

# LET'S TALK

**COMMUNICATING  
ABOUT ALCOHOL  
AND PREGNANCY**

**A GUIDE TO IMPROVE  
PATIENT-PROVIDER  
COMMUNICATION ON THE  
RISKS OF ALCOHOL USE  
DURING PREGNANCY**

This guide is intended to support CDC and partner organizations in consistently communicating evidence-based messages about alcohol use during pregnancy, fetal alcohol spectrum disorders (FASDs), and alcohol screening and brief intervention (SBI).



2023

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## BACKGROUND

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The Centers for Disease Control and Prevention’s National Center on Birth Defects and Developmental Disabilities (CDC NCBDDD) is committed to working closely with clinical partners and other stakeholders to promote a shared message that **“THERE IS NO KNOWN SAFE AMOUNT, NO SAFE TIME, AND NO SAFE TYPE OF ALCOHOL USE DURING PREGNANCY.”** We are actively working to maintain and expand our partnerships with clinical and nonclinical entities that promote maternal and child health with an interest in amplifying this message. Our work with all our partners is happening amid a backdrop in which providers and patients receive contrary guidance from a variety of sources. Communicating clear, evidence-based messages about alcohol use during pregnancy from credible voices can help patients better understand risks and help clinicians have important conversations.

In 2021, CDC funded Oak Ridge Associated Universities (ORAU) to lead research to characterize healthcare professional (HCP) and patient<sup>a</sup> attitudes toward alcohol use during pregnancy. This research also examined messaging and dissemination approaches to encourage alcohol screening and brief intervention (SBI) and clinical conversations about alcohol use during pregnancy. The research found that only 51% of HCP respondents and 33% of women of reproductive age strongly disagreed with the statement that *“It is okay for women to drink a small amount of alcohol at some points during pregnancy.”* The research also produced these data

- Ninety-four percent of patients expressed interest in learning more about alcohol use and pregnancy.
- Patients who believed it is acceptable to drink a small amount of alcohol during pregnancy were much more open to changing their opinion on the topic than those who believed one should not drink at all during pregnancy.
- Patients affirmed the value they place on their healthcare providers’ guidance on the topic.

Based on these findings, we have designed this communication guide to support you in taking the following actions.



**ENCOURAGE HCPs TO  
CONDUCT ALCOHOL SBI**

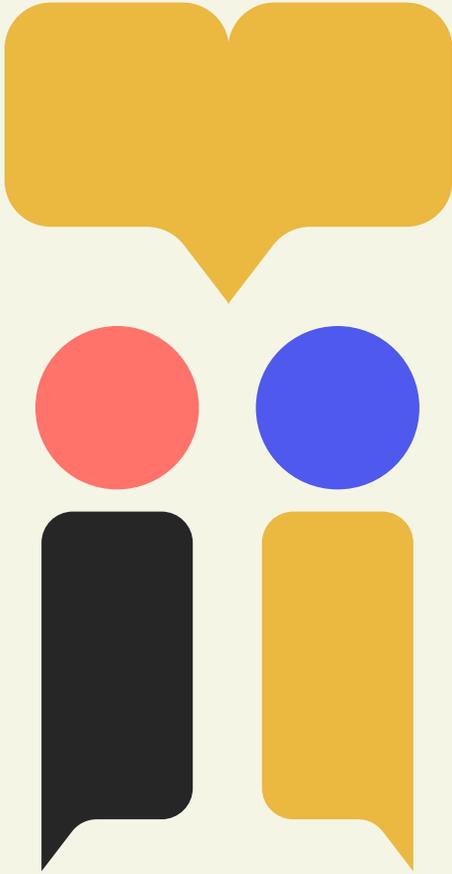


**EQUIP HCPs TO EFFECTIVELY  
COMMUNICATE WITH PATIENTS  
ABOUT ALCOHOL AND PREGNANCY**

We support these actions by providing highly rated messages, insights into HCP communication preferences, and materials and resources that exemplify the included guidance. When looking at HCP research responses, we analyzed findings by specialty (obstetrics and gynecology [OB/GYN] or primary care [PC]) and role (certified nurse-midwife [CNM], medical doctor [MD], nurse practitioner or physician assistant [NP/PA], or registered nurse [RN]) to understand differentiators in the needs and preferences of HCPs regarding resources on this topic. This guide is structured to present key messages and resources based on these HCP segments. For details on research that undergirds this document, see [Appendix A](#).

<sup>a</sup>. Throughout this guide, the terms healthcare professionals (HCPs) and patients are used in an effort to use gender-inclusive language when possible. During the process of message testing, the term women of reproductive age (WRA) was used and is thus sometimes referenced. However, we recognize that not every person who can become pregnant identifies as a woman. CDC and others should continue to ensure use of inclusive language when messaging broadly.

## OVERARCHING COMMUNICATION TIPS



### HIGHLIGHT CREDIBLE ORGANIZATIONS' ALCOHOL SBI ENDORSEMENTS AND RECOMMENDATIONS

HCPs who do not completely or consistently conduct alcohol SBI found messages about compliance with guidelines more compelling than messages about the ease and benefits of SBI. HCPs place significant credibility on the recommendations of the United States Preventive Services Task Force (USPSTF), CDC, and medical organizations to which they belong. As an example, the message *"Alcohol SBI is recommended by every major medical professional organization, CDC, and the USPSTF."* was highly rated by HCPs not consistently conducting SBI.

### CHARACTERIZE ALCOHOL USE DISCUSSIONS AS PART OF ADVANCING PATIENT MENTAL HEALTH AND HEALTHY HABITS

Most HCPs want to use any extra time in well visits with patients to discuss mental health and healthy habits (primarily nutrition and physical activity). As alcohol misuse overlaps with both of these pre-existing HCP motivations to improve patient care, we can promote the topics of SBI and discussing the risks of excessive alcohol use with patients to HCPs within the context of assessing and addressing mental and physical health.

### USE A TRANSPARENT TONE ABOUT THE UNKNOWN

Patients, HCPs, and subject matter experts share a strong preference for transparent messaging about what is **NOT KNOWN** about the topics of alcohol use during pregnancy and FASDs. Rather than finding these types of transparent messages confusing, many patients and HCPs felt that messages about unknowns presented a compelling logic for the absolute nature of the guidance. This was particularly true for those who did not initially agree with the guidance.

**JUST ACKNOWLEDGING THAT DIFFERENT THINGS AFFECT EACH WOMAN DIFFERENTLY ... THAT MADE A LOT OF SENSE, BECAUSE YOU HEAR STORIES ABOUT PEOPLE WHO DID DRINK, THEIR BABIES ARE PERFECTLY FINE, BUT THEN OTHERS WEREN'T. SO THAT JUST SEEMED REALLY RATIONAL TO ME. A GOOD REASON TO NOT [DRINK] AT ALL OR RISK IT. — PREGNANT PERSON**

## IDENTIFY SEGMENTS OF YOUR AUDIENCE THAT MAY MOST BENEFIT FROM MESSAGING ON THE TOPIC

Several personal and clinical characteristics are associated with providers who more consistently and completely conduct alcohol SBI steps<sup>b</sup>, as defined for our study purposes (see [Appendix B: Factors Affecting Completeness of SBI Steps](#)). Understanding factors associated with conducting more of the alcohol SBI steps<sup>b</sup> can help you identify segments of your HCPs who may most benefit from messages and resources on the topic. Factors consist of both personal attributes and clinical systems-level factors, including

- Strong personal belief that no amount of alcohol during pregnancy is acceptable
- Negative personal screening result on the Alcohol Use Disorders Identification Test-Concise (AUDIT-C)
- Having 10 or fewer years of professional experience
- Working in a primary care setting
- More technology integration in the SBI process
- More clinical staff roles integrated in the SBI process

**THAT [DATA ON POPULATIONS MOST LIKELY TO DRINK WHILE PREGNANT] WAS COMPLETELY UNEXPECTED. I THINK THAT SHOULD BE INCLUDED AS PART OF ANY FUTURE EDUCATION CAMPAIGN SO WE [HCPs] WON'T LET OUR PRECONCEIVED NOTION OF WHO IS AT RISK AFFECT WHO WE SCREEN AND INSTEAD, SCREENING EVERYONE, ESPECIALLY THE UNMARRIED, COLLEGE-EDUCATED WOMEN. — MEDICAL DOCTOR**

## HELP HCPs UNDERSTAND PATIENTS AT INCREASED RISK FOR ALCOHOL USE DURING PREGNANCY

Many HCPs are surprised to learn that being 35+ years old, higher-educated, and unmarried have all been associated with higher rates of alcohol consumption during pregnancy.<sup>i,ii</sup> Overall, HCPs want CDC to ensure their key recommendations focus on encouraging SBI with all patients, rather than headlining information about groups at increased risk of drinking while pregnant. Nonetheless, there is value in including images and links to additional information in HCP educational materials to provide data on higher risk groups. In agreement with a larger body of literature<sup>iii,iv,v</sup>, our study found that Black or African American women of reproductive age took a stronger stance on avoiding alcohol while pregnant compared with their white counterparts.

## KNOW THAT DURING THE COVID-19 PANDEMIC, MANY HCPs MADE PERMANENT CHANGES TOWARD MORE ELECTRONIC COMMUNICATIONS WITH PATIENTS

Many HCPs who previously leaned heavily on nondigital methods of patient education and communication made changes during the pandemic that they expect to last. They are moving toward increased use of patient portals, text messaging, clinic apps, and QR codes. Many are also providing more video content, especially for younger patients. Recently developed CDC materials and resources on this topic have leveraged this finding (see [Resources for HCPs](#)). In addition, CDC offers a digital toolkit of both freestanding materials that you can distribute to HCPs as is, as well as images, graphics, and short messages you can adapt or include in your own materials and communications.

**b.** Providers were asked how frequently they collect information about patients' alcohol use and other substance use, use validated screening questions, compare reported use with standard drinking guidelines, have a verbal conversation with patients who report risky drinking, provide patient education materials about alcohol use, and refer patients who may have alcohol use disorder to treatment.

## ACTION #1: ENCOURAGE HCPs TO CONDUCT ALCOHOL SBI

This section will assist in your efforts to encourage HCPs to conduct alcohol SBI by providing HCPs’ preferred messages<sup>c</sup>, resource formats, and communication channels. You can use these to inform your own provider and patient education efforts on these topics. The information is presented by setting (OB/GYN or PC) and by role (MD, CNM, NP/PA, or RN).

### MESSAGING BY SETTINGS

#### HIGHLY RATED MESSAGES FOR OB/GYN SETTINGS

Use the following key messages to pique the interest of HCPs in OB/GYN settings and engage them in further alcohol SBI promotion efforts:

- Alcohol SBI is relatively simple to do, and OB/GYN providers are uniquely positioned to effect significant change.
- Alcohol SBI takes about 2 to 10 minutes, which can be spread out across the appointment and supported by multiple staff members. There is significant value in simply raising the topic and asking patients about their alcohol use. Most SBI clinical encounters conclude with a brief conversation and no need for referral.
- The data indicate that more than 90% of patients say they are comfortable answering alcohol screening questions from healthcare providers.<sup>vi</sup>
- Many healthcare providers are surprised to learn what counts as a standard drink and how many drinks per week are considered excessive.<sup>vii</sup> Use a validated alcohol SBI screener and compare patient reports with guidelines to ensure you are identifying the one-third of U.S. adults who do not have alcohol use disorder, but who drink in ways that put themselves and others at risk of harm.<sup>d</sup>
- About 1 in 20 pregnant people report binge drinking in the past 30 days.<sup>i</sup>

#### ALCOHOL SBI IN OB/GYN SETTINGS

Those working in OB/GYN settings indicated conducting alcohol SBI less completely than those in primary care did. They expressed a higher need for resources to support SBI, including:

- provider education
- clinical decision support tools
- buy-in from leadership and colleagues
- established processes
- reimbursement mechanisms
- more time with patients
- patient education materials

Yet, on the positive side, those in OB/GYN settings indicated experiencing more SBI facilitators (e.g., most feel patients are open to changing their alcohol use, most feel they know what to say to patients with excessive alcohol use) than those in primary care.

HCPs in OB/GYN settings desire messages and materials in the following formats via the listed channels.

PREFERRED FORMATS	PREFERRED CHANNELS
<ul style="list-style-type: none"> <li>• Fact sheets</li> <li>• Patient education materials to use during alcohol SBI</li> </ul>	<ul style="list-style-type: none"> <li>• Their own electronic medical record (EMR) system</li> <li>• Point-of-care apps</li> </ul>

c. In some instances, statistics and phrasing within messages have been updated since the original version was tested with HCPs in 2021.

d. This statistic comes from a CDC analysis of BRFSS data. It is a measure of drinking above the moderate drinking definition in the Dietary Guidelines and includes people who report having more than one drink (for women) or two drinks (for men) as the maximum drinks on an occasion in the past 30 days. The statistic is illustrated and is following completion of alcohol SBI using the [CDC’s eSBI tool](#).

**HIGHLY RATED MESSAGES FOR PRIMARY CARE SETTINGS**

The following key messages can help you promote alcohol SBI with HCPs in primary care settings:

- Alcohol SBI is relatively simple to do, and primary care providers are uniquely positioned to effect significant change.
- Alcohol SBI takes about 2 to 10 minutes, which can be spread out across the appointment and supported by multiple staff members. There is significant value in simply raising the topic and checking in with patients on their alcohol use. Most SBI clinical encounters conclude with a brief conversation and no need for referral.
- Excessive alcohol use is common and adversely impacts many of your fundamental primary care efforts, such as managing frequent chronic concerns and medication interactions.
- Data indicate that more than 90% of patients say they are comfortable answering alcohol screening questions from healthcare providers.<sup>vi</sup>
- Communication research conducted in 2021<sup>vii</sup> found that clinics that integrate more staff roles in the SBI process are more likely to consistently conduct SBI. There are evidence-based trainings and brief materials that can help you equip others on your staff to take an active role in SBI. There are also patient education materials in a variety of formats that can support your efforts to address alcohol use with your patients.
- About 1 in 20 pregnant people report binge drinking in the past 30 days.<sup>i</sup>
- Communication research conducted in 2021<sup>vii</sup> found that 83% of HCPs who routinely conduct SBI have seen positive behavior change in their patients.

**ALCOHOL SBI IN PRIMARY CARE SETTINGS**

Providers working in primary care settings are most likely to collect information about substance use (including alcohol), have a conversation with patients who report excessive drinking, compare patient self-reports to guidelines, and use a validated screener. However, they are least likely to provide patient education materials and refer those who screen positive to treatment. Barriers to SBI include patient concerns about having alcohol use in their medical records, the belief that patients are often uncomfortable discussing alcohol use, and the belief that most patients are not open to changing alcohol use.

HCPs in primary care settings desire messages and materials in the following formats via the listed channels.

PREFERRED FORMATS	PREFERRED CHANNELS
<ul style="list-style-type: none"> <li>• Fact sheets</li> </ul>	<ul style="list-style-type: none"> <li>• Their own EMR system</li> <li>• Online courses with free CMEs</li> <li>• In-person conferences or trainings</li> <li>• Point-of-care apps</li> <li>• Websites</li> </ul>

## MESSAGING BY ROLE

HCPs selected statements that would catch the attention of healthcare professionals who do not currently conduct alcohol SBI and prompt them to consider doing so with all patients, and then specifically with those who can become pregnant. The following section includes the preferred messages, resource formats, and communication channels by each provider role.

### HIGHLY RATED MESSAGES FOR CNMs

- About SBI: The data indicate that more than 90% of patients say they are comfortable answering alcohol screening questions from healthcare providers.<sup>vi</sup>
- About SBI for those who can become pregnant:
  - About 1 in 20 pregnant people report binge drinking in the past 30 days.<sup>i</sup>
  - It is estimated that 1%–5% of U.S. school children may have fetal alcohol spectrum disorders (FASDs).<sup>viii</sup> People with FASDs are at high risk for trouble in school, trouble with the law, problems with alcohol and other substances, and mental health disorders.

CNMs desire messages and materials in the following formats via the listed channels.

PREFERRED FORMATS	PREFERRED CHANNELS
<ul style="list-style-type: none"> <li>• Clinical decision support tools that integrate with EMRs</li> <li>• HCP fact sheets</li> <li>• Pocket cards</li> <li>• Patient education materials to use during alcohol SBI</li> </ul>	<ul style="list-style-type: none"> <li>• Their clinics' EMRs</li> <li>• Point-of-care apps</li> <li>• Apps specific to SBI</li> <li>• Journal articles</li> <li>• Websites</li> </ul>

### HIGHLY RATED MESSAGES FOR MDs

- About SBI: The main target population for alcohol SBI is those who are not dependent but drink in ways that put themselves and others at risk of harm (about one-third of the general population) with the goal to motivate them to cut back or stop drinking to reduce risk of adverse health outcomes.
- About SBI for those who can become pregnant: It is estimated that 1%–5% of U.S. school children may have fetal alcohol spectrum disorders.<sup>viii</sup> People with FASDs are at high risk for trouble in school, trouble with the law, alcohol and drug abuse, and mental health disorders.

MDs desire messages and materials in the following formats via the listed channels.

PREFERRED FORMATS	PREFERRED CHANNELS
<ul style="list-style-type: none"> <li>• HCP fact sheets</li> <li>• Patient education materials to support SBI</li> <li>• Clinical decision support tools that integrate with EMRs</li> <li>• Online training on SBI implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Their clinics' EMRs</li> <li>• In-person conferences or training seminars</li> <li>• Online courses with free CMEs</li> </ul>

## HIGHLY RATED MESSAGES FOR NPs/PAs

- About SBI: Alcohol SBI is relatively simple to do, and primary care providers are uniquely positioned to effect significant change.
- About SBI for those who can become pregnant: Not all babies will be affected by prenatal alcohol exposure. However, it is impossible to know which babies will be affected. Therefore, there is no known safe amount, no safe time, and no safe type of alcohol use during pregnancy.

NPs/PAs desire messages and materials in the following formats via the listed channels.

PREFERRED FORMATS	PREFERRED CHANNELS
<ul style="list-style-type: none"> <li>• Clinical decision support tools that integrate with EMRs</li> <li>• HCP fact sheets</li> <li>• Online training on SBI implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Their clinics' EMRs</li> <li>• Point-of-care apps</li> </ul>

## HIGHLY RATED MESSAGES FOR RNs

- About SBI: Alcohol SBI is recommended by every major medical professional organization, CDC, and the USPSTF.
- About SBI for those who can become pregnant: About 1 in 20 pregnant people report binge drinking in the past 30 days.<sup>1</sup>

RNs desire messages and materials in the following formats via the listed channels.

PREFERRED FORMATS	PREFERRED CHANNELS
<ul style="list-style-type: none"> <li>• HCP fact sheets</li> <li>• Scripts that provide examples of brief intervention conversations</li> <li>• Electronic patient education materials to support SBI that can be distributed via text, patient portal, clinic app, or QR code</li> <li>• Clinical decision support tools that integrate with EMRs</li> <li>• Online training on SBI implementation</li> <li>• Short videos</li> </ul>	<ul style="list-style-type: none"> <li>• Their clinics' EMRs</li> <li>• In-person conferences or training seminars</li> <li>• Online courses with free CMEs</li> <li>• Websites</li> <li>• Apps specific to alcohol SBI support</li> </ul>

## ACTION #2: EQUIP HCPs TO EFFECTIVELY COMMUNICATE WITH PATIENTS ABOUT ALCOHOL AND PREGNANCY

Your organization can equip the HCPs with whom you work to communicate more effectively with patients about alcohol and pregnancy. Patients expect and want their providers to talk with them about alcohol use, and they have many questions about alcohol and pregnancy that span from preconception to breastfeeding phases.

To start a conversation on the right tone, encourage HCPs to tell their patients they take time to discuss alcohol use and other personal topics that affect health (such as smoking or diet) with all their patients. Remind HCPs that making patients aware of the risks of excessive alcohol use can facilitate shared decision-making, lead to more productive conversations, and empower patients to make the choice not to drink during pregnancy. In this section, we provide insights into messages and terms patients prefer that HCPs and organizations, such as CDC, use when discussing alcohol use during pregnancy. In addition, we provide CDC resources, which your organization can share, that address many of the barriers or information needs expressed by HCPs.

### HIGHLY RATED MESSAGES FOR HCPs TO USE WITH PATIENTS WHO CAN BECOME PREGNANT

Patients reviewed several versions of similar messages and selected the ones they felt communicated the message most effectively. Overall, participants appreciated messages that were specific and unambiguous, provided additional details where possible, offered transparency on knowns versus unknowns, and were nonjudgmental. The following table lists messages to use as opposed to alternatives that may be less effective in messaging to patients who can become pregnant.

TOPIC	TRY THIS (RATED MOST EFFECTIVE)	AS OPPOSED TO
<p><b>NO SAFE TYPE, NO SAFE TIME, NO SAFE AMOUNT</b></p>	<p><i>When space allows, provide a detailed version of the full statement.</i></p> <p>There is no known safe amount of alcohol use during pregnancy. There is also no safe time during pregnancy to drink. All types of alcohol can be harmful, including red or white wine, beer, and liquor.</p>	<p><i>Only stating part of the message by using any of the following statements individually.</i></p> <ul style="list-style-type: none"> <li>• There is no safe type of alcohol to drink during pregnancy.</li> <li>• There is no safe time to drink alcohol during pregnancy.</li> <li>• No amount of alcohol use is known to be safe for a developing baby before birth.</li> <li>• No safe level of alcohol during pregnancy has been established.</li> </ul>
<p><b>ADVISING PATIENTS NOT TO DRINK WHILE PREGNANT</b></p>	<p>People who are pregnant or who might be pregnant should be aware of the risks that can be associated with alcohol use during pregnancy.</p>	<p>It is recommended that people who are pregnant or might be pregnant not drink alcohol at all.</p>

TOPIC	TRY THIS (RATED MOST EFFECTIVE)	AS OPPOSED TO
<b>ADVISING PATIENTS NOT TO DRINK WHILE PREGNANT</b>	Make a plan for a healthy baby— don't drink any alcohol while you are pregnant or if you might be pregnant.	To prevent FASDs, a woman should not drink alcohol while she is pregnant or if she might be pregnant.
	If you become pregnant, stop drinking alcohol. Every day matters. The sooner you stop drinking, the better for your baby. If you need additional help stopping, contact an addiction specialist, or seek out the fellowship of Alcoholics Anonymous.	If a woman is drinking alcohol during pregnancy, it is never too late to stop drinking. Stopping will improve the baby's health and well-being.
<b>ALCOHOL EXPOSURE TO DEVELOPING BABY</b>	A developing baby is exposed to the same level of alcohol as the mother during pregnancy.	When a pregnant woman drinks alcohol, so does her baby.
<b>RISKS OF PRENATAL ALCOHOL EXPOSURE</b>	Prenatal alcohol exposure is associated with an increased risk of miscarriage, stillbirth, prematurity and SIDS, as well as a range of lifelong behavioral, intellectual, and physical disabilities.	Drinking alcohol during pregnancy can cause miscarriage, stillbirth, and a range of lifelong physical, behavioral, and intellectual disabilities.
<b>INCONSISTENT EFFECTS OF ALCOHOL EXPOSURE DURING PREGNANCY</b>	Every pregnancy is different. Some babies may not be affected by alcohol exposure during pregnancy while others may have lifelong effects. The safest thing to do to protect your baby is to avoid any type of alcohol use throughout your pregnancy.	Every pregnancy is different. Drinking alcohol might affect one baby more than another. You could have one child who is born healthy and another child who is born with problems.

## TAILOR DELIVERY BASED ON BELIEFS

Our research suggests there may be a correlation between patients' pre-existing opinions on the topic of alcohol consumption during pregnancy and their preference for direct, clinical advice messages versus more open-ended or "softer" invitation to discuss messages. We found the women who preferred statements such as, "no, it isn't safe to drink while pregnant," were more often those who do not think any alcohol is safe during pregnancy. On the other hand, those who saw this message as "hostile" or "aggressive" often felt that a "reasonable" amount of alcohol is safe during pregnancy. If you plan to engage patients who currently believe some alcohol during pregnancy is acceptable, this group prefers a softer "talk with your provider about the risks of alcohol use during pregnancy" type message.

It was not clear if this preference may have been based on the idea that they could find a clinician who would provide guidance more in line with their current views. As a result, it may be especially important to thoughtfully plan what messages may be most appropriate to avoid lending support to clinician-patient shared decision-making that does not align with the evidence. Additionally, communities and specific patient populations may vary in their messaging preferences, so it is always a good idea to test messages (formally or informally) with populations served whenever possible.

## WORDING CONSIDERATIONS

Alcohol use and pregnancy can be a difficult topic for HCPs and others to discuss in a manner that is clear, effective, and affirming. CDC and other organizations are actively working to craft messages that are easily understood, inclusive, and nonstigmatizing.

The following are examples of language to ensure consistency across educational materials.

TOPIC	CRAFTING YOUR MESSAGE
<p><b>NONSTIGMATIZING LANGUAGE ABOUT FASDs</b> Stigma related to alcohol and other substance use during pregnancy can keep people who are pregnant from getting the care they need. People who are pregnant also often cope with self-stigma and feelings of guilt or shame.</p>	<p><i>Use nonjudgmental, nonstigmatizing language. Example language might include</i></p> <ul style="list-style-type: none"> <li>• FASDs can occur in an individual who was exposed to alcohol before birth.</li> </ul>
<p><b>PERSON-FIRST LANGUAGE</b> Person-first language is used to communicate appropriately and respectfully with and about an individual with a health condition or disability.</p>	<p><i>Emphasize the person first, not the health condition, action, or disability. Examples include</i></p> <ul style="list-style-type: none"> <li>• Children with FASDs</li> <li>• A person with alcohol use disorder</li> <li>• People who binge drink</li> </ul>
<p><b>GENDER INCLUSIVE LANGUAGE</b> CDC acknowledges that not every person who can become pregnant identifies as a woman.</p>	<p><i>Where possible, messages and recommendations for healthcare providers and the public should communicate to all pregnant people, including those who do not identify as a woman. Example language could include</i></p> <ul style="list-style-type: none"> <li>• Pregnant people</li> <li>• People who are pregnant</li> <li>• If you are pregnant</li> <li>• People who can become pregnant</li> <li>• Pregnant patients</li> </ul>
<p><b>DRINKING ABOVE RECOMMENDED LEVELS</b></p>	<p>CDC prefers the term <i>excessive alcohol use</i>. This encompasses binge drinking, heavy drinking, and any alcohol use by a pregnant person or anyone younger than 21 years.</p>

## RESOURCES FOR HCPs (AND THEIR PATIENTS)

In the following table, we have aligned available resources with the expressed needs or barriers of HCPs. You can share these resources as you seek to help your HCPs address common challenges around conducting alcohol SBI and discussing alcohol and pregnancy. In the left column, we have noted when a need or barrier was commonly expressed by HCPs in a specific setting or role. In the right column, we have provided links to available resources.

<b>NEEDS OF HCPs</b> (SEGMENTS FOR WHICH THIS WAS A KEY NEED)	<b>RELEVANT RESOURCES YOU CAN SHARE</b>
<b>PERSUASION TO CONSISTENTLY AND COMPLETELY CONDUCT SBI</b> (OB/GYN)  <b>BENEFITS OF CONDUCTING SBI</b> (RN)	<ul style="list-style-type: none"> <li>• <a href="#">HCP Fact Sheet 1: Let's Talk About Alcohol SBI</a></li> <li>• <a href="#">HCP Fact Sheet 3: Let's Talk About Alcohol and Pregnancy</a></li> </ul>
<b>A BRIEF ALCOHOL SBI OVERVIEW</b> (OB/GYN, PC, CNM <sup>e</sup> , RN)	<ul style="list-style-type: none"> <li>• <a href="#">Badge Card 1: Opening a SBI Conversation and Brief Intervention Tips</a></li> <li>• <a href="#">HCP Fact Sheet 4: Let's Talk About Discussing Alcohol and Pregnancy with Patients</a></li> <li>• <a href="#">HCP Fact Sheet 2: Let's Talk About Incorporating Alcohol SBI into Your Healthcare Practice</a></li> </ul>
<b>A QUICK SCREENING TOOL<sup>f</sup></b> (PC)	<ul style="list-style-type: none"> <li>• <a href="#">Single Alcohol Screening Question (SASQ)</a></li> <li>• <a href="#">Check Your Drinking. Make a Plan to Drink Less.</a> (online self-screening tool for patients)</li> <li>• <a href="#">AUDIT-C Questionnaire</a></li> <li>• <a href="#">AUDIT 1-3 (US)</a></li> </ul>
<b>CLINICAL ALCOHOL SBI TOOLS AND RESOURCES</b> (OB/GYN, CNM, NP/PA, MD, RN)  <b>PRACTICAL GUIDELINES ON HOW TO IMPLEMENT SBI IN CLINICAL WORKFLOWS</b> (NP/PA, RN)  <b>HOW TO ADVOCATE FOR SBI IN MY CLINIC</b> (NP/PA)	<p>CDC has free, <a href="#">evidence-based clinical decision support (CDS) tools</a> to support delivery of alcohol SBI that can be integrated in electronic health records and other digital formats</p> <p><a href="#">CDC's alcohol SBI planning and implementation guide</a> provides a process and resources to help staff in any primary care practice to plan and implement alcohol SBI to reduce alcohol use and also presents information on excessive alcohol use and how it can be addressed through alcohol SBI.</p>
<b>INCREASING PATIENT COMFORT WITH CONVERSATIONS ABOUT ALCOHOL USE</b> (OB/GYN, PC)	<ul style="list-style-type: none"> <li>• <a href="#">Alcohol Video for patients who are not intending to be pregnant soon</a></li> <li>• <a href="#">HCP Fact Sheet 4: Let's Talk About Discussing Alcohol and Pregnancy with Patients</a></li> </ul>

e. CNMs expressed higher levels of interest in alcohol SBI and alcohol and pregnancy topics than other provider roles. Importantly, they uniformly agreed they were very likely to use materials from CDC.

f. Patients who screen positive with the quick screening tool would need further assessment, and a referral to treatment when appropriate.

<b>NEEDS OF HCPs</b> (SEGMENTS FOR WHICH THIS WAS A KEY NEED)	<b>RELEVANT RESOURCES YOU CAN SHARE</b>
<b>WHAT TO SAY TO PATIENTS WHO SCREEN POSITIVE FOR EXCESSIVE ALCOHOL USE</b> (BUT NOT INDICATED AS AT RISK FOR ALCOHOL USE DISORDER) (PC, CNM, NP/PA, RN)	<ul style="list-style-type: none"> <li>• <a href="#">How to Begin a Conversation about Alcohol Use Video</a></li> <li>• <a href="#">Badge Card 1: Opening a SBI Conversation and Brief Intervention Tips</a></li> </ul>
<b>REFERRAL AND TREATMENT PATHWAYS</b> (PC)	<ul style="list-style-type: none"> <li>• The Substance Abuse and Mental Health Services Administration (SAMHSA) supports a <a href="#">behavioral health treatment services locator</a>, or call 800-662-HELP (4357)</li> <li>• The National Institute on Alcohol Abuse and Alcoholism (NIAAA) supports the "<a href="#">NIAAA Alcohol Treatment Navigator®</a>," which helps adults find alcohol treatment</li> </ul>
<b>REIMBURSEMENT FOR ALCOHOL SBI</b> (PC, CNM, NP/PA, MD, RN)	<a href="#">SBI reimbursement information and billing codes</a>
<b>PATIENT EDUCATION MATERIALS</b> (OB/GYN, PC)	<ul style="list-style-type: none"> <li>• Download patient education materials from <a href="http://cdc.gov/ncbddd/fasd/materials.html">cdc.gov/ncbddd/fasd/materials.html</a></li> <li>• <a href="#">Let's Talk Patient Materials</a></li> </ul>

## CONCLUSION

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Patients are looking for answers about how alcohol use affects their health and, to those for whom it applies, their pregnancies. Many have trusted relationships with primary care and OB/GYN providers. In the face of a variety of sources promoting alcohol use, it is critical for credible organizations and HCPs to communicate effectively and clearly on this topic to help patients understand the real risks of excessive alcohol use.

**I HAVE NOTHING TO HIDE. LET'S TALK ABOUT ALL OF IT. IF MY HEALTH PROVIDER WOULD DEFINE WHAT MODERATE DRINKING, HEAVY DRINKING, AND BINGE DRINKING IS, SO THAT IN MY OWN HEAD ...WELL, ME PERSONALLY, I DON'T THINK I BINGE DRINK, BUT MAYBE I DO ... — RECENTLY PREGNANT PATIENT**

**THESE ARE GREAT STATS AND THE NUMBERS ARE STARTLING. IT MADE ME WANT TO DO MORE RESEARCH BECAUSE I HAD NO IDEA. ONE IN THREE PREGNANT WOMEN WHO REPORT DRINKING ALCOHOL ENGAGED IN BINGE DRINKING IN THE LAST 30 DAYS.\* WHAT? WHAT? ... IF YOU GIVE ME A STATISTIC LIKE THAT AND THEN SAY, "I HAVE SOMETHING SIMPLE AND IMPACTFUL YOU CAN DO ON THIS," YOU ARE GOING TO GET AND HOLD MY ATTENTION. — REGISTERED NURSE**

(\*Data have been updated in new CDC messaging)



## APPENDIX A: NCBDDD COMMUNICATIONS RESEARCH AND MATERIAL DEVELOPMENT

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In 2020, CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) selected Oak Ridge Associated Universities (ORAU) to conduct message testing and develop a communication guide and accompanying materials. The materials are intended to assist HCPs in incorporating alcohol screening and brief intervention (SBI) into their daily practices and engaging in open conversations with their patients regarding alcohol use and shared decision-making. The project phases are summarized below.

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### PHASE 1: CONCEPT AND MESSAGE TESTING PLANNING

ORAU reviewed and summarized existing research and resources to identify specific challenges the project team must navigate to develop influential and effective materials and messages. ORAU then conducted in-depth interviews with 16 subject matter experts to elicit their insights on NCBDDD draft materials and communicating with HCPs about SBI and alcohol and pregnancy.<sup>g</sup> Findings were provided in a detailed report and presented to NCBDDD staff and grantees. ORAU then developed a Concept and Message Testing Plan that detailed the research to be conducted and secured all necessary Institutional Review Board (IRB) and Office of Management and Budget (OMB) waivers and approvals.

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### PHASE 2: IMPLEMENTATION OF THE RESEARCH PLAN

The ORAU team employed a two-step data collection to elicit input from 47 HCPs and 97 women of reproductive age (WRA). The first step for each was an online, moderated, asynchronous discussion board. For both audiences, ORAU created unique discussion boards populated with closed- and open-ended questions as well as draft materials and messages. Participants logged in once a day for three days. While online, participants viewed and marked up materials, and provided written responses to questions posed by an asynchronous moderator. ORAU then invited a subset of HCPs (n=21) who had participated in the discussion board to virtual in-depth interviews. The purpose of the interviews was to elicit more nuanced feedback and ask the HCPs about potential material revisions being considered based on the discussion board feedback. To follow up on discussion board feedback from WRA, ORAU conducted 11 in-person focus groups (n=49), across two cities, with women who were pregnant, recently pregnant, or intended to be pregnant in the next three years.

ORAU analyzed all discussion board, interview, and focus group transcripts and data. ORAU staff analyzed closed-ended responses via the development of frequency distributions and the calculation of proportions across responses. Descriptive statistics were used to analyze responses by characteristics of interest (e.g., pregnancy status, willingness to change opinion, AUDIT-C scores, practice setting/specialty). Where differences of interest emerged, appropriate statistical methods were applied, such as chi-square testing ( $p\text{-value} \leq 0.05$ ) and independent samples t tests ( $p\text{-value} \leq 0.05$ ), to determine if the differences were statistically significant, using SPSS 28. ORAU used NVivo software to conduct content analysis of open-ended responses using a codebook. ORAU staff coded qualitative responses using thematic analysis methods to organize participants' statements into useful categories. ORAU developed a comprehensive findings report that answered the research questions and highlighted actionable recommendations.

<sup>g</sup> Draft concept materials that were tested through this contract were first developed through a previous contract. The previous contractor developed the draft materials based on their findings from a survey of 500 HCPs and in-depth interviews with 31 HCPs and 36 women of reproductive age.

### PHASE 3: MESSAGING AND MATERIALS DEVELOPMENT

ORAU conducted a materials development process that included creative briefs, storyboards, mood boards, drafts, and finalization. This process yielded 24 final materials that include fact sheets, badge cards, infographics, message sets, videos, and editorial articles to be distributed to HCPs for their own use and for them to distribute to patients. Communication guidance and tips generated throughout the project have been distilled in this FASD Communication Guide to support partner efforts to disseminate shared messages.

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### STUDY LIMITATIONS

Limitations of this research study are noted below:

- The study was conducted in September–October 2021, during the COVID-19 pandemic. It is unclear to what extent 18 months of living in a public health emergency may have influenced participation and responses.
- All participants identified as female; we did not have representation from people who identify as transgender or nonbinary who are, were, or intending to be pregnant.
- New research on the topic is continually emerging. Within months, some statistics and messages tested did not reflect the most current data available.
- Qualitative research findings reflect the viewpoints of participants; they are not intended to be generalized to all intended audience members.

## APPENDIX B: FACTORS AFFECTING COMPLETENESS OF SBI STEPS

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### LEVEL OF AGREEMENT WITH NO ALCOHOL DURING PREGNANCY

HCPs who believed some amount of alcohol may be okay at some points during pregnancy were less likely to conduct most of the SBI steps (collect information, use validated screener, compare to guidelines, have a conversation, and provide materials) than other providers. However, those who believe some alcohol during pregnancy may be okay were more apt to refer patients likely to be dependent on alcohol to treatment than other providers.

Interestingly, those who believe some amount of alcohol is okay during pregnancy were more likely to say they would use CDC alcohol SBI materials than other providers. This indicates CDC materials and messages have value among a key audience NCBDDD hopes to influence.

#### FACTORS ASSOCIATED WITH MORE CONSISTENT SBI PRACTICE

- Strong personal belief that no amount of alcohol during pregnancy is acceptable
- Negative personal AUDIT-C screening results
- Having 10 or fewer years of professional experience
- More technology integration in the SBI process
- More provider roles integrated in the SBI process
- Being a primary care HCP

### HCP AUDIT-C RESULTS

HCPs were asked to complete a three-question Alcohol Use Disorders Identification Test-Concise (AUDIT-C) questionnaire that asks

- How often do you have a drink containing alcohol?
- How many standard drinks containing alcohol do you have on a typical day?
- How often do you have six or more drinks on one occasion?

The AUDIT-C is a brief alcohol screening instrument that reliably identifies persons who are hazardous drinkers or have active alcohol use disorders (including alcohol abuse or dependence).<sup>ix</sup> HCPs whose AUDIT-C scores did not reflect excessive alcohol use were more likely to collect information about patients' substance use (including alcohol), compare patients' drinking to standard guidelines, have a conversation with patients who report risky drinking, and provide patient education materials about alcohol use. HCPs whose AUDIT-C scores indicated excessive alcohol use were more likely to refer patients who are likely to be dependent on alcohol to treatment than other providers. Both groups of providers were equally likely to use validated screening questions.

## YEARS OF EXPERIENCE

HCPs with 10 or fewer years of clinical practice were more likely to compare patients' alcohol use to standard drinking guidelines to identify patients who exceed recommended limits and were more likely to provide written or other educational materials to patients about alcohol use than HCPs with 11 or more years of practice. HCPs with greater tenure were more apt to refer patients who are likely to be dependent on alcohol to specialized substance use treatment.

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## TECHNOLOGY USED TO SUPPORT SBI

Any sort of technology integration in the SBI process was correlated with consistently using validated screening questions to assess patient alcohol use and collecting information about other substance use. There was also a statistically significant association between EMR integration of SBI and more complete and consistent SBI.

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## COMPLETENESS OF SBI CONDUCTED ROUTINELY

HCPs who conducted less complete SBI found messages about compliance with guidelines more compelling than messages about the ease and benefits of SBI. This may signal a larger response to messages presented with negative framing (i.e., "a stick") than those with a positive framing (i.e., "a carrot") for this audience. As an example, HCPs who routinely conduct fewer SBI steps found the message, *"Alcohol SBI is recommended by every major medical professional organization, CDC, and the USPSTF."* to be much more effective than those who routinely conduct more SBI steps. This stands in contrast with the message, *"Alcohol SBI is relatively simple to do, and primary care providers are uniquely positioned to affect significant change"* that those who routinely do more SBI found more compelling than those who do not.

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