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Empowering Providers to Empower Their Patients: One Model to Expand Knowledge, Competency, and Awareness for the Perinatal Substance Use Workforce

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Empowering Providers to Empower their Patients: One Model to Expand Knowledge, Competency, and Awareness for the Perinatal Substance Use Workforce

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ABSTRACT

Perinatal substance use (PSU) is a serious and growing public health concern. It is associated with a variety of adverse health outcomes for both mother and child and has been shown to negatively impact the parent-child relationship. Despite the growing prevalence of PSU, there are notable deficits in provider knowledge regarding, and comfortability with, PSU. Moreover, providers report feelings of judgment, resentment, fear, and hesitancy related to their work with women with PSU. Subsequently, women with PSU struggle to find appropriate, compassionate, and effective treatment for their substance misuse. Widespread and accessible training is needed to bolster provider knowledge base, reduce stigma, shame, and increase quality of service provision and care for women with PSU. This paper aims to outline the development and structure of a PSU training to serve as a one model to expand knowledge, competency, and awareness for the PSU workforce. I begin with a review of the prevalence of PSU and its impact on maternal and infant wellbeing. Theoretical underpinnings of PSU are explored, including a specific discussion regarding the interplay between the neurobiology of addiction and the parent-child attachment system. Subsequently, the current state of the PSU workforce and the need for training is discussed. The paper ends with an in-depth review of a PSU training developed in collaboration with the University of Denver, Colorado Department of Public Health (CDPH), and the Colorado chapter of Postpartum Support International (PSI). Implications for the field and potential future directions are explored.

INTRODUCTION

Perinatal substance use (PSU; i.e., substance use during pregnancy and the first year postpartum) is a serious and growing public health concern in the United States (Deutsch et al., 2021). PSU poses significant risks for both mother and child, including increased rates of maternal and infant mortality, developmental delays, and long-term health impairments (i.e., learning disabilities, mental health difficulties, and regulatory concerns) (Kramlich et al., 2018; Maralit et al., 2022; Renbarger et al., 2020).

Prevalence rates of PSU are difficult to accurately estimate due to maternal concerns related to stigma, policy, mandating reporting, and the subsequent risk of child welfare involvement. Current data suggests that alcohol, cannabis, and tobacco are the most common substances used during pregnancy (Forray et al., 2016). Of approximately 4 million births in 2017, 8% (340,000 infants) were born affected by illicit substances, 12% (460,000 infants) were born alcohol exposed, and 15% (588,000 infants) were born exposed to tobacco (Deutsch et al., 2021). In addition, in the last decade alone the prevalence of births associated with opioid use disorders (OUD) has quadrupled, increasing from 1.5 per every 1,000 deliveries to 6.5 per every 1,000 deliveries (Schiff et al., 2017). Marijuana use and stimulant use during pregnancy have followed a similar increasing pattern, with recent reports showing 4.2% and 3.4% (respectively) of pregnant women reporting use (Smid et al., 2019; Ko et al., 2020). While it is likely that current prevalence rates underestimate the true scope of the issue, it is evident that the frequency of PSU is on the rise.

PSU is associated with determinantal risks to both mother and child including labor and delivery concerns (i.e., stillbirth, preterm birth, low birth weight, SIDS, etc.),

maternal viral infections, and birth defects (Maralit et al., 2022; Renbarger et al., 2020). Neonatal Abstinence Syndrome (NAS) (i.e., postnatal opioid withdrawal) is associated with infant dysregulation, hyperirritability of the central and autonomic systems, tremors, weight loss, and seizures (Kramlich et al., 2018). Fetal Alcohol Spectrum Disorders (FASDs) are associated with various long term health impacts including executive functioning difficulty, learning impairments, decreased impulse control, and mental health concerns including ADHD, depression, anxiety, future substance misuse, and increased likelihood of incarceration later in life (Maralit et al., 2022).

Due to concerns for infant wellbeing, many pregnant women report a significant reduction and/or cessation of substance use during pregnancy. However, recent prevalence? data demonstrates a steep increase in substance use between six months to one year postpartum, when infant-maternal bonding is crucial for development (Forray et al., 2016).

RACIAL AND ETHNIC DISPARITIES

PSU exacerbates the already overwhelming racial inequities related to maternal and infant health and wellbeing (Le & Coombs, 2021). While literature clearly demonstrates that women across income levels and racial/ethnic groups are equally susceptible to developing a substance use disorder, there are vast disparities in current screening, assessment, and reporting practices related to PSU (Benoit et al., 2014; Wallman et al., 2011). Pregnant women of color are both more likely to be screened and assessed for substance use concerns and more likely to subsequently be reported to child welfare services than white women (Benoit et al., 2014; Garg et al., 2010; Le & Coombs, 2021). The biased screening and assessment practices arbitrarily inflate reported

prevalence rates of PSU for women of color reinforcing inaccurate and racist beliefs regarding patterns of substance misuse in communities of color (Stone, 2015).

Both historical and current oppressive policies and practices perpetuate patterns of for fear and hesitancy regarding the health care system women of color and result in a low standard of care for women of color with PSU (Le & Coombs, 2021). Moreover, biased screening and reporting practices contribute to the long-standing criminalization of women of color and reinforce patterns of intergenerational trauma and psychological pain (Garg et al., 2010; Le & Coombs, 2021; Maralit et al., 2022).

WHAT TO EXPECT WHEN YOU'RE EXPECTING… AND IN RECOVERY

Substance use disorders have historically been conceptualized as a siloed concern (i.e., separated from other areas within behavioral health) (Bell & McCutcheon, 2020). While this reductionistic approach is problematic for individuals with substance use disorders in a general sense, it is particularly determinantal for women with PSU. Given the unique etiology, clinical presentations, challenges and needs of women with PSU, a holistic understanding is imperative for effective treatment and support.

Expecting or newly parenting mothers with PSU face an exorbitant amount of shame and stigma. They tend be viewed as morally corrupt, selfish, and sexually irresponsible due to their "choice" to have a child while in active addiction (Nichols et al., 2020). However, the road to PSU is much more nuanced than it would appear on the surface. To start, women are more quickly susceptible than men to developing the disease state of addiction. A phenomenon referred to as *telescoping* details how, in general, smaller doses of the substance for shorter periods of time are required for women to

develop an addiction to their drug of choice. Moreover, women tend to experience higher levels of cravings, making it more difficult for them to maintain sobriety (National Institute on Drug Abuse, 2020). Further, prolonged patterns of substance misuse dysregulate menstrual cycles, increasing the likelihood of unplanned or unrecognized pregnancy (Speroff & Fritz, 2005). Thus, what on the surface appears to be reckless decision to enter parenting while in addiction is in actuality a highly complicated interaction between genetics, addictive substances, neurobiology, and hormones.

In addition to the unique etiology of addiction in women, the underlying mechanisms behind *why* perinatal women (and individuals more generally) use substances is largely misunderstood. The popularly held belief is that an individual uses drugs to illicit a "high" (i.e., euphoria, extreme relaxation, boosted mood, etc.). However, emerging research has demonstrated that, while substances may generate a high sensation, the motivation for use is more directly related to the human need for connection, safety, and regulation (Khantzian et al., 2014; Tippett, 2020).

Research has clearly demonstrated the relationship between attachment and addiction. Our attachment system and regulatory systems are interconnected; meaning, it is through the intersection of these systems that we cope, manage, and regulate our distress (Parolin & Simonelli, 2016). Attachment and regulatory patterns are established within our relationship with our primary caregivers in early childhood. Insecure attachments, very generally, occur when a caregiver struggles to provide a child with adequate comfort when they are distressed. That child will likely then struggle to learn effective strategies to cope on their own, resulting in long term regulatory deficits, limited coping skills, and insecure patterns of relating to others and their world (Guyon-

Harris et al., 2022). Substances effectively, and often rather quickly, manage and quiet internal distress, replacing the regulatory deficits resulting from an insecure attachment (Khantzian et al., 2014; Padykula & Conklin, 2010). From this perspective, patterns of substance abuse are, at their core, simply an attempt to find safety and stability in a world that feels uncertain and dangerous.

IMPLICATIONS FOR THE PARENT-CHILD RELATIONSHIP

The intersection of the neurobiology of addiction and attachment has direct implications for treatment, recovery, and the parent-child relationship (Guyon-Harris et al., 2022; Parolin & Simonelli, 2016). As discussed above, substance use disorders can be conceptualized as an attempt to compensate for insecure attachment histories and regulatory deficits. While substances may serve to temporarily conceal or quiet distress, an insecure attachment can result in a host of other emotional deficits that are not mitigated by substance use. For instance, an individual with an insecure attachment history may find they have limited emotional awareness and reflective functioning capacity, and struggle to connect and attune to other's emotional experience (Lyden et al., 2013; Goodman et al., 2008). These deficiencies can hinder a mother's ability to attune to her infant's emotional experience which, in turn, impacts the parent-child relationship and impedes the development of a secure attachment.

Women with PSU report feelings of distance and lack of connection to their infant, as well as feelings of shame and inadequacy as they do not seem to experience the same levels of maternal-infant bond as their peers (Guyon-Harris et al., 2022). However, this feeling of disconnection is likely unrelated to a lack of desire for closeness with their baby. Rather, it stems from the enduring neurobiological effects of substance misuse.

Prolonged substance use has the capacity to impair prefrontal cortical functioning and leave individuals more vulnerable to stress. A history of substance misuse lowers levels of dopamine in the brain, subsequently shifting the neural circuity related to reward and motivation by producing less dopamine to accommodate for the influx from excess substance use (Volkow et al., 2016). Stated more simply, individuals feel less natural motivation to work through stressful situations given the absence (or limited nature) of a reward (i.e., dopamine) following completion.

These deficits have direct implications for parenting as dopamine is a key factor in maternal motivation and behavior (Rutherford et al., 2013; Suchman et al., 2011; Parolin & Simonelli, 2016). Mothers with PSU will likely experience less intrinsic motivation to care for their distressed baby, which, without proper support and treatment, can hinder the developing parent-child relationship. Moreover, the shifts in dopamine production leave mothers with PSU more vulnerable to the impact of parenting-related stress, which can in turn result in higher cravings and increased likelihood of relapse (Rutherford et al., 2013; Suchman et al., 2011; Parolin & Simonelli, 2016). In sum, attachment and regulatory deficits related to substance misuse transmit across generations and create problems for the mother, the child, and the parent-child dyad (Lyden et al., 2013).

THE NEED FOR TRAINING

Pregnancy and the postpartum period present a prime opportunity for effective treatment of PSU. Mothers are more likely to engage in prenatal care, seek substance use and mental health treatment, and stay engaged in treatment due to their desire to care for their baby (Kissin et al., 2004). Early and active involvement in prenatal care and

treatment have been shown to mitigate some of the health risks associated with PSU, improve maternal-infant relationship quality, and has demonstrated the potential to dismantle intergenerational cycles of attachment insecurity (Lynden et al, 2013; Kramlich et al, 2020; Renbarger et al., 2019). Recognizing the importance of intervention during this period, the American College of Obstetrics and Gynecologist (ACOG) and the American Academic of Pediatrics (AAP) currently recommend universal substance use screening to identify women and families in need of services. However, it is often not addressed or discussed due to provider lack of familiarity or comfort level (Garg et al., 2015; Deutsch et al., 2021).

Moreover, despite clear research that specialized treatment for PSU is the most effective, tailored treatment options for women with PSU are largely limited (Coiffi et al., 2019; Clark et al., 2001). Most providers do not receive specific training in PSU and subsequently may not feel comfortable or competent working within this subset of the population (Maralit et al., 2022). Bell and McCutcheon (2020) reviewed the lack of adequate substance use training within psychology training programs. Their work concluded that psychologists continue to be trained to view substance use disorders as separate from mental health, perpetuating patterns of psychologists' feelings of incompetency and fear regarding working with clients with substance use disorders (Bell & McCutcheon, 2020). A similar theme is found throughout medical providers' experience of their training related to PSU. Pediatric training, for both medical students and nurses, rarely highlights the unique considerations for caring for a substance exposed dyad (Schiff et al., 2017). The lack of sufficient training results in medical providers feeling overwhelmed, burdened, fearful, and resistant to treat women with PSU (Nicholas

et al., 2020; Clarke et al., 2015; Marcellus, 2014). In addition, there are notable deficits in both medical and behavioral health provider knowledge regarding PSU, its impact on the mother-infant dyad, and the relationship between PSU and psycho-social determinants of health (i.e., health problems, poverty, violence, trauma, etc.) (Howlett et al., 2019; Marcellus, 2014). Many women with PSU describe significant gaps in their own understanding of how PSU may impact their pregnancy, as well as feelings of shock and disbelief following delivery as they witness their babies' PSU related health difficulties and withdrawal. Without a strong provider knowledge base to learn from, mothers are left isolated and unsure of how advocate for their health care and wellbeing (Kramlich et al., 2018).

THE ROLE OF STIGMA AND SHAME

The stigma and shame associated with PSU pose a major barrier to access, engagement, and retention in treatment (Schiff et al., 2017). As noted above, providers' biases are generally founded on the misconceived notion that mothers with PSU have complete and total agency over their substance use and health. These internalized biases have the power to influence provider perception of their patient/client, subsequently leading them to view PSU as a morally deviant and irresponsible life choice (Benoit et al., 2014). Many women with PSU describe interactions with their providers as "judgmental, disparaging, scrutinizing, [and] disempowering" (Renbarger et al., 2020). The shame experienced within appointments with their providers exacerbates the degradation and stigma they experience within the culture at large, reinforcing their tendency to avoid disclosing their substance use, delay treatment, and continue engaging in risky behaviors (Benoit et al., 2014; Paris et al., 2020; Livingston et el., 2011).

Conversely, a provider – patient/client relationship that is founded in trust, emotional safety, and openness is clearly associated with better treatment outcomes and increased likelihood of long-term recovery (Kramlich et al., 2018). Research has demonstrated that increased education, training, and exposure to PSU can reduce stigma/bias and increase comfort level of providers, which in turn leads to better patient care and improved outcomes (Maralit et al., 2022).

In sum, the educational deficits and shame-based practices have direct, negative, implications for the health and wellbeing of the mother, child, and their relationship. Widespread and accessible training is needed to bolster provider knowledge base, reduce stigma and shame, and increase quality of service provision and care for women with PSU. Thus, this paper aims to outline the development and structure of a PSU training to serve as a one model to expand knowledge, competency, and awareness for the PSU workforce.

METHODS

The PSU training model was created in collaboration with the University of Denver, Colorado Department of Public Health (CDPH), and Postpartum Support International (PSI). Training development was spearheaded by the University of Denver team (this author, Dr. Tracy Vozar, Dr. Kelly Lavin, and Dr. John Holmberg).

Team members from CDPH (Jessica Bass, Kallen Thorton, and Kacey Bernard) and PSI (Kristin Aaker) reviewed training material throughout stages of development to provide feedback and constructive guidance. Psychologists and psychiatrists with content expertise in maternal behavioral health and perinatal substance use disorders (Dr. Patrece Hairston Peetz and Dr. Kaylin Klie) reviewed the training as well to provide additional

feedback. Team members from CDPH organized logistics related to training scheduling, securing a location to host the training, and advertisement and enrollment for the event.

CURATING THE CONTENT

In preparation for the development of this training, a thorough review of current literature related to perinatal mental health, infant mental health, attachment, PSU, and provider knowledge base, perception, and comfort with PSU was conducted. In addition, current available trainings related to PSU were reviewed. Information gained from the literature and current available trainings were utilized to inform and develop this training.

Given the vast nature of available literature, included content and themes needed to be carefully considered and selected. The team established four main learning objectives to refine content selection: (1) increase general understanding, knowledge base, and comfortability with PSU; (2) increase contextual understanding of PSU, including its intersection with social determinants of health, multicultural considerations, and mother-infant relationships; (3) provide introductory knowledge regarding theoretical perspectives on PSU and how they impact your community and practice; and, (4) increase understanding of resources, referrals, and tools that can employed while working with patients/clients with PSU.

CONSIDERATIONS REGARDING THE TARGET AUDIENCE

Prior to starting the content development stage, we worked to thoughtfully consider the most appropriate and effective target audience for the training. Literature has clearly documented the benefit of integrated, multidisciplinary, and holistic treatment services for women with PSU (Benoit et al., 2014; Crane et al, 2019; Sahker et al., 2015; Tarasoff et al., 2018). Thus, the training was intentionally designed to be delivered to a

multidisciplinary audience of health care providers that work with mothers, children, and families (i.e., nurses, doctors, psychiatrists, psychologists, social workers, home visitors, etc.). Content was curated to provide an accessible overview of PSU and introductory content with the aim of increasing provider comfortability and knowledge base and reducing stigma.

RESULTS

The following section reviews the training structure, including the four developed training modules and their aims.

USE OF CLINICAL CASE VINGETTES

Clinical vignettes were utilized throughout the training to help illustrate the lived experiences of mothers with PSU. At the start of the training, participants are introduced to three women: Olivia, Emily, and Sara (pseudonyms utilized). The women's stories represent a range of clinical presentations of PSU. Olivia, for instance, began using opioids when she was 12 years old, stealing pain pills from her mother's cabinet. Her use escalated throughout the years to heroin and eventually methamphetamine. Emily's story highlights a notably different journey through PSU. Her first experience of substance misuse did not occur until her mid-thirties, following the birth of her 4th child when she was prescribed pain pills by her OBGYN due to complications from labor and delivery. The third mother's story, Sara, illuminates her struggle with alcohol abuse after moving to a small town for her partner's job. The clinical vignettes grow in complexity and depth throughout the training. As participants move through the learning modules, they learn more about the three women as it relates to the knowledge base covered in the module. Participants are asked to reflect upon the women's stories throughout the training,

noticing if, and how, their perceptions of them shift as the gain more knowledge and understanding. The clinical vignettes are designed with the hope of enhancing participant empathy, understanding, and supporting participants in contextualizing PSU within the larger structure of an individual's life, and in turn increasing relatability and decreasing stigma.

MODULE 1: UNDERSTANDING PERINATAL SUBSTANCE USE (PSU): AN INTRODUCTION TO SUBSTANCE USE DURING THE PERINATAL PERIOD

Given the multidisciplinary target audience, the intention of the first module is to lay foundational knowledge blocks regarding PSU that can be built upon throughout the training. This includes a review of epidemiology and prevalence rates. Since this training was developed for a Colorado audience, prevalence rates across the United States (figure 1) and specifically related to Colorado (figure 2) are included.

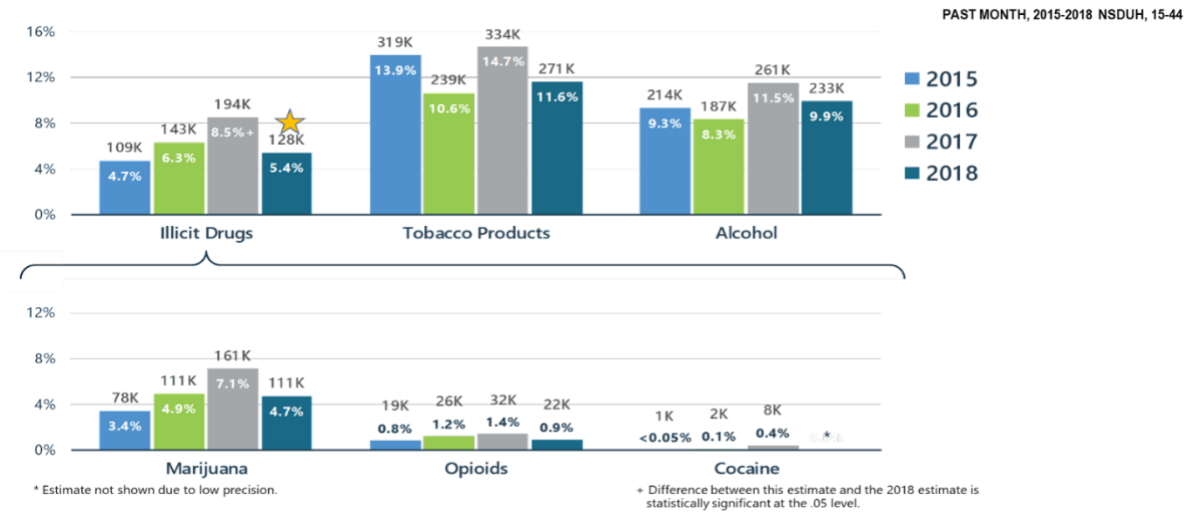


Figure 1

Figure 1. Past month substance use, Colorado women ages 18-44 years, 2011-2017.[12]

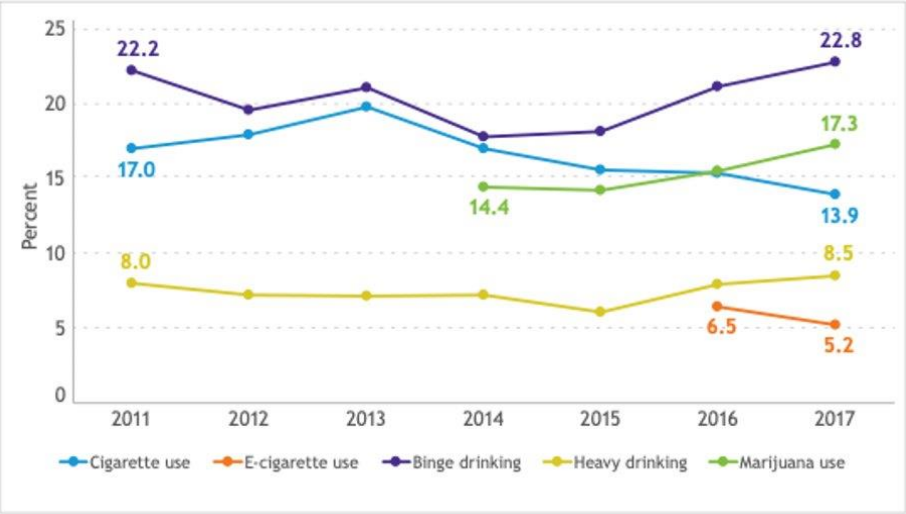


Figure 2

In addition, DSM-5 TR substance use disorder diagnostic criteria is reviewed. Risk factors and correlates, such as epigenetics, chronic pain, family current use and history of use, life experiences, social determinants of health, trauma, and comorbid disorders are discussed (Brown et al., 2019; Roos et al., 2012). Finally, an introduction to the neurobiology of PSU and gender specific differences within addiction is provided. This includes a brief review of shifts in neurobiology related to prolonged substance use and its impacts on parenting (as discussed above).

MODULE 2: SOCIAL JUSTICE, SYSTEMIC RACISM, AND SUBSTANCE USE DISORDERS

The second module has two aims: (1) to provide an educational overview of systemic and structural racism and its impact on substance misuse and (2) to invite participants to reflect upon their own biases and the impact bias may have on their work with mothers with PSU. The four levels of structural, institutional, interpersonal, and individual racism are utilized to promote discussion and reflection related to PSU and maternal behavioral health (figure 3). Specific discussion of biased screening, reporting

practices, and deficient treatment practices within communities of color impacted by PSU are discussed. In addition, participants are invited to reflect and question their own biases and experiences across the levels of racism. Opportunities for large group and small group discussion are provided.

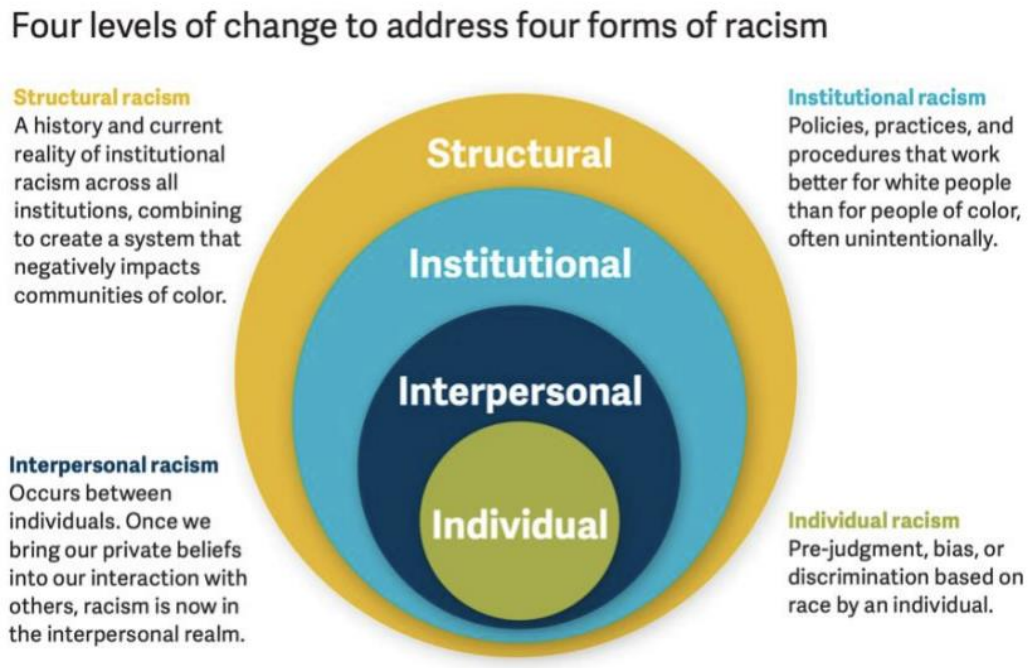


Figure 3; Strategic plan 2021-2022 – tlcdeaf.org.

MODULE 3: EXPLORING THE INTERSECTION BETWEEN SUBSTANCE MISUSE AND OUR REGULATORY SYSTEM

The overarching aim of the third module is to bolster participants' contextual understanding of PSU, with the goal of increasing compassion and empathy, as well as reducing stigma and bias regarding PSU. Facilitators explore the theoretical underpinnings of PSU, guiding participants through a discussion of attachment theory, regulatory systems, and their combined impact on clinical presentations of PSU and parent-child relationships.

It begins with a brief introduction to attachment theory and its relationship with substance use disorders. Figure 4 is utilized to provide an overarching framework of attachment theory, focusing on the impact of attachment on future relationships and functioning. Utilizing the graphic, training facilitators discuss how individuals within the secure category would be expected to have a self-competent view of self and a view of others (i.e., relationship in their life, the world in general) as dependable and safe. Subsequently, facilitators review how individuals with secure attachments are, generally, able to successfully manage distress. Contrastingly, the preoccupied, dismissing, and fearful categories are discussed highlighting the deficits in an individual's model of self, model of others, or both, and their impacts on regulation capacity (Bowlby, 1979). Facilitators then review how substances are utilized to mitigate deficits across the three insecure categories (Khantzian et al., 2014).

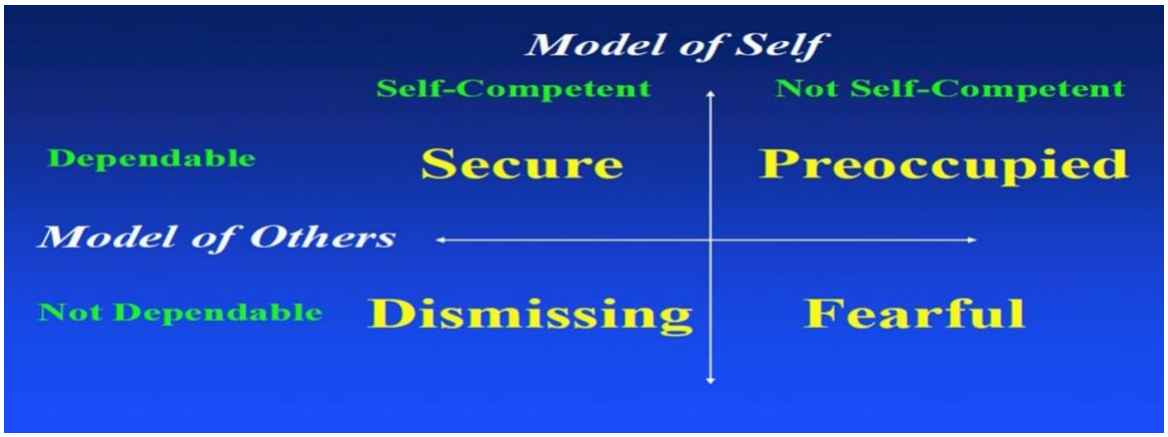


Figure 4, With thanks to S. Stuart & J. Shultz, IPT Institute

Training facilitators subsequently lead participants through a discussion of the impacts of PSU on the maternal-infant relationship. Specific focus and attention are given to the intergenerational transmission of attachment insecurity and mental health concerns (Lynden et al., 2013). Utilizing figures 4 and 5, facilitators discuss the cyclical

relationship between attachment insecurity, substance misuse, parenting, and infant well-being and development.

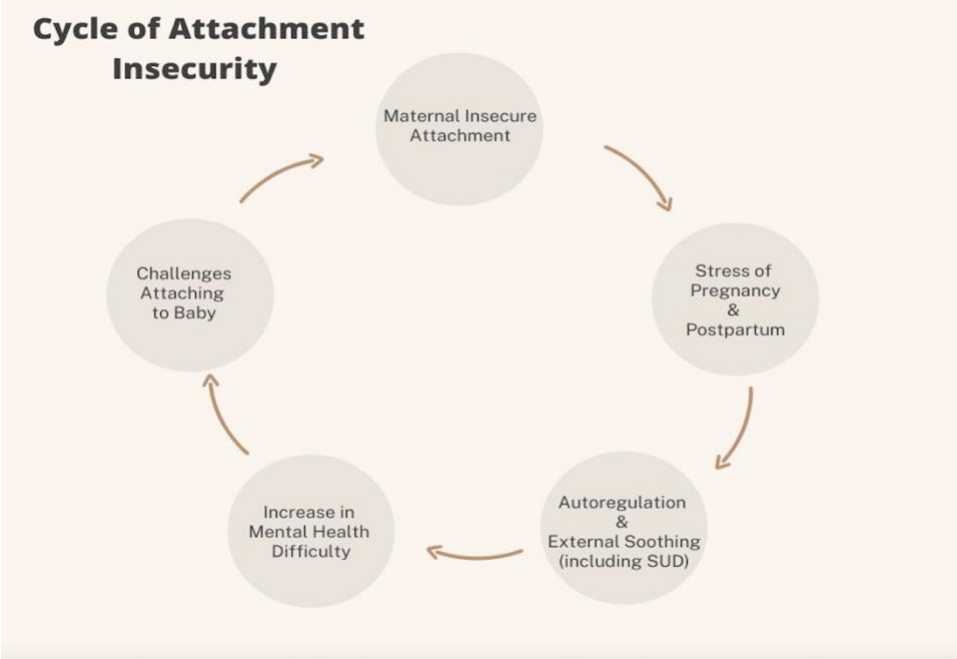
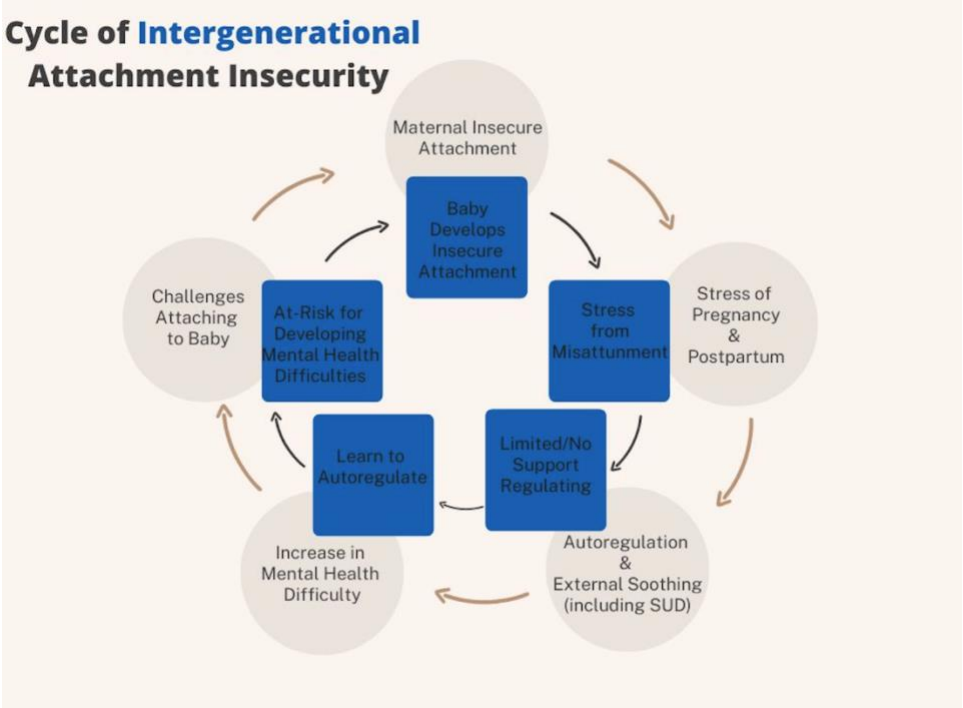


Figure 4



Figures 5

The module ends with a discussion of gender-responsive and trauma-informed care. Research has clearly demonstrated that gender responsive care improves substance use related treatment outcomes (Grella, 2008; Meyers et al., 2020). As such, facilitators review the role gender plays in the course of substance use disorders, treatment engagement and retention, and recovery. Specific time and consideration is given to the unique gender considerations related to PSU, including pregnancy, labor and delivery, and motherhood. The principals of gender responsive care are reviewed, including (1) "services that are safe and responsive to client needs, (2) responsive to, and reflective of, peoples' lived experiences, needs, preferences, identities, and circumstances, (3) physical, sexual, and emotional safety, (4) recognition that women and men may experience mental health issues differently, and (5) staff education and training to promote gender sensitivity across policies, systems, and practices." (Department of Health, Vitoria, 2022). As gender responsive care practices highlight the importance of relationships, participants are guided through a discussion consideration how they may utilize gender responsive care while treating PSU and the mother-infant dyad.

Finally, the importance of trauma-informed care is reviewed. The link between childhood adversity, trauma, and substance use is discussed, including the increase likelihood of early initiation of alcohol, higher risk of mental health difficulties and substance misuse, increased risk of prescription substance use, and increased likelihood of lifetime illicit drug use (Leza et al., 2021; Marcellus, 2014). The principals of trauma informed care, including safety, trustworthiness and transparency, peer support, collaboration and mutuality, empowerment and choice, and intersectionality (Bowen & Murshid, 2016). Facilitators discuss the benefits of utilizing a trauma-informed approach

for PSU including promotion of strong maternal-infant bonding and attachment, decreased stress/anxiety, and increased engagement in services. Additionally, the benefits on trauma-informed care on provider wellbeing is reviewed, including decreased vicarious trauma, improved provider-patient/client relationships, and increased provider satisfaction (Marcellus, 2014).

MODULE 4: A JOURNEY THROUGH PERINATAL SUBSTANCE USE: SCREENING, REFERRALS, TREATMENT & POLICY

The fourth module aims to walk participants through an individual journey with PSU, giving participants the opportunity to contextualize an individual's experience of seeking treatment, receiving referrals, and entering recovery and parenting with PSU. Additionally, the fourth module aims to increase provider understanding of best screening practices, policy considerations, and the continuum of care.

Education regarding the differences between screening (i.e., process of gathering more information from patients about their substance use, with a self-administered or clinician-administered validated screening tool) and toxicology testing (i.e., collection of a biological sample looking for the presence of a drug or its metabolite) is provided. In addition, facilitators guide discussion regarding the importance of universal, trauma-informed, and gender responsive screening practices. (Garg et al., 2015; Deutsch et al., 2021). Participants are provided with a table of resources and suggestions for screening measures (figure 6).

Screening Tools for Perinatal Substance Use				
Measure name	Constructs Assessed	Items	Clinical Threshold	Citation
Perinatal Specific Tools				
4P's Plus	triggers for substance use/ abuse, follow-up for quantity	7 plus follow up	affirmative response to any of the last four items	Chasnoff et al., 2007
5P's	substance use by women's parents, peers, partner, during her pregnancy and in her past	5 plus 2 follow up	affirmative response to any item suggests follow-up needed	Massachusetts Institute for Health and Recovery, 1999
SURP-P	Marijuana & alcohol use; desire to cut down	3 items	one affirmative response = moderate risk, 2-3 affirmative responses = high-risk for substance use	Yonkers et al., 2010
Substance Use Tools Non-specific to Perinatal Period				
CAGE	Heavy alcohol use; modified to include drug use (CAGE-AID)	4 items	score of two or greater	Ewing, 1984
TWEAK	harmful drinking habits in pregnant women	5 items	score of two or greater	Chan et al., 1993
T-ACE	Identifiers of risky and harmful alcohol use	4 items	score of two or greater	Sokol, 1988
AUDIT-C	Identifiers of risky alcohol use	3 items	Score of three or greater	Bush et al., 1998
NIDA-ASSIST	Use of alcohol, tobacco products, non-medical need-based prescription drugs, illegal drugs; frequency & impairment related to use	2 parts, 4 items & 8 items	lower risk (scores 0–3), moderate risk (scores 4–26), or high risk (scores 27 or higher)	NIDA, 2009

Figure 6

As this training was designed for a Colorado audience, Colorado statutes related to substance exposed newborns and child welfare are discussed. Within the state of Colorado, a mandated reporter is not required to report knowledge of substance use in pregnancy, be it suspected, self-reported, or discovered via toxicology, to child welfare**.** While child welfare reports are intended (generally) to serve in the best interest of mother and baby, they are not frequently perceived that way. Facilitators lead an interactive discussion regarding the implications of the decision to, or to not, report on the provider – patient/client relationships. Discussion questions include: (1) "How might your decision to report PSU be perceived?"; (2) "How might your decision not to report be perceived?"; and (3) "How might your patient/client's attachment history impact the way you share your decision?". The aim of the exercise is to encourage providers to consider the complex nature of mandatory reporting and consider ways to center gender responsive, trauma-informed, and attachment-based perspectives as they navigate discussions regarding reporting.

Many training participants may later find themselves responsible for coordinating referrals and treatment for patients/clients with PSU. To strengthen provider knowledge base related to referral options and increase likelihood of provider capacity to arrange effective referrals, the continuum of care and treatment options for PSU are reviewed. Specific attention and time are given to the discussion of medication assisted treatment (MAT) and its implications for pregnancy, breast feeding, and maternal-infant wellbeing. Benefits of MAT are reviewed including increased adherence to prenatal care, decreased illicit drug use, improved nutrition, improved neonatal birth weight, decreased maternal mortality (figure 7), and decreased risk-taking behaviors (Jones et al., 2012)

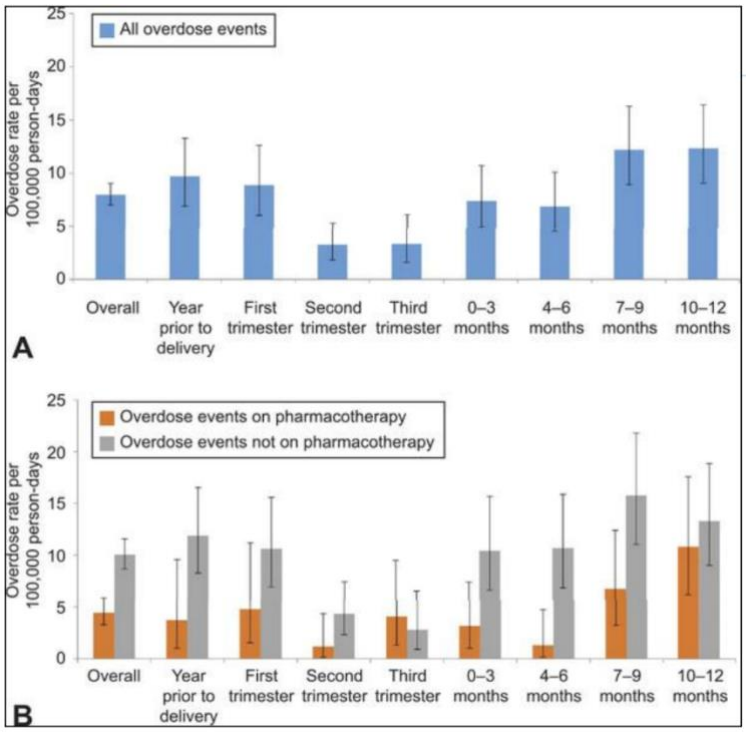


Figure 7; Mittal, L. (2020)

The module ends with a review of various treatment options including detox, inpatient/residential treatment, partial hospitalization, intensive outpatient, outpatient therapy, and support group models {e.g., Alcoholics Anonymous (AA), Narcotics Anonymous (NA)]. General aims, treatment approaches, and conditions of each level of treatment are reviewed. In addition, characteristics and clinical presentations of a "typical" patient/client referred to each level of care is discussed (e.g., substance abuse severity). Finally, facilitators guide participants through an interactive discussion on strategies to decide treatment fit in which participants are presented with brief clinical vignettes and asked to consider which level of care may be most appropriate.

USE OF DISCUSSION AND REFLECTION OPPORTUNITIES

Throughout the four modules, discussion questions and reflection opportunities are used to increase participant engagement and promote internalization of training

material. Discussion questions have two general aims: (1) encouraging participants to consider how the material learned in the module impacts policy and practice and (2) inviting participants to consider how the information applies to their specific community and scope of practice. Reflection opportunities are designed to add a personal and introspective aspect to their learning. Reflective questions include topics such as welcoming participants to consider their personal reactions to clinical vignettes (i.e., judgements, empathy, assumptions), question their perception of competency and comfort level working within this population, and be curious regarding the way these experiences did or did not shift throughout the training.

DISCUSSION AND FUTURE DIRECTIONS

This paper aimed to outline the development and structure of a PSU training to serve as one model for expanding knowledge, competency, and awareness for the PSU workforce. While this paper is not intended to be a step-by-step guide for training development, the following paragraphs are utilized to review key pieces of advice for professionals considering developing and disseminating their own training, as well as next steps for this project.

The collaboration of teams across the University of Denver, CDPH, and PSI were key to the success of training development. The multidisciplinary team structure allowed for thoughtful, and accessible, content creation that could be utilized by a diverse group of providers. Professionals considering developing and disseminating PSU trainings within their communities should seek out multidisciplinary partnerships for support, guidance, and feedback. In addition, the partnerships established with content experts were imperative to ensure training quality. Our content expert partners provided an

invaluable lens related to their specific areas of focus. They each were able to review our training from a unique outlook, founded in years of specific training and experience. Their knowledge, constructive feedback, and guidance provided credibility and quality assurance. It is recommended that professionals moving forward with their own training development seek out content experts and solicit their guidance, feedback, and review of training materials.

The training described above is scheduled to be delivered to a live audience on March 2nd, 2023. Evaluative measures will be administered to participants to assess for participant qualitative experience, quantity and quality of knowledge gained, and perception of training utility. Measures may include a survey gauging participants' general reactions to the training (e.g., modules they enjoyed, aspects they wish had been different, etc.) and a pre and post survey to assess for participant knowledge gained. In addition, a longitudinal survey may be administered at various time points following the training to assess for whether or not participants are applying and utilizing the information learned within their communities and practice. Results from assessment measures will be utilized to enhance the training for future audiences. In addition, following the live iteration of this training, our team plans to partner with a larger health agency to build-out the training in online, asynchronous modules with the goal of increasing access and promoting widespread training and knowledge.

There are a few limitations that should be noted. First, as discussed above, this training has not yet been delivered. Thus, conclusions regarding training effectiveness and utility cannot be drawn. Additionally, this training was developed by a team local to the state of Colorado. As such, it is possible that there may be a skew in selected content

and discussion based off needs most prevalent to individuals with PSU within Colorado. Professionals in other states should consider their communities unique needs when curating material. Finally, this training was designed as an introductory course for a multidisciplinary audience. Thus, some important, nuances, and detail content not included. Individuals seeking to gain extensive training in PSU may need additional training and resources.

In sum, this paper intended to spark inspiration and motivation to disseminate knowledge regarding PSU. Efforts made to increase knowledge and awareness regarding PSU will likely decrease shame, stigma, and increase the quality of care for women with PSU. Moreover, if we work to enhance the systems of care for women and children impacted by PSU, we have the potential to mitigate against the health risks associated with PSU, increase the quality of the parent-child relationships, and dismantle intergenerational patterns of attachment-insecurity, substance misuse, and pain.

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