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Author Toquinto, Signy Marie

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Pregnant Women's Acceptability of Substance Use Screening and Willingness to Disclose Use in Prenatal Care

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Signy Marie Toquinto

THESIS

Submitted in partial satisfaction of the requirements for the degree of

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in

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in the

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of the

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Pregnant Women's Acceptability of Substance Use Screening and Willingness to Disclose Use in Prenatal Care

Signy Toquinto

Abstract

Purpose: To explore pregnant women's acceptability of alcohol, tobacco, and drug use screening and willingness to disclose their use in prenatal care. This research explores seeks to center the voices of pregnant women who are directly impacted by the adverse consequences of screening as central to informing the policies and practices that directly impact them, their health and wellbeing, the care they receive, and the formation of their families.

Methods: This thesis is a secondary analysis of self-administered iPad surveys and in-clinic structured interviews with 589 pregnant women aged 18 and older, recruited at their first prenatal care visit from four university-affiliated prenatal care facilities in Baltimore, Maryland and Southern Louisiana. Data were analyzed for associations between outcome variables (acceptability of screening and willingness to disclose use) and predictor variables (substance use, previous CPS involvement, and participant characteristics) using Pearson's chi-squared tests and Fisher's exact tests.

Results: A substantial majority of pregnant women found screening acceptable for alcohol (97%), tobacco (98%), and drug use (97%) during prenatal care. Screening for alcohol use was more unacceptable among women who did not report risky alcohol use compared to women who did report risky alcohol use (P = 0.08). Tobacco use, drug use, and previous CPS involvement were not associated with acceptability of screening. A substantial majority of pregnant women reported they are willing to honestly disclose alcohol (99%), tobacco (99%), and drug use (98%).

Alcohol, tobacco, and drug use and prior CPS involvement were not associated with the willingness to disclose substance use.

Conclusion: Pregnant women, including those who reported substance use or prior CPS involvement, found substance use screening in prenatal care acceptable and were willing to honestly disclose their use. In general, women with historical and cultural privilege (white, older, with self- or employment-based insurance) were less willing to honestly disclose their alcohol, tobacco, and drug use. These findings are significant as they challenge widely held perceptions of pregnant women who use drugs, and suggest that verbal screening is acceptable as a means of assessing substance use in prenatal care.

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Introduction

Substance use during pregnancy is an ongoing social phenomenon that fosters controversy around legal and public health policy, criminalization and punishment, health care management and treatment, and parental rights. While concern regarding substance use during pregnancy is not new, it has recently "increased among health care providers, the public, and policy makers as the opioid epidemic's impact reached an increasing proportion of the US population, including pregnant women and their infants" (Patrick & Schiff, 2017, p. 1). Universal screening for alcohol, tobacco, and drug use is widely accepted as a public health effort to address both the economic costs to society and the health and wellbeing of women and children (Berger, 2002; Kennedy, Finkelstein, Hutchins, & Mahoney, 2004; Centers for Disease Control and Prevention [CDC], 2018; World Health Organization, 2014).

The American College of Nurse Midwives (ACNM), American College of Obstetrics and Gynecology (ACOG), American Academy of Pediatrics (AAP), and the American Public Health Association (APHA) all recommend and encourage routine universal alcohol, tobacco, and drug use screening as part of comprehensive prenatal care (AAP, 2016; ACNM, 2013; ACNM, 2017; ACOG, 2017; APHA, 1990). Screening, brief intervention, and referral to treatment (SBIRT) is a recommended approach for providers to utilize in prenatal care (Substance Abuse and Mental Health Services Administration [SAMHSA], 2009; Wisner et al., 2017), despite limited evidence for support of its use specifically with pregnant women (Bishop et al., 2017). The United States Preventative Services Task Force (USPSTF) recommends routine screening for unhealthy alcohol use (2018) and tobacco use (2015) in prenatal care; however, they concluded that the evidence was insufficient to recommend for or against screening pregnant women for illicit drug

use (2008). The USPSTF is currently updating their recommendations on screening for drug use in pregnant women (2016).

Despite the prevalence and acceptance of substance use screening as part of prenatal care, with few exceptions (Roberts & Nuru-Jeter, 2010; Roberts & Pies, 2011; Stone, 2015), pregnant women's perspectives on screening is staggeringly absent from research, literature, and clinical practice. Previous research qualitatively explores women's perspectives on substance use screening in prenatal care with small sample sizes that specifically enrolled women who reported current or past substance use during pregnancy (Roberts & Nuru-Jeter, 2010; Roberts & Pies, 2011; Stone, 2015). More recently, one quantitative study explored women's opinions of legal requirements for drug testing in prenatal care among 500 women using a web-based survey (Edmonds, Mckenzie, Austgen, Carroll, & Meslin, 2017). While this study explores women's opinions of drug testing, their study population was largely, white, married, educated, and insured. This limitation fails to account for the perspectives and opinions of women who are most typically targeted and surveilled as substance users, women of color and women experiencing poverty.

This study explores pregnant women's perspectives on substance use screening during prenatal care, specifically, women of color and women with publicly funded health insurance, who are frequently impacted by the adverse consequences of screening (Roberts & Nuru-Jeter, 2012) and whose voices are rarely considered. Ultimately, this study seeks to center pregnant women as experts and authors of their experiences, and central to informing the policies and practices that directly impact them, their health and wellbeing, the care they receive, and the formation of their families.

Throughout this thesis, I draw on the contributions of Black and African American scholars, activists, and advocates whose contributions to reproductive justice insist on the voices of women of color being centered in this work and inspire a critical analysis of and potential change to health care providers' approach to substance use screening and reporting in perinatal care. In an effort to practice self-reflexivity, I acknowledge and address my social position as a white and Mexican American mixed race cis-gender woman and student nurse midwife who has never been pregnant. I recognize that this research topic is highly stigmatized, and that pregnant women who use drugs are both a vulnerable and marginalized population; I honor the dignity and vulnerability of the participants in this study, and uphold a personal commitment to reproductive justice. This research aims to truthfully and authentically report the data and outcomes, while framing and discussing the results within the larger historical and political landscape that perpetually pathologizes pregnant people who use alcohol, tobacco, and drugs. I open by stating my hypothesis and research aims. I then explore the benefits and harms of substance use screening in prenatal care, specifically noting the racial disparities around screening and reporting that represent both a human rights and reproductive justice issue. I describe how critical race theory and reproductive justice frame a model and approach to care that includes midwifery, trauma-informed care, and harm reduction that provides the theoretical framework for this thesis. I then describe the methods before exploring what I learned from the data about pregnant women's perspectives on substance use screening in prenatal care. I conclude with thoughts on the intentions and tangible implications of substance use screening in parental care and the necessary consideration a larger more global critique of substance use screening in prenatal care with the lens of structural violence.

Hypothesis

Our central hypothesis was that pregnant women who are typically targeted for prenatal substance use screening—women who have documented histories of substance use, women of color, women experiencing poverty, women entering care at later gestational ages, have histories of CPS involvement, or previous removal of their children by CPS—will have lower acceptability for substance use screening as part of prenatal care and will be less willing to honestly disclose their use. However, there will likely be pregnant women who believe it is acceptable to screen for alcohol, tobacco, and other substances; this acceptability could potentially be related to people who do not use or do not have histories of use, people who are not routinely targeted for substance use screening/testing, people who desire intervention and treatment for their use, or people who have histories of use or CPS involvement who do not currently use and desire this documentation within their health record.

Specific Aims

The specific aims of this thesis were: (1) To elicit the perspectives of pregnant women on substance use screening and willingness to disclose use during prenatal care, especially those who are directly impacted by the adverse consequences of screening and whose voices are rarely considered, and (2) To consider an approach and response to substance use in pregnancy that is informed by pregnant women and draws on reproductive justice, harm reduction, midwifery, and trauma informed care.

The research questions in relation to the primary specific aim are: (1) how does acceptability of alcohol, tobacco, and drug use screening vary based on current or previous substance use, previous CPS involvement, and pregnant women's characteristics and behaviors upon entry to prenatal care, and (2) how does willingness to disclose alcohol, tobacco, and drug use during prenatal care vary based on current or previous substance use, previous CPS involvement, and pregnant women's characteristics and behaviors.

Background and Significance

Substance use screening has the potential to provide pregnant people with meaningful interventions and health improvement opportunities. Drawing on the principles of public health, substance use screening may afford possibilities for prevention, early diagnosis and intervention, counseling, and treatment in women of reproductive age (Bishop et al., 2017; Chang, 2017). Universal substance use screening in perinatal care is believed to lessen the stigma associated with use, provide an opportunity for health education/counseling and motivational interviewing, and initiate early intervention as needed (Morse, Gehshan, & Hutchins, 1997). Reducing substance use can benefit pregnancy outcomes, women's long-term health, and the health of their infants (Berger, 2003; Chasnoff et al., 2005; Kennedy et al., 2004). Screening and early identification of use may also reduce immediate and long-term economic costs to society (Berger, 2003). Pregnancy is also socially and medically viewed as a window of opportunity, or "teachable moment," where pregnant people are generally considered highly motivated to make changes that support improving their health and the health of their fetus (Arabin & Baschat, 2017; Bloch & Parascandola, 2014; Daley, Argeriou, & McCarty, 1998; Forray, 2016).

Substance use screening is typically separated by category of substance, where providers screen for alcohol, tobacco, and drug use. Thus it is important to consider the background and significance of screening for each of these categories of substances. Within the literature, there are differing opinions on the accuracy and effectiveness of substance use screening. Some studies and clinical recommendations cite substance use screening as the most effective way to determine risk (Morse, Genshan, & Hutchins, 1997), stating "screening improves accurate

identification of substance abusing patients in primary care settings and that

treatment...decreases clinical morbidity" (Chasnoff et al., 2005). There are also multiple barriers to clinicians utilizing screening during prenatal care, including, being overwhelmed by the amount of screening, feeling inadequately trained for handling a positive screen, may question the use of screening, or may be under the impression that the patients within their practice do not use substances (Wright et al., 2016). There are also differing opinions regarding the effectiveness and accuracy of screening across substances. Alcohol, tobacco, and drug use screening are discussed in detail here to provide the context and background for this research and to highlight the differences across the three substances.

Screening for Alcohol Use

Public attention to women's drinking during pregnancy is in part related to the identification and term Fetal Alcohol Syndrome (FAS), a condition that includes physical defects, and intellectual or cognitive disabilities resulting from alcohol exposure during pregnancy. In more recent years the term fetal alcohol spectrum disorders (FASD) has been used to describe a group of conditions, including a broad range of neurocognitive, behavioral, and developmental effects. Alcohol use during pregnancy is relatively common—21% report any alcohol use and 3% report binge drinking (Lange et al., 2017). The National Institute on Alcohol Abuse and Alcoholism defined at-risk alcohol use as more than three drinks per occasion or more than sever drinks per week and any amount of drinking for women who are pregnant; Binge drinking is defined as more than three drinks per occasion (ACOG, 2011). Alcohol use in pregnancy is much more common than drug use (CDC, 2018).

Universal alcohol use screening in prenatal care is recommended by ACOG, the AAP, and the USPSTF (ACOG, 2011; AAP, 2018; USPSTF, 2018). Several screening tools have been developed and validated for use in prenatal care setting, including, T-ACE/T-ACER3, AUDIT-C, and TWEAK (Jones, Bailey, & Sokol, 2013; Wright et al., 2016). These screening tools are used as an opportunity for the clinician and patient to discuss alcohol exposure during pregnancy, provide education on the risks to the fetus, and initiate a brief intervention or referral to treatment (Chang, 2001). ACOG recommends assessing for risk of withdrawal and prioritizing access to withdrawal management and treatment; they also encourage the use of harm reduction strategies for women who continue alcohol use during pregnancy (ACOG Committee Opinion 496, 2011).

Since 1974, the number of states with alcohol and pregnancy policies has increased from one to forty-three in 2013 (Roberts, Thomas, Treffers, & Drabble, 2017). These state level and public health policies aim to improve health and birth outcomes, but have become increasingly punitive, restricting women's reproductive rights (Roberts et al., 2017). These policies may inform clinical practice or individual provider attitudes. Supportive policies may promote and facilitate the use of services to reduce alcohol use, while punitive policies refer "seek to control pregnant women's behavior by civilly committing them" or reporting them to law enforcement or child welfare agencies for exposing their neonate to alcohol (Drabble, Thomas, O'Connor, & Roberts, 2014; Roberts et al., 2017, p. 716). A recent study found that most state level policies, whether supportive or punitive, regarding alcohol use in pregnancy either do not impact birth outcomes or are related to worse birth outcomes and less prenatal care utilization; policies that punished alcohol use during pregnancy such as civil commitment and child abuse/child neglect laws were associated with an increase in adverse birth outcomes, namely, low birth weight and preterm birth (Subbaraman et al., 2018). Additionally, this study also found that supportive policies, such as Mandatory Warning Signs, that is thought to give women information, curb

their alcohol use, and promote behavior change, was related to low birth weight, higher odds of preterm birth, and lower odds of a normal APGAR scores, and higher odds of late prenatal care utilization (Subbaraman et al., 2018).

Women's perspectives on alcohol use screening in pregnancy are largely absent. Roberts and Nuru-Jeter (2010) found that pregnant women who use alcohol did not worry about their providers testing for alcohol, however, the perception that detection of alcohol and drug use during pregnancy led to women delaying entry to prenatal care or skipping appointments.

Screening for Tobacco Use

According to ACOG, smoking is one of the most modifiable causes of poor pregnancy outcomes in the United States (ACOG Committee Opinion 721, 2017). Smoking during pregnancy is a public health concern associated with an increased risk of sudden infant death syndrome (SIDS), intrauterine growth restriction, placental abruption, low birth weight, and perinatal mortality (ACOG, 2017; CDC, 2017. Alternative forms of nicotine consumption, such as e-cigarettes and vaping, have increased substantially in recent years, increasing public health concern for prevalence and consequences in pregnancy (Jiang, Lee, Zelikoff, & Weitzman, 2018). According to the 2011 Pregnancy Risk Assessment and Monitoring System (PRAMS) data, approximately 10% of women reported smoking in the last three months of pregnancy and among women who quit during pregnancy 40% started smoking again within six months after delivery (CDC, 2017). ACOG and the USPSTF recommend routine screening for tobacco use as well as counseling and intervention to those who do report smoking (ACOG, 2017; USPSTF, 2015). The AAP recommends the inclusion of screening for e-cigarette use as part of tobacco screening (Jiang, Lee, Zelikoff, & Weitzman, 2018). There is debate about whether e-cigarettes should be considered a form of harm reduction or tool of smoking cessation among women and the public (Fairchild et al., 2018; Notley et al., 2018). Among OBGYNs, inconsistent screening for tobacco use and lack of knowledge on the potential effects of e-cigarettes are common—only about 40% of doctors report ever asking pregnant women about their tobacco use (Jiang, Lee, Zelikoff, & Weitzman, 2018). In a recent survey among pregnant smokers, 14% reported using e-cigarettes to aid in smoking cessation (Oncken et al, 2017).

England and colleagues (2017) evaluated the CDC mass media campaign, "Tips from Former Smokers," and it's impact on smoking cessation in pregnant women and found that it was associated with an increase in smoking cessation (England et al., 2017). Unlike state policies that require mandated reporting of alcohol and drug use during pregnancy as child abuse, no punitive policy exists in relation to tobacco use in pregnancy (Drabble, Thomas, O'Connor, & Roberts, 2014).

There is very little literature related to women's perspectives on tobacco screening in pregnancy and the potential consequences of screening. Stone (2015) found that while women recognized the harmful effects of alcohol and tobacco use in pregnancy, they were not worried about being tested for tobacco or alcohol; they also were not worried about losing their children or being arrested.

Screening for Drug Use

Drug use refers to a classification of substances that includes both licit, including prescription drugs, methadone, and marijuana in some states, and illicit substances, including heroin, cocaine, methamphetamines, and more. The sensationalistic coverage of the "crack epidemic" in the mid-1980s and the more recent "opioid epidemic" focused national attention on drug use and drug use during pregnancy. Illicit drugs are the most often targeted in the campaign against maternal substance use, because they are perceived as causing the most harmful side effects (Forray, 2016). It is challenging to attribute outcomes of substance use to specific drugs when so many women experience poverty, violence, trauma, poor nutrition, and other known risk factors for poor health outcomes (Bishop et al., 2017; Lester, Andreozzi, & Appiah, 2004).

ACOG and the AAP recommend universal screening for drug use during pregnancy (Patrick & Schiff, 2017; ACOG, 2012). Chang and her colleagues found the provider screening for drug use was general, while 81% of obstetric providers did verbal screening for illicit drug use, only 29% of provider visits named specific drugs, 7% asked about current use, and 10% asked about past use (Chang et al., 2017). Other studies argue screening is just as accurate as drug testing, but less intrusive and less costly (Berger & Waldfogel, 2000). Some studies highlight the difficulties of verbal screening related to stigma, and offer self-administered screening tools as alternative successful screening measures (Chasnoff, Wells, McGourty, & Bailey, 2007; Jones, 2005; SAMHSA, 2009). It is difficult to estimate the accuracy of substance use screening due to methodological flaws of identification (Lester, Andreozzi, & Appiah, 2004). "Some researchers and advocates caution that it can be harmful to use SBIRT routinely with pregnant women in the absence of evidence of its effectiveness for this population" (Bishop et al., 2017). In a recent study, Wamsley and colleagues found differences in how SBIRT is delivered depending on the type of health care professional, and that the full potential of SBIRT has yet to be determined given the range of tailored SBIRT training across various professional organizations (Wamsley et al., 2018).

Previous research has documented that health care providers are biased in utilizing drug use screening/testing and either disproportionately screen, test, or make reports to child protective services (CPS) when the pregnant person is a woman of color or living in poverty (Robert & Nuru-Jeter, 2010). Mandatory universal or even standardized substance use screening protocols in perinatal care aim to reduce racial biases in provider screening, however they fail to address CPS reporting disparities (Roberts & Nuru-Jeter 2010; Roberts, Zahnd, Sufrin, & Armstrong, 2015; Wright et al., 2016). The fact that universal screening and standardized protocols does not reduce racial disparities in CPS reporting suggests "inter- and intra-provider" and institutional bias (Roberts, Zahnd, Sufrin, & Armstrong, 2015, p. 149), which are likely reflections of structural racism, which is defined as "macrolevel systems, social forces, institutions, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups" (Powell, 2008). While white women use drugs at higher rates than women of color (Ritchie, 2017) and white and Black women use alcohol at similar rates (Chansoff et al., 1990), Black women are ten times more likely than white women to be reported to health authorities for substance use during pregnancy, and four times more likely to be reported to CPS (Roberts & Nuru-Jeter, 2012); and Black women were less likely to have and regain custody of their newborns at discharge or later (Roberts & Nuru-Jeter 2010).

Since the 1980s, state-level responses have expanded in response to drug use during pregnancy. Many states have expanded their child-welfare statues to include prenatal substance use, 23 states and the District of Columbia consider substance use during pregnancy to be child abuse and three states consider it to be grounds for civil commitment—where women may be forced into inpatient treatment programs (Guttmacher Institute, 2018). Additionally, 24 states require health care providers to report suspected prenatal drug use and eight states require drug testing if substance use is suspected (Guttmacher Institute, 2018). In 2014, Tennessee became the first state to pass a law criminalizing drug use during pregnancy, effectively permitting the

incarceration of pregnant women and mothers for their drug use (Angelotta & Appelbaum, 2017).

Women report worrying about "being arrested, forced to have an abortion, terminated from a prenatal care program, reported to CPS, and losing their children" (Roberts & Nuru-Jeter, 2010). These concerns prompt women to either avoid prenatal care or attempt to stop using drugs before attending, causing some women to delay prenatal care until the third trimester or deliver without prenatal care at all (Roberts & Nuru-Jeter, 2010; Roberts & Pies, 2011; Stone, 2015). These implications and adverse consequences disproportionately affect women of color and women experiencing poverty. Extensive literature exists documenting the disproportionate burden, structural violence and racism communities of color have experienced related to drug policy, criminalization, and pathologization of substance use (Drug Policy Alliance, 2016; Netherland & Hansen, 2016; Ritchie, 2017; Roberts, 1997). Pregnant women of color and women experiencing poverty are "most affected by mechanisms of state control and have been subjected to a clash of forces where the war on drugs intersects with the protracted battles over abortion and reproductive autonomy" (Bishop et al., 2017, p. 38).

Summary of the Impact of Screening Across Substances

As discussed above, the implications, repercussions, and state-level responses to substance use screening vary across type of substance, namely, alcohol, tobacco, and drugs. Additionally, the approach to screening may vary as well. While verbal screening may be utilized by providers to screen for alcohol, tobacco, and drug use, urine toxicology testing focuses on illicit drug use, such as cocaine, opiates, methamphetamines, and marijuana; it is not focused on discovering alcohol and tobacco use, which are more widely consumed and "pose as much or more of a risk" (Wright et al., 2016, p. 541). Even though "there are nicotine assays for urine and meconium, they are not used to identify exposed infants" (Lester, Andreozzi, & Appiah, 2004). A positive urine test does not provide information on the nature or extent of drug use and a negative test does not rule out drug use (Wright et al., 2016). Urine toxicology testing should not be used in place of verbal substance use screening.

The research and practice of SBIRT is more traditionally focused on alcohol and tobacco, as opposed to illicit drug use (Wright et al., 2016). Failure to disclose substance use or incomplete disclosure is possible (Wright et al., 2016) especially for alcohol and tobacco use, which are rarely test for in urine toxicology screening and thus providers must rely on verbal screening. Roberts and Nuru-Jeter (2010) found that pregnant women reporting substance use worried about the consequences resulting from being screened and tested for drug use but not for alcohol use. They also reported that some women would use alcohol instead of drugs to manage their use.

While perinatal substance use screening may be aimed at improving maternal and fetal health outcomes, it also has adverse consequences. Much of the literature on screening prioritizes reducing adverse outcomes to the fetus and infant, highlighting ethical considerations and tensions between maternal bodily autonomy and fetal rights. In some cases, "screening may also result in women who disclose substance use being forcibly detained in treatment facilities" (Bishop et al., 2017; Eckholm, 2013). Additionally, research on substance use screening and testing has found that some women delay starting prenatal care, skip appointments, use alcohol instead of other drugs, and use other women's urine to avoid the consequences they fear (Lester, Andreozzi, & Appiah, 2004; Murphy & Rosenbaum, 1999; Roberts & Nuru-Jeter, 2010). Public and state policies on pregnancy and illicit drug use have been associated with greater negative consequences than policies related to alcohol use (Lester, Andreozzi, & Appiah, 2004).

It is clear that substance use screening and intervention operate within perinatal care as a potential tool to reduce harm and promote health, however, screening for drug use also frequently inadvertently or implicitly contributes to violence against pregnant people—namely, women of color and women experiencing poverty. Charles (2011) argues obstetrician's paternalism and use of coercion to control pregnant women who use drugs is both abusive and perpetuates violence toward women; this coercion operates by reinforcing abstinence-only approaches, overstating fetal risks of alcohol and drug use, and using their social authority to elevate their views and silence dissent. If substance use screening— including, verbal screening, SBIRT, self-administered questionnaires—"is not leading to women receiving effective treatment, then the screening essentially functions as surveillance for reporting women to CPS rather than as a path to better health" (Bishop et al., 2017, p. 24; Roberts & Nuru-Jeter, 2012). The health care system and individual provider's response to substance use during pregnancy have significant potential to harm to pregnant people and their families.

It is not possible to solely discuss substance use screening without considering the subsequent outcomes and ramifications that emerge from screening. It is critical for health care providers to understand the devastating outcomes and adverse impact of CPS reporting. Substance use screening that leads to the child welfare system surveilling and regulating families to make determinations of safe parenting, determinations that frequently exclude people who use drugs and instead name individuals as "unfit" to parent is unjust and violates health care provider's commitment to do no harm. Instead, substance use is viewed as the antithesis of proper parenting (Murphy & Rosenbaum 1999) and "proof" or "quantifiable markers of poor mothering" (Knight 2015, p. 88-89). As a result, the child welfare system perpetuates structural barriers denying custody, motherhood, and the formation or unification of families. The

pathologization of substance use during pregnancy, discriminatory health care and treatment practices, and the devastating separation of families reflect a disturbing racist, sexist, human rights, and reproductive justice issue.

Language

This research acknowledges that not all pregnant people identify as women. Pregnant people is a term that is inclusive of transgender and gender non-conforming individuals who are pregnant, and should be utilized when referring to a cohort of pregnant individuals. While this study did not explicitly ask how participants identified their gender, the study recruitment flyer promoted a research study exploring "women's decisions and experiences with pregnancy." Because of the use of this language, this research team employs the terms "women" and "pregnant women" as opposed to pregnant people throughout this thesis.

Theoretical Framework

This research draws from multiple ideologies to frame methodology and interpret the results. Here I address three philosophies that inform an alternative approach to understanding substance use in pregnancy and are utilized to frame clinical recommendations around substance use screening in prenatal care. First, I describe how the midwifery philosophy, trauma-informed care, and the harm reduction philosophy inform how we understand the results of this work. I assert that these philosophies and approaches to care intersect and complement each other; midwifery practice should always incorporate the principals of harm reduction and trauma-informed care. Next I examine two additional ideologies, reproductive justice and 17 theory, inform these three models and philosophies of clinical practice. In this study, critical race theory and reproductive justice offer the foundation of the theoretical approach and are threaded throughout the methodology, analysis, and interpretation of this work. Figure 1 depicts the

relationship between the two ideologies, critical race theory and reproductive justice, and how they relate to and inform the three philosophies of care, the midwifery model, harm reduction philosophy and trauma-informed care.

Figure 1. The Approach and Theoretical framework.



Critical Race Theory

Critical race theory integrates interdisciplinary methodologies to illuminate and disrupt causes of structural racism, and urges research to remain attentive to equity and dismantling hierarchies (Ford & Airhihenbuwa, 2010). Grounded in social justice, it reduces the misrecognition of structural violence and racism as self-destructive behaviors, such as substance use. In research it requires reflexivity and critical reflection, especially around privilege and power, and centers the voices and experiences of people of color (Ford & Airhihenbuwa, 2010).

Critical race theory is fundamental to understanding and exploring pregnant women's perspectives of substance use screening.

Reproductive Justice

Similarly, reproductive justice provides an intersectional framework that situates reproductive health and rights within a human rights and social justice framework "to draw attention to—and resist—laws and public and corporate policies based on racial, gender, and class prejudices" (Ross, 2011; Ross & Sollinger, 2017, p. 10). Reproductive justice places attention on the "intersections of privilege and oppression inherent in health care" (Eagen-Torkko, 2015), and recognizes the criminalization of pregnancy and pathologization of "risky" or "harmful" behaviors as reproductive oppression aimed at subjugating the reproductive lives of women of color and women experiencing poverty (National Women's Law Center, 2014; Ross, 2011). It is an interdisciplinary theory that requires the consideration of "nonbiological issues" such as immigration, gentrification, and incarceration- and externally imposed policies and practices that directly impact "reproductive bodies and parenting experiences in relation to the state and other authorities" (Ross & Sollinger, 2017, p. 169). While recognizing that the U.S. government exerts power over all communities, reproductive justice maintains that communities of color are singled out "for reproductive punishment, linking racial differences with sexual differences to maintain white control" (Ross, 2017, p. 292). Reproductive justice is based on three interconnected tenets: 1) "the right to have a child under the conditions of one's choosing; 2) the right not to have a child using birth control, abortion, or abstinence; and 3) the right to parent children in safe and healthy environments free from violence by individuals or the state" (Ross, 2017, p.290). As a framework it honors personal bodily self-determination and autonomy in regards to reproductive decision-making and is critical to providing a foundation of how to

understand pregnant women's perspectives on substance use screening and treatment in perinatal care.

Midwifery Philosophy and Model of Care

Midwifery is a tool of reproductive justice (Tucker, 2017). This philosophy of care approaches reproductive health and justice from a place of wellness (Tucker, 2017). Midwifery is a political act, its model functions to protect women's agency and dignity in the context of pregnancy and reproductive health (Tucker, 2017). The model encourages individualized personcentered care, tailored to meet the needs of each individual or family. Midwifery strives to provide care as opposed to a cure, and values health beyond risk (Weir, 2006). It would be disingenuous to say that midwives do not medicalize care, because we take seriously diagnoses and risks; however, midwifery honors each individual as more than a diagnosis, disease, or risk by continuing to honor normal physiologic processes and psychological identity formation. Despite medicalization, risks, and disease, midwifery's aim is humanization as health.

Midwifery theory advocates for the principal of autonomy and self-determination. It centers women and pregnant people as primary agents in their own health, wellbeing, and decision-making (ACNM Ethics Committee, 2013). This includes honoring informed choice and women's right to non-disclosure, as well as a midwives' obligation to avoid coercion (Thachuck, 2007). Midwifery philosophy recognizes health as social, emotional, cultural, spiritual, psychological, and physical wellbeing (ACNM Code of Ethics, 2012); it does not pathologize women's health choices and assumes women's bodies are not broken. Midwifery care seeks to affirm our clients' dignity and autonomy, to provide non-judgmental, compassionate clientcentered care, informed consent, and share decision-making (ACNM Core Competencies, 2012; ACNM Vision, Mission, and Core Values; 2012). It recognizes that power to make informed choices, give birth, and carry a pregnancy free from fear and intimidation or interference from the state due to "noncompliance" with medical advice, or because of poverty, race or ethnicity, or immigration status.

At the heart of the midwifery theory and practice is trust. Midwifery affirms that people are autonomous and deserving of honesty, justice and trust (Thorstensen, 2000). Not only does midwifery trust in the physiologic capacity of women's bodies, but also it aims to trust in women for "their ability to know what is best for themselves, their bodies, and their families" (Thorstensen, 2000, p. 406). Midwifery is a practice that does not provide care *to women*, "it provides care *with women*" (Kennedy, 1995, p. 410). This aim aligns with the practice of shared decision-making and honoring the patient as capable, knowledgeable, and self-determining. This is similar to the philosophy of harm reduction, which aims to meet people where they are; acknowledging that people make autonomous informed choices based on meeting their needs in whatever ways are available to them and sometimes within a space of constrained choices.

Harm Reduction Philosophy and Practice

Harm reduction philosophy is a movement for social justice that understands substance use as a complex, multi-faceted phenomenon and prioritizes quality of life and well-being, honors and accepts personal agency and choice, and aims to minimize the harmful effect associated with drug use rather than exclusively promote abstinence (Harm Reduction Coalition, 2016). It "recognizes that the realities of poverty, class, racism, social isolation, past trauma, sexbased discrimination and other social inequalities affect both people's vulnerability to and capacity for effectively dealing with drug-related harm" (Harm Reduction Coalition, 2016). The principles of harm reduction ensure that people who use drugs or have a history of substance use "have a real voice in the creation of programs and policies designed to serve them" (Harm Reduction Coalition, 2016).

Harm reduction does not aim solely to cure individuals, nor does it approach substance use treatment from an abstinence only approach. Rather, harm reduction is a set of principles and strategies aimed at reducing the harms associated with substance use while caring for the individual. Examples of pragmatic harm reduction programs include needle exchange, peer-topeer outreach; controlled drinking programs, methadone maintenance, and supervised injection facilities (Boyd, Murray, & MacPherson, 2017; Wright et al., 2012). Key components on harm reduction in regards to pregnancy also include focusing on "improving nutrition, decreasing smoking, decreasing alcohol and drug use, encouraging breastfeeding, promoting dental health and encouraging physical activity, encouraging early and continuing prenatal care and promoting social and community support" (Wright et al., 2012, p. 3). A harm reduction approach to substance use during pregnancy would be avoiding punitive responses to substance use disclosure, for example, making reports to child welfare or legal authorities, and instead providing non-judgmental compassionate resources for family-centered interventions and community-based support programs (Lester, Andreozzi, and Appiah, 2004). Harm reduction also aims to support the mother *and* child as a unit and not two opposing entities with separate interests.

Trauma-informed Care

Trauma informed care (TIC) is a framework that recognizes and responds to all types of trauma—it also understands the prevalence for gender based-trauma and pregnancy as a time of increased vulnerability to violence and trauma (Centre of Excellence for Women's Health, 2014). According to SAMHSA, the key principles of a trauma-informed approach are: safety;

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trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical and gender issues (SAMHSA, 2018). A traumainformed approach to care does not require that individuals disclose trauma, rather, it understands the widespread prevalence of trauma, how it impacts health and a person's presenting symptoms, and recognizes the diversity of experiences and responses to the experience of trauma (Hill, Lockert, & Ring, 2016). It acknowledges that adaptive behaviors to trauma and coping strategies—including substance use—can become maladaptive; yet, trauma informed care calls for reframing of risk behaviors as evidence of coping and adaption (Briscoe-Smith, 2017). According to Kendall-Tackett (2002), the experience of trauma or abuse in a person's lifetime, increasing the risk of substance misuse. TIC requests health care providers to make systems changes incorporated into the organizational culture (Machtinger et al., 2015), as opposed to asking individuals to fit into a system that doesn't best serve their needs.

Most prenatal care providers understand the adverse effects of traumatic stress on pregnancy and birth (Seng & Taylor, 2015; Yehuda et al., 2005). However, prenatal care providers have barely begun to examine how we perpetuate trauma and harm. TIC recognizes how systems, institutions, and health care providers can be responsible for causing or perpetuating an individual and communities' trauma. TIC views perinatal care as more than the management of pregnancy and birth, it recognizes that people are constantly engaging in a world with inequities and injustices, where structural racism and violence constrain people's abilities to access and maintain health.

Methods

Study Design & Setting

This research thesis is a secondary analysis of an existing dataset from the Abortion Prenatal Study, a state-based, cross-sectional study of women's experiences with abortion restrictions, conducted by University of California, San Francisco (UCSF) Advancing New Standards in Reproductive Health (ANSIRH) research staff and faculty. Human subjects approval was obtained from the Institutional Review Boards (IRBs) of UCSF and Louisiana State University Health Sciences Campus #8909; the University of Maryland IRB relied on the UCSF IRB. Written informed consent was obtained from all study participants. Participants were recruited from three prenatal care facilities in Southern Louisiana (LA) and one prenatal care facility in Baltimore, Maryland (MD). All prenatal care sites are university-affiliated and primarily served low-income pregnant women with Medicaid insurance and women eligible for pregnancy-specific Medicaid insurance. Data were collected from June 2015 through June 2017.

Study Procedures

This research thesis is based on analysis of data collected as part of a larger quantitative study on abortion restrictions; detailed methods of recruitment and data collection are described in more detail elsewhere (Kimport, Kriz, & Roberts, 2018). An onsite research coordinator verbally recruited eligible participants and screened them for eligibility at each recruitment facility. Inclusion criteria consisted of English and Spanish-speaking pregnant women aged 18 years and older who presented to clinic for their first prenatal care appointment. Non-pregnant women, people attending clinic for subsequent prenatal care, pregnant women younger than 18 years old, currently incarcerated, and non-English or non-Spanish speakers were excluded from the study.

Data Collection

Data for this secondary analysis were provided in the form of a de-identified, Englishlanguage, dataset from the PI of the Abortion Prenatal Study, to be viewed and analyzed in Stata. The dataset included only data from pre-selected questions—determined by the research team related to demographics, pregnancy, substance use, acceptability of screening for substance use, and willingness to disclose substance use, from the parent study.

Participant interviews included a self-administered iPad survey completed independently by each participant, which examined women's pregnancy intentions, decisional conflict, timing of prenatal care entry, and decision making for this pregnancy, and also included, demographic, health status, and health behavior questions—including questions on alcohol, tobacco, and substance use. At the one prenatal care facility in Baltimore, Maryland, participants were asked additional questions about type and frequency of illicit drug use, lifetime use, and recent use. Following the completion of the survey, the research coordinator conducted 10 to 15 minute structured interviews, which included questions about the acceptability of substance use screening as part of prenatal care and their willingness to disclose their substance use. Data from both surveys were collected using Qualtrics software. All participants were assigned a numerical study ID number. Participants received remunerations in the form of thirty-dollar gift cards.

Measures

Outcome variables. The primary outcome measures of this analysis were the acceptability of verbal alcohol, tobacco, and drug use screening as part of prenatal care and the willingness to disclose alcohol, tobacco, and drug use to a clinician during prenatal care. It is important to note that participants were asked about the acceptability of verbal substance use screening, they were not asked about the acceptability of urine toxicology screening/testing.

Primary outcome measures were compared with participant demographics, characteristics, perinatal history, and current pregnancy information.

Five-point Likert scales (1 = strongly disagree, 5 = strongly agree) were used to assess outcome variables for the acceptability of alcohol, tobacco, and drug use screening as part of prenatal care, and for participant disclosure of alcohol, tobacco, and drug use during prenatal care. Participants were asked whether they strongly disagree, disagree, neither agree nor disagree, agree, or strongly agree to the following statements: "My doctor should feel free to ask me [how much alcohol I drink; whether I smoke cigarettes; whether I use illicit or street drugs or whether I use prescription drugs for recreational use]" and "If my doctor asks me [how much alcohol I drink; whether I smoke cigarettes; whether I use illicit or street drugs or whether I use prescription drugs for recreational use] I will give a honest answer."

The results of the Likert scale outcome variables yielded ordinal data that was nonnormally distributed and skewed largely towards "agree" and "strongly agree" outcomes for both the acceptability of substance use screening and the willingness to disclose substance use. Figures 2 and 3 show the distribution of responses to the acceptability of screening and willingness to disclose use using a histogram.



Figure 2. Acceptability of Substance Use Screening in Prenatal Care.

Figure 3. Willingness to Honestly Disclose Substance Use in Prenatal Care.



As a result, the data were dichotomized from the five-point Likert scale into two outcome variables: "affirmative responses" (strongly agree and agree) and "non-affirmative responses" (neither agree nor disagree, disagree, and strongly disagree). The Likert scale response "neither

agree nor disagree" was categorized as a "non-affirmative" response along with "disagree" and "strongly disagree" and only "agree" and "strongly agree" were considered "affirmative" responses.

The decision to categorize the Likert scale into affirmative and non-affirmative responses was made for conceptual and theoretical reasons. This study utilizes both a reproductive justice (Ross & Sollinger, 2017) and a midwifery philosophy framework (ACNM Ethics Committee, 2013). Using these philosophies necessitated that marginalized and oppressed women should have personal and bodily autonomy and authority of their own health care experiences and data. As a framework, reproductive justice and midwifery honor self-determination and center women as the primary agents in their health, wellbeing, and decision-making (ACNM Ethics Committee, 2013; Ross, 2011; Ross & Solinger, 2017). It is necessary to conceptualize participant responses as either "affirmative" or "non-affirmative" to center women's voices and designate their response as either consenting or not consenting to substance use screening. An affirmative response to the acceptability of screening means that pregnant women give their consent to be screened, whereas a non-affirmative response does not equate to consent. Consider how reproductive justice responds to the forced sterilizations of women of color and women with disabilities (Brouner, 2013; Reid, 2014; Ross, 2017); while this is an example of an exceptional abuse of reproductive justice and rights and much more than infringing on a woman's right to choose or her right to consent (Lawrence, 2014), a reproductive framework insists that consent must be informed, non-coercive, and more than just the absence of *no* (Diaz-Tello & Paltrow, 2012; Graybill, 2017; Reid, 2014; Ross, 2017). Thus, the Likert scale response "neither agree nor disagree" is not considered an affirmation or consent.
Predictor variables. Predictors included tobacco use in the last twelve months and illicit drug use or recreational prescription drug use in the last twelve months. In Baltimore, Maryland, predictors related to illicit drug use also included type of drug used, which was assessed as both lifetime use and use within the last three months. Risky alcohol consumption was assessed using the three-item Audit-C scale (Alcohol Use Disorders Identification Test – Consumption), developed by the World Health Organization and validated for use with pregnant women (Dawson et al., 2005). Using the Audit-C questionnaire, three outcome variables were created to assess for risky drinking; Audit-C positive (score greater or equal to 3), any binge drinking, and binge frequency. Binge use was defined as consuming four or more drinks on a single occasion, which is lower than the 6+ threshold typically used in the Audit-C. Binge frequency is defined as the frequency of consuming four or more drinks during the past twelve months: never, less than monthly, monthly, weekly, and daily or almost daily. Previous CPS involvement was assessed and described as three categories: permanent removal of one or more of my children, temporary removal of one or more of my children.

General participant demographics and characteristics included, race/ethnicity, state of residence, gravidity, parity, and gestational age at time of interview. Three educational outcomes were assessed: less than high school, high school or GED, and some or completed college. Three employment outcomes were assessed: full-time employment, part-time employment, and not employed. Public assistance was evaluated by past-twelve-month receipt of one or more of the following programs: Emergency Assistance to Families with Children (EAFC), Temporary Cash Aid (TCA) welfare; Women, Infant's, and Children (WIC), food stamps, Supplemental Nutrition Assistance Program (SNAP), The Emergency Food Assistance Program (TEFAP); Social Security/Disability; Medicaid, Affordable Care Act (ACA); and MD and LA Medicaid or ACA

managed programs including, Medical Assistance, HealthChoice, Health Connection, LaMOMS (LA pregnancy-related Medicaid), LA Health Insurance Premium Payment Program (LaHIPP) and MD Children's Health Program. The researcher assessed access to health insurance as either having Medicaid, employment-based/self-paid/other insurance, or being uninsured. Housing insecurity was measured using a question adapted from the United States Census Bureau Survey of Income and Program Participation (SIPP) Adult Wellbeing Survey: AW35_NEED1 (United States Department of Commerce, 2008). Food insecurity was measured using three questions from the United States Department of Agriculture (USDA) Economic Research Service (ERS) US Household Food Security Survey: HH2, HH3, and AD1 (ERS, 2012).

Open-ended free text questions. Following the five-point Likert scale questions about acceptability and willingness to disclose use, participants who answered either "strongly disagree" or "disagree" to either of the questions were asked what their reasons were for not finding screening acceptable and/or not disclosing either alcohol or drug use in open-ended free text questions.

Analysis

This cross sectional study allowed an exploration of how pregnant women's acceptability of alcohol, tobacco, and drug use screening and willingness to disclose substance use might vary based on characteristics and behaviors upon entry to prenatal care. As the primary aim of this research was to elicit the perspectives of pregnant women most impacted by the adverse consequences of screening, the research team investigated how current alcohol, tobacco, or drug use and previous CPS involvement impacts a pregnant persons' acceptability of screening and willingness to disclose. Initially, descriptive statistics were generated for all variables and reported as means, frequencies, and percentages. Following descriptive analysis, the research team examined the proportion of participants who reported prenatal screening for each substance (alcohol, tobacco, and drugs) as acceptable. Next the research team examined the proportion of participants who reported willingness to honestly disclose use for each substance (alcohol, tobacco, and drugs). These statistics were reported as frequencies and percentages.

The research team then examined whether acceptability and willingness to disclose varied by the type of substance. The acceptability of alcohol, tobacco, and drug use were each compared with the willingness to disclose for each substance. This included comparing acceptability of screening for one substance with acceptability of screening with another (e.g. comparing acceptability of alcohol use screening with drug use screening) and the willingness to disclose use of one substance with willingness to disclose another (e.g. willingness to disclose tobacco use with willingness to disclose drug use).

The research team compared the two outcome variables, acceptability of screening and willingness to disclose, with each other to determine if these variables yielded similar responses or if they varied. Specifically, the acceptability of screening for alcohol use was compared with the willingness to disclose alcohol use. This was subsequently done for tobacco and drug use.

Next, the proportion of acceptability across substances was examined to highlight whether screening was acceptable for all three substances or some combination of two substances or only for one substance. Outcome categories for the acceptability were generated by substance: all three substances acceptable, only alcohol acceptable, only tobacco acceptable, only drugs acceptable, alcohol and tobacco acceptable, alcohol and drugs acceptable, tobacco and drugs acceptable, or none of the three substances acceptable. This was also done to find and highlight the differences of willingness to disclose across the three substances. The acceptability across substances was then compared with the willingness to disclose across substances. A new variable was generated to measure the proportion of participants who found it acceptable to be screened for all substances and willingness to disclose use of all three substances. This variable also identified the proportion of participants who found it unacceptable to be screened for one or more substances and the inability to disclose use for one or more substances. This variable was compared with the following key predictor variables: risky alcohol use, tobacco use, and drug use.

The research team explored whether key predictor variables were associated with outcome variables, the acceptability of screening and willingness to disclose, by performing bivariate analyses with Pearson's chi-squared tests and Fisher's exact tests to estimate association. Key predictor variables included: variables that measured risky alcohol use, tobacco use, and drug use as well as previous CPS involvement. Other predictor variables that were specifically explored were: age, race/ethnicity, insurance status, housing/food insecurity, state, and gestational age at entry to care. Lastly, the data from open-ended free text questions were transferred from Stata to an excel spreadsheet, and analyzed using open coding of each response and generating the most common responses and themes.

The research team defined statistical significance as p < 0.10. Given the small proportion of participants in this sample who found screening unacceptable and were unwilling to disclose substance use, a more generous p-value allows us to find possible associations and patterns. While this is atypical, this alpha level was selected primarily because it prevents us from discounting associations that should be explored in future research. For example, it would allow us to find any variation of acceptability of screening or willingness to disclose by substance use status if present. Given that there are very few quantitative studies exploring women's perspectives on substance use screening in prenatal care, it is also important to have a wider range of consideration for statistical significance initially. This allows for necessary future exploration of possible correlations. All quantitative analyses were performed in Stata 15.0 (StataCorp, LP, College Station, TX).

Results

Participation

A total of 753 women were approached who presented for their first prenatal care appointment during the study recruitment period. In LA, 386 women were approached which represented 97% of all potentially eligible women. In MD, 367 women were approached, representing 100% of all potentially eligible women. Of those who were eligible, 86% in each state consented to participate. In both states, women were ineligible due to age, not speaking English or Spanish, or having a nonviable pregnancy. A total of 589 pregnant women were enrolled in the study and initiated the self-administered iPad survey, 570 completed the iPad survey, and 566 participants completed both the self-administered iPad survey and the structured interview. In MD, 301 women responded to additional questions about type and frequency of illicit substance use.

Sample Description

Table 1 provides a breakdown of demographic and behavioral predictor variables for the entire sample. The majority of women identified as Black or African American, aged 18 to 24 years old, had a completed high school or some college, and received Medicaid insurance. Most participants received some form of public assistance; slightly less than half were unemployed, less than half experienced food insecurity, and a considerable minority reported housing

insecurity. Most participants reported two or more prior pregnancies and had one or more prior births. Most participants entered prenatal care during their first trimester of pregnancy. About 10% of women had previous involvement with CPS, most of who were either investigated only or had one or more children temporarily removed. Substance use within the last year was relatively common. More than a third reported binge drinking and about a fourth had risky alcohol use (Audit C positive). More than a fourth reported tobacco use and about a fifth reported drug use.

Characteristics	Frequency	Percentage
Age (years)		
18-24	200	34
25-29	179	31
30-34	125	21
35-39	74	13
≥ 40	8	1
Race/ethnicity		
Black/African American	461	79
Hispanic/Latina	55	9
white	45	8
Other/multi	24	4
Education		
Less than high school	120	21
High school or GED	286	49
Some or completed college	179	31
Employment		
Full time	176	30
Part time	122	21
Not employed	285	49
Insurance type		
Uninsured	88	15
Employment-based/self-paid/other	58	10
Medicaid	432	75
Housing insecurity		

Table 1. Characteristics of Study Participants (n = 586)

Characteristics	Frequency	Percentage
No	406	70
Yes	172	30
Food insecurity		
No	307	53
Yes	271	47
Public assistance		
No	140	25
Yes	431	75
State		
Louisiana	282	48
Maryland	304	52
Previous abortion		
No	418	72
Yes	165	28
Gravidity		
No previous pregnancies	116	20
1 previous pregnancy	128	22
2+ previous pregnancies	339	58
Parity		
0	184	32
1	148	25
2	253	43
Trimester entered PNC		
1st tri	417	72
2nd tri	130	23
3rd tri	31	5
Previous CPS involvement		
No	527	90
Yes	56	10
Type of CPS involvement		
CPS removed one or more of my		
children permanently	4	7
CPS removed one or more of my		
children temporarily	14	26
CPS investigated me, but never	_	_
removed	32	59
Other	4	7
Tobacco use		
No	408	71
Yes	167	29

Characteristics	Frequency	Percentage
Audit C positive		
No	426	74
Yes	152	26
Binge alcohol use		
No	372	65
Yes	205	35
Binge frequency (4 or more		
drinks)		
Never/none	135	40
Less than monthly	112	33
Monthly	41	12
Weekly	40	12
Daily or almost daily	12	3
Any drug use		
No	464	81
Yes	112	19

Note. GED = general equivalency diploma; PNC = prenatal care; tri = trimester; CPS = child protective services.

As mentioned earlier, in Maryland participants were asked additional questions about the type and frequency of their drug use. Table 2 provides a summary of type and frequency of illicit substance use in Maryland. Marijuana was the most common substance reported with 126 (42%) reporting lifetime use. Marijuana was also used the most frequently, with 27 women (9%) reporting daily use. Of the participants who reported illicit substance use, the majority reported lifetime use. Very few women reported regular or recent use in the last 12 months. Excluding marijuana, the most common illicit substances used in a person's lifetime were prescription opioids 24 (8%), nonprescription opioids 12 (4%), cocaine 12 (4%), sedatives 10 (3%), stimulants 8 (3%), hallucinogens 8 (3%), and street opioids 5 (2%).

Substance	Frequency	Percent
Marijuana		
Lifetime use	126	42
Monthly	7	2
Weekly	7	2
Daily	27	9
Cocaine		
Lifetime use	12	4
Monthly	0	0
Weekly	0	0
Daily	1	0
Stimulants		
Lifetime use	8	3
Monthly	1	0
Weekly	0	0
Daily	0	0
Methamphetamines		
Lifetime use	0	0
Monthly	0	0
Weekly	0	0
Daily	0	0
Inhalants		
Lifetime use	2	1
Monthly	0	0
Weekly	0	0
Daily	0	0
Sedatives		
Lifetime use	10	3
Monthly	1	0
Weekly	1	0
Daily	0	0
Hallucinogens		
Lifetime use	8	3
Monthly	0	0
Weekly	0	0
Daily	0	0
Street opioids		
Lifetime use	5	2
Monthly	0	0

Table 2. Type and Frequency of Illicit Substance Use in Maryland Participants (n=301)

Substance	Frequency	Percent
Weekly	0	0
Daily	1	0
Prescription opioids		
Lifetime use	24	8
Monthly	3	1
Weekly	1	0
Daily	1	0
Nonprescription opioids		
Lifetime use	12	4
Monthly	0	0
Weekly	0	0
Daily	0	0

Note. Prescription opioids = opioids that are prescribed by medical provider and used as prescribed. Nonprescription opioids = prescription opioids without a prescription or are used differently than how they were prescribed. Street opioids = heroin, opium, etc.

Acceptability of Substance Use Screening in Prenatal Care

Table 3 provides a summary of participant characteristics and demographics compared to the of acceptability of screening for alcohol, tobacco, and drug use and includes results of Fisher's exact tests and Pearson's chi-squared tests (χ^2) to determine statistical significance (P < 0.10). Overall, a substantial majority of pregnant women found screening acceptable for alcohol

(97%), tobacco (98%), and drug use (97%) during prenatal care.

	Acceptab	ility of alcohol	use	Acceptab	ility of tobacco	use	Acceptability	of illicit or stree	t drugs
Characteristics	•	screening		•	screening			screening)
	Acceptable N (%)	Unacceptable N (%)	p- value	Acceptable N (%)	Unacceptable N (%)	p- value	Acceptable N (%)	Unacceptable N (%)	p- value
Age (years)			0.34			0.56			0.08*
18-24	188 (34)	7 (44)		189 (34)	6 (60)		188 (32)	7 (39)	
25-29	171 (31)	3 (19)		172 (31)	2 (20)		171 (31)	3 (17)	
30-34	116 (21)	3 (19)		118 (21)	1 (10)		117 (21)	2 (11)	
35-39	69 (13)	2 (13)		70 (13)	1 (10)		66 (12)	5 (28)	
\geq 40	7 (1)	1 (6)		8 (1)	0 (0)		7 (1)	1 (6)	
Race/ethnicity			0.52			0.55			0.82
Black/African		(10) 01			(007 0		1027324	(92) 11	
AINCIICAN	(6/) 000	(10) C1		(44) (49)	8 (8U) 1 (10)		(6/) CCF	14 (/8)	
Latina/Hispanic	49 (9)	2 (13)		50 (9)	1(10)		49 (9)	2 (11)	
white	43 (8)	0 (0)		43 (8)	0 (0)		42 (8)	1 (6)	
Other/Multi	23 (4)	1 (6)		23 (4)	1 (10)		23 (4)	1 (6)	
Highest education			0.01*			0.01^{*}			0.08*
< High school	111 (20)	4 (25)		109 (20)	6 (60)		108 (20)	7 (40)	
High school or								0 150	
Como/comulated	2/1 (49)	(() 71		(00) 007	(טכ) כ		(NC) +17	(UC) 6	
sonne/compreted	169 (31)	0 (0)		168 (30)	1 (10)		167 (30)	2 (11)	
Employment			0.09*			0.35			0.17
Full time	168 (31)	1 (6)		168 (30)	1 (10)		167 (31)	2 (11)	
Part time	116 (21)	4 (25)		118 (21)	2 (20)		116 (21)	4 (22)	
Not employed	265 (48)	11 (69)		269 (49)	7 (70)		264 (48)	12 (67)	
Insurance			0.14			0.02*			0.10
Uninsured	79 (14)	4 (25)		80 (14)	3 (30)		78 (14)	5 (28)	
Employment- based/self	55 (10)	3 (19)		55 (10)	3 (30)		55 (10)	3 (17)	

Table 3. Characteristics of Study Participants and the Acceptability of Alcohol, Tobacco, and Drug Use Screening in Prenatal Care

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	Acceptat	oility of alcohol	use	Acceptał	oility of tobacco	use	Acceptability	of illicit or stree	t drugs
Characteristics		screening			screening			screening	
	Acceptable	Unacceptable	-d	Acceptable	Unacceptable	-d	Acceptable	Unacceptable	-d
	N (%)	N (%)	value	N (%)	N (%)	value	N (%)	N (%)	value
Medicaid	416 (76)	9 (56)		421 (76)	4 (40)		415 (76)	10 (56)	
Housing insecurity			0.89			0.30			0.86
No	387 (70)	11 (69)		389 (70)	9 (90)		385 (70)	13 (72)	
Yes	163 (30)	5 (31)		167 (30)	1 (10)		163 (30)	5 (28)	
Food insecurity			0.80			0.84			0.45
No	293 (53)	8 (50)		296 (53)	5 (50)		293 (53)	8 (44)	
Yes	257 (47)	8 (50)		260 (47)	5 (50)		255 (47)	10 (56)	
Public assistance			1.00			0.71			1.00
No	131 (24)	4 (25)		132 (24)	3 (30)		131 (24)	4 (22)	
Yes	412 (76)	12 (75)		417 (76)	7 (70)		410 (76)	14 (78)	
State			0.01*			0.05*			0.09*
Louisiana	256 (47)	13 (81)		261 (46.9)	8 (80)		257 (47)	12 (67)	
Maryland	295 (53)	3 (19)		296 (53.1)	2 (20)		292 (53)	6 (33)	
Gravidity			0.30			0.13			0.72
No previous pregnancy	107 (19)	3 (19)		107 (19)	3 (30)		106 (19)	4 (22)	
1 previous		(27) 7					172 (77)	(06) 3	
7+ nrevious	177 771	(ic) n		(77) 171			(77) (71	(07) (
pregnancy	322 (58)	7 (44)		326 (59)	3 (30)		320 (58)	9 (50)	
Parity			0.85			0.52			0.65
0	170 (31)	5 (31)		172 (31)	3 (30)		168 (30)	7 (39)	
1	141 (26)	5 (31)		142 (25)	4 (40)		141 (26)	5 (28)	
2	240 (43)	6 (38)		243 (44)	3 (30)		240 (44)	6 (33)	
Trimester entered			0 55			0 53			0 50
1 st Trimester	391 (77)	12 (80)	0.0	397 (72)	6(67)	00.0	307 (77)	11 (65)	0.0
2nd Trimester	125 (23)	2 (13)		125 (23)	2 (22)		122 (23)	5 (29)	

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	Acceptab	oility of alcohol	asu	Acceptat	oility of tobacco	use	Acceptability	of illicit or stree	t drugs
Characteristics		screening			screening			screening	
	Acceptable	Unacceptable	-d	Acceptable	Unacceptable	-d	Acceptable	Unacceptable	-d
	N (%)	N (%)	value	N (%)	N (%)	value	N (%)	N (%)	value
3rd Trimester	29 (5)	1 (7)		29 (5)	1 (11)		29 (5)	1 (6)	
Previous Abortion			0.26			0.07*			0.12
No	391 (71)	14 (88)		395 (71)	10 (100)		398 (71)	16 (89)	
Yes	160 (29)	2 (12)		162 (29)	0(0)		160 (29)	2 (11)	
Previous CPS									
involvement			0.39			1.00			1.00
No	496 (90)	16 (100)		503 (90)	9 (90)		495 (90)	17 (94)	
Yes	54 (10)	0 (0)		53 (10)	1 (10)		53 (10)	1 (6)	
Type of CPS									
Involvement						1.00			0.15
Removal of one or									
more children									
permanently	4 (8)	(0) (0)		4 (8)	0(0)		4 (8)	(0) (0)	
Removal of one or									
more children									
temporarily	14 (26)	(0) (0)		14 (27)	(0) (0)		14 (27)	(0) (0)	
Investigated me	31 (59)	0 (0)		30 (58)	1 (100)		31 (59)	0 (0)	
Other	4 (7)	0 (0)		4 (7)	0 (0)		3 (6)	1 (100)	
Tobacco use			0.17			0.30			1.00
No	382 (70)	14 (88)		389 (70)	9 (90)		385 (71)	13 (72)	
Yes	163 (30)	2 (12)		164 (30)	1 (10)		160 (29)	5 (28)	
Audit C Positive			0.08*			1.00			1.00
No	403 (73)	15 (94)		410 (74)	8 (80)		404 (74)	14 (78)	
Yes	147 (27)	1 (6)		146 (26)	2 (20)		144 (26)	4 (22)	
Any Binge			0.19			0.18			0.32
No	354 (65)	13 (81)		358 (65)	9 (90)		353 (65)	14 (78)	
Yes	195 (35)	3 (19)		197 (35)	1 (10)		194 (35)	4 (22)	
Binge Frequency			0.93			0.47			0.96

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	Acceptat	oility of alcohol	asu	Acceptab	oility of tobacco	use	Acceptability	of illicit or stree	t drugs
Characteristics		screening			screening			screening	
	Acceptable	Unacceptable	-d	Acceptable	Unacceptable	-d	Acceptable	Unacceptable	-d
	N (%)	N (%)	value	N (%)	N (%)	value	N (%)	N (%)	value
0	131 (40)	2 (40)		132 (40)	1 (50)		130 (40)	3 (43)	
0.5	107 (33)	2 (40)		109 (33)	(0) (0)		106 (33)	3 (43)	
1	38 (11)	$0\left(0\right)$		38 (11)	(0) (0)		38 (11)	0 (0)	
4.28	38 (11)	1 (20)		38 (11)	1 (50)		38 (11)	1 (14)	
21.4	12 (4)	0(0)		12 (4)	0 (0)		12 (4)	0 (0)	
Any Drug use			0.33			0.70			0.55
No	439 (80)	15 (94)		445 (80)	6 (00)		438 (80)	16 (89)	
Yes	109 (20)	1 (6)		109 (20)	1 (10)		108 (20)	2 (11)	
Note $GED = conorr$	od adminutation	m dinlame. DNI	1014	otal acro. CD	C - abild aroto	otivo cor			

Note. GED = general equivalency diploma; PNC = prenatal care; CPS = child protective services. *P < 0.10

Acceptability Among Participants Reporting Substance Use. Substance use was not associated with acceptability of substance use screening in prenatal care; screening was just as acceptable among those reporting and those not reporting substance use. Of the 148 participants who had risky alcohol use (Audit C positive), 1 (0.7%) found screening for alcohol use unacceptable compared to 15 (3.6%) of 418 participants who did not report risky alcohol use (P=0.08). Of the 198 participants who reported binge drinking within the last year, 3 (1.5%) found screening for alcohol use unacceptable compared to 13 (3.5%) of the 367 participants who did not report any binge drinking (P =0.19). Of the 165 participants who reported tobacco use in the last year, 1 (0.6%) found screening for tobacco use unacceptable compared to 9 (2.3%) of the 398 participants who did not report tobacco use (P =0.30). And among the 110 participants who reported illicit drug use in the last year, 2 (1.8%) found screening for drug use unacceptable compared to 16 (3.5%) of the 454 participants who did not report drug use (P =0.55).

Acceptability Among Participants with Previous CPS Involvement. Previous CPS involvement was also not associated with acceptability of substance use screening in prenatal care; screening was just as acceptable among those reporting histories of CPS involvement. Of the 54 participants with previous CPS involvement, 0 (0%) found screening for alcohol unacceptable compared to 16 (3.1%) of the 512 participants who did not report prior CPS involvement (P = 0.39). Of participants with prior CPS involvement, 1.9% found screening for tobacco unacceptable compared to 1.8% of participants without prior CPS involvement (P = 1.00). And 1.9% of those with prior CPS involvement found screening for drug use unacceptable compared to 3.3% of participants without prior CPS involvement (P = 1.00). Of the participants who had children temporarily or permanently removed by CPS none found screening for alcohol, tobacco, or drug use unacceptable.

Acceptability Compared to Participant Demographics. There were differences across age groups for acceptability of screening for drug use. In general, older age was associated with less acceptability of screening for drug use. Less education was associated with less acceptability of screening for alcohol, tobacco, and drug use. In general, unemployment was associated with less acceptability of screening for alcohol use. Employment-based or self-insurance was associated with less acceptability of screening for tobacco. Women in LA represented a higher proportion of those who find screening unacceptable for alcohol (4.8% vs 1.0%; P = 0.01), tobacco (3.0% vs 0.7%; P = 0.05), and drug use compared to women in MD (4.5% vs 2.0%; P = 0.09).

Willingness to Disclose Substance Use During Prenatal Care

Table 4 provides a summary of participant characteristics and demographics compared to the willingness to disclose alcohol, tobacco, and drug use and include results of Fisher's exact tests and Pearson's chi-squared tests (χ^2) to determine statistical significance (P < 0.10). Again, a substantial majority of pregnant women reported they are willing to honestly disclose alcohol (99%), tobacco (99%), and drug use (98%) when asked during prenatal care.

5) 1 (25) 0.20 (1) 1 (25) 19
5) 1 (25) 11 1 (25)
1)
194 (3 173 (3
2)

Table 4. Characteristics of Study Participants and Disclosure of Alcohol, Tobacco, and Drug Use in Prenatal Care

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Characteristics	Disclosur	e of alcohol u	se	Disclosure	of tobacco us	e.	Disclosure of i	illicit or street	drugs
		No	-d		No	-d		No	-d
	Disclosure	disclosure	value	Disclosure	disclosure	value	Disclosure	disclosure	value
Medicaid	424 (75)	1 (25)		424 (75)	1 (25)		421 (76)	4 (36)	
Housing insecurity			1.00			0.32			1.00
No	395 (70)	3 (75)		394 (70)	4 (100)		390 (70)	8 (73)	
Yes	167 (30)	1 (25)		168 (30)	(0) (0)		165 (30)	3 (27)	
Food insecurity			1.00			0.63			0.93
No	299 (53)	2 (50)		298 (53)	3 (75)		295 (53)	6 (55)	
Yes	263 (47)	2 (50)		264 (47)	1 (25)		260 (47)	5 (45)	
Public assistance			0.58			0.58			0.73
No	135 (24)	0(0)		135 (24)	0(0)		132 (24)	3 (27)	
Yes	420 (76)	4 (100)		420 (76)	4 (100)		416 (76)	8 (73)	
State			0.05*			0.35			0.13
Louisiana	265 (47)	4 (100)		266 (47)	3 (75)		261 (47)	8 (73)	
Maryland	298 (53)	0 (0)		297 (53)	1 (25)		295 (53)	3 (27)	
Gravidity			0.49			0.49			0.44
No previous pregnancy	110 (19)	0 (0)		110 (19)	0 (0)		109 (20)	1 (9)	
1 previous									
pregnancy	128 (23)	(0) (0)		128 (23)	(0) (0)		124 (22)	4 (36)	
2+ previous pregnancy	325 (58)	4 (100)		325 (58)	4 (100)		323 (58)	6 (55)	
Parity			0.48			0.38			0.86
0	174 (31)	1 (25)		175 (31)	0 (0)		171 (31)	4 (36)	
1	146 (26)	0 (0)		145 (26)	1 (25)		143 (26)	3 (27)	
2	243 (43)	3 (75)		243 (43)	3 (75)		242 (43)	4 (37)	
Trimester entered									
care			0.66			1.00			1.00
1st Trimester	399 (72)	4 (100)		400 (72)	3 (75)		394 (72)	9 (82)	
2nd Trimester	127 (23)	0 (0)		126 (23)	1 (25)		125 (23)	2 (18)	

Characteristics	Disclosur	e of alcohol u	se	Disclosure	of tobacco us	se	Disclosure of i	illicit or street	drugs
	Disclosure	No disclosure	p- value	Disclosure	No disclosure	p- value	Disclosure	No disclosure	p- value
3rd Trimester	30 (5)	0(0)		30 (5)	(0) (0)		30 (5)	0 (0)	
Previous Abortion			1.00			0.58			0.74
No	402 (71)	3 (75)		401 (71)	4(100)		396 (71)	9 (82)	
Yes	161 (29)	1 (25)		162 (29)	(0) (0)		160 (29)	2 (18)	
Previous CPS									
involvement			0.33			0.33			0.28
No	509 (91)	3 (75)		509 (91)	3 (75)		503 (91)	9 (82)	
Yes	53 (9)	1 (25)		53 (9)	1 (25)		52 (9)	2 (18)	
Type of CPS									
Involvement			1.00			1.00			0.35
Removal of one or									
more children									
permanently	4 (8)	(0) 0		4 (8)	(0) (0)		4(8)	(0) 0	
Removal of one or									
more children	ĺ			Í.	ć		ĺ	ć	
temporarily	14 (27)	(0) (0)		14 (27)	(0) (0)		14 (27)	(0) 0	
Investigated me	30 (57)	1 (100)		30 (57)	1 (100)		30 (59)	1 (50)	
Other	4 (8)	0 (0)		4 (8)	0 (0)		3 (6)	1 (50)	
Tobacco use			0.59			1.00			1.00
No	396 (71)	2 (50)		395 (71)	3 (75)		390 (71)	8 (73)	
Yes	163 (29)	2 (50)		164 (29)	1 (25)		162 (29)	3 (27)	
Audit C Positive			0.28			1.00			0.49
No	416 (74)	2 (50)		415 (74)	3 (75)		411 (74)	7 (64)	
Yes	146 (26)	2 (50)		147 (26)	1 (25)		144 (26)	4 (36)	
Any Binge			1.00			0.30			0.76
No	364 (65)	3 (75)		363 (65)	4(100)		359 (65)	8 (73)	
Yes	197 (35)	1 (25)		198 (35)	0 (0)		195 (35)	3 (27)	
Binge Frequency			0.13			0.74			0.28
0	132 (40)	1 (50)		131 (40)	2 (100)		131 (40)	2 (40)	

Characteristics	Disclosur	e of alcohol u	se	Disclosure	of tobacco us	še	Disclosure of i	illicit or street	drugs
		No	-d		No	-d		No	ď
	Disclosure	disclosure	value	Disclosure	disclosure	value	Disclosure	disclosure	value
0.5	109 (33)	0 (0)		109 (33)	0(0)		108 (33)	1 (20)	
1	38 (12)	0 (0)		38 (11)	0 (0)		38 (12)	0(0)	
4.28	39 (12)	0 (0)		39 (12)	0(0)		38 (12)	1 (20)	
21.4	11 (3)	1 (50)		12 (4)	0(0)		11 (3)	1 (20)	
Any Drug use			0.58			1.00			1.00
No	451 (80)	3 (75)		450 (80)	4(100)		445 (80)	9 (82)	
Yes	109 (20)	1 (25)		110 (20)	0(0)		108 (20)	2 (18)	
			,						

Note. GED = general equivalency diploma; PNC = prenatal care; CPS = child protective services. *P < 0.10

Disclosure Among Participants Reporting Substance Use. Substance use was not associated with willingness to disclose substance use screening in prenatal care; women who reported substance use were just as willing to honestly disclose their use as those not reporting substance use. Of the 148 participants with risky alcohol use (Audit C positive), 2 (1.4%) would not honestly disclose their alcohol use compared to 2 (0.5%) of the 418 participants who did not report risky alcohol use (P = 0.28). Of the 198 participants who reported binge drinking in the last year, 1 (0.5%) would not honestly disclose their alcohol use compared to 3 (0.8%) of the 367 participants who did not report binge drinking (P = 1.00). Of the 165 participants who reported tobacco use, 1 (0.6%) would not honestly disclose their tobacco use compared to 3 (0.8%) of the 398 participants who did not report tobacco use (P = 1.00). And of the 110 participants who reported drug use in the last year, 2 (1.8%) would not honestly disclose their drug use compared to 9 (2.0%) of the 454 participants who did not report drug use (P = 1.00).

Disclosure Among Participants with Previous CPS Involvement. Previous CPS involvement was also not associated with willingness to disclose substance use in prenatal care; willingness to disclose was just as acceptable among those reporting histories of CPS involvement. Of the 54 participants with previous CPS involvement, 1 (1.9%) was not willing to honestly disclose alcohol use compared to 3 (0.6%) of the 512 participants who did not report prior CPS involvement (P = 0.33). Of the participants reporting prior CPS involvement, 1.9% would not disclose tobacco use compared to 0.6% who did not report prior CPS involvement (P = 0.33). And 3.7% of those with prior CPS involvement were not willing to honestly disclose drug use compared to 1.8% of those without prior CPS involvement (P = 0.28). Of the participants who had children temporarily or permanently removed by CPS none reported they would not honestly disclose alcohol, tobacco, and drug use when screened during prenatal care.

Disclosure Compared to Participant Demographics. Insurance status was the only consistent predictor for willingness to disclose substance use across all three substances. In general, employment-based and self-insurance was associated with less willingness to disclose alcohol and tobacco. Women with employment-based, self-insurance, and no insurance were less willing to disclose drug use. Age, race, and education were predictors for willingness to disclose drug use. In general, older age was associated with less willingness to disclose drug use. Being white and having less than high school education was associated with less willingness to disclose drug use. In LA, a higher proportion of women were unwilling to disclose alcohol use compared to women in MD (1.5% vs 0%; P = 0.05).

Acceptability of Screening and Willingness to Disclose Across Substances

A substantial majority of pregnant women found screening acceptable across all three substances. Figure 4 depicts the acceptability of screening by substance. In comparing acceptability of screening across substances, eight participants found screening for only alcohol and tobacco acceptable compared to three participants who found screening for only alcohol and drugs compared to six participants who found screening for only tobacco and drugs acceptable. Seven participants found screening across all three substances unacceptable.





A substantial majority of participants are willing to disclose use across all three substances. Figure 5 illustrates willingness to disclose by substance. Six participants reported willingness to disclose for only alcohol and tobacco compared to zero participants who found screening for only alcohol and drugs acceptable compared to zero participants who found screening for only tobacco and drugs. Three participants are unwilling to disclose use across all three substances.



Figure 5. Willingness to Honestly Disclose by Substance

Table 5 compares the acceptability of screening by substance with the willingness to honestly disclose by substance. A substantial majority (538) of participants find screening acceptable across all substances and are willing to honestly disclose all substances (95%). 29 participants (5%) find screening unacceptable or are unwilling to disclose use for one or more substances.

Table 5. Acceptability of Screening by Substance Compared to the Willingness to Disclose by

 Substance.

	Willingness to Disclose by Substance										
		Alcohol									
Acceptability	All	&	Alcohol	Tobacco	Only	Only	Only	None			
by Substance	honest	tobacco	& drugs	& drugs	alcohol	tobacco	drugs	honest	Total		
All acceptable	538	1	0	0	0	1	0	0	540		
Alcohol &											
tobacco											
acceptable	4	3	0	0	1	0	0	0	8		
Alcohol &											
drugs											
acceptable	2	0	0	0	0	0	0	1	3		

	Willingness to Disclose by Substance									
		Alcohol								
Acceptability	All	&	Alcohol	Tobacco	Only	Only	Only	None		
by Substance	honest	tobacco	& drugs	& drugs	alcohol	tobacco	drugs	honest	Total	
Tobacco &										
drugs										
acceptable	6	0	0	0	0	0	0	0	6	
Only alcohol										
acceptable	0	0	0	0	0	0	0	0	0	
Only tobacco										
acceptable	2	1	0	0	0	0	0	0	3	
Only drugs										
acceptable	0	0	0	0	0	0	0	0	0	
None										
acceptable	4	1	0	0	0	0	0	2	7	
Total	556	6	0	0	1	1	0	3	576	

Reasons for Not Disclosing Use

There were a total of 37 responses to open ended questions about what women's reasons were to not discuss their alcohol or drug use with a clinician. A total of 32 participants responded to these two open ended questions. In the responses three main themes emerged which encompassed the majority of participant responses: no substance use, privacy, and stigma/fear. Less than half (15) of women stated that their reasons for not discussing alcohol or drug use with clinicians during prenatal care were because they do not use alcohol or drugs. Almost a fifth of women (6) stated their reasons were related to substance use being a private issue and almost a fifth (5) stated their reasons were related to stigma and fear. Women's responses that were categorized into stigma and/or fear specifically described the fear of losing custody of their child, fear of being jailed, and fear of being judged. Other responses that were not categorized by these three themes above, included substance use as not related to a person's health care, the legalization of marijuana, not knowing reason for not disclosing, not wanting to explain why they use, and not knowing they were pregnant at the time of their use. Additionally, one woman

described how clinicians would find out about drug use through a urine toxicology screening, she stated, "cause they're going to find it in your system anyway."

Discussion

The goal of this research was to elicit perspectives of pregnant women on substance use screening and disclosure in prenatal care, especially those who are directly impacted by the adverse consequences of screening, to better inform clinical policy and practice. We found a substantial majority of pregnant women consider screening acceptable for alcohol, tobacco, and drug use during prenatal care and also largely report that they were willing to honestly disclose alcohol, tobacco, and drug use when asked. This was also true for pregnant women who reported previous or current substance use and past CPS involvement.

Our research findings were not aligned with our original hypothesis. We initially anticipated that the majority of pregnant women, specifically, women who reported substance use or prior CPS involvement, would find screening unacceptable and would be less willing to honestly disclose their use compared to women who did not report substance use or prior CPS involvement. We were surprised to find that our data did not support this. This contrasts with previous research exploring drug using pregnant women's perspectives on substance use screening which documents fear of being identified as using substances and punishment resulting from disclosure (Murphy & Rosenbaum, 1999; Roberts & Nuru-Jeter, 2010; Roberts & Pies, 2011; Schempf & Strobino, 2009; Stone, 2015). Roberts and Nuru-Jeter (2010) found that some women delayed starting prenatal care, skipped appointments, used other women's urine to avoid detection, or used alcohol instead of drugs to avoid the repercussions they feared. Women also reported fear of "being arrested, forced to have an abortion, terminated from a prenatal care program, and being reported to CPS" (Roberts & Nuru-Jeter, 2010, p. 196). Roberts and Pies (2011) reported, "most women feared that attending prenatal care while using drugs would lead to CPS reports and losing their children" (Roberts & Pies, 2011, p.). Stone (2015) found the most common strategy for avoiding detection of substance use was avoidance of prenatal care, which was not effective for avoiding detection at delivery. Toquinto (2017) found that the fear of CPS removal of a newborn at birth not only caused ongoing trauma at the loss of a child and denial of maternal rights, but also had the potential to cause subsequent traumatic births.

While the research described above and this study explores women's perspectives on substance use screening in prenatal care, there are some important differences in regards to methodologies. Firstly, this study included pregnant women that did not report substance use. Whereas, Roberts and Nuru-Jeter (2010), Roberts and Pies (2011), and Stone (2015) were all qualitative explorations with smaller numbers of participants that specifically enrolled women who reported current or past substance use during pregnancy. Roberts and Nuru-Jeter (2010) and Roberts and Pies (2011) conducted interviews among primarily women who used methamphetamines; and Stone (2015) interviewed women who primarily used tobacco, alcohol, marijuana, and prescription drugs. This contrasts our data, a quantitative exploration of a large sample of women with more than one third who reported problematic alcohol use, more than one fourth tobacco use, and about a fifth drug use.

Yet, despite the alarming potential for adverse consequences related to screening and disclosure of substance use during prenatal care, our data show that the majority of pregnant women find substance use screening acceptable and are willing to honestly to disclose their substance use to a prenatal care provider. Screening for alcohol use was less acceptable among women who did not report risky alcohol use compared to women who did report risky alcohol use. Screening for tobacco and drug use was just as acceptable among women reporting tobacco

and drug use compared to those who did not. And women who reported alcohol, tobacco, and drug use were just as willing to honestly disclose their use as those not reporting any substance use.

Our findings are significant for many reasons. Given that screening for alcohol use was more unacceptable among women not reporting risky alcohol use compared to women who did report risky alcohol use, suggests that women themselves are the best at knowing what they need. Women should be trusted to know they might benefit from getting help from their health care provider for their drinking. Additionally, our findings challenge cultural perspectives and narratives of drug using women and women with substance use disorders, as dishonest, manipulative drug seekers. (Aker, 2002; Walker, 2017). The drug war's scripted archetypal narratives portray people who use drugs, primarily people of color and people experiencing poverty, as uncontrollable, self-destructive, abject, lacking individual agency, and criminals in need of punishment (Walker, 2017). The moral panic around crack-cocaine in the 1980s produced the famous image of the "crack whore mother" and fostered in many Americans a sense that deviant unruly women-the majority poor and Black (Roberts, 1997) -are responsible for generations living "at-risk" (Murphy & Rosenbaum, 1999; Roberts, 1997). Recently, the medicalization of drug use stigmatizes and pathologizes unmanaged drug use that is recreational or therapeutic and assumes "drug use outside the jurisdiction of medical oversight" as inherently harmful (Walker, 2017, p. 96). Women of color, especially, Black women, who use illicit drugs are not only more likely to be criminalized and punished for their use (Flavin & Paltrow 2010), they are also less likely to be afforded the sympathetic narratives of addiction as a medical issue (rather than criminal) that white women benefit from (Daniels et al., 2018; Hansen & Netherland, 2016). White women who use drugs are frequently viewed as

victims of addiction, blameless, capable of redemption, and assumed to have "full agency when it comes to their recovery" (Daniels et al., 2018, p. 13); their substance use elicits concerns rooted in the "social reproduction of white privilege and the white nuclear family" (Daniels et al., 2018, p. 15; Hansen, 2017). Health care providers are not immune to this "threat of wasted whiteness" (Netherland & Hansen, 2016) and thus frequently participate in the disproportionate surveillance and punishment of pregnant women of color.

In the context of the war on drugs and the medicalization of drug use, this study's findings show two major points of importance. Firstly, most pregnant women who use alcohol, tobacco, and drugs are willing to honestly discuss their substance use in prenatal care. Secondly, the women in this study are primarily Black and African American women, who despite being frequently stereotyped as substance users and disproportionately reported to CPS, find screening for alcohol, tobacco, and drug use acceptable and honestly disclose their use. These findings should inform health care providers' trust in pregnant women, and Black pregnant women, in regards to their disclosure of use. These findings also suggest that verbal screening for substance use during prenatal care is likely to elicit disclosure. In order to assess alcohol and tobacco use, prenatal care clinicians primarily utilize verbal screening. While urine toxicology screening is widely varied in its utilization, either universal or targeted approaches (Eichel & Johannemann, 2014; Newman, 2016; Wexelblatt et al., 2015), it is still widely being taught as a method to assess for illicit and recreational drug exposure. It reflects the medicalization and pathologization of unmanaged drug use (as opposed to alcohol and tobacco use) and a drug user as an "object of medical authority" (Walker, 2017, p. 115). This study's findings challenge the clinical assumption that we must use urine toxicology testing in order to accurately determine illicit or recreational drug use in our patients.

Findings from this research can be used to inform clinical practice and the use of verbal screening as an effective tool to elicit substance use. This is synonymous to the World Health Organization (WHO) statement that self-reporting screening is just as accurate as urine toxicology and fosters a "clinician-patient relationship without discrimination or stigmatization" (2014, pg. 7). Utilizing verbal screening for substance use as opposed to urine toxicology is a therapeutic intervention that reflects a harm reduction approach to screening in prenatal care, by minimizing the harms associated with urine toxicology—namely, the loss of trust and the practice as punitive. Verbal screening allows for the opportunity to initiate a safe nonjudgmental conversation about substance use, risk, and an individual's hopes and goals for their pregnancy and experience of care—approaching screening this way has the potential to be therapeutic. Trusting women and their own disclosure of substance use also aligns with the midwifery philosophy and approach to care. "Trusting women is at the heart of midwifery care…trust entails a firm belief or confidence in the honesty, integrity, reliability and justice of another person" (Thorstensen, 2000, p. 406).

Amidst the tension between criminalizing substance use and socially valuing motherhood as an innate component of femininity, pregnant women who use alcohol, tobacco, and drugs are devoted to being "good" mothers. Substance use in pregnancy is often seen as the antithesis of a healthy pregnancy (Murphy & Rosenbaum, 1999) or "quantifiable markers of poor mothering" (Knight, 2015, p. 88-89) in which clinicians make reports to CPS that have harmful consequences for women of color and women experiencing poverty. Yet our data shows that despite this, pregnant women are willing to disclose their use. This suggests that women are devoted to their pregnancies and motivated to seek or utilize care to achieve health. Typically, pregnant women desire healthy pregnancies, outcomes, and babies and enlist the cooperation and support of clinicians in "maximizing healthy pregnancies" (Murphy & Rosenbaum, 1999, p. 89). Roberts and Pies (2011) also found the pregnant women who use drugs attend prenatal care to ensure the health and wellbeing of their baby, detect problems early, receive reassurance, obtain prenatal vitamins, and to compensate for the effects of drug use. In some cases, disclosing use is viewed as initiating the help or resources to achieve a healthy pregnancy. Stone (2015) found that some pregnant women disclosed their use because it "showed they were good mothers" and "they hoped doctors and nurses would appreciate their honesty and affirm their motherhood identities" (p. 6). This suggests that it is the responsibility as health care providers to honor and serve women's devotion—to create and maintain safe environments where women can safely disclose substance use, communicate their needs without judgment and punishment, and make informed decisions about their care and bodies where their autonomy is honored (ACNM Ethics Committee, 2013; Thorstensen, 2000).

Midwifery philosophy aligns with these responsibilities (Oparah et al., 2018) and fundamentally understands that caregivers respect and support individuals with power and dignity (Weir, 2006). It should be the responsibility of the clinician to center the woman's desires and choices (Payne, 2007) to create safe supportive opportunities for substance use disclosure, harm reduction, and appropriate ongoing care. An additional aim of clinicians is to reduce harms during the perinatal period, including the harms associated with use but also that those associated with criminal punishment and a health care system that disproportionately surveils and regulates the bodies and pregnancies of women of color. This approach to care incorporates both midwifery and harm reduction that is informed by reproductive justice, critical race theory, and trauma informed care. The midwifery model provides an excellent template for this aim. Midwives "regard the interests of the woman and fetus as compatible" (Weir, 2006, p. 83) and respect the diversity of people's integrated, mental, social, emotional, and cultural needs as part of continuous, personalized, and non-authoritarian care (Oparah et al., 2018; Weir, 2006). Goodman (2015) found that "colocation of midwifery care in an addiction treatment program improves prenatal care attendance and coordination of care across disciplines" (p. 707). Midwives' commitment to provide care as opposed to a cure is a practice that places midwives in a unique position to better serve pregnant women who use alcohol, tobacco, and drugs. While the midwifery philosophy and commitment to care place midwives in the unique position to better serve pregnant women who use alcohol, tobacco, and drugs, midwifery might not yet be living up to these standards. Substance use is frequently pathologized and medicalized, thus women who use substances frequently "risk out" of midwifery care. Additionally, there is currently little training on this subject for midwives, and midwives are in need of support and re-orientation to better serve and support pregnant women who use alcohol, tobacco, and drugs. Despite this, our philosophy, principles, and values provide us with a unique opportunity to lead the way on truly humanizing care for pregnant women who use substances.

Despite the widespread use of screening, this research and the documented literature on the harmful impacts of substance use screening, particularly for women of color and women experiencing poverty, reveal complexities and suggest that our current approach to screening does not work for everyone, nor does it create an environment where women can safely disclose. In this study, we asked pregnant women to report how willing they were to honestly disclosure alcohol, tobacco, and drug use when asked during prenatal care. We should conceptualize the responses where women were less likely or unwilling to honestly disclose as a reflection of ability and privilege within a profoundly broken system. Ability to honestly disclose substance use is not solely determined by the patient alone, rather, it is an indication of the level of safety created by the clinician and clinic. In "recognizing the structures that shape clinical interactions" (Metzl & Hansen, 2014), the clinician and clinic bear the burden of creating a space and relationship where a patient can be willing to disclose their substance use. In this study, women who were self-insured or had employment-based insurance were less willing to honestly disclose alcohol use (P=0.03) and tobacco use compared to women with Medicaid insurance or no insurance (P = 0.03). A higher proportion of women who were self-insured or with employmentbased insurance or and women who were uninsured were unwilling to disclose drug use compared to women with Medicaid insurance (P = 0.01). Older women and women who identified as white were less willing to disclose drug use compared to women of color and younger women. These findings suggest that substance use screening in prenatal care may not be working for these groups of women. Interestingly, as described above women who are culturally and historically the most privileged (white, older, with self- or employment-based insurance) are less willing to honestly disclose their use compared to women who do not have cultural and historical privilege, namely, younger, poorer women, women of color, and women with public insurance. Perhaps this is because women of color and women experiencing poverty with public health insurance or Medicaid have long been the subject of surveillance, and substance use surveillance during their pregnancies. More research is needed to understand these characteristics in regards to substance use screening in prenatal care.

In prenatal health care, providers suffer from the habit of classifying and dichotomizing pregnant bodies into "low risk" and "high risk" pregnancies (Bridges, 2016) where risk is rooted in assumptions of race, socioeconomic status, insurance type, or what substance is used. This classification of risk originates as concern and protection for the fetus (Weir, 2006) where "risks are calculated and assessed in order to rationalize surveillance" (Clarke et al., 2003, p. 172). It

also serves to designate individuals into midwifery care or medical care. In fact, midwives fundamentally "objected to clinical opinions about normal and pathological being organized through risk reasoning" (Weir, 2006, p. 79) and the "interaction with risk-based prenatal care thus formed a mark of midwifery's inclusion in the formal health care sector" (p.77). Pregnant women who use alcohol, tobacco, and drugs are frequently viewed as "high risk" and thus risk out of midwifery care in many prenatal care settings. Most forms of substance use have become both medicalized and pathologized in health care through efforts to qualify substance use or addiction as a medical or neurobiological issue and not as a moral failing (Tiger, 2017). However, this dichotomization into risk categories does not best serve pregnant women who use substances. The separation of bodies into risk categories based on alcohol, tobacco, and drug use effectively authorizes the subjugation of pregnant women who use substances, where women are then seen as "compliant" or "non-compliant." Bridges (2011) refers to pregnant women who are "non-compliant" as "unruly" and argues that the only real exit from this system or "technocratic model of pregnancy" falls outside of health care within institutions (p. 89); she draws our attention to the tenacious control of an inherently flawed structural health care system that is deeply entangled in the carceral state. Until this system is effectively dismantled and rebuilt anew, the midwifery model offers a potential alternative to risk based care, which subscribes to an ethos that honors health beyond risk (Weir, 2006) and asserts that women are the experts and authorities of their choices and experiences and have "agency to make to make decisions that are best for themselves and their families" (Harm Reduction Coalition, 2016; Ross & Solinger, 2017, p. 249).

Limitations

This study had several limitations. First, this research thesis is a secondary analysis of existing data that was not collected to address the particular research question. The very nature of secondary analysis is a limitation in which the data reflect "the views and questions of the original researcher and may not adequately fit the specific research question or purpose of the secondary investigator" (Hien et al., 2015, p. 25); the researcher who performed data analysis was not involved in the study design, recruitment, or data collection processes and may be unaware of nuances or biases (Cheng & Phillips, 2014; Coyer & Gallo, 2005).

Second, given that substance use during pregnancy is highly stigmatized it is possible that participant's disclosure of substance use was under-reported. Participants were recruited from the location of where they were receiving prenatal care. Thus, it is possible that women were less likely to disclose use if they feared their answers might be shared with the prenatal care facility's staff. This was likely minimal since participants enrolled in this study were provided reassurance that participant responses and data would not be shared with the prenatal care facility staff as part of obtaining consent. It is also possible that using a Likert scale question to elicit participant honesty in regard to discussing their substance use with a clinician may not be a great measurement of willingness to disclose. Willingness to disclose use might also be explored with qualitative strategies to better understand the complex barriers that might increase a person's unwillingness to disclose.

Dichotomizing or collapsing the continuous five-point likert scale outcome variables into "affirmative" and "non-affirmative" responses may yield a loss of information (MacCallum et al., 2002). According to Streiner (2002), "tests based on dichotomized variables are generally less powerful than those based on continuous variables" (p. 264) which can impact tests of

statistical significance (MacCallum et al., 2002). While the decision to dichotomize the Likert scale was made based on theoretical and conceptual information, and the distribution of study responses, Streiner (2002) argues that the decision to split a scale at a clinically important point does not always correspond with the best place from a statistical point of view. However, both Streiner (2002) and MacCallum et al (2002) state that dichotomizing a continuous variable is justified when the distribution of that variable is highly skewed, which was true for these data. Our decision to select an alpha of 0.10 poses a potential limitation. We appreciate that an alpha of 0.05 is more widely used and considered standard. We also appreciate that determining statistical significance P < 0.10 potentially increases the possibility of type I errors, or false positive findings.

While this study has a moderate sample size for a quantitative exploration, the sample size may not be sufficient to identify more subtle relationships between characteristics and acceptability of screening and willingness to disclose use. Additionally, the research was conducted and data collected from four clinic sites in Baltimore, Maryland and Southern Louisiana. It is possible that clinic location, the fact that clinics were university affiliated, or the possible uniqueness of the clinic limits the generalizability of the results. More research is needed nationally, in other states, and in both rural and urban areas.

Lastly, while this study aimed to capture the voices and perspectives of pregnant women who are disproportionately punished by the adverse consequences of screening, we may not have captured the voices of women most frequently targeted for substance use screening. Participants in this study primarily entered prenatal care during the first trimester, thus, the women entering prenatal care in the second and third trimesters who are considered "late to care" and often under more scrutiny for substance use may not have been adequately represented in this study. We may
not have captured a sample of pregnant women who use drugs that commonly result in reports to CPS and child welfare. In Maryland, of the women who reported illicit substance use, the majority reported marijuana use. Very few women reported use of cocaine, opiates, or methamphetamines. As others have found, alcohol, tobacco, and marijuana are less likely to initiate reports to CPS, removal of children from a parent's custody, and criminal punishment (Prindle, Hammond, & Putman-Horstein, 2018). More research is needed to understand the perspectives of substance use screening for pregnant women who use criminalized illicit drugs or have those who have been diagnosed with substance use disorders (SUDs).

Strengths

This research captures pregnant women's perspectives on substance use screening and willingness to disclose in Louisiana, a state with multiple punitive policies on substance use in pregnancy, including the punitive child welfare laws. During the time of this study, Louisiana had five alcohol and drug policies in effect compared to Maryland, which had only two alcohol and drug policies in effect. Both Louisiana and Maryland had policies that mandated reporting to CPS or a health authority based on suspicion or evidence of alcohol and drug use and the child welfare law, where substance use is considered child abuse or neglect (Guttmacher Institute, 2018; Roberts et al., 2017). Louisiana's additional policies included priority mandated reporting to a health authority for provision of health services, access to substance use treatment, and limits on criminal prosecution for substance use during pregnancy (Roberts et al., 2017). Our data showed that screening for alcohol and drug use was less acceptable in Louisiana compared to Maryland could be related to Louisiana's more ethically questionable, punitive substance use policies. These differences reflect literature on the adverse repercussions of these policies, namely, fear of CPS involvement or investigation, being seen as endangering the pregnancy.

being forced into treatment, or removal of child or children (Murphy & Rosenbaum, 1999; Roberts & Nuru-Jeter, 2010; Roberts & Pies, 2011; Schempf & Strobino, 2009; Stone, 2015).

Conclusion

Overall, pregnant women found substance use screening in prenatal care acceptable and were willing to honestly disclose their use when asked by a prenatal care provider. Screening for alcohol use was more unacceptable among women not reporting risky alcohol use compared to women who reported risky alcohol use. Apart from this finding, women who reported substance use were just as likely to find screening acceptable for tobacco and drug use. Women with prior CPS involvement were just as likely to find screening acceptable for alcohol, tobacco, and drug use. And women, who reported substance use or prior CPS involvement, were just as willing to honestly disclose alcohol, tobacco, and drug use. These findings are significant as they challenge widely held perceptions of pregnant women who use drugs, and suggest that verbal screening is acceptable as a means of assessing substance use in prenatal care.

Future Considerations and Directions

While government and professional health care organizations generally accept universal substance use screening in prenatal care, the implications of prenatal substance use screening are far-reaching and potentially long lasting, thus screening must be informed by women who are frequently impacted by the adverse consequences of screening. In this analysis, pregnant women, including women who reported substance use or prior CPS involvement, found substance use screening in prenatal care acceptable and report honestly disclosing their use when asked by a prenatal care provider. Findings from this research are significant for three reasons. Firstly, this research challenges widely held perceptions of pregnant women who use drugs, by clearly illustrating that pregnant women who use alcohol, tobacco, and drugs are honest with prenatal

care providers about their use. Combating these inherently racist narratives of people who use drugs should shift these dominant perspectives towards humanizing people who use drugs and will hopefully inspire nurses, midwives, doctors, policy makers, and the public to adopt harm reduction and trauma-informed approaches to caring for and supporting people who use drugs, as opposed to criminal punishment, regulation, and denial of motherhood.

Secondly, as we have established that pregnant women who use substances honestly disclose this use to their providers, this research can inform the utilization of verbal screening as opposed to urine toxicology testing in prenatal care. Verbal substance use screening conveys that health care providers trust pregnant women. Establishing this mutual trust is at the heart of midwifery care and is critical to reducing oppression and harm within perinatal care systems and institutions. Lastly, this study demonstrates that pregnant women are typically devoted to their pregnancies and motivated to "achieve health" under the standards of our current prenatal care system. As stated earlier, it is the responsibility as perinatal care providers to create and maintain safe environments where women can safely disclose substance use, communicate their needs without judgment and punishment, and make informed decisions about their care and bodies where their autonomy is honored. A harm reduction and trauma-informed midwifery approach to substance use screening and disclosure in perinatal care serves women's dignity and selfdetermination and honors their health care goals and formation of their families; it utilizes a person-centered approach to care that considers women as experts of their own experiences. Midwives have a unique opportunity to lead the way to provide truly humanizing care that is person-centered and meets individuals where they are at.

While these findings should be utilized to inform current policy and clinical practice to challenge perspectives and reduce the incidence of screening as a form of surveillance, it is also

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critical to consider a larger more global critique of substance use screening in prenatal care with the lens of structural violence. Do our prenatal care systems create an environment where women are able to decline screening or make informed refusals? If screening is ubiquitous in our prenatal care systems, do we foster an environment where women are able to say screening is unacceptable? In order to truly reduce and eliminate the harms of the prenatal substance use screening and surveillance in the form of CPS reports and investigations, we must consider what the aims of screening are and whether they actually improve birth outcomes? We must consider the root of screening and who's interests we are operating to protect—do we screen for substance use to benefit the pregnant person or protect the fetus? Do we consider the pregnant person and the fetus as two separate entities with opposing interests? When we screen routinely for the sake of documentation and prenatal systems without adequate referral resources to harm reduction programs, family focused treatment programs, and trauma-informed substance use programs we are effectively screening for the sake of surveillance, which frequently and disproportionately harm and regulate the pregnancies of women of color and women experiencing poverty. As such, screening subjugates the reproduction of women of color and maintains social hierarchies rooted in concerns for the social reproduction of white privilege.

Despite this study's findings that pregnant women consider screening acceptable and honestly disclose their use, as individual health care providers, public health officials, policy makers, and community members we must remain critical of how our actions, policies, and complacence with this system frequently cause and perpetuate harm to vulnerable women, families, and communities. "It is critical to build understanding of how social and economic conditions contribute to harmful use of alcohol and drugs so that future policies can address those causes, creating opportunities to intervene upstream" (Bishop et al., 2017, p. 55). Substance use during pregnancy likely reflects downstream implications of poverty, trauma, immigration, gentrification, incarceration and oppression, and "upstream decisions about such matters as health care and food delivery systems, zoning laws, urban and rural infrastructures, medicalization, or even about the very definitions of illness and health" (Metzl & Hansen, 2014 p.5). Our interventions moving forward need to improve the accessibility of health, make substance use safer, reduce use for those who want it, and decriminalize substance use. We must examine the tension between women who are most frequently and disproportionately targeted for substance use screening or reported to CPS (women of color and women experiencing poverty) who find screening acceptable and are willing to honestly disclose their use. What does this say within this system that frequently harms them? Compare this to women who have societal and historical privilege (white women, older women, women with self-insurance or employmentbased insurance [economic privilege]) who were less likely to find screening acceptable and less willing to honestly disclose their use. What does this say within a system that benefits them? This tension suggests some women have privilege to make informed refusals, to decline, or not honestly participate in substance use screening. We must remain critical of how our actions, policies, and complacence with this system frequently cause and perpetuate harm to vulnerable women, families, and communities. We must begin to incorporate women's voices and perspectives into the larger conversation of screening that should ultimately inform our clinical practices. As health care providers, public health officials, policy makers, researchers, and community members we need to be actively advocating for upstream decisions and interventions that lead to equitable individual and community health.

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