2022–2023

RESEARCH IS CLINICAL CARE

Department of Obstetrics and Gynecology
# Department of Obstetrics and Gynecology Research

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The overarching goal of the Division of Reproductive Biology Research in the Department of Obstetrics and Gynecology is to improve the lives and health of our patients and their children through research and quality initiatives. We believe that Research Is Clinical Care. Our investigational portfolio spans the breadth of the field of obstetrics and gynecology and includes topics such as gynecologic pain, gynecologic cancer, maternal and fetal health, preterm birth, perinatal stress and mood disorders, urinary incontinence, as well as the quality and equity of care we deliver.

We believe that through scientific inquiry we can both improve our care and extend our impact to patients that might not otherwise have access to our department, but for the availability of unique clinical trials. By designing and engaging in studies that are translational and clinical, we also create the potential to shorten the transition from new knowledge to implementation.

The study enrollment and visit numbers (Figure 1) support the concept that research IS clinical care and our funding success speaks to the caliber of our teams (Figures 2, 3). You will note that we are intentional in our pairing of physician-scientists with PhD investigators, thus blending clinical and scientific expertise to compete and succeed at the highest level of grant acquisition. In sharing this summary we hope that it inspires others to pursue inquiry as a foundational aspect of clinical care. – Richard Silver, MD
Perinatal depression impacts one in seven women, making it one of the most prevalent complications of pregnancy. According to the CDC, mental health is the leading underlying cause of pregnancy-related deaths. Despite screening recommendations and efficacious treatments, as few as 20% of affected women are adequately treated. Barriers include childcare needs, costs, lack of transportation, and stigma. These barriers are exacerbated for Black, Indigenous, and other people of color (BIPOC). Richard Silver, MD, Clinical Chair of Obstetrics and Gynecology; and Jo Kim, PhD, Director of the Perinatal Depression Program are committed to identifying, researching, and reducing those barriers. Since 2003, the Perinatal Depression Program (PDP) has provided proactive universal screening for depression in both pregnancy and postpartum. The program features the MOMS Perinatal Depression Hotline—an immediate, live telephone response to at-risk women by licensed professionals 24/7/365 for education, support and mental health referral. This clinical commitment to identify and treat perinatal mood disorders goes hand in hand with the research focus on evaluating low-cost, innovative solutions to improve access to psychological treatments for perinatal depression.

**MOMS Perinatal Depression Hotline;** Illinois Department of Public Health; $100,000 (annual grant). First in the US, the 24/7 live Hotline has received over 15,000 calls from 47 states and 7 countries. Calls have led to 549 ED referrals, 11,023 referrals; 230 diagnoses of psychosis and assisted 1,142 people with suicidal ideation. (2023–2024)

**Scaling Up Maternal Mental Healthcare by Increasing Access to Treatment;** PIs: Dr. Daisy Singla, PhD, Patient Centered Outcomes Research Institute/Sinai Health System, University of Toronto, Dr. Samantha Meltzer-Brody, MD, MPH, UNC– Chapel Hill; Site PI: Dr. Richard Silver, MD; $2,305,817.

The purpose of this study is to conduct a pragmatic, multi-center randomized non-inferiority trial to compare the safety and efficacy of psychotherapy provided by trained nurses as compared to licensed therapists and the delivery of care virtually as compared to in-person, implementing a brief, evidence-based, psychological treatment of behavioral activation for perinatal depression and anxiety. (2019–2025) Silver

**Responsive eHealth Intervention for Perinatal Depression in Healthcare Settings (Mom Mood Booster);** National Institute of Mental Health/Small Business Innovation Research; PI: Dr. David Smith, PhD, University of Oregon, Site PI: Dr. Richard Silver; $391,000. The purpose of this randomized controlled trial was to evaluate the efficacy of a web app–based cognitive behavioral therapy for perinatal depression compared to treatment as usual in a large healthcare setting. (2018–2020) Silver

**Mobile MOMS (Moms Overcoming Mood Symptoms);** Chicago Biostatistics; NorthShore Research Institute/Medical Group Pilot Grant funding, PI: Dr. Jo Kim, PhD; $40,000. The purpose of this study was to deploy and evaluate a computerized adaptive test to screen for perinatal mood disorders. (2018–2019) Kim

**Advancing Translational Science in Metropolitan Chicago;** UChicago Emergency Medicine; National Institute of Mental Health, PI: Dr. Julian Soloway, MD, University of Chicago; Site PI: Dr. Richard Silver; $24,688. The purpose of this study was to develop and validate a chatbot-mediated approach for implementing measurement-based care. (2017–2021) Silver
Stress and Pregnancy & Health Disparities

Ann Borders, MD, MSc, MPH, Executive Director and Obstetric Lead, Illinois Perinatal Quality Collaborative; Ian Bernard Horowitz Chair of Obstetrics, Division of Maternal–Fetal Medicine, Endeavor Health; Lauren Keenan-Devlin, PhD, MPH, Research Scientist; and Alexa Freedman, PhD, Research Scientist focus their research on health disparities and the impact of stress on pregnancy. Their multi-centered studies investigate the relationship between stress during pregnancy and postpartum in relation to maternal inflammation and breastfeeding outcomes.

Furthering Equity Through Infant Feeding EDucation and Support (FEEDS); PCORI; $3,937,251; Supplement: $794,851. The goal of the study is to evaluate whether the addition of clinically integrated breastfeeding peer counseling to standard lactation care is associated with a reduction in disparities in breast/chest feeding intensity and duration for Black and Latinx families. The goal of the supplement is to expand to a third site at the University of Chicago (UCM) and includes an analysis of patient-centered economic outcomes. (2021–2027) Borders/Keenan-Devlin

Psychosocial Intervention, Maternal Inflammation, and Birth Outcomes: Centering vs. Routine Prenatal Care (PIINC); 1R01HD092446–01A1; $2,688,209; Supplement: $744,238. This project examined biological pathways of inflammation and birth outcomes through a psychosocial intervention of participating in group prenatal care in Greenville, SC. (2018–2023) Borders

Understanding Socioeconomic Disparities in Perinatal Risk: The Role of Epigenetic and Transcriptional Regulation in the Placenta: The Stress Pregnancy and Health Study (SPAH); RO1MD011749; $3,020,868. This project examined the pathways connecting socioeconomic status with placental gene regulation through a multi-level framework. (2017–2023) Borders

Optimizing Utilization of Lay Health Workers to Address Maternal and Child Health Disparities: A Comprehensive Evaluation of a Clinically-Integrated Breastfeeding Peer Counseling Program; 1K01HS027906-01A1; AHRQ; $551,684. This project is assessing the implementation of the Evanston Hospital Breastfeeding Peer Counseling program that has been serving NorthShore Community Health Center (NSCHC) patients since 2016. Critical to reproducing and scaling the intervention is implementation research that can identify the key components of the program, barriers and facilitators to implementation, and the associated costs and cost reductions. (2022–2027) Keenan-Devlin
Stress and Pregnancy & Health Disparities, continued

**Breastfeeding Peer Counselor Program for the Henrietta Johnson Louis ISCU;** Associate Board; $150,000. The purpose of this study was to understand whether the program reduces breastfeeding disparities for Black and low-income families, evaluate the implementation of the intervention, and conduct an economic analysis of the program to inform ongoing sustainability. (2021-2023) Keenan-Devlin

**Placental contributions to offspring cardiovascular health disparities across the life course;** (1K01HL165038-01A1); NHLBI; $655,164. This project is based on growing evidence that indicates the perinatal period is a critical window for intergenerational transmission of disparities in cardiovascular disease and will examine associations between measures of placental function and offspring cardiovascular outcomes from childhood to adulthood. (2023-2028) Freedman

**miRNA in Maternal Circulation During Pregnancy and Chronic Placental Inflammation;** Pilot grant; $40,000. Current methods for evaluating placental function during pregnancy are limited. The project will leverage stored serum samples from the Stress Pregnancy and Health (SPAH) Study to investigate whether placental miRNA in maternal circulation during pregnancy can be used as a biomarker of placental function. (2023-2024) Freedman

**Racial disparities in fetal growth: mediation by social determinants of health and underlying biological processes;** Society for Pediatric Pathology; $25,000. This study investigated how race, as an indicator of race-patterned social disadvantages, impacts fetal growth through changes in fetal gene expression, and how this relates to placental development and function. (2021) Freedman
Obstetrics and Gynecology Research

Chronic Pelvic Pain

Frank Tu, MD, MPH, Vice Chair, OB Quality and Kevin Hellman, PhD, Senior Clinical Research Scientist have been collaborating within the Division of Gynecological Pain and Minimally Invasive Surgery for over a decade and have recently been joined by post-doc Natalie Osborne, PhD. Together, they run the Gynecologic Research Laboratory, which seeks to identify the mechanisms that cause pelvic pain, including painful periods, to ultimately prevent these pain conditions.

Cross Organ Mechanisms in Chronic Pelvic Pain (CRAMPP2); 2R01DK100368–06A1; $3,382,074. This extension study from CRAMPP1, which ran between 2014–2020, assesses pelvic pain and sensory sensitivity progression in dysmenorrhea sufferers over two years while assessing their overall pain sensitivity and inflammatory reactivity profiles. Identifying an at-risk group and associated mechanisms is crucial to initiating relevant chronic pelvic pain prevention strategies. The goal of this study is to understand the risk factors and mechanisms responsible for menstrual and pelvic pain. (2023-2028) Tu

Deciphering the mechanisms of visceral pain with novel spinal functional imaging; Pilot grant; $40,000. The purpose of this research was to use brain–based spinal fMRI to determine if brain regions involved in spinal cord modulation process pain stimuli differently in people with menstrual pain and CPP than pain-free controls. (2023) Hellman

Non-Steroidal Anti-Inflammatory Drug (NSAID) Response and Central Sensitization of Pain in Women with Dysmenorrhea; Subcontract DOD/McLean Hospital–Harvard Medical School, Site PI: Dr. Kevin Hellman; $26,948. The goal of this study was to see if optimized use of naproxen for the treatment of dysmenorrhea will improve pain report from baseline. In addition, to determine whether cross-organ influences from the uterus on bladder pain sensitivity change from baseline after reduced menstrual pain experience. (2023) Hellman

Early Menstrual Pain Impact of Multisensory Hypersensitivity (EMPATHY); 1R01HD096332–01; $3,289,567. The purpose of this study is to learn more about how menstrual pain affects pain sensitivity development, including at bladder and muscle sites, in adolescents pre-menarche and for 2 years following menarche. (2018–2024) EMPATHY Supplement; $324,052. (2023–2024) Tu

Mechanistic Characterization of Uterine Pain to Improve Diagnosis and Treatment for Dysmenorrhea (MCUP); 5R01HD098193–04; $3,289,567. The purpose of this research is to discover the causes of menstrual pain. Additionally, why a common over-the-counter NSAID helps or may not help with cramping pain. (2019–2024) Hellman

Frank Tu, MD, MPH

Kevin Hellman, PhD

Natalie Osborne, PhD
Urogynecology

Roger Goldberg, MD, MPH, Division Head, Urogynecology; Ghazala Rostami Nia, MD, MSc; Sonia Dutta, MD, and post doc Alireza Hadizadeh, MD are dedicated to improving the care of women with a variety of pelvic floor abnormalities, including bladder and bowel incontinence, pelvic organ prolapse, lower urinary tract pain and infection disorders, voiding dysfunction, and female bowel and defecatory dysfunction.

Prospective RCT of Obstructed Defecation (OD) Surgery: Comparing Transvaginal Rectopexy, Ventral Mesh Rectopexy and POP Repair (PROD Trial); 1R01DK133328-01A1; $2,181,821. PROD is a multi-center prospective clinical trial to test the hypothesis that patients presenting with vaginal prolapse with OD symptoms undergoing our new diagnostic evaluation and surgical treatment will have improved outcomes relative to the current standard of care two years after surgery. (2023-2028) Goldberg/Rostami Nia

Feasibility of a deep learning-based method for automated localization of pelvic floor landmarks using Pelvic Floor Ultrasound; This retrospective cohort imaging analysis study aims to investigate the feasibility of developing and evaluating a deep learning-based technique for the automated localization of pelvic organ prolapse-related landmarks in collaboration with the University of Tehran. (2022-2024) Rostami Nia

NorthShore Auxiliary; $150,000. For the Urogyn research program to develop novel surgical techniques to improve patient outcomes. (2021-2023) Rostami Nia

A prospective study to assess the efficacy and safety of the BlueWind RENOVA iStim™ System for the treatment of patients diagnosed with overactive bladder (OASIS – OverActive bladder Stimulation System study); BlueWind Industry; $14,337. This study used a new implantable stimulator with a separate wearable device that assists patients with overactive bladder (OAB) symptoms, called the RENOVA iStim™ System. (2021-2022) Rostami Nia

Pivotal Study of Subcutaneous Tibial Nerve Stimulation with eCoin for Urgency Urinary Incontinence (eCoin); Valencia Technologies; $95,394. This study tests the safety and effectiveness of the eCoin (electroceutical Coin) system for the treatment of urgency urinary incontinence. (2019-2024) Dutta
Preterm Birth Prevention

Emmet Hirsch, MD, OB Hospitalist Program Director, and Chandrashekar Kyathanahalli, PhD, Research Scientist, focus on the investigation of infectious and inflammatory processes, with special emphasis on the underpinnings of preterm labor. The investigators’ insights and expertise have led to better practices for safe vaginal delivery and prevention of surgical site infections.

In 2021, the Hirsch lab presented five abstracts at the Society for Reproductive Investigation’s Annual Meeting, the premier conference for reproductive health research. Collectively, these abstracts enhance our understanding of how hormones impact inflammation in pregnancy-relevant tissues and allow investigators to reduce experimental error through better planning and new methods. The Hirsch Lab published a recent review that examined evidence linking parturition and inflammation in order to address whether inflammation is a cause of labor, a consequence of labor, or a separate but related phenomenon. The investigators identified and suggested ways to reconcile inconsistencies regarding definitions of labor onset in published research, which may contribute to the variability in conclusions regarding the genesis and maintenance of parturition.

**Prevention of Preterm Birth Using the Collectin Surfactant Protein A (SP‐A);**  R01HD096209-03; $1,468,172. The purpose of this study was to determine the mechanisms by which surfactant protein A (SP‐A), a protein produced by the fetal lung, engages the toll‐like receptor (TLR) 2 and its downstream signal transduction mechanisms and prevents pre‐term birth. The ultimate goal was to establish SP‐A as a potential preventive therapeutic agent for pre‐term birth. (2019–2023) Hirsch

**Surfactant Protein A (SP‐A): A Novel Agent to Prevent Preterm Birth;** NS Associate Board; $130,000. This study aimed at investigating the mechanisms by which surfactant protein A (SP‐A) interacts with the toll‐like receptor (TLR) 2 and its downstream signal transduction pathways in order to prevent pre‐term birth. SP‐A, which is produced by the fetal lung, has shown promising results as a potential therapeutic agent for preventing pre‐term birth. (2019–2021) Hirsch
Gynecologic Cancer Prevention

Gus Rodriguez, MD, Division Head, Gynecologic Oncology; and Omar Nelson, PhD, Research Scientist focus their research program on pharmacologic approaches to prevent fallopian tube, endometrial, and ovarian cancers. They aim to understand how combining progestins and vitamin D or other agents can enhance their efficacy for preventing ovarian and fallopian tube cancer.

Investigation of Progesterone-mediated Mechanisms of Cancer Prevention in the Fallopian Tube: Comparison of Molecular/Genetic Changes Relevant to Cancer Prevention and Carcinogenesis in the Fallopian Tubes from Postpartum Women, Non-gravid Women, Women with BRCA1/2 Mutations at Increased Risk of Ovarian Cancer, and Women Diagnosed with Ovarian Cancer supplement; Lauder Foundation; $75,000. This study aimed to determine whether chemopreventive markers are activated in the fallopian tube in the setting of a high progestin milieu typical of pregnancy. (2020) Rodriguez

Exploring the Role of Progestin and Vitamin D on Inflammation and Oxidative Stress in in-vitro and in-vivo Models of Ovarian Cancer; NIH/NCI Supplement; $268,082. This study aimed to test the efficacy of vitamin D and progestin as a chemo-preventive strategy against most ovarian cancers. (2020-2022) Rodriguez

Vitamin D and Progestins for the Chemoprevention of Fallopian Tube/Ovarian Cancer; 5R01CA214606-05 NIH; $1,789,030; Bears Care; $650,000. This study aimed to test the efficacy of vitamin D and progestin as a chemopreventive strategy against most ovarian cancers. (2017-2023) Rodriguez

Immortalization of Human Fallopian Tube Epithelial Cells Using Conditional Reprogramming; This study characterized the primary FTE cell library and immortalized FTE cell lines in terms of morphology, proliferative capacity, and gene expression as well as examine pharmacologic interventions in-vitro with the goal of cancer prevention. Additionally, it aimed to screen the library of FTE cell lines in search of novel biomarkers for ovarian/fallopian cancer screening. (2015-2024) Rodriguez
Gynecologic Cancer Studies

Tilley Jenkins Vogel, MD, oversees the Gynecologic Oncology treatment trials at the Kellogg Cancer Center. She is highly involved in multiple studies funded by the Gynecologic Cancer Group (GOG) Foundation. Some of the studies funded by the GOG foundation include A Phase 3 Study of Relacorilant in Combination with Nab-Paclitaxel versus Investigator’s Choice in Advanced, Platinum-Resistant, High-Grade Epithelial Ovarian, Primary Peritoneal, or Fallopian-Tube Cancer and A Phase 2 Open-Label, Multicenter Study to Evaluate Efficacy and Safety of ZN-c3 in Subjects with Malignant Tumors Harboring DNA Repair and Cell Cycle Gene Alterations among many other clinical trials.

Identifying the Wolf in Sheep’s Clothing: An Analysis of Outcomes in p53-Mutated, low-grade Endometrioid Adenocarcinoma of the Uterus; The Auxiliary and the Breast and Ovarian Research Program; $50,000. The study aimed to determine whether low-grade endometrioid endometrial cancers with p53 mutations had similar survival outcomes to high-grade endometrial cancers such as uterine papillary serous carcinoma and whether these tumors would benefit from the addition of adjuvant therapy for these patients. (2022) Jenkins Vogel

A Randomized Controlled Study of a Fasting Mimicking Diet (FMD) in Conjunction With Combination Carboplatin and Paclitaxel in the Treatment of Patients With Advanced or Recurrent Ovarian, Fallopian Tube and Primary Peritoneal Cancer; NS Breast and Ovarian Research Program; $40,000. This study tested whether platinum-taxane chemotherapy combined with an FMD in advanced and recurrent ovarian, fallopian tube, and primary peritoneal cancer patients is associated with decreased toxicity and/or improved tumor response to therapy. (2021) Jenkins Vogel

Preoperative Uterine Evaluation for Cancer in Women with Atypical Hyperplasia; This study aimed to identify the rate of concurrent endometrial cancer on final pathology for patients diagnosed pre-operatively with EIN/atypical hyperplasia based on different preoperative sampling methods as well as histologic and patient characteristics that may predict the likelihood of endometrial cancer on final pathology. (2022–2024) Moore

Pilot Study of the Impact of Early Palliative Care on Quality of Life in Recurrent Ovarian, Fallopian Tube, and Primary Peritoneal Cancer; NS Breast and Ovarian Cancer Research; $40,000. The purpose of the study was to determine if early introduction of palliative care will result in an improvement of quality of life for these cancer patients and their caregivers as well as a decrease in serum levels of stress-related biomarkers that have been associated with poor prognosis in ovarian, fallopian tube, primary peritoneal cancer. (2021) Moore
Obstetrics and Gynecology Research

Maternal-Fetal Medicine Units

Endeavor Health Maternal–Fetal Medicine, in partnership with Northwestern, is a participating member in the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)–sponsored Maternal–Fetal Medicine Unit (MFMU) Network. With only 14 centers nationwide, the MFMU provides patients access to important clinical trials to advance evidence-based care of perinatal populations. Beth Plunkett, MD, MPH, Vice Chair of Reproductive Health Research is the Endeavor Health site PI.

Maternal Fetal Medicine Units Network; NIH SubAward Agreement with Northwestern University 2UG1HD040512-24/60065184NSUH, $343,952. (2023-2030)

- A trial of pessary and progesterone for preterm prevention in twin gestation with a short cervix (PROSPECT); The purpose of this study is to determine whether pessary or vaginal progesterone lowers the risk of babies being born preterm to women who are carrying twins and have a short cervix.

- A Randomized Trial of Continuous Positive Airway Pressure (CPAP) for Sleep Apnea in Pregnancy (SLEEP); The purpose of this study is to evaluate if CPAP for sleep apnea in pregnancy decreases the risk of hypertensive disorders of pregnancy and other complications, such as gestational diabetes.

- Prematurity Registry: An Observational Cohort Study of Obstetrical Determinants of Preterm Delivery and Neonatal Outcomes; The purpose of this study is to examine the obstetrical determinants of neonatal morbidity and mortality. Secondary objectives include examining postpartum maternal outcomes and neonatal outcomes, as well as describing the maternal burden of prematurity.

- COVID-19: Maternal Morbidity and Mortality During COVID-19 Pandemic; The purpose of this study is to evaluate the association between COVID-19 infection during pregnancy or immediately postpartum, and adverse obstetric outcomes.

NIH RECOVER: A Multi-site Observational Study of Post-Acute Sequelae of SARS-CoV-2 Infection in Adults (PASC); A Multi-Site Observational Study of Post-Acute Sequelae of SARS-CoV-2 Infection Pediatric Cohort Study (PASC-Peds); Dr. Stuart Katz, NIH SubAward Agreement with Northwestern University, Miller OT2HL161847-01/ 60062013NSU, $1,032,810. In collaboration with MFMU, these studies are enrolling individuals with and without SARS-CoV2 infection during pregnancy, and with or without PASC symptoms, along with their congenitally exposed infants to identify risk factors and occurrence of PASC. (2021-2024)

In addition to the MFMU studies, Dr. Plunkett has been the principal investigator of a number of other studies focused on improving maternal and perinatal health.

Preeclampsia Risk Assessment: Evaluating Cut-offs to Improve Stratification (PRAECIS); Dr. S Ananth Karumanchi, Cedars-Sinai Medical Center, Site PI: Dr. Beth Plunkett; $19,490. The purpose of this study was to identify a cut-off of the ratio of angiogenic mediators (sFlt-1/PIGF) to predict the onset of preeclampsia with severe features within the next 2-weeks among pregnant patients hospitalized with a hypertensive disorder of pregnancy. (2020-2022)

MARANI PRENATAL CONNECTED CARE (M•care) Safety and Effectiveness Study; Marani; $70,294. This study tested the ability of the Marani M-Care System to provide antenatal monitoring of pregnant patients at or above 32 weeks of gestation through a head-to-head comparison of fetal heart rate, maternal heart rate, and uterine contractions by the M-Care System as compared to the standard cardiotocography (CTG) device. (2019-2023)
Automated Electronic Maternal Morbidity Surveillance (SAVE MOMS)

As the recipients of proceeds from the 2020–2022 American Craft Exhibition (ACE) Fundraising Events ($726,030), Drs. Beth Plunkett and Richard Silver are leading the Department’s commitment to an invigorated quality and safety journey with the SAVE MOMS project. SAVE MOMS is an innovative program that harnesses the power of the electronic medical record (Epic) to identify pregnant and post-partum people who are at the greatest risk for severe maternal morbidity and alert care teams (Figure 4), so they can provide timely and efficient care. The SAVE MOMS program uses an algorithm that draws data from Epic and runs behind the scenes to identify birthing patients at high risk for severe maternal morbidity during their delivery admission. The model was prospectively validated from July through December 2022 and found to be highly predictive of severe maternal morbidity (SMM) with an area under the receiver operator curve (AUROC) of 0.76 (confidence interval of 0.7–0.82) (Figure 5). The model was able to accurately predict SMM, as defined by the Centers for Disease Control along with minor SMM (transfusion of 3 or fewer units of blood) or major SMM (all other SMM or transfusion of 4 or more units of blood). The sensitivity of the model was approximately 70% when the top 30% of risk scores were flagged (Figure 5). The SAVE MOMS team recently launched an update to the model and is currently evaluating the implementation and effectiveness outcomes to optimize the care of all birthing patients during their delivery admission.
Since its inception in 2012, the Illinois Perinatal Quality Collaborative (ILPQC) has had great success in improving the lives of mothers and their babies across Illinois. The ILPQC is a statewide network of perinatal clinicians, nurses, hospitals, patients, community stakeholders, and public health leaders that aims to equitably improve outcomes and reduce disparities for mothers and babies across Illinois.

The Hypertensive Initiative sought to standardize care for all pregnant patients with severe hypertension and institute life-saving treatment within 60 minutes of the first severe-range blood pressure. Implementation of this initiative occurred from 2015-2017 and was associated with a 50% decrease in severe maternal morbidity (SMM) in patients with severe-range blood pressure across the state (Figure 6).

The Mothers and Newborns Affected by Opioids (MNO) initiative took place from 2018-2020 and aimed to first, universally utilize a validated screening tool to assess all pregnant patients for opioid use disorder (OUD) and second, to link patients with OUD to medication-assisted treatment (MAT). Through the implementation of universal screening procedures and linkage of care, the MNO initiative resulted in improvement in linkage to MAT for all patients with OUD an, importantly, removed the racial and ethnic disparities gap that previously existed. These two initiatives are currently in sustainability phase.

The ongoing ILPQC Promoting Vaginal Birth (PVB) Initiative aims to first, safely increase the number of vaginal births by using checklists to ensure that care teams can easily follow best practice guidelines for laboring patients and second, to reduce the equity gap between Black and White cesarean deliveries among nulliparous, term, singleton, vertex (NTSV) pregnancies. Implementation of PVB has demonstrated great success in achieving these two aims (Figure 9).
The Illinois Perinatal Quality Collaborative (ILPQC)

Structure Measures | Baseline (% In Place) | August 2023 (% In Place)
--- | --- | ---
SDOH Screening (L&D) | 17% | 90%
Optimize Accurate Self-Reported Race and Ethnicity Data Collection | 7% | 88%
Review Maternal QI Data Stratified by Race, Ethnicity & Insurance | 6% | 85%
Engage Patients and Community in QI Work | 4% | 48%
Sharing Respectful Care Strategies with Healthcare Team and Patients | 9% | 80%
PRN Implementation | 9% | 75%
Postpartum Safety Patient Education | 54% | 93%

Figure 9: Birth Equity Initiative

Further work to address disparities in maternal health care is driven by the current ILPQC Birth Equity initiative which entails a multi-pronged approach to accurately identify patient race and ethnicity, identify and address social determinants of health needs, universally provide respectful care and ask patients to report their experiences during their delivery admission regarding respectful care (Table 1).

Dr. Ann Borders is the Executive Director and Obstetric Lead for ILPQC. Currently, ILPQC is leading a statewide Birth Equity Initiative with 75 hospitals, and a Promoting Vaginal Birth Initiative with 85 hospitals. A statewide initiative on Mothers and Newborns affected by Opioids is now in sustainability mode. In addition, ILPQC is launching a neonatal equity initiative titled: Equity and Safe Sleep in Infants to address unacceptable disparities in infant mortality in Illinois.

Expanding birthing hospitals’ capacity for equitable implementation and sustainment of Quality Improvement (QI) through maternal safety bundles; HRSA-23-066; $265,380. The Alliance for Innovation (AIM) Capacity Program will provide partial support for the Promoting Vaginal Birth Initiative and future maternal mental health initiatives to facilitate their implementation, with input from stakeholders, including patient advisors and clinical leads; implement a data collection and reporting system, and provide Quality Improvement (QI) support to implement key actionable strategies to improve perinatal outcomes. (2023-2027) Borders

Working together to reduce disparities and improve outcomes for all birthing people and newborns across Illinois; CDC-RFA-DPP22-22017; $560,536. The CDC Perinatal Quality Collaborative Cooperative Agreement will provide partial support for the Birth Equity Initiative and future OB statewide QI Initiatives to support the implementation with input from stakeholders, including patient advisors and clinical leads, implementation of the data collection and reporting system, and provide QI support to implement key actionable strategies to improve birth equity. (2022-2027) Borders

ILPQC- IL DHS; Illinois Department of Human Services; $76,715. The DHS ILPQC project will facilitate collaborative learning opportunities for 90 birthing hospitals and state and national perinatal stakeholders, engagement of patient, community, and clinical advisors to statewide obstetric and neonatal QI initiatives, and the implementation of QI support activities for initiatives in sustainability. (2023-2024) Borders

ILPQC Title V; Illinois Department of Public Health Title V; $355,996. The IDPH Title V project will provide support for ILPQC collaborative learning events, OB and Neonatal Advisory Meetings, partnerships and collaborations, and statewide QI initiatives with a focus on the development and implementation of the Equity and Safe Sleep Infants statewide Quality Improvement Initiative, to reduce infant mortality and disparities in infant mortality, and equitable care in alignment with key strategies from the obstetric Birth Equity Initiative. Initiative activities will include monthly collaborative learning webinars, a rapid-response data system, and focused QI support for hospital teams. (2022-2024) Borders

Building a causal pathway framework to identify interventions to eliminate racial/ethnic disparities in severe maternal morbidity; Stanford/NIH; $7,612. The objectives of this funding are to create and test a causal pathway framework to elucidate how social determinants and more proximal clinical and healthcare-related factors together lead to SMM and its disparities, and to use this framework to identify actionable strategies that will reverse the current trends and eliminate inequities. (2022-2023) Borders
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2023 Publications


