

Screening to Brief Intervention (S2BI)

Developed at Boston Children's Hospital with support from the National Institute on Drug Abuse.

The following questions will ask about your use, if any, of alcohol, tobacco, and other drugs. Please answer every question by clicking on the box next to your choice.

In the past year, how many times have you used

Tobacco?

- Never
- Once or twice
- Monthly
- Weekly or more

Alcohol?

- Never
- Once or twice
- Monthly
- Weekly or more

Marijuana?

- Never
- Once or twice
- Monthly
- Weekly or more

STOP if answers to all previous questions are "never." Otherwise, **continue** with questions on the right.

In the past year, how many times have you used

Prescription drugs that were not prescribed for you (such as pain medication or Adderall)?

- Never
- Once or twice
- Monthly
- Weekly or more

Illegal drugs (such as cocaine or Ecstasy)?

- Never
- Once or twice
- Monthly
- Weekly or more

Inhalants (such as nitrous oxide)?

- Never
- Once or twice
- Monthly
- Weekly or more

Herbs or synthetic drugs (such as salvia, "K2", or bath salts)?

- Never
- Once or twice
- Monthly
- Weekly or more

Table 1. Prevalence, sensitivity, and specificity (95% CI) of frequency-only questions vs. CIDI-SAM DSM-5 diagnosis of substance use disorder.

S2BI frequency category ^a	CIDI-SAM diagnosis	Prevalence ^b N (%)	Sensitivity (95% CI)	Specificity (95% CI)
‘Once or twice’ or more for any substance	Any Substance Use	90 (42.3)	100 (n.a.)	84 (76, 89)
‘Monthly’ or more for any substance	Any Substance Use Disorder	41 (19.2)	90 (77, 96)	94 (89, 96)
‘Weekly’ or more for any substance	Severe Substance Use Disorder	19 (8.9)	100 (n.a.)	94 (90, 96)
‘Once or twice’ or more for alcohol	Alcohol Use	87 (40.1)	96 (89, 99)	92 (86, 95)
‘Monthly’ or more for alcohol	Alcohol Use Disorder	29 (13.6)	79 (61, 90)	96 (92, 98)
‘Weekly’ or more for alcohol	Severe Alcohol Use Disorder	6 (2.8)	100 (n.a.)	88 (83, 91)
‘Once or twice’ or more for cannabis	Cannabis Use	74 (34.7)	100 (n.a.)	96 (92, 99)
‘Monthly’ or more for cannabis	Cannabis Use Disorder	30 (14.1)	93 (77, 98)	93 (88, 96)
‘Weekly’ or more for cannabis	Severe Cannabis Use Disorder	16 (7.5)	100 (n.a.)	93 (89, 96)

a. See table 2 for screen interpretations

b. Prevalence rates from CIDI-SAM criterion standard measure

Table 2. Sensitivity and Specificity of screen for tobacco use and dependence

	CIDI-SAM Prevalence N (%)	Sensitivity (95% CI)	Specificity (95% CI)
Past-year Tobacco Use	34 (16.0)	94 (79, 99)	94 (89, 97)
Nicotine Dependence^a	20 (9.4)	75 (52, 89)	98 (95, 100)

a. We are reporting rates of nicotine dependence (DSM-IV) based on CIDI-SAM interview because the CIDI SAM did not include a question on craving, which is one of the possible criteria for DSM-5 diagnosis of Nicotine Use Disorder.

Table 3. Risk Levels and Recommended Interventions

Frequency of using tobacco, alcohol, or marijuana	Risk level	Brief intervention
Never	No use	Positive Reinforcement
Once or Twice	No SUD	Brief Advice
Monthly	Mild/Moderate SUD	Further assessment, brief motivational intervention
Weekly or more	Severe SUD	Further assessment, brief motivational intervention, referral

This tool was validated with 213 participants, aged 12-17 presenting to primary care or to an outpatient substance abuse treatment program in a pediatric hospital in Boston, MA.

For More Information: Levy, S., Weiss, R. D., Sherritt, L., Ziemnik, R., Spalding, A., Van Hook, S., & Shrier, L. A. (In Press). Screening to Brief Intervention (S2BI): An Electronic Screen for Triaging Adolescent Substance Use by Risk Levels. *JAMA Pediatrics*.