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Multi-Level Approaches to FASD Prevention Education and Training for Health Professionals

Faith Ozer Green, MPH,

University of Alaska Anchorage Center for Behavioral Health Research & Services, CDC
Cooperative Agreement NU84DD000005

Amy K Harlowe, Mphil,

Boston Medical Center, CDC Cooperative Agreement NU84DD000002

Alexandra Edwards, MA MPH,

University of Alaska Anchorage Center for Behavioral Health Research & Services, CDC
Cooperative Agreement NU84DD000006

Daniel P Alford, MD, MPH,

Boston University Chobanian & Avedisian School of Medicine/Boston Medical Center, CDC
Cooperative Agreement NU84DD000002

Hetal Choxi, MD,

Oregon Health and Science University, CDC Cooperative Agreement NU84DD000010

Jacqueline S German, MPH,

Boston University Chobanian & Avedisian School of Medicine | Boston Medical Center, CDC
Cooperative Agreement NU84DD000002

Diana Ling, MA,

Health Behavior Research and Training Institute, Steve Hicks School of Social Work, The
University of Texas at Austin, CDC Cooperative Agreement NU84DD000009

Iwona Pawlukiewicz, MPH,

University of Connecticut Health Center, CDC Cooperative Agreement NU84DD000004

Reshana Peterson, MPH, MCHES,

American Academy of Family Physicians and the Centers for Disease Control and Prevention,
CDC Cooperative Agreement NU84DD000010

Kirk von Sternberg, PhD,

Health Behavior Research and Training Institute, Steve Hicks School of Social Work, The
University of Texas at Austin, CDC Cooperative Agreement NU84DD000009

Mary M. Velasquez, PhD

Health Behavior Research and Training Institute, Steve Hicks School of Social Work, The
University of Texas at Austin, CDC Cooperative Agreement NU84DD000009

Abstract

Background: Alcohol-exposed pregnancies (AEPs), which can lead to fetal alcohol spectrum disorders (FASDs), is one of the most common preventable causes of lifelong intellectual and developmental disabilities in the U.S. Healthcare teams can play a critical role in preventing FASDs; however, they are currently unprepared to do so. Training can remediate this problem. This article explores the different approaches to the education and training of healthcare providers around FASD prevention used by six Centers for Disease Control (CDC)-funded programs, and how they have been adapted to (1) the specific needs of the healthcare professionals and/or the clinical setting and (2) the challenges posed by the COVID-19 pandemic.

Methods: This article offers an in-depth description and comparison of the models utilized by the programs described, detailing the challenges of each model as well as the adaptations made. Interdisciplinary collaboration and review highlights these models and offers a variety of solutions and lessons learned that can be implemented in similar practice settings and/or educational initiatives

Results: Based on organizational structure (i.e., national organization, educational institution, clinical settings) and program purpose, different methods were employed for FASD education. Some programs were focused on FASD prevention through staff training and alcohol screening and brief intervention (SBI)/clinical intervention and others were focused on broadscale professional education and awareness. Improvements were made on an ongoing basis as challenges related to COVID-19, staff shortages, and patient and clinician discomfort were identified, resulting in modifications to content and delivery modality (e.g., online forums and use of social media).

Conclusion: FASD prevention education is wrought with a variety of challenges related to stigma, discomfort, and misinformation, which these programs encountered in a variety of ways.

Introduction

Fetal alcohol spectrum disorders (FASDs), caused by prenatal alcohol exposure (PAE), are a leading preventable cause of permanent behavioral, intellectual, and physical disabilities in the United States (US).^{1–4} It is estimated that up to 1 in 20 school aged children are affected.^{1,2} Unfortunately, alcohol use during pregnancy is on the rise, with up to 13.5% of pregnant people reporting alcohol use and 5% reporting binge drinking in the previous 30 days.³

One strategy to reduce alcohol exposed pregnancies (AEPs) and FASDs is educating and training the healthcare workforce to implement evidence-based strategies, such as universal screening alcohol screening and brief intervention (SBI), to screen for and counsel patients about the risks of excessive alcohol use.^{1–7} Through alcohol SBI, patients with excessive alcohol use can be identified and counseled to avoid the negative consequences of alcohol use, including AEPs. Alcohol SBI has been shown to be an effective method to decrease excessive alcohol use in populations and is recommended by the US Preventive Services Task Force.^{8–10} Screening and intervention are particularly relevant to this paper in consideration of patients who are or can become pregnant.

Unfortunately, alcohol SBI is not universally implemented in part due to healthcare teams' lack of knowledge and skill to do so. Numerous studies have found that there is inadequate training surrounding FASDs and alcohol SBI.^{11–16} Health professional training can increase the use of alcohol SBI, and interdisciplinary training has been shown to be effective in improving care and health outcomes.^{17,18} Although literature exists for medical students, nurses, social workers and other professionals, less literature exists regarding best practices for training and education of existing medical professionals or clinical staff in the subject of FASD prevention and alcohol SBI.^{19–22}

In 2018, the Centers for Disease Control and Prevention (CDC) provided support for alcohol SBI and FASD prevention training through two related funding opportunities: [1] The education and training of health and allied healthcare providers as a component of systems-level implementation of alcohol SBI in interdisciplinary health systems that provide women's health services; and [2] the promotion of the prevention of FASD education and training opportunities through various national health professional organizations whose members work in settings that serve people who can become pregnant.

This article explores these programs' experiences with education and training interprofessional healthcare teams to increase implementation of alcohol SBI and FASD prevention, and how they have been adapted first, to meet the specific needs of the target audiences and/or the clinical setting and second, to address the challenges posed by the COVID-19 pandemic. These approaches offer a variety of lessons learned that can be implemented long-term in similar practice settings or educational initiatives.

Local or Systems-Level Programs

As described in Table 1, several organizations were awarded funding to support the implementation of alcohol screening and brief intervention into healthcare systems—Boston Medical Center/Boston University School of Medicine with the Boston Sustainable Models for unhealthy Alcohol use ReducTion (B SMART) Program, Henry Ford Health, University of Connecticut Health Center (UCH), and the University of Alaska Anchorage. The approaches described in this paper, as described in Table 1, are contributed by Boston Medical Center/Boston University School of Medicine, University of Connecticut Health Center “ASPPiRE Program” in partnership with Planned Parenthood of Southern New England (PPSNE), and the University of Alaska Anchorage (UAA SBIRT) in partnership with Planned Parenthood Great Northwest, Hawai’I, Alaska, Indiana, Kentucky (PPGNHAIK).

National Programs

Several nationally-focused programs were also awarded funding, including the American Academy of Family Physicians (AAFP), the American College of Obstetricians and Gynecologists (ACOG), the University of Nevada, Reno in partnership with the American Association of Medical Assistants, The University of Texas at Austin (UT-Austin) Steve Hicks School of Social Work in partnership with the National Association of Social Workers (NASW), and the Women's Health Nurses and Midwives Collaborate for Alcohol-Free Pregnancy (Women's Health Partnership), a partnership between the University of Alaska

Anchorage, the National Association of Nurse Practitioners in Women's Health (NPWH), the American College of Nurse-Midwives (ACNM), and the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). The approaches described in this paper are contributed by AAFP Portland, UT-Austin, and the Women's Health Partnership (Table 1).

Methods:

Approaches to FASD Prevention Education

Based on organizational structure and program purpose, different methods were employed for FASD education. The approaches to FASD prevention education were not mutually exclusive as different programs chose to incorporate different strategies in implementation. Some programs focused on FASD prevention through staff training and clinical intervention, specifically alcohol SBI, while others focused on broadscale professional education and awareness. Different programs utilized a champion approach to achieve success in providing and continuing education, relying on members within the organization or healthcare team to serve as a source of knowledge, ideally increasing organizational and staff buy-in through existing structures and existing rapport.^{23,24} The implementation of the champion model varied by project.

Champions: A Common Approach

Each of the clinical-based programs described utilized some form of champions model to reach their target audience, whether that audience was national professional organization members, front-line clinic staff, clinic administration, or other personnel.

While there were some minor differences in definitions of "champion" across programs, in general a champion was utilized as a person who could act as a trusted resource, promote available trainings or resources, advocate for staff or members on their need for FASD- or SBI-related education or resources, or could promote the implementation of alcohol SBI into their clinical practice setting. Within each program, champions were identified at the beginning of and throughout their respective implementation periods and offered valuable insight into their health centers' operation. This proved vital to the ongoing quality improvement (QI) process and increasing education uptake and sustainability among staff. Some programs, such as the ASPPIRE program, put the use of champions on hold due to COVID-19 and related staffing issues, while others like B SMART's champions were "health center liaisons" who served in a similar capacity.

For the participating national programs, there were additional approaches and variations in the champion model. AAFP utilized physician champions to lead their practices, as well as to guide the creation of FASD prevention educational tools and resources at the point of patient care for all AAFP members. These champions collaborated with experts to create micro-learnings for physicians and healthcare teams. These comprised five videos ranging from 6–12 minutes discussing alcohol SBI implementation and sustainability. Two patient scenario videos are also included which review how to initiate alcohol SBI discussions with patients and complement other trainings available for primary care physicians and their

healthcare teams. Materials and resources from AAFP, CDC, and other grantees were sent to members. Being able to provide peer-led materials to family physicians across the US has been a highlight of using a champions model at the national level.

Multi-Level Clinical Teams

Across alcohol SBI implementation initiatives — B SMART, Connecticut ASPPIRE, Alaska SBIRT — training included FASD awareness and prevention education for whole healthcare teams, including medical assistants, administrators, support staff, providers, nursing staff, and in some systems, behavioral health providers. Trainings within healthcare systems, such as Connecticut ASPPIRE and Alaska SBIRT^{a1}, included raising awareness of FASDs and the importance of addressing alcohol use in primary and reproductive healthcare, and included training teams on the process of delivering alcohol SBI during a routine medical appointment. Projects such as B SMART conducted initial evaluations to better tailor training and identify holes in knowledge. As the programs developed, another aspect of the curriculum content was filling gaps in confidence around the topic, skills, and being able to engage with patients on the topic of alcohol use and FASD prevention.

In the multi-level approach, skills practice was crucial. In some cases, this allowed for role-stratified skills practice, wherein participants explored their specific role in FASD prevention. For the Alaska SBIRT program, the team facilitated case studies with staff to practice administering a standardized alcohol screener and delivering a brief intervention to individuals drinking above the recommended limits. In addition, training highlighted strategies for talking with patients about preventing AEPs.

Interprofessional Alcohol SBI Training

These interdisciplinary training programs target teams of healthcare professionals—including social workers, physicians, physician assistants, nurses and behavioral health specialists—to ensure efficient and effective delivery of evidence-based alcohol SBI. A particular focus for these trainings has been utilizing SBI for alcohol use as a primary approach to reduce the risk of AEPs.

Motivational Interviewing (MI) employed in alcohol SBI is another evidence-based approach for supporting clients in making informed choices about their health. MI is a collaborative conversation style that develops and strengthens a client's motivation for and commitment to change. It has a strong evidence base in health care and focuses on the client's strengths and capacity for change. In alignment with social work ethics and standards, MI supports and honors the patient's capacity and right to self-determination and autonomy.^{25,26} This alignment between social work values and MI has been a crucial component of trainings delivered to social workers to help create buy-in among them.

The Health Behavior Research and Training Institute (HBRT) at UT-Austin's Steve Hicks School of Social Work conducted Motivational Interviewing (MI)-based SBIRT training for alcohol and other drugs and introduced CHOICES, an intervention for the prevention of

^aScreening, and Brief Intervention, and Referral to Treatment

AEP, as a brief treatment for individuals who can become pregnant consuming alcohol. For example, the UT-Austin Integrated Behavioral Health Scholars program is designed to train graduate students from social work, nursing, psychology, and psychiatry fellows/residents in addressing substance misuse in healthcare settings. In addition, HBRT delivered instruction for “Transformative Teams in Healthcare,” an interprofessional elective course that reaches about 300 students in social work, medicine, nursing, and pharmacy each year.

Additionally, these national programs employed a variety of methods to train and educate interdisciplinary staff and update existing organizational practices (i.e. routine trainings, grand rounds) around FASD education.

For instance, Connecticut ASSPIRE developed a “Working Group” that consisted of training staff and leadership. This collaborative approach, along with backing from senior PPSNE personnel, allowed for a smooth transition and increased health center staff buy-in during education. Alaska SBIRT formed an interdisciplinary planning team that included the UAA implementation team and PPGNHAIK leadership who, in addition to refining and adapting FASD awareness and alcohol SBI training modules, adapted content to address the practice philosophy and patients served. For both projects, full participation by the health systems in modifying trainings and alcohol SBI protocols, promoted staff buy-in and acceptance of trainings and practice changes. Similarly, B SMART, worked with existing structures and staff at various health centers in the Boston HealthNet system to tailor the approach to each health center’s needs.

Nationally-Focused Dissemination of Resources and Training Opportunities

Strategic communications planning has been a successful way to promote awareness and discussion about FASD prevention strategies among national professional organizations across all projects. The nationally-focused programs collaborated to promote and expand their FASD awareness campaigns, reaching thousands of healthcare professionals across the organizations’ digital and print platforms. Articles created through these campaigns included NASW Social Work Blog posts on social workers’ role in reducing risky drinking, tips to make alcohol SBI part of routine care, and key facts healthcare professionals need to know about alcohol and pregnancy. Coordinated social media campaigns focused on selected national health awareness months, such as National Birth Defects Prevention Month, Alcohol Awareness Month, and FASD Awareness Month. The messages often included links to professional and client resources, and training opportunities. Given the size of these organizations’ social media following, these messages have the potential to reach several hundred thousand healthcare professionals across the U.S.

National professional organizations’ journals, magazines and newsletters have also been important platforms for promoting clinical guidelines and policies. For example, the October/November 2020 issue of NASW’s member magazine, *Social Work Advocates*, featured an opinion piece on Alcohol SBI and its role in addressing racial health disparities in risky drinking, written by a UT-Austin HBRT team member. In addition, an overview of screening instruments, brief interventions and implementation issues was tailored for a social work audience and distributed through the NASW newsletter, *Practice Perspectives*. Presentations at organizational partners’ annual meetings or through digital platforms

have also provided mechanisms for raising awareness of the importance of using alcohol screening and brief intervention strategies.

Results

Content and Delivery

The content and curriculum for the included programs focused on a few specific areas. The first element was the foundational science around FASDs, including the impact of alcohol on the developing embryo and fetus and the life-long conditions that may result, as well as the need build trust with patients to counter the potential stigma associated with excessive alcohol use and towards families and individuals impacted by prenatal alcohol exposure. This core knowledge was an underlying aspect of the various trainings and educational materials. Skills based training also played a role in the possibility for implementation. Embedded in the multilevel approach to the core content was information and training based upon participant roles in healthcare teams. As the programs developed, another aspect of the curriculum content was filling gaps in confidence around the topic, skills, and being able to engage with patients. For instance, B SMART tailored additional content based on clinic-based needs assessments. Finally, many of the educational materials and trainings included sections that dealt directly with reducing stigma and creating clinic environments that promote open conversations about alcohol use.²⁷

Training Adaptations and Improvement—Many of these programs employed an evolving curriculum and continuous program improvement. This better met the needs of the respective programs. The educational programs had a continual QI and feedback process where lessons learned were incorporated into the training. With the feedback process, educational material could be improved for learner experience, administrative efficiency, delivery and engagement styles, and even specific content.

Alaska SBIRT, Connecticut ASPPIRE, and B SMART elicited feedback from trainees through post-training surveys, and follow-up with trained healthcare teams to better understand educational needs. Improvements were made on an ongoing basis as challenges related to COVID-19, staff shortages, patient feedback, and assessment of discomfort were brought to the forefront of future education and conversations.

Reinforcement/“booster” trainings focused on different “roles” within the clinical environment and are an important component of continuing projects. Within AAFP Portland’s clinic, a kickoff meeting for alcohol SBI was held to introduce and train the whole healthcare team in 2018. After a few months of troubleshooting, the incorporation of alcohol SBI into the clinic workflow was assumed to be part of standard care. However, it took several years to monitor performance and the initial report documenting patient SBI prompted concern. However, this enabled further education to focus on issues preventing effective screening and intervention. After that, a refresher presentation and training were done at a clinic meeting with the plan to repeat annually. The team also reached out to AAFP Portland. They provided a repeat training on behavioral intervention for the healthcare providers, which included faculty role-playing BI for the group and receiving feedback.

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rounds were effectively put on hold and education efforts were appropriately focused on COVID-19 and COVID-19-related topics. Family medicine clinics endured these challenges, as some even closed for weeks during shutdowns and were navigating new procedures and COVID-19 roles. Acknowledging the priority shift and challenges, the B SMART program adapted trainings making them topically relevant and timely, such as exploring increased alcohol use during COVID-19. B SMART also developed a podcast as a form of asynchronous learning, and other programs developed and utilized online training modules and remote learning for program rollout.³¹

Virtual National Learning Opportunities

The COVID-19 pandemic also impacted the planned approach of the programs working with and through national professional organizations. For example, the Women's Health Partnership had relied heavily on leveraging attendance at national and regional conferences to disseminate FASD education opportunities, materials, and resources, as well as to build its champion program. With the cancellation of these events or the re-orientation to a virtual format, the partnership re-thought the outreach plan and pivoted to other platforms. This led to the creation of an independent website²⁷ where partner organizations link to social media messaging from their own organizational websites. This new joint website houses online CDC training, videos, implementation guides, and other resources. In addition, the partnership conceived and developed an entire online, modular curriculum that could be used not only by nursing and midwifery professionals already in practice, but also by faculty seeking new ways to integrate FASD and alcohol-related content into courses suddenly moved to a virtual format. This curriculum includes introductory information about FASDs, alcohol use patterns in the US, the basics of alcohol SBI, skills-based learning, and discusses stigma and ethics related to alcohol use during pregnancy and FASDs.

UT-Austin also relied on in-person conferences to support its dissemination efforts and shifted its approach for NASW's virtual national conferences in 2020 and 2021. In lieu of creating an exhibit for conference attendees, UT-Austin disseminated FASD education resources for social workers by participating as patrons of the 2020 conference and created a dedicated email to registrants for the 2021 conference. The dedicated email linked to CDC's FASD training page and its page on alcohol SBI, as well as alcohol SBI resources tailored to social workers created in partnership with NASW.

Discussion

Lessons Learned and Discussion

Although these programs vary in setting, region, and audience, the common administration of FASD prevention education did render some core lessons learned across the programs discussed. Adaptive training models are most successful when they incorporate three methods: easily accessible online education, reinforcement booster trainings, and an emphasis on skill building, as seen in Table 2. Easily accessible online education is one key component as it can be accessed at any time rather than administered. Learners can use this resource and improve practice. This information is adaptable to clinic needs and changing circumstances, which is also helpful for issues with staff turnover.

A variety of the programs encountered provider hesitancy and reported some patient pushback. However, they utilized the strategies specified in Table 2 to address provider and patient discomfort. This was vital to both the success of patient screening through alcohol SBI and provider education and skill building. Within some of the AAFP Portland and Alaska SBIRT clinics, some providers reported that their patients appeared offended by alcohol screening questions. During repeat training sessions, emphasis was placed on research studies and patient survey data that disprove this belief. Furthermore, they stressed the importance of universal alcohol screening was incorporated into a broader annual behavioral health questionnaire including drugs, depression, and anxiety.

A recurring theme in the Alaska SBIRT implementation program and Connecticut ASPPIRE was a challenge in providing cannabis-based educational resources and integrating cannabis into screening. These clinicians were hesitant to discuss alcohol use or other substances (especially cannabis) with their patients, reporting it felt out of context, judgmental, or both. During initial and refresher trainings, clinicians were encouraged to dovetail alcohol use brief interventions with the patients' contraception or discussions around prenatal alcohol exposure prevention, particularly if the patient was considering becoming pregnant, to ensure the conversation had additional context. Materials, such as brochures and infographics, were provided to help aid providers. Brief intervention and evidence-based information was consistently posted on the online learning platform for health center staff to access. More study is required to further understand how prenatal cannabis use might be addressed through universal screening. While multi-substance use during pregnancy is a concern, more information is needed to educate healthcare professionals *and* patients on the risk of polysubstance use during pregnancy or among individuals at a high risk of pregnancy.

The COVID-19 pandemic forced a re-think about how outreach to healthcare professionals is conducted at the national level. Prior to the pandemic, there was an emphasis on in-person events and training opportunities. The shift of events to online or virtual platforms created new options for self-directed learning, greater accessibility, and innovative training and education methods. The programs working with national partner organizations coordinated for national outreach campaigns such as National Birth Defects Prevention Month, National Alcohol Awareness Month and National Alcohol Screening Day, and International FASD Awareness Day/Month, leveraging each others' strengths and communication channels to reach a broader and more interdisciplinary audience.

Limitations

While these programs model a variety of methods to increase provider education around FASDs and alcohol use, results are limited due to the challenges faced on a day-to-day by providers and educational institutions alike. Adding trainings to the already heavy workload of providers and health care teams can be challenging, and this review is unable to increase the time and resources of health care workers, operating clinics, or provider-focused educational institutions. Additionally, measuring stigma is difficult, and while evidence suggests that normalization can reduce the impact of stigma on clinical practice²⁷ the numerical impact of such interventions in this study is unknown. Lastly, multiple of the

programs discussed rely on self-reported measures, and even with universal screening, self-reported substance use is often an underrepresentation of the actual use rate.

Conclusion

Inadequate education, misinterpretation, or falsely perpetuated ideas around FASDs and alcohol use during pregnancy can lead to misinformed healthcare professionals and confused patients, making professional education about the prevention of FASDs vital to healthcare professionals and individuals within the reproductive healthcare setting. Accuracy in research and education can help ensure effective strategies for reducing alcohol use and risk of AEPs. The stigma associated with excessive alcohol use and FASDs is pervasive enough to deter conversations and awareness of the issue and patient reporting. Educational programs and interventions such as these focus on the importance of language when discussing health risks related to alcohol use, especially excessive alcohol use, binge drinking, and use during pregnancy. Skill-based trainings may also aid providers in appropriately and effectively addressing alcohol use during pregnancy.

For all FASD education, programs emphasized accessibility, understanding, and adaptability of material, with prevention and implementation-based projects also incorporating skill-building through modeling provider/patient interactions and case studies. With changing circumstances as evidenced by COVID-19, adaptability from feedback gathered during data collection and evaluation became vital to the longevity and efficacy of FASD prevention education.

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Highlights

- Fetal alcohol spectrum disorders caused by prenatal alcohol exposure are a leading preventable cause of permanent behavioral, intellectual, and physical disabilities in the United States.
- One strategy to reduce alcohol exposed pregnancies and FASDs is educating and training the healthcare workforce to implement evidence-based strategies, such as universal screening alcohol screening and brief intervention (SBI) to screen for and counsel patients about the risks of excessive alcohol use including AEP.
- Healthcare teams can play a critical role by implementing universal alcohol SBI in general healthcare settings, and there are a variety of training methods of varying success employed to increase the knowledge and efficacy of healthcare workers.
- Trainings that include evidence-based core curriculum and emphasize building skills and confidence around alcohol SBI – and are asynchronously available to account for challenges in the field – are vital to effective implementation along with the inclusion of informed champions.

Table 1:

Description of Programs

Program	Acronym/ Shorthand	Program Type	Education Model
Boston Medical Center/Boston University School of Medicine with the Boston Sustainable Models for unhealthy Alcohol use ReducTion Program	B SMART	Clinic based	FASD [*] /aSBI ^{**} training series in clinics throughout a safety health net system in Boston, MA area
University of Connecticut Health Center	Connecticut ASPPIRE	Clinic based	FASD/aSBI implementation program in Planned Parenthood of Southern New England
University of Alaska, Anchorage Screening and Brief Intervention with Referral to Treatment Program	Alaska/UAA SBIRT	Clinic based	FASD/aSBI training implementation program in Planned Parenthood Great Northwest, Hawai'i, Alaska, Indiana, Kentucky
American Academy of Family Physicians Portland	AAFP Portland	National Program	Champion network educating family physicians including creation of media resources and clinic-based insights
The University of Texas at Austin Steve Hicks School of Social Work in partnership with the National Association of Social Workers	UT-Austin Partnership	National Program	Social work professional education program including champion network, interprofessional education, conferences, and creation of resources
Women's Health Nurses and Midwives Collaborate for Alcohol-Free Pregnancy	Womens' Health Partnership	National Program	Women's health education program focusing on nurses and midwives through publication and outreach education

^{*} Fetal alcohol spectrum disorders

^{**} alcohol screening and brief intervention

Table 2:**Challenges & Lessons Learned**

Strategy	Application
For overall program success across programs	
• Accessibility of informational materials	Promotes program uptake for education in a variety of settings (including digital availability) and allows for booster trainings
• Adaptability of educational programs and materials to changing circumstances and knowledge	Circumstances for health centers and communities change over time. Updating materials as needed or as more information becomes relevant to the topic.
• Emphasize skill building	Promotes provider confidence to engage clients and use aSBI* through communication-focused skill building and case study training
• Acknowledging miseducation or misinformation as it arises	Clarify and correct misinformation about FASDs** and excessive alcohol use. Creating “teachable moments” from misinformation.
Strategy	Application Across Programs
Addressing Provider and Patient Discomfort	
• Emphasize existing literature	Ground the conversation in evidence, correcting misperceptions clearly without being confrontational.
• Adopting universal screening protocol	Decrease likelihood of missing clients who would benefit from a discussion about their alcohol use; decrease stigma related to discussions about alcohol use and bias of what a “typical” alcohol or substance user may look like.
• Linking alcohol/drug use to greater patient health	Promoting continuous/ open conversations about the potential adverse health effects of excessive alcohol use or drug use
• Reducing discomfort and stigma through education	Reducing discomfort around discussing alcohol use and FASDs through normalizing conversations

* Alcohol screening and brief intervention

** Fetal alcohol spectrum disorders