

# Abstracts from National Perinatal Association 2019 Annual Conference on April 3-5, 2019 in Providence, RI: Improving Access to Perinatal Care: Confronting Disparities and Inequities in Maternal-Infant Health

Erika Goyer, Family Advocate

*The National Perinatal Association (NPA) is an interdisciplinary organization that strives to be a leading voice for perinatal care in the United States. Our diverse membership is comprised of healthcare providers, parents & caregivers, educators, and service providers, all driven by their desire to give voice to and support babies and families at risk across the country.*

*Members of the NPA write a regular peer-reviewed column in Neonatology Today.*



NPA2019-1

Surveillance and Care Management of Zika Virus-Affected Families in Philadelphia (2016-2019)

Rachel Blumenfeld, MPH, Sharon Starr, MSN, RN, Mariah Menanno

## INNOVATIVE MODELS OF CARE

### Background

Since 2015, Zika virus has affected populations worldwide throughout the Caribbean, Central and South America, Southeast Asia, and small areas of the southern United

States. Zika virus infection of pregnant women places their infants at risk for contracting congenital Zika syndrome, characterized by brain malformations, other birth defects, and concurrent developmental delays. Zika virus was monitored globally as an emerging infectious disease. In 2017, epidemiological response to Zika virus infection showed more immune response and less acute disease, necessitating changing protocols in screening, testing and clinical management. Approximately 12% of Philadelphia's 1.5 million residents routinely travel to their home countries, many of which are or were endemic for Zika virus infection. Potential exposure to Zika virus posed a great risk for Zika virus infection in the individual, sexual partner(s), and possible vertical transmission to the newborn.

### Content/Action

The Philadelphia Department of Health (PDPH) utilized an ecological approach to provide active surveillance of Zika-associated birth defects, analysis and reporting of surveillance data and systems, engagement and referral services for families affected by maternal Zika infection, long-term follow-up of children born to mothers infected with Zika virus, and capacity building among clinical partners in recognizing and supporting families at risk for Zika virus infection.

### Lessons Learned

This model of care focuses on multidisciplinary and multi-level interventions in response to the Zika virus outbreak. Philadelphia identified 41 mothers on the U.S. Zika Pregnancy Registry, per the Centers for Disease Control and Prevention inclusion criteria guidelines, with 32 completed live births. Collaboration between the fields of public health, medicine, nursing, environmental professionals, and community-based education and outreach influenced Zika virus responses for surveillance and patient care management. These respons-

es promote improvements in monitoring pregnancy and infant outcomes that inform clinical guidance and public health response.

### Implications for Practice

Actively engaging a Zika Clinical Champion at each of the nine delivery hospitals in the Philadelphia area has been crucial to active surveillance, data collection and management, as well as referral to local services and effective patient follow-up. Utilizing a home visiting strategy allows PDPH and clinicians to engage client families both in the home and in the provider's facility.

NPA2019-2

Bryant

Meeting NICU Moms Where they Are: Understanding and Improving Postpartum Health Care for Mothers of Medically Fragile Infants

## RESEARCH

Introduction: Mothers of medically fragile infants (MMFI) face a host of challenges following childbirth. Compared to mothers of well babies (MWB), MMFIs have a greater burden of chronic disease and are at increased risk for mental health problems, while at the same time are navigating the health care system on behalf of their medically complex infant and managing their own postpartum recovery. The neonatal intensive care unit (NICU) parenting experience has been fairly well researched but comparably limited information is available focusing on NICU mothers' postpartum recovery, health needs, and access to services for her own well-being. Using quantitative and qualitative methods, our work focused on identifying MMFI postpartum health conditions, needs and concerns, and health care services received in the 90 days following delivery, as well as health

care systems-related barriers to care, with an eye to improving access to care for mothers of medically fragile infants in the postpartum period.

**Methods:** We conducted a retrospective cohort study of mothers of live-born infants born at the NC Women's Hospital from July 1, 2014 to June 30, 2016 (n=6,849) to measure prevalent conditions, health care utilization, and receipt of recommended services. We defined MMFI as mothers of infants with a total neonatal intensive care unit and pediatric critical care unit length of stay  $\geq 3$  days. We defined MWB as mothers of infants who were not admitted to an intensive care unit and were discharged to home. Over the course of a year, from April 2017 to June 2018, we conducted in-depth interviews with 44 adult English-speaking MMFIs and more than 50 key stakeholders who provide services to or have knowledge about the health care needs of these women (e.g. postpartum and NICU nurses, lactation specialists, hospital administrators), to identify maternal health needs, barriers and facilitators to accessing services, and suggested systems improvements.

**Results:** We found that mothers with infants in the NICU have a greater burden of chronic disease and postpartum morbidity than mothers of well babies. Compared to MWB, MMFI were more likely to have a BMI  $>30$  (35% vs. 25% MWB) and chronic hypertension (17% vs. 7%). MMFI were also more likely to undergo general anesthesia for delivery (8.6% vs. 0.9% MWB), undergo hysterectomy (1.6% vs. 0.1%) and to have had a blood transfusion (5.7% vs. 2.2%). Thirty-two percent experienced gestational hypertension or preeclampsia compared to 12% of MWB, and more than half of MMFI were recovering from a cesarean section while caring for their infant in the NICU (54% vs. 24% MWB). Some key elements that MMFI identified as part of their postpartum NICU experience include: significant social-emotional-mental health needs and difficulty accessing mental health services and support; unmet practical needs causing significant burden, such as lack of a place to sleep while visiting the NICU, lack of childcare for other children, and parking difficulties; and an overriding desire to be at baby bedside coupled with the minimization of their own health needs so as to attend to baby. While MMFI described confidence in how their babies were cared for, they reported that there was no one checking on their own health and their needs, beyond being asked a generic "How are you doing?". They described a lack of connection to health care and support services where (near the NICU) and when (urgently) they needed it. When asked, MMFI strongly

supported the idea of a postpartum nurse rounding on them in the NICU. Health systems barriers identified by key informants included: limited awareness of services provided by other units resulting in an assumption that MMFI needs are being met by other providers; lack of clarity across types of providers as to who is responsible for providing care for MMFI; and scarce resources. Key informants voiced an awareness of the unique needs of MMFI and expressed interest in exploring alternative models of care delivery such as MMFI-assigned patient navigator or a nurse checking in on moms. MMFI and key informants alike suggested systems improvements including NICU-based mental health and medical health care and access to a place to rest (e.g. a nap room).

**Discussion:** Despite evidence of greater prevalence of chronic conditions and postpartum morbidity, MMFI reported little attention paid to their postpartum health needs from medical professionals. They described significant need for mental health care in particular, coupled with challenges in accessing that care. Similarly, key informants described a fragmented system that result in lack of clarity about who is responsible for providing care for NICU moms, suggesting a need to clarify roles and identify a provider designated for MMFI during their NICU stay. The overwhelming drive of NICU moms to be at the baby bedside further suggests the need to build access to care in the context of the NICU stay, particularly for MMFI whose home communities are great distances from the NICU. As MMFI cannot, or will not, seek care away from baby, an alternative is to meet them where they are and bring the care to them. One possible model is to assign a postpartum nurse to round on mothers in the NICU, a suggestion that was met with strong support by MMFI interviewees and interest by key informants. System-level challenges such as billing and payment procedures and staffing structure would need to be addressed to support such a model of care. Meeting NICU moms where they are holds great promise for improving access to health care and addressing the unique needs of mothers of medically fragile infants.

#### Previously Presented

Study and results previously described in poster presentation at the Association of Maternal Child Health Programs (AMCHP) annual conference in March 2019.

AMCHP Poster Title: The New Mother Friendly NICU: Understanding and Improving the Postpartum Experience for Mothers of Medically Fragile Infants

Additional limited results of study findings have been shared at ACOG, SMFM, and AMCHP.

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NPA2019-3

Downtin

Collaborative Psychological Services in the NICU: Caring for the Care Teams

#### INNOVATIVE MODELS OF CARE

##### Background

Stanford University's Lucile Packard Children's Hospital (LCPH) currently has a 40-bed level IV neonatal intensive care unit (NICU). In 2017, the child and adolescent psychiatry department partnered with the neonatology department to create a 1-year clinical child psychology postdoctoral fellowship. The fellowship was designed to establish a dedicated psychiatry/psychology service specific to the NICU and allow specialized training in perinatal mental for the NICU fellow. Through that fellowship, the fellow worked to modify an evidence-based psychotherapy intervention that was originally designed for individual psychotherapy with mothers of premature infants. The intervention was modified and is currently being used to address the needs of mothers in group-format who are exhibiting symptoms of trauma, anxiety and depression.

Within a year of establishing the NICU psychology fellowship, families began receiving mental health screening, psychological evaluation, bedside follow-up, and individual and family therapy from the NICU fellow and psychology/psychiatry attendings. Additionally, mothers of premature infants receive the group-based trauma-focused psychotherapy intervention. However, support services for NICU residents, fellows, and nurses continued to be an area of needed growth.

##### Action

The 2018-2019 NICU psychology fellow at LCPH collaborated with the NICU social work intern to begin addressing the needs of NICU nurses and trainees. Through meetings and thoughtful discussions with a neonatology attending, nursing management, a nurse educator, a neonatal nurse practitioner, the fellow and intern were able to pilot a NICU service for nurses and trainees. This poster will outline the workflow for those meetings and provide a brief overview of the initial NICU staff and train-

ee support services at this hospital.

### Lessons Learned

This poster will discuss lessons learned through meeting with the identified department representatives including addressing barriers to providing supports for union nurses, timelines need for establishing care, providing culturally-informed care in the NICU, psychological impact of trauma on NICU staff and families, and common topics and themes requested by the trainees and nurses.

### Implications for Practice

NICU nurses and trainees often choose their specialty because they have a passion for helping infants and their families through challenging times. Working in the NICU can be rewarding. Staff and trainees may end their day knowing that they positively impacted a family or families through their direct care or indirect interactions. The NICU can also be an emotionally perplexing experience for staff and trainees. The goals of this project were to: 1) identify needs of NICU staff and trainees, 2) establish the appropriate support services, and 3) implement those services. This poster will discuss the feedback from NICU staff and trainees to help other hospitals explore supporting the psychosocial needs of their NICU nurses and trainees to improve outcomes for women, infants, and their families.

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NPA2019-4

Co-Designing Mobile Technology and Care Delivery to Improve Family Integrated Care in NICUs

Linda Franck, Brittany Lothe, Scott Bolick,

Robin Bisgaard, Sharon Sossaman, Jeremy Sossaman, Anne Shamiyeh, Kathryn Millar, Tanya Johnston, Rebecca Kriz, Diana Cormier MPH RNC-NIC, Priscilla Joe, Nicole Hansen, Holly Christensen, Nadia Tsado, Pallavi Bekal, Samantha Ngo, Yao Sun.

### INNOVATIVE MODELS OF CARE

Background: Extensive research has shown that an integrated person- and family-centered approach to healthcare (FCC) leads to better outcomes for babies and families. This approach is endorsed by the World Health Organization and many other national and international groups. FCC is particularly important for small and sick newborns. Yet most Neonatal Intensive Care Units (NICUs) lack the policies, resources and structures needed to ensure FCC is consistently practiced and parents have the support they need to become competent and confident caregivers for their babies.

Family Integrated Care (FICare) transforms the culture of the NICU by training and supporting parents to be their baby's primary caregiver and a partner in the care team. A cluster randomized trial of FICare (O'Brien et al. 2017) showed better growth for infants and increased rates of breast-feeding. It also showed decreased stress levels for parents. Notably, all FICare intervention NICUs continued to practice FICare after the trial was completed.

Content/Action: While the FICare outcomes are significant and show promise, adaptation may be needed for the US context – most notably to because many parents do not have parental leave and are unable to be physically present in the NICU to the same degree as participants in the Canadian-led trial. Therefore, we

conducted a process of co-design with healthcare professionals and parents of former preterm infants to adapt and implement FICare in California. Using user-centered design principles and practices, we co-designed a new mobile enhanced adaptation of the FICare model, called 'm-FICare', to extend the support for families to those who cannot be physically present in the NICU during daytime hours. We also developed an innovative approach to the conduct of NICU clinical research in partnership with families.

The We3health mobile app is a secure, HIPAA compliant, mobile app co-designed with parents to increase access and quality of parent support to enable greater involvement in their infant's care planning and caregiving. The We3health app also facilitates parent tracking of data for research and NICU quality improvement. We also co-developed a parent mentor program that serves all preterm parents and aims to increase access and depth of involvement for parents who live at a distance from the NICU or are from underserved communities. Finally, we implemented and are evaluating the mFICare model in California NICUs.

Lessons Learned: Co-design is an extremely useful strategy for increasing patient and family involvement and there are a number of challenges and opportunities in implementing co-design, depending on the context. These include negotiating the scope of the work and how best to meet the needs of the main stakeholder groups, i.e., parents and NICU health professionals. A mutual deep understanding of each stakeholder group's main challenges and developing empathy are key to success of the co-design approach. Parents have amazing insights that substantially improve research design and implementa-



tion. Ongoing attention and recalibration is essential to maintain equity in implementation and avoid creating or worsening disparities in access and quality of care. True co-creation requires give-and-take. Parents are impatient for change, and that is good - and challenging - for traditional research.

**Implications for Practice:** Parent and healthcare professional co-design is a powerful approach to addressing access and equity issues in patient and family care delivery and in research.

*Previously presented at the Institute for Patient and Family Centered Care International Conference, Baltimore, MD, June 2018, and at the March of Dimes California Annual Conference, Irvine, CA, November 2018.*

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#### NPA2019-5

Collaborative research priority setting by parents of preterm infants and neonatal intensive care unit professionals

Linda Franck PhD RN, Kathryn Millar RN MPH, Dawn Gano MD MAS, Rebecca Kriz RN MS, Diana Cormier DNP APRN-CNS MPH RNC-NIC, Priscilla Joe MD, Nicole Hansen RN, Holly Christensen RN, Nadia Tsado BA, Pallavi Bekal MS, Samantha Ngo MPH MSW.

**Introduction:** Community-based participatory research improves the relevance and application of research findings to affected communities. Little is known about research priorities of parents and clinicians who care for preterm infants. Since preterm birth disproportionately affects communities of color, understanding their perspectives is necessary to achieve health equity in research. The UCSF California Preterm Birth Initiative's (PTBi-CA) community advisory boards provided the unique oppor-

tunity to generate research questions and consensus priorities from women at high risk for preterm birth from three centers in California using the Research Prioritization by Affected Communities (RPAC) protocol (Franck, et al. 2018).

**Context:** Participants included Parent Clinician Advisory Board (PCAB) members from PTBi-CA's Newborn Family Research Collaborative located in San Francisco, Oakland, and Fresno, California. PCAB members include neonatal intensive care unit (NICU) professionals and parents of former NICU infants. RPAC was conducted separately at each site, and collaboratively at the network level to generate the top two priorities.

PCAB participants were racially and ethnically diverse. Each site generated between 50 and 80 original research questions and reached consensus on research priorities. Priority similarities and differences were noted across sites. The top priorities across all sites, determined by consensus, included postnatal interventions to improve transition from NICU to home, follow-up support after discharge, and infant development and/or family wellbeing. Participants felt empowered, developed a sense of community with the group, and increased engagement in research.

**Practice Application:** The RPAC protocol enabled rapid generation of research priorities among diverse parents of preterm infants from communities that have often not been engaged in research and clinicians who care for their babies. The results of this research prioritization process have informed the research agenda within our network to ultimately promote health equity and improved outcomes for premature infants.

*Previously presented at the Preterm Birth Initiative Annual Symposium, Kigali, Rwanda, October 2018, and at the American Public Health Association Annual Meeting, San Diego, CA, November 2018.*

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#### NPA2019-6

Relationship between kangaroo care activity during neonatal intensive care unit hospitalization and early parent-infant contact

Linda Franck PhD RN, Caryl Gay, PhD, Rebecca Kriz RN MS, Robin Bisgaard, RN, Dawn Gano MD MAS, Diana Cormier DNP APRN-CNS MPH RNC-NIC, Priscilla Joe MD, Kathryn Millar RN MPH, Nicole Hansen RN, Holly Christensen RN, Nadia Tsado BA, Pallavi Bekal MS, Samantha Ngo MPH MSW, Yao Sun, MD PhD.

**Introduction:** Family Integrated Care (Fi-Care) is a novel package of evidence-based interventions that enables parents to more effectively become primary caregivers for their preterm infants in the neonatal intensive care unit (NICU). As part of a multi-site trial of FiCare in California, a mobile application (We3health app) was developed to support families during their NICU stay. Because FiCare strongly promotes kangaroo care (KC), We3health includes a module for tracking KC. This analysis describes relationships between parent and infant characteristics and KC activity recorded in We3health.

**Method:** Parents of preterm infants <33 weeks gestation enrolled in the baseline (usual care) phase of the study completed an online survey and used We3health to record frequency, duration and subjective experience with KC from the time of study enrollment until discharge.

**Results:** To date, 66 parents (61 mothers; 5 fathers) from three of the NICUs completed both survey and We3health data for analysis. KC frequency was unrelated to parent race, gender, prior NICU or child hospitalization, infant gestational age or length of NICU stay.

Parents able to see their infant within 1 hour of birth reported KC on a larger proportion of days during their infant's hospitalization compared with parents who first saw their infant 1-24 or >24 hours after birth, after controlling for GA (Figure 1,  $p=.004$ ). This difference in KC frequency likely accounted for longer mean durations of KC day across the infant's hospitalization, controlling for GA (Figure 2,  $p=.021$ ). Accounting for the differences in KC frequency, however, there was no difference in mean KC duration on the days KC was reported based on when parents first saw their infant.

Parents able to hold their baby within 24 hours after birth also reported KC on a larger proportion of days, after controlling (Figure 1,  $p=.012$ ), and a slightly longer mean duration of KC per day of the infant's NICU stay ( $p=.060$ ). Note that only 9 of the 23 parents who held their baby within 24 hours were among the 23 who first saw their infant within 1 hour.

**Discussion:** Early parent-infant contact within 24 hours of birth is an important factor influencing KC frequency and duration. Evidence-based, protocol driven quality improvement strategies are urgently needed to improve early parent-infant contact for preterm infants.

*Previously presented at the International Conference on Kangaroo Mother Care,*

NPA-2019-7

Breastfeeding and Marijuana Use: An Ethical Analysis of Current Practice

Research Submission for National Perinatal Association 2019 Conference

Marielle S. Gross, MD, MBE<sup>1</sup>, Carla Bos-sano, MD<sup>2</sup>, Nadine Rosenblum, RN, IB-CLC<sup>3</sup>, and Lorraine Milio, MD, MPH<sup>2</sup>

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Introduction: U.S. guidelines recommend breastfeeding women avoid marijuana given concerns about infant neurodevelopment. Unfortunately, this has resulted in many physicians and hospitals prohibiting women who use marijuana from breastfeeding despite inconclusive evidence of harm and well-known benefits of breastfeeding. Meanwhile, marijuana use is increasing among reproductive-aged women, and complex personal/socioeconomic factors affect feeding choices. We assess evidence and ethical justification for current practice.

Methods: We review: (1) Harm to infants from breastmilk marijuana exposure vs. avoiding breastfeeding, (2) Maternal health and psychosocial considerations, and (3) Current practices in light of principles of beneficence, justice, and autonomy.

Results: (1) First, delta-9-tetrahydrocannabinol (THC) is excreted in breastmilk and limited data (three studies with human subjects and three animal studies) suggest neurobehavioral changes among infants whose mothers use marijuana during breastfeeding, though effects of in utero vs. breastmilk exposure are difficult to distinguish and interpretation is limited by socioeconomic and other confounders. There are also concerns that marijuana use negatively impacts safe infant care and that the average concentration of THC in marijuana has increased in the years since the relevant studies were completed. Meanwhile, avoiding breastfeeding increases infants' risk of sudden infant

death syndrome, sepsis, necrotizing enterocolitis, diabetes, asthma, and obesity. Available evidence is unclear regarding whether infants who were already exposed to THC in utero would be worse off with continued exposure through breastmilk vs. with increased risks associated with formula feeding. (2) Women who do not breastfeed have increased risk of cardiovascular disease, reproductive cancers, diabetes, depression and unintended pregnancy, all major sources of morbidity and mortality for U.S. women. Marijuana use is highest among underserved minority women who disproportionately suffer from the health consequences that breastfeeding may mitigate, and who are especially vulnerable to punitive damages (e.g., criminal charges related to drug use or Child Protective Services involvement). Maternal desire to bond with her infant through breastfeeding, cultural norms, values, and social pressures, and the financial burden of formula all may exacerbate the harm of telling women to avoid breastfeeding. (3) The national recommendation that women who breastfeed should avoid marijuana is interpreted by some physicians and hospitals as a policy that women who use marijuana should not breastfeed. This practice fails to account for the risks of avoiding breastfeeding for both infants and women, possibly exaggerating the strength of available evidence about harms from breastmilk THC exposure, and thus may not optimize health outcomes. In addition to potentially exacerbating existing health disparities, this practice may be unjust if women who screen positive for THC during pregnancy are told they are 'not allowed' to breastfeed regardless of whether they are actively using at time of delivery. Given the clinical equipoise regarding the best feeding method for infants whose mothers use marijuana, particularly if they were already exposed to THC in utero, and the large range in frequency/intensity of maternal marijuana use, an individualized, shared decision-making approach is appropriate. Furthermore, a woman's autonomy may be compromised if crucial postpartum lactation support is withheld while she is in the hospital postpartum or if she is concerned that breastfeeding against recommendations may jeopardize custody of her infant.

Discussion: Ultimately, failure to account for risks of avoiding breastfeeding for infants and women, with attention to epidemiology of marijuana use and breastfeeding-associated health effects, may result

in policies which do not optimize health outcomes. Restrictive breastfeeding practices for women who use marijuana which do not utilize an individualized, shared decision-making approach are neither medically sound nor ethically justified, and may disproportionately undermine the health of underserved women and infants. Unbiased, culturally-informed and evidence-based counseling would promote open patient-provider communication may improve long-term health.

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NPA-2019-8

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Research Submission for National Perinatal Association 2019 Conference

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Introduction: U.S. guidelines recommend breastfeeding women avoid marijuana given concerns about infant neurodevelopment. Unfortunately, this has resulted in many physicians and hospitals prohibiting women who use marijuana from breastfeeding despite inconclusive evidence of harm and well-known benefits of breastfeeding. Meanwhile, marijuana use is increasing among reproductive-aged women, and complex personal/socioeconomic factors affect feeding choices. We assess evidence and ethical justification for current practice.

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to distinguish and interpretation is limited by socioeconomic and other confounders. There are also concerns that marijuana use negatively impacts safe infant care and that the average concentration of THC in marijuana has increased in the years since the relevant studies were completed. Meanwhile, avoiding breastfeeding increases infants' risk of sudden infant death syndrome, sepsis, necrotizing enterocolitis, diabetes, asthma, and obesity. Available evidence is unclear regarding whether infants who were already exposed to THC in utero would be worse off with continued exposure through breastmilk vs. with increased risks associated with formula feeding. (2) Women who do not breastfeed have increased risk of cardiovascular disease, reproductive cancers, diabetes, depression and unintended pregnancy, all major sources of morbidity and mortality for U.S. women. Marijuana use is highest among underserved minority women who disproportionately suffer from the health consequences that breastfeeding may mitigate, and who are especially vulnerable to punitive damages (e.g., criminal charges related to drug use or Child Protective Services involvement). Maternal desire to bond with her infant through breastfeeding, cultural norms, values, and social pressures, and the financial burden of formula all may exacerbate the harm of telling women to avoid breastfeeding. (3) The national recommendation that women who breastfeed should avoid marijuana is interpreted by some physicians and hospitals as a policy that women who use marijuana should not breastfeed. This practice fails to account for the risks of avoiding breastfeeding for both infants and women, possibly exaggerating the strength of available evidence about harms from breastmilk THC exposure, and thus may not optimize health outcomes. In addition to potentially exacerbating existing health disparities, this practice may be unjust if women who screen positive for THC during pregnancy are told they are 'not allowed' to breastfeed regardless of whether they are actively using at time of delivery. Given the clinical equipoise regarding the best feeding method for infants whose mothers use marijuana, particularly if they were already exposed to THC in utero, and the large range in frequency/intensity of maternal

marijuana use, an individualized, shared decision-making approach is appropriate. Furthermore, a woman's autonomy may be compromised if crucial postpartum lactation support is withheld while she is in the hospital postpartum or if she is concerned that breastfeeding against recommendations may jeopardize custody of her infant.

Discussion: Ultimately, failure to account for risks of avoiding breastfeeding for infants and women, with attention to epidemiology of marijuana use and breastfeeding-associated health effects, may result in policies which do not optimize health outcomes. Restrictive breastfeeding practices for women who use marijuana which do not utilize an individualized, shared decision-making approach are neither medically sound nor ethically justified, and may disproportionately undermine the health of underserved women and infants. Unbiased, culturally-informed and evidence-based counseling would promote open patient-provider communication may improve long-term health.

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NPA-2019-9

Improving Staff Knowledge and Attitudes towards Providing Psychosocial Support to NICU Parents through an Online Education Course

Institutions: St. John's Regional Medical Center, Oxnard, CA, USA; University of Mississippi Medical Center, Jackson, MS, USA.

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#### Introduction

Provider-parent communication is a critical determinant of how NICU parents cope with their situation and of how satisfied they are with their overall experience and with the care their infant received. NICU parents desire and benefit from psychosocial support from staff, and yet are not always satisfied with the communication and support they receive in the NICU. Many neonatologists and neonatal nurses do not

feel they have adequate skills to communicate with distressed and anxious parents. Subsequently, this skill deficit increases staff's own stress and can contribute to on-the-job burnout. Additionally, as more NICUs are moving towards providing the model of family-integrated care, roles of NICU care providers are changing towards forming a more egalitarian partnership with parents and encouraging greater involvement of parents at their baby's bedside. This paradigm shift calls for new skill development among multidisciplinary staff.

#### Objective

This study sought to determine whether NICU staff would demonstrate improved knowledge and attitudes about their ability to provide psychosocial support to parents as a result of taking an online education course.

#### Design

This was a time series pre/posttest comparison of responses provided to a 33-item survey among NICU staff before and after taking an online education course on providing psychosocial support to parents. Content in the 7-hour course covered the categories as described in the "Interdisciplinary Recommendations for the Psychosocial Support of NICU Parents" (Hall and Hynan, J Perinatol, 2015).

#### Setting

Two NICUs participated in this project: St. John's Regional Medical Center (SJRMC), a 16-bed Level III community NICU with 250 admissions annually, and The University of Mississippi Medical Center (UMMC), a level IV academic NICU with 102 beds.

#### Participants

Staff at both NICUs, including physicians, nurses, occupational therapists, and social workers, were invited to take the online course and participate in the study.

#### Methods

Participants provided demographic information, then took a 33-item survey before (pretest) and after (posttest) taking the comprehensive course called "Caring for



Babies and Their Families” using a Likert scale of 1-6 (1 = strongly disagree, 6 = strongly agree). Pre- and posttest scores were analyzed using non-parametric paired t-tests.

## Results

Of the 114 staff who registered for the course, 87.9% were nurses with a mean of 9.6 years of NICU service. All survey items showed posttest mean scores higher than pretest mean scores; in 30/33 (90.9%) these differences were significant,  $p < 0.05$ . Night shift staff and staff with shorter periods of NICU service had lower pretest scores on several items; these differences were eliminated on the posttest. Educational needs for staff were identified on both the pretest and posttest.

## Discussion

This education course was highly effective in improving staff knowledge and attitudes about how to support NICU parents, and in eliminating differences between day and night staff, and between those with shorter vs. longer periods of service in the NICU. Areas in need of further education were identified. Ninety percent of participants would recommend the course to their peers. Results are most applicable to nurses, who represented the majority of participants.

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## NPA-2019-10

Causal attributions of pregnancy loss amongst women who experienced fertility treatment

Alison R. Hartman, B.A., Victoria Grunberg, M.S., & Pamela Geller, Ph.D.

**Introduction:** One in four women in U.S. will experience a pregnancy loss during their lifetime. Many women who experience a pregnancy loss attribute the loss to their own behaviors or character; that is, they blame themselves. Self-blame is also common among women who experience infertility, and is associated with adverse psychosocial consequences including an increased suicide risk and decreased relationship satisfaction. It remains unclear as to whether women who have experienced pregnancy loss after conceiving with fertility treatment attribute the cause of their loss differently than women who have experienced a pregnancy loss without undergoing fertility treatment. The current study was conducted to examine whether women who underwent fertility treatment tend to blame themselves for their loss more often than women who did not.

**Methods:** The present online survey study includes women from diverse backgrounds ( $N = 825$ ; Age: 18 - 66 years,  $M = 31.87$ ,  $SD = 8.69$ ) who have experienced a pregnancy loss at some point in their lifetime. By utilizing social media platforms, a large proportion of minority women were included in the sample ( $N = 391$ ; 47.40%). Participants reported whether fertility treatment was used to achieve the index pregnancy, and self-reported causal attributions of their most recent loss using the Pregnancy Loss Attributional Questionnaire. Examples from this questionnaire include, If I were a different age, this loss might not have happened; Others deserve to be a parent more than I did, which helps to explain why I had the loss; and If I rested more, the loss might not have happened.

**Results:** Descriptive statistics indicate that, on average, women’s most recent pregnancy loss occurred  $4.21 \pm 3.55$  years prior to the time of survey completion ( $N = 825$ ). Further, 5.78% of participants ( $n = 48$ ) reported that they used fertility treatment to achieve the pregnancy that was lost. Independent t-tests were conducted to determine which causal attributions (e.g., external attribution, internal characterological attribution, or internal behavioral attribution) were more prevalent among women who experienced a pregnancy loss following fertility treatment compared to women who experienced a loss without fertility treatment. Results indicated that women who underwent fertility treatment were more likely to attribute their loss to their age,  $t(668) = -2.49$ ,  $p = .013$ , and lack of rest,  $t(668) = -2.33$ ,  $p = .020$ . Further, women who underwent fertility treatment were more likely to report that the loss was related to punishment for “the person I am,”  $t(668) = -1.92$ ,  $p = .056$ , and that “others deserve to be a parent more than I did,”  $t(668) = -2.79$ ,  $p = .005$ .

**Discussion:** Findings indicated that women who underwent fertility treatment were more likely to blame their age and lack of rest for the loss. Notably, these women were also more likely to endorse that they were less deserving of parenthood and that the loss was a form of punishment. Women who undergo fertility treatment and experience pregnancy loss may be at increased risk for negative psychosocial sequelae due to elevated feelings of self-blame. It is important that healthcare providers, clinicians, and researchers be aware of the role of self-blame within these reproductive life events to facilitate psychoeducation and open communication with patients.

NPA2019-11

Supporting LGBTQ/T Families

Rachel Hess, MS, Postpartum Doula

## Background:

In my practice, I’ve had requests by providers to learn how to offer truly respectful and competent care. In my work with LGBTQ/T families, every single family has encountered some form of oppression and/or discrimination due to their LGBTQ/T identity during the perinatal period. The research backs up this anecdotal experience.

In a study about lesbian mothers, Dr. Gregg writes: “In all studies reviewed, researchers reported that lesbian women seeking maternity care experienced some amount of heteronormativity or homophobia in their health care encounters.” (“The Health Care Experiences of Lesbian Women Becoming Mothers,” by Isabel Gregg, *Nursing for Women’s Health*, February 2018 Volume 22, Issue 1, Pages 40–50).

Additionally, transgender and gender non-conforming individuals experience a great deal of oppression and discrimination when attempting to access health care. “One-third (33%) of those who saw a health care provider in the past year reported having at least one negative experience related to being transgender, with higher rates for people of color and people with disabilities. This included being refused treatment, verbally harassed, or physically or sexually assaulted, or having to teach the provider about transgender people in order to get appropriate care. In the past year, 23% of respondents did not see a doctor when they needed to because of fear of being mistreated as a transgender person, and 33% did not see a doctor when needed because they could not afford it. (2015 U.S. Transgender Survey, Executive Summary, December 2016, page 8)

## Content/Action:

In this interactive workshop, participants will explore the basics of LGBTQ and Transgender identities. We will also gain a deeper understanding of the barriers to care LGBTQ/T families face. There will be research presented on the experiences LGBTQ/T individuals have with the medical community in general and we will discuss how this could impact families in the perinatal period. There will also be ample time and activities for participants to examine and explore their own potential biases. Participants will have a deeper understanding of structural, cultural, and interpersonal homophobia/transphobia/oppression and how it affects LGBTQ/T

families when accessing care. Teaching methods include, but are not limited to, defining terms and levels of oppression as well as activities brainstorming oppression in perinatal care. Participants will have a deeper understanding of the range of LG-BTQ identities, families, terms, and potential needs during the childbearing years.

#### Learning:

Participants will reflect on their own work, how they may perpetuate structural oppression, and what they can do to change their materials/practices to be culturally competent. We will do this by exploring gender-neutral language in a variety of ways. We will brainstorm gendered language used in perinatal work, look at their own materials and practice making them more inclusive. We will also role-play interview/class using gender neutral language. I work to create a safe learning environment where participants can understand the depth of biases and the structural nature of trans/bio/homophobia. Participants will have an opportunity to ask questions, examine their experiences, and understand the difference between intent and impact.

#### Plan for Action:

Participants will walk away with an understanding of how to make their work culturally humble, anti-biased, and what resources and information they need to follow up with and continue to learn.

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NPA2019-12

Providing education on PPD in a hospital setting may be a good way to help women become more aware of the signs and symptoms of PPD

Kendra Flores Carter

#### Introduction/Background

According to Keefe, Brownstein-Evans, Lane, Carter, and Polmanteer (2016) research on postpartum depression (PPD) has increased substantially, however the population being studied for postpartum depression has been mostly White women with access to mental health services.

PPD affects between 13% and 19% percent of new mothers (Mann, Gilbody, & Adamson, 2010), with much higher rates among Black women reaching upward of 38% (Gress-Smith, J. L., Luecken, L. J., Lemery-Chalfant, K., & Howe, R, 2012; Keefe et al., 2015). Davis and Townsend (2005) almost 25% (7.5 million) of Black Americans have been diagnosed with a mental illness and Black women are at a higher risk of development.

Gavin et al (2005) posit that 10% to 15% of new mothers will experience PPD. Lack of support, distress, lower economic status, along with elevated PPD symptoms, sometimes results in an increased risk for poor pregnancy outcomes including preterm birth among Black women. Black women have double the risk of white women for preterm births and low birth weight (Orr, James, & Blackmore, 2002). The increased risk for preterm and low birth weight births among Black women contributes to the high rate of infant mortality/deaths within the first year of life. Knitzer, Theberge, and Johnson (2008) found that infants with mothers who are depressed may experience loss of early connections and may develop decreased sensitivity, attentiveness, and cognitive stimulation. Likewise, children whose mothers experience depression are also at high risk for psychopathology.

#### Methods

##### Research Design

This study is an exploratory pre-test and post-test survey design. Black female patients were recruited with fliers that were provided to them when they checked in for their prenatal visit or upon admission to postpartum, labor, and delivery units.

##### Sample

The study was conducted using a convenience sample (N = 43) of postpartum Black women. Inclusion criteria included: (a) English speaking Black women, (b) 18 years of age or older, (c) pregnant or postpartum women, and (d) women who self-identify as Black. Exclusion criteria included: Women who had experienced miscarriages, fetal demises, and stillborn deaths. Prisoners and hospital employees were also excluded from participation in

study.

#### Data Collection and Measures

Participants were first provided a total of three questionnaires in a private office. The first questionnaire asked for demographic information including age, education, number of children, welfare services, psychiatric history, employment status, income and marital status. The second measurement, a pre-test /post-test questionnaire, was created by the PI to test subjects' baseline and post intervention knowledge of PPD. The 4-minute video intervention highlight the signs and symptoms of PPD. The third instrument, Inventory of Attitudes towards Seeking Mental Health Services (IATSMHS) (MacKenzie, Knox, Gekoski, & Macaulay, 2004) was used to measure subjects' attitudes about mental health services. IASMHS is a 24-item measure with three subscales: Psychological openness, help-seeking propensity, and indifference to stigma. Subjects indicate their level of agreement with each statement using a 5-point Likert scale (range is from 0 to 4, 0=disagree, 4=agree).

##### Knowledge of Postpartum Depression by Pre-test and Post-test

To test the hypothesis that viewing the "You Are Not Alone" video intervention would improve knowledge pre-test (M = 4.07, SD = 2.02) and knowledge post-test (M = 5.48, SD = 1.88) with Black women a paired sample t-test was conducted. The hypothesis was found statistically significant (p < .000).

##### Attitudes Towards Seeking Mental Health Services by Pre-test and Post-test

To test the hypothesis that the "You Are Not Alone" video intervention would influence attitudes pre-test (M = 27.11, SD = 11.97) and attitudes post-test (M = 30.47, SD = 10.81) held by subjects, a paired sample t-test was done. No significant difference between attitudes towards seeking mental health services for PPD pre-test and post-test (p = 0.75) was found.

#### Discussion

The results suggested that providing education on PPD in a hospital setting may be a good way to help women become more



aware of the signs and symptoms of PPD. Black women gaining education on signs and symptoms may help them reach out for help the moment they start noticing symptoms of PPD. The results indicated that the intervention did not influence the participants' attitude towards seeking mental health services as hypothesized. The results further suggested that there is a grave need for the creation of interventions that could positively influence Black women's attitudes towards seeking services. In Conclusion, current results suggest that cultural differences and beliefs systems may play a small but significant role in influencing Black women's attitudes in seeking mental health services and future research is therefore encouraged to better determine the role of diversity in the utilizations of mental health services.

NPA2019-12

NICU and Beyond- Assessment and Intervention for Infants and their Parents.

Kgomez

NICU and Beyond: Assessment and Intervention for Infants and their Parents.

Research shows high emotional distress in parents during their newborn's NICU (Newborn Intensive Care Unit) stay, resulting in 20-30% diagnosable mental health disorders in the first year. Parents experience grief, anxiety, fear and guilt. Early detection and intervention improves mental health, parent-infant attachment, and can significantly reduce adverse childhood experiences.

We report on an interdisciplinary outpatient NICU follow up clinic model we developed at the UMass Medical School in Worcester, MA, to screen for maternal depression while providing medical and developmental evaluations of their infants.

This weekly clinic includes a child psychologist, a neurodevelopmental pediatrician and a physical therapist. Infants are evaluated using the Mullen Scales of Early Learning, or the Newborn Behavior Observation, and physical therapy evaluation. Infants receive a developmental and neurologic examination. Mothers are asked about post-partum stressors, depression and/or anxiety.

Over the course of 10 months, we evaluated 80 infants and their mothers. Majority of infants were in early intervention (80%). Mothers reported feeling overwhelmed while their infant was in the NICU. About half of them reported receiving support

from a family member, or from a community organization. Some are following with their own therapist. All reported coming to clinic because this was a service for their child. However, when they were offered individual therapy, most declined.

Current interdisciplinary NICU model highlights the need for an integrative approach to mental health screening starting earlier with mothers of high risk infants, such as in the NICU. This would decrease stigma and resistance to treatment.

NPA2019-13

Improving Access to Perinatal Care: Confronting Disparities and Inequities in Maternal-Infant Health

Legnetto

Background: As part of an initiative to reform the Medicaid system in New York State, in 2014 over 8 billion dollars were reinvested into the NYS Medicaid system to address various aspects of health care. A portion of these funds have been used to fund projects that work towards promoting integrated delivery of services, preparing providers for Value Based Payment (VBP) and using patient centered approaches to health care delivery. Many of these projects focus on improving maternal and infant health outcomes, as these groups make up a large portion of Medicaid enrollees.

In NYS, premature birth is the leading cause of death in infants and affects 1 out of every 10 babies born. In Central New York (CNY), the premature birth rates per county range from 7.6% to 12.5%, and have shown no significant change in the past 10 years. In September 2017, St. Joseph's Health, a hospital located in Syracuse, NY received grant funds to develop and promote a program that focuses on reducing the rate of premature births in six CNY counties. The program partners with participating birthing hospitals and outpatient obstetrical care providers to address four specific risk factors associated with premature birth: tobacco use, alcohol and substance use, stress and oral care by ensuring evidence-based screening tools are built into the medical record.

Content/Action: Our Premie Prevention team has developed a Clinical Standards Educational Protocol Model of Care to address comprehensive screening practices by making system changes. Following Medicaid and ACOG guidelines, this

OPIOIDS and NAS  
When reporting on mothers, babies,  
and substance use  
**LANGUAGE MATTERS**



**I am not an addict.**

I was exposed to substances in utero. I am not addicted. Addiction is a set of behaviors associated with having a Substance Use Disorder (SUD).



**I was exposed to opioids.**

While I was in the womb my mother and I shared a blood supply. I was exposed to the medications and substances she used. I may have become physiologically dependent on some of those substances.



**NAS is a temporary and treatable condition.**

There are evidence-based pharmacological and non-pharmacological treatments for Neonatal Abstinence Syndrome.



**My mother may have a SUD.**

She might be receiving Medication-Assisted Treatment (MAT). My NAS may be a side effect of her appropriate medical care. It is not evidence of abuse or mistreatment.



**My potential is limitless.**

I am so much more than my NAS diagnosis. My drug exposure will not determine my long-term outcomes. But how you treat me will. When you invest in my family's health and wellbeing by supporting Medicaid and Early Childhood Education you can expect that I will do as well as any of my peers!

Learn more about Neonatal Abstinence Syndrome at [www.nationalperinatal.org](http://www.nationalperinatal.org)



model serves as a roadmap of how to implement program and policy changes that can help practices improve screening for these factors during the prenatal care period. It provides risk assessment tools, educational materials, policy templates, information on reimbursement and VBP, a quality improvement plan and a system to screen, make referrals and follow up part of the routine practice and sustainable. The model of care is the focal point of our provider toolkit, which features additional educational materials and risk prevention resources. All information is available on our website as well.

Our team has formal contracts with 12 birthing hospitals and outpatient prenatal care providers and continues to meet with and sign on potential partners. We have gained support from over 40 state and local community based organizations, government entities and additional businesses including health departments, third party payors, pharmacies and pharmaceutical companies. Several of these organiza-

tions have agreed to post the program's educational "posterzine", a patient-friendly graphic that highlights risk factors that can lead to a preterm birth and how to address each one. Kinney Drugs, a local pharmacy chain, has posted the posterzines in all of their locations and the Onondaga County Health Department has posted these in their public breastfeeding pods across the county. Our posterzine has been featured on a local news media segment during premature awareness month and used as a marketing and educational piece at several events including the 2018 NYS Fair. In November 2018, our team organized and held an educational conference titled, Healthy Moms, Healthy Babies: Your role in Preemie Prevention with speakers from NYSDOH, parent and partnering organizations, vendors and audience attendees of 80+ from CNY and adjacent counties. Speakers at the conference focused on: Current status of Maternal-Infant Mortality in NYS, Obstetrics and Value Based Payments, Clinical approach to better birthing outcomes and sharing positive practice outcomes from using our model of care.

**Lessons Learned:** The concern of premature birth is one that involves much more than just these four risk factors. Through our developmental research and many conversations with nurses, clinicians and health care professionals, we have found that in addition to these social risk factors, women and families are faced with several other clinical, societal, environmental and other issues that could lead to a premature birth. Therefore, one of the lessons learned is that addressing premature birth should start when a woman is considering becoming pregnant, so as to assess her current way of life and connect her with any needed clinical or community services before pregnancy.

In talking with many providers and office staff, we came across a few reoccurring issues. The first issue being that there are so many patient education materials in circulation, it is difficult to find time to research the "best" for an office and to use to correspond with provider teachings. In addition, we found a second issue to be that patient education was not being fully done after screening because providers did not know where to send patients for additional and follow up care. Learning these lessons early on in developing our model of care, gave us time to compile comprehensive and commonly used materials (and create our own posterzine) and a list of referring providers and community based organizations, specific to each risk factor, additional area of need and geographical location. These materials and information was shared and well received from providers.

**Implications for Practice:** In creating this educational model of care, we have come across three significant implications for practice. First, the process of screening, educating and referring to additional treatment needs to be a part of any health care appointment for any woman of childbearing age and/or those who are trying or are currently pregnant. Women who are engaging in or exposed to risky behaviors and environments should be supported, educated and if needed referred, to aid in increasing their own health and decrease negative health risks to their baby. This is extremely important for women who have language or cultural barriers, as this may be one of the only times she seeks health care and can be helped. A health care provider, especially a nurse educator or social worker, can be a very influential part of her support system.

Second, screening for women of childbearing age and/or those who are trying or are currently pregnant needs to be universal, regardless of age, race, ethnicity, socioeconomic status or any other potentially distinguishing characteristic. This is important in establishing and ensuring health equity for all patients and avoiding bias or discrimination. All women should be provided the same level and courteousness of care.

Finally, after performing these screening practices, comprehensive documentation must be kept in the medical record. Comprehensive and accurate documentation is important for compliant health care practices. Building reportable fields is crucial for internal and external auditing and will be used in the future for reimbursement for services.

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NPA2019-14

Neonatal outcomes following dual exposure to medication assisted treatment for opioid use disorder and psychotropic medication in utero

A. Meyer, M. Sharp, PhD, M. Prasad, DO, MPH, C. Lynch, PhD, MPH, K. Carpenter, Ph.D.

**Introduction:** Medication assisted treatment (MAT) for opioid use disorder (OUD) decreases the risk and severity of neonatal abstinence syndrome (NAS) compared to illicit exposure to opioid drugs. Concurrent prenatal exposure to psychotropic medications and MAT may be associated with more severe NAS, including longer duration of opioid treatment, withdrawal symptoms, and total hospital stay. The purpose of this study was to examine NAS

in a sample of neonates with dual MAT and psychotropic medication exposure born to mothers seeking outpatient MAT for opioid use during pregnancy.

**Method:** Retrospective medical chart review was conducted for women undergoing prenatal care at a multifaceted substance abuse treatment clinic and their newborns (N = 460). Medical chart abstraction included information regarding demographics, MAT, pregnancy/childbirth characteristics, and neonatal medical care. Maternal characteristics: majority Caucasian (90%), unmarried (77%), insured through Medicaid (91%); Mage = 28 years. Infant characteristics: Mgestational age at birth = 38 weeks. Psychotropic medications: SSRIs, benzodiazepines, Clonidine. Outcome variables of interest included NICU admission, diagnosis of NAS, days until onset of NAS, maximum Finnegan score, median neonatal morphine dose, and if the infant was discharged home with the mother.

**Results:** About half the sample had a psychiatric diagnosis documented in pregnancy (54%) and 51% of participants were prescribed a psychotropic medication. In general, there were no differences between women who had a psychiatric diagnosis and/or were prescribed psychotropic medication and those women without psychiatric diagnosis/medication. Women who took benzodiazepines during pregnancy gave birth to infants who needed a higher morphine dose (M = .11, SD = .28) than infants without benzodiazepine exposure (M = .07, SD = .09),  $t(423) = 2.70$ ,  $p = .007$ , 95% CI -.08, -.01. Infants with benzodiazepine exposure also had higher maximum Finnegan scores (M = 11.20, SD = 3.50) than those without exposure (M = 10.36, SD = 3.83),  $t(399) = 2.04$ ,  $p = .008$ , 95% CI -1.66, -.03.

**Discussion:** Having a documented psychiatric diagnosis and/or treatment with psychotropic medication was not associated with any neonatal outcomes. However, benzodiazepine use, either prescription or illicit, appeared to be associated with more severe NAS requiring more intensive NICU intervention. This information may help MAT and general obstetric providers counsel mothers regarding the risks of benzodiazepine use during pregnancy. MAT programs should regularly screen for psychotropic medication use and incorporate education into standard practice.

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NPA2019-15

PSS:NICU - Understanding aspects of Postpartum Stress

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#### Background

Parenting an infant in the Neonatal Intensive Care Unit (NICU) is often distressing, as parents must navigate the challenges of complex medical systems and begin to develop their parental identities. For many, this experience is accompanied by severe psychological distress. Parents are at heightened risk for adverse mental health outcomes, including depression, anxiety, and post-traumatic stress. The rate of Perinatal Mood and Anxiety Disorders (PMADS) for mothers and fathers who have a baby in the NICU (up to 70% & 70%, respectively) is significantly higher when compared to those who do not have a child in the NICU (10-20% & 10-14%, respectively). These responses continue beyond the NICU hospitalization experience (Holditch-Davis et al, 2003; Shaw et al, 2006) and are known to be risk factors for disruption in the parent-infant relationship, and delays in infant development.

#### Content/Action

In an effort to parse out and explore specific NICU environmental features contributing to the emotional stressors parents face, we administered the Parent Stress Scale, NICU version (PSS:NICU). The

PSS:NICU is a validated survey which asks parents to rate their level of stress associated with 37 items in four categories: sights and sounds of the NICU, the baby's appearance, parental role, and staff communication. Responses were recorded on a 5 point likert type scale (1 = not at all stressful, 5 = extremely stressful).

Our goal was to identify specific environmental contributors and then address them through later programming – psychoeducation, exposure, coping strategies.

#### Lessons Learned

Overall, 45% of responses were reported as either very or extremely stressful. Parents reported the highest levels of stress relating to "The appearance of my baby" and "Relationship with infant and parental role." In the subcategory of "The appearance of my baby", over 25% of parents found the following items to be very or extremely stressful: Being separated from my baby (50%), Not feeding my baby myself (26%), Not being able to care for my baby myself (24%), Not being able to hold my baby when I want (39%), Feeling helpless and unable to protect my baby from pain (46%), Feeling helpless about how to help my baby during this time (45%). For the subcategory of "The appearance of my baby", 25% or more parents reported that the following items were stressful: When my baby looked to be in pain (47%), When my baby looked sad (33%), Tubes and equipment on or near my baby (25%), Bruises, cuts or incisions on my baby (27%), and My baby's unusual or abnormal breathing pattern (31%). One subquestion in the Sight and Sounds category that scored above 25% was The sight of having a machine breathe for their baby (27%).

Surprisingly, parents were not very or extremely stressed by The unusual color of my baby (19%), The small size of my baby (4%), or Seeing needles and tubes put in my baby (21%). Parents were also not very or extremely stressed by the staff behaviors and communication or the Sights and Sounds in the unit.

#### Implications for Practice

The intent of this abstract is to identify aspects of the NICU experience that cause

high parental stress. Using this information, we will create a strategic program to help parents cope with NICU stress and measure whether such intervention can successfully mitigate risk for Perinatal Mood and Anxiety Disorders (PMADS).

NPA2019-16

Supporting Parent-Infant Bonding and Parental Mental Health

Gabrielle R. Russo, B.S. and Pamela A. Geller, Ph.D.

Introduction: The first year of human life involves substantial physical, emotional, and social development. An infant is influenced significantly by their immediate social environment and caregivers. Parents can facilitate growth and demonstrate emotion regulation and social interactions for their children. Therefore, the health of the parent-infant relationship and substantial parent-child interactions are crucial for maximizing exploration and learning opportunities for the child.

Previous studies have evaluated the relationship between satisfaction with social support and mental health. For example, social support from partner and peers was negatively associated with mother's postpartum depression (Dennis & Letourneau, 2007) and dissatisfaction with social support from parents was positively correlated with maternal postpartum depression scores (Heh et al., 2004). Additionally, prior research has assessed the relationship between parental mental health and parent-infant bonding; Parfitt, Pike, and Ayers (2013) observed an association between parental prenatal anxiety as well as father's postnatal depressive symptoms and poor parent-baby interaction. Notably, Lutz et al. (2012) observed an interaction effect of informational social support on maternal-child interactions for mothers with high levels of stress. Thus, evidence suggests reason to investigate the role that increased social support may play in promoting parent-infant bonding. The current study seeks to understand this relationship and extend current knowledge regarding this concept in order to stimulate clinical practice for parents' mental health, directly impacting the mental and physical health

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of their child. The current study will also consider relationship satisfaction which has been shown to play a crucial role in the mental health of parents, where decreased relationship satisfaction may be a common predictor of poor mental health (Dudley et al., 2001). Additionally, evidence suggests a positive association between parental relationship satisfaction and the parent-child relationship (Erel & Burman, 1995).

Finally, in order to thoroughly address factors impacting parental-child interactions, it is critical to measure a parent's perception of their child's temperament. As described by DiLalla and Jones (2000), infant temperament is based on the behaviors and reactions of infants to life events. A great deal of research has shown significant association between parental behavior and parental mental health with infant temperament (Whiffen & Gotlib, 1989; Greenwell, 2015). In fact, negative infant temperament at 8 weeks was significantly associated with not only maternal postpartum depression, but poorer face-to-face interactions between infant and mother (Murray et al., 1996). It is hypothesized that:

- 1) A direct relationship exists between satisfaction with social support and parent-infant bonding,
  - a) Greater satisfaction with social support is associated with a healthier bond between parent and infant.
  - b) Satisfaction with social support from partner has a stronger association with parent-infant bonding than does satisfaction with social support from others.
- 2) Parent mental health mediates the relationship between satisfaction with social support and parent-infant bonding:
  - a) Greater satisfaction with social support is associated with better mental health.
  - b) More positively scored mental health is associated with a healthier parent-infant bond.
- 3) Parental mental health is associated with more parental perceptions of infant temperament:
  - a) More positively scored mental health is associated with more positive perceptions of infant temperament.

Methods: The current study has a cross-sectional design consisting of one online

self-report survey. The self-report measures included in this study assess parent-infant bonding, satisfaction with social support, depressive symptoms, anxiety symptoms, parental stress, and relationship satisfaction. The relationship between parent-infant bonding and satisfaction with social support will be analyzed. Depression, anxiety, and parental stress will be examined as potential mediators. Parents of 3 to 12-month-old infants with a current romantic partner, all in cohabitation, will be eligible to complete the 110-item survey administered on Amazon Mechanical Turk with compensation provided. Primary and secondary hypotheses will be analyzed using a series of linear and multiple regressions. Participants will be workers of Amazon Mechanical Turk (MTurk) and recruited through the TurkPrime website. The study will be posted on TurkPrime and distributed throughout the months of January and February. Data collection will conclude, and results will be analyzed in the month of March.

Results: It is expected that more satisfaction with social support will be correlated with and predict higher quality bonding between parents and infants. Additionally, results are expected to show that parental mental health mediates this relationship, specifically, that having greater satisfaction with social support results in more positively rated mental health, ultimately leading to higher quality parent-infant bonding. Finally, it is expected to be shown that positively rated mental health will be associated with better perceived infant temperament.

Discussion: Studying the relationship between a parent's satisfaction with social support and the health of the parent-infant bond within the first year postpartum may provide valuable insights. For example, if a direct relationship is found to exist, it would support the need to evaluate the parent's social support network and parent-infant bonding in addition to parental mental health following the birth of a child. Few studies have analyzed the relationships between the current variables. The current study builds upon and extends the current literature as it is the first study to attempt to distinguish a direct association between satisfaction with social support and parent-infant bonding. Previous studies have primarily assessed heterosexual mothers, making the proposed project unique in that fathers and individuals who are members of a non-heterosexual couple are eligible for participation.

Qualitative investigation of characteristics of social support related to traumatic childbirth

Meghan Sharp, PhD, Burkle Bradley, BA, Christyn Dolbier, PhD

Introduction: About half of women report dissatisfaction with their childbirth experience, and some women appraise their childbirth as a traumatic event. Traumatic childbirth appraisal is associated with postpartum emotional distress that can interfere with mother-infant interaction. While postpartum social support may provide a buffer against distress, negative social interactions may have the opposite effect. The purpose of this study was to explore women's descriptions of their traumatic childbirth and types of childbirth-specific postpartum social support.

Method: Women who had given birth in the prior year (N = 129) were recruited via social media for an online study regarding difficult childbirth experiences. The majority was White (84%), married (76%), employed (56%), and had private insurance (69%). Participants typed responses in an open-ended format to prompts to describe their difficult childbirth, identify childbirth characteristics that contributed to trauma appraisal, and to describe positive, negative, and hoped-for social support related to childbirth.

Results: Common themes identified in difficult childbirth descriptions and trauma appraisal included medical characteristics of childbirth (e.g., emergent C-section, 83-92%), elevated perception of risk (e.g., nursing staff rushing, 25-40%). Dissatisfaction with healthcare support (e.g., perceived negative comments from medical providers) was reported by 26% of participants in their difficult childbirth description, but only 4-6% of trauma characteristics. Women reports positive reactions to emotional (73%) and tangible (15%) support related to birth. Negative social interac-



NPA2019-17

tions were described as minimizing (23%), personally insulting (e.g., commenting on maternal age, 28%), blaming the mother (14%), dismissing the mother's needs (10%), and lack of support from medical professionals (10%). Women reported that they wished they had received better postpartum emotional support (40%), greater explanation/understanding of childbirth events (17%), and more support from medical professionals (17%).

**Conclusions:** Several themes related to medical care were common in descriptions of difficult and traumatic childbirths. These themes are reflected in participants' descriptions of negative social interactions related to birth and types of support they would have liked to receive, in retrospect. Women's accounts can inform recommendations for peripartum doctor-patient communication. This information may be particularly useful for obstetric providers caring for women who have high risk pregnancies or deliveries that require escalated medical intervention.

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NPA2019-18

Utilizing Evidence to Develop a Home Visiting Program for Zika Virus Affected Families

Sharon Starr, MSN, RN, Rachel Blumenfeld, MPH, Mariah Menanno

#### Background

In 2016, Zika virus affected populations throughout the Caribbean, Central and South America and small areas of southern United States. Zika infection of pregnant women places infants at risk for congenital Zika syndrome characterized by brain malformations, other birth defects, and concurrent developmental delays. Zika was monitored as an emerging infectious disease. Approximately 12% of Philadelphia's 1.5 million residents routinely travel to their countries of origin, many of which are Zika endemic countries, risking Zika virus infection of the individual or the sexual partner and possible vertical transmission to the newborn.

#### Action

The Philadelphia Department of Health (PDPH) provided surveillance of Zika-associated birth defects as well as family support services. Mothers of the U.S. Zika Pregnancy Registry were engaged in home visiting activities for education, developmental screening, and support in caring for themselves and their offspring. The home visiting program was developed

utilizing Parents as Teachers (PAT) as an educational model and activities were measured using the Wheel of Interventions defined by the Minnesota Department of Health.

#### Lessons Learned

The results of this study show that 21 client families were engaged in services using Parents as Teachers model or PAT health topics. Thirteen clients declined home visiting services. Engaging clients in home based services enhanced Zika related surveillance and collaboration between clients, their primary providers, and the health department.

#### Implications

Utilizing a home visiting strategy allowed client families to engage in family supports for their children and connect parents and children with their community. Parents as Teachers model is a valuable strategy for educating families while screening for developmental and other needs. The Wheel of Interventions provides a unique method of measuring process outcomes. Active surveillance was enhanced with this collaboration.

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NPA2019-19

Partnering with patient advocacy groups to identify challenges and solutions for postpartum mental health care.

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Abstract Category: Innovative Models of Care

**Background:** Postpartum depression is the most common complication of childbirth. In the United States, estimates of new mothers experiencing symptoms of PPD vary by state from 8-20%, with an overall average of 11.5%, and in the absence of universal screening, approximately 50% of PPD cases may go undiagnosed. Additionally, it has been reported that approximately 50% of women receiving referrals for perinatal mental health services do not receive care.

**Content/Action:** This presentation will illustrate the positive outcomes resulting from engagement with the postpartum depression (PPD) advocacy community, including

the ideation of solutions for challenges facing those affected by PPD. Four meetings were held with 31 patient advocates/advocacy groups in Baltimore, Chicago, Houston, and San Francisco, with participants from the surrounding geographic areas. Each meeting included a one-on-one information sharing session and a group work session. These sessions were focused on the following questions: 1. What can be done to reduce/eliminate the stigma associated with PPD? 2. What can be done to improve the collaboration amongst Advocacy Groups, Providers, Government, etc.? 3. What can be done to ensure that programs, tools, services, communication, etc. serve the needs of the diverse population of women and families that are impacted by PPD? 4. What can be done to better reach women and families in rural and/or underserved communities? 5. What can be done to improve screening and diagnosis of PPD? 6. What can be done to improve a PPD patient's ability/opportunity to connect with care providers? and 7. What is needed to support the effectiveness and development of Patient Advocacy Organizations?

Lessons learned:

The learnings from these meetings provided key insights into the needs of PPD patients and their advocates. These meetings also demonstrated how, through listening and tapping into the strength, spirit and determination of advocates, we can unlock solutions for the challenges facing the PPD community. Major learnings focused on: how to improve collaborative care, ensure that programs/tools/services meet diverse patient needs, and how best to interact with patient advocacy organizations.

#### Implications for Practice:

The learnings from these meetings provided key insights into the needs of PPD patients and their advocates. Sharing the information gathered from these meetings is an important step towards establishing greater collaboration between patients, patient advocates, health care providers, and other organizations to enhance postpartum mental health care and make a difference in the lives of moms, babies and families. Fostering such coordinated action and collaborative care may be one way to enhance postpartum mental health care.

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NPA2019-20

#### Baby Carriers: Bridging the Gap of Health Disparities for Mothers and Babies

Tello

#### Background:

The transition into parenthood can be prepared for, but the course of events cannot always be predicted. When looking at the bigger picture there is no doubt that socioeconomic and sociocultural factors (i.e. family stability, access to resources, academic competency, ethnicity, etc.) play a role in the staggering rates of maternal and infant health issues. Forming healthy bonds and secure attachments with babies early in life will positively impact their development, while decreasing stress on new parents. Access to baby carriers and best practices education can help decrease health disparities because they facilitate hands-free, close contact and meets the evolutionary needs of all

parties involved—regardless of the above mentioned factors. In my experience as an expecting mom, I found there was not much access to information about ways to care for my babies that would safely meet all three of our needs while positively supporting my transition into my new role as their mother.

#### Content:

In this presentation, I will share how the benefits of regular baby carrier access and usage can help bridge the gap created by health disparities and inequities. I will highlight how this culturally historic practice can improve the infant and parent's health and well-being as evidenced through attachment theory and the theory of psychosocial development. I will address the public health benefits that naturally occur when using an infant carrying device. Furthermore, I will share the specific ways babywearing empowered me as a new mother and how it supported me during the transition into my new life after the birth of my twins in ways that would have otherwise been unobtainable.

The mother's chest is the natural habitat for her newborn during the transition to being outside of her womb. Infant carrying devices bring babies back to that habitat, and can be used with skin-to-skin contact or a clothed baby. Babywearing is the best way to ensure baby and mom- or any emotionally involved caregiver- continue to reap the benefits of kangaroo care and close contact over the first few years, which is a crucial time for baby's social, emotional, and cognitive development.

Some of the benefits for babies include greater physiologic stability, more regular sleep patterns, improved weight gain, and more successful breastfeeding rates.\* Babies who are carried in an infant carrier are more easily soothed, more likely to be calm and less likely to cry because they are with a familiar adult. They become one unit with their caregiver and can feel and hear the familiar heartbeat, breathing pattern, movements and voice while still leaving caregivers hands free. Additionally, because the baby is so close, the caregiver is likely to talk to baby, stimulating brain development and enhancing language nutrition. The physical closeness

of babywearing increases oxytocin levels, which supports connectedness, bonding, and love. Especially when taking into consideration the fact that infant abuse and shaken baby syndrome are overwhelmingly caused by the inability to calm a crying baby, it is evident that baby carrier education has a role to play in increasing the likelihood that caregivers will respond more sensitively and appropriately to their baby's needs.

#### Lessons Learned:

Promoting the use of baby carriers can be an effective way to confront health disparities and inequities during the perinatal time period and beyond. In this presentation, I will share how having my twin babies so close to me decreased the severity of my own perinatal mood and anxiety disorders while promoting an unbreakable bond with my daughters. Babywearing made it possible for my babies to sleep peacefully on me while I tended to the daily demands of my adult life, thus building my confidence as a mother and in my abilities to care for them. This hands-free caregiving option also helped me exceed my breastfeeding goal of 2 years. Most importantly, babywearing helped me maintain my sanity during difficult life situations and circumstances. The close contact facilitated by the baby carrier played the most significant role in allowing me to thrive as a mother, which in turn helped my girls thrive and find their own confidence and independence when they were ready.

In addition to describing my personal experiences as a mother of twin girls, now 5.5 years old- and still tandem worn-, I will share how my journey has influenced my passions and why this work is so important. My current work involves empowering new and expecting moms during their transition into motherhood through the use of baby carriers in a way that will positively impact her infant's socioemotional and cognitive development.

#### Implications for Practice:

Babywearing is a practice being adopted by a growing number of parents worldwide. Both healthcare providers and parents should have a better understanding of this growing phenomenon, its impact on



public health issues, and the infant's social, emotional, and cognitive development. All those involved in infant care should have a better understanding about the benefits of utilizing baby carriers and be aware of the best practices. Evidence that babywearing can positively support maternal and infant health and development is mounting and deserves more research. Implementing access, education, and the regular use of baby carriers will not only help address current public health and other maternal-infant related concerns, but it can also help positively influence the health and development of generations to come.

\*Source: Kangaroo Care -Cleveland Clinic

*Note: This presentation was previously given at the 2017 National Perinatal Association Conference, and discussed how babywearing my twins positively impacted my perinatal mental health and transition into motherhood. It has since been updated to include information that focuses on how babywearing can support overall mental and public health for both infants and parents.*

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NPA2019-21

Development and Implementation of a Postpartum Depression Screening Program in the Neonatal Intensive Care Unit.

Angela Vaughn RN, NNP-BC

Background:

Postpartum depression (PPD) is an unexpected complication of pregnancy (Association of Women's Health & Neonatal Nurses, 2015). Risk factors associated with PPD include: prior history of depression anxiety, unplanned pregnancy, disadvantaged socioeconomic status, difficult relationships and recent stressful life events (Hawes, McGowan, O'Donnell, Tucker, & Vohr, 2016). The exact cause of PPD is unknown but thought to be a multifactorial dyad of physical and emotional changes (Ugarte et al., 2017). Rapid decline of estrogen, progesterone, and increase of circulating autoimmune thyroid antibodies are physical changes following childbirth thought to be attributed to PPD development. (Beil, 2017). Emotional components of PPD include mood swings, sleep deprivation, exhaustion, physical discomfort associated with postpartum recovery and difficulty with self-identity (Dunlop, Logue, & Thorne, 2016).

Untreated postpartum depression negatively effects maternal/child health. Prior to PPD identification and treatment, mothers experience dysfunction of maternal/infant bonding, poor nutrition, relationship challenges and poor healthcare compliance (Farhat, Saeidi, Mohammadzadeh, & Hesari, 2015). Infants and children born to mothers with untreated PPD experience longer lengths of hospitalization, bonding/attachment issues, abnormal sleep patterns, poor growth, developmental delay and behavior disorders of childhood (Ward, Kanu, & Robb, 2017). The Centers for Disease Control and Prevention estimate 10-15% of childbearing women will develop PPD (American Academy of Pediatrics. aap.org (2015); Hawes, McGowan, O'Donnell, Tucker, & Vohr, 2016). The incidence of PPD increases to approximately 40% in mother's whose infants are admitted to the Neonatal Intensive Care Unit (NICU) (Cherry, Blucker, Thornberry, Heatherington, & McCaffree, 2016). Postpartum depression screening improves identification, referral and treatment for mothers and is recommended by key national women and infant organizations (American College of Obstetricians and Gynecologist, 2015; Association of Women's Health & Neonatal Nurses, 2015; Earls, 2010). In addition to PPD screening, national organizations recommend PPD referral, treat-

ment and follow-up program development in facilities providing care to women and infants. Supporting the evidence-based PPD screening recommendations published by key professional organizations aimed at women, infants and children, I propose developing and implementing a PPD screening program for use in the NICU.

**Content/Action:**

Unrecognized postpartum depression has long-term adverse effects for infant growth and development. The American Academy of Pediatrics (AAP) periodicity schedule includes a series of well-child screening and assessments designed to foster the parent and provider relationship while focusing on disease prevention, tracking growth and development and addressing health and wellness concerns from infancy through adolescents. During the one-month, two-month, four-month and six-month well-child screening assessments the AAP recommends universal PPD screening. Well child visits in a Pediatricians office are ideal for PPD screening due to the established primary care provider relationship and congruency with the onset of PPD. Some infants require prolonged hospitalization and remain admitted to the Neonatal Intensive Care Unit (NICU) and are not eligible to attend well-child visits with a Pediatrician during one or more of the AAP recommended PPD screening intervals. Although well-child visits are ideal for screening most mothers for PPD screening, the NICU mother, who has a 40% risk of PPD, lacks access to AAP recommended universal screening since their infant will not attend routine well-child until post NICU discharge. Early detection of PPD improves maternal and infant outcomes. Overlooking the AAP PPD screening recommendations for NICU mothers with infants who remain hospitalized potentially increases long-term maternal and infant health complications. In response to the AAP PPD screening recommendations, this practice improvement strategy utilized the Plan-Do-Study-Act method to develop postpartum depression screening program including: postpartum depression education for staff, implementation of PPD screening at intervals recommended by the AAP, providing referral resources for mothers with positive PPD screens and following up with mothers who were provided with referral resources while their infant remains in the NICU.

**Lessons Learned:**

Navigating PPD can be a complicated and lengthy process. Successful implementation of a PPD screening programs in the NICU requires a multidisciplinary team approach. It is important to identify key members of the teams to serve as champions to improve program compliance and acceptance. Program barriers were present due to PPD screening of NICU mothers who are no longer a patient of the facility. Who is responsible for referral, screening, treatment and where should results be documented. Additionally, all mother's will not agree to PPD screening and cri-

sis plans should be in place.

**Implications for Practice:**

Development of PPD screening programs and screening for PPD in the NICU has short and long-term benefits for the NICU patient and family. Maternal and infant health suffers from undiagnosed PPD. Infants admitted to the NICU are at risk for neurodevelopmental delay, difficulty feeding, poor weight gain and lengthy hospitalization due to prematurity. Mothers of infant's in the NICU are at increased risk for PPD. Early recognition of PPD prompts maternal treatment, improves maternal/infant bonding, infant nutrition, family relationships and overall healthcare compliance. (Farhat, Saeidi, Mohammadzadeh, & Hesari, 2015). Infants and children born to mothers with treated PPD experience shorter lengths of hospitalization, improved bonding/attachment issues, predictable sleep patterns, improved growth, and less incidence of developmental delay and behavior disorders of childhood.

**NT**

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