Developing Effective Substance Use Prevention Messaging

Central East (HHS Region 3)

PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

Prevention messaging seeks to change behavior by inspiring hope and providing information on the risks of substance use. Implementing well-designed, culturally responsive messaging alongside other evidence-based prevention strategies can increase the effectiveness of each. However, the need for more and better messaging is clear: perceptions of harm for many substances have decreased in recent years and the number of youth who see or hear prevention messages outside school is declining.[1]

PURPOSE OF MESSAGING IN PREVENTION[2]

Reducing substance use requires behavioral and environmental change. Prevention messaging can help by:

- Increasing perceptions of substance use risk
- Changing social norms
- Reinforcing positive behaviors
- Increasing support for prevention services

GETTING THE MESSAGE OUT[3]

Many communication methods are available to prevention. It's important to understand who you're targeting, so you know **where** to place your message. Common strategies include:

Social media

Phone and tablet apps

Print media

Speaking with caregivers, peers, and trusted professionals

Public service announcements

Text Messaging

THE NEED FOR CULTURAL HUMILITY

How a message is delivered is just as important as **who** delivers it. Incorporating cultural humility into messaging will ensure that you reach the right populations, obtain buy-in from the community, and respect cultural values and norms. By following this mindset and developing collaborative relationships with community members and peers with lived experience, you can better craft effective, culturally resonant messages.

Reflect on the messages you create, and ask yourself if they are:[4,5,6]

- **Relevant**
- **Understandable**
- **Actionable**
- **Accessible**
- **Timely**
- **Credible**
- **Trustworthy**

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Visual design is a key element of message development. In that spirit, here are prevention messaging tips designed as a website help page.

● ● ●   ∿P My Prevention Campaign He

🔒 https://www.mypreventioncampaign.org   ☆ ≡

MPC   OUR CAMPAIGNS   RESOURCES   ABOUT MPC   CONTACT US!

TIPS FOR CREATING A PREVENTION MESSAGING CAMPAIGN [7,8]

🧠 Know the issue inside and out

🔬 Focus your campaign's goals and objectives

👤 Know the attitudes, beliefs, and environment of your audience

🎓 Test your materials so they resonate with your audience

⚖️ Evaluate your success and know when to pivot!

FOR ADDITIONAL RESOURCES ON PREVENTION MESSAGING, CHECK OUT THESE TOOLS:

Prevention Tools: What Works, What Doesn't

CDC's Health Communications Playbook

PUTTING TOGETHER SOME PREVENTION MESSAGING MATERIALS [11,12]

I need help developing prevention messaging materials!

Do:
- Frame prevention as a health issue
- Use real-life examples
- Identify potential consequences of use
- Engage peers as messengers
- Deglamorize substance use

Don't:
- Lecture, guilt, or shame
- Normalize use
- Use scare tactics
- Dramatize substance use

This is super helpful. Thanks!

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PREVENTION TOOLS
What works, what doesn't

Acknowledgement

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Introduction

Knowing what works in prevention, and what doesn't, is vital to keeping young people from developing serious and life-long issues with addiction, as alcohol and other drug abuse remain the problem behaviors contributing to the most serious problems facing our communities today. In fact, the National Center on Addiction and Substance Abuse estimates the U.S. spends more than half a trillion dollars each year responding to the consequences of substance abuse and addiction.[1]

In Washington State, our share of that cost exceeds more than $5 billion annually. It is a problem that strains our health care, social services, educational and justice systems, and one that takes an immeasurable emotional and financial toll on families.

Over the years, the prevention field has learned from past mistakes. As our field has matured, so has our knowledge base. We now know that not all prevention strategies are created equally. Many of the most common strategies being used by well-meaning parents, schools and communities have been shown by careful research to be ineffective. Some have even caused harm by unintentionally reinforcing pro-use attitudes, behaviors or norms.

As prevention professionals and the stewards of our field, we know good intentions are not good enough for selecting and implementing prevention strategies. We are ethically obligated to use the knowledge of what works if we want to protect students from initiating drug use or developing addiction.

What Works in Prevention

Evidence-based Program Registries

There are many strategies confirmed by research that are shown to positively impact the health behaviors and choices of young people. These research-validated strategies are known as evidence-based programs and have been proven effective over time using the most rigorous evaluation methods.

Although proven to work in numerous settings and with diverse populations, even the best designed programs can be rendered ineffective if communities add or subtract from their scope and sequence. Evidence-based strategies depend on your commitment to implementing them with fidelity to the intended design of the program.

Many nationally recognized agencies host searchable registries of evidence-based programs online. Their goal is to connect communities and agencies with the programs most suitable for their specific needs.

- The Washington State Health Care Authority, Division of Behavioral Health and Recovery maintains an up-to-date listing of evidence-based practices on their website for prevention professionals, the Athena Forum. You can view the **Excellence in Prevention Strategies** list here: TheAthenaForum.org/EBP.

- The University of Colorado at Boulder maintains the **Blueprints for Healthy Youth Development** registry of evidence-based programs at BlueprintsPrograms.com.

Innovation and Principles of Effectiveness

Although evidence-based programs implemented with fidelity are most likely to help communities improve outcomes for young people, there are many circumstances in which selecting an evidence-based program may not be an option. These include cost, training, community and partner readiness or appropriateness to local conditions.

In these cases, many communities elect to create a locally designed innovative program to address their needs. While innovation is vital across disciplines, communities should be aware that innovation in substance abuse prevention can carry severe risks, such as causing harm to those you intend to help.

The good news is that there are guides to help parents, educators, and community leaders think about, plan for, and deliver research-based drug abuse prevention strategies, even when they cannot implement established evidence-based programs.

- The U.S. Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Prevention published a definitive guide for infusing principles of effective substance abuse prevention into innovative programs. **Principles of Substance Abuse Prevention: A Guide to Science-based Practices** is easy to understand and essential reading for prevention practitioners and coalitions everywhere. You may access the guide at: TheAthenaForum.org/CSAPprinciples.

- The National Institute on Drug Abuse created **Preventing Drug Use among Children and Adolescents**, with tried and true principles of effectiveness that should guide your innovative program design decisions. You can access the guide at: bit.ly/NIDApxGuide.

Effective Prevention Strategies for Children

Innovative programs for children should focus on strategies and activities that build social competence, self-regulation and academic skills.[2] Specifically, prevention programs should focus on developing these skills:

- self-control;

- emotional awareness;

- communication;

- social problem-solving; and

- academic support, especially in reading.

Effective Prevention Strategies for Adolescents

Innovative programs and drug prevention curricula for middle and high school students should focus on increasing academic and social competence by teaching the following skills:[2]

- study habits and academic support;

- communication;

- peer relationships;

- self-efficacy and assertiveness;

- drug refusal skills;

- reinforcing anti-drug attitudes; and

- strengthening personal commitment against drug abuse.

Effective Prevention Strategies for Families

Innovative programs that target families should focus on strategies and activities that enhance family bonding and positive relationships.[2] Specifically, prevention programs should focus on developing these skills:

- use of good parenting skills – supportiveness, communication, involvement, monitoring and supervision;

- practice developing, discussing and enforcing family policies on substance abuse; and

- drug education and information for parents to enhance opportunities for family discussion.

Effective Prevention Strategies within Programs

Building Social and Personal Skills

Interventions that build the social and personal skills of young people enhance individual capacities, influences attitudes, and promote behavior inconsistent with use. Some skill building interventions may include information about the negative effects of substance use, but effective programs never cross the line by using fear arousal techniques.[3, 4, 5, 6, 7]

Cite Immediate Consequences

Youth tend to be more concerned about social acceptance and the immediate rather than the long-term effects of particular behaviors or choices. Citing consequences such as stained teeth and bad breath is shown by research to have more impact than the distant threats of car crashes, lung cancer or death.[8, 9, 10]

Communicate Positive Peer Norms

Events and activities that communicate peer norms against the use of alcohol and other drugs act as community statements in support of no-use standards.[11, 12]

Involve Youth with Peer-led Components

Drug units and activities that are peer-led, or that include peer-led components, are more effective than adult-led approaches.[1, 3, 13]

Use Interactive Approaches

Give young people opportunities to practice newly acquired skills through the use of interactive approaches. Approaches like cooperative learning, behavioral rehearsal and group exercises give students opportunities to practice newly acquired skills and help to meaningfully engage them in prevention education programs.[4, 14, 15, 16, 17]

A Summary of What Works in Prevention

Our time and scarce resources are best used to teach positive, healthy behavior, rather than trying to stop dangerous behavior through manipulation or strategies that contradict research.

When we cannot use established evidence-based programs and strategies, communities should consult the Principles of Effective Prevention to prevent harm and ensure our innovative programs achieve the results we want.

As a rule of thumb:

- focus on healthy alternatives to use;

- enhance connections to, and bonding with, prosocial adults, peers and organizations;

- use structured interactive approaches that include skill practice; and

- focus on normative education that portrays true use rates and corrects misperceptions.

What Doesn't Work in Prevention - Counterproductive Strategies

Whatever your level of experience in the field of substance abuse prevention, it is important to understand that not all prevention strategies are effective, or even helpful. In fact, many of the most common strategies being used by well-meaning parents, schools and communities have been shown by careful research to be ineffective, or even to cause harm by unintentionally reinforcing and promoting pro-use attitudes, behaviors and norms.

What you believe may have worked for you and others as a young person may actually have harmed the more vulnerable youth you grew up with. It is entirely possible that your innate resilience, a relationship with a supportive adult, or your family's clear rules and expectations around alcohol and other substance use protected you from the well-intended but often ineffective strategies employed during the "early days" of prevention.

As a field, we have moved far beyond "Just Say No" and "This is Your Brain on Drugs" campaigns. In our hearts, we felt like these strategies were effective because they were simple and direct. But without tempering our heart knowledge - our strong desire to help - with our head knowledge – our growing understanding of what works and what doesn't - we risk squandering resources or even hurting those we intend to help. The rationale of, "If it helps just one…" fails if our actions harm 30 others in the process.

Some of the past strategies highlighted in this section may seem like a good idea on the surface. We may even have used them recently – but our obligation is to honor principles of effective prevention and to use strategies that maximize our limited resources.

If you find that your agency, coalition or community is implementing these strategies, use your influence to educate your partners and lead them away from implementing them. Remember, our priority and ethical obligation is to first do no harm.

What Doesn't Work in Prevention

Fear Arousal – Scary Images and Scare Tactics

When exaggerated dangers, grotesque images, false information or distant consequences are the focus of your strategies or curricula, teens tend to disbelieve the message and discredit the messenger. These messages are not developmentally appropriate and researchers point out that fear arousal often backfires when youth have access to contrary information and experience.[18, 19]

You may think these techniques worked on you when you were younger, but really you may have been born with a natural "resilience" to avoiding drugs or other protective factors in your life. Kids who are truly at-risk won't connect their current behavior to those "future" images. In fact, researchers say some may actually rebel against your message and start using drugs in order to prove you wrong.[19]

SCABS, HALLUCINATIONS, AND BODY SORES. THEN THINGS REALLY GO DOWNHILL.

Using scary images is NOT effective.

One-time Assemblies and Events

Stand-alone assemblies, events, and gruesome displays create temporary emotional arousal but do not impact behavior or intentions to use alcohol and other drugs.[20, 21]

Students sheltered from explicit media, or who have suffered a tragedy similar to the recreated display, may be triggered or even re-traumatized.

Personal Testimony from People in Recovery

Even if their story is powerful, personal testimony normalizes drug use by reinforcing the incorrect norm that "everybody uses." Developmentally, young people see the positive attention the classroom or assembly speaker gets, will hear that this person was able to stop using alcohol or other drugs, and the prevention message backfires.[20, 22]

Personal testimony may be a powerful tool for hope when speaking to a treatment or recovery audience, but as a universal prevention strategy it is inappropriate and not recommended due to the potential for harm.

What Doesn't Work in Prevention (continued)

Mock Car Crashes

Mock car crashes are resource-intensive fear appeal strategies intended to influence the poor driving decisions of teenagers by decreasing driving under the influence behaviors. Organizers believe they can achieve this goal by showing a hard-hitting, detailed reenactment of a fatal car crash scene with emergency responders and law enforcement in action. These scenes are often preceded by activities that include pulling students from class throughout a school day to represent the rising death toll from teens driving under the influence.

In truth, these types of programs have been clearly demonstrated by research to be ineffective at best, and to likely reinforce the behaviors they are trying to prevent. The research on mock car crashes and similar strategies is clear:

- They do not lead to positive behavior change[30, 31, 32, 33]

- They actually produce increases in risky behavior[34, 35, 36, 37, 38]

- They are least effective among those who most need to change their behavior[39, 40]

- They create psychological trauma[41, 42, 43, 44]

- They may trigger secondary traumatic stress and post-traumatic stress responses in people by creating an environment that replicates the dynamics of an original trauma[45, 46]

Reinforcing Exaggerated Social Norms

Many well-intended individuals, communities and agencies try to create a community-wide response to youth substance abuse by sensationalizing information about high rates of use. Even if true, focusing on these messages normalize the perception that everybody uses and undermines healthy teen responses to pressure to use alcohol and other drugs.[23, 24]
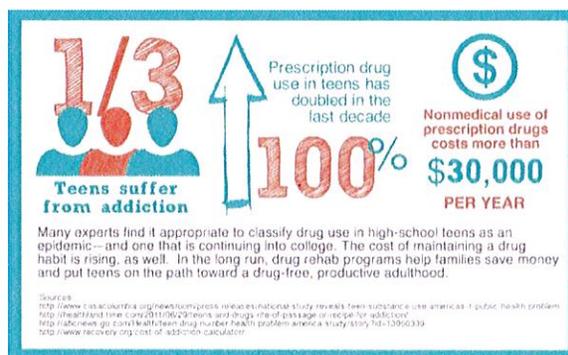
An example of messages we DON'T want to give youth.

The Illusion of Truth Effect: Myth Busting

Myth busting may be among the most commonly used means for correcting false norms across all types of health communication; however, research shows that people exposed to a myth/fact presentation style are more likely to recall myths as facts![48]

Scientists have termed the reason for this as the Illusion of Truth Effect, which demonstrates that commonly held beliefs and repeated statements are easier for the brain to process and are therefore perceived to be more truthful than new information. Put simply, myth busting is actually myth reinforcing. It is much more effective to simply state the facts and then repeat them over time.

What Doesn't Work in Prevention (continued)

Drug Fact Sheets and Knowledge-based Interventions

It is normal for young people to have questions about alcohol and other drugs, but providing too much information too early can negatively influence their healthy decisions and behavior. For example, drug fact sheets and posters that describe reasons for use, methods of use, the street names of drugs, and potential benefits of use are ineffective at best and may increase experimentation in vulnerable children and youth.
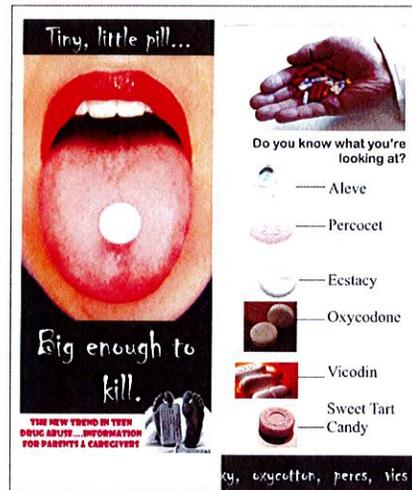
Curricula that only provide information about the consequences of substance use do not produce measurable and long-lasting changes in behavior or attitudes. This approach is considered by prevention scientists among the least effective educational strategies.[26]

This information is NOT for youth.

In fact, there is significant data to demonstrate that fact sheets in the hands of middle school students show them how to defy adults and enhance peer reputation by engaging in risky behaviors.[6, 25]

Showing the benefits of drug use, even when paired with consequences, promotes drug use among youth. The idea that there is an easy way to forget pain, lose weight, cope with anxiety and fit-in may entice teens to experiment.

Role Play that Conditions Youth to be Drug Users or Dealers

Practicing newly acquired skills through the use of structured behavioral rehearsal is a vital strategy in many of the most highly regarded evidence-based prevention programs; however, unstructured role play and the use of impairment props (like fatal vision goggles) that are intended to simulate being under the influence can result in unintentional peer reinforcement of anti-social behavior.[4, 27, 28] In fact, there is zero evidence that fatal vision goggles decrease drunk driving and no research supports their use with youth in the 10-17 age group. [50,51]

What Doesn't Work in Prevention (continued)

Moralistic Appeals

As teens individuate, a normal process of human development, they begin to develop their own set of core values that may be different than the families and institutions they are bonded to. Appealing to morality as young people are finding their own path to adulthood may produce the opposite effect of what we intend and compromise their healthy choices.[27]

Grouping At-Risk Youth Together

Grouping at-risk youth together in early adolescence may inadvertently reinforce problem behavior as inexperienced risky youth learn from their more experienced peers.

Thomas Dishion from the Oregon Social Learning Center found at-risk youth grouped with peers exhibit more problem behaviors than those who are not grouped with peers after prevention programming.[29]

Final Thoughts

Talking about ineffective and counterproductive strategies as you build the capacity of your community partners can be highly challenging for all involved, particularly if the practice under discussion has become a tradition, is close to your community's or partner's heart, or was their best response to a tragedy or other personal experience with substance abuse.

It can be devastating to learn that our best intentions may have been fruitless, or actually contributed to increases in the very behaviors we're trying to prevent; however, as effective preventionists, we must learn from the lessons of our past and be equipped for these important conversations.

Remember, relationships are the key to creating sustainable change in your community, so be gentle; nevertheless, move forward knowing that we cannot work against our goals by supporting practices that reinforce trauma or the risk factors contributing to substance use.

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What Research Shows
Does NOT Work in
Substance Misuse Prevention

About This Guide

This guide was created to help substance misuse prevention practitioners identify ineffective approaches to substance misuse prevention.

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SHEDDING LIGHT ON INEFFECTIVE STRATEGIES IN SUBSTANCE MISUSE PREVENTION

There are many evidence-based prevention programs and practices available to families, schools, and communities that focus on preventing substance misuse and its associated harmful consequences among youth and young adults. Over time, evaluations of these programs and practices have also identified which ones are ineffective, and in some cases, have adverse effects (e.g., increasing substance use). As prevention practitioners, it is critical to identify ineffective approaches so that resources are better invested, we can mobilize communities to implement effective prevention programs and practices,[1] and we do no harm.

While the prevention field has begun to move away from some ineffective strategies, it is important to continue identifying ineffective, and in some cases, harmful (e.g., unintentionally leading to increases in use[2]) strategies being implemented in communities. The science of prevention is advancing, and so is our understanding of what works and what does not work in substance misuse prevention. This report focuses on more recent research that describes what does **not** work in substance misuse prevention. Specifically, the work summarized in this report is taken from research that has been either peer-reviewed (i.e., evaluated by other experts in the field) or published in the form of white papers (i.e., another research-based document) where the findings did not establish any significant impact on preventing key substance use or risk factor outcomes. For more information on how to find other research on what does and does not work in prevention, review this resource from the Pacific Southwest Prevention Technology Transfer Center, "How to Conduct a Thorough Literature Search."

INEFFECTIVE EDUCATIONAL STRATEGIES

Substance Use Experience Simulations

Have you ever driven by a school during prom or graduation season to see a staged, crashed car parked on the grounds? This is an example of a substance use experience simulation, which is intended to bring awareness to the consequences of using substances and operating a vehicle. Other examples of simulations include using fatal vision goggles (e.g., drunk goggles), crash reenactment, or mock car crashes.

The use of crash reenactments has not been found to be effective.[3,4] In a previous review, mock car crashes have been found to increase risky behavior and are even more ineffective among those individuals at higher risk.[5]

Here's an example. Students were surveyed before and after being exposed to the following 35-minute simulation:

Previously wrecked vehicles were obtained and delivered to the intervention site and placed together to create the appearance of an [motor vehicle crash]… student actors dressed in prom attire and [apply makeup] to indicate injuries, and placed in the wrecked vehicles. The wrecked vehicles are then covered with tarps to prevent the observing students from seeing the scene prior to the event beginning. A scenario of what had occurred is read aloud to the students and a recorded tape of a [motor vehicle crash] is played while the tarps are removed, uncovering the scene for the students. During the scene, the local 911 system is mock activated with the dispatcher being an American Red Cross representative allowing the observing students to hear the exchange. After a few minutes to simulate a real response time, the police arrive on the scene, followed by fire and EMS personnel. An ambulance transports injured victims away from the scene to a location unseen by the students as if they were taking them for treatment at the local hospital. Later, a police officer administers a sobriety test to the intoxicated driver, and the driver is handcuffed and taken to the police car. The county coroner examines the student portraying a fatality and pronounces them deceased on scene. The victim is removed from the car, placed in a body bag, and taken to the hearse. The hearse drives around the area and ends by slowly passing in front of the students observing. During the viewing of the deceased victim by the coroner, dramatic music sets the tone until the hearse drives away (page 85).[4]

Despite some changes in students' attitudes regarding drinking and driving immediately after the simulation, there were no changes in students' knowledge about the effects of alcohol or behavior around consumption.[4] The lack of knowledge and behavior change impacted through this strategy demonstrates its ineffectiveness in preventing future alcohol use and, subsequently, drinking and driving. Further, one could assume any changes in attitudes seen are related to the immediacy of answering survey questions directly after exposure to the gruesome scenario (see more on fear arousal below) and will be temporary.

Similarly, the use of fatal vision goggles has also been found ineffective in behavior change,[6] and any changes in attitudes towards drinking and driving are not long-lasting.[7] For more on the ineffectiveness of fatal vision goggles, see this white paper from Virginia's Alcoholic Beverage Control Committee and this document from Prevention First.

INEFFECTIVE INFORMATION DISSEMINATION STRATEGIES

When considering the effectiveness of information dissemination, some strategies, such as using clearinghouses to identify evidence-based programs, are useful for prevention practitioners. However, other strategies, such as handing out a brochure to increase knowledge on the effects of alcohol use or hosting a speaking engagement with a person in recovery, are not effective.

Passive Strategies

One-time assemblies/events, including those that offer personal testimonies from individuals in recovery or motivational speakers, have been shown through research to be ineffective. A review by Tobler and colleagues (2000) found that as program intensity increased from low (i.e., 10 hours or less) to medium (i.e., 11 to 30 hours) to high (i.e., 31 to 522 hours), the effectiveness increased. Specifically, programs with between 11 to 30 hours of delivery were more effective than those with 10 or fewer hours of delivery.[8] Thus, this implies that the intensity of one-time assemblies or other one-time delivered events would not be effective.

Moreover, when these one-time events consist of personal testimony speeches delivered by individuals who are in recovery from substance misuse, youth and young adults tend to generalize that all people can recover and be successful after having challenges with substance misuse, causing some youth to believe that if they misuse substances, everything will turn out okay. These speeches often also include other ineffective strategies such as fear arousal,[20,21] one-time events,[8] reinforcing exaggerated substance use norms,[26-28] didactic delivery,[11] and knowledge-only information.[10,11]

Knowledge-based Strategies

Knowledge-based strategies (e.g., education only) provide information (e.g., drug fact sheets) rather than focusing on relevant skill-building to prevent substance misuse. These often contain too much information and use jargon that can overwhelm youth and young adults. Here are some examples from research:

- Parent-based programs that relied on printed material or computer-based approaches for preventing/reducing youth tobacco use had mixed findings.[9]
- Education-only prevention programs and practices that target knowledge or awareness with young people have not been found effective in reducing substance misuse.[10]
- No evidence was found for knowledge-based programs on preventing alcohol misuse.[11]

Campaigns and public service announcements (e.g., "Just Say No") are other knowledge-based strategies that have been found to be ineffective. In a review of antidrug public service announcements, most were found to have no effect on substance use or actually increased the likelihood of substance use by students.[12]

Myth Busting

Myth busting, while well-intentioned, brings myths to the forefront and makes myths more memorable than facts.[13] When we use myths versus facts strategies, we repeat them, making it difficult to remember which was the myth and which was the fact.[14] More commonly, we see myths vs. facts (or myth vs. reality) in text where the myth is placed in a larger format with the facts displayed in a detailed paragraph underneath it.[14] The following is an example from a university:[15]

MYTH: CANNABIS IS NOT ADDICTIVE.

This manual began by addressing the myth that the first time someone uses, they don't usually experience the negative things that they were told as a youth. This many times leads one to doubt the harmful effects and continue to use the drug. The most popular myth to explore is whether cannabis is addictive. For years, it was believed that cannabis could not be addictive, and many people today still hold that belief to be true. Current research supports that cannabis is both physically and psychologically addictive.

Cannabis meets the criteria established by the American Psychiatric Association and the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) for substance dependence. A person needs three of the following criteria occurring at any time in the same 12-month period to meet the diagnosis of dependency:

1) Tolerance: needing more of the substance to achieve the same effects or diminished effect with the same amount of the substance. Individuals with heavy use of cannabis are generally not aware of having developed tolerance.

2) Withdrawal symptoms: with cannabis use this can be experienced as irritability, restlessness, loss of appetite, trouble with sleeping, weight loss, shaky hands, and loss of motivation. Some people have displayed increased verbal and physical aggression after one week of not using cannabis.

3) Continuation of use despite the presence of adverse effects: a person continues to use even after they have hurt someone or themselves, have experienced suicidal ideation, relationship problems, etc., related to use.

4) Giving up social, occupational, or recreational activities because of the use of cannabis. Due to the progressive nature of these symptoms, the user does not recognize these changes despite comments and concerns of others. As the use of cannabis increases, a person slowly changes their social group and activities with peers who use about the same, if not more. This tends to normalize use for the person despite the increase in need.

5) The individual may withdraw from family activities and hobbies in order to use the substance in private or to spend more time with substance-using friends. Despite recognizing the role of the substance contributing to a psychological or physical problem, the person continues use.

6) Cannabis is taken in larger amounts or over a longer period of time than intended.

7) There is a persistent desire or unsuccessful efforts to cut down or control substance use.

Although it starts with "MYTH" in large, bold font to get our attention, we skim over the rest of the factual information. Consequently, later, "is not addictive" will most likely be text most recalled.

INEFFECTIVE ENVIRONMENTAL STRATEGIES

Punitive and Zero-tolerance Approaches

Using zero-tolerance policies or enforcing punitive approaches are commonly used as efforts to prevent substance misuse or deter students from using in certain places or during certain times. While a popular approach, it has been found to be ineffective at preventing substance misuse among those youth who have already initiated use.[16,17] While some evidence for school anti-tobacco policies exists, a review of research found evidence that the severity of sanctions was mixed for preventing tobacco use. However, many studies showed no effectiveness for punitive and/or zero-tolerance approaches. In other cases, sanctions were found to actually increase the risk of substance misuse.[18] One report argues that commonly used zero-tolerance policies do not prevent behaviors such as substance use.[19] Instead, by leading to suspensions or other punishments, they may increase other risk factors associated with substance use.

INEFFECTIVE MEDIA STRATEGIES

Fear Arousal

Fear arousal through the use of scare tactics (i.e., using scary/gruesome images or statements that "shock" people into behavior change) or other fear-based messaging has been found ineffective.[20,21]

A review by Prevention Solutions found in U.S. studies:[22]

- Written, fear-based messaging public service announcements for college students did not increase students' intentions to reduce alcohol use
- Unedited dramatization of terminal lung cancer due to cigarette use for college students had no impact
- Graphic images for smoking did not impact students' intentions to quit among those who already smoke

Based on limited evidence, using believable, science-informed content that does not aim to scare or intimidate could be beneficial.[22] However, as we have seen over time, these strategies *have* become more realistic, such as the advertisements from the anti-methamphetamine advertising campaign, the Meth Project. Several states have adopted the Meth Project to prevent methamphetamine use through graphic advertisements. Methamphetamine use, which already showed downward trends, was not further impacted by Meth Project ad.[23,24] A review debunking the Montana Meth Project finds that the project has been associated with increased acceptability/approval of using methamphetamine, decreased perceived risk of using methamphetamine regularly, as well as decreased perceived risk of drug use (i.e., heroin, cocaine, and marijuana).[25]

Reinforcing Exaggerated Substance Use Norms

In line with the exaggerations of substance use consequences, other strategies exaggerate substance use norms, which can lead individuals to believe, for instance, that more of their peers are using substances than in reality. For instance, spreading the message in a community that

vaping among youth increased by 50% (for example, a change from 3% to 4.5 % is a 50% increase) conveys a message to youth that *everyone* vapes. Because norms/beliefs guide behavior, perceptions such as these can lead to increased substance use.[26-28]

Furthermore, strategies that use language that normalizes use, such as "recreational substance use," not only minimize the potential harms of use but also impact social norms as they "may suggest to the population that this kind of use is purely for fun, without or with low relevant negative side effects or loss of control."[26]

INEFFECTIVE PROGRAM CHARACTERISTICS

As we know, prevention programs and practices are not one size fits all, and similarly, there are characteristics of programs that are also ineffective in substance misuse prevention. The following is a list of program characteristics that can be ineffective in substance misuse prevention:

- Didactic delivery methods (vs. interactive methods).[11]
- Programs that are developmentally inappropriate for the population intended to reach.[28,29]
    - For more information on what program characteristics are effective for which age group for school-based prevention, see the review from Onrust and colleagues that evaluates findings from 288 programs.[30]
- Involving caregivers only is less effective than programs that involve both youth and their caregiver(s).[9]
- Grouping together at-risk youth.[31]

WHAT'S NEW?

In recent years, there has been a shift in using digital programs and practices and other applications for substance misuse prevention (e.g., video games, mobile apps, virtual reality). Some digital prevention programs and practices have been successful, including web-based, game-based, and virtual reality-based programs.[32] While there are undoubtedly limitations of in-person or "human-delivered" programs and practices, we should err on the side of caution when using digital programs and practices as they present other barriers, such as to whom these are accessible and evolving technology advancements and still require more evaluations of their effectiveness. For instance, while some specific programs have been found to be effective (e.g., Cannabis eCHECKUP TO GO[33,34]), a review of 14 studies of text messaging programs to reduce tobacco and alcohol use found mixed findings, such that 5 studies had significant differences in substance use behavior outcomes while 8 found no differences.[35] The use of digital platforms for prevention of substance use is an area requiring further research and evaluation of long-term outcomes.

CONCLUSION

Ineffective programs, practices, and strategies are those that have been found not to reduce the development of unhealthy behaviors. In some cases, research has found that such programs and practices can lead to increased incidences of substance misuse, which can have long-term health consequences.[36] With strong evidence of ineffectiveness, one may ask why individuals, schools, or communities are still using these programs. Some mistake innate resilience and additional external protective factors for the effectiveness of programming, while others still abide by the notion of "as long as it helps one," which is harmful because it does not acknowledge that ineffective strategies can harm.[5]

It is also important to note that using some of these ineffective programs or strategies may trigger unwanted or unintended emotional responses among participants. For example, watching the mock drunk driving scenario mentioned above may re-traumatize someone whose family member or loved one was in such an accident – substance use or none aside.

If you are looking for the evidence behind a certain program, several evidence-based clearinghouses are available. Some of these websites do not focus specifically on substance use. However, by addressing shared risk and protective factors, some of the programs listed on these sites impact substance misuse outcomes.

- BluePrints for Healthy Youth Development
    - In addition to the evidence-based programs listed, the BluePrints website also offers a list of non-certified programs or programs that have **not** met the designated criteria for effectiveness here.
- CASEL Program Guide
- Crime Solutions
- Office of Juvenile Justice and Delinquency Prevention Evidence-based Programs
- Title IV-E Prevention Services Clearinghouse
- The California Evidence-based Clearinghouse for Child Welfare
- What Works Clearinghouse

While each clearinghouse uses its own evaluation criteria, these websites are beneficial because they have evaluated the effectiveness of evidence-based programs and recommend to audiences like prevention practitioners whether programs should be selected. The Results First Clearinghouse from Pennsylvania State University is another resource that summarizes the information across ten national registry databases and compiles and displays key information, including the rating they assigned to each program. Check out this Guide to Online Registries for Substance Misuse Prevention Evidence-based Programs and Practices from the Pacific Southwest Prevention Technology Transfer Center for more information on registries of evidence-based prevention programs, practices, and policies.

If you find you or others are still using an ineffective strategy, use your voice and the resources available to you through this guide and other resources to discuss these concerns with your group and advocate for implementing **WHAT WORKS** in prevention of substance misuse.

ADDITIONAL RESOURCES TO FIND WHAT WORKS IN PREVENTION

Websites and Documents

- Great Lakes Prevention Technology Transfer Center's Prevention Learning Portal
- SAMHSA Finding Evidence-based Practices Resource Center
- NIDA Drug Facts: Lessons from Prevention Research

Research Articles

The following resources are available as indicated and were not included in the write-up of this report.

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