescents about family needs. This includes a parent management training, which focuses on supporting positive behavior, setting healthy limits, supervision, and building relationships.
- **Session two**: the parent consultant assesses the parent, child, and teacher, and videotapes a family interaction.
- **Session three**: the parent consultant summarizes results of the videotaped assessment using motivational interviewing techniques and presents families with a list of intervention options tailored to their needs. The parent consultant encourages families to select the interventions that they think will be most helpful to them, and the consultant may either provide those additional services or help the family access them.

Mechanism of Change

FCU is a relationship-based intervention that focuses on family management and child socialization activities. It is based on the social-ecological model of youth development, which posits that environmental stressors and parenting behaviors may be associated with adolescents' problem

behaviors including substance misuse, and that environmental stressors may predict the effectiveness of family management practices.

FCU is also informed by social learning theory and coercive family processes that may emerge in response to children's problem behaviors, as well as external pressures (e.g., job loss, illness, discrimination) on parents. Over time, continued use of coercive strategies results in exacerbated youth problem behaviors. Interventions that help parents or caregivers recognize and reduce the coercive interactions they have with their children, especially by strengthening family management skills, will result in reduced youth behavior problems.[11]

Implementation Requirements

Parent consultants (i.e., masters-prepared therapists, social workers, program developers, and psychologists) trained in both risk- and needs- assessment must complete the necessary requirements to assess families.

Implementation Resources

Arizona State University Reach Institute offers training and certification to become a Family Check Up provider. Training and certification can be done in-person, online, or hybrid. Paraprofessionals may be trained as providers; however, this requires more intensive post training consultation.

NIDA is funding the development and evaluation of an online version of the Family Check Up for middle school students and their families. More information is available: The Family Check-Up online program for parents of middle school students: Protocol for a randomized controlled trial.

Outcomes

Families who engaged in Family Check-Up experienced long-term positive outcomes for their youth into young adulthood compared to families who did not receive the intervention.

Three years after participation in the program, youth reported:

- < lower rates of alcohol use
- < lower rates of tobacco use
- < lower rates of marijuana use[12]

At age 23, individuals who voluntarily participated in the program during their youth had:

- < lower rates of alcohol use
- < lower rates of tobacco use
- < lower rates of marijuana use[13]

Safer California Universities Study

Substance Targeted

Alcohol

Target Population

Students attending California colleges and universities

Risk Factors Addressed

- College attendance
- Social access to alcohol at off-campus parties
- Retail sales of alcohol to minors
- Lack of enforcement of drinking and driving laws

Protective Factors Promoted

- Expectation of getting caught and punished for illegal or inappropriate behavior
- Limiting minors' commercial access to alcohol
- Controlling situations where college minors are likely to drink

Settings

Eight campuses of the University of California and six in the California State University system as well as their surrounding communities

Duration

One year of planning followed by 6-8 weeks of implementation beginning in the first week of fall semester

Description

Safer California Universities (SAFER) targets heavy alcohol use by college students in off-campus settings by enforcing laws to encourage responsible hosting and service of alcohol in private and commercial settings. A collaborative group composed of student health services, campus and city police departments, student groups, and municipal representatives carry out implementation.

Key program elements include:

- nuisance party enforcement operation;
- minor decoy operations;
- driving-under-the-influence checkpoints;
- social host ordinances; and
- use of campus and local media to increase the visibility of environmental strategies.

Mechanism of Change

SAFER is a community-based environmental alcohol risk management and prevention strategy applied to college campuses. It combines elements of population-level alcohol control based on deterrence theory and reduced availability of alcohol. Risk management components work by punishing (or threatening to punish) inappropriate behavior, limiting the availability of alcohol to minors, and reducing the number and size of off-campus parties where college students are likely to drink.

Implementation Requirements

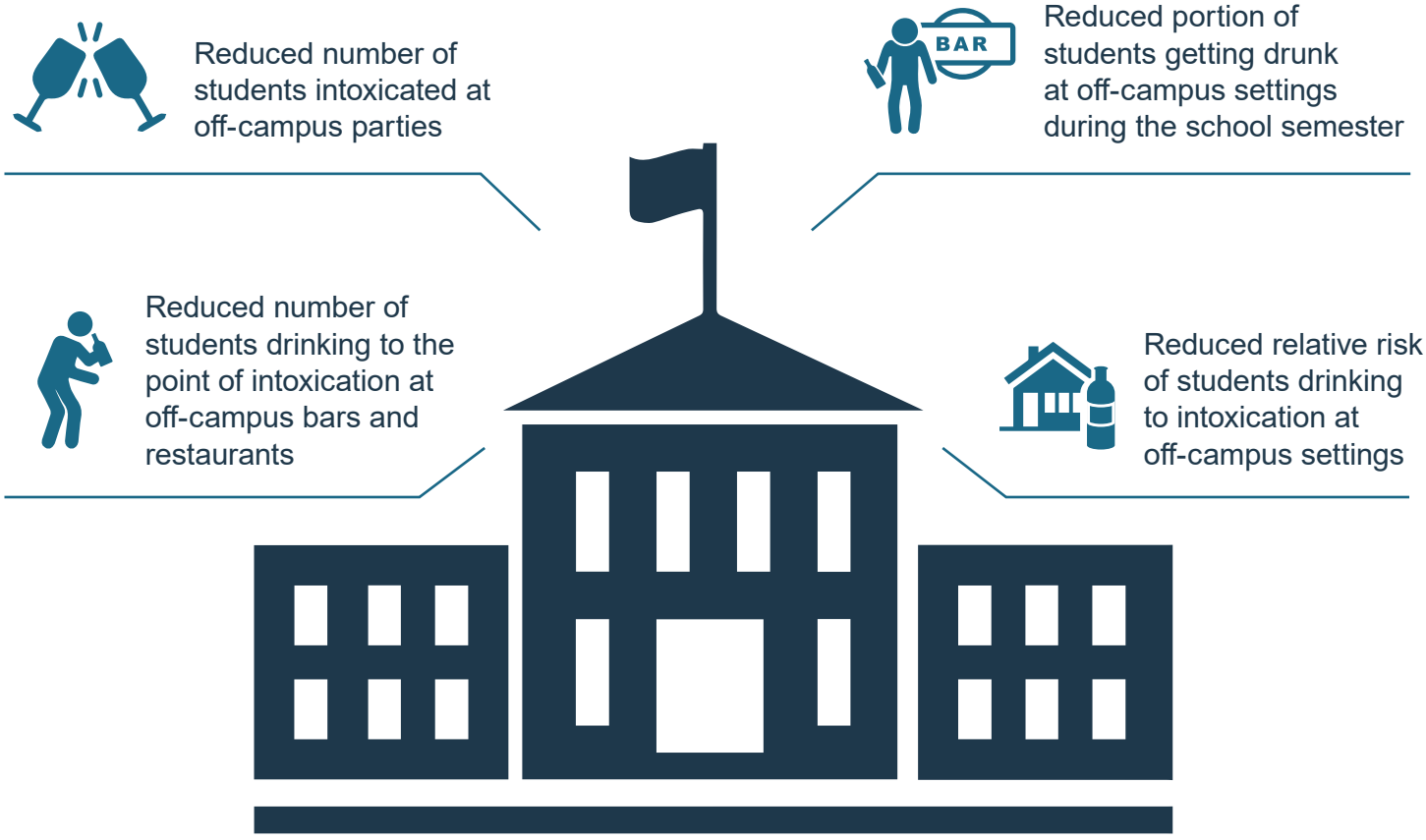
- Police "party patrols" to enforce laws of underage drinking and disturbing the peace
- Police use of underage decoys to enforce laws prohibiting sales to minors
- Police roadside checkpoints for driving under the influence of substances
- Media outlets to provide publicity about the alcohol control efforts
- Campus coordinator to recruit members and facilitate activities of the collaborative group of key stakeholders responsible for implementation

Implementation Resources

The **Safer Universities Toolkit** provides a range of tools and resources to help implement the evidence-based interventions tested in the research project. These tools and resources reflect the actual experiences of campuses and surrounding communities over the course of five years. The materials are provided as examples that can be adapted for use on a campus and in a community to reflect specific needs.

Outcomes

Communities that implemented SAFER experienced improved alcohol-related outcomes on and off campus.[14]



Substance Targeted

Alcohol

Target Population

Municipal employees

Risk Factors Addressed

- Occupations that involve safety risks
- Enabling problem substance use
- Workplace norms that support drinking
- Exposure to coworker use

Protective Factors Promoted

- Workplace wellness
- Social integration
- Teamwork or group cohesion
- Support for workplace substance misuse prevention policies

Settings

Large municipal organizations

Duration

Training delivery consists of two four-hour sessions, occurring two weeks apart

Team Awareness

Description

Team Awareness is a customizable workplace-training program that addresses behavioral risks associated with substance misuse among employees, their coworkers and, indirectly, their families by:

- Promoting social health
- Promoting increased communication between workers
- Improving knowledge and attitudes toward alcohol- and substance-related protective factors in the workplace (such as company policy or Employee Assistance Programs)
- Increasing peer referral behaviors

The Team Awareness training consists of six modules conducted across two four-hour sessions with a company or business of any size. Team Awareness training uses group discussion, communication exercises, a board game, role-play, and self-assessments. Modules cover policy ownership, enabling behaviors, stress management, listening skills, and peer referral.

Mechanism of Change

Team Awareness is a workplace program that focuses on contextual factors, such as support for training transfer, co-worker reactions to substance use, teamwork, and policy attitudes.[15] Team Awareness works by promoting group cohesiveness and social integration. A cohesive group is one that sticks together and remains united in its pursuit of specific goals and objectives.[16] Cohesion is always changing and needs to be encouraged through team-building activities, especially if the group coalesces around unhealthy norms such as those that enable or support risky substance use.

Social integration theories explain the processes by which individuals are included in or encouraged to belong to groups. In the workplace, social integration refers to social support, job involvement, and the absence of estrangement

from work.[15] Group cohesiveness and social integration may protect against substance misuse when workplace staff unite around goals and objectives that favor help-seeking, healthy coping skills, and responsible substance use, as well as by providing social support to those who may feel isolated.

Implementation Requirements

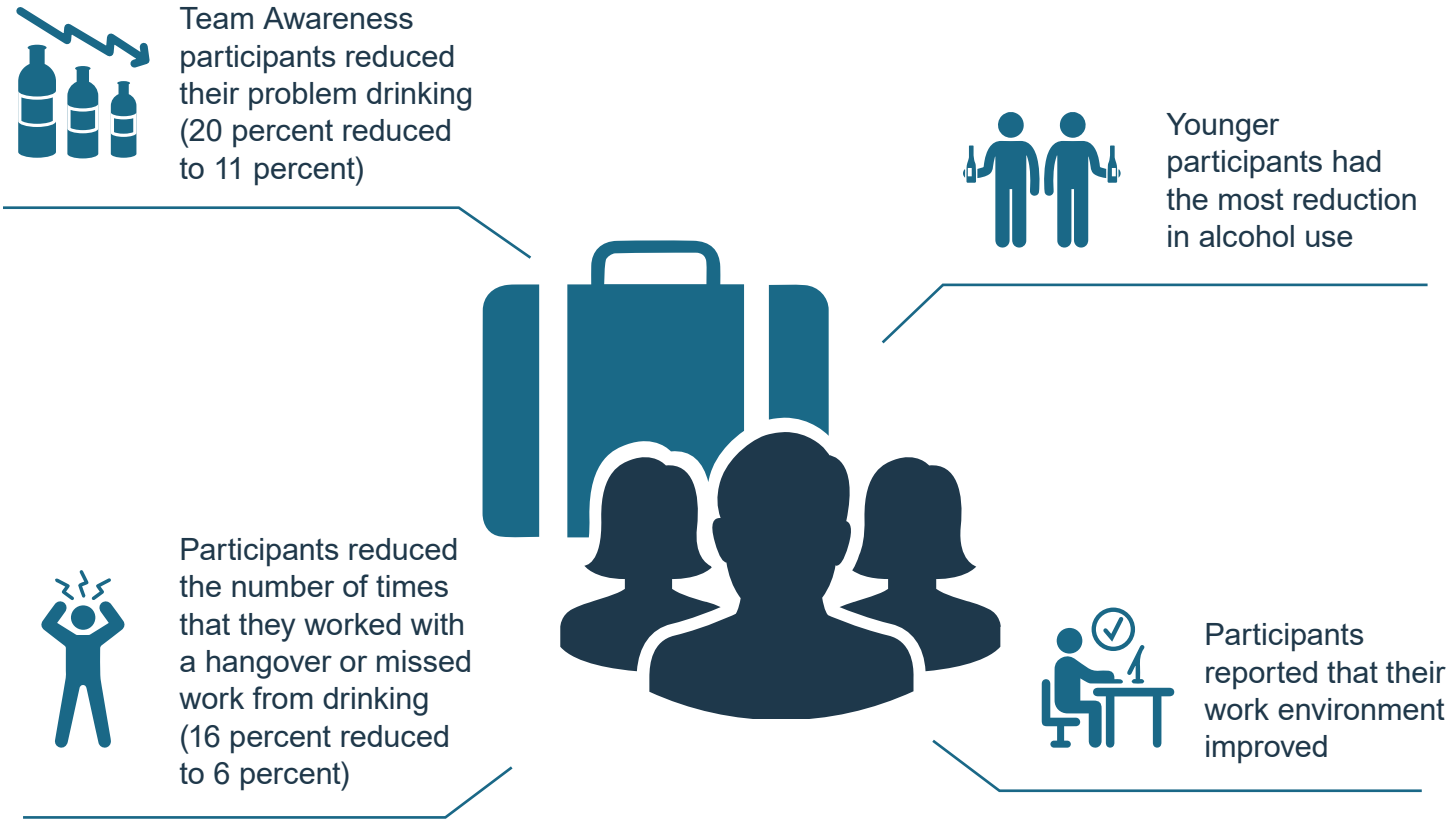
Six to eight weeks prior to training delivery, facilitators conduct focus groups with employees and interviews with key personnel, and they obtain copies of relevant documents (e.g., substance use policies, EAP promotional materials) for use in the training. In addition to the two, four-hour sessions, there is a supervisory module.

Implementation Resources

The Texas Christian University Institute of Behavioral Research developed a training manual *Team Awareness: Training for Workplace Substance Abuse Prevention*, which is available at the **IBR website**.

Outcomes

Six months after completing the Team Awareness program, employees were less likely to experience negative consequences of alcohol, compared to those who did not enroll.[17]



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CHAPTER

4

Guidance for Selecting and Implementing Evidence-Based Practices and Programs

Introduction

Multiple frameworks exist to facilitate the implementation of evidence-based prevention programs in diverse settings. Originally designed to support comprehensive and community-based prevention planning, the Substance Abuse and Mental Health Services Administration's (SAMHSA's) Strategic Prevention Framework (SPF) can be applied to guide the implementation of evidence-based programs and practices designed to prevent substance misuse among young adults. It includes five steps that can be used to frame questions about implementation:

1. **Assessment:** What are the needs of your target audience? How does this inform program selection?
2. **Capacity:** What is your ability to implement a given program? How can you enhance capacity?
3. **Planning:** How do you select an effective program that addresses local community needs and fits organizational capacity?
4. **Implementation:** What do you need to put in place to make sure the program's core elements are implemented?
5. **Evaluation:** How will you monitor program implementation?

The SPF is also guided by two crosscutting principles that should be integrated into each step:

- **Cultural competence:** How can you ensure that the program you select is culturally responsive to the people you serve? How will you implement it in a way that is culturally responsive?
- **Sustainability:** How can you increase the odds that the program you select will be sustained?

Step 1: Assessment

Assessment promotes understanding of local prevention needs for young adults based on a careful review of data gathered from a variety of sources. These data help to identify and prioritize the substance misuse problems present in a given community or among the people you serve, clarify the impact of these problems on young adults, identify the specific factors that contribute to these problems, and assess the readiness and resources required to address these factors. Ultimately, a thorough and inclusive assessment process helps to ensure that substance misuse prevention efforts are appropriate and on target.

Assessment Challenges	Assessment Solutions
■ My organization is not ready to implement or is resistant to innovation.	■ My organization assessed staff perceptions of our collective efficacy and provided feedback to staff.
■ No one sees substance misuse as a problem among young adults	■ We shared existing reports to show stakeholders why substance misuse is a problem among young adults and involved stakeholders in planning.
■ We do not know where to obtain data on young adult populations, especially those not in college.	■ We identified available sources of data on young adult substance misuse in our community.
■ We cannot access "real-time" data on new substances such as marijuana and opioids.	■ We conducted focus groups and/or interviews with key stakeholders to obtain "real-time" information.
■ We do not know what others are doing to address substance misuse among young adults and worry that we might duplicate efforts.	■ We conducted an environmental scan to determine what other local organizations are doing.

To conduct a comprehensive assessment of prevention needs, organizations serving young adults often gather data about the following:

- **The nature of the substance misuse behaviors among young adults in their community and related consequences.** Data helps to answer these questions about the nature of the problem and is a driving force behind the SPF planning process. Prevention professionals often begin with collecting existing state and local archival data that are readily accessible. See illustrative examples provided in Appendix 3.
- **Risk and protective factors that influence substance misuse behaviors and consequences, particularly those of high priority in the community.** Data collected through the assessment process may reveal multiple areas of need that contribute to substance misuse among young adults. Therefore, it is important to establish criteria for analyzing assessment data to determine which problem(s) to prioritize. These criteria may include the magnitude, severity, and changeability of the problem and whether the problem is on the rise. Practitioners may weigh each criterion differently, depending on their unique context and perspective. Once you have identified one or more priority problems, it is important to look at the risk and protective factors associated with those problems. Understanding risk and protective factors (see Chapter 2) is essential to prevention.

- **Community or organizational capacity for addressing these risk and protective factors, including resources and readiness.** Prevention efforts are more likely to succeed when they are informed by a complete assessment of an organization's capacity to address identified substance misuse problems. Capacity for prevention includes two main components: resources and readiness. *Resources* include anything a community can use to establish and maintain a prevention effort that can respond effectively to local problems. *Readiness* describes the motivation and willingness of a community to commit local resources to address identified substance misuse problems.
- **Dissemination of findings to key stakeholders.** There are many ways to share findings; what is critical is that the chosen approach is the right match for the audience. Here are some considerations for sharing assessment findings: develop a full report for funders and close prevention partners; highlight essential findings for key stakeholders; tailor assessment materials by featuring those data that are most meaningful to each audience; and find ways for community members and groups to provide feedback on the assessment results.

Step 2: Capacity

Organizations need both human and structural resources to establish and maintain an organized prevention effort that can respond effectively to local problems. It also needs people who have the motivation and willingness—that is, the readiness—to commit local resources to addressing these problems.

Capacity Challenges	Capacity Solutions
■ Our staff have limited cultural humility. ■ We do not know if we have the capacity to reach the population in greatest need. ■ Our staff do not have the appropriate skills or credentials required to implement the program. ■ Our organization does not function effectively. ■ Our organization experiences erratic funding and high staff turnover. ■ Organizational leadership is not on board with efforts to implement evidence-based programming.	■ Our organization provided cultural competency training to current staff and hired additional staff who represent the populations we serve. ■ We engaged young adults in our planning process. ■ Organizational leadership supported professional development activities for staff. ■ A program champion leads our efforts, and she has identified staff who will facilitate implementation. ■ Our program champion arranged for training of leadership/administration.

Here are strategies for building organizational or community capacity for prevention:

- **Engaging key community or organizational stakeholders.** Substance misuse is a complex public health problem that requires the energy, expertise, and experience of multiple players, working together across disciplines, to address. By involving community members in all aspects of prevention planning, implementation, and evaluation, planners demonstrate respect for the people they serve and are more likely to develop prevention services that meet genuine needs, build on strengths, and produce positive outcomes.

- **Developing and strengthening the prevention team.** Many factors influence the implementation of and support the success of prevention efforts. These include having a favorable prevention history, onsite leadership and administrative support, qualified and experienced program staff, practitioner training and support, program evaluation, and a clear action plan. Promoting adherence to a program's core elements and cultural relevance, and anticipating and supporting the many factors that influence implementation, can go a long way toward producing positive outcomes. However, to sustain these outcomes over time, it is important to find concrete and meaningful ways for people to get involved.

Organizational Readiness Checklist[1]

Implementation of evidence-based practices and programs often requires organizational change. Elements described as important to organizational change are:

- ☐ Commitment of leadership to the implementation process.
- ☐ Involvement of stakeholders in planning and selection of programs to implement, to encourage buy-in and ownership during implementation and continuing operations, and to keep negative forces at bay.
- ☐ Creation of an implementation task force made up of implementers, end-users, and other key stakeholders to guide and oversee the implementation process.
- ☐ Suggestions for "unfreezing" current organization practices (including the use of external consultants or purveyors), changing those practices and integrating them to be functional, and then reinforcing the new levels of management and functioning within the organization.
- ☐ Resources for extra costs, effort, equipment, manuals, materials, recruiting, access to expertise, and re-training for new organizational roles associated with implementation of an innovation.
- ☐ Alignment of organizational structures to integrate staff selection, training, performance evaluation, and ongoing training.
- ☐ Alignment of organizational structures to achieve horizontal and vertical integration.
- ☐ Commitment of ongoing resources and support for providing time and scheduling for coaching, participatory planning, exercise of leadership, and evolution of teamwork.

Step 3: Planning

Planning for implementation increases the effectiveness of prevention efforts by ensuring the selection and implementation of the most appropriate programs and practices for their communities. In an effective planning process, organizations involve key stakeholders, replace guesswork and hunches with data-driven decisions, and implement evidence-based programs to address their priority substance misuse problems.

Planning Challenges	Planning Solutions
■ We could not find any programs that address the problems or risk and protective factors that we identified.	■ We collaborated with researchers at the local university to develop and rigorously evaluate a new program.
■ We could not find any programs that address the populations we serve and for the settings where we work.	■ We created a new program based on a productive adaptation of an existing evidence-based one.
■ We know there are some new programs out there that are designed to address the priorities we have identified, but no one has evaluated them.	■ We implemented an evidence-based program that did not assess the types of substance misuse most prevalent in our community, but that did address risk and protective factors shown to be associated with this type of misuse.

To develop a solid prevention plan, consider the following guidance from SAMHSA's *Selecting Best-fit Programs and Practices*:

- **Prioritize risk and protective factors associated with identified prevention problems (see Step 1).** Every substance misuse problem in every community is associated with multiple risk and protective factors. No organization can address all these factors—at least not at once. Therefore, the first step in developing an implementation plan is to figure out which risk and protective factors are the "key drivers" of a community's priority problems. To prioritize factors, it is helpful to consider how a specific risk or protective factor affects a problem and the organization's or community's capacity to influence that specific factor.

- **Select appropriate programs and practices to address each priority factor.** Sometimes organizations want to select prevention programs or practices that are popular, that worked well in a different community, or ones with which they are familiar. These are not necessarily the best selection criteria. What is more important is that the program or practice can effectively address the priority substance misuse problem and associated risk and protective factors, and that it is a good fit for the implementing organization. If possible, combine programs and practices to ensure a comprehensive approach.

Is it the Right Program?

- **It is evidence-based:** Evaluators have tested it and demonstrated its effectiveness using rigorous scientific methods. See Chapters 2 and 3.
- **It is a conceptual fit:** It addresses one or more of the priority factors driving the substance misuse problem in your community, and it has produced positive outcomes for population(s) similar to those you serve.
- **It is a practical fit:** It is culturally relevant for the population served. The organization has the capacity to support it, and it enhances or reinforces existing prevention activities.

- **Build and share a logic model with stakeholders.** A logic model is a graphic planning tool, much like a roadmap, that can help organizations communicate where prevention efforts are headed and how goals will be reached. Logic models can help:
  - *Explain why* a program or practice will succeed.
  - *Identify the logical connections* between the problem to be addressed, the associated underlying factors, and the prevention programs and practices to effect change.
  - *Expose gaps in reasoning or disconnects* between the community's problem and actions planned to address it.
  - *Make evaluation and reporting easier;* when a prevention initiative is laid out fully and clearly in a logic model form, it is much easier to identify appropriate evaluation questions and gather the data needed to answer them.

Step 4: Implementation

Implementation, the fourth step of the SPF, involves putting an organization's or community's implementation plan into action by delivering evidence-based programs and practices as intended. Important tasks in the implementation step include maintaining a program's core elements and balancing that maintenance with the need to adapt a program so that it better meets the needs of the people you serve and your capacity to implement.

Though logic models can vary in their design, the simplest form includes:

- *Inputs* are the various resources available to support the program (e.g., staff, materials, curricula, funding, and equipment).
- *Activities* are the action components of the program and may align with core components (e.g., screen young adults for substance misuse, train staff, and pull together a coalition). You can track and assess these activities as process outcomes (see SPF Step 5).
- *Outcomes* are the intended accomplishments of the program. They include short-term, intermediate, and long-term or distal outcomes (see SPF Step 5).

Implementation Challenges	Implementation Solutions
■ Over time, staff are drifting away from the core components of the program. ■ Our current organizational structures do not support the program. ■ Staff have shown waning enthusiasm for the program given the lack of immediate visible results. ■ We are experiencing an influx of new staff who will be responsible for implementing program components.	■ We provide booster training sessions to support fidelity to the original program. ■ We have made systematic changes, developing assisting processes and awareness building to support implementation. ■ We provide ongoing feedback to staff on implementation success and provide individual rewards, recognition, and incentives to staff. ■ In addition to ongoing training, we have set up learning communities for agency staff.

Maintaining Core Elements

Part of an implementer's goal is to implement only those attributes of a program or practice that are replicable and add value. Core intervention elements are, by definition, essential to achieving good outcomes for consumers. However, understanding and adhering to the principles underlying each core element may allow for flexibility in form without sacrificing the function associated with the element. Knowing the core program elements may allow for more efficient and cost-effective implementation and lead to decisions about what can be adapted to suit local conditions. Core program elements may be best defined after a number of attempted applications of a program or practice, not just the original one.

Factors that Facilitate Implementation

The goal of implementation is to have practitioners base their interactions with clients and stakeholders on evidence-based practices and programs supported by research. Facilitating factors help accomplish this task and include the following:[1]

- **Staff selection:** Beyond academic qualifications or experience factors, certain practitioner characteristics are difficult to teach in training sessions so they must be a part of the selection criteria. Staff selection also represents the intersection with a variety of larger system variables.
- **Pre-service and in-service training:** Trainings are efficient ways to provide knowledge of background information, theory, philosophy, and values. They also help to introduce the components and rationales of key practices and provide opportunities to practice new skills and receive feedback in a safe training environment.
- **Ongoing consultation and coaching:** Most of the skills people need can be introduced in training but really are learned on the job with the help of a consultant or coach. Training and coaching are the principal ways in which behavior change is brought about for selected staff in the beginning stages of implementation and throughout the process of employing evidence-based practices and programs.

Factors that Facilitate Implementation, cont.

- **Staff and program evaluation:** Staff evaluation is designed to assess the use and outcomes of the skills reflected in the selection criteria, taught in training, and reinforced and expanded in consultation and coaching processes. Assessments of practitioner performance and measures of fidelity also provide useful feedback to managers and implementers regarding the progress of implementation efforts and the usefulness of training and coaching.
- **Facilitative administrative support:** This provides leadership and makes use of a range of data inputs to inform decision-making, supports the overall processes, and keeps staff organized and focused on the desired outcomes.
- **Systems interventions:** These are strategies that work with external systems to ensure the availability of the financial, organizational, and human resources required to support the work of the practitioners.

Balancing Fidelity and Adaptation

Remaining faithful to the original design of an evidence-based program or practice, while addressing the unique needs and characteristics of the target audience, requires balancing the maintenance of core elements with adaptation. When you change a program, you risk compromising outcomes. However, implementing a program that requires some adaptation may be more efficient and cost-effective than designing a program from scratch. Some guidelines to consider when balancing fidelity and adaptation:

- Retain core elements.
- Build capacity before changing the program.
- Add rather than subtract elements.
- Adapt with care.
- If adapting, get help from developers or other experts.

Step 5: Evaluation

Evaluation is the systematic collection and analysis of information about prevention activities to reduce uncertainty, improve effectiveness, and make decisions. With regard to implementation, evaluation is about enhancing prevention practice. Evaluation can help organizations:

- Systematically document and describe prevention activities.
- Meet the diverse information needs of prevention stakeholders, including funders.
- Continuously improve prevention programs and practices.
- Demonstrate the impact of a prevention program or practice on substance misuse and related behavioral health problems.
- Identify which elements of a comprehensive prevention plan are working well.
- Build credibility and support for effective prevention programming in the community.
- Advance the field of prevention by increasing the knowledge base about what does—and does not—work.

Evaluation Challenges	Evaluation Solutions
■ Our staff lack the capacity to conduct evaluation and performance monitoring.	■ We are working with local researchers to train staff on continuous quality improvement.
■ We are not sure how to identify and measure meaningful outcomes.	■ We are using standard measures that others have used to assess similar outcomes.
■ Why should we assess outcomes when we are implementing an evidence-based program?	■ We have decided to focus on implementation evaluation and continuous quality improvement rather than outcome evaluation.
■ Staff are wary of evaluation; they worry about failing and being punished for bad results.	■ We are using appreciative inquiry to focus on what is working well (and doing more of that) rather than what is not working.
■ We are unsure about sharing results and providing accountability to stakeholders.	■ We are re-examining our program logic model to see where we might have gone wrong.
■ We have learned that the program we selected and are implementing is not a good fit.	

As part of the SPF, prevention planners consider two types of evaluation: process and outcome. Process evaluation answers the questions, "Did we do what we said we would do?" Prevention planners use process evaluation extensively to assess the quality of implementation, keep implementation on track, and inform adjustments that can strengthen the effectiveness of their prevention effort. Outcome evaluation measures the direct effects of a program or practice following implementation—that is, whether the program or practice made a difference and, if so, what changed? It might document changes in a population group's knowledge, attitudes, skills, or behavior in both the short- and long-term.

Both process and outcome data are important. Outcome evaluation looks at results—but results do not tell the whole story. Evaluation that focuses only on outcomes is sometimes called a "black box" evaluation because it does not take process into consideration. In addition, disappointing outcome evaluation results can frequently be illuminated by examining how a program or practice was implemented, the number of clients served, dropout rates, and how clients experienced the intervention. Those same kinds of questions can also explain positive evaluation results. Outcome evaluation alone, without a process evaluation component, will not provide information about why a program did or did not work.

Guiding Principle: Cultural Competence

Cultural competence is one of the SPF's two guiding, crosscutting principles and, as such, should be integrated into each step of the implementation process. By considering culture at each step, planners can help to ensure that members of diverse population groups can actively participate in, feel comfortable with, and benefit from the selection and implementation of prevention programs for young adults. Here are some opportunities to integrate cultural competence throughout this planning process:

- **Assessment:** Take steps to identify those sub-populations vulnerable to behavioral health disparities and the disparities they experience.
- **Capacity:** Build the knowledge, resources, and readiness of prevention practitioners and community members to address disparities, and to provide culturally and linguistically appropriate services.

- **Plan:** Develop logic models that include the reduction of health disparities as a long-term outcome and incorporate effective prevention programs and practices that have been developed for and evaluated with an audience similar to the focus population.
- **Implementation:** Adapt and/or tailor evidence-based practices to be more culturally relevant—for example, create an in-person version of a training that was originally meant to be delivered virtually, so that it is accessible to audiences with limited access to the internet.
- **Evaluation:** Conduct follow-up interviews with program participants to better understand program evaluation findings.
- **Sustainability (Guiding Principle, see below):** Engage partners who represent and work with sub-populations experiencing health disparities in sustainability planning efforts.

Guiding Principle: Sustainability

Sustainability in prevention is the capacity of an organization to produce and maintain positive prevention programs and associated outcomes after the initial implementation. As a guiding principle of the SPF, sustainability must be fully integrated into each step of the model. Here are some of the ways the SPF process can contribute to a community's sustainability efforts:

- **Assessment:** During assessment, planners begin building relationships with data keepers and stakeholders who can play important roles in supporting and sustaining local prevention efforts over time.
- **Capacity:** Building capacity involves promoting public awareness and support for evidence-based prevention, and engaging partners and cultivating champions who will be vital to the success—and sustainability—of local prevention efforts.
- **Planning:** When selecting programs to prevent substance misuse among young adults, communities and organizations should consider the degree to which prevention programs and practices fit with local problems, capacity, and culture: the better the fit, the more likely interventions are to be both successful and sustainable.
- **Implementation:** By working closely with community partners to deliver evidence-based programs and practices as intended, closely monitoring and improving their delivery, and celebrating "small wins" along the way, planners help to ensure their effectiveness and begin to weave prevention into the fabric of the community.
- **Evaluation:** By sharing evaluation findings, planners can also help build the support needed to expand and sustain effective interventions.
- **Sustainability:** To ensure that prevention practices produce positive outcomes for members of diverse population groups, communities must engage in an inclusive and culturally appropriate approach to identifying and addressing their substance misuse problems.

Reference List

1. Fixsen, D., Naoom, S., Blase, K., Friedman, R., & Wallace, F. (2005). Implementation research: A synthesis of the literature. Retrieved from https://nirn.fpg.unc.edu/resources/implementation-research-synthesis-literature

CHAPTER

5

Resources for Evaluation and Quality Improvement

It is important to monitor how you implement prevention program activities over time and as intended. It is also important to evaluate the outcomes of prevention programs to:

- determine whether programs are worth the financial resources invested;
- understand how efforts expended relate to outcomes; and
- apply lessons learned to future prevention efforts.

This chapter provides guidance and resources compiled by an expert panel that can help support your program evaluation. These are examples of resources believed to be helpful for prevention planners. This is not an exhaustive list.

Assembling Your Evaluation Team

Give careful thought to selecting an evaluator as part of your planning team. In some cases, it may be beneficial to partner with local universities or colleges to help monitor prevention program outcomes. There may be evaluators among your prevention program stakeholders or in your community that can be part of your evaluation team.

- **American Evaluation Association Guiding Principles For Evaluators**
  This resource is a guide for the professional ethical conduct of evaluators, and addresses systematic inquiry, competence, integrity, respect for people, and common good and equity. https://www.eval.org/p/cm/ld/fid=51

- **Finding the Right People for Your Program Evaluation Team**
  This resource helps program leaders think about how to build their evaluation team. It includes a sample job description for an evaluator, a list of evaluator competencies, a sample letter to recruit members of your strategic evaluation planning team, and a sample letter to recruit members of your individual planning team. https://www.cdc.gov/asthma/pdfs/Finding_the_Right_People_for_Your_Program_Evaluation_Team.pdf

Engaging Stakeholders

The first step in program evaluation is to identify and engage key stakeholders for the program. It is important to represent stakeholders' needs and interests throughout the program evaluation process. Stakeholders can help to identify the right evaluation questions, make the evaluation more objective, and help ensure that the evaluation results will make a difference.

- **A Practical Guide for Engaging Stakeholders in Developing Evaluation Questions**
  The guide provides the reader with a five-step process for involving stakeholders in developing evaluation questions and includes a set of four worksheets to facilitate this process. This guide aims to assist evaluators and their clients in the process of engaging stakeholders—those with a stake or interest in the program, policy, or initiative being evaluated. https://www.rwjf.org/en/library/research/2009/12/a-practical-guide-for-engaging-stakeholders-in-developing-evalua.html

- **Multicultural Collaboration**
  This resource provides information on how to promote multicultural collaboration on evaluation efforts, offers guidelines for collaboration, and covers topics such as when to commit to collaboration and how to build a multicultural collaboration. https://ctb.ku.edu/en/table-of-contents/culture/cultural-competence/multicultural-collaboration/main

- **Participatory Evaluation Essentials**
  This manual helps nonprofit organizations and their evaluation partners build evaluation skills.http://www.evaluativethinking.org/docs/EvaluationEssentials2010.pdf

- **Understand and Engage Stakeholders**
  This resource provides information on how to develop an in-depth understanding of a community of interest, and how to provide the community with information about the project to keep them engaged. https://www.betterevaluation.org/en/rainbow_framework/manage/understand_engage_stakeholders

Describing the Program or Policy

Logic models are tools used for planning, describing, managing, communicating, and evaluating programs. These models describe the relationships between a program's activities and its intended outcomes, as well as the context in which the program operates. Ideally, stakeholders should be engaged in the development of the logic model.

- **Evaluation Guide: Developing and Using a Logic Model**
  This federal guide provides approaches to and methods for evaluation and recommendations for additional resources. https://www.cdc.gov/dhdsp/docs/logic_model.pdf

- **Logic Models: A Tool for Designing and Monitoring Program Evaluations**
  The federal resource provides information on using logic models as a tool to help in planning and monitoring program evaluations. https://ies.ed.gov/ncee/edlabs/regions/pacific/pdf/REL_2014007.pdf

- **Logic Model Development Guide**
  This guide provides practical assistance to nonprofits engaged in program development, implementation, and evaluation processes. https://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide

- **Planning for Program Evaluation**
  This website offers tools and resources to help professionals prepare for program evaluation. Resources include an evaluability checklist, an information sheet on types of evaluation, a tip sheet on preparing for a program evaluation, and an evaluation planning worksheet. https://militaryfamilies.psu.edu/resources/program-implementation-toolkit/

- **Program Development and Evaluation – Logic Models**
  This resource provides access to templates for creating logic models, an online course, an extensive bibliography, and examples of successful models. https://fyi.extension.wisc.edu/programdevelopment/logic-models/

Designing the Evaluation

In order to select the appropriate design, it is important to identify what questions the evaluation will help to answer, who is asking the questions, and how the information will be used. A good evaluation design will ensure that the evaluation is reliable, and it will help to identify any strengths or weaknesses of the evaluation.

- **Community Monitoring Systems**
  This site provides an overview of community monitoring systems for young people and national and state-level resources that support the development of monitoring systems to improve youth wellbeing. https://www.preventionresearch.org/advocacy/community-monitoring-systems/

- **Decision Tree for Selecting the Evaluation Design**
  This five-page handout includes a series ofquestions and answers to help guide readers to choose the right evaluation or assessment design. https://usaidlearninglab.org/sites/default/files/resource/files/mod7_decision_tree_for_selecting_evaluation_design.pdf

- **Performance Management Toolkit**
  This toolkit helps planners understand performance management and how to develop successful performance management systems. http://www.phf.org/focusareas/performancemanagement/toolkit/Pages/Performance_Management_Toolkit.aspx

- **Quality Improvement Essentials Toolkit**
  This toolkit includes resources and templates needed to launch a successful quality improvement project and manage performance improvement. The tools can be used with the Model for Improvement, Lean, or Six Sigma, and each includes a short description, instructions, an example, and a blank template. http://www.ihi.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx

- **Selecting an Appropriate Design for the Evaluation**
  The resource provides guidance and tools to help readers figure out how they might structure an evaluation and choose the method that best meets their needs. https://ctb.ku.edu/en/table-of-contents/evaluate/evaluate-community-interventions/experimental-design/main

- **Universal Prevention Curriculum**
  This resource is comprised of two trainings: one designed for coordinators, managers and practitioners who want to undertake an in-depth study of prevention, and another for implementers or practitioners who work with families in schools, the workplace, and the community. https://www.issup.net/training/universal-prevention-curriculum

Collecting Information

The evidence-gathering process includes developing indicators, selecting data collection methods and sources and using multiple methods of data collection, designing data collection tools and protocols, and affirming roles and responsibilities. Information about the characteristics, activities, and results of a program are collected in order to make decisions about the program. For additional examples of existing data sources on young adult substance misuse behaviors and risk or protective factors, and consequences, see Appendix 3.

- **An Overview of Quantitative and Qualitative Data Collection Methods**
  This resource provides information on quantitative and qualitative data collection methods, as well as theoretical and practical issues for consideration. https://www.nsf.gov/pubs/2002/nsf02057/nsf02057_4.pdf

- **Assessing Program Fidelity and Adaptations**
  This toolkit provides stepwise guidance and tools to monitor prevention program implementation. http://www.promoteprevent.org/sites/www.promoteprevent.org/files/resources/FidelityAdaptationToolkit.pdf

- **Collecting Evaluation Data: An Overview of Sources and Methods**
  This 11-page brief includes information on common data sources and methods and the advantages and disadvantages of each. http://learningstore.uwex.edu/assets/pdfs/G3658-4.pdf

- **Data Collection for Program Evaluation**
  This online course provides information on how to collect the data needed to determine the impact of a health program. http://www.nwcphp.org/training/opportunities/online-courses/data-collection-for-program-evaluation

- **Questionnaire Design Tip Sheet**
  This four-page tip sheet includes brief guidance on how to design questionnaires to obtain the intended information. https://psr.iq.harvard.edu/book/questionnaire-design-tip-sheet

- **Selecting Data Collection Methods**
  This two-page tip sheet provides information for identifying data collection methods and sources that will help answer evaluation questions. https://www.cdc.gov/std/Program/pupestd/Selecting%20Data%20Collection%20Methods.pdf

Data Sources

These data sources provide national indicators. They provide a viable way to compare community indicators to national ones. The national survey tools are also good resources that can be administered at the community level.

- **National Survey on Drug Use and Health**
  This nationwide survey provides up-to-date information on tobacco, alcohol, and drug misuse and other health-related issues in the United States. https://nsduhweb.rti.org/respweb/about_nsduh.html

- **Monitoring the Future**
  This data is part of an ongoing study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults. http://www.monitoringthefuture.org/

- **National Roadside Study of Alcohol and Drug Use by Drivers**
  The national study reports national prevalence estimates for alcohol and other drug use among drivers. https://www.nhtsa.gov/behavioral-research/2013-14-national-roadside-study-alcohol-and-drug-use-drivers

Analyzing and Interpreting Information

The fifth step encompasses analyzing the evidence, making claims about the program based on the analysis, and justifying the claims by comparing the evidence against stakeholder values. When key stakeholders involved in the program agree that the evaluation conclusions are justified, they will be motivated to use the evaluation results for continuous program improvement.

- **Analyzing Quantitative Data**
  This resource provides an overview of ways to present descriptive statistics—frequencies, percentages, measures of central tendency, and measures of variability. https://learningstore.uwex.edu/assets/pdfs/g3658-12.pdf

- **Analyzing Qualitative Data**
  This tip sheet summarizes sources of qualitative data and ways to manage and analyze this information. https://tobaccoeval.ucdavis.edu/analysis-reporting/documents/AnalyzingQualitativeData.pdf

- **EvalBasics 4: Data Analysis for Program Evaluation**
  This one-hour online class provides participants with strategies for working with qualitative and quantitative data for program evaluation. https://nnlm.gov/classes/dataanalysis

Reporting Results

The sixth and final step involves sharing evaluation results and lessons learned with key stakeholders. The evaluation results can be used to assess the effectiveness of the program, identify ways to improve the program, and justify funding.

- **Developing an Effective Evaluation Report**
  This comprehensive workbook applies the *Centers for Disease Control Framework for Program Evaluation in Public Health* to guide what to include in evaluation reports in a way that is accessible to stakeholders. https://learningstore.uwex.edu/assets/pdfs/g3658-12.pdf

- **Effectively Communicating Evaluation Findings**
  This 15-page brief provides easy-to-follow instructions for presenting results using simple and engaging graphics. https://osepideasthatwork.org/sites/default/files/CIPP2_Effectively_Communicating_Evaluation_Findings_2017_Section_508_Com....pdf

- **Using Graphics to Report Evaluation Results**
  This tool assists program evaluators and key stakeholders to effectively communicate evaluation findings. https://ag.purdue.edu/extension/pdehs/Documents/Using%20Graphics%20to%20report%20Evaluation%20data.pdf

Appendix 1: Acknowledgments

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Appendix 2: Evidence-Based Prevention Programs and Policies

Table 1. Individual Unit of Practice

Programs or Policies	Population	Settings	Outcomes
Behavior Modification or Management			
Brief Motivational Intervention + Alcohol Expectancy Challenge	Indicated for young adults aged 20 to 24	College	■ At 6-month follow-up reduced heavy drinking and alcohol problems.[1]
Classroom Centered Intervention	Universal for children under age 10	School	■ At 6-year follow-up (Grade 8), reduced risk of starting to use other illegal drugs. No effects on alcohol initiation or marijuana use.[2-4]
Lifestyle Management Class (LMC)	Indicated for young adults aged 18 to 25	College	■ At 6 month follow-up, reduction in drinking after driving and heavy consumption of alcohol.[5]
Project Toward No Drug Abuse (TND)	Selective and Indicated for youth aged 10 to 17	School	■ At 1-year follow-up, reduction in levels of alcohol use among baseline users.[6] ■ At 5-year follow-up, reduced hard drug use.[7] ■ At 1-year follow-up, reductions in alcohol use, drunkenness, and hard drug use.[6]
Project Towards No Tobacco Use	Universal for youth aged 10 to 17	School	■ At 1- and 2-year follow-up, participants were significantly less likely to use cigarettes and/or smokeless tobacco.[8, 9]
School Health and Alcohol Harm Reduction Project (SHAHRP)	Universal for youth aged 10 to 17	School	■ At 17-month follow-up (after two years of intervention), reduced weekly drinking and harm from alcohol use.[10, 11]

Programs or Policies	Population	Settings	Outcomes
Teen Intervene	Indicated for youth aged 12 to 19	Outpatient or School	■ At 6-month follow-up, reductions in: alcohol use days, cannabis use days, alcohol abuse symptoms, alcohol dependence symptoms, and personal consequences of drug use. No effects were found for cannabis abuse symptoms and cannabis dependence symptoms.[12]
Training for Intervention ProcedureS (TIPS) for the University	Selective for young adults aged 18 to 25	College Fraternity	■ At 18-month follow-up, decrease in frequency and quantity of alcohol consumption (Caudill et al., 2007).[13]
Cognitive Restructuring Activities			
ATLAS (Athletes Training and Learning to Avoid Steroids)	Universal for youth aged 10 to 17	School (athletes)	■ At 1-year follow-up, reduced use of alcohol and illicit drug use and lower rate of drinking and driving.[14]
ATHENA (Athletes Targeting Healthy Exercise & Nutrition Alternatives)	Universal for youth aged 10 to 17	School (athletes)	■ At 1 to 3 years after high school graduation, reductions in marijuana, alcohol, and lifetime cigarette use.[15]
Screening and Brief Intervention			
Alcohol Screening and Brief Intervention	Indicated for young adults aged 18 to 25	College	■ At 12 months follow-up, reductions in blood alcohol concentration (BAC), binge drinking, heavy episodic drinking, alcohol-related harms, driving under the influence, and other foolish risks while drinking.[16]
BASICS	Indicated for young adults aged 18 to 25	College	■ Study 1: At 1- and 2- year follow-ups, reductions in drinking frequency. At 4 year follow-up, reduction in drinking consequences.[17, 18] ■ Study 2: At 1-year follow-up, reductions in average drinks per week and typical peak BAC levels.[19] ■ Study 3: At 1-year follow-up, there were lower typical drinking, peak drinking, and alcohol problems for both volunteer and mandated students.[20]

Programs or Policies	Population	Settings	Outcomes
Brief Intervention: Assessment and Feedback	Indicated for young adults aged 18 to 25	College	■ At 2-year follow-up, patterns of improvement in alcohol-related problems, according to the Rutgers Alcohol Problem Inventory.[21]
Brief Motivational Intervention in Emergency Department	Selective for adults aged 18+	Hospital	■ At 1-year follow-up, patients receiving brief intervention (BI) with booster reduced alcohol-related negative consequences and alcohol-related injuries; no differences were observed for heavy drinking days. No effects of BI without booster.[22]
Brief Motivational Intervention for Physically Aggressive Dating Couples	Indicated for young adults aged 18 to 25	College	■ At 9-month follow-up, reductions in harmful alcohol use.[23]
College Drinkers Check-Up (CDCU)	Indicated for young adults aged 18 to 25	College	■ At 12-months follow-up, decreases in frequency and quantity of alcohol consumed and peak BAC.[24]
College Health Intervention Projects (CHIPs)	Indicated for young adults aged 18 to 25	College	■ At 12-month follow-up, significant reductions in alcohol use and alcohol-related harm.[25]
Electronic Screening and Brief Intervention	Indicated for adults aged 18 +	Clinic and Computer	■ Multiple experimental studies found that eSBI participants demonstrated greater short-term (up to 1-year follow-up) reductions than controls in mean number of drinks/occasion, mean number of drinks/month, alcohol dependence, binge/heavy episodic drinking, alcohol-related problems/consequences, peak consumption/occasion, and change in risky drinking status.[26]

Programs or Policies	Population	Settings	Outcomes
Motivational Interviewing in Emergency Departments	Indicated for young adults aged 18 to 25	Emergency Department	■ At 12-month follow-up, significant reductions in frequency and amount of drinking.[27]
Personalized Drinking Feedback plus Motivational Interviewing	Indicated for young adults aged 18 to 25	College	■ At 6-month follow-up, reduced weekly drinking for women and reduced frequency of drinking and heavy drinking for men and women.[28]
Project Chill	Universal for youth aged 10 to 17	Clinic & Computer	■ At 12-month follow-up, computer-based participants had lower rates of marijuana use at any point during the year (16.8% vs. 24.2%) but non-significant effect on 12-month use. No effects on alcohol.[29]
Project U-Connect	Selected for youth aged 14 to 20	Emergency Department	■ A 12-month follow-up, reduction in driving under the influence and other alcohol-related consequences.[30]
SPORT Prevention Plus Wellness	Universal for youth aged 10 to 17	School, home, and other community settings	■ At 1-year follow-up, reduction in alcohol use (composite of past month frequency/quantity, heavy use, and problems), alcohol initiation, alcohol risk factors (composite), drug initiation (composite of cigarette and marijuana), as well as a significant increase in alcohol protective factors (composite). No effect was found for drug behaviors (composite of past 30-day cigarette and marijuana frequency of use) and exercise (composite of vigorous and moderate physical activity).[31]
Social and Emotional Skills Education			
Bicultural Competence Skills Program	Universal for youth aged 10 to 17	Clinic and School	■ At 42-month follow-up, weekly alcohol use and weekly marijuana use was lower in BCSP-only group. Results for a BCSP plus community group were not significant.[32]

Programs or Policies	Population	Settings	Outcomes
Social and Emotional Skills Education			
LifeSkills Training	Universal for youth aged 10 to 17	School	■ 6-year follow-up showed significantly lower incidence of self-reported drunkenness but no significant difference in rate of monthly, or weekly alcohol use; no effect on marijuana use. Reduction in weekly polydrug use (alcohol, marijuana, and tobacco).[33] ■ 1-and 2-year follow-up showed lower rates of alcohol use, binge drinking, and inhalant use.[33, 34] ■ At 1-year follow-up, high-risk participants reported less drinking, inhalant use, and polydrug use.[35] ■ At 1.5-year follow-up, reduction in substance use for females, which became non-significant at 2.5-year follow-up. No significant effects for males. At 5.5-year follow-up, lower rate of SU initiation, marijuana initiation, drunkenness, polydrug use, and lifetime methamphetamine use when combined with the Strengthening Families Program: For Parents and Youth 10–14.[36, 37]
Positive Action	Universal for youth aged 5 to 18	School	■ Multiple experimental and quasi-experimental studies reported both short- and long-term positive outcomes. For short-term outcomes (up to 12 months post-intervention), reductions in: substance use and violent behaviors.[38-51] ■ For long-term outcomes (longer than 12 months post-intervention), reductions in substance use and violent behaviors.[42-44, 51]

Programs or Policies	Population	Settings	Outcomes
Project Venture	Universal for youth aged 10 to 17	School, Outdoors	■ At 6 and 18-month follow-up, reduction in past 30 day use of alcohol, and general substance use.[52]
Unplugged	Universal for youth aged 10 to 17	School	■ At 18-month follow-up, reductions in any drunkenness, frequent drunkenness, any cannabis use, and frequent cannabis use.[53]

Table 2. Relationship/Family Unit of Practice

Programs or Policies	Population	Settings	Outcomes
Behavior Management for Parents and Children			
Brief Strategic Family Therapy	Selective for youth aged 10 to 18	Outpatient/ Home	■ At 12-month follow-up, reductions in youths' marijuana and alcohol use.[54]
Combined Alcohol Intervention (Brief Alcohol Screening and Intervention for College Students + Parent Intervention)	Indicated for youth aged 10 to 17	College	■ At 10-month follow-up, decrease in use of marijuana.[55]
SODAS City	Indicated for youth aged 10 to 17	Computer	■ At 3-year follow-up, CD-ROM alone and CD-ROM plus parent intervention showed significantly lower past-month alcohol use.[56] ■ At 7-year follow-up, lower past-month alcohol use, heavy drinking, and marijuana use.[57]

Programs or Policies	Population	Settings	Outcomes
Home Visiting Services			
Nurse Family Partnership	Selective for children under age 10	Home	■ At 13-year follow-up (age 15), parents in the nurse visits intervention reported their children had fewer behavioral problems due to use of substances, and youth reported fewer days of alcohol consumption in past 6 months. No effects on binge drinking or illicit drug use at age 19.[58] ■ At 10-year follow-up (age 12), lower 30-day use of cigarettes, alcohol, and marijuana.[59, 60]
Parent Education			
Guiding Good Choices	Universal for youth aged 10 to 17	School and Home	■ Effects on substance use initiation through high school and alcohol-related problems and illicit drug use through early adulthood. No effects on drunkenness.[61] ■ At age 22, lower rate of alcohol misuse for women; no effect for men.[62]
Parent Handbook	Universal for young adults aged 18 to 25	College	■ At 8-month follow-up, females were less likely to transition into heavy drinking status, but males were more likely to do so. No effects on rate of alcohol-related problems.[63] ■ Reduced the odds of continuing to be a heavy drinker for the first two years of college for students who came to campus with prior high-risk drinking habits.[64] ■ At 10-month follow-up, reduced alcohol peak consumption and alcohol-related consequences for PH and BASICS combined.[65] ■ At 22 months, reduction in the onset of alcohol consequences. No effect for PH alone.[66]

Programs or Policies	Population	Settings	Outcomes
Parenting Skills Education			
Familias Unidas	Universal/ Brief Version Selective for youth aged 10 to 17	Home and School	■ At 2-year follow-up, there was lower substance use initiation and substance use initiation among girls.[67] ■ Significantly lower past 30-day substance use at 18-month and 30-month follow-ups.[68]
Parent and Youth Social-Emotional Skills Education			
Adults in the Making	Universal for youth aged 10 to 17	Community and home	■ At 27.5 months, less likely to increase alcohol use.[69]
Coping Power	Selective for youth aged 10 to 17	Community and home	■ At 1-year follow-up (7th grade), lower self-reported past-month use of substances.[70] ■ At 1-year follow-up (7th grade), lower parent-reported substance use.[71] ■ At 4-year follow-up, lower use of marijuana, no differences in alcohol use.[72]
I Hear What You're Saying	Universal for youth aged 10 to 17	Home and Computer	■ At 1-year follow-up, reductions in use of alcohol, marijuana, and prescription drugs.[73] ■ At 2-year follow-up, reductions in use of alcohol, marijuana, and prescription drugs.[74]
Keep Safe	Selective for youth aged 10 to 17	Out of School	■ At 18-month follow-up, lower rate of substance use.[75]
Linking the Interests of Families and Teachers (LIFT)	Universal for children under age 10	School and Home	■ At 2- and 3-year follow-up, effects on patterned alcohol use across Grades 6-8.[76] ■ Lower risk of initiating alcohol use. Also reduced growth of illicit drug use, particularly for females.[77]

Programs or Policies	Population	Settings	Outcomes
Preventive Treatment Program (Montreal)	Selective for children under age 10	Home and School	■ At 7-year follow-up, effects on drinking to the point of being drunk at age 15.[78] ■ At 6- to 8- year follow-up, reduction in alcohol use at age 17 and drugs used between age 14 and 17.[79]
Strengthening Families Program: For Parents and Youth 10-14	Universal for youth aged 10 to 17	Home and School	■ At 4-year follow-up, lower lifetime alcohol use, drunkenness, marijuana use, and lower rates of amphetamine use.[80] ■ At 6-year follow-up, lower rates of substance use initiation, lower drunkenness, and lower illicit drug use.[81] ■ At age 21, lower rates of substance use initiation, drunkenness, and illicit drug use.[61,82] ■ At 2.5-year follow-up, shows significantly less alcohol initiation, marijuana initiation, and slower growth in weekly drunkenness when combined with Life Skills Training.[83,84] ■ At 5.5-year follow-up, lower rate of substance use initiation, marijuana initiation, polydrug use, and lifetime methamphetamine use when combined with Life Skills Training.[37] ■ At age 25, lower rates of prescription opioid misuse and lifetime prescription drug misuse overall when combined with Life Skills Training.[85]
Strong African American Families	Universal for youth aged 10 to 17	Home and School	■ At 2-year follow-up, slower rate of initiation of alcohol. Effect on growth trajectory of alcohol use through 4.5-year follow-up.[86,87]

Programs or Policies	Population	Settings	Outcomes
Screening and Brief Intervention for Parents			
Positive Family Support (Family Check Up)	Selective for youth aged 10 to 17		■ Lower rates of marijuana use through age 23. No effect on adult tobacco or alcohol use.[88] ■ For the 42% of families who engaged in the intervention, CACE analysis showed significantly less growth in tobacco, alcohol, and marijuana use across two years.[89]

Table 3. Community/Institutional Unit of Practice

Programs or Policies	Population	Settings	Outcomes
Full Service School			
Fast Track	Indicated for children under age 10	School	■ No effects on substance use in Grades 9-12. At 10-year follow-up (age 25), decreased probability of DSM alcohol abuse, serious substance use. Lower drug crime conviction rate (34.7% reduction). No effect on binge drinking or heavy marijuana use.[90]
Classroom Management, Child and Parent Skills Training			
Raising Healthy Children (RHC) (Seattle Social Development Project elementary only)	Universal for children under age 10	School and Home	■ At 6-year follow-up (age 18), reductions in heavy drinking.[91, 92] ■ At ages 21, 24, and 27, no significant effects on any form or drug or alcohol use.[93, 94] ■ At grades 8-10, reduced growth of frequency of alcohol and marijuana use, no effects on initiation of alcohol, marijuana, and cigarettes.[95]

Programs or Policies	Population	Settings	Outcomes
Social and Emotional Skills Training			
Team Awareness	Universal for adults aged 18+	Workplace	■ At 1-year follow-up, the odds of recurring heavy drinking declined by 50%, and the number of work-related problem areas declined by one-third.[96]
Yale Work and Family Stress Project	Universal for adults aged 18+	Workplace	■ At 22-month follow-up, reduced number of drinks per month.[97]

Table 4. Societal Unit of Practice

Programs or Policies	Population	Settings	Outcomes
Community Mobilization			
Communities that Care	Universal for youth aged 10 to 17	Community	■ By Grade 10, students in CTC communities were less likely to initiate alcohol. At 10th grade, there were no differences in rates of binge drinking or in past-month alcohol, marijuana, prescription, or other illicit drug use.[98] ■ By Grade 12, fewer CTC students had initiated any drug, alcohol, or cigarette use. There were no differences in past-month or past-year alcohol, marijuana, or other illicit drug use, with the exception of higher rate of ecstasy use in the CTC condition.[99]
PROmoting School-community-university Partnerships to Enhance Resilience (PROSPER)	Universal for youth aged 10 to 17		■ At 3.5-year and 4.5-year follow-up (Grades 11 and 12) youth in PROSPER communities showed lower past-year marijuana and methamphetamine use. At Grade 12 only, PROSPER youth showed lower past-year inhalant use. Six-year growth curve effects lower for marijuana, amphetamine use, and drunkenness.[85, 100] ■ By Grade 12, lower lifetime rates of prescription opioid misuse and lifetime prescription drug misuse overall.[106]

Programs or Policies	Population	Settings	Outcomes
Project Northland	Universal for youth aged 10 to 17	School and Community	■ The Phase 1 intervention was conducted when the targeted cohort was in Grade 6 to Grade 8. At 2.5 years past baseline, lower past-month and past-week alcohol use.[101, 102] ■ The Phase 2 intervention was conducted when the cohort was in Grade 11 to Grade 12. At 6.5 years past baseline, reductions in binge drinking.[103]
Project Star (Midwestern Prevention Project)	Universal for youth aged 10 to 17	School & Community	■ At 1-year follow-up, lower proportion of students reporting past-week and past-month use of alcohol. Secondary prevention effects on baseline users were observed up to 1.5 years past baseline, not at 2.5 and 3.5 years past baseline. Reductions in growth of amphetamine use through age 28.[104-108]
Environmental/Normative Change			
Communities Mobilizing for Change on Alcohol	Universal for young adults aged 18-25	Community	■ At posttest, a 17% reduction in the proportion reporting that they provided alcohol to minors.[109] ■ At posttest, a reduction in the number of arrests for DUI.[110]
Reducing Underage Drinking Through State Coalitions	Universal for youth aged 10 to 17	Community	■ At posttest, significant effects in the proportion of Grade 8 and Grade 12 students reporting past-month drunkenness and in Grade 12 students reporting binge drinking and past-year drinking.[111]
(SNAPP) Sacramento Neighborhood Alcohol Prevention Project	Universal for youth and young adults aged 15 to 29	Community	■ At posttest, fewer arrests for assaults, Emergency Medical Services (EMS) calls for assaults, and car accidents.[112]

Programs or Policies	Population	Settings	Outcomes
Safer California Universities	Universal for young adults aged 18 to 25	College & Community	■ At posttest, significant effects in the proportion of students reporting intoxication.[113]
Saving Lives	Universal for youth and young adults aged 10 to 25	Community & State	■ At posttest, a reduction in fatal alcohol-related motor vehicle crashes and a 40% reduction in self-reported DUI among 16- to 19-year-olds.[114]
Study to Prevent Alcohol Related Consequences (SPARC)	Universal for young adults aged 18 to 25	College & Community	■ At posttest, signification reductions in student reports of alcohol-related personal harms and causing injuries to others.[115]
Communications/Social Marketing			
Social Norms Marketing: "Just the Facts" Campaign	Universal for young adults aged 18-25	College	■ At posttest, reductions in alcohol use and number of alcoholic drinks consumed during a drinking episode.[116] ■ A later replication found no effects on self-reported alcohol consumption.[117]
Social Norms Marketing: Normative Group Intervention	Selected for young adults aged 18-25	College	■ At posttest, reductions in drinking behaviors.[118]
Policy and Enforcement			
Alcohol Advertising Restrictions	Universal	State and Community	■ Lower prevalence and frequency of adolescent alcohol consumption and older age of first alcohol use.[119] ■ Less youth drinking and more modest increases in drinking among those in their early 20s.[120] ■ Reduced alcohol consumption, including adolescent binge drinking in 20 countries.[121, 122] ■ Fewer youth alcohol-related, single-vehicle, driver traffic fatalities compared to states without this law.[121, 122]

Programs or Policies	Population	Settings	Outcomes
Blood Alcohol Concentration (BAC) Limits for Minors (Zero Tolerance) Laws	Universal for youth and young adults aged 15-21	State and Community	■ Reductions in binge drinking among 18-20 year old males.[123] ■ Reductions in drinking and driving among college students.[124] ■ Reductions in fatal motor vehicle crashes that involve drinking and driving for drivers younger than 21 years old.[125] ■ Reductions in alcohol-related fatal motor vehicle crashes among youth and young adults.[126] ■ Reductions in suicide deaths among males ages 15–24.[127, 128] ■ Reductions in gonorrhea rates among white males ages.[129]
Compliance Checks	Universal	State and Community	■ Reductions in retail sales of alcohol to minors.[130-134] ■ Reductions in underage alcohol consumption, including both 30-day use and binge drinking.[133] ■ Increases in requests for identification from individuals attempting to purchase alcohol.[135]
Dram Shop (Commercial Host) Liability	Universal	State and Community	■ Reductions in alcohol-related motor vehicle fatalities of 18 – 20 year olds.[136] ■ Reduced drinking levels among college students.[137]
Enforcing Underage Drinking Laws (EUDL)	Selected for young adults aged 18 to 21	Military bases	■ Fewer arrests of minors in possession of alcohol and fewer DUIs/DWIs for active duty and civilians under 21 years old.[138]

Programs or Policies	Population	Settings	Outcomes
Graduated Driver's License Laws	Universal	State	■ Decreased driving after drinking any alcohol and riding in a car with a driver who has been drinking alcohol.[139] ■ Fewer alcohol-related crashes one year after implementation.[140]
Increase Alcohol Taxes	Universal	State	■ Reductions in harmful youth drinking.[141, 142] ■ Reductions in youth drinking through its effect on adult alcohol consumption.[143] ■ Reductions in sexually transmitted infections and diseases among youth and young adults.[144-146] ■ Reductions in traffic fatalities involving youth.[147, 148] ■ Reduced violence and crime on college campuses.[146]
Minimum Age of Alcohol Purchase, Sale, and Server Laws	Universal	State and Community	■ Geographic areas with four or more underage laws (e.g., laws requiring a minimum age for servers and sellers, fake ID restrictions, laws on attempts to purchase or consume, laws requiring the posting of warning signs in alcohol outlets) have lower annual, 30-day, and binge drinking rates.[149] ■ States with laws establishing 21 as the minimum age to sell alcohol have lower alcohol use and binge-drinking rates among underage college students.[149] ■ States with stricter laws regarding the use of false identification to purchase alcohol have lower rates of alcohol-related traffic fatalities involving underage drinkers.[150]

Programs or Policies	Population	Settings	Outcomes
Minor in Possession of Alcohol Laws	Universal	State and Community	■ Decrease in the underage fatal traffic crashes that involve underage drinking.[151] ■ Reductions in driving after drinking any alcohol among underage youth and riding in a car with a driver who has been drinking alcohol among underage youth.[139]
Social Host Liability Laws	Universal	State and Community	■ Reductions in alcohol-related traffic fatality rates for 18–20 year olds.[152] ■ Reductions in total motor vehicle deaths for 18–20 year olds.[136] ■ Reductions in youth drinking (14–20 year olds) in large peer groups.[153]

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Appendix 3: Examples of Existing Data Sources

The following table provides examples of existing data sources on young adult substance misuse behaviors and risk or protective factors, and consequences.

STATE AND LOCAL DATA SOURCES	
Health Data Sources	
Local, County, and State Health Departments	Health departments, particularly those that oversee state offices of vital statistics, routinely collect and/or store a range of data, including information that describes alcohol and other substance consumption patterns (e.g., 30-day use) and/or the health outcomes associated with substance use among young adults. Many health departments also conduct periodic health needs assessments. In addition, local health departments are likely to be aware of the data collection efforts of other health-related agencies, such as hospitals, treatment centers, and prisons.
Hospitals	Hospital records, including hospital admission and discharge records, emergency medical services records, and trauma registries, can reveal patterns of alcohol- and other substance-related illnesses and injuries. These records can provide information on particular substances frequently used by community youth. Hospital records are also likely to reveal outcomes associated with substance use in the community, such as the number of 18-to-25 year-olds treated for substance overdose.
Poison Control Centers	Regional, state, and local poison control centers regularly receive calls related to substance overdoses. These centers generally track the types of calls they receive in order to identify trends and emerging public health concerns. They should reveal trends in substance use among 18-to-25 year-olds, specifically related to prescription and nonprescription drug overdoses.
Emergency Medical Services (EMS)	State and local EMS provide pre-hospital emergency medicine, primarily in response to 9-1-1 calls. EMS data can reveal trends in substance use resulting in emergency medical care, with data broken down by gender, age, and symptoms. However, these data could reveal important information about substance use in the 18-to-25 year-old age group in general.
Community-Based Coalitions and Agencies	Local coalitions and chapters of national organizations that focus on substance use prevention may collect data specific to young adults, including data describing substance and alcohol consumption patterns (e.g., 30-day use) and attitudes toward alcohol use (e.g., perception of disapproval, perceived risk).

Medical Examiner or Coroner's Office	Most states require a medical examiner or coroner's report for each person whose death resulted from violence or injury, and many counties provide this information, as well. Reports often contain information on substance or alcohol use at the time of death.
Crime and Accident Data Sources	
Local and State Law Enforcement Agencies	Information available from these agencies can include arrests for alcohol or substance possession, liquor law violations, arrests for the sale of substances, drunk driving arrests, arrests for drunkenness, arrests for teen violence, curfew violations, rapes, personal and property crime, homicides, vandalism, domestic violence, aggravated assaults, and disorderly conduct. Since many local law enforcement agencies are required to provide arrests and convictions to their state, you can usually get this information directly from the state law enforcement agency.
Department or Bureau of Motor Vehicles	State DMV/BMVs maintain records on all drivers who received a citation for operating or driving under the influence of alcohol.
Courts or Justice Department	Office of the Courts publish annual court statistics, which include convictions for various crimes. Such reports may contain information, separated out by district or county, on cases that involved alcohol- and other substance-related crimes.
Employment Records	In most states, the Administrative Employment Data Sources Employers often collect information on their employees, and these records can be an important source of information on young adults. It is important to note, however, that employers may resist sharing substance-related information about employees for fear that it will cast the employer in a negative light. Some common employers of young adults include the military, restaurants and bars, and construction companies.
Demographic Data Sources	
U.S. Census Bureau	Provides demographic data disaggregated by city, county, and state. Town, county, and tribal administrative offices also regularly collect demographic data that include the age, gender, and ethnicity of community members. These data are often available on the town's or county's website; and general information can be found here: http://www.census.gov/.

NATIONAL DATA SOURCES	
National Survey on Drug Use and Health (NSDUH)	Funded by SAMHSA, the NSDUH (https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health) annually interviews people nationwide to provide national and state-level estimates of tobacco, alcohol, and illicit drug use and mental health. The survey is designed to provide data on the levels and patterns of substance use, track usage trends, assess consequences, and identify groups at high risk for substance use. It collects information on age, education, employment status, as well as lifetime, annual, and past-month usage for alcohol, illegal substances, and nonmedical use of prescription drugs. This information could reveal national trends in substance use for young adults as well as co-occurring mental illness and substance use disorders. State data are also available.
Behavioral Risk Factor Surveillance System (BRFSS)	This ongoing, state-based survey collects data from adults on the prevalence of chronic diseases and conditions, access to health care, and health-risk behaviors including heavy and binge drinking. It also collects information on age, highest level of education, and current employment status. More information is available here: www.cdc.gov/brfss/.
College Prescription Drug Study (CPDS)	CPDS (https://www.campusdrugprevention.gov/) is a multi-institutional survey of undergraduate, graduate, and professional students. It examines non-medical prescription drug use, including the reasons for and consequences of use, access to prescription drugs, and perceptions of use among students. The CPDS's purpose is to understand the non-medical use of prescription drugs among college students. It was developed and administered as a collaboration between The Ohio State University's Center for the Study of Student Life, Student Life Student Wellness Center, and the College of Pharmacy.
Fatality Analysis Reporting System (FARS)	Operated by the National Highway Traffic Safety Administration (http://www.nhtsa.gov/FARS), this system collects information on deaths resulting from motor vehicle collisions, including data on several aspects of the crash, including the event, the vehicle(s) and driver(s) (by age), and each person involved. Specific substance-related indicators include the annual number of alcohol-related drivers in crashes in which at least one person died, and the annual number of vehicle deaths sustained in crashes that were alcohol-involved.
Monitoring the Future (MTF)	Funded by the National Institute on Drug Abuse, MTF is a nationwide study of behaviors, attitudes, and values of American adolescents and young adults. MTF (http://www.monitoringthefuture.org/) surveys participants at the beginning of high school, and into young adulthood. This resource includes national data regarding substance use among college versus non-college young adults for some, though not all, racial and ethnic groups.

National College Health Assessment (NCHA)	The American College Health Association's NCHA (https://www.acha.org) is a nationally recognized survey that assists colleges and universities collect data about their students' health habits, including alcohol, tobacco, and other substance use; mental health; and personal safety and violence.
Uniform Crime Reports (UCR)	Operated by the Federal Bureau of Investigation, these reports contain national crime estimates, including arrests, by age, for substance use- and alcohol-related crimes; state crime estimates, and city and county crime counts (for cities with populations over 10,000 and counties with populations over 25,000). These data are provided by law enforcement agencies that voluntarily participate in the UCR Program. https://www.ucrdatatool.gov/.

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Any person depicted in a photo is a model.

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