



# “It’s a Rite of Passage”:

Mapping the Gaps between Expert, Practitioner, and Public Understandings of Adolescent Substance Use

*A FrameWorks Research Report*

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# I. Introduction

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Adolescent substance use is surprisingly low on society’s list of concerns. The low profile of the issue is not due to lack of awareness; images of adolescents using alcohol and drugs are pervasive within entertainment media, and, as we discuss below, Americans know that most adolescents use substances at some point. The lack of concern about adolescent substance use is not due to general disinterest in substance use, as topics such as marijuana legalization, punitive drug laws and their inequitable application, and drug epidemics are widely discussed and debated in American social and political discourse.

Against this backdrop of apparent public apathy, the scientific community has made great strides in understanding the causes, consequences, and developmental trajectories of substance use disorders. Scientists and other experts now understand that the roots of adult addiction lie in adolescence; the earlier an individual begins using substances, the greater his or her risk is of developing a substance use disorder. This new appreciation of the developmental nature of substance use disorders highlights the need for a comprehensive approach to addressing the full spectrum of adolescent substance use, including prevention and early intervention approaches.

Translating this scientific knowledge into evidence-based policies and programs is, however, no easy task. Moving adolescent substance use up the agenda requires understanding why Americans take adolescent substance use for granted, as a simple fact rather than a matter of concern. This report presents findings from research designed to answer this and related questions. This research represents the first phase of a broader effort, sponsored by the Conrad N. Hilton Foundation, to reframe adolescent substance use in America. The project is designed to develop effective strategies for communicating not only with the public, but also with health care practitioners. The goal of the project is to increase the salience of the issue for both groups, to foster the understanding needed to build public support for effective policies and programs, and to enlist practitioners in effective early intervention and preventive practice.

The report begins by describing the untranslated Expert Story of adolescent substance use. This account constitutes experts’ shared understanding of what adolescent substance use is, what causes it, what its effects are, and how it can most effectively be addressed. This Expert Story is further elaborated later in the report with a specific subchapter on Screening, Brief Intervention, and Referral to Treatment—or SBIRT—an important evidence-based approach to addressing adolescent substance use. This untranslated story represents the content to be communicated to the public through a reframing strategy.

The core of the report is a description of the cultural models<sup>1</sup>—the implicit, shared understandings, assumptions, and patterns of reasoning—that people draw upon to think about adolescent substance use. The report first describes the American public’s cultural models, and then proceeds to outline health care

practitioners' cultural models. By understanding how the public and practitioners think about adolescent substance use, communicators can better predict how their messages are likely to be received, avoid triggering unproductive ways of thinking about the issue, and leverage productive understandings to get their message across. Moreover, identifying the places where public and practitioner understandings consistently impede productive thinking about adolescent substance use lays the groundwork for future research by identifying those areas where strategies must be developed in order to successfully reframe the issue.

The report explains how thinking about adolescent substance use draws on deeper patterns of thinking about adolescence, development, substances, human behavior, and health care. Notably, our research finds that both the public and practitioners assume that adolescent substance use is a natural and inevitable part of adolescent development. In addition, the public sees virtually no role for doctors and other health care providers in dealing with this issue, and, strikingly, many practitioners even see adolescent substance use as a secondary “social” concern that stands firmly outside of their primary medical responsibilities.

The final section of the report “maps the gaps” between expert, practitioner, and public views of adolescent substance use and identifies where these understandings overlap and where they diverge. This analysis identifies the primary challenges in effectively communicating with the public and practitioners about the issue. We conclude the report by discussing a set of strategies that can be used to begin to address these challenges, and lay out a course for future research required to develop an effective, comprehensive strategy for communicating about adolescent substance use.

## II. Research Methods

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### Expert Interviews

To explore and distill expert messages on adolescent substance use, FrameWorks conducted 10 one-on-one, one-hour phone interviews with researchers and practitioners with expertise on the subject. These interviews were conducted in August and September 2015 and, with participants' permission, were recorded and subsequently transcribed for analysis. FrameWorks compiled the list of interviewees in collaboration with the Hilton Foundation. Interviewees were selected on the basis of their expertise in adolescent substance use in general, and SBIRT in particular, and work primarily in medical and health-related fields.

Expert interviews consisted of a series of probing questions designed to capture expert understandings about what adolescent substance use is, its predictors and consequences, and appropriate means of intervention. There was a particular focus on early intervention and prevention.<sup>2</sup> In each interview, the interviewer went through a series of prompts and hypothetical scenarios designed to challenge expert informants to explain their research, experience, and perspectives; break down complicated relationships; and simplify concepts and findings from the field. Interviews were semi-structured in the sense that, in addition to preset questions, interviewers repeatedly asked for elaboration and clarification, and encouraged experts to expand upon those concepts that they identified as particularly important.

Analysis employed a basic grounded theory approach. Common themes were pulled from each interview and categorized, and negative cases were incorporated into the overall findings within each category. This procedure resulted in a refined set of themes that synthesized the substance of the interview data. Analysis of interviews was supplemented by a review of materials from relevant academic literature. A penultimate draft of the Expert Story was revised in response to a feedback session conducted with experts in December 2015. This process resulted in the distillation of the Expert Story on adolescent substance use as well as a subchapter of this story about SBIRT, which is presented below.

### Cultural Models Interviews

The cultural models findings presented below are based on two sets of interviews—one with members of the public and another with health care practitioners. The “public view” and the “pediatric practitioner view” described below are derived from these respective data sets. FrameWorks researchers conducted 20 in-depth interviews with members of the public in August 2015 in four locations: Kansas City, Mo.; San Jose, Calif.; Nashville, Tenn.; and Baltimore, Md. In addition, researchers conducted 10 in-depth interviews with practitioners in October and November 2015 in Los Angeles, Calif., and Washington, D.C.

Cultural models interviews—one-on-one, semi-structured interviews lasting two to two-and-a-half hours—allow researchers to capture the broad sets of assumptions, or “cultural models,” that participants use to make sense of a concept or topic area. These interviews are designed to elicit ways of thinking and talking about issues—in this case, ways of thinking about adolescent substance use. Interviews with members of the public covered thinking about adolescence, and about substance use generally, before turning to an extended discussion of adolescent substance use, touching on issues including prevalence, causes, effects, responsibility, solutions, and the role of health care providers in addressing the issue. Interviews with practitioners covered similar topics; they were supplemented by discussions about how practitioners deal with the issue in their own practices, and about their familiarity with, and understanding of, SBIRT. As the goal of these interviews was to examine the cultural models that participants use to make sense of these issues, it was important to give them the freedom to follow topics in the directions they deemed relevant. Therefore, the researchers approached each interview with a set of areas to be covered, but left the order in which these topics were addressed largely to the participant. All interviews were recorded and transcribed with written consent from participants.

Recruiting a wide range of people, and facilitating talk about concepts introduced by both the interviewer and the interviewee, allowed researchers to identify cultural models that represent shared patterns of thinking. Participants for the *public* sample were recruited by a professional marketing firm and were selected to represent variation along the domains of ethnicity, gender, age, residential location (inner city, outer city, and regional/rural areas up to three hours from city center), educational background (as a proxy for class), political views (as self-reported during the screening process), religious involvement, and family situation (married, single, with children, without children, age of children). The sample included nine women and 11 men. Eleven of the 20 participants self-identified as “white,” four as “black,” one as “Asian” and four as “Hispanic.” Eleven participants described their political views as “Middle of the Road,” four as “Liberal,” and five as “Conservative.” The mean age of the sample was 42 years old, with an age range from 22 to 67. Two participants were high school graduates, six had completed some college, eight were college graduates, and four had postgraduate education. Ten of the 20 were married, and nine were the parent of at least one child. Although we are not concerned with the particular nuances or differences in the use of cultural models between different demographic groups at this level of the analysis (an inappropriate use of this method and its sampling frame), we hope to consider such nuances through the use of other methods in subsequent research phases.

Participants for the *practitioner* sample were recruited by drawing upon professional networks and references provided by the Conrad N. Hilton Foundation. Participants were selected to represent variation in type of institution (school-based clinic, community-based clinic, private practice), and, to a lesser extent, education and role (physician, medical director, nurse practitioner, nurse, etc.). All participants were general pediatric practitioners, with no special expertise in substance use, and were screened to ensure that they had not already been trained to use SBIRT.

To analyze the interviews—both those with the public and health practitioners—FrameWorks researchers employed analytical techniques from cognitive and linguistic anthropology to examine how participants

understand issues related to adolescent substance use.<sup>3</sup> First, researchers identified common, standardized ways of talking across the sample to reveal organizational assumptions, relationships, logical steps, and connections that were commonly made, but taken for granted, throughout an individual's talk and across the set of interviews. In short, the analysis concerns patterns discerned from both what was said (how things were related, explained, and understood) as well as what was not said (assumptions and implied relationships). In many cases, analysis revealed conflicting models that people brought to bear on the same issue. In such cases, one of the conflicting ways of understanding was typically found to be dominant over the other, in the sense that it more consistently and deeply shaped people's thinking.

## Peer Discourse Sessions

In addition to the expert and cultural models interviews described above, FrameWorks conducted four Peer Discourse Sessions<sup>4</sup> in Milwaukee, Wis., and Baltimore, Md., in November and December 2015. These sessions were used to (1) triangulate and deepen results from the cultural models interviews and (2) explore the effects of potential framing tools and strategies.

Each session brought together nine participants who were recruited by a professional marketing firm. Participants were selected to represent variation along the same variables as those used in recruiting the public cultural models interviews. Peer Discourse Session participants engaged in group discussions on the topic of adolescent substance use. Each session lasted two hours, and was divided into two sections: (1) an open-ended discussion designed to ascertain how cultural models operate in group settings, and (2) experimental exercises to explore potential framing tools (Values and Explanatory Metaphors) and strategies.

Whereas cultural models interviews provide a window into the ways of thinking available to individuals, Peer Discourse Sessions provide insight into how social dynamics and group conversations adjust, refocus, or filter the way people talk and think about a topic. In this way, Peer Discourse Sessions reveal the assumptions that orient and direct public conversations. The result is often that certain models documented in one-on-one cultural models interviews gain more traction than others in the group context, and become areas of emphasis—revealing the social dominance of some cultural models and the recessiveness of others. These findings suggest locations where communicators must direct special attention and care, where dominant cultural models are reinforced not only by shared habits of mind, but also by shared expectations about what constitutes legitimate and persuasive public discourse. The experimental sections of these sessions aid researchers in generating hypotheses about effective communications strategies that can be tested in future research.

# III. Research Findings

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## The Expert View of Adolescent Substance Use

Below, we present a distillation of the themes that emerged from analysis of expert interview data. Taken together, these themes constitute the “untranslated story” of adolescent substance use—the core set of understandings that experts want to be able to communicate about this issue.

### 1. What is adolescent substance use?

Experts broadly defined adolescent substance use as the *use* (via inhalation, ingestion, consumption, etc.) of a substance that alters one’s emotional or cognitive state. Substances include alcohol, marijuana, illicit drugs, tobacco, and prescription medications that are not used as prescribed.

The term *substance use* captures a continuum of behaviors, ranging from experimentation to high-intensity use. Experimentation refers to *exploratory* substance use—that is, the use of a substance with the goal of “seeing what something’s all about.” Experimentation is statistically normative, meaning that most people will experiment with substances (typically alcohol) during their teenage years. In contrast to experimentation, the term *substance disorders* refers to patterns of use that are habitual and/or characterized by physical or emotional dependence, or by disruptions to normal activities, relationships, and/or daily functioning.<sup>5</sup>

Experts asserted that the roots of substance use disorders during adulthood lie in patterns of substance use during adolescence. The earlier an individual begins using a substance—or even experimenting with a substance—the greater his or her risk of developing a substance use disorder in the future; indeed, the majority of adults with substance use disorders began using substances during adolescence.<sup>6</sup> In this sense, addiction is, as one expert put it, “a disease of adolescence.” The relationship between early use of any kind and elevated risk of addiction is likely due to the ways in which substances change the structure and function of the developing brain.

### 2. What are the causes of adolescent substance use?

The risk factors for substance disorders span *individual, familial, social, and environmental* domains. Individual-level risk factors include comorbid mental illnesses and mental health issues (e.g., depression, anxiety disorders, etc.), early pubertal development, and certain personality traits such as impulsivity or sensation-seeking. Genetic factors also strongly influence the risk of developing a substance use disorder.



Family-level risk factors include family histories of addiction or substance misuse, modeling of excessive or unhealthy substance use within the home, a lack of strong relationships with caregivers and other adults, and minimal parental supervision (i.e., a lack of awareness and involvement on the part of caregivers in their adolescent's day-to-day activities, whereabouts, and peer relationships). Social factors include being embedded in a peer group in which substance use is normative and viewed favorably. Finally, environmental factors include exposure to, and availability of, substances (e.g., the density of liquor stores in a neighborhood), and cultural norms, attitudes, and beliefs about substance use. The exact causal mechanisms by which these factors influence substance use behavior are unclear, and they likely interact in complex and dynamic ways.

### 3. *What are the effects of adolescent substance use?*

Substance use during adolescence warrants particular attention because of the unique effects that it can have on the developing brain. Adolescence is a period of *heightened neuroplasticity*. During this time, the brain is particularly sensitive to environmental contexts and experiences. Repeated or chronic substance use during adolescence causes neurochemical changes that, over time, change the structure and function of the brain's systems (e.g., changing how neural systems process rewards), thus making the adolescent more vulnerable to addiction and other negative outcomes.<sup>7</sup>

In the short term, excessive or chronic use has substantial and wide-ranging physiological effects (e.g., headaches, fatigue), social/emotional effects (e.g., anxiety, depression, disruption of family relationships), and behavioral effects (e.g., declines in academic achievement). The most common causes of morbidity and mortality among adolescents—motor vehicle crashes, other unintentional injuries, homicides, suicides, sexually transmitted infections, etc.—are strongly associated with substance use.

In the long term, the use of illicit substances during adolescence is associated with negative educational, psychosocial, and employment prospects. Addiction is also associated with numerous physical health consequences, including hypertension, obesity, diabetes, asthma, cardiovascular disease, stroke, and many others. As with the mechanisms underlying the causes of adolescent substance use, the pathways by which substance use contributes to these outcomes are also highly complex and not well understood. It is likely, however, that neurocognitive effects play a mediating role. That is, substance use interferes with brain development, thereby disrupting things like memory, cognition, and motivation, which in turn contribute to poor educational, occupational, and psychosocial outcomes.

While recognizing the common effects of adolescent substance use, experts also emphasized that these effects vary greatly across individuals. This variation likely stems from complex interactions between a person's biology and his or her environment. Because of this complexity, it is difficult to predict exactly how any given individual will respond to a particular substance, and which adolescents will progress from initial use to a substance use disorder.

#### 4. What should be done about adolescent substance use?

According to experts, addressing adolescent substance use requires structural changes to our health care infrastructure, funding priorities, and medical training. They identified the following as key solutions:

- **Implement universal screening and intervention protocols in settings where adolescents are routinely found.** Experts argued for the implementation of universal screening for substance use in the systems with which adolescents frequently come into contact (including the education, health care, foster, and juvenile justice systems). They emphasized that every effort to address adolescent substance use depends, first and foremost, on the extent to which adults *ask* adolescents about their substance use patterns. Experts argued, for example, that questions about substance use should be part of routine health screenings for adolescents (whether these screenings take place in primary care practices, school health clinics, or other settings). As one expert put it, “You really have to ask the question before you can find out the answer.”
- **Direct resources to prevention and early intervention.** Experts emphasized that directing resources towards prevention and early intervention programs can reduce the financial and human costs of addiction. Examples of such strategies include community-wide environmental interventions focusing on exposure to, and availability of, substances (e.g., changing zoning laws to reduce the density of liquor stores near schools) or implementing school-wide behavioral education programs that help adolescents develop the knowledge, attitudes, and skills to avoid problematic use. Experts asserted that treatment programs designed to address substance use disorders can be extremely costly, and it is much more difficult to intervene in patterns of addictive behavior that have already been established. Preventing substance use disorders before they take hold—or intervening early in the trajectory of use—is therefore always preferable.
- **Provide ongoing services that address the full spectrum of substance use.** Experts argued that substance use programs and services should support adolescents across the full spectrum of use—including abstention, experimentation, and dependence. These programs should include prevention messages for those adolescents who have not initiated use, brief interventions for those engaged in low-level or minimal use, outpatient therapeutic programs for adolescents with substance use disorders, and more intensive inpatient programs for those with severe addictions. Importantly, programs for adolescents with substance use disorders must provide not just therapeutic services to treat the disorder and support recovery, but also *ongoing* youth development and other skill-building activities that aid in successful and sustained recovery. Experts asserted that it is critical that all adolescents have access to these services, regardless of their ability to pay.
- **Increase substance use training for medical providers.** Experts maintained that general health care providers—especially primary care and pediatric providers—typically receive little training in

substance use issues, and may therefore be poorly equipped to address these issues in their practices. They argued that medical curricula for primary care providers (including doctors, nurses, physician’s assistants, and other providers who may work with adolescents) should be revised to include more emphasis on substance use, so that these providers can feel confident delivering prevention messages and screening patients for substance use issues just as they might screen for diabetes, obesity, or other conditions.

- **Integrate behavioral and mental health care into primary care settings for adolescents.** Experts criticized the lack of integration among behavioral/mental health treatment, other substance use services, and primary care. They argued that behavioral and mental health care should be embedded in primary care, which would improve behavioral and mental health treatment and make it less stigmatized.
- **Involve families in both prevention and treatment.** Experts emphasized that efforts to both prevent and treat substance use in adolescents are most effective when they involve families and parents. They did, however, acknowledge that in some cases—such as situations where parents have unmanaged substance use disorders themselves—parental involvement may not be feasible or desirable.
- **Change insurance practices.** Experts asserted that certain insurance billing procedures make it difficult for adolescents to access behavioral health and health care services for substance use and should be changed. First, they argued that insurance reimbursement for adolescent behavioral health services should not be tied to a diagnosis. That is, practitioners should be reimbursed for prevention/early intervention services (e.g., engaging in a conversation about how to reduce levels of substance use, or about the importance of continuing to abstain) even when their patient does not meet diagnostic criteria for a substance use disorder. Second, experts maintained that explanations of benefits—documents insurance companies are required to send to the policyholder that detail any services provided to the policyholder or their dependents—violate adolescents’ right to receive confidential behavioral health services. Experts asserted that the legal requirements for explanation of benefits should be adjusted (for example, by allowing “blinded” benefits) so that adolescents can receive services without their parents’ automatic knowledge.
- **Change cultural norms.** Experts repeatedly emphasized the role of cultural context in promoting and preventing adolescent substance use. They argued that, in order to achieve meaningful reductions in adolescent substance use, cultural norms must shift so that substance use is no longer viewed as a “rite of passage” for all young people but instead as a health issue that requires early and sustained intervention—similar to a chronic disease. Experts pointed to the media and advertising landscapes as key drivers of these social norms and argued, for example, for the implementation of more stringent restrictions on alcohol and tobacco advertisements.

The following graphic provides a summary of this untranslated Expert Story of adolescent substance use.

*Figure 1:*

## **Untranslated Expert Story of Adolescent Development and Substance Use**

### **What is adolescent substance use?**

- The use of a substance that alters one's emotional or cognitive state.
- A continuum, ranging from experimentation to high-intensity use.
- Predictive of adult patterns of use: The earlier an individual begins using a substance, the greater his or her risk of developing a substance use disorder in the future.

### **What are the effects of adolescent substance use?**

- Substance use matters because the adolescent brain is particularly sensitive to environments and experiences (including alcohol and other drug use).
- Repeated or chronic substance use can change the structure and function of systems in the brain, increasing vulnerability to addiction and other negative outcomes.
- Short-term and long-term effects span physiological, social/emotional, educational, employment, and behavioral domains.
- Effects vary greatly across individuals due to complex interactions between person and environment.

### **What are the causes of adolescent substance use?**

- Risk factors span individual, familial, social, environmental, and cultural domains.
- Exact causal mechanisms are still being established, and factors likely interact in complex and dynamic ways.

### **What should be done to address adolescent substance use?**

- Implement universal screening for substance use in settings where adolescents are routinely found.
- Direct resources to prevention and early intervention.
- Provide services that address the full spectrum of adolescent substance use, including ongoing care to support recovery.
- Increase substance use training for medical providers.
- Integrate behavioral and mental health care into adolescent primary care in order to make referrals smoother and help reduce stigmatization.
- Involve families in both prevention and treatment (where appropriate).
- Change insurance practices (e.g., reimbursement and confidentiality policies) so that adolescents have full access to medical care (including behavioral and mental health care).
- Shift cultural norms such that substance use is no longer viewed as a "rite of passage" for all young people, but as a health issue that requires sustained intervention.

## The Expert View of SBIRT

Experts emphasize the role of prevention and early intervention programs and strategies in addressing adolescent substance use. One such approach is SBIRT (Screening, Brief Intervention, and Referral to Treatment). SBIRT is widely recognized among experts as one component of a broader, comprehensive approach to addressing adolescent substance use. Below, we elaborate expert understandings of this approach as an important subchapter of the broader Expert Story of adolescent substance use.

### 1. What is SBIRT?

SBIRT is a framework that health care providers or other professionals can use to talk with adolescents about substance use. It consists of two key stages: screening to assess current levels of substance use, followed by some type of intervention, the intensity of which depends on the results of the initial screening.

Experts described the components of SBIRT as follows:

- **Screening.** The screening component of SBIRT involves using a standardized and validated screening tool to identify an adolescent's experiences with substances and his or her associated level of risk. Screening typically consists of a small number of questions that ask about either frequency of use or problematic use (e.g., experiences driving in a car with someone who has been drinking; experiences drinking to the point of blacking out). Screening can be conducted face-to-face with a health care provider, on a tablet, or on a paper questionnaire. The purpose of screening is *not* to arrive at a diagnosis, but to provide information on the adolescent's level of risk given his or her reported substance use behaviors. This information is then used to guide the practitioner to the most appropriate type of intervention.
- **Brief intervention.** Brief interventions are both *educational*, in that they provide information about the health consequences of substance use, and *motivational*, in that they encourage adolescents to continue abstaining from substances or to reduce their use to healthier levels. The intervention typically takes place in a short period of time (typically between five and 30 minutes) and can be delivered in person, by phone, or electronically with a tablet or computer. Some emerging brief intervention approaches currently being tested are, in fact, extended, multi-session interventions that include family members. The exact nature of the intervention depends upon the levels of use reported during the screening. Adolescents who report *no use* typically receive a brief prevention message and affirmation of their decision to not use substances. Adolescents who are *experimenting* with substances typically receive a brief cessation message (e.g., "It's best not to use substances because your brain is still developing."). For adolescents who are *regular or moderate users*, the intervention is focused on building motivation to reduce substance use. This

typically involves engaging the adolescent in a conversation about why he or she is using substances, the positive and negative effects he or she associates with substance use, and any tension or ambivalence he or she is feeling about his or her levels of use (e.g., “I like smoking pot with my friends, but I got kicked off the basketball team because of it.”). The practitioner leverages this sense of ambivalence to encourage healthier patterns of use. For adolescents who report high levels of use that warrant more intensive treatment (e.g., adolescents who report drinking repeatedly alone, who are blacking out or having memory problems, or who are using alcohol and other drugs together), the focus of the brief intervention at this stage is on assessing the adolescent’s readiness to accept a treatment referral.

- **Referral to treatment.** Adolescents who report moderate or high levels of use are referred for diagnosis and treatment. Decisions about the types of services needed are made based on the results of the diagnosis. Referrals can be made to any type of specialized care (e.g., mental health services, substance use treatment programs, private therapists) and should be responsive to the adolescent’s particular circumstances and severity of use. While practitioners implementing SBIRT are only responsible for providing the *referral* to treatment—not the treatment itself—it is critical that they have established relationships with providers to whom they can refer when necessary.

## 2. *What distinguishes SBIRT from other approaches?*

Experts identified a set of key characteristics that distinguish SBIRT from other approaches. SBIRT is:

- **A public health approach that focuses on prevention and early intervention.** SBIRT can be applied at the *population level*, so that screening for unhealthy substance use becomes a regular part of ensuring healthy development for all adolescents. Screening for the full spectrum of substance use provides an opportunity to intervene early in the trajectory of use—before substance use disorders take hold.
- **Flexible.** SBIRT is intended to be flexible in terms of the settings in which it can be used and the exact content of its components. SBIRT can be implemented in a variety of different locations, including primary care settings, school health clinics, and emergency room departments; by a variety of different professionals; and with a variety of different populations. Importantly, SBIRT is designed to reach adolescents in settings where they are already going to receive *other* services, making it possible to reach a wider population than if it were only implemented in settings dedicated to substance use prevention and treatment.
- **Empowering/non-directive.** SBIRT differs from other substance use prevention programs in that it avoids fear-based (“*this is your brain on drugs*”) and authoritarian (“*don’t do drugs!*”) approaches that have proven ineffective in reducing adolescent substance use.<sup>8</sup> Instead, it is

designed to engage adolescents in thinking about how to make smart and healthy choices and to recognize adolescents' growing autonomy. In conversation with the practitioner, adolescents are encouraged to identify their own goals for reducing use and to come up with action plans and strategies that reflect those goals.

- **Not intended to be a magic bullet.** SBIRT is *one component* of the broader, comprehensive commitment required to fully address adolescent substance use. It is not appropriate for all situations or all populations. For example, to the extent that SBIRT is implemented primarily in existing medical settings, it is unlikely to reach the highest-risk youth who are likely to have few—if any—interactions with medical providers. Experts emphasized that fully addressing adolescent substance use will require a holistic commitment that includes addressing underlying causes of adolescent substance use and fully funding research, prevention, and treatment across the full spectrum of use.

### 3. *What are the challenges associated with SBIRT?*

While experts were unanimous in their belief that SBIRT represents a highly promising prevention and early intervention framework for adolescent substance use, they also identified a number of challenges associated with implementation.

- **Time and resource constraints.** The settings in which SBIRT is most likely to be implemented—primary care and school health clinics—already face significant strains on time and resources. Experts emphasized that, in order for SBIRT to be implemented on a wider scale, it will need to be seamlessly integrated into existing workflows (e.g., by adding an SBIRT screening tool to existing clinical questionnaires). Training support must also be available to SBIRT providers so that they feel confident in how to handle positive screening results.
- **Availability of referral networks.** The effectiveness of SBIRT depends, in large part, on connections between SBIRT providers and substance use/behavioral health counselors and other resources (e.g., addiction medicine physicians, medical consult services) to whom they can refer. In locations facing shortages in these specialties, ensuring that SBIRT providers are connected to a robust referral network can be particularly challenging.
- **Building the research base.** While existing studies suggest that brief interventions can be effective in reducing adolescent substance use,<sup>9</sup> this body of literature is still small and characterized by a number of gaps. One gap is around variability of the application of this approach. Researchers have tended to operationalize SBIRT in a variety of ways; as one expert put it, “If you’ve seen one SBIRT study, you’ve seen one SBIRT study. They all do them slightly differently.” As a result, it has not been possible to conduct rigorous meta-analyses of the effects of SBIRT among adolescent populations. With respect to specific gaps in the literature, additional research is needed to

identify the most effective screening tool among the several that currently exist; the most appropriate types of professionals to conduct SBIRT (e.g., physicians, nurses, or counseling professionals); and the most effective therapeutic modalities for providing brief interventions (e.g., motivational interviewing, cognitive behavioral therapy, diagnostic assessments, behavioral and pharmaceutical treatments, or other techniques).

- **Stigmatization and confidentiality concerns.** Experts noted that persistent stigma around substance use disorders and ongoing confidentiality concerns present a challenge to broader implementation of SBIRT. If SBIRT is implemented in schools, for example, procedures will need to be put in place to keep SBIRT patient records separate from school records. If SBIRT is implemented in health care settings, providers must be able to ensure that the screening and brief intervention components of SBIRT are done outside of the presence of adult caregivers. At the same time, they must find ways to notify and involve caregivers in cases where an adolescent's safety is at risk—without violating HIPAA regulations.



Figure 2:

## Untranslated Expert Story of SBIRT

### What is adolescent substance use?

- SBIRT is an early intervention and prevention framework.
- **Screening:** The use of a standardized and validated screening tool to identify an adolescent's experiences with substances and his or her level of risk.
- **Brief intervention:** An educational and motivational conversation designed to elicit an adolescent's reasons for substance use and encourage him or her to reduce use (or to continue to abstain). Content is tailored to the results of the screening.
- **Referral to treatment:** For adolescents who report high levels of use, diagnosis and connections to specialized care (e.g., inpatient or outpatient treatment, other therapeutic services).

### What distinguishes SBIRT?

- **Focuses on prevention and early intervention:** SBIRT provides an opportunity to intervene early in the trajectory of use.
- **A public health approach:** SBIRT is designed to be implemented at the population level.
- **Flexible:** SBIRT can be implemented in a variety of settings, by a variety of professionals, with a variety of different populations.
- **Empowering/non-directive:** SBIRT is designed to engage adolescents in thinking about how to make smart and healthy choices.
- **Not a "magic bullet":** SBIRT is *one component* of a broader system necessary to address adolescent substance use.

### What are the challenges associated with SBIRT?

- **Time and resource constraints:** The settings in which SBIRT is most likely to be implemented already face significant strains on time and resources.
- **Availability of referral networks:** In locations facing shortages of substance use/behavioral health counselors and other health care resources, ensuring that SBIRT providers are connected to referral networks can be challenging.
- **An incomplete research base:** Additional research is needed to identify the most effective screening tools, the types of professionals who can deliver SBIRT most effectively, and the most effective therapeutic modalities for interventions.
- **Stigma and confidentiality concerns:** Broader implementation of SBIRT (e.g., in schools) raises concerns about how to ensure adolescents' confidentiality and avoid subjecting them to the ongoing stigma associated with substance use treatment.

## The Public View

Below, we present the dominant cultural models—shared assumptions and patterns of thinking—that are most powerful in orienting and organizing the American public’s view of adolescent substance use and that guide public thinking about the issue.

The cultural models that people draw upon to think about adolescent substance use include different, and sometimes conflicting, ways of thinking about the same issues. These cultural models represent ways of thinking that are *available* to the public, although different models are activated at different times. Some models are dominant, consistently shaping public thinking, while others are more recessive, playing a less prominent role in public thinking but nonetheless available as ways of engaging with the issue.

### *Cultural Models of Adolescence: What Is Adolescence?*

Public thinking about adolescent substance use is grounded in people’s basic assumptions about adolescence. Analysis revealed two cultural models of adolescence that undergird more specific thinking about adolescent substance use.

#### The *Bounded Risk* Cultural Model

Participants consistently characterized adolescence as a transitional period between childhood and adulthood in which people develop a sense of self *through experimentation*. This dominant model consisted of four interlinked assumptions:

1. **Adolescents develop a sense of self through experimentation.** Participants viewed adolescence as a period during which people figure out who they are and who they want to be. This process of crystallizing self-identity is understood in largely social terms—adolescents figure out who they are through their interactions with others, especially peers. Participants assumed that the only way for adolescents to develop a self-identity is for them to do things for themselves. Participants learn and become who they are by trying things out, testing limits, experimenting with different identities or roles, and making mistakes.

**Participant:** [Adolescence] is all about understanding the world and your place in it. You do that your whole life, but in adolescence it’s particularly important, because there are so many things that are new to them. And they’ll just keep pushing and pushing until they get to the boundary.

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**Participant:** Adolescence, from my point of view, is the phase in a human’s life when they ... are figuring out who they are, their place in the world, trying to figure out their self-identity through self-expression.

- 2. Adolescents are open to influences.** Adolescents are assumed to be distinctively malleable and open to influence. Unlike adults, whose identities and character are assumed to be largely set and who are thought to be more closed off to environmental influences, adolescents are understood to be highly *exposed* to the push and pull of what goes on around them. As a result of this openness, adolescents are thought to be highly susceptible to influence from their surroundings, especially from peers and entertainment media. Worries about adolescent susceptibility to harmful media influences were particularly pronounced in participant discussions in Peer Discourse Sessions, indicating a general social anxiety about media.

**Participant:** I feel that kids are more vulnerable. They’re a bit more susceptible to outside sources that might do negative, bad things to them.

- 3. Adolescence is *inherently* risky.** Participants frequently stressed that adolescents make bad decisions, attributing this to unreliable judgment, impulsiveness, irrationality, and susceptibility to peer and media influence. As a result, participants assumed that risk is *inherent* to adolescence—and that there is no way to remove this risk. The possibility that adolescents will do foolish things that have harmful repercussions on their short-term or long-term outcomes is understood as being *built into the fabric* of this period of life.

**Participant:** I would describe [adolescents] as *wild*. Wild. Willing to *take a lot of risks* with their life. Willing to *explore* different things, ideas, relationships.

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**Participant:** Typically, we equate adolescence with this period of exploration. So adolescents—this is kind of a generalization—are more prone to reckless behaviors. So this can lead to more susceptibility to accidents, whether it be in the car or, let’s say, some sort of recreational kind of thing—skateboarding or biking or what have you—just because of their tendency to want to explore new things and push boundaries and limits.

- 4. Adolescents need boundaries and structure.** Because of adolescents’ questionable judgment and susceptibility to influence, participants consistently stressed the importance of bounding adolescents’ freedom and providing them with structure and guidance. A parent’s job was understood to be one of balancing adolescents’ need for independence with their need for clear boundaries. Proper boundaries are assumed to limit—but, critically, not to remove—the risks of adolescence.

**Participant:** At least from our point of view, give the adolescent enough rope to make a decision, not too much to hang themselves.

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**Participant:** I think an adolescent needs to be able to test some of their limits within a system that provides support if things don't work out well.

The links between these four assumptions are tight. The assumptions are not selectively applied, but thinking about each aspect of the model—experimentation, openness, inherent risk, and boundaries—consistently brings the other assumptions to mind. The *Bounded Risk* model is thus a robust model that deeply shapes people's thinking.

### The *Perforated Family Bubble* Cultural Model

Almost 20 years of FrameWorks research on early childhood development shows that the American public assumes that outcomes for young children depend almost exclusively on what happens in the family.<sup>10</sup> In our interviews on adolescence and adolescent substance use, participants consistently highlighted the importance of the family, and suggested that “it all starts at home.” However, when thinking about adolescence, participants frequently *perforated* the *Family Bubble*, emphasizing the importance of influences outside the family, including schools and teachers, entertainment media, and, especially, adolescents' friends and peers. For adolescents, these factors are assumed to be equally, or sometimes more, influential than the family in shaping adolescent behavior and outcomes. The model is consistent with the *Bounded Risk* model, since adolescent exploration is assumed to happen out in the world. While parents can, and should, try to bound this world and manage the social environment to some extent, there are obvious limits to parental control and, while parents are instrumental, they are not assumed to be solely responsible for adolescent outcomes.

**Researcher:** What kind of things do adolescents need to do well?

**Participant:** I would say a good support group for adolescents is probably very important.

**Researcher:** And what does a support group look like?

**Participant:** A support group could be really varied. It could be an older brother or sister, it could be the parents, it could be a teacher that you trust. It could be friends that you can relate to. It could be a therapist. It could be a nurse or a doctor. It can be a camp counselor.

### *Implications of Cultural Models of Adolescence*

1. **Brain development is not a part of the public's thinking about adolescence.** While the dominant *Bounded Risk* cultural model structures thinking about development, it includes no consideration of the brain or neurobiological development. As we discuss below, this lack of understanding of brain development makes it impossible for the public to understand how

substance use impacts adolescents and impedes recognition that even low-level use can be dangerous. The fact that the brain and brain development are absent from the public's existing developmental model of adolescence is one of the most important communications challenges that emerges from this work. Going forward, it is necessary to develop and test framing strategies that allow people to understand the key areas of brain development that are in play during adolescence and, importantly, the way that this development is affected by substances and experiences. In short, communicators must find ways of explaining adolescent brain development and the factors that shape developing neurological systems.

2. **The *Bounded Risk* cultural model generally aligns with expert thinking but remains problematic from a communications perspective.** The core of the model is the view that experimentation and risk are *inherent* parts of the adolescent period. While this is consistent with expert thinking about risk and development, it undergirds the view, explored below, that experimentation *with substances* is a natural (that is, expected) part of adolescence.<sup>11</sup> In itself, the model is not unproductive, but its interaction with assumptions about substance use *is* unproductive, as it leads people to the view that substance use during adolescence is normal and natural and, therefore, not a cause for concern. As we will explain, communicators will need strategies for delinking the *Bounded Risk* model from models of experimentation with substances discussed below; in other words, they need ways of talking about risk-taking that *is* a part of the adolescent period without lumping substance use into unproblematic boundary pushing.
  
3. **The *Perforated Family Bubble* model usefully brings to mind a range of influences on adolescents.** The public's ability to think broadly about influences on adolescents—including not only family but also peers, teachers and schools, coaches and counselors, and broader culture—provides an appropriately broad context within which to think about the issue of adolescent substance use. This perspective undergirds thinking about a range of causes of adolescent substance use, as discussed below. The degree to which adolescents are understood to be “open” to contextual influences is a promising finding from this research for communicators.

### *Cultural Models of Definition and Evaluation: What Constitutes Adolescent Substance Use and Abuse?*

There is a critical meta-finding to highlight in introducing the cultural models below. While the public has multiple and sometimes conflicting ways of thinking about adolescent substance use and abuse, a common denominator across these patterns of understanding is the assumption that adolescent substance use is a social issue. This assumption is so basic that it may seem uninteresting, but it is of vital importance to communicators because of what it excludes. In contrast to experts, the public *does not understand substance use in biological or medical terms*. To take a few examples from the discussion below: Emotional issues are not discussed as mental health issues; effects of use on the brain are discussed

in a purely superficial way; the physical health consequences of adolescent substance use are absent from public view; and doctors and other medical professionals are not part of the public's thinking on this issue. As we discuss below, the deep, fundamental assumption that adolescent substance use is a purely social issue has profound implications for communicators; most importantly, it makes neurobiological perspectives hard to access and leaves little place for doctors and other medical professionals in thinking about solutions. If understood purely as a social issue, it becomes decidedly difficult to engage people in thinking about the way in which brain development affects and is affected by substance use, or the ways in which the health system plays a vital preventive and remedial role in addressing this issue.

In the discussion of public thinking below, we use the term substance “abuse” (rather than “misuse”) because this is the word typically used by members of the public, and cultural models of “abuse” reflect the pejorative sense of this word. Experts prefer the terms “substance use disorder” or “misuse.”

### **The *Experimentation Is Natural but Still Dangerous* Cultural Model**

Drawing on the *Bounded Risk* model's assumption that experimentation and exploration is a normal, important part of adolescence, members of the public treat experimentation with alcohol and marijuana as a natural, inevitable, and acceptable part of adolescence. Experimentation with alcohol and marijuana is assumed to be an integral and even a compulsory part of adolescent social life.

While participants treated experimentation with alcohol and marijuana as an inevitable and acceptable reality, they also consistently assumed that experimentation with these substances is dangerous in two ways. First, it can lead directly to risky behavior (e.g., unprotected sex or driving under the influence). Second, once adolescents start using, there is always a danger that use will escalate into abuse.

Members of the public assume that, as part of the natural process of growing up, adolescents must learn their limits with substances for themselves, and that this necessarily involves trying out alcohol and marijuana in potentially risky ways. At the same time, people see the danger of blowing by these limits as built into this period of life, given adolescents' unreliable judgment and the prevalence of risky social situations.

**Researcher:** Do you think that is a problem if adolescents use alcohol?

**Participant:** I don't. I think that it's a problem if adolescents use alcohol and then they try to drive. I think it's a problem when they use alcohol and they use it as an excuse to be promiscuous with someone who has not given them permission to do so. I think the social things that happen because you give a bunch of teenagers too much of something that they've never had before is [a problem]. But I don't think them having a couple of beers at a bonfire is. Honestly.

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**Researcher:** What if [use] is only occasional, is it still a problem?

**Participant:** For just alcohol, maybe no, if it's just occasional. But I mean, again, it can become more than occasional very easily. They don't really know how to control it.

Both aspects of the model—the acceptance of experimentation, and the concern about it because of the lack of control and poor judgment that adolescents are assumed to have—are grounded in the more general *Bounded Risk* model of adolescent development. The acceptance of the risks that accompany experimentation is an outgrowth of the assumption that risk is an *inherent* part of adolescence. Because it is impossible to avoid these risks, they must be accepted. Deep assumptions about adolescence thus undergird acceptance of experimentation with substances.

It is important to highlight that the model is *only* applied to alcohol and marijuana, which the public assumes are qualitatively different from “hard” drugs such as heroin, meth, or cocaine. “Hard” drugs are assumed to be too addictive, and too harmful, for “normal” experimentation to be possible. Alcohol and marijuana, by contrast, are assumed to be much less addictive and are assumed not to have serious effects on development and health.

**Participant:** With marijuana, the health side effects aren't that bad. I don't think it's bad for kids to try it if they're in a safe [environment]... I don't want them to drive around in their car and get high, that's dangerous.

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**Participant:** Marijuana to me really isn't a drug problem. Marijuana is grown naturally. It's not chemicals, it's grown naturally on the earth. It doesn't impair you like the crack and meth and stuff like that does, or even prescription drugs. Some of them will impair you to where you can't do nothing.

## The *Function Threshold* Cultural Model

While participants consistently suggested that low-level, occasional substance use among adolescents is not a major problem, they universally recognized that more frequent and heavier use *is* a problem. When thinking about when use becomes a problem, participants consistently used the ability of the adolescent to function normally as the criterion to establish normal versus problematic use. Adolescent substance use is assumed to be a problem only when it interferes with adolescents' ability to live a normal life and to stay out of trouble.

**Participant:** Let's say a parent catches their kid smoking pot one time. I don't think that's a problem, but when your kids stop going to school because they're doing drugs, then you know that's a problem. When it affects their daily lives, I think that's when you know that there's a problem.

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**Researcher:** At what point in time do you think adolescents require special help with a drug or alcohol problem?

**Participant:** When their grades are slipping or even a change in their behavior, run-ins with the police.

## *Implications of Cultural Models of Definition and Evaluation*

- 1. The *Experimentation Is Natural but Still Dangerous* cultural model undermines support for prevention and early intervention.** The assumption of “naturalness” leads the public to conclude that substance use among adolescents is acceptable and inevitable. This reduces public concern about adolescent substance use generally and undermines support for prevention and early intervention in particular. Communicators will need effective tools for explaining that, while experimentation is a natural part of adolescence, experimentation *with substances* is not.
- 2. The assumption that alcohol and marijuana are relatively harmless undermines concern about their use.** Because these substances are understood as fundamentally different from—and more benign than—“harder” substances, the public expresses little worry about adolescent use of these substances. Boosting public concern about these substances will require explanatory strategies that help people better understand how use of these substances can harm adolescent development. Communicators will need frames that help people see *how* the use of alcohol and marijuana leads to negative outcomes, and will need to move beyond simply describing the dangers to adolescents of using these substances.
- 3. The *Function Threshold* cultural model has mixed implications.** In one respect, this model facilitates understanding of substance disorders as a practical problem that can affect all aspects of life. To more fully leverage this opening, communicators will need strategies to explain *how* substance use affects function; this is essential to generating support for policies and programs and building public will around solutions to this issue. In a less productive way, this model lends further support to the idea that low-level substance use and experimentation do not warrant any particular worry or concern; as long as use does not seriously impact functioning and life, it is unproblematic. The idea that action is only necessary when substance use has begun to impair basic functioning adds to the challenges of reframing substance use as a medical problem with identifiable risk factors and communicating the importance of prevention and early intervention.
- 4. The public’s cultural models of substance use lead to a narrow understanding of substance problems.** Understandings of adolescent substance use structure a bifurcated understanding of use; there is habitual use of “hard” drugs, on one hand, and unproblematic experimentation with alcohol and marijuana by “normal” teens on the other. A key finding is that people are not



equipped to think about any patterns of use that exist between these poles. Communicators will need strategies that enable the public to think of the space between experimentation and full-blown addiction as a continuum rather than a stark divide. This will be paramount in broadening people's thinking about substance use problems and the measures that need to be taken to address this issue.

## *Cultural Models of Causes: Why Do Adolescents Use and Abuse Substances?*

The public draws upon four cultural models to explain why adolescents use and abuse substances. Our research shows that when people think about or try to explain why adolescents use substances, they typically focus on one explanation at a time, with other explanations receding. In other words, at any one time, one of the following four models is dominant in shaping thinking. This way of using cultural models to think about causes has implications for communicators, which are discussed below.

### **The *Social Pressure* Cultural Model**

Given people's deep assumption that adolescents are distinctively open to being influenced by their environments and, in turn, highly susceptible to contextual influences (factors like peers and entertainment media), it is not surprising that the most common explanation for adolescent substance use among participants was *social pressure*. Because adolescents are assumed to be open in this way, exposure to peers who are using can, participants reasoned, easily sway adolescents into using. An adolescent's still-forming sense of self is assumed to be deeply bound up with the opinions of peers, so the desire to be socially accepted easily leads malleable adolescents to try what others are trying. Although participants typically emphasized social pressure *to use*, it is worth noting that the model was occasionally applied to explain cases in which adolescents *don't* use. In other words, participants reasoned that peer pressure could work in the opposite, more positive direction.

**Participant:** It's a peer pressure thing. It's a rite of passage.

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**Participant:** If you've got friends who are like, "Oh, yeah, I did this drug and it was crazy," and you weren't a part of it, you are alienated by default because you haven't experienced the same things as them.

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**Participant:** It can involve peer pressure if your friends are doing it. You might be more likely to do it as well. And if your friends aren't doing it, you might stay away from it as well.

In Peer Discourse Sessions, participants spoke at length about the perniciousness of popular and social media, which encourage adolescent substance use by glorifying it. Participants in these sessions, and in cultural models interviews, worried that the ubiquity of social media means that children are increasingly exposed to images of substance use at younger and younger ages.

### The *Parental Normalization* Cultural Model

Participants sometimes suggested that children whose parents use substances are more likely to use. The role of parental modeling is understood primarily in terms of learned behavior and expectation formation. Participants assumed that parental use *normalizes* it, so that children learn that substance use is expected and acceptable behavior.<sup>12</sup> It is important to highlight that participants assumed different mechanisms of influence in the case of peers and parents. While peers are assumed to influence behavior through identity formation and the desire for acceptance, parents are assumed to influence behavior through expectation formation—by shaping adolescents’ beliefs about what constitutes “normal” behavior.

**Researcher:** What types of adolescents drink alcohol or use drugs?

**Participant:** [Kids who] have older people in their lives that do drugs or alcohol and stuff like that so it’s more normalized for them.

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**Participant:** If you’ve been brought up to believe drinking is not good for you, then you don’t. If you have a parent who uses drugs and you see it, then the apple doesn’t fall far from the tree.

### The *Escape* Cultural Model

When explaining substance *abuse*, participants commonly used the language of “escape” to explain how adolescents use alcohol and other drugs to get away from deep emotional problems, which are sometimes tied to traumatic experiences at home. Participants sometimes used the language of “numbing” to describe adolescents’ motivation in using; they use to “numb” pain. These related metaphors of escape and numbing are manifestations of the deep assumption that when we experience difficult experiences and painful emotions, we seek to move away or distance ourselves from these feelings.

**Participant:** I think, a lot of times, if they’re doing it to the point where—“Okay, I’ve got the woozy feeling and I’m going beyond that”—they’re escaping from something.

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**Participant:** I think you're more likely to [have a substance problem] if you're poor or if you have had more negative experiences in your life that you're trying to numb out, not think about as much.

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**Participant:** There's a difference between experimenting on the weekends with your friends and drinking alcohol every single day. What is going on that you feel the need to cope or escape or get drunk?

The *Escape* model is deep and widely shared, but limited in its ability to help people engage with key aspects of the Expert Story; mainly, it did not allow participants to think or explain *how* internal emotional states and needs lead to substance use. When using this model, participants were unable to elaborate on how emotional distress leads to use and, notably, rarely used the language of mental health or mental illness to discuss emotional issues. The model creates a strong sense that substance use is (somehow) connected to emotional states. But it does not help people think about *how* emotional states are connected to and precipitate substance use. As we argue below, being able to reason about how emotions and substance use are connected is a key precondition of more effective reasoning about, and increased support for, solutions.

## The *Mentalism* Cultural Model

Participants also stressed the importance of willpower—or lack of willpower—as a key factor that determines whether or not someone develops, or can ultimately extricate themselves from, a substance problem. The assumption that what happens to people is a function of their choices, personal discipline, and internal fortitude is a familiar one that undergirds Americans' thinking about many social issues, and comprises what FrameWorks has described as the *Mentalism* model.<sup>13</sup> In this context, willpower is assumed to be necessary to withstand negative influences and temptations to use.

**Participant:** I was an adolescent, too. There were others like me who didn't bow to peer pressure. I'm not going to do it just because you're doing it and a dozen other kids are doing it. I could hold my position. I didn't mind holding it.

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**Participant:** If I had to [explain use], I guess I'd say lack of discipline.

While participants frequently drew upon *Mentalism*, it did not appear in participants' talk as frequently as the above models. This is noteworthy because in FrameWorks' research on addiction in Alberta, Canada, this model was highly dominant.<sup>14</sup> This difference is not due to broad cultural differences between Canadians and Americans (FrameWorks' past research across issues suggests that Americans are more, not less, likely to attribute outcomes to individual will and choice) but rather is likely due to the way

assumptions about adolescence intersect with assumptions about substance use. The understanding that adolescents are open to environmental influences brings social context to the fore of people's thinking, which pushes the individualistic *Mentalist* model toward the background.

## *Implications of Cultural Models of Causes*

- 1. Public thinking about contextual influences facilitates understanding of causes.** The *Social Pressure* and *Parental Normalization* cultural models enable members of the public to understand how adolescents' family and social environments influence use. This research suggests that communicators can fairly easily tap into these understandings and leverage them to talk about the important role that social contexts play in adolescent substance use. Put another way, helping members of the public see the importance of social context in shaping substance use in adolescence is *not* a task that will require significant reframing work. Communicators must take care, however, in messages about family contexts to avoid implying that parents and families should be chastised for adolescents' substance misuse. Communicators should keep messages focused on how interventions can constructively engage with different family situations.
- 2. The *Escape* model presents an opportunity to explain how psychological distress connects to substance use.** The model productively identifies traumatic experiences and emotional pain as potential causes of substance problems, but it is thin and "process deficient," leaving people without the resources to understand how psychological distress is connected to substance use. Communicators can leverage the existing understanding that a connection exists between trauma and substance use by filling in process and explaining *how* different types of emotional and psychological issues can lead to substance use. Communicators need tools to explain the nature of these links. If people better understand these connections, they will be able to reason more effectively about not only the causes of substance use but also the types of solutions that can address these causes.
- 3. The *Mentalism* cultural model undermines productive thinking about interventions.** By highlighting individual will as the main determinant of whether an adolescent uses substances, the model occludes consideration of the importance of context (anything other than individual willpower) and makes it difficult to see the importance of interventions. Communicators should avoid emphasizing willpower and choice, as this will likely cue *Mentalist* thinking and lead people to conclude that dealing with a substance problem is up to the individual and incapable of being influenced by others. This is clearly a model that communicators should attempt to mute in their messaging strategies.

## *Cultural Models of Effects: How Does Substance Use Affect Adolescents?*

### **The Behavioral Effects Cultural Model**

When thinking about the effects of substance use on adolescents, participants focused overwhelmingly on behavior. While participants were aware that being under the influence of a substance can impair adolescents' judgment, cognitive effects were rarely mentioned. That is, participants focused on the behavioral outcomes of substance use, but not on any effects at cognitive or biological levels. Participants worried that substance use leads to risky behavior, such as unprotected sex or driving under the influence. When thinking about long-term effects, participants remained similarly focused on behavior, emphasizing the ways in which sustained behavior, such as ongoing disregard for school and involvement in criminal activity, can affect long-term life trajectories.

**Participant:** If you're drinking and smoking, it could lead you to have unprotected sex. ... Unprotected sex, STDs, teen pregnancies.

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**Participant:** You have driving while impaired as a result of alcohol or drugs. You also have behavior that can be negative. Some adolescents can become violent and do truly stupid things, and it can have a seriously bad effect. ... And then there's sex of course, which a parent's always concerned with, that can result in all the problems that can result, like pregnancy.

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**Researcher:** What are the effects of adolescent alcohol problems?

**Participant:** It could be unwanted pregnancies, because all the inhibitions are down. They're doing sex they're not supposed to be doing. The next thing you know, you've got another child in the world. ... Grades are going to suffer because they're not about their schoolwork. They're about their partying. ... The next thing you know, you've got them going into juvenile detention centers because they've got a problem with authority.

### **Cognitive Hole: Effects on Brain Development**

The neurobiological effects of substance use were almost totally absent from participants' thinking about adolescent substance use. While there were very occasional mentions of effects on "brain development," participants never elaborated on what these effects were or how substance use affects the brain. Participant mentions of effects on the brain were likely hollow echoes of longstanding public service announcements (e.g., "this is your brain on drugs") rather than meaningful ways of thinking about the issue. They were patterns of talk that were not accompanied by any deeper patterns in thinking. Lack of awareness of effects on brain development follows directly from the cultural models of adolescence

described above. This lack of awareness presents both an opportunity and a challenge for communicators, as we discuss below.

### *Implications of Cultural Models of Effects*

- 1. The public does not need to be convinced that substance use has effects on behavior.** The public recognizes that substance use can lead to a range of risky behaviors in the short term and that, over time, behaviors associated with substance use can harm adolescents' long-term life trajectories. There is, therefore, no need to devote attention to making a case for behavioral effects; communications resources are better directed toward other aspects of public thinking that present major messaging challenges.
- 2. The public lacks tools for thinking about effects on the brain and on brain development.** The lack of understanding of effects on brain development undermines recognition of the ways in which substance use can durably affect adolescents in ways that are not immediately visible in behavior. Absent understanding of developmental effects, the public will assume that unless adolescent behavior results in immediate harm or forecloses long-term life opportunities, substance use is harmless. Generating an understanding of developmental effects is thus necessary both to help the public understand how low-level use can potentially lead to further use and to help the public understand that use can have long-term effects, irrespective of immediate behavioral impacts. The good news is that because this issue represents a “cognitive hole” (in that the public altogether lacks ways of thinking about effects on the brain) there are not unproductive models that actively interfere with public understanding of these effects. Communicators thus have an unimpeded opportunity to fill in this hole with an accurate understanding of these effects. As we discuss below, Explanatory Metaphors that FrameWorks has developed to explain child development can be useful in cultivating an understanding of brain development and can lay the groundwork for explaining the developmental effects of substance use.
- 3. Public understandings of adolescent substance use impede recognition of substance use as a health issue.** The public's understanding of substance use as a natural part of adolescent social development and the near-exclusive focus on behavioral effects of use undergird the assumption that adolescent substance use is a social issue and not a health issue. The public's existing ways of thinking about the issue thus actively obstruct understanding of the health effects of adolescent substance use and prevent people from seeing substance disorders as a preventable illness. Helping members of the public appreciate that adolescent substance use has physical health effects, and that these health issues can be prevented with appropriate intervention, represents a key communications task.

## *Solutions Thinking*

The public reasons about solutions in highly patterned ways, drawing upon models of adolescence and substance use. Participants identified the following four solutions:

### ***Solution No. 1: Scare Them Straight***

The public, like experts, sees education as an important means of prevention, but the public usually assume that this involves scaring adolescents by informing them about the terrible consequences of substance abuse.

**Participant:** They have these really intense commercials about not texting and driving, where they show you inside the car right before you get in an accident, like ... I think people need that type of wake-up call for stuff. Especially something this serious. Hell, maybe show Kylie Jenner getting too drunk at a party and the negative consequences that can happen.

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**Participant:** Having [public education] campaigns actually does help—scaring kids. A few years ago, I saw this PSA. It was against crystal meth. When I first saw it, I thought “Oh, it’s a little bit overdramatic,” because they showed these people like zombies. They were meth addicts. I thought it was a little bit over the top, but I definitely saw what they were trying to accomplish. It can completely ruin your life. These are the cases that show that this is actually happening.

The solution is grounded in the assumptions that adolescents are largely irrational (see *Bounded Risk* model above) and that intense, fear-based tactics are the only way to break through this irrationality and “get through” to them.

### ***Solution No. 2: Counseling and Talk Therapy***

When thinking about what should be done to deal with existing substance problems, participants overwhelmingly suggested counseling or talk therapy. This is thought to address the emotional or psychological issues that are assumed to be at the root of the problem (see *Escape* model, above). Counseling is thought of as something that can happen in different locations, including schools, therapists’ offices, or rehabilitation centers. Twelve-step programs were sometimes cited as fulfilling a similar function.

**Participant:** That’s when you need to bring in a counselor, because if it’s heavy, it’s not social. It’s to excess. The worst thing is that they’re trying to make the alcohol their

identity. They're trying to be the "it" girl. Those are going to be the ones that are going to end up in a heap of metal on the side of the road. No, they're going to have to get the emotional part of it. They're going to have to get into counseling.

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**Participant:** We're starting to realize that you can't just throw people in prison, because you don't treat the underlying disease or manage it with treatment or therapy. Even when they get out, the problem's still there.

Discussions of talk therapy and counseling were somewhat superficial, echoing the thinness of the *Escape* model. Participants recognized that therapy may be needed to address emotional issues, but they were unable to spell out how therapy works, how it addresses substance use problems, or how it leads to better outcomes.

### ***Solution No. 3: Parents Should Set Better Boundaries***

Participants sometimes emphasized that handling adolescent substance problems is up to parents; it is their job to talk to their children about substance use, to monitor their children, and to set appropriate boundaries.

**Participant:** I think it starts at home. Parents making sure to have conversations with your child. ... It starts at home—education. If the child has a question, or even just address the child, like, "Hey, this is what you need to do to avoid A, B, or C."

In cultural models interviews, parents' role in addressing adolescent substance use and abuse was typically discussed alongside the above solutions, which occupied more of participants' focus. By contrast, in Peer Discourse Sessions, parents' role in setting boundaries became a major focus of conversation. The social setting seems to have made this solution more dominant. This may be because participants who were parents felt accountable for insisting on their responsibility for dealing with the issue when engaging in conversations with peers.

### ***Solution No. 4: Nothing Can (or Should) Be Done***

While participants commonly talked about fear-based education, therapy, and better parenting as ways of preventing and responding to adolescent substance use and abuse, the overarching tenor of responses was simultaneously unconcerned and fatalistic; nothing really needs to be done, and, even if we wanted to do something, the inherent nature of the problem puts it beyond remedy. Because members of the public think of substance use as an ordinary, natural, and acceptable part of adolescence, they do not think it is desirable or possible to prevent or significantly reduce adolescent experimentation with alcohol and other



drugs. Regarding substance abuse, *Mentalism* yields fatalism by leading people to conclude that it is ultimately up to the individual to stop, and little can be done if individuals do not want to stop using.

**Participant:** They're going to do what they're going to do.

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**Participant:** I definitely feel we should stop telling people to stop doing drugs. Stop "Say no." It's just a waste of time to say that. It's going backwards when you say that, because people are still going to do drugs regardless.

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**Participant:** People are going to do what they are going to do and won't listen to you, especially if they are on a substance or they're abusing something.

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**Participant:** If it's recreational and it's not really affecting their lives ... then no [need for intervention].

### ***A Missing Solution: Health Care Practitioners***

In cultural models interviews, participants almost never thought of doctors and other health care practitioners as having a role to play in dealing with adolescent substance use. And in Peer Discourse Sessions, not a single participant brought up health care settings when discussing how to prevent and address adolescent substance use.

This absence of thinking about health care practitioners results from the intersection of assumptions about health care and understandings of substance use. The public assumes that health care practitioners should only be involved with what they see as health issues (i.e., physical health). When this assumption is coupled with a failure to understand the neurobiological effects of adolescent substance use, it leads to the assumption that pediatricians and other general practitioners have no role to play in dealing with adolescent substance use. Health practitioners deal with health issues, and adolescent substance use is not a health issue. While assumptions about the role of health care practitioners were largely attested to through the *absence* of talk about them, these assumptions were occasionally stated explicitly, as in the below quote:

**Researcher:** You mentioned counselors as people who should be involved in drug rehab or treatment. What about doctors, pediatricians?

**Participant:** I'm wondering what service they can provide, because I think pediatricians, they're more focused on the physical health aspects of people. They're not so much tied in with the psychological and social situations that people are going through.

Peer Discourse Sessions were designed to elicit further discussion of health care settings by introducing facts about the potential cost savings of screening for substance use in primary care settings. We discuss this at greater length in the conclusion, but it is important to highlight that this discussion resulted in strong skepticism about involving health care providers in adolescent substance use issues. Participants reasoned that doctors are already overburdened and don't spend much time with patients, so they would not have time to address adolescent substance use. Participants also assumed that adolescents only visit primary care providers once a year, which they said makes the doctor's office an inappropriate site for screening and other interventions. Finally, participants modeled health care providers as people who address problems once they exist, and thus struggled to understand how these providers could assist with prevention or even early intervention.

### *Implications of Solutions Thinking*

- 1. Scare Them Straight thinking impedes support for high-quality, effective educational interventions.** The public's fixation on fear-based educational tactics diverts attention and public support away from forms of education that have been shown empirically to be effective in addressing adolescent substance use. Communicators need strategies for explaining why "scared straight" tactics are ineffective and can actually backfire and for helping people understand how alternative educational approaches are more likely to produce positive outcomes.
- 2. The public understanding of mental health treatment must be filled out and expanded.** As noted in the discussion of the *Escape* cultural model, communicators will need strategies for explaining how substance use and adolescent mental health are connected and how mental health treatment (when combined with appropriate substance use treatment services) helps address substance use issues. Communicators must explain *how* substance use is connected with emotional distress, as well as its relationship with mental health issues that are off the public's radar (e.g., anxiety and traumatic stress). While public recognition of the value of talk therapy and counseling is a useful starting point, explaining what mental health treatment involves, how it works, and how it helps to address problems that may lead to or exacerbate substance use is vital to increase understanding of, and support for, mental health interventions.
- 3. Focusing on parents' role can obscure the importance of community-level interventions.** While parents have an important role to play, when members of the public become strongly focused on parents, as they did in Peer Discourse Sessions, it becomes harder for people to see the importance of community-level measures, such as changing perceptions about and the availability of substances. Communicators must be careful not to overemphasize parents' role, as this may unproductively narrow people's focus and exclude a range of important actions and interventions.
- 4. Fatalism is a major hurdle.** Lack of urgency and fatalistic thinking are undergirded by dominant cultural models and will be hard to displace. Helping people recognize that there are effective

ways to reduce adolescent substance use requires, first and foremost, helping them see that use is neither natural nor merely a function of individual will. Undermining fatalism and injecting some urgency into the discussion will require a comprehensive narrative strategy that helps people better understand adolescent substance use, what causes it, and why it is problematic, and that then explains concrete steps that can be taken to reduce use.

5. **The absence of health care practitioners from public thinking is a major challenge.** This absence is not an accident, but rather reflects deeply-held and unproductive assumptions about both substance use and health care. Helping people recognize the important role for health care practitioners requires orchestrating two simultaneous framing tasks: first, helping people see that substance use *is* a health issue, by explaining its effects on neurobiological development and physical health; and second, broadening people’s understanding of what health care practitioners do to include issues beyond “health” in the narrow physical sense. Developing communications strategies for placing health care practitioners at the center of the story will also require ways to address skepticism about the limitations of the health care system.

## The Pediatric Practitioner View

Below, we present the cultural models that pediatric health care practitioners draw upon to think about adolescent substance use generally and SBIRT specifically. Like the public’s cultural models, the models of practitioners represent the different, sometimes conflicting ways of thinking about the issue that are available to practitioners.

A critically important finding from the analysis of practitioner interviews is that, to a striking extent, *practitioners draw upon the same, broadly shared cultural models as members of the general public.* While we found that pediatric practitioners do hold some *professional* models—ways of thinking that are broadly shared across those working in this field—practitioners’ thinking about adolescent substance use is remarkably consistent with the way that the general public thinks about this issue.

Given this overlap with the public’s cultural models, we start by identifying the public cultural models that practitioners also draw upon, noting any differences in the way these models are applied by practitioners. We then proceed to discuss the professional cultural models that are distinctive to pediatric practitioners and that are layered on top of these deeper patterns of thinking that they share with members of the general public.

### A. Public Cultural Models Shared by Practitioners

- **The *Bounded Risk* cultural model.** Practitioners frequently used the *Bounded Risk* model when describing adolescents, drawing upon all three of the model’s core assumptions (adolescents’ sense of

self is developed through experimentation; adolescence is inherently risky; and adolescents need boundaries and structure). Most importantly, for practitioners as for the public, talk of social and self development was *not* connected to underlying biological and neurological processes.

**Practitioner:** Adolescence is a stage in development. You are a child and then you are an adolescent and then adult. And it's the time where you are developing your own sense of self, your own sense of autonomy, so you are less dependent on your parents and becoming more independent. You are learning to make your own decisions.

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**Practitioner:** A lot of them have this invincibility idea that nothing is going to happen. They're risk-takers definitely. They aren't really able to put cause and effect together. So when they do something, they don't always look long-term at how that's going to affect [things].

- **The *Experimentation Is Natural but Still Dangerous* cultural model.** Just like the public, practitioners assumed that experimentation with substances—particularly alcohol and marijuana—is not only common but also natural and, in itself, unproblematic.

**Practitioner:** I think it's to be expected. I think teenagers just like to experiment with things. They see their friends doing it, or they're hanging out after the football game, and someone's passing around a joint or a blunt or something, and they just want to puff it and see if they like it. And then they cough up a lung, and they don't like it. They don't do it anymore. I think that's a normal part of adolescence. It becomes abnormal when it's a problem.

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**Practitioner:** I feel like experimenting is normal. And I feel like if things can be done in a safe environment, or not leading to major issues, that's fine.

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**Practitioner:** I'm realistic. If a kid goes to a party and they play beer pong and they drink a beer, okay. That was what they were doing at the party with their friends, and it was fun. But then, if, when they get home from school and think nobody's around, they're like, "I just need to numb it out," and they go and drink the beer that's in the fridge or the vodka that's in the bar, or they're out with people, and they know that that's where they can get it, because they feel like they need it, then I think that's where the problem comes in.

- **The *Function Threshold* cultural model.** Practitioners consistently differentiated between use and abuse by citing adolescents' day-to-day functioning, explaining that use becomes problematic abuse

only when it interferes with or affects basic functioning. While practitioners noted that they counseled adolescents to avoid use altogether, they explained that they would typically escalate the situation only if they had reason to believe that use was compromising the adolescent's everyday functioning in school or interfering with relationships with friends and family.

**Practitioner:** You have people who use [a substance] and continue to use it. So then you worry about are they abusing it. You start asking them questions: “What are the settings? Are you with people? Have you ever gotten in trouble for it? Have you ever had trouble with the law, at school, missing school, with your parents—conflict?” You start worrying about abuse—a pattern of their using over and over again. Maybe now, it's affecting their daily life and their relationships.

- **The *Social Pressure* cultural model.** Practitioners, like the public, assumed that the desire for social acceptance is a major cause of substance use.

**Practitioner:** Some are doing it because they see their friends doing it, and they're more vulnerable to wanting to do whatever their friends are doing in terms of trying stuff.

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**Practitioner:** So many pressures to use drugs, to drink, to be out partying, to be initiating sex, to not study and go to school because that's not seen as cool.

- **The *Escape* cultural model.** Like the public, practitioners often mentioned the desire to “escape” from life's problems—often early trauma or mental health problems—as a cause of substance abuse. Practitioners typically did *not* use medical idioms to talk about this, and instead relied on the same language of “escape” and “numbing” that was commonly employed among public participants.<sup>15</sup>

**Practitioner:** When you start thinking about potential for substance abuse or dependence, if a teen is going through a difficult situation at home or school or just in life in general, they may use or misuse substances to escape that. That may be their escape.

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**Practitioner:** I think it becomes a problem when it's used to fix something or when it's used to numb or get rid of something that you don't want to deal with.

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**Practitioner:** Sometimes, it's just to escape. Sometimes, they're just really stressed out, and they use it just to kind of calm their nerves. If they are stressed or have depression, they'll use stuff.

- **The *Behavioral Effects* cultural model and the cognitive hole around brain development.** As with the public, practitioners focused on dangers resulting from impaired judgment (e.g., car accidents, STDs, and pregnancy resulting from unprotected sex), and long-term effects on life trajectory from repeated negative behaviors (e.g., effects on school performance and job prospects). The mechanism of harm to life trajectory was assumed to be distraction (i.e., people stop worrying about school work because they're spending their time getting high), but not the impact on neurobiological development. *Practitioners did not discuss the effects of substance use on brain development.*

**Practitioner:** A lot of times, for kids who are using substances, it really affects their long-term outlook—whether they're able to really do well with a job, whether they even graduate from high school, how they parent themselves, and how this trickles down from generation to generation, what they see as something that they want for their children. So, I think it has really long-term impacts.

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**Practitioner:** When you're focused on this substance, you're not giving your time and commitment to other things in your life. Your life is not very well-rounded, because it's all about this one thing. So, you'll start to put off things that you would otherwise do because you're focused on this drug.

### *Implications of Public Cultural Models Shared by Practitioners*

The general implications of the above models are the same for practitioners as they are for the public. Yet the effects of these models are particularly important as they shape practitioners' thinking about their own medical practice. Two especially significant implications stand out:

1. **The absence of brain development in practitioners' thinking creates a blind spot.** Because practitioners' focus is narrowly on the behavioral effects of substance use, they assume that patients who have not displayed behavioral issues, such as risky behavior or a decline in school performance, do not warrant serious concern. This places the kinds of early intervention and prevention that experts view as critical outside of the scope of consideration for pediatric practitioners. While practitioners are undoubtedly aware of how brain development works in ways that the public is not, communicators will need strategies to make brain development concrete and bring it to the fore of practitioners' thinking about substance use. Highlighting and explaining effects on brain development must be part of the strategy for boosting practitioner concern about adolescent substance use generally and low-level use in particular.
2. **Assumptions about experimentation decrease practitioner concern about low-level use among patients.** The assumption that experimentation with substances is a natural part of adolescence

leads practitioners to accept experimentation among patients as normal and expected. Increasing practitioners' concern about experimentation, and their understanding of the risk and protective factors associated with adolescent substance use, will require strategies to displace this dominant way of thinking.

## *B. Practitioners' Professional Cultural Models*

The degree to which pediatric practitioners and members of the public share cultural models of adolescent substance use is a striking finding from the data. Little differentiates these groups' dominant ways of thinking about the issue. However, practitioners did, unsurprisingly, have more fully developed ways of thinking about how they and other health care practitioners should handle the issue. Below, we review these *professional* cultural models.

### **The *Screening Plus* Cultural Model**

When asked about their role in addressing adolescent substance use, practitioners had a ready answer: It is their job to screen patients to identify use and potential problems. Practitioners universally reported that they screen patients routinely for substance use as part of a standard check-up. While practitioners did not report using validated screeners, they described their practice as involving semi-standardized ways of asking questions. Screening is understood as a critical threshold; it is vital for practitioners to ask about use. This is modeled as a basic responsibility of all pediatric practitioners. Most practitioners said they screen for substance use as part of the "HEADDS" method of reviewing adolescent social behavior.

**Practitioner:** So H stands for the "home"—what's going on in the home? Are you having good relationships with whoever you live at home with? Is anyone smoking in the home? Do you feel safe at home and is any abuse taking place? E is "education." That's when I'm asking about grades. That's when I'm asking what school do you go to, what grade are you in? Did you repeat? Do you have tutors? You are failing, why? You have an IEP? Are they evaluating you because you need some extra help in something? Do you have a developmental delay issue? So the rest of those things—A. D. S.—that's like the "alcohol," the "drugs," and the "sex."

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**Researcher:** What do you think the role of health care providers should be?

**Practitioner:** I think we need to screen for it for sure. We need to have those conversations on a regular basis and build rapport and trust so that families feel like they can come to us if they're worried or if the child—some kids have insight, and they might say, "Doctor, I feel really shitty. I've been doing marijuana every day, and I can't stop, and

I don't want to do it anymore." So screening and being able to have that discussion is one thing.

Screening is understood as critical and appears to be a well-established part of practitioners' existing practice, even though practitioners do not necessarily use validated screening tools—a critical point discussed in greater detail below. What happens *after* screening appears to be considerably less routinized, however. While the *Experimentation* model shaped practitioners' thinking about *which* cases are matters of concern, practitioners lacked well-formed models for thinking about how to *respond* to substance use. Practitioners consistently mentioned that when they discover use or abuse, they offer advice to patients, but practitioners' characterizations of the purpose of advice and counseling varied considerably. Some practitioners talked about the importance of educating patients about basic information about health effects, while others talked about the importance of finding a way to "relate" to adolescents in order to motivate them.

**Practitioner:** As a provider you educate them about the effects. You give your recommendations and your opinions about it. They are going to still do what they are going to do, but at least you are trying to educate them.

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**Practitioner:** Honestly, I start using celebrities. I start naming certain celebrities who have been found in their homes dead because of polysubstance abuse. I'm like, "Do you know so and so?" And they are like, "Oh yeah," and I say, "Do you know how they died? They had a lot of different drugs in their system at the time." And I tell them I don't think it was necessarily a suicide, I just think it was an overdose and it happens all the time. And I was like, "That would be really sad. You don't want to end up like that."

We can see in these responses traces of *scared straight* and *fatalistic* thinking. In the absence of clear ways of thinking about how advice and counseling should be handled, and what their purpose is, there is space for public models to seep into practitioners' thinking.

Practitioners' thinking about referrals was likewise sketchy, and was similarly influenced by public models. In the quote below, for example, we can see how *Mentalism* shapes the practitioner's thinking.

**Practitioner:** If someone's really not willing to be there and really doesn't think they have a problem, it may not be the right time to refer them. I think that's why you need to get a good understanding of: Do they think it's a problem, and are they able to cut back on their own? And then, once we figure that out, then you can consider referring them, but prior to that, I think it's a little early to do it.



## The *Medical Priority* Cultural Model

While most practitioners interviewed professed the importance of adolescent substance use and their concern with it in their medical practice, there were indications that, when confronted with the need to prioritize issues, practitioners considered substance use to be peripheral to their practice. The assumption embedded in these discussions was that adolescent substance use is a “social” issue and, as such, is not as central to pediatric practice as what they described as “medical” issues. When classic medical issues, such as infectious diseases or physical injuries, were brought up, they were clearly assumed to be higher priorities than substance use.

**Practitioner:** Medical is always going to be the number one. So, I have to put that as the number one priority. Social issues can sometimes get dropped to the waste, even though they shouldn't be. But, you know, when you're looking at someone who needs to be treated with antibiotics or someone who has some sort of infection, that has to be the number one thing, and we have to call parents on those things.

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**Researcher:** Are there things that you would consider higher priority?

**Practitioner:** Than substance use? Well, maybe not higher—similar—safe sex, I think. I think those are the most important. I mean, assuming the child is healthy, and you're not dealing with a lot of other medical problems, those to me are the bread and butter of the adolescent visit.

In both of these quotes, we can see a distinction between “real” medical issues and those perceived as social ones, such as substance use. This makes it clear that, like members of the public, practitioners think of substance use as a *social* issue. Unlike the public, practitioners *do* see a role for doctors and other health care practitioners in dealing with social issues, but this role is understood as secondary to practitioners' core competency of dealing with medical issues.

### **Solution: Social Work**

While practitioners seemed to largely lack routinized practices for referring patients with substance use problems, they did indicate that they sometimes refer patients to in-house social workers or case managers (many of the practitioners we interviewed work in school- or community-based health clinics that have social workers on staff). Practitioners indicated that they rely on these social workers to counsel adolescents and to connect them to other resources.

**Practitioner:** We have one clinic where there's a social worker on site. ... So, I might grab the social worker and have them talk and give the kid some resources or something.

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**Practitioner:** What’s kind of nice about what I do is we have a whole network of social workers. There’s people who work in those drop-in centers. You know, there’s us on the medical and health side. So, we all collaborate a lot of times to help. Or they’ll say “Oh, so-and-so had a breakthrough. They want to go to rehab. Can you fill out this form for me?”

The default to social workers as a solution reflects the operation of the *Medical Priority* model. Because substance use is assumed to be a “social” problem, and not at the center of the work of health care practitioners (who are “on the medical and health side,” as the above interviewee put it), practitioners refer substance problems to social workers, whose job is to deal with “social” problems.

### **Limited Familiarity with SBIRT**

At the end of our interviews with practitioners, FrameWorks researchers asked practitioners about SBIRT to ascertain their familiarity with the approach and to garner their existing understandings of it. We found that about half of the practitioners interviewed had heard of SBIRT and about half had not. Even those who had heard of SBIRT were generally not familiar with any details of the approach. When asked to speculate about the meaning of each part of the acronym, practitioners typically referred back to their own practice, suggesting that SBIRT involves a slightly more formalized or systematic version of the screening, counseling, and referrals that they already provide.

**Practitioner:** It’s kind of similar to what I’m already doing, except I guess it’s a lot more structured.

When asked whether they might be willing to participate in education or training about SBIRT, practitioners generally answered affirmatively. But these responses were typically lukewarm, and FrameWorks researchers shared the perception that assent was likely an effect of response bias—or the recognition that “yes” was the expected and desired answer. While this is admittedly impressionistic, practitioners sometimes explicitly suggested that they would be unlikely to go out of their way to participate in training, given other demands on their time.

**Practitioner:** I’m curious about it, but I don’t know. Would I actually take my own free time to go learn it? I probably would read about it before I watched a video. I probably would read about it before I actually went and drove to a CME [continuing medical education course], but if it was already at what I’m going to every week, then I would go.

## *Implications of Practitioners' Professional Cultural Models*

- 1. Practitioners need to be convinced of the value of validated screeners.** Because practitioners already understand the importance of regular, systematic screening, the main hurdle for communicators will be convincing practitioners that they need to use a *validated screener*. This is an achievable task; nothing in practitioners' thinking about screening specifically blocks acceptance of using a validated screener (in other words, there is no assumption in play that contradicts the use of validated tools). Our research suggests that careful explanations of *why* validated screeners are more effective and *how* they result in better outcomes would likely suffice to convince many practitioners.
- 2. Practitioners' thinking about brief interventions for substance use is too thin to support effective practice.** Practitioners lack well-formed ways of thinking about interventions to treat and manage substance use, which allows unproductive public cultural models to creep into and guide their thinking. Communicators will need to engage in systematic practitioner education and training to provide practitioners with the tools to understand how to handle substance issues once they have been identified.
- 3. Thinking about referrals must be broadened beyond social work.** While practitioners' recognition that social workers can be a resource is positive, practitioners lack a strong grasp of other places and providers to which they can refer patients. To broaden practitioners' thinking about the range of useful providers, it is necessary to not only provide basic information about the range of resources that exist but also to explain when and how different types of resources can help.
- 4. The *Medical Priority* model is a major barrier to productive practitioner engagement on this issue.** By positioning substance use as a social issue and placing it outside of doctors' and other health care providers' core competencies, the *Medical Priority* model figures substance use as a secondary concern for providers. The tasks for communicators here echo, to a surprising degree, tasks with the public—namely, to simultaneously cultivate an understanding of substance use as a medical issue *and* to broaden providers' understanding of their own role beyond a narrow understanding of medicine.
- 4. Practitioners' lack of familiarity with SBIRT highlights the need for a robust communications strategy in combination with meaningful training and technical assistance with implementing SBIRT.** This lack of familiarity underlines the need for a broad communications strategy that provides basic education about the causes and consequences of substance use disorders, about the importance of prevention and early intervention generally, and about what, specifically, SBIRT involves, how it differs from more familiar but less formalized approaches, and how it would help to improve outcomes for patients.

# IV. Mapping the Gaps and Overlaps in Understanding

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The goals of this analysis have been to: (1) document the way experts talk about and explain adolescent substance use; (2) establish the ways that the American public understands this issue; (3) outline how pediatric practitioners understand it; and (4) compare and “map” these explanations and understandings to reveal the gaps and overlaps between the perspectives of experts and these two other groups. We now turn to this fourth task.

## Overlaps between Expert and Public Understandings

There are important points of overlap between expert and public understandings of adolescent substance use. Both experts and the public:

- Define **substance use problems in functional terms**. Both experts and the public think of substance use as *misuse* at the point at which it interferes with adolescents’ ordinary functioning and their capacity to carry out the activities of everyday life.
- Recognize that **adolescent substance use can result in risky behavior**, which can lead to consequences such as unintended pregnancy and car accidents.
- Understand that **substance use can harm adolescents’ long-term life trajectory** by interfering with their ability to succeed in school and other areas of life.
- View **“hard” drugs as harmful**. As we discuss below, there are gaps between the public’s and experts’ understanding of alcohol and marijuana, but both groups recognize “hard” drugs as harmful and insist that adolescents should not use them.
- Recognize the **need to look for root problems**. Experts and the public both understand that substance misuse can be caused by other problems, such as traumatic experiences, and that addressing substance misuse may require dealing with these underlying issues.

## Gaps between Expert and Public Understandings

Analysis also revealed a number of major gaps between expert and public understandings of adolescent substance use.

- 1. Adolescent Development: Neurobiological vs. Social.** Both experts and the public understand adolescence in developmental terms, but the public thinks of purely social aspects of development, while experts point to the physiological, genetic, and neurobiological changes that underlie adolescent behavior and outcomes. The neurobiological underpinnings of development are absent from public thinking.
- 2. Alcohol and Marijuana: Dangerous vs. Benign.** While experts group alcohol and marijuana with other substances as sources of harm to adolescent development, the public distinguishes them, viewing alcohol and marijuana use as relatively harmless. Because the public sees alcohol and marijuana use as relatively harmless, it treats adolescent use of these substances as a minor source of concern, in contrast with “harder” drugs, which are treated as a serious problem.
- 3. Effects: Developmental, Social/Emotional, and Behavioral vs. Behavioral.** Whereas experts note a wide range of developmental, social/emotional, and behavioral effects of substance use, including how substance use can harm the developing brain, the public has only a superficial understanding of effects on the brain and lacks a serious grasp of developmental effects. As a result, the public focuses narrowly on risky behavior.
- 4. Mental Health: Core vs. Missing Concept.** When thinking about how people’s internal states can lead to substance use and, in turn, how substances can affect internal states, experts rely on the concept of mental health. Mental health issues shape and are affected by substance use. The public recognizes that internal distress can underlie substance use, but the public understands this in terms of emotional disruption and “escape,” which is a partial understanding that makes it hard to access the fuller concept of health, including mental health, applied by experts.
- 5. Experimentation: Worrisome and Changeable vs. Natural and Acceptable.** Experts and the public understand experimentation in profoundly different ways. While the public sees experimentation with alcohol and marijuana as a natural and acceptable part of adolescence, experts dispute this, seeing experimentation with substances as both harmful and changeable. Experts explain that while experimentation with new activities and risk-taking is a natural part of adolescence, experimentation *with substances* is not.
- 6. Early Use: Central Concern vs. Below the Radar.** Experts stress the dangers of early use, explaining that use of substances early in adolescence is a predictor of later substance problems. While the public certainly agrees with experts that young adolescents should not use substances,

they do not recognize the specific risks that attach to early use and, as a result, this remains below the radar of public concern.

7. **Education: Informing Decisions vs. Scared Straight.** Both experts and the public see education as an important way of addressing adolescent substance use. Experts view education as a way of equipping adolescents to make good decisions, but the public sees the goal of education as scaring adolescents into acting differently. While experts emphasize that “scared straight” approaches do not work, the public insists that these are necessary to “get through” to adolescents and encourage better decision-making.
8. **Motivation to Stop: Susceptible to Influence vs. “It’s Up to Them.”** While experts view adolescents’ motivation as susceptible to influence, through brief interventions and other means, the public treats the motivation to stop using as something that must *precede* interventions, since the public assumes that unless adolescents have the will and motivation to stop using, there is no point in trying to help.
9. **Health Care Practitioners: Central vs. Missing Players.** Doctors and other health care providers have a central role in the Expert Story of adolescent substance use but are absent from the public story. Experts focus on the various ways in which health care practitioners can and must help deal with the problem, but health care practitioners almost never come to mind when the public thinks about what to do about the issue. Because the public thinks of substance use as a *social* problem rather than a *medical* one, and has a limited view of health care practitioners’ responsibilities, it is hard for the public to think of health practitioners as involved in these issues and difficult to understand what these practitioners could do to help.
10. **Reducing Use: Possibility vs. Impossibility.** Experts see reduction in adolescent substance use as a highly achievable goal. While the public shares expert concern with serious substance use disorders and believes that addiction can be treated effectively on a limited basis, the public assumes that reduction in overall use of alcohol and marijuana is impossible.

## Overlaps between Expert and Practitioner Understandings

The points of overlap identified above for experts and the public are also points of overlap for experts and health care practitioners. However, there are additional points of overlap between experts’ and practitioners’ understandings. Both experts and practitioners:

- Recognize that **health care practitioners have a role to play** in addressing adolescent substance use. As we discuss below, views about the precise nature of this role diverge, but practitioners—unlike the public—share a recognition with experts of the important role for health care practitioners in these issues.

- View **screening as an important tool**. Practitioners regularly screen adolescent patients for substance use and share experts' commitment to the value of screening.
- Understand the importance of **referring patients for intervention or treatment** to deal with underlying problems. As we discuss below, practitioners' thinking here is quite limited, but at a general level they share with experts an understanding of the importance of referrals.

## Gaps between Expert and Practitioner Understandings

Analysis also revealed a set of specific, but surprisingly deep, gaps between experts and pediatric practitioners.

1. **Substance Use: Primary Pediatric Concern vs. Secondary “Social” Issue.** Experts stress that substance use should be treated as a priority issue within primary care, including pediatrics and adolescent medicine, given how ubiquitous it is among adolescents, its potential to seriously harm adolescents' development, and the unique position of primary care practice as a site for screening and intervention. Practitioners, by contrast, see substance use as an important *social* issue, and not a medical one, and thus treat it as a topic of secondary importance in their practices.
2. **Brain Development: Central Lens vs. Missing Perspective.** While experts see adolescence as a critical period of brain development and view substance use through this lens, practitioners tend, like the public, to understand this window of development in primarily social terms. While practitioners are presumably aware, in ways that the public is not, of the nature of brain development in adolescence, these considerations remain largely out of mind when practitioners think about substance use. Like the public, when practitioners think about the effects of substance use on adolescents, they focus on behavioral effects rather than neurobiological changes.
3. **Experimentation: Changeable and Worrisome vs. Natural and Acceptable.** One of the most surprising findings that emerges from this comparative analysis is that, like the public, practitioners see experimentation with substances in adolescence as natural and acceptable, while experts emphasize that it is neither, and is driven instead by a broad set of genetic, individual, familial, social, and environmental factors.
4. **Screening: Validated Screeners vs. Any Questions Will Do.** Both experts and practitioners emphasize the importance of regular screening, but experts emphasize the importance of using a validated screener, while practitioners assume that what matters is simply that a screening be conducted. Few of the practitioners interviewed use validated screeners or believe this to be important.

5. **Brief Intervention: Established Methods vs. Loose Approach.** While practitioners loosely understand the practice and purpose of brief interventions, they lack a common and consistent understanding of how brief interventions should be conducted. By contrast, experts identify specific methods to use in brief interventions and emphasize the importance of tailoring the intervention while still following these specific methods to achieve optimal results.
  
6. **Referrals: Extensive Networks vs. On-Site Social Workers.** When thinking about referrals, experts have in mind a wide array of services—mental health services, substance use treatment programs, addiction medicine physicians, clinical psychologists, private therapists, and others—while practitioners tend to think only of on-site social workers. While this gap is, in part, a function of divided responsibilities (social workers in clinics, for example, can help connect patients to other resources) it is significant that practitioners treat referrals outside of their own clinics or practices as unusual and outside of their typical scope of concern.
  
7. **SBIRT: Specific Approach vs. Mild Formalization of Current Practice.** While experts understand SBIRT as a specific approach to handling adolescent substance use, practitioners are either unaware of it or assume that it merely formalizes what they are already doing. Practitioners fail to understand—and are generally not interested in understanding—the specific methods that make SBIRT a best practice, that necessitate training, and that make it amenable to further study.



# V. Conclusion: Exploratory Findings and Future Research

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Adolescent substance use is not currently high on the public agenda, but this is not for lack of awareness that adolescents use alcohol and other drugs. To the contrary, this use is expected and accepted, not only by members of the public but also by pediatric practitioners. While everyone recognizes that serious substance use is a problem, the ubiquity of use is assumed to be largely unproblematic. Moreover, because brain development is either not understood or, in the case of practitioners, largely disconnected from issues of adolescent substance use, the public and practitioners fail to recognize how early and low-level use can affect adolescents in significant and durable ways. In addition, the public's assumptions about substance use (not a problem) and health care (not the place to deal with substance use) conspire to leave health care practitioners at the distant periphery of public thinking about the topic. And while practitioners recognize that they *do* have an important role to play, when push comes to shove, they also view substance use as peripheral to, and secondary in, their practice.

Given these default understandings, experts and advocates face a number of steep challenges as they try to move adolescent substance use up the public agenda and change practitioner views of these issues. But it is important to stress that knowing where the pitfalls lie is a vital part of finding more effective ways to increase understanding, shift attitudes, and build will. Understanding how people are likely to process messages makes it possible to identify and develop potentially effective communications strategies.

## Findings from Peer Discourse Sessions

As a first step in testing potential communications tools and strategies, researchers identified relevant strategies developed in past FrameWorks research, adapted these tools for use on the issue of adolescent substance use, and conducted provisional testing of these tools in Peer Discourse Sessions. Analysis of the data from sessions provides a set of initial communications recommendations.

***Explanatory Metaphors.*** In research on early childhood development, FrameWorks has developed a set of Explanatory Metaphors that are highly effective in explaining brain development. In Peer Discourse Sessions, two of these Metaphors—*Brain Architecture* and *Air Traffic Control* (see Appendix for the language that was tested)—were adapted to explain adolescent brain development and to explain the effects of substance use. *Brain Architecture* was used to explain how adolescence is a critical period of brain development, while *Air Traffic Control* was used to explain how the development of a specific neural system (executive function) might be harmed through substance use.

Both Metaphors were effective in generating a fuller understanding of adolescent brain development and in helping people connect substance use—and early use in particular—to a range of important outcomes, via brain development. However, even after exposure to the Metaphors, participants’ grasp of *how* substance use affects neurobiological development and, in turn, other developmental outcomes, remained fuzzy. This suggests that these Explanatory Metaphors can be used to explain foundational aspects of brain development, but that they must be supplemented by other tools designed to explain the *link* between substance use and adolescent development and how neurobiological changes result in concrete and specific outcomes. This explanatory task is perhaps the most important communications challenge identified in this research.

In addition to testing these Metaphors, FrameWorks tested a Metaphor that is currently in use in the field that compares adolescent substance use to high blood pressure as a strategy to help people understand the importance of prevention. This Metaphor had mixed results. While the Metaphor did prompt thinking about the importance of primary prevention and created a sense of efficacy (in other words, it led people to think that prevention of adolescent substance use is *feasible*), discussions of prevention tended to slip away from the health care setting and focus instead on school- or community-based efforts. More problematically, when participants did have health care in mind, they drew on highly individualistic cultural models of health, leading them to conclude that dealing with substance use is a matter of personal responsibility. As FrameWorks has found in its research on health,<sup>16</sup> when thinking about health, Americans attribute health outcomes to individuals’ choices to eat well, exercise, avoid unhealthy behaviors, and otherwise take care of themselves, and reason that responsibility for health lies with individuals. Discussion of health care in Peer Discourse Sessions triggered these assumptions, leading to the foregrounding of adolescents’ choice to use, and the purported responsibility for this choice, and the backgrounding of the contexts within which these choices happen. This tendency is deeply problematic and suggests that, on balance, disease Metaphors are likely to be counterproductive. However, further testing would be needed to confirm this conclusion.

**Values.** In Peer Discourse Sessions, FrameWorks researchers also tested the ability of Values to engender productive thinking about addressing adolescent substance use. The researcher moderating these sessions gave participants brief descriptions of three Values: *Ingenuity* (tackling adolescent substance use requires innovative methods); *Public Health* (adolescent substance use is a public health problem); and *Prevention* (prevention is necessary to stop substance problems before they start) (see Appendix for specific language). The researcher then asked participants to choose Values that they thought would be effective in persuading members of their communities to support (1) early intervention programs in health care settings, and (2) increasing funding for training health care providers to deal with adolescent substance use and for treatment programs.

All three Values showed both promise and limitations. When participants focused on the Value of *Ingenuity*, they displayed a sense of efficacy, suggesting that innovative programs could work where others have failed. The *Public Health* Value helped to move discussions from the individual to the systems level, shifting discussion from individual health concerns to health and health care at a population level. Finally,

the *Prevention Value* productively focused attention on the importance of early intervention and engendered constructive thinking about how early interventions might work and could save money for the health care system in the long run. Alongside these strengths, the Values also displayed limitations. In particular, they were unable to overcome the default assumption that medical settings are not the most appropriate places to address substance use; participants continued to stress that other actors—particularly families—are much more important. The Values also did not help people get beyond the assumption that adolescent substance use is natural and inevitable.

These findings suggest that Values will be an important part of a broader communications strategy. They must, however, be coupled with other tools that explain why health care providers have a critical role to play in addressing adolescent substance use and that help people understand that substance use is *not* a natural part of adolescence and need not be considered normal. Further testing is needed to determine which Value or Values can be most effective within a broader strategy.

**Facts.** During Peer Discourse Sessions, participants were given two types of unframed facts: a fact about the prevalence of adolescent drinking and a fact about potential cost savings when health care centers engage in work to prevent adolescent substance use (see Appendix for tested messages). These facts were selected because of their frequent use in advocacy materials.

The facts on their own were not productive, because participants interpreted them by using their default cultural models. The fact about prevalence did not boost people’s concern about the issue, as advocates might hope, but rather activated the *Experimentation Is Natural but Still Dangerous* cultural model and reinforced people’s existing assumption that experimentation with alcohol is a *normal* and *unavoidable* part of adolescence. The discussion of the cost-efficiency fact was hijacked by people’s strong sense of fatalism about the issue and led to a pessimistic discussion about the impossibility of preventing alcohol use and the likely failure of attempts to intervene in early use. These findings reinforce the importance of placing facts *within* effective frames that enable people to make sense of the facts in productive ways. Facts alone are not the answer to the reframing challenges associated with adolescent substance use.

## Tasks for Future Research

Effectively reframing adolescent substance use will require the development of new communications tools and strategies to complement the tools discussed above. Because the major challenges in communicating with the public overlap significantly with challenges in communicating with practitioners, many of the same tools should be effective with both groups. It is important to note, however, that tools would need to be tested with both the public and practitioners to ensure effectiveness with each group. Below, we outline a set of tasks that comprise a prospective “to-do” list for future research:

1. **Denaturalize adolescent experimentation with alcohol and other drugs.** The assumption—shared by the public and health care practitioners—that experimentation with substances is a

natural part of adolescence undermines concern about adolescent substance use generally and weakens support for prevention and early intervention in particular. Denaturalizing experimentation could potentially be achieved via different routes: by explaining, for example, how norms of experimentation are shaped by culture; by using well-framed facts that demonstrate variations in use across communities; or by showing people how interventions can, in fact, reduce the prevalence of use among adolescents. Determining which strategies are most effective is a question for future research.

2. **Cultivate understanding of doctors and other health care providers as central players in addressing substance use issues.** Generating public understanding of health care providers as having a central role is critical to building public support for directing resources toward interventions that involve health care providers. And increasing practitioners' sense of their own centrality is vital to institutionalizing interventions within primary care. Achieving this task will require shifting public and practitioner thinking about both substance use *and* health care. This will mean expanding public—and practitioner—thinking about health care practitioners' role, as well as shifting people's perception of substance use from a purely social to a health issue.
3. **Increase understanding of the effects of substance use on brain development.** Filling this cognitive hole is important for multiple reasons. Lack of understanding of effects on the developing brain undermines concern about early and low-level use. In addition, helping people understand these effects should boost perception of substance use as a health issue, and, in turn, help people recognize that health care practitioners have a key role to play. While this task applies to both the public and health care practitioners, strategies for effectively achieving this task may differ between groups, as practitioners will undoubtedly have a higher level of baseline knowledge of brain development than members of the public.
4. **Soften the strong distinction in public thinking between alcohol and marijuana and “harder” drugs.** While there certainly are, as experts note, important differences between substances and their effects on adolescents, the public's stark distinction between alcohol and marijuana, on one hand, as relatively benign, and “harder” drugs, on the other, as seriously dangerous undermines concern about the former. Generating increased recognition of the harm marijuana and alcohol can cause is important to combat complacency about their use. In softening this distinction, communicators will need tested strategies that don't inadvertently erode the public's perception of the negative consequences of “hard” drugs—causing them to view “harder” drugs as more like alcohol and marijuana, rather than marijuana and alcohol as more like “harder” drugs.
5. **Boost the public's sense of collective efficacy.** Communicators need strategies to combat the fatalism that results from many of the public's default cultural models. Increasing the public's sense of efficacy—their sense that collective actions *can* make a difference—is vital to increase support for the policies and programs that experts recommend.

6. **Deepen public thinking about underlying causes.** While the public understands that underlying causes, such as emotional or psychological issues, can be at the root of substance use, existing thinking is thin and obscures the many risk factors (genetic, individual, familial, social, and environmental) that underlie use. Communicators will need strategies to deepen existing thinking of what causes substance use.
7. **Shift public thinking about what type of education works.** The dominance of fear-based models of education is an impediment to public support for educational approaches that have actually been shown to work. Helping the public understand the value of alternative approaches is a precondition of support for these approaches.
8. **Increase practitioners' understanding of prevention and early intervention, including SBIRT.** Specifically, communicators need strategies to help practitioners understand the importance of using validated screeners, the purpose of, and methods for, brief interventions, and the range of relevant referral options (beyond social workers).

Accomplishing these tasks will require communications tools of varying types. *Values* are likely needed to shift attributions of responsibility and to promote a sense of efficacy. Explanatory tools such as *Explanatory Metaphors*, *Explanatory Chains*, and *examples* are needed to denaturalize experimentation and to generate better understanding of developmental effects, health care providers' role, underlying causes, and how early intervention and prevention can work to improve outcomes. Explanatory tools are also needed to fill in practitioners' understanding of prevention and early intervention, including SBIRT. *Exemplars* may be useful in shifting people's perceptions of *what* substance problems typically look like. Further research is needed to identify and test the effectiveness of these types of communications tools.

# Appendix: Tools Tested in Peer Discourse Sessions

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## Explanatory Metaphors

**Brain Architecture.** Like the construction of a house, the human brain is built through a process that begins before birth and continues into adulthood. The foundation is laid in the earliest years, and then the brain's framing, wiring, and plumbing progress over a longer period of time. Adolescence is a time of rapid brain development, and young people's experiences play a critical role in this process. The use of alcohol and other drugs can disrupt the brain's architecture in ways that increase the likelihood of learning difficulties and health problems in adulthood.

**The Brain's Air Traffic Control System.** During adolescence, children's brains develop the ability to focus, pay attention, and create mental priorities. These are called "executive function" skills and they are things that adolescents will need as adults to function and thrive. These executive function skills are like the air traffic control system at a busy airport, with planes taking off and landing at the same time. In the human brain, this air traffic control system helps us to regulate information flows, focus on tasks, create priorities, avoid collisions, and keep the whole system running. Alcohol and other drug use during adolescence disrupts the healthy development of the brain's air traffic control system. This can then affect adolescents' ability to regulate drug and alcohol use later in life.

**High Blood Pressure.** Right now, we wait to treat alcohol and other drug problems until it's very problematic and someone has an addiction. This is like waiting to treat high blood pressure until someone has a stroke or a heart attack. Just like high blood pressure, it is simpler, easier to treat, and more responsive when you go after it early, like when people are using too much during adolescence. It is harder to treat, more expensive, and chronic if you wait until it's ingrained and present for many years.

## Values

**Public Health.** As a nation, we must face the fact that adolescent drug and alcohol use and abuse is a public health problem and respond accordingly.

**Ingenuity/Innovation.** To tackle the challenging problem of adolescent alcohol and drug use and abuse, our country needs innovative methods and a forward-thinking approach.

**Prevention.** Prevention is an important part of addressing adolescent alcohol and drug use; left unaddressed, small problems grow worse over time and require more difficult solutions.

## **Facts**

**Prevalence.** The majority of adolescents have used alcohol or another drug by the time they have reached 12th grade. Alcohol is the most commonly used drug among adolescents. By the 12th grade, 80 percent of high school seniors report having used alcohol, 62 percent report having gotten drunk, and 31 percent report drinking regularly.<sup>17</sup>

**Cost Efficiency.** For every dollar spent in primary care settings on substance use screening and early intervention for adolescents, four dollars is saved on health care costs.<sup>18</sup>



## About the FrameWorks Institute

The FrameWorks Institute is an independent nonprofit organization founded in 1999 to advance science-based communications research and practice. The Institute conducts original, multi-method research to identify the communications strategies that will advance public understanding of social problems and improve public support for remedial policies. The Institute’s work also includes teaching the nonprofit sector how to apply these science-based communications strategies in their work for social change. The Institute publishes its research and recommendations, as well as toolkits and other products for the nonprofit sector, at [www.frameworksinstitute.org](http://www.frameworksinstitute.org).

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# Endnotes

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<sup>1</sup> On cultural models, see Quinn, N., & Holland, D. (1987). Culture and cognition. In D. Holland & N. Quinn (Eds.). *Cultural models in language and thought* (pp. 3-40). Cambridge, England: Cambridge University Press.

<sup>2</sup> The findings that follow reflect this focus. Because researchers purposefully focused the interview on early intervention and prevention approaches to adolescent substance use, less time was spent discussing the types of strategies necessary to address addiction—even though such strategies are also an integral part of the continuum of care for adolescent substance use.

<sup>3</sup> See Quinn, N. (Ed.). (2005). *Finding culture in talk: A collection of methods*. New York, NY: Palgrave Macmillan.

<sup>4</sup> For more on Peer Discourse Sessions, see Manuel, T., & Kendall-Taylor, N. (2009). From focus groups to peer discourse sessions: The evolution of a method to capture language, meaning, and negotiation. *New Directions for Youth Development*, 124, 61-69.

<sup>5</sup> Earlier versions of the *Diagnostic and Statistical Manual* distinguished between substance *abuse* and substance *dependence*. The DSM-V has replaced these terms with “substance use disorder,” which can be further classified as mild, moderate, or severe. In interviews, experts often relied upon the older terminology, using the term “*substance abuse*” to refer to habitual patterns of use that disrupt normal activities and function, and *substance dependence* to refer to physical or emotional dependence.

<sup>6</sup> See, for example: The National Center on Addiction and Substance Use at Columbia University. (2011). *Adolescent substance use: America’s #1 health problem*. New York, NY: Columbia University; King, K.M., & Chassin, L. (2007). A prospective study of the effects of age of initiation of alcohol and drug use on young adult substance dependence. *Journal of Studies on Alcohol and Drugs*, 68(2), 256-265; Dawson, D.A., Goldstein, R.B., Chou, S.P., Ruan, W.J., & Grant, B.F. (2008). Age at first drink and the first incidence of adult-onset DSM-IV alcohol use disorders. *Alcoholism: Clinical and Experimental Research*, 32(12), 2149-2160.

<sup>7</sup> Experts noted that most of the research on the effects of adolescent substance use is based on chronic and/or severe use. There is relatively little data on the long-term neurobiological consequences of low-level use or experimentation.

<sup>8</sup> Ennett, S.T., Tobler, N.S., Ringwalt, C.L., & Flewelling, R.L. (1994). How effective is drug abuse resistance education? A meta-analysis of Project D.A.R.E outcome evaluations. *American Journal of Public Health*, 1994, 84, 1394-1401; West, S.L., & O’Neal, K. (2004). Project D.A.R.E. outcome effectiveness revisited. *American Journal of Public Health*, 94, 1027-1029.

<sup>9</sup> Mitchell, S.G., Gryczynski, J., O’Grady, K.E., & Schwartz, R.P. (2013). SBIRT for adolescent drug and alcohol use: Current status and future directions. *Journal of Substance Abuse Treatment*, 44, 463-472.

<sup>10</sup> See Bales, S.N. (2005). *Talking early child development and exploring the consequences of frame choices: A FrameWorks Message Memo*. Washington, DC: FrameWorks Institute.

<sup>11</sup> It is important to note that the public does not view adolescent substance use as “natural” in the sense of genetic predisposition, but rather in the sense that experimentation is a normal and developmentally appropriate part of adolescent experience.

<sup>12</sup> A similar *Normalization* model has also appeared in the quite different context of child maltreatment. See Volmert, A., Fond, M., & O’Neil, M. (2015). *“It’s hard to wrap your head around”: Mapping the gaps between expert and public understandings of child maltreatment and child sexual abuse in Alberta*. Washington, DC: FrameWorks Institute.

<sup>13</sup> Kendall-Taylor, N. (2009). *Conflicting models of mind in mind: Mapping the gaps between the expert and the public understandings of child mental health*. Washington, DC: FrameWorks Institute.

<sup>14</sup> See Kendall-Taylor, N. (2010). *Rounding up the associations: How perceptions of addiction are recruited. Mapping the gaps between expert and public understandings of addiction in Alberta*. Washington, DC: FrameWorks Institute.

<sup>15</sup> There were a couple of occasions where practitioners did talk about “self-medication” and “mental health” issues, but these were the exception to the rule.

<sup>16</sup> See, e.g., Lindland, E., & Kendall-Taylor, N. (2011). *People, polar bears, and the potato salad: Mapping the gaps between expert and public understandings of environmental health*. Washington, DC: FrameWorks Institute.

<sup>17</sup> The source for this fact is Johnston, L.D., O’Malley, P.M., Bachman, J.G., & Schulenberg, J.E. (2007). *Monitoring the future: National results on adolescent drug use, overview of key findings 2007*. Bethesda, MD: National Institute on Drug Use.

<sup>18</sup> The source for this fact is: [http://www.integration.samhsa.gov/clinical-practice/sbirt/SBIRT\\_Colorado\\_WhySBIRT.pdf](http://www.integration.samhsa.gov/clinical-practice/sbirt/SBIRT_Colorado_WhySBIRT.pdf)