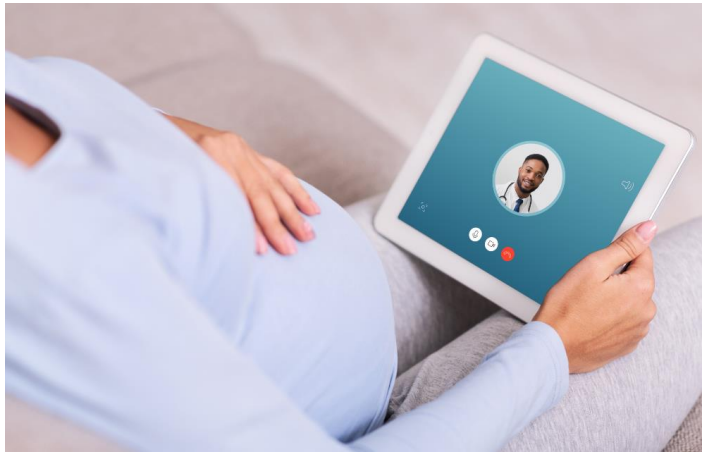
CDC PUBLIC HEALTH GRAND ROUNDS

Reducing Polysubstance Use in Pregnancy

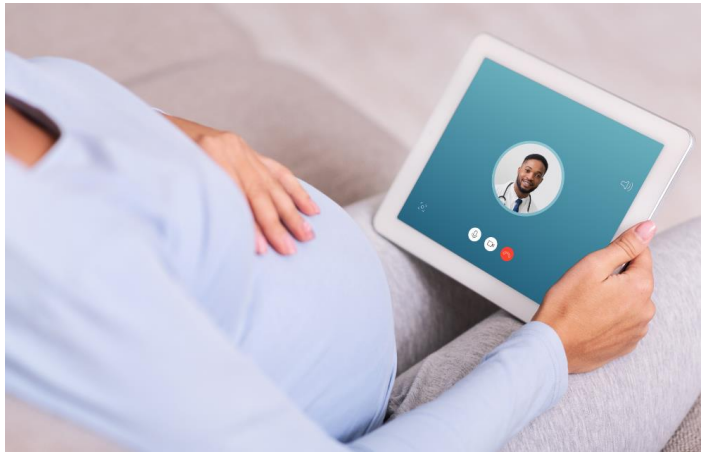


Tuesday, August 18, 2020
1:00 p.m. – 2:00 p.m. (ET)

Accessible Content: https://www.youtube.com/watch?v=FNpxFCMXAnc

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Polysubstance Use in Pregnancy—What We Know



Suzanne Gilboa, PhD

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Division of Birth Defects and Infant Disorders

National Center on Birth Defects and Developmental Disabilities

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Substance Use in Pregnancy Can Have Negative Effects

Alcohol use can cause miscarriage, stillbirth, birth defects, and developmental disabilities

Smoking increases risk of preterm birth, low birthweight, and orofacial clefts

Opioid use is linked to poor fetal growth, preterm birth, stillbirth, birth defects, and NAS

NAS: Neonatal abstinence syndrome

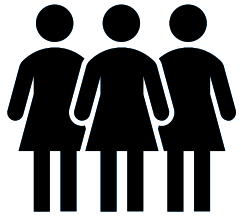
Why this Topic is Important

Polysubstance use is common in pregnancy

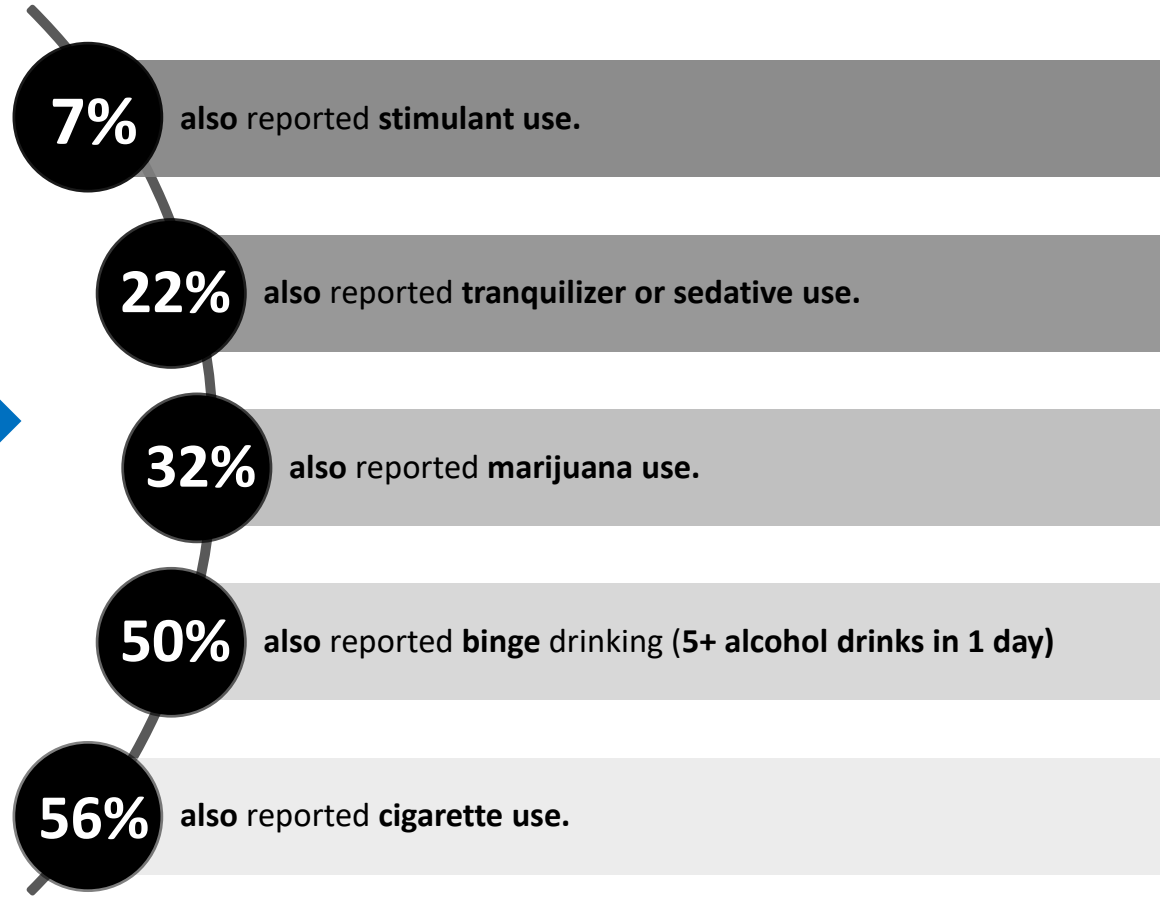
Substance use in pregnancy is preventable

Impacts of polysubstance use on infants are not well-known

Polysubstance Use is Common During Pregnancy

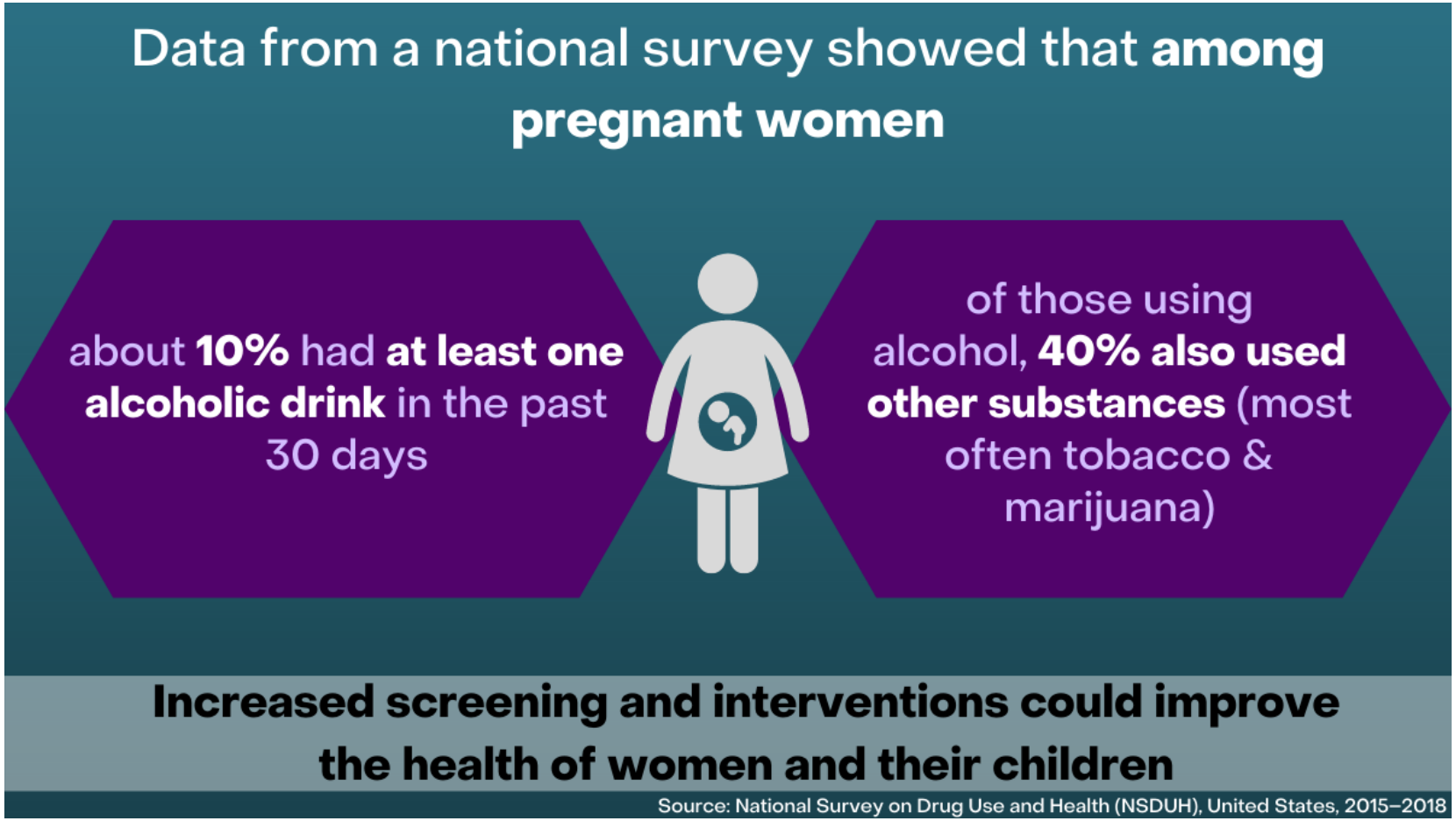


From 2005-2014, **2% of reproductive-aged women** (18-44) **reported nonmedical opioid use** in the past 30 days. Of them:



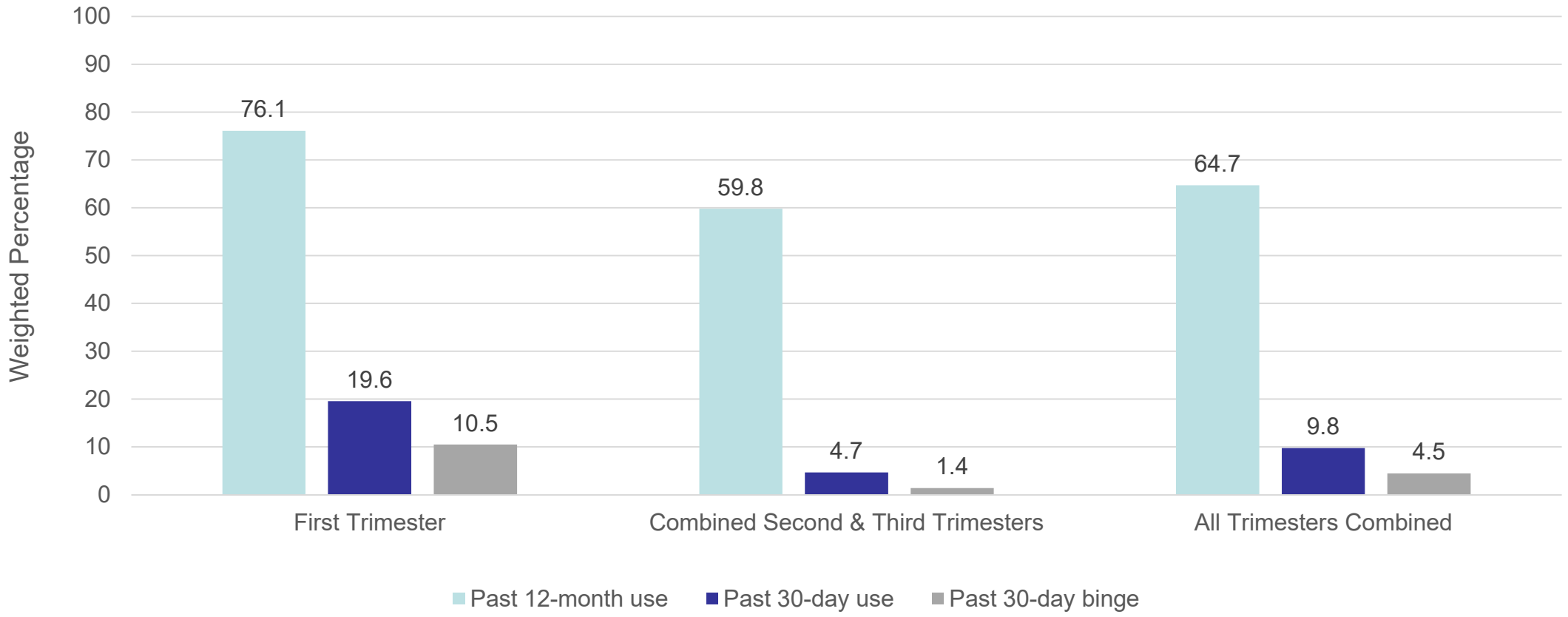
Jarlenski M, Barry CL, Gollust S, et al. *Am J Public Health*. 2017 Aug;107(8):1308-1310

Alcohol and Polysubstance Use During Pregnancy



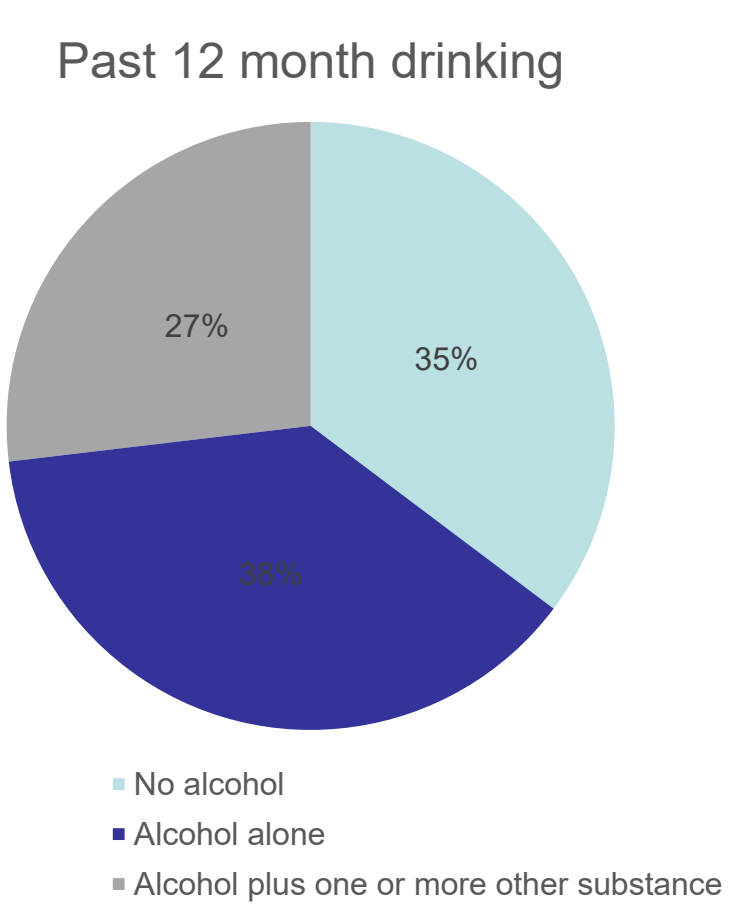
England, LJ; Bennett, C; Denny, CH; et al. *MMWR Morb Mortal Wkly Rep*. 2020 In Press.

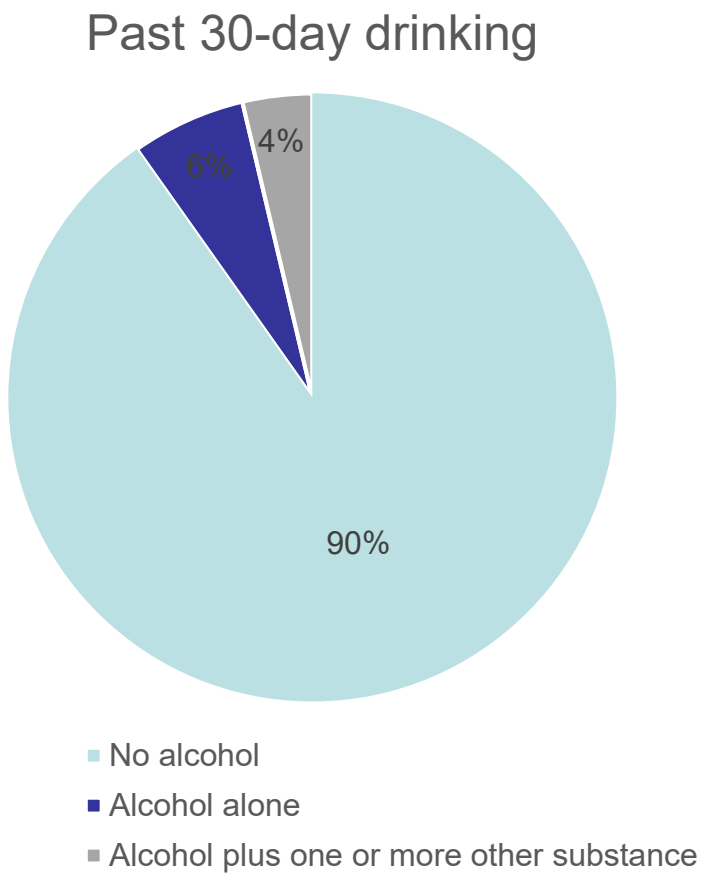
Past 12-month Drinking, Past 30-day Drinking, and Past 30-day Binge Drinking in Pregnant Females Age 12-44 Years, 2015-2018



England, LJ; Bennett, C; Denny, CH; et al. *MMWR Morb Mortal Wkly Rep*. 2020 In Press.

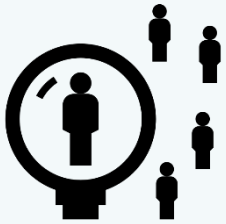
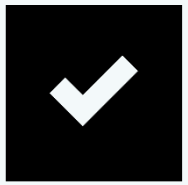
Substance Use Patterns in Pregnant Females 12-44 Years of Age, 2015-2018





England, LJ; Bennett, C; Denny, CH; et al. *MMWR Morb Mortal Wkly Rep*. 2020 In Press.

Gaps in Knowledge About Polysubstance Use in Pregnancy: Systematic Review In Progress

Sampling	Exposure classification	Confirmation of exposure	Timing of exposure
Often **not population based** (e.g., convenience samples)	Many **do not report combined use** Methods vary	**Seldom combine self-report with biochemical validation**	Frequently **not clear for pregnancy period** Exposure usually **assessed for a single time point**
			

Substance Use in Pregnancy is Preventable

- **The US Preventive Services Task Force recommends screening for all adults, including pregnant persons, for:**
  - Unhealthy drug use when services for accurate diagnosis, effective treatment, and appropriate care can be offered or referred,
  - Unhealthy alcohol use in primary care settings and providing persons engaged in risky use with brief behavior counseling interventions, and
  - Tobacco use and provide behavioral interventions for cessation to pregnant women
- **Medication-assisted treatment to address opioid use disorder during pregnancy can lead to more favorable outcomes**

US Preventive Services Task Force. *JAMA*, 2020; 323(22): 2301-2309.
US Preventive Services Task Force. *JAMA*, 2018; 320(18): 1899-1909.
US Preventive Services Task Force. *Ann Intern Med*. 2015;163(8):622-634.

Impacts of Polysubstance Use on Infants are Not Well-Known

- Less is known regarding combined effects of substance use on infants
- Adverse health outcomes risk is higher for newborns of mothers who used multiple substances than for newborns of mothers using a single substance
- Animal studies provide evidence that prenatal cannabis exposure can exacerbate effects of prenatal alcohol exposure on offspring development
- When studies do not control for individual substances (particularly alcohol) their contributions to combined effects can be difficult to isolate

Oni, HT; Khan, MN; Abdel-Latif, M; et al. J. *Obstet Gynaecol Res*. 2019; 45: 1783-1795.

Breit KR, Zamudio B, Thomas JD. *Birth Defects Res.* 2019; 15;111(12):760-774.

Breit KB, Zamudio B, Thomas JD. *Neurotoxicol Teratol* .2019;73:31-41.

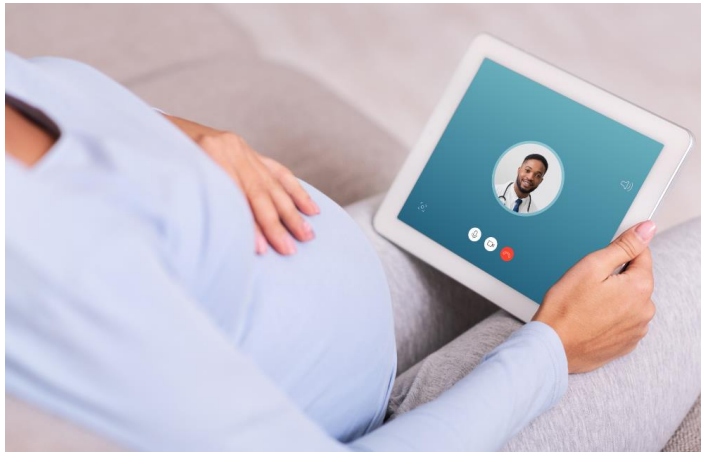
Polysubstance Use in Pregnancy Public Health Grand Rounds

Importance of addressing stigma

Surveillance data can improve our understanding

Screening and brief intervention is recommended

Overcoming Stigma and Bias to Reduce Prenatal Substance Exposures



Kathleen Tavenner Mitchell, MHS, LCADC

Vice President and International Spokesperson

National Organization on Fetal Alcohol Syndrome (NOFAS)

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

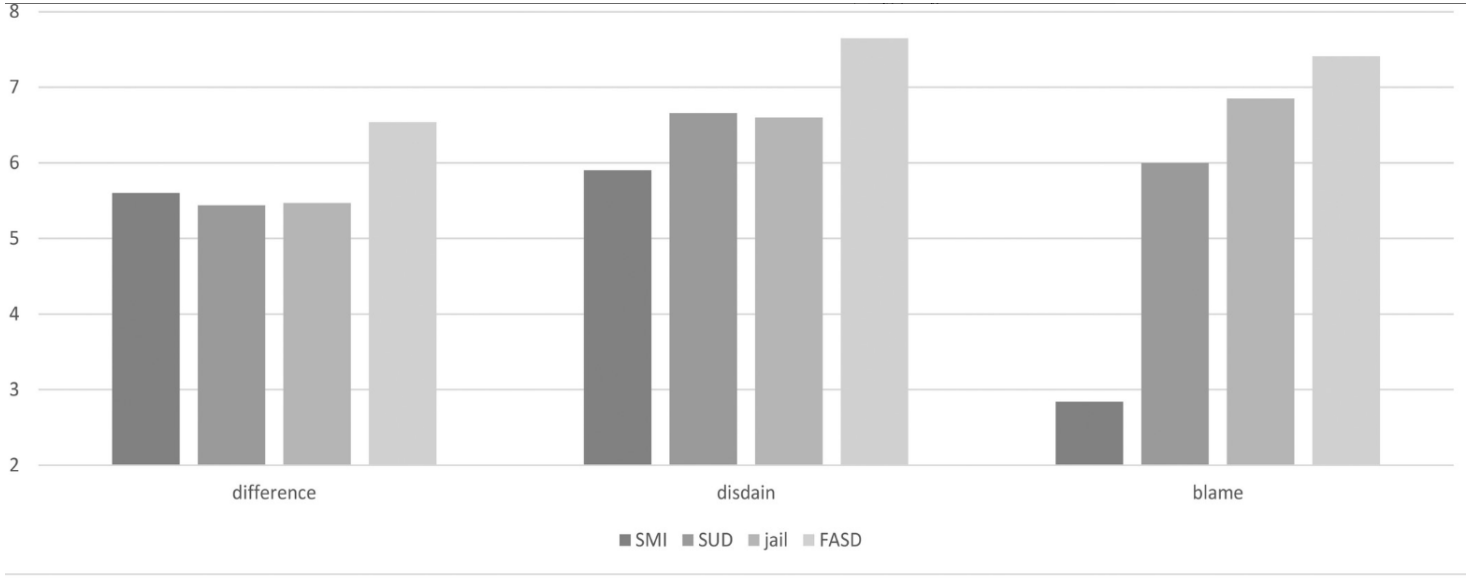
Overcoming Stigma and Bias to Reduce Prenatal Substance Exposures

- **Public health messaging has resulted in increased stigma**
  - Fetal alcohol spectrum disorders (FASD) is an umbrella term describing the range of effects that can occur in an individual whose mother drank alcohol during pregnancy
- **In 2020 there remains great resistance to the "No alcohol during pregnancy" message**
  - Asking women about their alcohol or substance use is considered too personal

Public Stigma against Biological Mothers of Children with FASD

- **Public stigma: "stereotypes, prejudice, and discrimination extended to a labeled group by the general population" (Thornicroft, 2006)**

- **A 2017 study showed the public's views of mothers of children with FASD compared to women with serious mental illness, substance use disorders, or who had been in jail**
  - Viewed with greater disdain
  - Considered to be "more different"
  - Considered to be more to blame



Thornicroft G. *Ment Health Today.* 2006 Jun;26-29
Corrigan PW, Lara JL, Shah BB, et al. *Alcohol Clin Exp Res*. 2017;41(6):1166-1173.

How Does Stigma Towards Women and Mothers with AUD/SUD Show Itself?

They are different from me. They are less than me.

- **Public need to control "these" different people**
  - Jails (removal of basic rights)
  - Removal from our systems (school dismissals)
  - Institutions
  - Removal of children (child welfare)
  - Harsh laws that criminalize mothers (limited treatment options, only medication assisted treatment)
- **Strip them of all rights, power, resources, advocacy support**
  - Not screening women (or educating about risks during pregnancy)
  - Not diagnosing alcohol use disorder/substance use disorder/FASD
  - Not providing resources or support

“These women are bad moms that should not be allowed to have children. They should be punished harshly.”

Washington Post Comment, Health Section, 2016

no woman drinks to intentionally harm her baby

K. Mitchell, 2004

"Yes, my sister has FAS, but my Mom is really nice"

Erin S. (12 years old)

Supporting Women and Their Families is FASD Prevention!

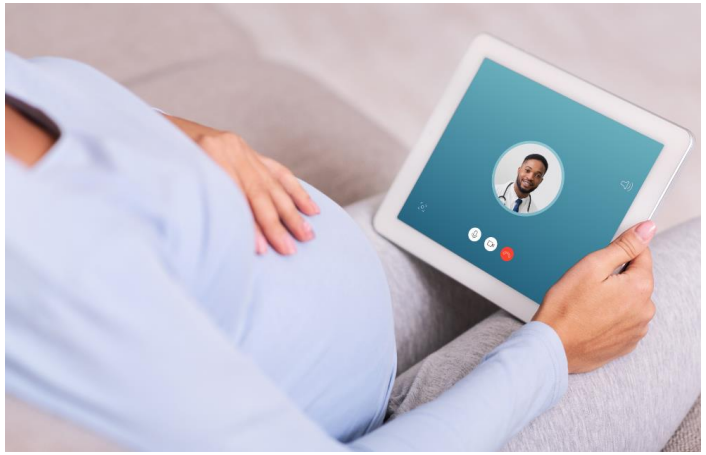
- **Not screening and providing brief interventions for alcohol/substance use is rooted in stigma**
- **Stigma and blaming has prevented many women from seeking help and likely increases exposures, increases the severity of outcomes and reduces the likelihood of children receiving the correct diagnosis**
- **Be sensitive and avoid language that is blaming towards the birth mother**
- **Treatment works!**

Never underestimate the power of listening and connecting with your patient for just 2 minutes!

www.nofas.org/circleofhope | www.recoveringmothers.org

mitchell@nofas.org

Putting the LINK in MAT-LINK: Linking Clinical Data and Surveillance of Substance Use in Pregnancy



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U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

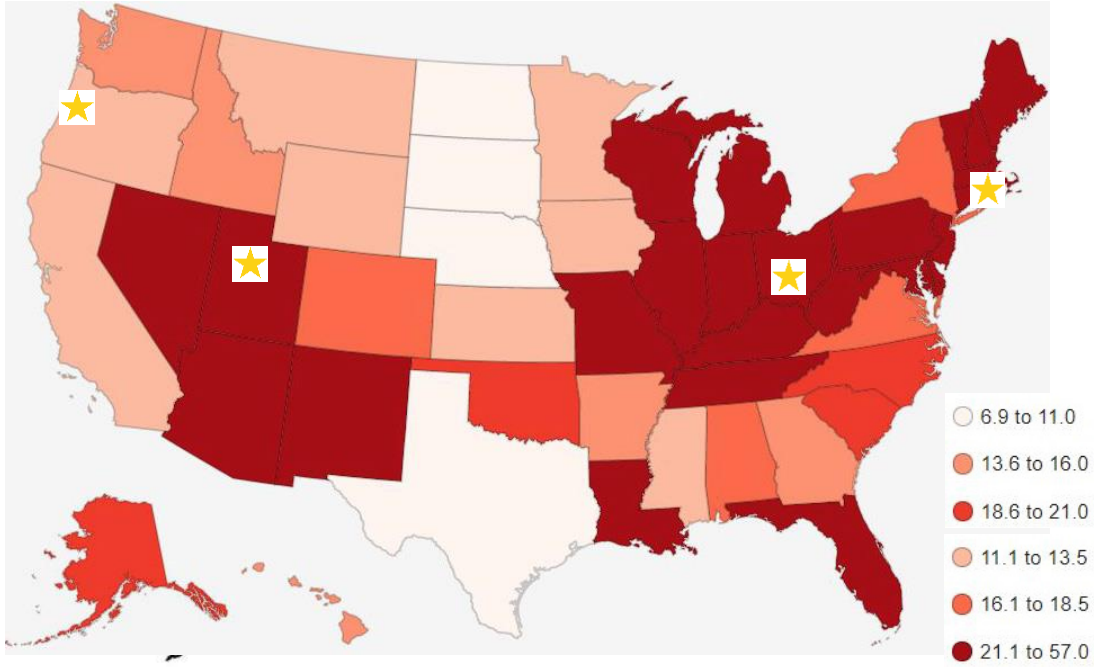
What is MAT-LINK?

- **MATernaL and Infant NetworK to Understand Outcomes Associated with Treatment for Opioid Use Disorder during Pregnancy**
  - Developed by Public Health Informatics Institute (PHII) in collaboration with CDC

- **Surveillance network of 4 clinical sites**
  - Boston Medical Center Corporation
  - Kaiser Foundation Research Institute
  - The Ohio State University
  - University of Utah

Maternal-infant Opioid Exposure and Outcomes

- **MAT-LINK clinical sites were chosen based on:**
  - Local opioid use burden
  - Diversity
    - Racial and ethnic
    - Socioeconomic
    - Geographic
  - Ability to link maternal, infant, and child health data



Number & age-adjusted rates of drug overdose deaths by state, US, CDC 2017

Local Opioid Use Burden

- **Utah had the third highest rate for overdose deaths involving prescription opioids in the US from 2013-2017** (Seth et al 2018)
  - 80% of people who use heroin in Utah initiated with prescription drugs and heroin-related deaths have nearly tripled since 2010.
- **42% of Medicaid-insured pregnant women receive opioid prescriptions (highest in the US)** (Desai et 2014)
- **Deliveries complicated by OUD increased nearly ten fold from 1999-2014** (Haight et al 2018)
- **Opioids the most frequent cause of pregnancy-associated death from 2005-2014** (Smid et al 2019)

Seth P, Scholl L, Rudd RA, et al. *MMWR Morb Mortal Wkly Rep.* 2018 Mar 30;67(12):349-358.

Desai RJ, Hernandez-Diaz S, Bateman BT, et al. *Obstet Gynecol.* 2014;123(5):997-1002.

Haight SC, Ko JY, Tong VT, et al. *MMWR Morb Mortal Wkly Rep.* 2018 Aug 10;67(31):845-849.

Smid MC, Stone NM, Baksch L, et al. *Obstet Gynecol*. 2019;133(6):1131-1140.

Local Opioid Use Burden

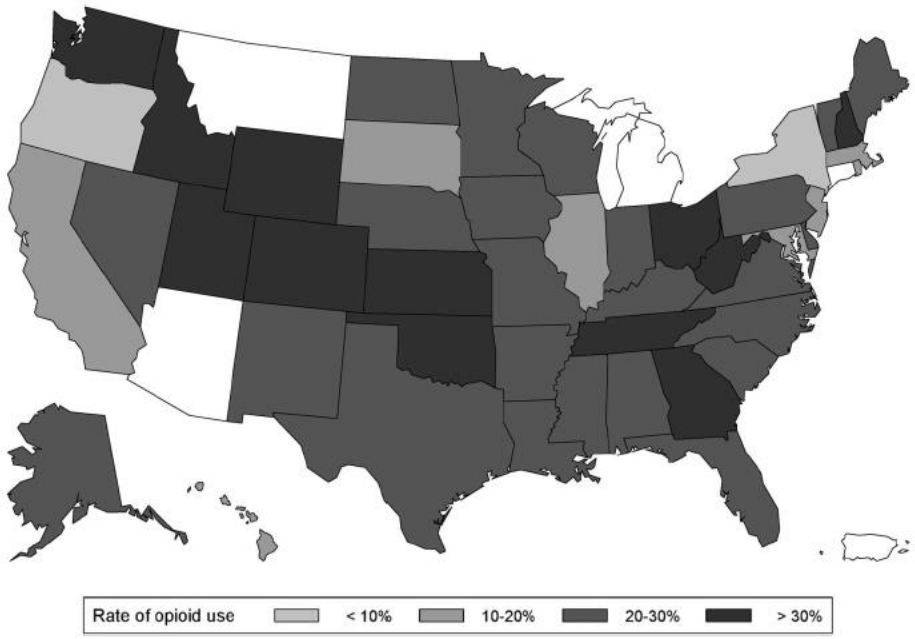
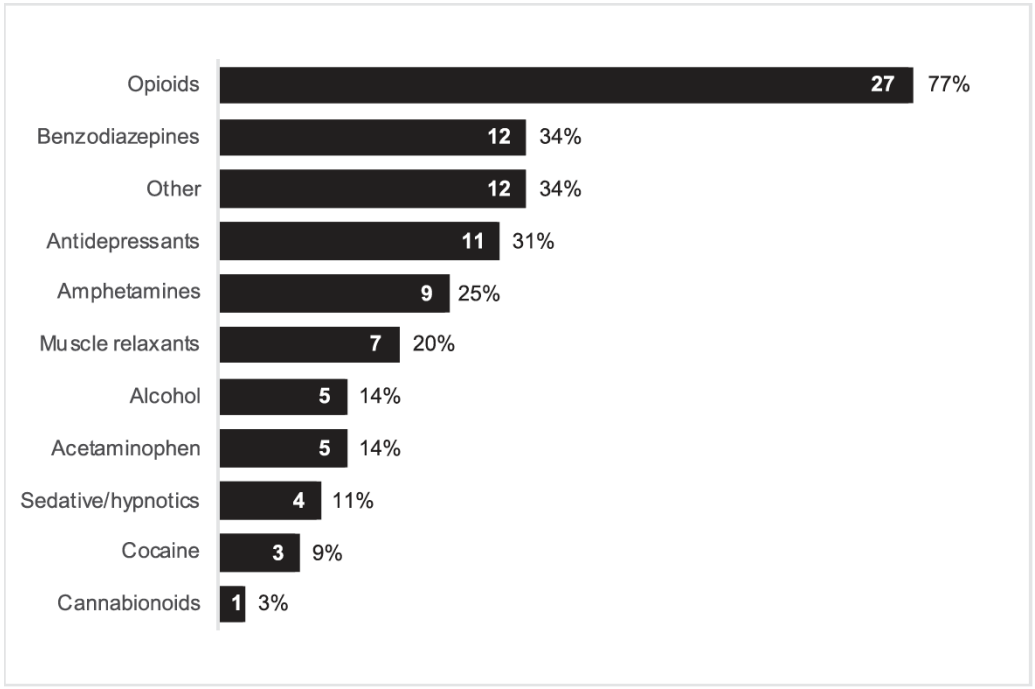


Fig. 1. Regional variation in the rates of prescription opioid dispensing during pregnancy, Medicaid 2000–2007. Arizona, Michigan, Montana, Connecticut, and Puerto Rico (*white*) are not represented in the cohort because of incomplete claims information.

Desai. Prescription Opioid Use Trend in Pregnancy. Obstet Gynecol 2014.



Desai RJ, Hernandez-Diaz S, Bateman BT, et al. *Obstet Gynecol*. 2014;123(5):997-1002.

Local Maternal Substance Use Treatment

- **SUPeRAD** (**S**ubstance **U**se in **Pre**gnancy: **R**ecovery, **A**ddiction, **D**ependence Prenatal Specialty Clinic
  - Integrated obstetric and substance use care
    - Methadone, buprenorphine, naltrexone
    - Hepatitis C treatment postpartum
  - Local and regional referral site for pregnant women with substance use disorder
  - Multiple local partners (residential programs, methadone OTP, peer recovery support)

OTP: Outpatient treatment programs

Local Infant and Child Follow-up

- **BRIDGE** (**B**abies at **R**isk: **ID**entify, **G**uide, **E**mpower) Clinic
  - Post-discharge transition clinic staffed by primary care pediatricians with in- and outpatient Neonatal Abstinence Syndrome (**NAS)** management experience
  - Addresses risk for lapses in care coordination for infants exposed to opioids in utero
  - Focuses on interventions to reduce the risk of readmission and other adverse outcomes due to psychosocial barriers
  - Provides a medical home for this vulnerable patient population

University of Utah
BRIDGE Program

Maternal Substance Use and Maternal-infant Outcome Data Available in Electronic Health Records

- **Maternal Health (prenatal & postpartum)**
  - **Types of treatment:** medications for opioid use disorder including methadone, buprenorphine, naltrexone, detoxification; duration, frequency of treatment
  - Concurrent substance use
  - Co-morbidities
  - Other prescriptions
- **Obstetrical (at delivery)**
  - Pregnancy and delivery details
- **Newborn/infancy**
  - NAS diagnosis, treatment and length of stay
- **Infant/early childhood**
  - Clinical diagnosis, growth & developmental milestones, behavioral concerns

Maternal Substance Use and Maternal-infant Outcome Data Available in Electronic Health Records

- Dosing of medications for opioid use disorder
- Obstetric ultrasound
- Postpartum pain management
- Postpartum hospitalizations, overdoses and death
- Hepatitis C treatment
- Rooming in of infants
- Custody of infant
- Infant developmental outcomes

MAT-LINK Data Collection and Standardization Across Clinical Sites

- Mapping site-specific current and future processes for preparing and submitting mother-infant linked data
- Reviewing variable lists for maternal health history, maternal postpartum, delivery birth hospitalization and child follow-up
- Generating baseline case lists of mother-infant pairs
- Pilot testing abstraction tools and provide summary reports
- Conducting user acceptance testing of information systems

MAT-LINK Strengths and Limitations

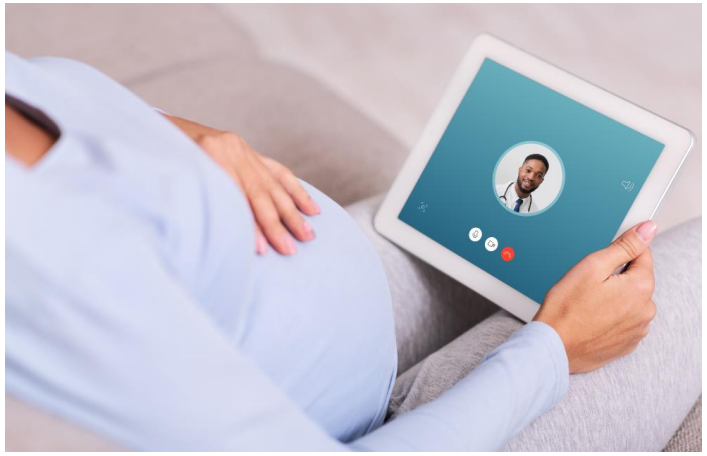
Strengths

- Core infrastructure and clinical site expertise necessary to help ask and answer critical clinical questions related to maternal OUD and child outcomes
- Many clinically relevant variables collected routinely at each site
- Rigorous processes for data validation and transfer
- Shared electronic medical record across sites

Limitations

- Data not originally collected for research use
- Different models of clinical care for mothers and children

Electronic Screening and Brief Interventions for Substance Use in the Perinatal Period



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Those in Need are Not Being Identified or Reached

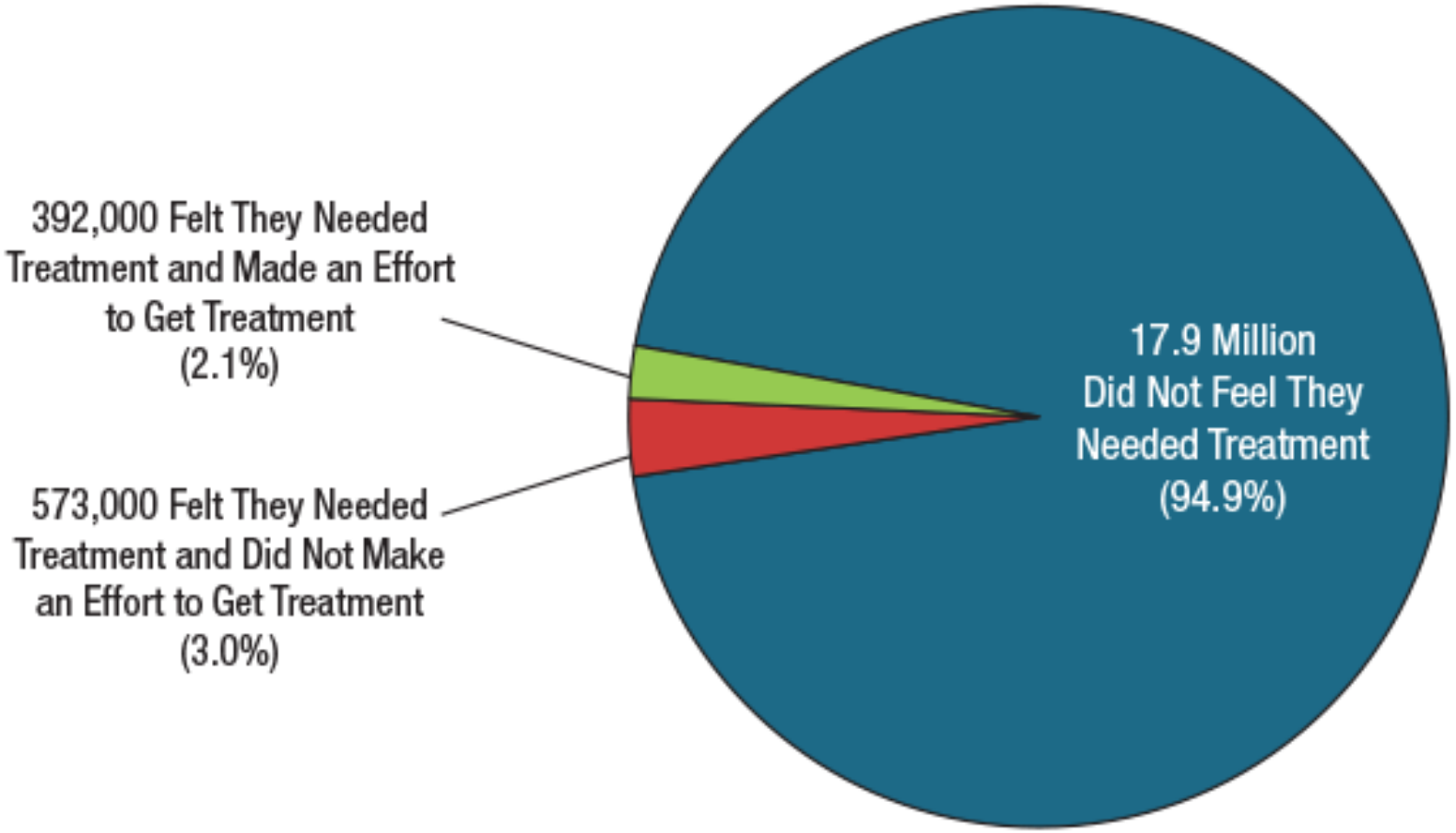
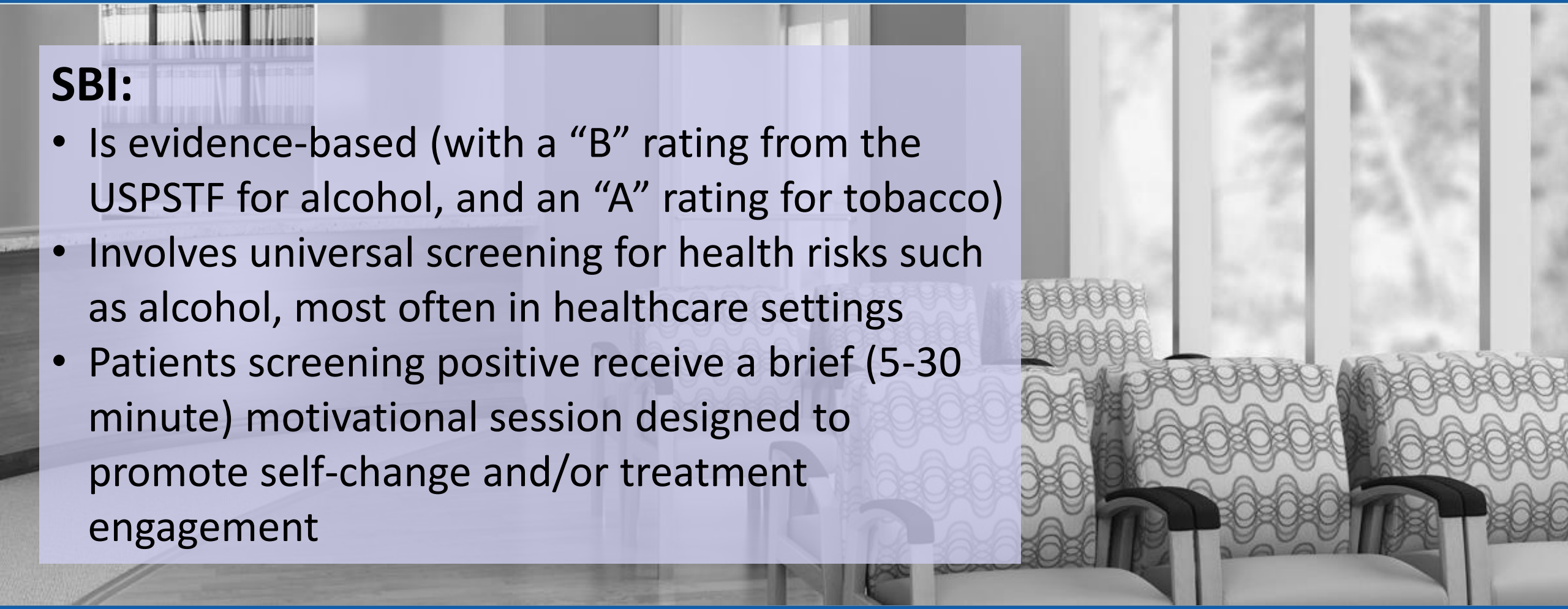


Figure 66. Perceived Need for Substance Use Treatment among People Aged 12 or Older Who Needed but Did Not Receive Specialty Substance Use Treatment in the Past Year: 2018

Substance Abuse and Mental Health Services Administration. 2019. Retrieved from https://www.samhsa.gov/data/.

Screening and Brief intervention (SBI) for Substance Use in Pregnancy



SBI:

- Is evidence-based (with a “B” rating from the USPSTF for alcohol, and an “A” rating for tobacco)
- Involves universal screening for health risks such as alcohol, most often in healthcare settings
- Patients screening positive receive a brief (5-30 minute) motivational session designed to promote self-change and/or treatment engagement

US Preventive Services Task Force. *JAMA.* 2018; 320(18): 1899-1909.

SBI Evidence

The good:

- SBI has small but consistent effects on decreasing quantity of alcohol consumed, as well as on smoking cessation
- Patients are comfortable discussing substance use with their healthcare providers

The less good:

- SBI has not shown effects on substance use consequences, treatment-seeking, or drug use
- Much is currently not known, especially:
  - What works best, for whom
  - Whether and how SBI can target multiple substances
- SBI has proven difficult to implement

Kaner E, Bland M, Cassidy P, et al. *BMJ*. 2013 Jan 9;346:e8501.; Saitz R, Palfai T, Cheng DM, et al. *JAMA*. 2014 Aug 6;312(5):502-13.; Ondersma SJ, Martino S, Svikis DS, et al. *Addiction*. 2017 May; 112(5): 828-829.; McCambridge J & Saitz R. *BMJ*. 2017 Jan 20;356:j116.; Yarnall KS, Pollak KI, Østbye T, et al. *Am J Public Health*. 2003 Apr; 93(4): 635-41.

The Potential Benefits of Electronic SBI (e-SBI)

Reach

- Technology is central to health care
- Smartphone ownership is becoming universal

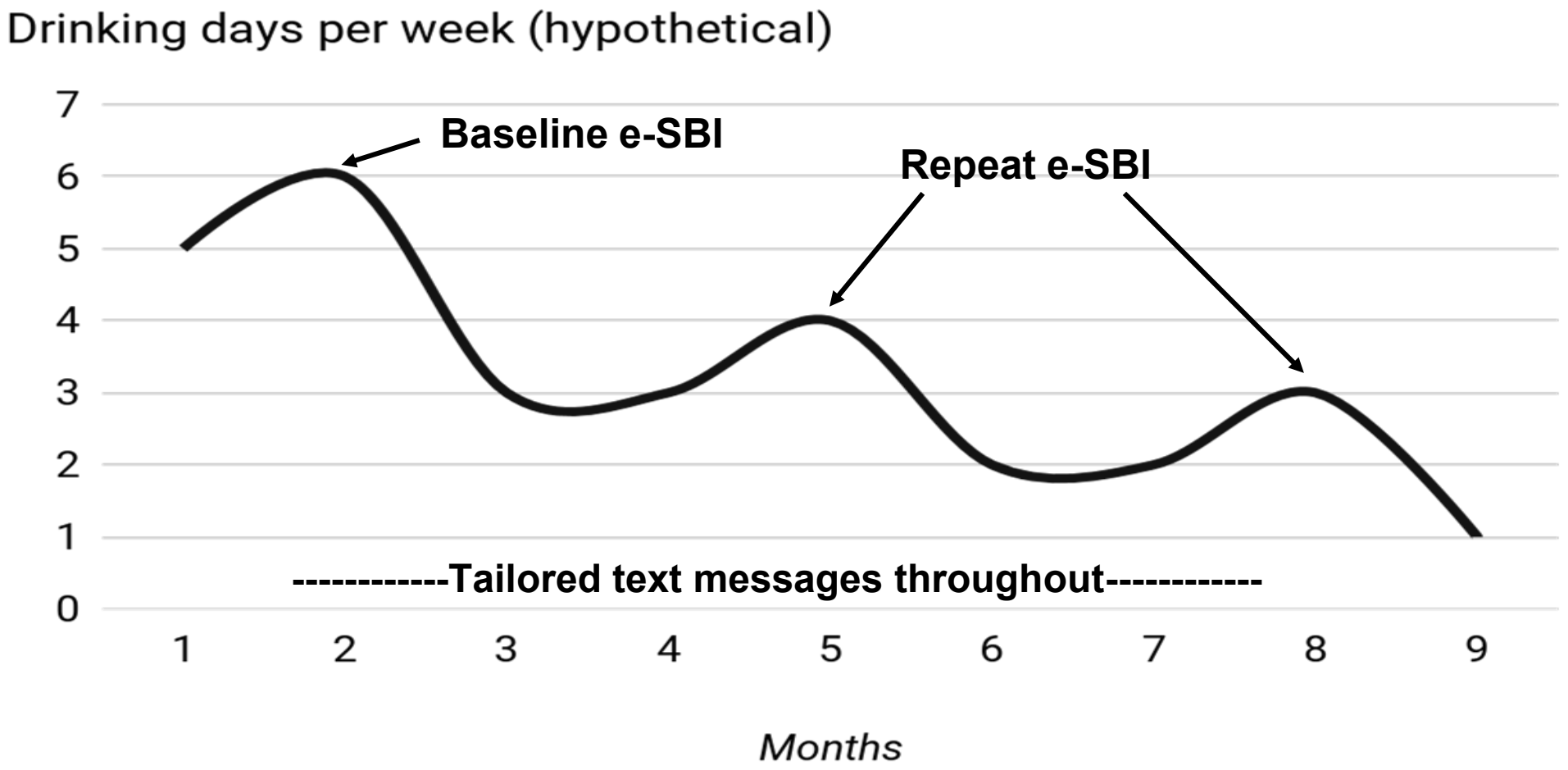
Power

- Low cost, with consistent delivery across settings
- Tailored, engaging, confidential; can address multiple targets

Science

- Can be used with large samples
- Amenable to multi-arm studies, facilitating optimization

Redirecting Substance Use Over Time



The Potential Benefits of Electronic SBI

- Ondersma et al., 2012
  - 110 pregnant women
  - Abstinence: 28.6% vs. 15.6%

Smoking in pregnancy

- Ondersma et al., 2014
  - 143 postpartum women
  - Abstinence: 37.3% vs. 13.7%

Postpartum drug use

- Ondersma et al., 2015
  - 48 pregnant women
  - Abstinence: 90.0% vs. 73.7%

Drinking in pregnancy

- Martino et al., 2018
  - At least equivalent to therapist
- Olmstead et al., 2019
  - Lower cost for computer

Person vs. machine

Ondersma SJ, Svikis DS, Lam PK, et al. *Nicotine Tob Res*. 2012 Mar;14(3):351-60.; Ondersma SJ, Svikis DS, Thacker LR, et al. *J Subst Abuse Treat.* 2014 Jan;46(1):52-9.
Ondersma SJ, Beatty JR, Svikis DS, et al. *Alcohol Clin Exp Res*. 2015 Jul;39(7):1219-26.; Martino S, Ondersma SJ, Forray A, et al. *Am J Obstet Gynecol.* 2018 Mar;218(3):322.e1-322.e12.
Olmstead TA, Yonkers KA, Ondersma SL, et al. *Addiction.* 2019 Sep; 114(9):1659-1669.

Results from e-SBI Implementation Studies

- **High engagement**
  - Rates of iPad use among new pregnancy intakes from 93% to 95%
  - Patient refusal very low
- **Successful risk identification**
  - Approximately half of patients screen positive for one or more risks
  - Most commonly identified risks include tobacco, marijuana, and depression
- **Brief intervention**
  - Between half and two-thirds of those at risk agree to a brief intervention
  - Satisfaction ratings average 4.4 on a 1-5 scale

SBI-tech

HT2 High Touch, High Tech

Implementation Challenges

- **Security:** Ensuring that your application meets all HIPAA, HITECH, and health system requirements requires significant effort
- **Approval:** Demonstrating that your application meets all of the above requirements is not a process for the faint of heart
- **Electronic health records (EHR):** True integration between app and EHR is technically straightforward, but in practice is an expensive challenge
- **Needs of clinic personnel:** Healthcare staff are truly motivated by the ability to provide better care, but are also inundated with competing tasks

HIPAA: Health Insurance Portability and Accountability Act

HITECH: Health Information Technology for Economic and Clinical Health Act

Seeking Sustainable, Scalable, and Effective SBI: Moving Forward

Start with technology

- e-SBI should be considered first
- Clinic staff should build from the e-SBI

Easy isn't good enough

- It's crucial to make e-SBI seamless
- At the same time, it may take on other staff duties

Leverage technology fully

- Don't strive to make e-SBI match person-delivered SBI
- Instead, focus on what e-SBI does better

Conclusions

- Polysubstance use in pregnancy is common; the impact of polysubstance use in pregnancy is not well understood
- Stigma directed toward mothers who use substances can adversely affect detection and treatment, but can be overcome
- Using technology can benefit surveillance and research, but can also help individuals through use of e-SBI and linkages to treatment