What Works In Prevention

Recommendations For Effective Substance Use Prevention

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INTRODUCTION

Prevention of substance use and substance use disorders is focused on creating a healthy environment for youth and families through community change and supports. This approach is centered on decreasing risk factors such as family conflict, lack of commitment to school and access to drugs and alcohol, while increasing protective factors like connections to community, learning refusal skills and academic support (Washington State Health Care Authority, 2020).

Over time the knowledge and research base for the prevention field has grown. Through this growth we have learned that not all prevention strategies are effective. Some strategies have been found to be ineffective or have very mixed or limited evidence that make their effectiveness unlikely or unclear.

Because we aim to do good work, we have an ethical obligation to use the information we have about what does and doesn't work in prevention to implement the most effective prevention strategies we can. We can't simply rely on good intention, but instead must rely on the best available evidence to implement prevention strategies that work and avoid those that don't (Washington State Health Care Authority, 2020).

While we have multiple resources to learn more about effective prevention strategies, the evidence on strategies that may be ineffective is less readily available. Highlighted in this document are many of the strategies that are frequently regarded as ineffective. Each of these strategies is summarized to include research currently available and conclusions that can or can't be drawn about effectiveness. Some of these strategies have little to no research that is available on their effectiveness and in those cases the theoretical basis for avoiding the strategy has been outlined.

"Do the best you can until you know better. Then when you know better, do better."
-
Maya Angelou

While the level of evidence varies and some research results are mixed, all of the strategies highlighted should be either avoided or in some instances utilized with great caution and thorough local evaluation due to a lack of research or theory to support effectiveness.

Some of the strategies highlighted in this document 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, use strategies that maximize our limited resources and do no harm**. If you find your agency, coalition or community is implementing the following strategies, use your influence to educate your partners and implement a different strategy (Washington State Health Care Authority, 2020). The final section of this document provides an overview of strategies research does indicate are effective in the prevention of substance use. When looking for alternatives to ineffective prevention strategies consider these best practices. Also consider reaching out to your county drug and alcohol office for support in identifying effective prevention strategies for your community.

Please note: Not all potentially ineffective prevention strategies are reviewed in this document. This should not be interpreted as a complete list of prevention strategies with no, mixed or limited evidence of effectiveness. Many of our prevention strategies that are based on current best practice have still never been formally evaluate. Even programs based on research evidence may not have been evaluated within the communities/context you serve. What we know about the science of prevention continues to evolve. With all that in mind, it is critical that we evaluate the prevention programs and activities we implement at the local level to help determine what is and is not working to prevent substance use in the community(ies) we serve.

What Doesn't Work Strategies To Avoid

FEAR APPEALS/SCARE TACTICS

Definition :

Scare tactics, fear appeals and fear-based messaging are strategies designed to produce fear in order to persuade someone to change a behavior or avoid initiating a behavior (Prevention Action Alliance, 2023; Esrick et al., 2019). Examples (Prevention Action Alliance, 2023) include:

- Mock car crashes
- Gruesome images
- Graphic depiction of death and drug use
- Stories of how substance use ruined someone's life
- Images to produce shock and disgust (e.g. image of oral cancer)

Fear appeals also include highlighting negative outcomes of certain behaviors such as overdose and death as a result of opioid use; injury, death or arrest due to impaired driving; or cancer caused by smoking. The level of fear and anxiety raised through scare tactics or fear appeals can vary widely.

EVIDENCE AND THEORY FOR CONCERN/CAUTION

Although there is a small amount of evidence that fear appeals can work under specific conditions, the utilization of scare tactics and fear appeals has generally been regarded as ineffective by the substance use prevention field for many years. A few studies have suggested that certain types of fear-based messaging have resulted in lower substance use intentions among certain populations (Esrick et al., 2019; Tannenbaum et al., 2015). However, these studies have mainly been conducted with small groups of people who don't necessarily represent the broader population. Additionally, most studies do not have follow-up measurements, so it is unclear whether changes in attitudes and intentions last over time or lead to actual behavior change. The majority of evidence suggests that fear appeals and scare tactics either have no effect on behavior, or sometimes even can increase the likelihood of substance use (Ruiter et al., 2014; SAMHSA'S Center for the Application of Prevention Technologies, n.d.; Witte & Allen, 2000).

Theoretically, fear appeals are thought to work by prompting fear and anxiety about the consequences of substance use (Soames Job, 1988). People should then avoid using substances to avoid the consequences. Importantly, this process relies on the idea that people believe the consequences of substance use are likely to happen to them. In reality, the evidence suggests that although scare tactics and fear appeals can make people wary about the consequences of substance use, this does not often lead to actual behavior changes (Tannenbaum et al., 2015; Witte & Allen, 2000).

There are multiple common reasons why the threat induced by these scare tactics or fear appeals does not lead to change:

- The content of the threat or its consequences are often exaggerated.
    - People do not believe that severe consequences like death or cancer are likely to happen to them (lack of susceptibility).
- Too much fear is induced, leading to anxiety or avoidant behaviors instead of healthy behaviors.
    - People may turn to smoking and drinking as anxiety-reduction behaviors, meaning some fear appeals could lead to increased substance use.
- The fear appeal incites fear but does not give suggestions for alternative behaviors to use instead of substance use (like getting a ride home instead of driving under the influence).
- People do not feel confident they can stop the unhealthy behavior.
- People do not believe avoiding substance use is the only way to prevent the depicted consequences.

FEAR APPEALS CAN ALSO BE POTENTIAL TRAUMA TRIGGERS OR POSE RISKS FOR RETRAUMATIZATION. WITH OUR OBLIGATION TO DO NO HARM, THIS RISK IS ONE REASON TO AVOID FEAR APPEALS.

We can't know the experiences each member of our audience has had, especially when it's a general audience. Those in the audience who have experienced trauma related to events such as death of a family member due to overdose or injury of a friend in a car accident may be negatively impacted by a presentation or activity depicting those events.

There are additional concerns about using scare tactics and fear appeals among groups of young people (Prevention Action Alliance, 2023):

- They may be more likely to deny they are at risk for serious consequences (Smith & Stutts, 2006).
- Depending on how messages are presented, young people may mock messages or not take them seriously.
- They may put more emphasis on personal experiences or experiences of friends who have used illicit substances without consequence, rather than considering the facts.
- Messaging that exaggerates harms and risks may attract sensation-seeking youth to that behavior.

RECOMMENDATION

AVOID UTILIZING FEAR APPEAL STRATEGIES...

- For a general audience or in a non-targeted way.
- With youth, where the concerns of potential ineffectiveness are greatest.
- As a stand-alone activity.
- In a way that is not trauma-informed.
- If you are unable to do a thorough evaluation to determine effectiveness (did the strategy result in the desired outcome).
- If you are unable to carefully follow the guidelines below.

If you utilize fear appeals, the following guidelines should be followed (Manyiwa & Brennan, 2012; Soames Job, 1988; Witte & Allen, 2000). However, it is important to note that even when following these guidelines, fear appeals may still not be best practice for every population and target outcome.

- Only use fear appeals that are factual and believable.
  - Do not exaggerate potential dangers or harms, as this could induce avoidant behaviors.
  - Only threaten consequences that people believe are likely to happen to them (e.g., “smoking causes bad breath, yellow teeth” rather than “smoking causes lung cancer”).
- Do not induce such high levels of fear around the outcome that audiences turn to avoidance, denial, and feelings of lack of control.
- Alternative (healthy) behaviors must be recommended.
  - Make sure the alternative behavior(s) will actually remove the threat or consequence (e.g., “if you get a ride home instead of driving drunk, you will avoid getting arrested”).
  - Make sure the alternative behavior(s) are achievable (e.g. something they can actually access and engage in).

ALTERNATIVES

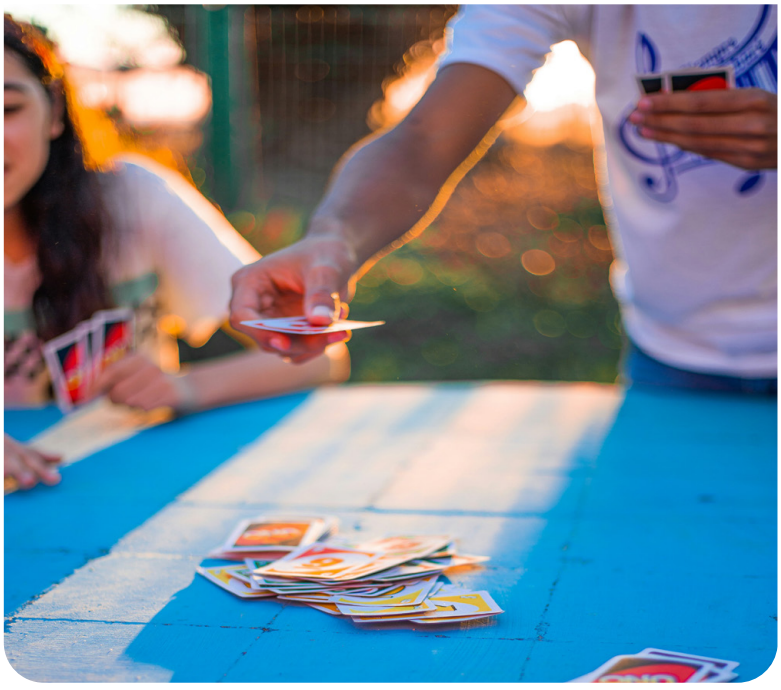
INSTEAD OF FOCUSING ON SHOCK AND FEAR, WHICH COULD INDUCE DENIAL OR AVOIDANT BEHAVIORS, FOCUS ON PROMOTING HEALTHY, POSITIVE, AND PRODUCTIVE BEHAVIORS AS ALTERNATIVES.

Especially when targeting younger children, positive reinforcement that comes from rewarding healthy behaviors may be the most effective strategy.

Look for opportunities to present a positive or gain-framed message rather than loss-framed message often used in fear appeals. Share positive norms such as the percent of youth who have not used substances. Focus on messaging about the healthy behaviors people can start doing rather than focusing on what not to do. Learn more about positive messaging via these resources:

- **ADAPT'S MIND THE MESSAGE CAMPAIGN**
- **CENTER FOR HEALTH AND SAFETY CULTURE, POSITIVE CULTURE FRAMEWORK**

Create opportunities in communities, schools and families to make choosing healthy, positive and prosocial activities and options easier and more accessible. Help to reduce driving under the influence by promoting and providing alternate ways to travel if someone has been drinking (e.g. partnering with cab companies or insurance agencies to provide free rides). Prevent binge drinking during homecoming, prom and other events by offering substance free alternatives that are attractive to youth and young adults (e.g. substance free tailgates before sporting events, post prom parties, college game nights before finals week).



Alcohol/Drug Impairment Goggles Driving Under The Influence Simulators

Definition :
Alcohol/Drug Impairment Goggles (often called “drunk goggles”) mimic the impairments caused by drug and alcohol use by shifting the wearer’s visual field and therefore impairing vision and balance (Jewell et al., 2004). They are most commonly used as a tool for preventing driving while intoxicated.

DUI Simulators use virtual reality to simulate the experience of driving under the influence of drugs or alcohol, usually equipped with steering wheels and other controls that simulate the experience of driving a vehicle. A virtual road appears on a screen in front of the participant, who attempts to navigate it. DUI simulators use delays in vehicle responses to cues, alterations in speed, and altered visuals (like blurriness) to simulate driving under the impairment of alcohol or drugs (Montgomery et al., 2006; Vankov et al., 2021).

EVIDENCE AND THEORY FOR CONCERN/CAUTION

Alcohol/Drug Impairment Goggles

- Among college students, goggles were associated with improved attitudes towards drinking, but there was no effect on actual drinking behavior (Hennessey et al., 2006; Jewell et al., 2004, 2005).
  - The effect on attitudes towards drinking washed out over the course of a few months.
  - Effects were limited to those who actually used the goggles (not other observers).
  - Effects were also limited to those who believed the likelihood of crashing when driving drunk was high (i.e., perceived susceptibility to crashing their car).
- Studies have only been conducted among college students / young adults, so results may not generalize to other age groups.
- While there are no studies on the effectiveness of these goggles with youth, anecdotal concerns shared by those who have used these goggles with youth include:
  - Youth don’t take the activity seriously. See the goggles as something funny rather than understanding the real risk the goggles are meant to simulate.
  - Goggles only simulate impacts on vision and youth can miss the point that substances also impair reasoning, judgement, coordination, reaction time, etc.
  - Youth see the goggles as a game to win. This mentality poses a potential backfire effect if youth leave the activity thinking they could overcome the effects of substance impairment and still drive or perform other activities safely.

DUI Simulators (Montgomery et al., 2006; Vankov et al., 2021)

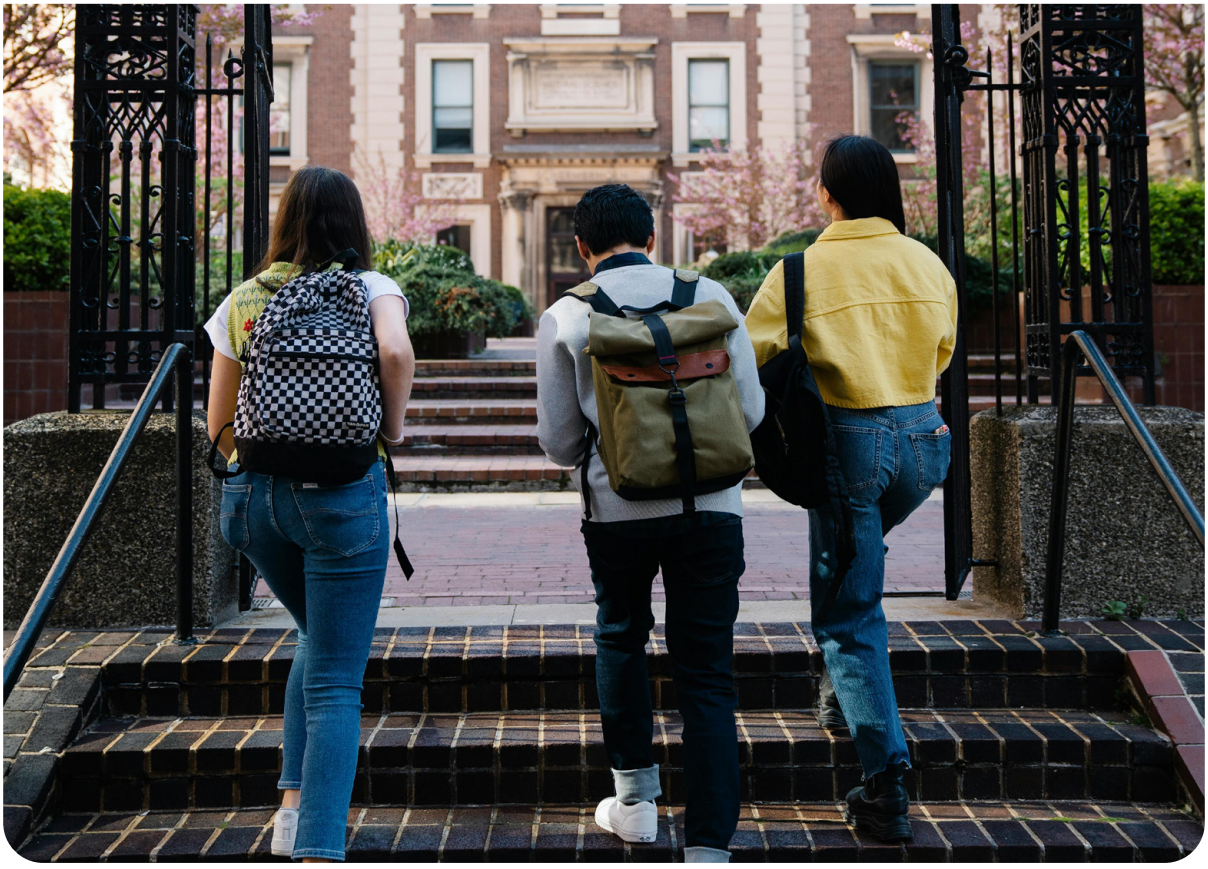
- Using the simulator did not affect students' likelihood of using alcohol, their beliefs about the consequences of drunk driving, or their actual drunk driving behaviors.
- Studies have only been conducted among college students / young adults, so results may not generalize to other age groups.

RECOMMENDATION

Given the very limited evidence of effectiveness for alcohol or drug impairment goggles and DUI simulators, this strategy is not recommended until more generalizable and rigorous evaluations of actual behavior change, including longer follow-up periods, are conducted.

ALTERNATIVES

Alcohol/drug impairment goggles and DUI simulators may seem appealing as something fun, interactive and quick, but effective prevention requires investment in comprehensive strategies and not quick fixes. See the "What Works!" section below to learn more about potential alternatives.



Drug Testing in Schools

Definition :

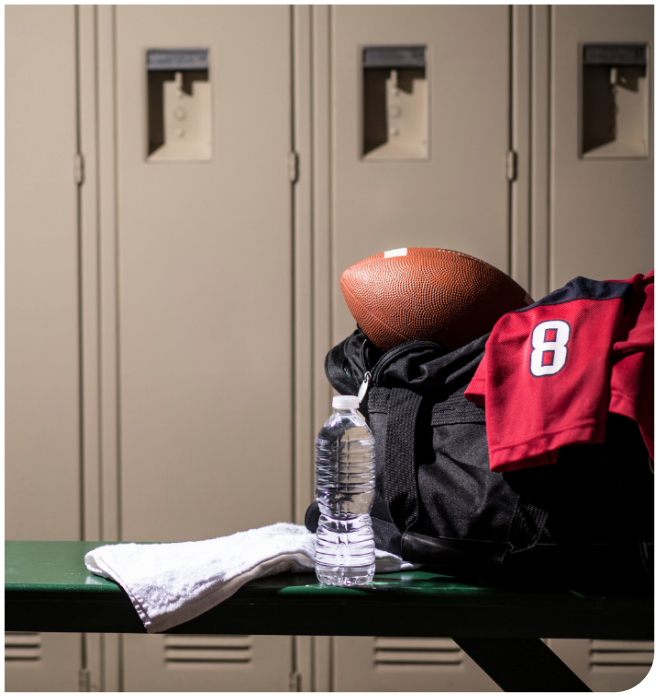
Drug testing in schools can happen in a range of formats from random screening to periodically required screenings of whole groups of students, such as athletic teams (Levy et al., 2015). Drug testing in schools can be done in a variety of ways, such as collecting urine, blood, saliva, hair, or sweat samples, or by breath tests.

EVIDENCE AND THEORY FOR CONCERN/CAUTION

- Potential Short-Term Benefit.
  - Decreases in immediate drug use (e.g., over the last month) among those who were tested (Goldberg et al., 2003).
- Evidence of Iatrogenic/Negative Effects.
  - Has been associated with increased likelihood of risky drug use behavior (Terry-McElrath, 2013).
  - Has been associated with increases in drug use, in some cases (Terry-Mcelrath et al., 2013).
  - Can result in declines in positive attitudes toward school (Levy et al., 2015).
    - Consequences of positive drug tests may be removal from activities, which are important sources of peer and school connectedness. Removal from these activities may place students at higher risk for escalating use.
  - Potential deterrence from participating in school activities where drug testing happens (i.e., athletics).

ADDITIONAL CONCERNS

- Drug testing may distort students' views about how much drug use is happening among their peers (Levy et al., 2015).
- Drug testing may only be effective at changing attitudes and behaviors if done weekly, which is unrealistic and costly (Levy et al., 2015; Terry-McElrath, 2013).
- Best-practice drug testing requires careful handling of samples under clinician supervision, which can be costly and unrealistic, and mishandling can lead to inaccurate test results (Levy et al., 2006; Terry-Mcelrath et al., 2013).



RECOMMENDATION

Follow the current American Academy of Pediatrics (AAP) stance and avoid this strategy.

- **AAP POLICY STATEMENT**
- **AAP TECHNICAL REPORT**

ALTERNATIVES

Consider non-punitive strategies that allow for the identification of youth at risk and then provide those youth with support, resources, education, intervention and treatment as needed. Student Assistance Programs serve as one way to do this. Universal screening, brief intervention and referral to treatment (SBIRT) is a strategy that involves screening of universal groups of students (e.g. all 9th graders, all students served by school-based health center) for substance use or other behavioral health concerns. Check out the School-Based Health Alliance's SBIRT Toolkit to learn more.

Information Only Approaches

Definition :
Information only approaches involve providing facts or statistics around substances, such as a drug facts sheet.

EVIDENCE AND THEORY FOR CONCERN/CAUTION

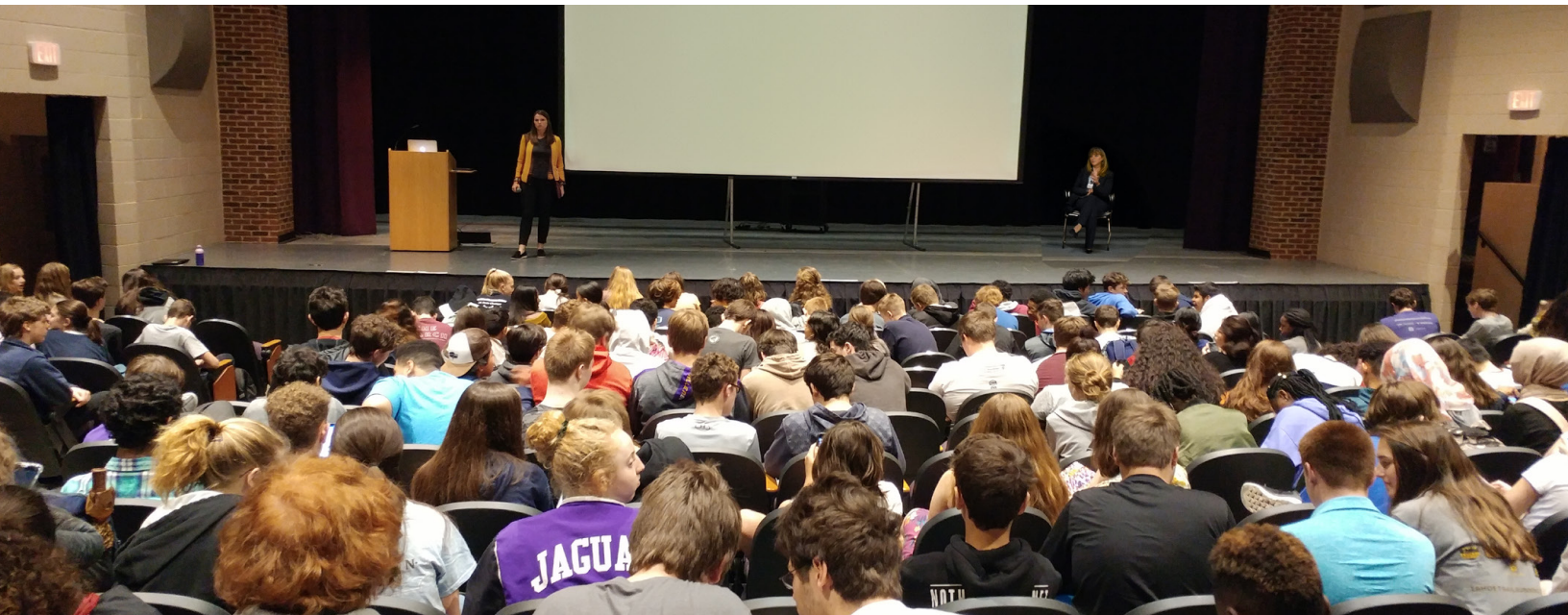
- Information provision has been shown to increase students' knowledge about different substances (Bangert-Drowns, 1988). However, there is only limited evidence that attitudes and intentions toward substance use can be affected with information only approaches (Burke, 2002; Stockings et al., 2016).
- Has not been associated with actual behavior change. Knowledge alone is not enough to change behavior (Arlinghaus & Johnston, 2018). All of the most well evidenced theories of health behavior change (e.g. Health Belief Model, Theory of Planned Behavior, Social-Ecological Model), demonstrate that more is required than just knowledge to change behavior.

RECOMMENDATION

Providing information as a stand-alone intervention is unlikely to affect substance use behaviors.

ALTERNATIVES

Information approaches should only be utilized in the context of other interventions that address barriers to behavior change, such as refusal skills training, family and peer influences, and social norms education (Tze et al., 2012; Poulin & Nicholson, 2005).



Assemblies and One-Time Presentations

Definition :
Assemblies and one-time presentations aimed at preventing substance use can take many forms, such as inviting speakers to present to a large group of youth or students, or a one-time presentation stating facts and consequences around substance use, to name a few.

EVIDENCE AND THEORY FOR CONCERN/CAUTION

It is very difficult to evaluate the effectiveness of this type of strategy because there is no standard format or guidelines. In addition, many evaluations of assemblies and one-time presentations focus only on changes in satisfaction related measures (e.g. whether people liked the presentation or whether the presenter was engaging) and not outcome measures such as changes in participant attitudes, skills or behaviors as a result of the presentation.

ASSEMBLIES AND PRESENTATIONS OFTEN RELY ON USE OF STRATEGIES IDENTIFIED AS HAVING NO/LIMITED EFFECT OR CAUSING HARM.

For example, speakers who discuss how substance use negatively impacted their lives may inadvertently be utilizing scare tactics and fear appeals that have not shown concrete evidence of effectiveness (e.g., Esrick et al., 2019; Tannenbaum et al., 2015). Similarly, giving students facts and information about various substances as a stand-alone intervention raises the concerns of information-only approaches noted in the section above. The brief nature of these activities and the lack of opportunity for skill building with participants also limit their potential effectiveness.

RECOMMENDATION

The likelihood the cost of putting on a speaker or other type of assembly will outweigh the potential benefits of this approach make it a strategy that should be avoided.

ALTERNATIVES

Effective prevention requires investment in comprehensive strategies and not quick fixes. See the “What Works!” section below to learn more about potential alternatives. Lower cost one-time presentations that have been carefully built into a set of complimentary programs/activities being provided to a given population may have potential for helping produce positive outcomes within that larger set of activities. Also consider alternatives that provide opportunities for skill building and promoting positive norms. When struggling with limits on time available with certain groups/populations, explore evidence-based or informed programs that have been developed in a briefer format.

Personal Testimony from People in Recovery for Youth

Definition :
Personal testimonies of those in recovery from substance use disorder can take a variety of forms, such as large assemblies or small group presentations for youth.

EVIDENCE AND THEORY FOR CONCERN/CAUTION

Using personal testimonies for preventing substance use raises some concerns when used with youth because it can often rely on other ineffective strategies, like fear appeals and one-time presentations (Esrick et al., 2019; Tannenbaum et al., 2015). Also similar to fear appeals, testimonies may only be effective when the audience believes that the consequence is likely to happen to them (e.g., Witte & Allen, 2000). This may not be achievable with personal testimonies, because people may believe they can use substances without becoming addicted to them. Also, they may not find the individual and their story/circumstances to be relatable to their life (i.e. "they are nothing like me") and therefore not see the consequences the person in recovery experienced as something that could happen to them. This likely limits the effectiveness of this type of approach. Additionally, those in recovery may have personal difficulties such as feelings of shame around sharing their story, which may put them in a vulnerable position during this type of presentation. This may be especially true for individuals early in their recovery.

RECOMMENDATION

The potential effectiveness of personal testimonies when used with youth is limited by the fact that they often rely on other ineffective strategies, which means that the costs (in terms of inviting and compensating a speaker, asking them to do a potentially difficult task in sharing their personal story) likely outweigh the benefits of using this strategy.

For non-youth audiences, personal testimony provided to a treatment or recovery audience or use of personal stories in other ways such as advocacy efforts or stigma reduction campaigns may be effective. It is important that individuals are adequately prepared to share their story. Training may be needed to prepare individuals to share their story effectively.

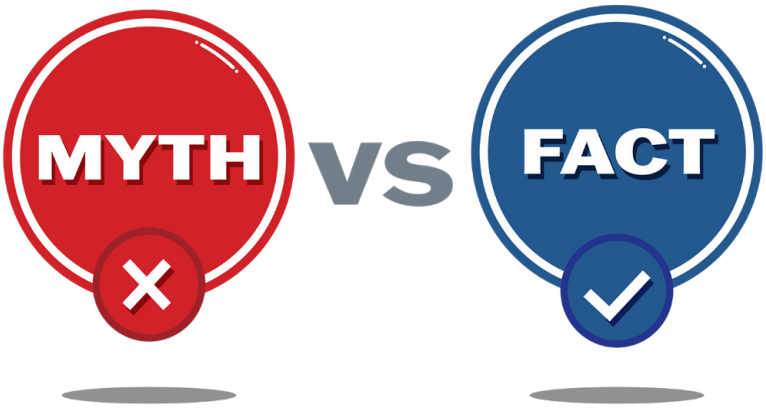
ALTERNATIVES

People in recovery can be engaged as mentors for youth, with consistent and sustained mentorship being likely to have a stronger impact than one-time interactions or presentations. Positive messaging campaigns with youth that highlight youth making healthy choices, supports youth have in making healthy choices and strategies for addressing or overcoming challenges in life could also be considered.

Myth Busting

Definition :

Myth busting involves listing the "myths" or common misconceptions about various substances and then listing facts or information that dispels this myth (Dobson & Rose, 2022). One example would be to present the myth "cannabis isn't addictive" followed by information that discusses how it is addictive.



EVIDENCE AND THEORY FOR CONCERN/CAUTION

Studies looking at "myth vs fact" campaigns/messaging have found repeating myths can increase belief in them (Dobson & Rose, 2022; Hassan & Barber, 2021).

Myth busting can be risky because introducing myths or false information alongside facts poses a risk people will misremember which statements are myths and which ones are facts (Dobson & Rose, 2022; Peter & Koch, 2021; Outterson, 2022). People may easily misremember myths as facts and end up believing the myth.

If the audience is not aware the myth is about to be dispelled or discussed in more detail, they may stop paying attention after the myth is introduced, or not continue reading on or listening to later points where the myth is dispelled. This means they are more likely to remember or believe the myth.

In addition, repeated information is often perceived as more truthful or believable, this is known as the Illusory Truth Effect. The more a false statement is repeated, the more it is perceived as believable or truthful (Hassan & Barber, 2021).

RECOMMENDATION

Given the risks and pitfalls, this strategy should be avoided.

ALTERNATIVES

Instead of using myths as a set-up for factual information, just stick to presenting the facts. Avoid drawing attention to false information and clearly present the facts or true information.

What Works!

GUIDING PRINCIPLES

Effective prevention should follow these guiding principles :

1

Use evidence-based programs, practices or policies whenever possible.

When no evidence-based programs, practices or policies are available or appropriate, use strategies that align with best practice and the best available evidence.

2

Invest in long-term prevention strategies and avoid quick fixes.

The reasons and conditions that lead to substance use are varied and complex. There are no “quick fixes” for preventing substance use.

3

Implement comprehensive prevention strategies.

One activity on its own, regardless of what it is, is unlikely to produce change. Prevention strategies are needed to address multiple risk/protective factors across the lifespan and in multiple different domains (e.g. family, school, community). For example, we can’t only provide one educational program for youth in schools. We also need programs for families, strategies to change policies or community and environmental conditions, etc. It is the carefully coordinated implementation of multiple prevention strategies within communities that’s needed for population level change in substance use.

4

Involve individuals and communities you serve in the selection, planning, and implementation of programs and services

“Nothing about us without us” communicates the importance of collaborating with the communities we serve. It underscores the necessity for active involvement, input, and investment from community members and representatives across diverse sectors. This involvement ensures that decisions regarding programs, services, resource allocation, and evaluation are made in close partnership with those directly impacted, resulting in more relevant and effective initiatives.

Evidence-Based Programs, Practices, Policies

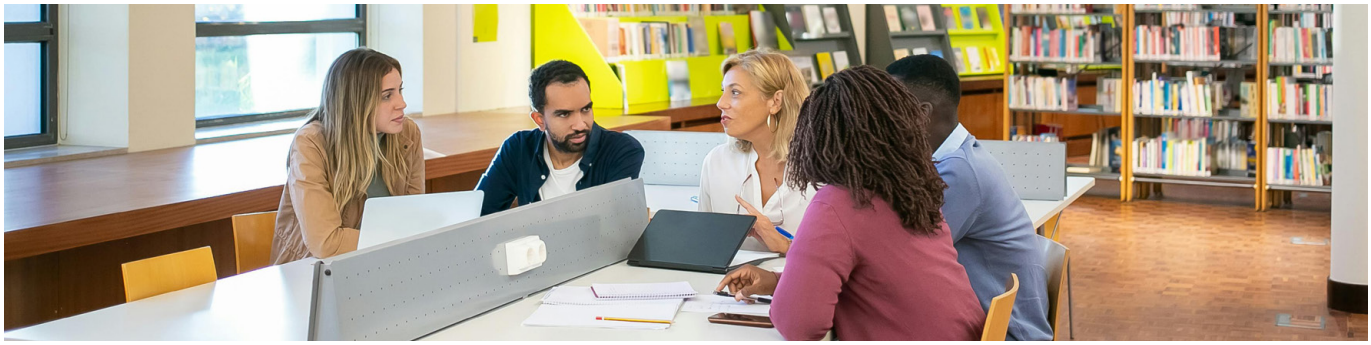
There are many **strategies confirmed by research that are shown to positively impact the health behaviors and choices of young people.** These research-validated strategies are known as evidence-based programs/practices and have been proven effective over time using the most rigorous evaluation methods (Washington State Health Care Authority, 2020).

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

- Blueprints for Healthy Youth Development
- OJJDP Model Program Guide
- What Works Clearinghouse
- Results First Clearinghouse
- CASEL Program Guide (specifically for social-emotional learning programs)
- CollegeAIM—the College Alcohol Intervention Matrix
- The Community Guide (includes evidence-based policies)

Although evidence-based programs are proven to work in numerous settings and with diverse populations, even the best designed programs can be ineffective if communities do not implement the program as intended (Washington State Health Care Authority, 2020).

- Implement evidence-based programs with fidelity. Fidelity is the degree to which the program is implemented as the program developer intended.
- If changes or adaptations need to be made, do so carefully and consult the program developer about changes you'd like to make. Be sure to retain the program's core components.
- Select programs that are a good fit for the risk/protective factor or behaviors you are trying to change and a good fit for where program will take place and who the program is for. This will make the program easier to implement with fidelity.



Best Practice

Although evidence-based programs implemented as intended are most likely to help communities improve outcomes for young people, there are circumstances in which selecting an evidence-based program may not be an option. Evidence-based programs/practices/policies do not exist to address all potential risk/protective factors or substance use behaviors for all populations. Other barriers to use of evidence-based programs can include cost, training, community and partner readiness, cultural/linguistic appropriateness, or appropriateness to local conditions (Washington State Health Care Authority, 2020).

When utilizing a program with a less developed or unknown evidence base or when creating a locally-designed, innovative program it is important to ensure the program aligns with or utilizes known best practice. NIDA's Prevention Principles for Prevention Drug Use Among Children and Adolescents is good resource for best practices within prevention programs. Other best practice resources are also available for more specific types of prevention strategies. For example, the Collaborative for Academic, Social, and Emotional Learning outlines best practice for social-emotional leaning programs.

Data should be used to drive the selection and development of prevention programs and services. Programs and services should address the substance use problems that have been identified and prioritized for a community and should seek to reduce the risk factors or enhance the protective factors that contribute to those substance use problems.

Particularly for programs with a less developed or unknown evidence-base, **it is important to evaluate the program or service to determine if it is achieving the desired outcome** (e.g. is the program changing the knowledge, skills, attitudes or behaviors it was designed to impact).

Prevention is a complex science, so it's important to connect with your prevention experts. Reach out to your county drug and alcohol office:

- For help or guidance in identifying effective prevention strategies in your community.
- To learn more about the prevention strategies already being implemented in your community.
- To learn how what you are doing or would like to do can be built into a more comprehensive prevention strategy/plan.

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