INTERDISCIPLINARY
STRATEGIES for
MANAGING
MATERNAL OPIOID
USE DISORDER

UNIVERSITY of MARYLAND
BALTIMORE

INTERDISCIPLINARY STRATEGIES FOR MANAGING MATERNAL OPIOID USE DISORDER

Integrative and Interdisciplinary Approaches for the Evidence-Based Care of Pregnant and Parenting Women with Maternal Opioid Use Disorder

A white paper based on proceedings from

The Interdisciplinary Strategies for Maternal Opioid Use Disorder Workshop

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In this white paper, we use the term neonatal opioid withdrawal syndrome (NOWS)*, which is the most recent terminology for what was previously termed* neonatal abstinence syndrome*. We also use the term* medication-assisted treatment (MAT) *as opposed to medications for opioid use disorder to avoid confusion with maternal opioid use disorder, for which we use the acronym MOUD.*

Introduction

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Interdisciplinary Educational Awareness Project for Maternal Opioid Use Disorder (IDEA for MOUD)

This white paper catalogs the work of the Interdisciplinary Educational Awareness project for maternal opioid use disorder (IDEA for MOUD, or IDEA). The objective of IDEA is to increase knowledge of evidence-based practices and to draw on combined experiences across disciplines for wide dissemination among health care and service professionals who treat maternal opioid use (MOUD). University of Maryland, Baltimore's (UMB) intellectual and thriving academic center creates multiple opportunities for interprofessional education that engage students, faculty, and health professionals from multiple schools in innovative and stimulating learning opportunities. Interprofessional education (IPE) is defined by the World Health Organization as: "When two or more persons learn about, from, and with each other to enable effective collaboration and improve health outcomes." Therefore, faculty and professionals from several disciplines in nursing, pharmacy, medicine, and law came together to collaborate on this IPE initiative on opioid treatment among pregnant and parenting women.

IDEA actively engaged health professionals and stakeholders in an educational workshop and seminars guided by a curriculum informed by patients, experienced providers, subject matter experts, and national recommendations to build core skills and to learn interdisciplinary strategies to bridge treatment gaps. The overall aim of the IPE IDEA initiative was to build a sustainable workforce of health professionals who will apply integrated skills, knowledge, and targeted interdisciplinary strategies to manage the care of pregnant women with opioid use disorder (OUD) and ultimately promote healthy maternal and neonatal outcomes. IDEA created a forum for interdisciplinary cross-sector learning and opportunities for sharing best practices that identifies proven strategies and common areas for collaboration. In the long term, participants in the IPE IDEA initiative become grounded in shared individual experiences and skillsets that foster professional relationships, and collaboration building to improve the treatment of MOUD in pregnant and parenting women.

Meet the IDEA Team

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Executive Summary

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This white paper was created to present the outcomes from a one-day workshop hosted by IDEA for MOUD (or IDEA). We convened experts and stakeholders from a broad-based arena of addiction specialists; mental health experts; clinical practitioners; state representatives and professionals from the child welfare, social work, and family preservation services; community leaders; and students and faculty from the UMB campus. Our goal was to present current stakeholder collaboration efforts, integrative partnerships and services, effective and ongoing community-based interventions as well as barriers and challenges to treatment and prevention. Bringing together an interdisciplinary group will promote awareness, elevate the discussion about optimal treatment, reduce stigma, and improve the care of pregnant women with OUD.

Opioid use among pregnant women has increased dramatically in the last 10 years.[1] Opioids include opiates (the natural opium derivative), heroin, and prescription pain killers such as oxycodone that are beneficial to most people for pain treatment.[1-2] Pregnant women diagnosed with opioid use disorder, according to DSM-5 criteria,[3] face a myriad of complex medical, mental, social, and legal issues that challenge public health officials and treating practitioners.[4] OUD contributes to maternal/neonatal morbidity and adverse outcomes.[5] Withdrawal in the newborn, such as neonatal opioid withdrawal syndrome (NOWS), has seen a fourfold increase[6,7] almost on par with OUD among pregnant women. Treatment is often challenging, beyond the scope of any one health care provider's expertise.

The recommended treatment is a combination of pharmacologic therapy[4] (medication-assisted treatment, or MAT) and behavioral counseling. However, many patient, provider, and health system barriers exist.[4,5] Lack of access to treatment, lack of knowledge and guidelines, provider shortages, stigma, criminalization,[8] and delays in prenatal care are among the known leading barriers to care.[9] Disparities in MAT delivery by level of integration, geography (across states), settings (office, clinic, and rural/urban), and by resource intensity reveal a lack of support and a comprehensive approach to treatment.[9] As public and professional awareness of MOUD

increases, the dynamics for evidence-based care are also rapidly changing.[9] The overarching evidence suggests that an integrative multidisciplinary comprehensive approach, which is currently lacking, would optimize retention and reduce relapse and adverse effects of opioid use among pregnant women.[9]

Therefore, our campaign for IDEA involves interdisciplinary teams learning, practicing, and sharing evidence-based integrated strategies and skills to improve knowledge and understanding of treatment modalities, reduce stigma, and facilitate a sustainable community for continued learning and resource sharing. IDEA hosted a one-day educational workshop, titled *Interdisciplinary strategies for managing maternal opioid use disorder*, at the R Adams Cowley Shock Trauma Center, University of Maryland Medical Center in Baltimore, Maryland, on Oct. 1, 2019. The workshop was designed to engage multidisciplinary participation in knowledge-based learning on OUD in pregnant and parenting women.

The workshop objectives were to:

- Teach integrative and interdisciplinary approaches for the evidence-based care of pregnant and parenting women with OUD
- Provide participant opportunities to learn through interactive teaching strategies, case studies, spotlight presentations, and patients' stories

The target audience were faculty, students, practitioners, and clinicians interested in advancing knowledge of OUD as well as professionals from stakeholder communities who treat and work with pregnant women. The workshop was guided by a previously developed interdisciplinary and comprehensive curriculum, based on input from subject matter expects and evidence-based national recommendations to guide the workshop agenda. To maximize learning and ensure that participants benefitted from practical and realistic experiences from the community, we engaged patient partners, clinicians, and experienced health professionals to share their experiences. Participants received a thumb drive with resources and links to national recommendations for MOUD.

The event was hosted in the auditorium of the Shock Trauma Center from 8:30 a.m.-4 p.m. The format for the workshop was a live activity and showcased a keynote speaker, a panel of experts, presentations, case studies, videos, and patient stories designed to maximize learning and promote relationship-building and interdisciplinary collaborations.

Summary of Workshop Activities

- Welcome remarks were delivered by Doris Titus-Glover, PhD, MSN, RN, followed by opening remarks from Mary Etta C. Mills, ScD, RN, NEA-BC, FAAN, professor and then interim dean at the University of Maryland School of Nursing.
- The impact of the opioid crisis, evaluation, and polices and historical perspectives were presented by Katrina Mark, MD, FACOG, and Brooke Holmes, MA, a state of Maryland representative, consecutively.

- Prevention frameworks were delivered by Fadia Shaya, PhD, MPH, professor at Pharmaceutical Health Services Research, School of Pharmacy, UMB.
- The rural health perspectives, challenges, and implications, interspersed by patient story videos, was delivered by Lawrence Polsky, MD, Calvert County health commissioner. Polsky's perspectives and programs from rural communities of Calvert County led to new insights and strategies for community engagement, integration, collaboration, and comprehensive care of pregnant women and mothers.
- The keynote speech was delivered by Carlos DiClemente, PhD, ABPP, emeritus professor of psychology, a renowned expert with multiple publications on the topic of MOUD, and a director of several programs for pregnant and postpartum women with behavioral/addiction diagnoses. Through presentations and videos of patient stories and community programs, DiClemente delivered a powerful speech on interdisciplinary collaboration and OUD management in pregnant and parenting women.
- The moderator, Rebecca Vivrette, PhD, led the expert panel to examine and probe a complicated and challenging case study that evolved in the hospital and offered multiple opportunities for collaboration with hospitalists, pharmacists, social workers and residential facilities professionals. Panelists were Christopher Welsh, MD (psychiatrist), Dina El-Metwally, MD, PhD, FAAP (neonatologist), Kellie Dress (social worker), and Katrina Mark, MD, FACOG, and Lorraine Milio, MD (medical directors/obstetrics and gynecology practitioners).
- A short presentation on opioid use and stigma was presented by George Jay Unick, PhD, MSW.
- The workshop delved into spotlight topics including: 1. ethical issues and regulatory reporting; 2. pain management in labor and postpartum; 3. NOWS, parenting, and patient engagement strategies; and 4. forming therapeutic relationships, presented by Kathleen Hoke, JD; Jamie Swietlikowski, MS, CNM, WHNP; and Katherine Fornili, DNP, MPH, RN, CARN, FIAAN, respectively.
- Our community partner, Jocelyn Gainers, EdD, CAC-AD, AS, executive director of the Family Recovery Program Inc., presented the session on community partnerships and collaboration, together with a client, Monique Knight.
- Rebecca Wiseman, PhD, RN, delivered the roundup and call to action.
- The workshop adjourned following closing remarks from Titus-Glover.

Workshop participants completed an overall assessment and pre-and post-tests evaluations. Overall, participants learned strategies and lessons that would be applicable to their work with pregnant and parenting women with MOUD. The most valuable components of the workshop reported included:

"Being with other disciplines to begin the process of collaboration."

"As a NICU RN, I can apply what I learned today when caring for babies and their mothers who are affected by opioid use disorder. Please continue with an interdisciplinary approach."

"The patient words matter, stigma, everyone is equal, will know how to meet each patient at their need."

"Understanding that substance use is an actual chronic disease that can be treated. It is also affecting far more people than I thought. I will now understand patients with pain better than I did before."

In this white paper, we have highlighted excerpts from presentations, relevant topics, innovative programs, practice recommendations and provocative issues, and recommendations from the panel of experts to promote the objectives and mission of IDEA. Our hope is that professionals use the information from the white paper to promote awareness of MOUD and effective treatment strategies to develop preventative initiatives and potential collaborative engagements that improve maternal and neonatal outcomes.

Background

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Opioid Use and Misuse During Pregnancy

The increasing prevalence of opioid use and misuse among pregnant women is a public health crisis. Between 1999 and 2010, prescription opioid and heroin use increased dramatically among women. Prescription opioid use increased from 1.19 to 5.635 per 1,000 births, a fivefold increase,[10] and yearly overdoses increased by 400% over 10 years for women compared to men at 237% during this period.[11] Heroin use among women increased by 100% compared to 50% for men between 2002 and 2013,[11] although the differential impact of opioid use among men and women biologically has not being well understood. NOWS, a cluster of symptoms associated with maternal opioid exposure, increased from 1.20 to 5.80 per 1,000 hospital births from 2000 to 2012.[7] Neonatal intensive care hospitalizations saw a fourfold increase from 2004 to 2013 across the nation, in a survey of 299 facilities.[6]

In addition, two-thirds of women with OUDs in pregnancy have been diagnosed with mental health disorders such as depression and anxiety disorders.[12] Such conditions—together with other external factors, including interpersonal and domestic violence, childhood trauma, engagement in risky behaviors, and tobacco use—lead to treatment challenges during pregnancy.[13] Women are uniquely different in various aspect, by demographics, geography, experiences, access to health equity, and social determinants of health. Therefore, women encounter and are impacted by a diversity of professionals from medical, mental, and social services, as well as from other fields ancillary to health care. Building a common knowledge base that identifies problems, addresses concerns, and employs common interventions and strategies across disciplines has the potential to improve care. A collaborative and

interdisciplinary approach must be carefully deliberated and applied for comprehensive treatment. Though most women in the United States have unplanned pregnancies,[14] pregnant women with opioid addiction engage in aspects of harm reduction, such as switching drugs or mode of administration, reducing dosages, or quitting altogether, making pregnancy a critical time for interventions.

MAT is recommended for pregnant women with OUD. [2,4,9,15] The use of pharmacological prescriptions, such as buprenorphine and methadone, in combination with psychosocial and behavioral counseling has been found to be effective for comprehensive treatment. [2,4,9,15] Barriers to treatment, however, exist in the form of access, late prenatal care entry, stigmatization, criminalization, and psychosocial hurdles, such as transportation and childcare.[9,15] Women do not always have access to treating providers due to geography or provider inability/unwillingness to treat pregnant women with OUD.[16] Women who use opiates are much more likely to have irregular periods, miss a period, and therefore identify their pregnancy at a more advanced state, leading to late entry into health care.[17] Fear of criminalization and the potential for child removal by state agencies also affects timely presentation at health facilities. The role of stigmatization has been well-documented in the literature and for pregnant women; the risk extends to the unborn child.[8,9,15] Thus, it is encouraged that women are offered evidence-based treatment rather than continued stigmatization for opioid use.

The benefits of MAT during pregnancy include decreases in risky behavior that may result in contracting other illnesses, including infectious diseases.[18,19] MAT also provides a more stable environment by preventing a constant cycle of withdrawals and highs, which can be stressful for the baby. Overall, MAT improves outcomes for the mother and baby. [2,4,9,15] Without supervised withdrawals, the rate of relapse is 90% and the rate of overdose at the first initiation of relapse is astronomically high.[4,9] It is critically important that women receive supervised MAT as well as peer support and resources during postpartum to prevent the tragic circumstances of an overdose.[4] One study found that approximately 80% of new mother's resume use of illicit drugs within one year postpartum[20]

Overview of the Opioid Crisis

Historical Perspective to Prescription Opioid Drug Abuse and Misuse

OUD is defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) as a repeated occurrence of at least two of the 11 criteria within a 12-month period and which has significant economic, personal, and public health consequences.[3] (Refer to Appendix for the criteria).

In the early 19th century, opiates were mostly prescribed to women for female-related health issues (painful periods, hysteria/premenstrual dysphoric disorder, etc.).[21] Two-thirds of individuals struggling with opiate addiction were females who received legitimately prescribed opiates from physicians.[22] Reports of high addiction rates to opium led to the advent of morphine, which had its own addiction potential. This addiction was called Soldier's Disease

due to a high prevalence among soldiers.[23-24] To overcome the addiction to morphine, heroin was created and sold over the counter for the first eight years of its release.[25]

Oxycodone and OxyContin were then created, with the former being aggressively marketed as a long-acting slow-release opiate that had a low abuse and addiction potential.[26] Both medications were approved by the Food and Drug Administration for long-term pain management, although there was no existing evidence to suggest that long-term opiate use was helpful for pain management.[27] Opioid prescriptions quadrupled in a short time and deteriorated into an opioid crisis, which thereafter spread across the entire country by 2012.[27]

President Richard Nixon's War on Drugs in the 1970s changed the public's view about addiction and increased the number of addicted persons incarcerated.[28] People of color suffered enormously under these directives and were more likely to be incarcerated for drug possession, compared to other races, even though they were not more likely to take drugs. Black and Hispanic men and women encountered much higher rates of incarceration compared to whites, even though the distribution of drug use was really not that different.[29] Incarceration limited access to care where individuals obtained a felony record that narrowed employment opportunities, created conditions for depression and continual drug use, and unstable health care, ultimately creating a vicious cycle perpetuated over generations.[30] There was a widespread notion that people who suffered from addiction to heroin were white men, but it inordinately affected women as well.[31] The rise of opiate use and overdose deaths has increased much more in women than in men.[32]

In 2016, 116 people died every day from overdose and the numbers of people that are continuing and initiating misuse and abuse of opiates is staggering.[33] According to the Centers for Disease Control and Prevention (CDC), over 702,000 people died from a drug overdose from 1999 to 2017 with 70,000 deaths in 2017 alone.[33] About 21-29% of people that are prescribed opiates for chronic pain will misuse them.[33] Between 8-12% of people that use opiates chronically will develop an OUD; and, 46% who misuse prescriptions will transition to heroin.[33] It has been found that 80% of people who use heroin experimented with prescription drugs, which were not necessarily prescribed to them.[33] In 2012, there were 259 million opioid prescriptions written, enough for every adult in the U.S. to have a month's supply; and, for men, prescriptions increased by 237% and women over 400%.[34] Each day, about 3,300 women will initiate opioid misuse, and 31 women will die every day from opioid-related overdoses.[33] Although patients mention using heroin, most actually use fentanyl without knowing the realization. Fentanyl is more available because it is cheaper, easier to transport, (being smaller) and much more dangerous. The amount needed to overdose on fentanyl is much lower.

(We acknowledge contributions by Katrina Mark, MD, FACOG.)

National Response to the Opioid Crisis

Based on recommendations by the CDC, the national response to the opioid epidemic includes:

- Surveillance and research

- Building state, local, and tribal capacity
- Supporting providers, health systems, and payers
- Partnering with public safety
- Empowering consumers to make safe choices

Outcomes of OUD During Pregnancy

OUD during pregnancy results in both maternal and neonatal medical, social, and psychological problems. Problems include fetal distress from repeated cycles of maternal opioid use and withdrawal, which negatively impact placental function. This leads to placental abruption, intrauterine growth restriction, low birth weight, etc. Other related problems include fetal convulsions, intrauterine fetal demise, intrauterine meconium passage, and possible birth defects such as spina bifida and heart defects. However, there is limited data ascertaining the absolute risk of these defects.[34] Social effects include, but are not limited to, stigma and difficulty maintaining employment, which result in significant economic impact to the lives of both mother and baby.[12]

Many women with OUD are often motivated to engage in actions that improve the health outcomes of their babies.[32] These include a reduction of illicit drug use, quitting altogether, and seeking medical help or social services. For this reason, pregnancy presents a window of opportunity for managing OUD.

Neonatal Opioid Withdrawal Syndrome

NOWS is a variable, complex, and incompletely understood spectrum of signs of neonatal neurobehavioral dysregulation[35] that occurs as a result of withdrawal in infants born after being exposed to narcotics in utero. The incidence has increased from 1.20 per 1,000 hospital births in 2000 to 5.80 in 2012.[7] The CDC also reported an incidence from 1.5 to 8.0 per 1,000 hospital births from 2004 to 2014, indicating a 433% increase.[36] Of all neonatal admissions in 2012 with a substance use–related condition, about 60% were attributable to NOWS while opioid-related maternal admissions accounted for about 25%.[37] There was a fivefold increase in NOWS from MOUD from 2002 to 2009, resulting in one baby born with NOWS every 30 minutes,[38] which further increased to one every 15 minutes by January 2018.[39]

Treatment Recommendations

The gold standard of opioid dependence during pregnancy is MAT with opioid agonists such as methadone or buprenorphine, often in combination with counseling and behavioral therapy.[40] Opioid agonists are known to prevent the symptoms of opioid withdrawal, reduce the risk of relapse, and improve compliance with prenatal care. Unfortunately, while both methadone and buprenorphine precipitate NOWS, treatment of infants exposed to the latter requires shorter treatment and less medication.[41]

Pain Management

The pain scale introduced by the Joint Commission, as well as Centers for Medicare & Medicaid Services surveys, set a stage where complete absence of pain was the goal in health care

settings, however unrealistic. As expected, this did not help mitigate the opioid crisis. Pain management of opioid-dependent patients during pregnancy is particularly challenging due to the risk of opioid-induced hyperalgesia as well as withdrawal precipitated by using mixed opioid agonists-antagonists.[42] Higher doses of opioids are required for some women, particularly those on buprenorphine, in order to provide more effective analgesia. Thus, pain management in these women should not be restricted but should instead be treated aggressively, being mindful of the potential physiological and behavioral effects to prevent pseudoaddiction.

Guidelines for pain management in pregnancy can be broadly classified into three categories, namely, intrapartum and postoperative pain management, and postpartum support. According to the American College of Obstetricians and Gynecologists (ACOG), intrapartum pain management involves keeping the patient on their maintenance opioid agonist dose and providing additional pain relief as necessary.[4] Patients who, for any reason, are unable to take their maintenance opioid doses should be treated with an equivalent dose of morphine or hydromorphone preoperatively and should maintain their transdermal fentanyl patches.[43] Studies have shown that opioid dependence does not affect anesthesia, and analgesia during labor and delivery can be achieved through spinal and/or epidural anesthesia. Buprenorphine should be avoided in patients on methadone, and opioid agonist-antagonist drugs should be avoided completely.[41]

Parenteral nonsteroidal anti-inflammatory agents provide adequate analgesia for postoperative and postpartum pain.[44] Intravenous boluses of fentanyl or sufentanil may be administered immediately after surgery and switched to oral opioids after stabilization.[38] Initiation of intravenous patient-controlled analgesia with short-acting opioids may minimize the risk of under-medication and breakthrough pain following surgery.[38] During the postpartum period, consistent, in-depth follow-up by health professionals is required. Patients should be closely monitored, and dosages of analgesics should be titrated accordingly.[38] It is important to avoid triggering opioid dependence by avoiding drugs such as oxycodone and selecting those with the least euphoric potential possible.

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Overview of Conference Proceedings

Opening Remarks

Doris Titus-Glover, PhD, MSN, RN
Principal Investigator/Assistant Professor at the University of Maryland School of Nursing

It is a real pleasure for me to be hosting this workshop today, the first of its kind on the UMB campus. You have taken time out of your busy schedules to visit with us today, and we certainly appreciate that there are a thousand other things you could have been doing.

However, the challenge of maternal opioid use management and treatment is one that captures our imagination. It is about individual well-being, health, safety, psychosocial events, medical treatment, access to care, legal implications, societal responsibilities … and the list goes on for the mother and infant.

The pregnant women diagnosed with OUD faces a myriad of complex medical, legal, and psychosocial issues, which are challenging for any one or two providers or disciplines to undertake. These issues are not the responsibility of any one health care provider—even as we recognize the intersection of disciplines and services and the different components and systems that are needed, which when properly managed optimizes care for pregnant and parenting women. How do we meet these needs and do what works best for pregnant women? Pregnancy is the vehicle by which we as health care professionals can learn how best to manage women of reproductive age. This is an opportune time for mitigating the harmful effects of maternal opioid use. OUD in pregnant women contributes to maternal and neonatal morbidity and mortality.

In a recent statement, the Substance Abuse and Mental Health Services Administration (SAHMSA) reported "an urgent need for reliable, useful, and accurate information for health care professionals working to treat opioid-dependent mothers and their children." It is critical that we understand what strategies are needed to improve the management of pregnant and parenting women.

Today, you will hear our wonderful presenters share strategies, lessons learned, insights, and the role of intersecting patient/provider and health systems interventions to guide comprehensive care. On behalf of the interdisciplinary team, I welcome you to this eventful day. We hope you spend all day with us; in fact, you should plan on spending all day with us.

IDEA advances IPEC core competencies, such as interprofessional communication and teams and teamwork, to ensure understanding of communication strategies that yield positive interprofessional relationships that promote best strategies for patient-centered care and improve the delivery of health services for pregnant women with OUD.

Remarks

Jane M. Kirschling, PhD, RN, FAAN
Bill and Joanne Conway Dean of Nursing and Professor, University of Maryland School of Nursing Director, Center for Interprofessional Education, University of Maryland, Baltimore

The UMB Center for Interprofessional Education is pleased to have supported the IDEA workshop that brought together a wide group of stakeholders to explore how to best care for pregnant women who struggle with opioid use. The resulting white paper provides a road map for creating a community of interested persons who can continue to learn and share resources and, ideally, who can provide UMB students with best practices and opportunities to learn from, with, and about one another as they learn to support this growing population of at-risk women.

Mary Etta C. Mills, SCD, RN, NEA-BE, FAAN
Professor and Then Interim Dean University of Maryland School of Nursing

A conference like this brings everyone together across disciplines and really holds the promise of breaking new ground in understanding the best evidence-based practices for caring for pregnant and parenting women with OUD and broadly sharing the knowledge.

The symposium holds promise of providing a forum for cross-sector learning and sharing best practices and strategies. The insights that you will gain from this conference will really help chart the course for future improvements in clinical care and better support for some of our most vulnerable and at-risk patients.

Summary of Speaker Presentations

Chapter One

Keynote: Interdisciplinary Collaboration and Transforming Opioid Use Disorder

Carlo DiClemente, PhD, ABPP, Emeritus Professor of Psychology
University of Maryland, Baltimore County

Carlo DiClemente's presentation focused on the importance of interdisciplinary collaboration, communication, and integration of systems to transform the lives of pregnant and parenting women. Through the Substance Exposed Newborns training program, DiClemente shared recommendations on regional multi-agency coordination, communication, and collaboration. Program outcomes were shared through video testimonials from mothers, revealing the extent of the transformations. We report a summary of key points from his presentations in this white paper.

What does it take to make recovery happen?

1. **Complexity of caring for opioid use mothers and children**. Substance/opioid use is a complex, chronic condition, and substance-exposed infants and children suffer a variety of complications in neonatal, early childhood, and later child development. Caring for these mothers and children requires an integrated, multidisciplinary approach. Though the focus is on opiates, fetal and newborn health is affected by nicotine, cocaine, other psychoactive substances, and alcohol.[1] New data suggests that up to 5% of children may have experienced fetal alcohol spectrum disorder (FASD).[2]

It is important to remember what addiction is and does to the substance-using pregnant women.[3,4] Addiction causes:

- neuroadaptation—substances change the brain
- impaired self-regulation—affects decision-making, planning, and follow-through
- salience—becomes a potent reinforcer and reduces the pleasure of other activities

MAT switches the brain's dependence on opiates to something else that encourages recovery. Opiates cause impaired self-regulation of the brain, which affects processes that include decision-making, planning, and follow-through.

It is important to consider the stages of change in the management of OUD. Recovery is a long-term process that also requires patience and a safe environment. Interventions should begin in the precontemplation stage (where the greatest impact in harm reduction is achieved) before moving to the action stage and maintained over time.

A mom discusses loss of control:

"I knew I was a terrible mom and I knew that I didn't want to be, but I just didn't know how to be a better mom. Many times when my kids would be asleep and I would be getting high, I would look at them laying in their crib or on the mattress and tell myself, 'This is going to be the last night I'm gonna do it.' And then the next morning when I wake up and I'm flip-flopping on the floor like a fish out of water, all those thoughts are completely gone. I just knew I had to get doped to not feel like that. That's the only thing that was in the front to my mind, is how terrible my *body felt. It overpowered every and anything else." (Nelson, 2018)*

2. **Challenges faced by substance-using women.** Women face difficulties when trying to quit opioid addiction such as:

- Stigma
- Prejudice
- Lack of support
- Fear of losing the baby
- Trauma/abuse
- Other medical and mental health issues

Additionally, women deal with an internal process of guilt, self-loathing, and low self-esteem, which makes them ill-prepared to care for their children. Younger women who have low socioeconomic status also tend to experience particularly high levels of family conflict, partner abandonment, legal problems, lack of education, lack of resources, and low social capital.

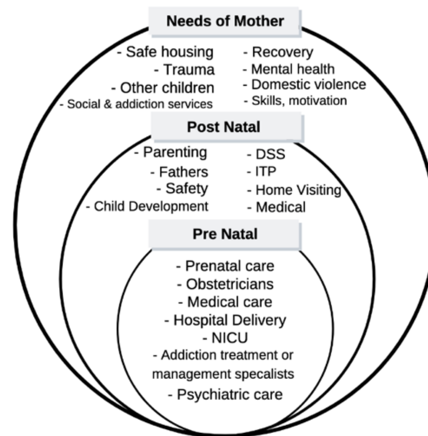

Figure 1: Needs of Substance-Using Pregnant Women

Addressing these needs will require the assistance of multiple programs and providers. However, multiple programs and providers can be overwhelming to the women. Thus, a highly comprehensive approach is needed to meet the multiple needs of substance-using women (figure 1). Prenatal, postnatal, and psychosocial needs such as safe housing, child support, and recovery services contribute to the challenges.

Caring for these mothers and children requires an integrated multidisciplinary approach

Figure 2

3. **Need for Collaboration, Communication, and Integration**. We developed multi-agency collaboration with input from provider focus groups across Maryland.

The Substance Exposed Newborns training was created with input from: Maternal, Infant, and Early Childhood Home Visiting, Department of Human Services (DHS)/Department of Social Services (DSS), Maryland State Department of Health, and Maryland's Infants and Toddlers Program agencies. These agencies have a home-visit component with different eligibility criteria, services, and management, established within each program. To assess the amount of collaboration, communication, and knowledge involved in implementing this at the different county and regional levels, interviews were conducted with a multidisciplinary group of obstetricians, pediatricians, treatment providers, women in recovery, and DSS agencies as part of the training program. The training format promoted collaboration by providing online modules to formalize a common base of information and a one-day in-person regional training including all provider groups from that region. Communication was promoted through a multidisciplinary seating arrangement among participants.

Training needs for the Substance Exposed Newborns program:

- Multidisciplinary training for home visitation comprised representation from Child Protective Services, Infants and Toddlers programs, and three state agencies: Maryland State Department of Education, Maryland Department of Health, and Maryland Department of Human Services. The primary goal of the training was to deepen understanding of addiction and recovery, enhance communication and relationship-building skills, develop approaches to engage and retain, and meet the needs of substance-exposed pregnant and postpartum women.

- Approximately 300 participants completed seven online modules before attending the regional training day, which brought providers from that region together and promoted communication about their different programs, eligibility criteria, and challenges.
- Other stakeholders in the multidisciplinary recovery process included:
    - obstetricians and nurses
    - social services employees and social workers
    - addiction specialists, psychiatrists, and peers
    - neonatal intensive care unit (NICU) providers and volunteers
    - pediatricians
    - judges, courts, jails, and correctional systems
    - the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
    - primary care, family practice, specialist care; and mutual help programs such as Alcoholics Anonymous, Narcotics Anonymous, and Smart Recovery

4. **Recovery-oriented systems of care.** Recovery is defined as: "A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential".[3] What does recovery-oriented care look like?

- Recovery is not simply an absence of symptoms or substances.
- Recovery requires integrated care that is comprehensive.
- Systems of care must be responsive to the multiple needs of the consumers in their care.

Why is integrated care important?

Integration is key! Integration builds open systems of care to help patients live normal lives, rather than simply building treatment programs. We need to treat people, not diagnoses. Treat the whole person, not a single problem.

- Pregnant and parenting substance users have multiple challenges. Recovery involves multiple changes and often is complicated by problems and changes needed in multiple life domains.
- Health care providers can be overwhelmed when facing this reality. There is hope and strength in a team approach that allows multiple providers to share the burden.

Integration in the new health care system involves the following:

- **Accepting the chronic nature of addiction.** Recovery involves motivation and behavior change *and engaging individuals in their care and recovery.* Longer term (2-3 years) home visiting programs are critical for recovery. Some mothers do not understand their babies, making parenting a challenge. Because addiction is a chronic condition, it is important to engage individuals recovering from opioid use by gaining their trust and helping them to find their internal motivation to make the changes that they want.

- **Supporting mothers through programs and multidisciplinary services.** Medical, pharmacological, psychological, behavioral, environmental, and community systems must be blended together to achieve goals of integrated care.
- **Using new technologies to integrate information.** This is different from traditional case management. It is a coordinated approach by a team of providers linked by the client's needs to address their multiple complicating problems. *Everyone on the team is responsible for integration, not just one person, and the team relies heavily on reciprocal communication and referral flows.*

Differences Between Case Management and Integrated Care	
Case Management	Integrated Care
Involves a manager of problems or services	Involves a coordinated approach to addressing the person in light of multiple complicating problems
Tries to link patient and various providers	A team of providers working together linked by client needs
Often affiliated with a single provider and trying to connect to others	Reciprocal communication and referral flow
Coordination and integration are sole responsibility	Everyone is responsible for integration

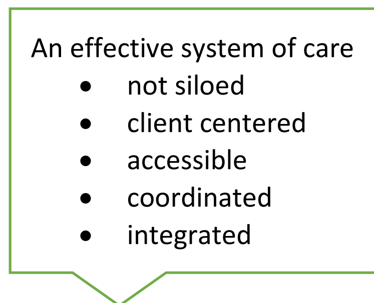

Figure 3

The secret to success is c*ollaboration, communication, integration.* Our message to providers: "It takes a village."

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Chapter Two

Healthy Beginnings: Maternal Substance Misuse Program in Rural Maryland

Larry Polsky, MD
Calvert County Commissioner of Health

Larry Polsky described how the depths of the pathology of MOUD and its associated psychosocial faces in rural areas were no different from that of big cities and may take an even bigger toll on residents because of lack of resources. Polsky reported the state of healthcare in Calvert and surrounding counties prior to the Healthy Beginnings program, which was initiated in 2014, and shared outcomes and client recovery stories.

Barriers to care in rural Calvert County

Lack of critical health providers and infrastructure. In rural Calvert County in 2014, few physicians prescribed buprenorphine and none were willing to treat pregnant women with MAT. Calvert County had one hospital with the only nursery in the county. Local obstetricians were uncomfortable with the lack of fetal medicine specialists and NICUs in the rural jurisdictions in Maryland. Local obstetricians and Labor and Delivery nurses had clear biases that made women dealing with SUD very uncomfortable seeking both prenatal and postpartum care. Hospital-based pediatricians were unprepared to take responsibility for the treatment of babies at risk for NOWS and the Level 1 newborn nursery was not staffed, trained, or equipped to provide needed care. As a result, most babies born to women with SUD, even those without clear indication of impended NAS, were routinely transported to NICU's out of the county, separating babies from their mothers shortly after birth. This exacerbated risks related to early bonding and breastfeeding in this vulnerable population, and increased maternal stresses that could trigger substance use relapse and postpartum depression. The experience in Calvert is likely the norm across rural areas of Maryland. Except for Talbot County, all rural jurisdictions have been federally designated as mental health provider shortage areas, lacking services for mental health and/or substance use disorders.

Limited public infrastructure resources. The county had limited public transportation, making it difficult for women to adhere to outpatient treatment and weekly check-in sessions. Over-familiarity with community members in rural areas discouraged women from seeking intensive outpatient treatment, (everyone knows everyone, so confidentiality is more difficult than in urban areas).

Lack of reproductive health education. Prior to the start of Healthy Beginnings, there was no postpartum contraceptive use among any of the mothers with substance use disorders. This was based on phone interviews with women 3-6 months postpartum. The main factors were minimal participation in prenatal care and universal lack of postpartum follow up.

Psychosocial problems: Women in the rural areas encountered a cycle of poverty, lack of transportation, homelessness or transient homelessness, arrests, domestic/intimate partner

violence, partners with active or past drug use, widespread smoking, and the fear of babies being taken away by Child Protective Services (CPS).

Implications

Detoxing patients and subjecting them to behavioral therapy is insufficient — *over 75% of women who are not offered MAT will relapse during their pregnancy.*

Healthy Beginnings: Maternal Substance Misuse Program in rural Maryland

Scope of the problem:

- In the U.S.: 15.4% of women 17 and older used illicit drugs in the past year; 10% of pregnant women were ages 15-25; 200,000 babies were exposed each year in the U.S.; and one baby is born with NOWS every 25 seconds[1]
- Relapse rate for opioid users is >75% without MAT
- NOWS accounts for $1.5 billion in NICU costs[2] (>$18,000/full-term child; > $100,000/preterm child); 80% paid by Medicaid[3]

Almost universal among pregnant women with substance misuse:

- Unintended pregnancy—prior to Healthy Beginnings, rate of postpartum contraception use among substance users was near zero
- Complex social problems—poverty/no transportation/homelessness; arrests; and domestic violence and partners using addictive substances
- Cigarette smoking
- Fear of CPS and the false belief that participating in prenatal behavioral health services will increase the potential for CPS to take custody of their baby away

Calvert County's efforts

1. The Calvert County Health Department collaborated with Southern Maryland regional rehabilitation/treatment centers to educate and provide resources to non-pregnant women of childbearing age to prevent NOWS, maternal opioid dependence, and relapse. A program was started over five years ago in Calvert County to encourage collaboration with local obstetricians, labor and delivery nurses, pediatricians, and jail staff to help providers understand the importance of interacting with women with substance-use histories in a constructive manner. Funding was provided through community health resources and a grant of $70,000 per year.

   - Screening: Depending on traditional behavioral health approaches are often insufficient for this population. Almost every one of our participants has been through multiple, unsuccessful SUD treatment programs in the past. Instead, trust between participants and Healthy Beginnings staff is typically forged through discussions centered on keeping their babies healthy. As we say, *"In order to have a healthy baby, you need a healthy mom."*

- Access to resources and services: The Calvert County Health Department developed universal access to buprenorphine for patients and provided emotional trauma, intimate partner violence, supplemental transportation, and peer support services.
- Postpartum: Patients are seen in Labor and Delivery within 48 hours of having their babies and in the outpatient setting 10 days postpartum. The postpartum period is a critical time for those who have struggled with their sobriety during pregnancy. Frequency of phone contact and appointments is individualized based on underlying mental health and a patient's level of family/social support. We recognize and address postpartum depression and other early warning signs of relapse. It is also an opportunity for smoking cessation, parenting classes and other psychosocial supports

Program outcomes:

- The program yielded over 75% reduction within two years of children being placed in foster care. Consistent access to MAT access coupled with strong case management are the key components for success.
- Nationwide, a quarter of women with opioid use disorder will have babies with low birth weight (LBW). Through this program, LBW has been reduced by 40%.
- Also, illicit substance use has been reduced by ten-fold. Only about 7% of women are engaging in illicit use when they deliver. A quarter of women with OUD will have babies with low birth weight. Low birth weight (<2500 grams) is 15% compared to 24% nationally for opioid users.
- The NAS rate and severity are much less with Subutex than for those with illicit use.
- Median number of prenatal visits for participants is 12. This allows gestational diabetes, preeclampsia, anemia, and congenital problems to be diagnosed. It provides obstetricians with opportunities to discuss important issues, including nutrition.
- Unfortunately, reliable contraception for this population had been largely neglected. Through this program, 75% of the patients use reliable contraception postpartum. Reliable contraception methods include Nexplanon and IUDs (which are preferred because they are reversible) and tubal ligation, not condoms, OCs, or Depo shots (due to ongoing compliance issues). Reliable contraception is important because, although it is the patient's right to have children, every additional unintended pregnancy jeopardizes substance use recovery by increasing emotional and financial stresses, risk of intimate partner violence, etc.

  The greatest impact of perinatal illicit substance use from children may be the increased postnatal risk of neglect and maltreatment, foster care placement, or other disruptions in the home, which have stronger effects on cognitive and behavioral outcomes, as well as fetal drug exposure. –

Particular Issues in Rural Areas

- Lack of specialty care
- Inadequate behavioral health capacity (outpatient/inpatient)
- No Maternal Fetal Medicine Specialists (No NICUs)
- Minimal public transportation (limited geographic coverage, and limited hours)
- Everybody knows everybody (increases shaming, limits comfort in group therapy)

Epidemiologist, U.S. Department of Health and Human Services

2. Other activities include visiting residential treatment programs in Southern Maryland (Calvert, St. Mary's, and Charles counties) to perform sexually transmitted infection education and contraception counseling.
3. Outreach programs and services:
   a. Over 3,000 people educated (both men and women)
   b. 50 people with Hepatitis A or B, syphilis, and HIV identified
4. Video: Patient's testimony
5. Thought: replicating this program in other places

Description of county programs

Comprehensive Women's Health Services: The Health Department offered a One-Stop Shop Case Management Approach, which provided collaborative services including:

- Residential substance-use treatment—Calvert County collaborated with rehabilitation/treatment centers to educate and provide resources to pregnant women and those of childbearing age to prevent NAS, maternal opioid dependence and relapse
- Health Department Reproductive health and long-acting reversible contraception (LARC)
- Calvert Memorial Hospital
- Private practice obstetricians and pediatricians
- Social Services
- Educational Vocation Training
- Transportation
- Community Organizations
- WIC services
- Outpatient behavioral therapy

Figure 3: Image from Polsky's presentation

Healthy Beginnings outcomes compared to national data

- Low birth weight (<2500 grams), 15% compared to 24% nationally for opioid users
- NOWS (total babies born to opioid users): 20.5% compared to 75%
- Prenatal visits: 82% of women are receiving seven or more prenatal visits (Median 12 visits)
- Contraception: 75.2% of women using reliable postpartum contraception compared to zero prior to program
- Foster care placements due to maternal substance use, decreased from 42 children in 2015 (start of program) to 12 in 2017
- Unintended pregnancies continue to decrease
- Total cost savings of almost $2 million in unintended pregnancies and NICU admissions for low-birth-weight babies and NOWS to Medicaid
- Total cost savings of almost $10 million (mostly to Medicaid) during the six years of the program. Savings primarily resulted from fewer unintended pregnancies in this high-risk population and reduced NICU admissions for low birth weight babies and NOWS.

Community outreach services

Outreach to residential behavioral health take place in Calvert County, St. Mary's and Charles counties. Calvert County Health Department collaborated with rehabilitation/treatment centers to educate and provide resources to pregnant women and those of childbearing age to prevent NOWS, maternal opioid dependence, and relapse.
Expecting behavioral health patients in need of reproductive services to come to a central location results in missed opportunities.

Outreach services from 2014 to 2019 include:

- Reproductive Health and Overdose Reduction Education
- Blood-borne infection and sexually transmitted infection screening
- Long-acting reversible contraception (LARC)
- Smoking cessation services

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Chapter Three

Prevention Frameworks of Opioid Misuse and Impact of Treatment Ecosystems

Fadia T. Shaya, PhD, MPH

Fadia Shaya shared information about OUD data and insights about her study titled "Associations of criminal statutes for opioid use disorder with prevalence and treatment among pregnant women with commercial insurance in the United States."[1]

Background

Opioid use has quadrupled in the last 10 years, and one-third of insured women of reproductive age, 15-44 years, would have taken a prescribed opioid in the last year.[2] Increased prevalence of opioids during pregnancy has led to a five-time increase in NOWS in the last 10 years.[3]

The study

This study revealed that only 20% of babies with NOWS are born to mothers who use opioids. *This may be related to possible underreporting of opioid use*.

Approximately two-thirds of NOWS cases were associated with legal prescriptions. This may be related to the potential inappropriate use of prescribed opioids. *One thing to keep in mind is whether the prescriptions were written for individuals that actually took them because one of Shaya's other studies and surveys found people were getting legally prescribed opioids, but the opioids have been legally prescribed to others.*

Based on data from SAMHSA, there is more opioid misuse among younger women, i.e., 15 to 17 years.[4] The prevalence of misuse of opioids is not very different between pregnant and non-pregnant women in the 15 to 17 age groups, whereas it drops in the 18 to 25 and 35 to 44 age groups. *There may be the potential for underreporting, perhaps due to stigma.*

The prevalence of opioid misuse is much higher among poorer populations compared to those above the poverty level. Similar numbers are reported for pregnant and non-pregnant women below the poverty level. *The reason for the difference between socioeconomic groups is unclear.*

At the national level, there are 1.1 million women with completed pregnancies in 46 U.S. states and Washington, D.C. One-fifth of Medicaid recipients filled a prescription opioid during pregnancy; approximately one-third were among white people, 20% among Black people, and about 13% among Hispanics.[5] *There may be a poorer dissemination of information or fewer programs or lower budgets for these groups.*

IQVIA data representing the insured working population shows that there is a slightly higher prevalence of OUD in the Northeast. *However, proportionately, fewer of these women are taking MAT*.

States with criminalization statutes had fewer reported cases of MOUD and perhaps more limited access to treatment—0.7% vs. 0.18% were reported to have OUD.[1] States with criminalization statutes interestingly report increased use of MAT than states without them.[1] *The reasons may be related to:*

- *More successful at preventing OUD or underreporting due to fear of incarceration/punishment*
- *Possibly due to under diagnosis of OUD to avoid referrals to Social Services or other law enforcement agencies*

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Chapter Four

Framing the Opioid Crisis: Evaluation, Implications, and National Policies

Katrina S. Mark, MD, FACOG

Addiction is a chronic problem that deserves chronic treatment.[1] If people with diabetes and heart disease are not incarcerated for not taking their medication, why are those with addiction problems not being held to the same standards and punished for their condition instead? Substance use in pregnancy should be considered a public health crisis, and such women should not be stigmatized because 80% of these pregnancies are unplanned.[2]

Impact of substance use in women

A lot of people think of people who suffer with addiction to heroin as being white men, but it inordinately affects women as well. The rise of opiate use has increased in women much more than in men, as well as overdose deaths.[3] Therefore, this is mostly an iatrogenic crisis. In 2012, there were 259 million opioid prescriptions, enough for every adult in the U.S. to have a month's supply; for men it increased by 237% and women over 400%. About 3,300 women will initiate opioid misuse every day, and 31 women will die every day from opioid-related overdoses.[3]

The other thing that has become a really big problem recently is the introduction of fentanyl and carfentanil.[3] Fentanyl has really become almost exclusively what is available in Baltimore. People tell you that they are using heroin, but most people are actually using fentanyl even though they think that it is heroin. Therefore, the amount that you need to overdose is much lower and the availability of these drugs has really just taken off because it is cheaper, easier to transport because it's smaller, and it's much more deadly.

As an obstetrician, what do I see? Substance use in pregnancy, for almost everybody that has a substance-use disorder, it precedes their pregnancy. This was a problem that preceded their pregnancy, and so we need to look at this as a public health crisis and treat people before they become pregnant.[4] We also should not stigmatize them or look down on them because they did become pregnant because 80% of these pregnancies are unplanned. Women who use opiates are much more likely to have irregular periods and not know that they even need contraception, and once they become pregnant, their identification of the pregnancy is later because they just think they missed their period because they've been missing them. So, this is not purposeful that they are late to care.

The other reason they are more likely to present later to care is they are very afraid of us, health care professionals. They think that we are going to report them, and even if they don't think we are going to report them, they know that we are going to judge them. Hopefully, we will not, but in their minds, they know that we will judge them, and they are very scared to come and face that fact. There are also very high rates of tobacco use and two-thirds of women with OUD in pregnancy also have mental health disorders, and these are really the things honestly that long term are causing the major problems in their pregnancies. It is all the

behaviors that surround gaining access to opiates and all the other things: the mental health disorders, the interpersonal violence, the tobacco use, and the other drugs that are really causing most of the problems with their pregnancies and being late to care.

Treatment

What happens when a woman that uses drugs gets pregnant?[4] Well, the short answer is almost every single pregnant woman engages in some sort of harm reduction. So, whether that's switching the drug that she was using, or maybe she just completely switches to a different drug, at least engages in care, and uses less frequently. Even though a lot of people that don't really understand this would look at women who are using drugs in pregnancy and think - *Why can't she do better?* They all really are trying to do better to whatever degree that they are able to.

Some women actually do quit, but even for women that quit substance use in pregnancy, about 80% of them restart afterwards, which I think is a place that we as health care professionals really lose a lot of women. It's great to take care of pregnant women because they are motivated, and this is a time in their lives where they have access to care and they have this thing that is positive to look forward to. Then after the baby is born, we all of a sudden seemingly stop caring about them as a person. So then in their minds is that view that all we really cared about them for was the baby, and then 80% of them relapse.

Women mostly understand the risks of drug use in pregnancy, and explaining that to them over and over again is not really going to change their mind. As I said, most quit or cut back; those who continue to use categorically have a use disorder—it is diagnostic of use disorder. Women should really be offered evidence-based treatment rather than being judged.

Just a couple of words, and I know you are going to hear more about this as time goes on, but of treatments for OUD in pregnancy, medically supervised withdrawals are really not recommended.[4] I remember being shocked by this is a medical student and seeing somebody increasing a woman's methadone during pregnancy, but most of the time MAT needs to be increased during pregnancy because of the physiology of pregnancy. In my mind, I was thinking, "Why? Aren't you just switching one addiction for another?" But you are really not. This is a medical treatment, and you're giving them a much more stable environment and decreasing all of those other behaviors that I explained: putting yourself in unsafe situations to get heroin, having to trade sex for drugs, injecting with needles that are unsafe, and having very high highs and low lows and constant cycle of withdrawals. When medical professionals convince women to go through supervised withdrawals, the rate of relapse is 90%, and the rate of overdose at the first initiation before relapse is astronomically high.[5] Therefore, it is not helpful for anybody.

Again, I can't say this enough, this is a chronic disease that needs a chronic treatment; making somebody withdraw and getting off of opiates for a short period of time is not a win. The benefit of MAT is that it makes a more stable environment so that people aren't going through ups and downs and the constant cycle of withdrawals and highs, which is really extremely

stressful for the baby and leads to negative outcomes for baby and mom. MAT helps women engage in care and helps improve maternal outcomes, overall.[4]

Where do we go from here?

Things that we are trying to do as an American society include:

- Media campaigns about the risks of opioids, revealed through billboards all over the place
- Increased access to treatment by increasing providers and health care coverage
- Naloxone campaigns (e.g., dontdie.org) that provide education about overdoses and responsible prescribing
- Gauging the risk of dependency or addiction with the Opioid Risk Tool before prescribing opioids, which all physicians should be using before prescribing opioids
- Utilizing the Prescription Drug Monitoring Program,[6] which is a way that you can look to see if people are also getting prescriptions from other places and doctor shopping to increase their opiates

Federal mandates

This is not intended to be necessarily a positive thing. Reporting a substance-exposed newborn aligns with the federal capital law, which is the Child Abuse Prevention and Treatment Act (amended as Public Law 111-320), but it is really something that is causing a little bit of a problem with engagement and care because we are mandated, required, to report the moms of all babies that withdraw, and I just told you that NOWS is an expected outcome. Therefore, you come to me, and I give you buprenorphine, and I tell you that your baby will be okay. Your baby withdraws, and I report you to Social Services. This really causes a breakdown in the engagement and care and a woman's trust of the medical system. Therefore, this is something that needs to be addressed from a policy standpoint.

Tips from other countries

A few tips from other countries and what other people are doing that are working a lot better than what we are doing here in the U.S: In France, any doctor is allowed to prescribe buprenorphine and when you think about it, this makes a lot of sense because any doctor can prescribe oxycodone, so we can cause the problem, but we can't treat it? You have to have special training to prescribe the treatment, which really seems very backwards. France dropped overdose rates by 80% by using this strategy,[7] and 50% of the population who has OUD is on MAT[7,8] as opposed to 15% in the U.S. Universal health care in other countries has really helped to counter the opioid crisis. There are a lot of people that are homeless or without access to health care, and they just cannot afford it. Therefore, our inability to provide health care to people that need it is really a problem in this country. Really, the main thing in other countries, especially in Portugal, that has helped access to care and helped people get treatment is the decriminalization of medication or the decriminalization of drugs[9]—really, just the view of this as a health care problem and not a criminal, moral or ethical injustice issue.

Conclusion

The last thing I will say is that this is really a pendulum, and I think that we are getting the word out that there is an opioid crisis. I think that on the other hand, it can swing too far in the opposite direction and make providers very scared to prescribe opioids for what they legitimately need to be used for. They can start to look overly cautious at every person and think that every person that is having pain is really just an addict seeking drugs. Therefore, I think we need to find our balance somewhere in the middle and provide access to treatment, use medications when they're actually needed, and optimize medications that are non-opioids first, but really recognize how we are contributing to this crisis.

- The Child Abuse Prevention and Treatment Act is problematic because it requires providers to report the mothers of all babies that withdraw—*Reduces patients' trust in their providers.*
- In France, any doctor is allowed to prescribe buprenorphine, which makes a lot of sense and is contrary to what happens in the U.S.[7]—*Their overdose rates dropped by 80% by doing this.*[8]
- In Portugal, decriminalization of drug use improved access to care.[9]
- Balance opioid use: Provide access to treatment, use medications when they are actually needed, and recognize how we are contributing to the crisis.

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Chapter Five

Maryland's Opioid Epidemic: Statewide Approach

Brooke G. Holmes, MA

Objectives

To recall the impact of opioid misuse in Maryland as well as identify Maryland's response to the opioid epidemic and to identify Maryland's prevention efforts toward the reduction of pregnancy-associated overdose at both the state and local levels.

- Data from the 2018 Unintentional Drug-and Alcohol-Related Intoxication Deaths Report produced by the Vital Statistics Administration at the Maryland Department of Health/Office of the Chief Medical Examiner:
  - 89% of all intoxication deaths that have occurred in Maryland in 2018 were opioid-related (heroin prescription opioids and non-pharmaceutical fentanyl).
  - The number of opioid-related deaths increased by 7% from 2017 to 2018, which is slightly less than the 8% increase that happened between 2016 and 2017.
  - Fentanyl and heroin are primarily responsible for the dramatic increases in these deaths.
  - 87% of heroin-related deaths have occurred in combination with other substances, such as prescription opioids, alcohol, fentanyl, and cocaine.
  - The number of deaths occurring in Maryland by selected prescription opioids have been rising since 2013, but they declined slightly in 2017 and again in 2018.

Maryland Gov. Larry Hogan's primary initiative areas: prevention, harm reduction, and enforcement.

- The Maryland Heroin and Opioid Task Force and Coordinating Council were established by Gov. Hogan in February 2015 by executive order. Both groups were established to work in tandem to support various efforts to address Maryland's heroin and opioid crisis—*Sharing data and making recommendations for policy regulations and recommendations.*
- The Heroin and Opioid Prevention Treatment and Enforcement Initiative that created the opioid Operational Command Center was established in 2017 as a result of a state of emergency declared in March 2017 to build on what the Council and Task Force recommended.
- In 2017, about 30 opioid bills were introduced to combat the opioid crisis, many of which were put into a legislation called the Heroin and Opioid Prevention Effort (HOPE) and Treatment Act of 2017.
- State-targeted response (STR) to the opioid crisis addresses the issue by increasing access to treatment, reducing unmet treatment need, and reducing opioid-overdose-related deaths through the provision of prevention, treatment, and recovery support services.

- The STR-funded Maryland Opioid Rapid Response Program is managed by the Behavioral Health Administration of the Maryland Department of Health and is strategically aligned with the goals of the Operational Command Center. It was established as part of Gov. Hogan's 2017 HOPE and Treatment Act, which is intended to increase access to naloxone by removing the requirement of training and certification before receiving naloxone from a pharmacy under that statewide standing order.
- The Maryland State Opioid Response grant fund builds on the efforts that the STR grant was designed for and continues to increase the capacity of local service delivery systems to provide coordinated and integrated evidence-based prevention, treatment, and recovery support efforts.
- The Opioid Misuse Prevention Program, established in 2015, is managed from the Office of Population Health Improvement and aims to strengthen and enhance the local overdose prevention plans that had previously been established—*The overall goals are to reduce local contributing factors, opioid misuse, opioid overdoses, and, ultimately, overdose fatalities.*

Implementation of strategies at the local level:

- Primary strategies: Social marketing campaigns, prescription drug take-back events, parent/youth-targeted education training on perception of risks, expanding prescription drug lock boxes and drop-off locations, etc.
- Secondary and tertiary strategies: Raising public awareness of the Good Samaritan Law, naloxone programs/training, first responder training and education (Good Samaritan Law, outreach, and/or naloxone).

Information and program dashboards:

- Chesapeake Regional Information Systems for our Patients (CRISP) Opioid Indicators Dashboards—a service that is provided by the Public Health Services Administration within the Maryland Department of Health and in collaboration with the CRISP, which houses the health information exchange.
- Prescription Drug Monitoring Program, or PDMP, dashboard
- Overdose-Related Hospital Encounters, or ORP, dashboard
- Overdose Response Program—public health naloxone distribution model
- Overdose Fatality Review—local-level multi-agency and multidisciplinary teams that review overdose cases at least quarterly. The purpose of the agency is to identify any missed opportunities for prevention and any gaps at the system level and work on building their relationships, cutting down barriers, sharing information or providing human resources to individuals, and preventing future overdose fatalities.
- Overdose Survivors Outreach Program—to create better pathways to treatment by creating closer collaboration between medical facilities, local health departments, and treatment facilities.

- Maryland Maternal Mortality Review Program—made up of volunteer health care and public health professionals, conducts maternal mortality case reviews, and found that substance use and unintentional overdose were the leading causes of death with 59 out of 267 pregnancy-associated deaths.

Chapter Six

Opioid Use Disorder and Anti-Stigma

George Jay Unick, PhD, MSW

George Unick used a short video to highlight the importance of using non-judgmental language when referencing individuals with OUD because language affects how people think and behave.

Stigma:

- Causes patients with drug addiction histories to feel ashamed
- Prevents patients from accessing treatment
- Makes many people mistakenly believe that the medication is a substitute for opiates
- Causes patients to feel punished for getting treatment, which can lead to patients not adhering to their treatment, resulting in relapse

Recommendations to Reduce Stigma	
Instead of saying…	**Say…**
Addict or abuser	Person with substance-use disorder
Clean	Addiction-free
A person's urine is dirty	It is positive for X
Medication is a replacement addiction or crutch	Medication is treatment

Remove *abuse* from the titles of government agencies charged with creating treatment programs.

We must change the language in order to change outcomes.

Chapter Seven

Neonatal Opioid Withdrawal Syndrome: A Ten-Year Experience of the NICU at the University of Maryland Medical Center and Future Directions

Dina El-Metwally, MD, PhD, FAAP

Dina El-Metwally's current research is on pharmacological interventions for babies withdrawing from exposure to opioids in utero, NOWS, and the impact of those interventions on their neurological development in infancy. El-Metwally's presentation is as follows:

- Per University of Maryland Medical Center (UMMC) policy, all babies undergo a comprehensive toxicological screen in the nurseries or NICU for opiates and benzodiazepines. Beginning in 2018, buprenorphine, methadone, and fentanyl are among the drugs that can be tested by urine or meconium. Urine can help determine exposure within the last two days.
- Over the last 10 years, there has been a nearly sixfold increase in the number of babies admitted with NOWS and a tenfold increase in the number of babies requiring pharmacotherapy (not all babies with NOWS require pharmacotherapy).

Burden of NOWS in the University of Maryland Hospital System: 17 babies per 1,000 admissions to the NICU in 2007/2008. Currently, there are about 87 cases per 1,000 admissions. In 2015, the *New England Journal of Medicine* published an article on the number of NOWS cases in 2,019 NICUs around the country and showed the number of NOWS cases went up from seven to 27 per 1,000 admissions.[1] This means that Baltimore is recording a threefold increase in NOWS cases compared to the national average.

- With exposure to multiple opioids, with higher and higher numbers of mothers using opioids, babies experience a cumulative effect of the severity of withdrawal and a higher threshold to start treatment earlier. Withdrawal symptoms often begin within 24 hours of birth. Selective serotonin reuptake inhibitors used to treat depression cause up to 25-30% of infants to experience neonatal adaptation syndrome, including jitteriness, restlessness, increased muscle tone, and rapid breathing. The trajectory for infants may not change even when anti-depressants are discontinued in the third trimester.
- Data from 2017 shows that babies admitted for NOWS stay longer in the NICU (0.5% bed occupancy in 2008 vs. 7% in 2017). In terms of race and NOWS, approximately 70% of babies among the African American population vs. 84% of babies among the white population required pharmacotherapy.

Future directions and reducing poor neonatal outcomes after exposure:

- The initial guideline by the American Academy of Pediatrics stated that mothers on more than 20 mg of methadone per 24 hours should not be allowed to breastfeed. This has however been amended to allow those in a program and abstinent in the 90 days

prior to delivery to breastfeed—*Breastfed babies require less morphine and record better weight gain compared to formula-fed babies.*
- Cuddle Care volunteer program—specially-trained volunteers hold the babies and provide non-pharmacological care to babies diagnosed with NOWS. Babies have shown improvement with cuddling, and it is believed that the gentle movements and comforting helps to calm the overexcited nervous systems.

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Chapter Eight

Opioid Use Disorder and Pain Management During Labor and Postpartum

Jamie E. Swietlikowski, MS, CNM, WHNP

The number one cause of maternal deaths in Maryland for four years running is overdose. Deaths due to overdose occurred between days 30 and 300 postpartum where there is a significantly high risk of up to 70-80%. Under-treatment of chronic or acute pain is a significant risk factor for relapse in patients with OUD. By safely and adequately treating the patient's pain, we are also decreasing the risk of relapse and contributing to the reduction of the rising morbidity and mortality for pregnant and postpartum women with OUD in Maryland.

Four main clinical challenges contribute to inadequate pain management in patients with OUDs:

- Opioid tolerance: Pregnant patients with a history of opioid use may have built a tolerance for opioids and have been shown to require a higher dose to address pain compared to their opioid-naïve counterparts. Close monitoring of maternal and fetal clinical manifestations will be indicated for prevention of respiratory and Central Nervous System depression side effects.
- Opioid cross-tolerance: tolerance for one drug leads to tolerance for another, e.g., morphine and methadone have a significant cross-tolerance effect. It is possible that even though a patient who never used morphine but who has a history of heroin use and is on maintenance methadone may still develop a tolerance and require higher doses of morphine—up to five times the dose required for opioid-naïve patients. A consult with anesthesia pain service in collaboration with substance-use consult should be obtained if the patient's pain is still unmanageable.
- Hyperalgesia: pathologically heightened sensitivity to pain and lower tolerance for pain in patients on opioid maintenance therapy (OMT). There is no difference in tolerance or sensitivity to pain based on agent (buprenorphine vs. methadone). Patients with a history of OMT had increased tolerance and sensitivity to pain. If you have ever cared for a patient with an OUD in labor, you have likely witnessed this. You may evaluate her for labor and think she is transitioning by the way that she is coping with contractions and check her, only to find out she is in early labor. The pain is experienced earlier than in opioid-naïve patients and more intensely than their counterparts. In those moments, I find it helpful to recall that her seemingly exaggerated response to her experience is in fact a pathologic phenomenon, and her body's perception of severe pain is very real.
- Provider bias/misconceptions: preconceived beliefs and ideas from providers regarding pregnant women with OUDs negatively impact the clinical care of pain. Misconceptions contribute to the under-treatment of chronic and acute pain in patients with OUDs:
    - Administration or prescribing of opioids for acute pain will result in relapse.
    - No additional pain medications are necessary for OMT as it provides analgesia.
    - Opioid-dependent patients reporting acute pain are usually drug-seeking.

Studies suggest that the majority of opioid-maintained mothers are not drug-seeking but reacting to the physiologic phenomena of hyperalgesia. This can be reduced with provider education and following acute pain management general principles such as:

- Evaluate complaints of pain and do not dismiss them as drug-seeking behavior.
- Maximize non-pharmacologic interventions and non-opioid analgesia.
- Higher doses of pain medication may be necessary to treat pain.
- OMT should not be part of a pain management plan.
- Continue OMT while providing pain treatment.

Intrapartum and pain management

An ACOG position statement, SAMHSA clinical guidelines, and studies address pain management of opioid-dependent women in labor.

Findings from the literature suggest that:

- Epidurals work for patients with opioid addiction when other options are unavailable but can result in more breakthrough pain, which can be managed.
- Postoperative pain from vaginal deliveries can be managed with routine pain protocols starting with patient-controlled analgesia and transferring to short course oral opioids.
- Women on methadone for OMT required more supplemental anesthesia after epidural placement.
- Intrapartum pain for women on buprenorphine for OMT was adequately treated with short-acting full opioids and epidural anesthesia.
- Continued reports of pain may indicate worse management, not drug-seeking.

Clinical management of pain in pregnant women on OMT–postpartum

Postpartum pain management is often undertreated even as studies reveal that postpartum pain management deteriorates; continued reports of pain may indicate worse management, not drug-seeking; and there appears to be a hesitance to give opioids to women on OMT. A follow-up plan should include:

- Ensuring there is continuity of OMT
- Discharge pain medications (same as for non-opioid-dependent women)
- Follow-up appointments to include pain evaluation and urine drug screening (earlier for women with cesarean operations, by end of week 1)

Interdisciplinary strategies to improve outcomes

- Listen, trust, respect, and keep families together. Strive to be genuine, kind, non-judgmental, and curious with every interaction.
- Support women with trauma-informed care, mindfulness-based stress reduction, and motivational interviewing.

- The American Academy of Pain Medicine recommends maximizing non-pharmacologic interventions and non-opioid analgesia. Pain unresponsive to these treatments can be managed with a limited course of a short-acting full opioid agonist such as morphine, fentanyl, oxycodone, acetaminophen/codeine, etc. *Do not* use opioid-agonist-antagonists such as butorphanol (Stadol) and nalbuphine (Nubain) to treat pain. In the management of pain in patients with OUD, outcomes are improved when a short-acting opioid is prescribed for a short course of time. This prevents under-treatment and self-medication, which are risk factors for overdose.
- Buprenorphine and methadone reduce withdrawal symptoms with minimal euphoric effect and so do not adequately treat pain. Although they are not considered part of patients' pain management, it is important to ensure that clients stay on them.
- Pain management starts before patients walk through the door. Being in good mental health ensures good sleep hygiene and encourages smoke cessation, which decreases the dose requirement for these patients in the inpatient setting—*e.g., people with nicotine dependence have a higher sensitivity to pain—overlapping pathways of physical and emotional pain.*
- Smoking cessation programs should include the provision of nicotine patches.
- The Interdisciplinary Antepartum Pain Plan—a tool based on 2018 SAMHSA guidelines outlines patient plans for pain, who to call to verify their dose for methadone, what their discharge plans are, where they will go for care, etc. These decisions are taken together by social work, anesthesia, OB/GYN, etc., and this tool helps to decrease miscommunication.

Additional resources

SAHMSA clinical guidance for treating pregnant and parenting women with OUD, and CDC chronic pain guidelines.

Chapter Nine

Ethical Issues and Regulatory Reporting in Treating Pregnant Women with Substance-Use Disorder

Kathleen Hoke, JD

State laws on substance use during pregnancy: Criminal and civil charges

Historically, no state has explicitly specified in statute that maternal substance use during pregnancy is criminal child abuse.

- In 2014, the Tennessee legislature passed a statute (with a natural sunset clause in 2016) to criminalize substance use during pregnancy. This received intense criticism from the medical community and no prosecutions ensued under that law. The provision was not renewed in 2016. (Choi & Leslie, 2019)
- A few states allow for other criminal charges (such as child endangerment, manslaughter, delivery of controlled dangerous substance (CDS) to minor) although these charges are often brought up against the mother after the child is born. These charges are uncommon in Maryland.

The civil service justice system:

- Twenty-three states and Washington, D.C., have a specific statute or regulation that allows for pregnant women with substance abuse problems to be charged with civil child abuse.
- Three states consider it grounds for civil commitment.
- Maryland does not have either of these laws (Guttmacher).
- *Exception: Mothers using MAT as prescribed by their physicians; illicit drugs are defined to include MAT, if not prescribed.*

Impact of criminalization

- Pregnant women who are referred for treatment through the criminal justice system are the least likely to be referred to programs providing MAT with a disproportionate impact on the poor and minority populations. *Nearly all illicit drug laws are implemented in a racially discriminatory way – Corey Davis*
- A Tennessee 2014 statute had unintended consequences—women delayed or had no prenatal care (Choi et. al., 2019)

State laws on reporting substance use during pregnancy

Many provisions within the federal rule support HIPAA exceptions, and sharing of confidential medical information is generally accepted within the medical provider community. These exceptions permit the sharing of otherwise protected medical information to:

- Ensure that it does not interfere with the ability of a health care provider to share information regarding child abuse or neglect to the appropriate entity.
- Avert a serious threat to health or safety if reported to an entity that can prevent the harm. The Child Abuse Prevention and Treatment Act (CAPTA), however, precludes the need to discuss the exceptions in HIPAA.

Reporting requirements and prenatal care:

- Twenty-five states and Washington, D.C., require health care professionals to report suspected prenatal drug use during pregnancy.
- Eight states require health care professionals to test pregnant women for prenatal drug exposure at various times during pregnancy, upon suspicion, for all populations to avoid assumptions being made about who may or may not be using illicit substances during pregnancy. These eight states are among the 25 states that allow for reporting of prenatal drug use.
- Maryland does not have either of these provisions.

Ethical considerations and efficacy

The possible basis for these laws is to deter maternal substance use and provide the opportunity for the criminal justice or social services systems to intervene in that critical time while the baby is still in utero. However, there is no evidence to support that criminalization of illicit substance use during pregnancy reduces child morbidity or mortality. Instead, it interrupts the patient–provider relationship by preventing mothers from seeking all types of health care needed in particularly vulnerable situations. Women are deterred from seeking any medical care while pregnant and shortly after for any medical needs, including prenatal and postnatal care of self and infant, vaccinations, substance-use treatment, chronic disease treatment, and treatment for acute illness or injury.

Child Abuse Prevention and Treatment Act

- CAPTA is a federal law that provides funding to states. CAPTA mandates that health care providers involved in the delivery or care of a child who has been affected by prenatal exposure to illegal substances notify the appropriate state agency (Child Protective Services) of the child's condition.
- While Dr. Katrina Mark identifies the problematic nature of CAPTA because it requires providers to report the mothers of all babies that withdraw and reduces patients' trust in their providers, the Act does not require that Child Protective Services make a finding of abuse or neglect.
- Certain procedural safeguards required of social service agencies in processing a report are not maintained in the Act. The state through this Act is federally mandated to report infants born to mothers who used illicit substance during pregnancy.
    - *The laws do NOT require reporting to law enforcement; instead, it allows DSS to do a proper assessment of whether a medical or social intervention is necessary to ensure health and help the mother to keep her baby.*

Maryland law

Definitions:

- Controlled drug: CDS on Schedule I through V or under Title 5, Subtitle 4 of the Criminal Law Article (includes drugs used in MAT)
- Substance-exposed newborns born: Positive toxicology screen for CDS after birth. It displays the effects of CDS use or symptoms of withdrawal resulting from prenatal CDS use or symptoms of withdrawal resulting from prenatal CDS exposure as determined by medical personnel. It also displays the effect of FASD. Babies born out of state but being treated in Maryland within the first 29 days of birth (under 30 days) are covered by CAPTA and have to be reported.

Under Maryland law, a health care practitioner involved in the delivery of care of a substance-exposed newborn shall:

- Make an oral report to DSS as soon as possible *and*
- Make a written report to DSS within 48 hours after the contact, examination, attention, treatment, or testing that prompted the report. Details of what should be included in the report have been outlined in statute.
    - Exceptions: Where the health care provider knows another provider at the institution made the report and verifies that the mother was using CDS as prescribed by a licensed health care provider, the newborn does not display effects of withdrawal or FASD; and the newborn is not affected by substance abuse
    - *A report does not create a presumption that a child has been or will be abused or neglected*.
- Possible outcomes with DSS involvement include:
    - No intervention needed
    - Develop a Plan of Safe Care for newborn
    - Assess and refer family to appropriate services, including drug treatment
    - If necessary, develop a plan to monitor newborn care and family's use of services

Ethics and efficacy

- The same ethical considerations may exist for reporting as in criminal and civil actions during pregnancy, with the same concerns about interference with patient–provider relationship and loss of trust from patients.
- On a different note, reporting can have a positive impact on women, babies, and families if "done right." For example, changes to CAPTA through Comprehensive Addiction and Recovery ACT (CARA) require states to develop Plans of Safe Care as a guide to improve outcomes for infants exposed to substances in utero and FASD.

Chapter Ten

Engaging Patients and Forming Therapeutic Relationships

Katherine Fornili, DNP, MPH, RN, CARN, FIAAN

Katherine Fornili's presentation focused on recovery-oriented systems, creating effective environments for recovery, relationship-building, and motivational enhancement strategies. Excerpts from Fornili's presentation are summarized as follows.

Problem statement

Negative provider attitudes inhibit one's ability to provide adequate services to patients with substance-use disorders (SUD). Stigma and mistrust of parents by health care professionals:

- Increase parents' feelings of shame and incompetence
- Are counter-productive in the patients' recovery process
- Impact adequate bonding between parents and babies

Phenomena of recovery

Recovery-oriented systems of care: SAMHSA's definition of the phenomenon of recovery is "a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential. "[1] It has the following overarching principles:

- It is a reality for millions of people.
- There are many pathways and styles of recovery.
- It is a voluntary process.
- Patients thrive in supportive communities.
- Recovery gives back what addiction and mental illness took away.

Core recovery measures are centered on health and management of the disease process; home as a stable and safe place to live; purpose and having meaningful daily activities, such as employment or school; and community instrumental support that provides support, building relationships and social networks.

Recovery management

William White's Recovery Management Model and the SUD Continuum of Care:[2] One approach to addiction treatment proposes the use of a chronic care model of treatment similar to modalities for cancer, diabetes, asthma, and other chronic diseases.

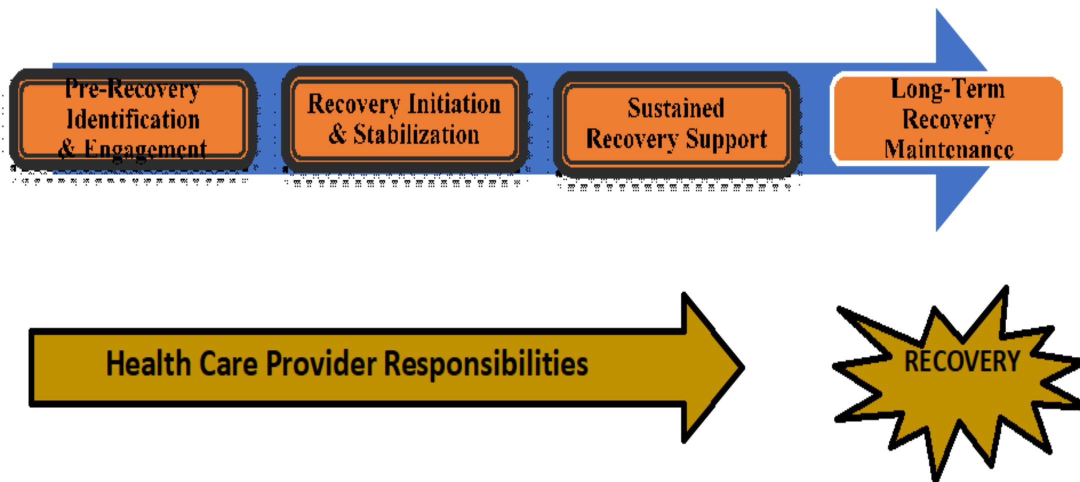

Figure 4: William White's Recovery Management Model and the Substance-Use Disorders Continuum of Care

Figure 5: Substance-Use Disorder Services Continuum of Care

Continued contact is the responsibility of the primary care provider and other service staff rather than the patient. Four phases of recovery are presented in the continuum of care:

1. The first phase, *pre-recovery identification and engagement,* is dependent on a therapeutic alliance between the practitioner and the patient: The practitioner is aware of a window of opportunity and has a willingness to intervene, and the patient is aware that the health care provider is helpful and supportive and is willing to trust the provider.
2. During *recovery initiation and stabilization*, a failure to initiate and stabilize recovery may be due to flaws in the service delivery system, not failures (non-compliance) on the part of the individual.[2]
3. In the *sustained recovery support services*, a full range of non-clinical services to reduce or eliminate environmental or personal barriers to recovery are needed to support the patient, such as childcare, housing transportation, and life skills training.
4. The *long-term recovery management* phase shifts focus from the service environment to the client's natural environment and requires provider commitment to extended post-treatment monitoring and support.

Create welcoming environments and a culture of quality improvement

Providers and health professionals can create welcoming environments and culture to increase family engagement in treatment for pregnant and parenting women in recovery.[3-6] Family

engagement is a fundamental element of treatment, predicts improved retention, and can lead to better outcomes[3-6] Relationship-based programs are beneficial to women in treatment. Treatment agencies need to:

- Find effective ways to meaningfully engage family members or significant others, including non-residential children and father/father figures
- Support family engagement and care for the affected family members[3-4]

Trauma-informed care

Avoid re-traumatization. Compared to women that have either a post-traumatic stress disorder (PTSD) or an SUD, a majority of women with addiction report having experienced sexual abuse (74%), physical abuse (52%), emotional abuse (72%), and instances of incest and rape, domestic violence, and abuse by more perpetrator, frequently and for longer periods of time.[5,6] Women who have both PTSD and SUD suffer more consequences, including co-morbid mental disorders, medical problems, psychological symptoms, inpatient admissions, and lower levels of functioning.[6]

Resistance and motivational enhancement

Do not push people into changing when they are not ready. Instead, help prepare women for change and move them to the next level of readiness.[3-4]

Signs of patient resistance include: interrupting, denial, ignoring, and arguing. *These signs reflect a patient who is not feeling heard, respected, or taken seriously.* They provide a clue for the provider to check their own behaviors, plans, and expectations to avoid the confrontation–denial trap, which induces the signs of resistance.[4]

Problem recognition, readiness for treatment, and motivation:

- Identify both those who are ready for change and those who are not, and provide motivational enhancement to improve the likelihood of success.
- Patients who show insight about the relationship between negative consequences and their use of alcohol and other drugs will probably be receptive and can do well with treatment.
- Patients who are unable to recognize their problems, fail to disclose that they have used alcohol and other drugs, or exhibit denial and mistrust will probably be harder to engage in treatment and more likely to drop out.[4] Critical steps for such patients will be assessing them for treatment readiness and level of motivation to improve the likelihood of success.

Based on Prochaska and DiClemente’s Transtheoretical Model of behavior change,[7] remember that the focus is not on abstinence but on helping patients move to the next level of readiness.

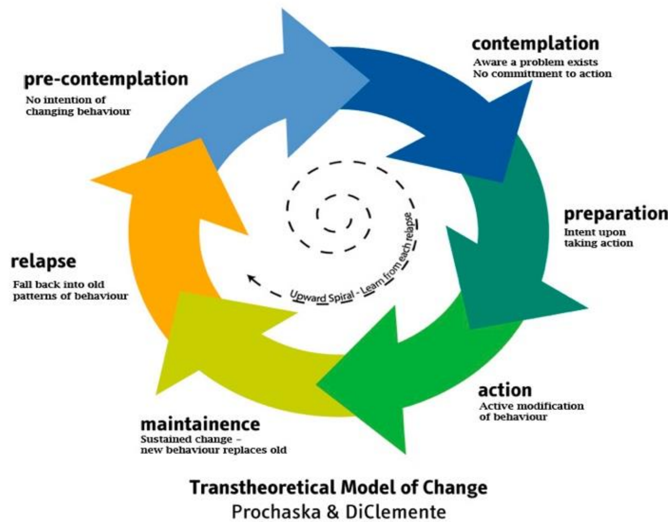

Figure 6: Transtheoretical Model of Behavior Change

Five principles of motivational enhancement[4]

1. Communicate respect for patients—listen rather than tell
2. Help patients perceive a discrepancy between where they are and where they want to be
3. Avoid argumentation to avoid resistance
    a. Resistance is a patient's reaction to what they perceive as a threatening interpersonal interaction
    b. Resistance is evoked by disrespect or threats to self-esteem
    c. Resistance is minimized by enhancing self-esteem and respecting the patient
4. Discuss ambivalence openly—seek the patient's opinions about possible solutions
5. Enhance self-efficacy—the ability to achieve goals
    a. People only move towards change when they perceive a chance of success
    b. Help the patient believe she can change

Incorporating recovery messages into the context of general health

- The more we incorporate advice about substance use with general health concerns and consequences of continued use, the better our chances of success.
- Outcomes do not improve when we require patients to fit or conform to our favorite model or technique but when we instill hope and accommodate our patients.
- The biggest engine of change is the patient and family not us or our intervention models.

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Chapter Eleven

Community Partnerships, Collaboration, and Policy Implications

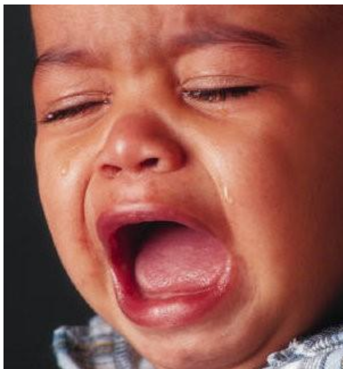
Jocelyn Gainers, EdD, CAC-AD, AS

Jocelyn Gainers is a community-based partner and the President/CEO of The Family Recovery Program Inc.

Gainers highlighted the implications of child removal from mothers with OUD, availability of resources/support, interventions/resources/support offered by the Family Recovery Program (FRP), the importance of collaborative partnerships for family reunification, how to develop relationships, and lessons learned when a child is removed. A testimony on the burden of child removal was provided by a graduate of the FRP. Monique has her daughter back and has improved relationships with her other children. She is employed with two jobs and is working toward completion of her GED.

Implications of child removal

- There are several negative implications when a child is removed from their parents, such as: a negative view of the DSS; a sense of powerlessness, helplessness, or being kidnapped; loss of trust; shock; surprise; and chaos. Child removal causes chronic and complex trauma for the child that is sustained over a period of time. Trauma starts at a very young age when the child is most vulnerable and is perpetrated by someone who the child depends on for protection and care. A young child feels less safe and exhibits distress in many forms, often unresolved. Such trauma affects attachment, cognition, mood regulation, behavior control, self-concept, risk for learning difficulties and drug abuse, teenage pregnancy, risky behaviors, and health problems later in life. Impact on toddlers: nightmares, phobias, clinging, whining, protesting separation, anticipatory aggression, acting out as though the event was unfolding or acting out aspects, fearful in regard to separations and new situations, etc.



- Impact on school-age children: feelings of failure for not having done something helpful, may feel ashamed or guilty, have unwanted and intrusive thoughts and images, thoughts of revenge they cannot resolve, disturbed sleep patterns, etc.
- Impact on adolescents: embarrassment from bouts of fear and exaggerated physical responses; may believe that they are unique in their pain and suffering, resulting in a sense of personal isolation; sensitive to the failure of family, school, or community to protect them or carry out justice; carry out self-endangering behavior such as self-cutting, etc.

What do families need to avoid removals and traumatization?

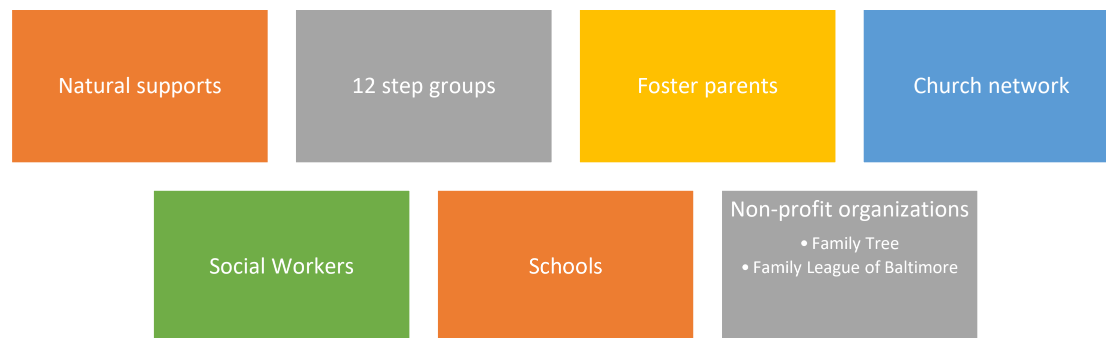


Figure 7: Supportive Resources

One community organization, the FRP, offers several interventions, resources, and support to recovering clients. The FRP aims to Strengthen, Engage, and Equip (or "SEE our clients"). Their vision statement is "investing in and rebuilding thriving families."

FRP is guided by SAMHSA with four major dimensions delineated as essential to support a life in recovery:

1. Health: overcoming or managing one's disease(s) or symptoms and making informed, healthy choices that support physical and emotional well-being
2. Home: maintaining a stable and safe place to live
3. Purpose: conducting meaningful daily activities, such as a job, school, or volunteerism, and having the independence of income and resources to participate in society
4. Community: having relationships and social networks that provide support, friendship, love, and hope

History of family treatment courts

Family treatment courts or family drug courts (FDCs) are the result of the drug court movement that began in 1989 for adult criminal cases. States first created FDCs in 1995. More than 500 FDCs are in operation today. The Adoption and Safe Families Act of 1997 (ASFA) set forth goals of improving the safety and permanency for children. FDCs are one method of meeting these goals. FDC outcomes include:

- Higher treatment completion rates
- Shorter time in foster care
- Higher family reunification rates
- Lower termination of parental rights
- Fewer new CPS petitions after reunification
- Lower criminal justice recidivism
- Cost savings per family

Aligned with interdisciplinary efforts, the FDC practices a collaborative non-adversarial approach grounded in efficient communication across service systems and court.

The FRP provides critical interdisciplinary services and support through collaborations with local housing providers, health systems for on-site mental health clinicians, drug treatment placement sites, pharmacies, transportation companies, and incentive stores.

Figure 8: Services Provided by the FRP

The keys to success for the FRP are its partnerships with multiple agencies. To create lasting partnerships, agencies can succeed by:

- Adopting a culture of openness, trust, honesty, regular communication, intentional follow-through, and agreed shared goals and values
- Establishing memorandum of understanding/agreement (MOU/MOA) and contract for paid services, identify ideas that will impact result at both organizations, and submit grants together
- Share training opportunities, strategize regularly, and host quarterly breakfast meetings

FRP forged partnerships with the following organizations:

- Baltimore City Health Department
- Behavioral Health System Baltimore
- Family League of Baltimore
- Baltimore City Department of Social Services
- The Family Tree
- Office of Problem-Solving Courts
- District of Columbia Child and Family Services

- Johns Hopkins University, Towson University, Morgan State University, University of Maryland
- Institute for Integrative Nutrition
- Children and Family Futures
- National Association of Drug Court Professionals
- Real Food Farm
- Baltimore City Fire and Police Departments
- Hope Health Systems
- Network of drug treatment providers
- Network of supportive housing providers

Policy implications

The Family First Prevention Services Act was signed into law as part of the Bipartisan Budget Act on Feb. 9, 2018, to reform the federal child welfare financing streams, Title IV-E and Title IV-B of the Social Security Act, to provide services to families who are at risk of entering the child welfare system. The bill aims to prevent children from entering foster care by allowing federal reimbursement for mental health services, substance-use treatment, and in-home parenting skill training. It also seeks to improve the well-being of children already in foster care by incentivizing states to reduce placement of children in congregate care.

Chapter Twelve

Case Study and Expert Panel Discussion

Treatment, Access, Education, and Effective Programs for Maternal Substance-Use Disorder

Moderator: Rebecca Vivrette, PhD

Assistant Professor and Clinical Psychologist, Division of Child and Adolescent Psychiatry, Department of Psychiatry

Panelists:

- Christopher Welsh, MD, Associate Professor, Department of Psychiatry, University of Maryland School of Medicine
- Kelly Dress, LCSW-C, Social Worker, OB/GYN Unit, University of Maryland Medical Center
- Katrina S. Mark, MD, FACOG, Assistant Professor, University of Maryland School of Medicine, and Medical Director, University of Maryland Obstetrics and Gynecological Associates
- Dina El-Metwally, MD, PhD, FAAP, Associate Professor of Pediatrics, University of Maryland School of Medicine, and Medical Director, Neonatal Intensive Care Unit, University of Maryland Children's Hospital
- Lorraine Anne Milio, MD, OB/GYN in Maternal Fetal Medicine and Addiction Medicine, OB Director, Center for Addiction in Pregnancy, Johns Hopkins Bayview Campus/Co-Director, HALO Program, Johns Hopkins Hospital

Case

This case illustrates the challenges in care coordination for a client with multiple comorbidities and reveals how imperative it is to enhance coordination systems.

Background

MK is a 33-year-old white woman with a history of two previous cesarean section deliveries, history of hepatitis C and stroke, and numerous prior abscesses and cellulitis in her arms and groin area. Her mental health history includes schizophrenia, anxiety disorder, suicidal ideations, auditory hallucinations, and psychiatric hospitalizations as a child. She is followed by community, prenatal, and psychiatric outpatient providers. She is on multiple psychiatric medications and 90 mg/day of methadone for substance-use treatment. Her prenatal care had been unremarkable. She is homeless and unemployed, has a 9th-grade education, two children aged 12 and 15 years, and a husband who is incarcerated.

March 12: MK presented to the emergency department (ED) for bilateral foot pain where she also reported two missed periods but left before a urine pregnancy test.

June 21: MK presented to the ED for suprapubic pain and was diagnosed with urinary tract infection. Test results were positive for methadone, cocaine, and opiates. A pregnancy test was positive. She was discharged with information/referrals to a local treatment recovery program.

August 13: MK was brought to the ED by police when she became unresponsive after an arrest. She was arrested for eating on the metro and was taken to central booking. MK was admitted to labor and delivery. She was approximately 34 weeks pregnant, diagnosed with gestational diabetes, thrombocytopenia, and tested positive for heroin, fentanyl, and cocaine.

August 19: MK was referred and placed in a residential facility with the following discharge medications:

> Clonazepam, 1 mg, 2-3 daily; Trazodone, 100 mg at bedtime; Fluoxetine, 20 mg daily; Gabapentin, 300 mg, 3 times daily; and methadone, 100 mg (increased during this hospitalization from 90 mg)

Multiple hours were spent by social workers trying to find a residential facility that would accept a pregnant client in the third trimester who was also prescribed methadone and clonazepam. There was discussion about adoption.

August 21–25: Patient called social worker to report her current residential facility would not continue her clonazepam and that she had been robbed of her belongings and her clonazepam. She was admitted again through the ED and to labor and delivery. She had a cesarean section for intrauterine fetal demise and a bilateral tubal ligation.

August 28: MK was discharged to another housing facility that accepted her as she was no longer pregnant. However, due to delays with pharmacy and concerns with her clonazepam medication, she lost the placement to this residential facility and the social worker began making calls to another facility. A police report was requested as evidence for her stolen drugs, but she was hesitant to consent to the report, because of her history with the police and for fear of the information reaching her colleagues at the methadone clinic. The pharmacist decided to fill the prescription in spite of the concern in agreement with other providers, but this happened only after several hours of discussion, resulting in her late arrival and loss of placement at the intake office for housing.

Panel discussion issues, challenges, and recommendations

The panel discussion focused on the several aspects and the coordination of care for this patient with multiple comorbidities.

Medical care and treatment

- *Providing basic treatment*: The panel noted that a pregnancy test was not initiated during the first ED visit possibly because providers focused on substance-use screening and treatment after the client admitted to substance use. Speakers noted that it was

not uncommon but problematic and could lead to failure to provide basic medical treatment.

- *Medical assumptions*: Upon presenting to the hospital unresponsive, MK was assumed to have overdosed but had actually suffered a stroke. This assumption led to a failure to provide her with a head CT, which would be standard treatment[1] had she not been an overdose victim and a known substance user.
- *Pregnancy risks:* MK's methadone treatment program did not provide more than 90 mg of methadone for clients who were prescribed benzodiazepines, as a rule. However, a dose increase for methadone is recommended during pregnancy, for up to 10 mg in the third trimester.[2] This increase was only ordered during her second ED visit, but she had remained on the initial dose throughout most of her pregnancy.
- *Medication risks*: MK had been prescribed clonazepam and methadone, which when taken together can lead to death.[3] The pharmacy, aware of the risks and liabilities, initially refused to honor the prescription for both clonazepam and methadone.
- *Lack of access and coordination with community psychiatrist:* Patient was discharged with a new prescription for a week until she was able to see her psychiatrist.

Psychosocial issues

Complex situation that interrupts comprehensive treatment:

- *Fear of police*: In order for the pharmacist to fill the prescription for the stolen medication, a police report was requested as evidence for the theft, but MK was hesitant about police intervention due to previous interactions with the law. She was also afraid that a report would get back to her colleagues at the methadone clinic.
- *Housing arrangements*: Although the social worker managed to make other housing arrangements for her, MK lost the placement because of the time it took to coordinate with the internist, hospital psychiatrist, pharmacist, and administrators. Residential facilities often institute rules and curfews for admissions.
- *Criteria for residential intake*: A mixed bag of entry requirements for residential facilities makes it difficult to obtain housing for pregnant women with OUD and on prescribed medications such as methadone and clonazepam. While some do not admit pregnant women, others will not accept patients taking both methadone and a benzodiazepine.

Role of social worker in care coordination

Social work intervention led to the patient receiving the prescribed medication. This happened after hours of multiple coordinated efforts by the social worker with the internist, psychiatrist, pharmacist, and hospital administrators. Pharmacists are often concerned about losing their license for filling questionable prescriptions. The social worker appeared to be the most effective provider to coordinate and advocate for the patient. The social worker was also able to locate internal resources to pay for medications that could not be covered by insurance where previous medications have been disbursed in less than one month to ensure that MK received the drug before discharge. Upon the patient's discharge, the social worker instituted a follow-up telephone call to MK.

Recommendations for patient-centered care

Potential issues and recommendations for consideration by health care providers:

- Reduce stigma to avoid assumptions about treatment.[4] MK, upon presenting to the hospital unresponsive, was assumed to have overdosed, but she had actually suffered a stroke. This assumption led to a failure to provide her with a head CT,[1] which she would have received had she not been a known substance user.
- Coordination among hospitalist and community providers is critical to meet medical and mental health care and psychosocial needs.[5]
  - The risk for premature death was high in this patient, and communication with the community psychiatrist was needed for treatment.
- Initial coordination among the prescribing physician and pharmacy would have resolved the clonazepam problem faster. The patient was instead subjected to a long wait that resulted in loss of residential housing.
- Provide patient-centered care[6] through available resources such as:
  - Grief counseling for the loss of a child as well as inpatient psychological counseling
  - Peer support through the ED, if available
  - A follow-up telephone call by the social worker or designated nurse to the community providers, which expands coordination and treatment models
- Develop standards of care to avoid misdiagnosis and appropriate treatment for overdose pregnant women upon admission.[7]
- Orient first responders to treatment in the ED that includes providing information about conditions in which pregnant overdose victims are found.
- Utilize electronic health records to gather data about clients with frequent utilization and multiple hospitals to understand overdose situations, especially in the month or so prior to an occurrence/death.

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Recommendations

Endorsed by IDEA Team – Doris Titus-Glover, PhD, MSN, RN; Katherine Fornili, DNP, MPH, RN, CARN, FIAAN; Kathleen Hoke, JD; Fadia T. Shaya, PhD, MPH; Jamie Swietlikowski, MS, CNM, WHNP; George J. Unick, PhD, MSW; Rebecca Vivrette, PhD; and, Chris Welsh, MD

Education

- Improve media campaigns about the risks of opioids and the impact on women of reproductive age.
- Educate pregnant women about NOWS. NOWS can be treated and is not a negative outcome but an expected consequence of women who are prescribed MAT (methadone or buprenorphine). Properly managed withdrawals in babies are not harmful, so expectant mothers should be educated about this information.
- Provide comprehensive training to substance-use treatment providers about prenatal and postpartum health care.
- Increase screening of opioid use and Screening, Brief Intervention, and Referral to Treatment (SBIRT)[7] during pregnancy—the latter is an evidence-based approach to providing early intervention and treatment to patients with problem alcohol or drug use.
    - Inform substance-use treatment providers about prenatal and postpartum health.
    - Collaborate with Perinatal Neonatal Quality Collaborative and Maryland Patient Safety Center and other related organizations to address quality improvement in obstetric and neonatal care.

Access to Care

- Improve access and implement incentives to shift resources toward prevention, which is where efforts should be concentrated.
- Increased access includes increased number of providers and health care coverage, education, testing for addiction risk factors, and evaluating illegal prescriptions[8]
- Identify and target priority populations with interventions to prevent the intergenerational cycle of opioid abuse among women of reproductive age.

Interdisciplinary strategies

- Maryland Maternal Mortality Review recommends:
    - Use of Prescription Drug Monitoring Program[1] by providers
    - Utilize resources from Maryland State Medical Society (MedChi),[2] such as opioid-related educational materials and activities such as opioid alternatives, opioid prescribing guidelines, and the iPrescribe app.
- Use interdisciplinary tools to decrease miscommunication, such as the Interdisciplinary Antepartum Pain Plan—a tool based on 2018 SAMHSA[3] guidelines that outlines patient plans for pain, who to call to verify their dose for methadone, what their discharge plans are, where they will go for care, etc. These decisions are taken together by a team of

social workers, anesthesiologist, obstetricians, and medical and psychiatric providers and others.
- Include strategies for interdisciplinary collaboration, interprofessional communication[4] and advancing active listening, sharing ideas, and opinions while ensuring understanding of communication strategies that yield positive interprofessional relationships; establish teams and apply team building principles within health systems; and build relationships while ensuring the clear delineation of roles/responsibilities to develop best strategies that promote patient-centered care to improve the delivery of health services for pregnant women with OUD.

Scopes for Future Research

1. Enhanced interdisciplinary coordination of efforts to address opioid crisis
2. Improve SBIRT screening for opioid use for reproductive age women and during pregnancy
3. Educate providers about the impact of standardization of tools for managing care
4. Research through longitudinal studies to establish the impact and long-term effects of prenatal opioid exposure on children

Closing Remarks

Round-up and Call to Action

Dr. Rebecca Wiseman, PhD, RN
Chair, University of Maryland School of Nursing at the Universities at Shady Grove.

Dr. Wiseman highlighted the importance and versatility of the information shared, which can be applied across disciplines and not limited to maternal health alone.

I think the afternoon session was amazing. We learned about different programs and approaches, and it is not my area of expertise working with mothers-to-be. I am a medical-surgical nurse, and I have had an incredible experience having been here today. I really appreciate learning from this workshop, because what I have learned today can be used across any discipline. It doesn't have to be maternal health. It is learning how to work with people who have problems. We started the day learning about opioid misuse and putting the issues in context. Data shows that maternal opioid use seems to be higher in younger women, and this indicates that we need to start prevention and awareness training early in elementary and middle school. In the Northeast, we learned that there is a high incidence of MOUD but lower medication assisted treatment, and that is a serious thing we need to be focusing on.

We heard Dr. Polsky report on the healthy behaviors program in Calvert County. When we heard about his program, it made such sense, and we asked ourselves why everyone else was not emulating the program. We learned that it isn't happening. It is probably just happening in Calvert County. We had a very complex case presentation, and we learned that things

were pretty fragmented and uncoordinated in our care of people. We also heard from Dr. DiClemente that the secrets of success are *collaborate, communicate, and integrate*. Those are the three words I am taking away from here: *collaborate, communicate, and integrate.*

We can learn from successful examples and work toward collaboration, communication, and integration, even with a small budget such as is happening in Calvert County. I will give you a quick example. I used to be the director of the Governor's Wellmobile program. It is the mobile health units that travel across the state of Maryland. I had four of them in operation across the state. One of the things I learned was to go and work with your partners in the community. There are people doing amazing things. We need to go and find out more about who they are, what they have to offer, and then collaborate with them in the communities.

Everyone in this room is doing amazing things. You don't know each other. You need to learn about each other. We recognize there are multiple programs and approaches and thereby, working across, through, and within our disciplines, we can develop better strategies and better care for pregnant women with opioid use disorder in our state.

Thank you.

Next Steps

Doris Titus-Glover, PhD, MSN, RN
Principal Investigator/Assistant Professor at the University of Maryland School of Nursing

Immediate next steps:

- Creation of a listserv to share best practices, strategies and resources
- Brown bag seminars by each team based on a topic of their choice
- Webinars for continued education
- Database of resources to include the presentations from this seminar
- Future workshop on MOUD

Acknowledgments

This workshop is hosted under the umbrella of an IPE project called Interdisciplinary Education Awareness for IDEA for MOUD, funded by the UMB Interprofessional Education Center (IPEC). IDEA acknowledges the support of the IPEC without whose funding this project would not have been possible.

We are thankful for the collaboration among the IDEA team, comprised of UMB faculty and health professionals from diverse disciplines who worked hard to ensure the success of the workshop, supported by Postdoctoral Fellows from School of Pharmacy, Pharmaceutical Health Services Research, Apoorva Praham, MD, MPH and Michelle Taylor, PhD, MBA, MS, CPP; and, School of Nursing Doctor of Nursing Practice graduate students, Emily Keadle, Kathryn Heacock and Kari Wheeler.

Our deepest appreciation goes to the administrative staff at the School of Nursing at the Universities at Shady Grove, including Kathie Dever and Forjet Williams, and the School of Nursing communications staff in Baltimore for their support. We regret that Dean Kirschling was unable to be present for the workshop due to urgent family issues.

On behalf of the IDEA team, I wish to thank the many participants from the mental health and substance abuse communities, social services and family preservation agencies, health departments, hospitalists, faculty, and students (from dentistry, pharmacy, social work, medicine, nursing, public health, and law) who joined us on Oct. 3, 2019, to make the workshop truly interdisciplinary to advance interprofessional education for MOUD.

Doris Titus-Glover, PhD, MSN, RN
Assistant Professor
University of Maryland School of Nursing

Appendices

Invited Speaker Profiles

Carlo DiClemente, PhD, ABPP
Emeritus Professor of Psychology, University of Maryland, Baltimore County

Carlo DiClemente is an emeritus professor of psychology at the University of Maryland, Baltimore County (UMBC) and director of several training centers at UMBC. He is co-developer of the Transtheoretical Model of behavior change and author of numerous scientific publications on motivation and behavior change with a variety of health and addictive behaviors.

He published the second edition of *Addiction and Change: How Addictions Develop and Addicted People Recover* in 2018 and has co-authored several professional books, *The Transtheoretical Model, Substance Abuse Treatment, and the Stages of Change* (Second Edition*), Group Treatment for Substance Abuse: A Stages of Change Therapy Manual* (Second Edition), and a self-help book, *Changing for Good*.

Larry Polsky, MD
Calvert County Health Commissioner

Larry Polsky is health officer for Calvert County, Maryland, where he oversees the county's mental health and substance abuse services, community health education, environmental health department, disease surveillance, reproductive health, and emergency response efforts, among other duties.

Polsky has served on the Maryland Governor's Commission for Environmental Justice, the Maryland Health Benefit Exchange Standing Advisory Committee, and the Prescription Drug Monitoring Program Advisory Board. He has served as president of the Southern Maryland Health Benefits Connector Entity, chairs the Maryland Association of Health Officers Legislative Committee, and serves on advisory boards of multiple local health and social service committees.

Polsky has 25 years of clinical medicine and public health experience. He earned his medical degree from the University of Maryland and his Master of Public Health from Johns Hopkins University. Polsky is also a board-certified obstetrician with a special interest in the social and environmental determinants of maternal and fetal health.

During his ten-year tenure at the Calvert County Health Department, the agency has launched several innovative programs to address the opioid crisis. These programs include comprehensive services for pregnant and postpartum women struggling with opioid addiction, in-school behavioral health therapy at every public school in Calvert County, and a reentry program in partnership with the Calvert County Detention Center and other community agencies.

Katrina S. Mark, MD, FACOG
Assistant Professor, University of Maryland School of Medicine; Medical Director, University of Maryland Obstetrics and Gynecological Associates

Katrina Mark is a board-certified obstetrician and gynecologist and an associate professor in the Department of Obstetrics, Gynecology, and Reproductive Sciences at the University of Maryland School of Medicine.

Mark provides full scope women's health care in her own practice and is the medical director of the Women's Health Center at Penn Street. In addition to her medical practice, Mark conducts research in the field of substance use in pregnancy.

She has served as the institutional principal investigator on several National Institutes of Health–funded studies and has authored 30 peer-reviewed publications.

Brooke G. Holmes, MA
Program Administrator, Office of Population Health Improvement

Brooke Holmes coordinates four federally funded grant programs aimed at implementing data-driven, evidence-based strategies to prevent first use, misuse, and fatalities resulting from alcohol use and other licit or illicit substances. She provides grants management, program oversight, training, and technical assistance for prevention programs of the 24 local health authorities and organizations in Maryland.

Holmes serves as program director for the Opioid Misuse Prevention Program to reduce misuse and inappropriate medical use of opioids and is also the program director of the Overdose Fatality Review Program, which uses the mortality review process to identify potential system-level changes to prevent future death. She oversees an estimated 24 individual grant programs totaling up to $2.5 million.

Holmes previously worked with the Montgomery County Coalition for the Homeless where she coordinated services for formerly homeless single adults with mental health disorders and substance misuse. Her passion has been focused on providing resources to citizens and attacking behavioral health problems prior to onset.

George Jay Unick, PhD, MSW
Professor, University of Maryland School of Social Work

George Unick has over 20 years of experience working with injection-drug-using populations in both a clinical and research capacity.

His recent work is focused on understanding how the changing supply and use of opiates affects the health of opiate-using populations and working with community-based organizations to increase access to evidence-based treatments such as medication-assisted treatment.

Unick is widely published in the field and has been funded by two National Institute on Drug Abuse grants focused on understanding the health consequences of changes in the heroin market.

Dina El-Metwally, MD, PhD, FAAP
Associate Professor, University of Maryland School of Medicine; Medical Director, Neonatal Intensive Care Unit, University of Maryland Children's Hospital

Dina El-Metwally completed her pediatrics residency and fellowships in neonatal-perinatal medicine and neonatal transport. She earned her master's in neuro-electrophysiology and PhD in neurodevelopment. She was instrumental in launching the Drs. Rouben and Violet JiJi NICU Project at the Children's Hospital at University of Maryland Medical Center in 2015. El-Metwally studies the effect of the NICU environment and outcomes. Her current research is focused on non-pharmacological interventions for babies withdrawing from exposure to opioids in utero and the impact of those interventions on their neurodevelopment in infancy.

El-Metwally received the Sheila Wallace Award from the International Child Neurology Association. In 2016, she was voted a *Baltimore* magazine "Top Doctor," and in May 2016, she was featured in *JAMA* for a day in her life at the NICU at the University of Maryland.

Kathleen Hoke, JD
Professor of Law, University of Maryland Carey School of Law; Director, Legal Resource Center for Public Health Policy; Director, Network for Public Health Law, Eastern Region

Through the Legal Resource Center for Public Health Policy and Network for Public Health Law, Kathleen Hoke provides technical legal assistance to state and local health officials, legislators, researchers, and organizations working to use law and policy change to improve public health.

Hoke graduated as a member of the Order of the Coif from the University of Maryland School of Law in 1992, completed a clerkship with the Honorable Lawrence Rodowsky of the Maryland Court of Appeals, and served with distinction as an assistant attorney general and special assistant to the attorney general of Maryland prior to joining the School of Law in 2002.

Jaimie E. Swietlikowski, MS, CNM, WHNP
Faculty Instructor, Division of Midwifery, Department of Obstetrics, Gynecology, and Reproductive Sciences, University of Maryland School of Medicine

Jaimie Swietlikowski is a certified nurse midwife and nurse practitioner in women's health. She received her Master of Science from Georgetown University and has been practicing midwifery for over nine years.

She serves as a faculty instructor in the Department of Obstetrics, Gynecology, and Reproductive Sciences for University of Maryland School of Medicine as well as adjunct faculty for the Nurse-Midwifery/Nurse-Practitioner in Women's Health Program at Georgetown University.

She has a special interest in providing and advocating for compassionate, evidence-based, quality health care for women with SUD and incarcerated women.

Swietlikowski co-authored a publication titled "Pain Management of Pregnant Women with Opioid Use Disorders." This article won Manuscript of the Year in the *Journal of Neonatal and Perinatal Nursing* for 2017.

Fadia T. Shaya, PhD, MPH
Professor and Executive Director of the Behavioral Health Resources and Research Program, Director of the Center on Drugs and Public Policy, University of Maryland School of Pharmacy

Fadia T. Shaya is a tenured professor of pharmaco-epidemiology and pharmaco-economics in the Department of Pharmaceutical Health Services Research at the University of Maryland School of Pharmacy. She is also co-director of the National Institutes of Health Bioinformatics Core in the Institute of Clinical and Translational Research at UMB. Shaya directs statewide substance-use prevention programs, with special emphasis on high-risk populations and pregnant women. Her team provides technical assistance to all public health jurisdictions in the state on strategic planning, building capacity, implementing, and evaluating interventions to prevent prescription drug and other substances misuse and abuse.

Shaya has built research capacity to support multi-stakeholder engagement, including patients, providers, health systems, regulators, and payers in drug misuse/abuse prevention and medicines value assessment. She has experience developing comparative effectiveness research, clinical, economic, policy, decision analytic, and budget impact models. She is adding novel methods of machine learning and artificial intelligence to her evidence generation and evaluation work.

Shaya obtained a PhD from Johns Hopkins Bloomberg School of Public Health, a doctoral health economics degree from Sorbonne University Paris-IX Dauphine, France, and a Master of Public Health and Bachelor of Science in Pharmaceutical Sciences from the American University of Beirut.

She is an elected member of the Board of Directors at Academy Health and serves on study sections at the National Institutes of Health and Agency for Health Care Quality Research.

Katherine Fornili, DNP, MPH, RN, CARN, FIAAN
Assistant Professor, University of Maryland School of Nursing

Katherine Fornili has been a full-time faculty member at the University of Maryland School of Nursing since 2005. Fornili has a Master of Public Health degree and a Doctor of Nursing Practice with an emphasis in addictions nursing and public health policy.

A public health nurse for 36 years, Fornili has served in leadership roles at the city, state, and national levels since 1993 and has been certified in addictions registered nursing since 1999. She has served in internship roles at the SAMHSA and the White House Office of

National Drug Control Policy. Fornili has served four previous terms on the Board of Directors for the International Nurses Society on Addictions (IntNSA), as chair of the IntNSA Health Policy Task Force, and was the president of IntNSA for 2018-2020.

Her interests include substance screening and brief intervention, pharmacological therapies, epidemiology of opioid use and consequences, health policy, and health disparities.

Jocelyn Gainers, EdD, CAC-AD, AS
Executive Director, The Family Recovery Program

Jocelyn Gainers holds a doctoral degree in higher education leadership from Morgan State University. She serves as president and CEO of The Family Recovery Program Inc. (FRP), the only family treatment court in Baltimore City, Maryland, established in 2005. FRP works to decrease the time children spend in foster care through wrapping intensive services with family support reunification efforts.

Gainers has over 28 years of experience and is an expert in the addictions and substance abuse fields. She is a certified counselor and has worked with adolescents, adults, and couples in both group and individual settings to improve system functioning and increase family cohesion, often among people who are vulnerable, marginalized, and survivors of trauma.

Recognizing that a main barrier to long-term reunification has been the lack of safe and sustainable housing for parents with a substance abuse history, Gainers raised $7 million to renovate a 28,000 square-foot retired Catholic school in East Baltimore. On Sept. 20, 2016, she successfully opened a 23-unit apartment building with two and three-bedroom apartments with assistance/support from her team.

Gainers earned her undergraduate degree in psychology from the University of Virginia and graduate degree from Towson University. She mentors students at Towson University in her spare time, through the MentHER program.

Gainers was one of Maryland’s Top 100 women selected by the *Daily Record* in April 2018. Through her work, she empowers thousands of individuals to believe in themselves and their capacity to change and become self-reliant.

Doris Titus-Glover, PhD, MSN, RN
Assistant Professor, University of Maryland School of Nursing

Doris Titus-Glover obtained her PhD from George Mason University and her master's and bachelor's degrees in nursing from Johns Hopkins University. She has an extensive background in community/public health program administration, quality improvement, and maternal health research.

Her research interests include opioid use in pregnant women and parenting women, patient-reported outcomes, and global health. Doris Titus- Glover is the proud recipient of the University of Maryland, Baltimore (UMB), Institute for Clinical & Translational Research (ICTR)/ Clinical Translational Science Award (CTSA) Community Engagement Pilot Grant. She was nominated and awarded the New Nursing Faculty Fellowship Award, administered by the Maryland Higher Education Commission.

During her postdoctoral training, she assisted the Behavioral Health Research Team to manage opioid prevention/strategic programs. She explored provider/patient perceptions of medication-assisted treatment in pregnant women with OUD with funding from the Agency for Healthcare Research and Quality and the PATIENTS Program. As a consultant in a previous study, she conducted clinician focus groups and analyzed data to assess mobile app feasibility implementation for opioid-dependent clients with SAMHSA grant-funding.

Titus-Glover administered the Maryland hospitals perinatal/neonatal collaborative and multiple patient quality improvement projects. Her community collaboration projects with CareFirst BlueCross BlueShield won awards from the National Committee for Quality Assurance, Baltimore City, and the Blue Cross Blue Shield Association for outstanding programs in cardiovascular health, diabetes, cervical cancer, and cultural competency training. She developed cultural competency curricula and published a primer for the National Medical Association–affiliated physicians.

Titus-Glover was awarded the 2014-2015 Minority Nurse Faculty Scholarship from Johnson & Johnson/AACN (American Association of Colleges of Nursing). She is a recipient of the 2019 interprofessional Seed Grant, and the New Nursing Faculty Fellowship from the Maryland Higher Education Commission. The diversity of Titus-Glover's research training and experiences with provider/patient collaborations in multiple settings give her a unique perspective on health care.

Diagnosis of OUD and DSM-5 Criteria

Check all that apply

	Opioids are often taken in larger amounts or over a longer period of time than intended.
	There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
	A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
	Craving, or a strong desire to use opioids.
	Recurrent opioid use resulting in failure to fulfill major role obligations at work, school, or home.
	Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
	Important social, occupational, or recreational activities are given up or reduced because of opioid use.
	Recurrent opioid use in situations in which it is physically hazardous.
	Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by opioids.
	*Tolerance, as defined by either of the following: (a) a need for markedly increased amounts of opioids to achieve intoxication or desired effect (b) markedly diminished effect with continued use of the same amount of an opioid
	*Withdrawal, as manifested by either of the following: (a) the characteristic opioid withdrawal syndrome (b) the same (or a closely related) substance are taken to relieve or avoid withdrawal symptoms

Total Number Boxes Checked: ___________________

Severity: **Mild**: 2-3 symptoms. **Moderate**: 4-5 symptoms. **Severe**: 6 or more symptoms

**Criteria from American Psychiatric Association (2013).* Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. *Washington, DC, American Psychiatric Association, page 541.*