Maternal Mortality: Hypertension

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Allegheny Health Network-Saint Vincent Hospital	• Provide each antepartum/postpartum elevated BP/pre-eclamptic discharged patient with automated BP cuff DME to take, track BP's outside of the hospital (Target go live currently on hold)	
Einstein Medical Center Montgomery **Beginning**	• Education about HTN with every staff member (RN, PCA, midwives, physician) • HTN medications made available in every med station • Cognitive aids posted in units (Triage, L&D, mother/baby) • Provided updated information on post-partum unit to every mother (AWHONN Save your life) • **UPCOMING:** Education in ED (in discussion with OB Chief and ED)	• How are inpatient units are tracking outpatient follow up? • Best types of outpatient education?
Evangelical Community Hospital **Sustaining**	• Our Severe Hypertension Protocol for Obstetric Patients is easily located on the Tools list in our EMR. • We also have a Severe Hypertension binder with the protocol, antihypertensive medication algorithms, Severe HTN/ Preeclampsia order set, and our hospital procedure for Severe HTN/ Preeclampsia.	• How to hold our obstetric providers accountable to the Severe Hypertension protocol.
Geisinger **Ongoing**	**AIM Bundle** • Implementing checklist for HTN Crisis • Providing simulation & drills for education • Reviewing medication access • Creating order sets to avoid unnecessary clinical variation • Instituted home BP monitoring for patients with a diagnosis of CHTN, GHTN or Pre-Eclampsia/Eclampsia prenatally and postpartum (GHP patients only). • Comprehensive reviews of each non-compliant case to understand our gaps in care and whether or not they are justified.	• How do hospitals leverage the emergency department so that they provide the same care to immediate postpartum women when they return to the ED with HTN crisis?
Lehigh Valley Health Network-Pocono	• All providers and nursing staff were educated with a Hypertension Disorders in Pregnancy module through GNOSIS • Clinical Practice Guidelines (CPG) related to perinatal hypertension reviewed with all OB providers and OB nursing staff with ED providers being educated in the near future • Daily interdisciplinary team rounding with reference to CPG's on HTN patients • Submitted a Grant proposal collaboratively with ESU to have the nursing students provide blood pressure equipment and education to hypertensive pregnant patients in their home. Patients will proactively self-monitor & report blood pressures to OB office.	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Moses Taylor Hospital **Ongoing**	• Development of a Hypertensive emergencies in OB- Severe Pre-eclampsia- Critical Event Checklist. • Development of a Hypertensive emergencies in OB-Seizures/eclampsia- Critical Event Checklist. • Development of a Hypertension Emergency card that can be worn with ID badges. • Development of a Hypertensive Emergency competency which includes the appropriate way to obtain a blood pressure. Competency is completed yearly. • Education to all ED staff and ICU staff on management of hypertension in the OB population. • Departmental tabletop drills/ discussion concerning the management of patients with hypertension. • Completion of a Blood Pressure/ Hypertensive Monitor to help with the identification of severe range blood pressures and time hypertensive medications were administered. • Implementation of Perigen software to monitor and alarm with out-of-range EFM strips and maternal vital signs. • Implementation of the AWHONN Post- Birth Warning Signs as discharge instructions for going home.	• How everyone is able to get other department (ICU and ED) with treating severe range pressures of 160/110? • Other possible educational avenues used for education on this topic. • What other hospitals are doing for blood pressure management of postpartum patients after discharge?
Penn Medicine- Chester County Hospital	• Preeclampsia Pathway • Hypertensive Management Pathway • Postpartum Hypertension Pathway • Adoption of Heart Safe Motherhood	• How were you able to sustain improvements made with managing hypertensive disorders?

Penn Medicine- Lancaster General/Women and Babies
 	
Beginning
	• Identified physician and unit-based champions to participate in sub-committee of care management team
	    ○ Completed assessment of current state with champions and identified areas of opportunity to improve standardization and care.
	    ○ Established a target condition to further identify stakeholders and develop an action plan
	• Developed provider and nursing education – Jan 2021
	• Updated order sets to assist with antihypertensive medication ordering – Jan 2021
	• Refine EMR best practice alerts for preeclampsia to better target treatment of severe range hypertension – In progress
	• Established a method for reporting and determining baseline data
	    ○ Validated current preeclampsia pathway report provides correct information
		• We would like to hear from other hospitals who have leveraged their EMR to assist with identification and treatment of patients with severe range BP's.

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Penn State Health- Hershey Medical Center and Children's Hospital **Ongoing**	• Development of written evidence-based guidelines for management of acute hypertensive emergency in pregnant and postpartum patients (completed) • ED, ICU, and WHU nursing staff education (completed/ongoing) • Availability of guidelines in the electronic manual(s) and posted on the unit (completed) • Development of a quick reference tool/checklist based on the written guidelines (completed) • Placement of medications in Mediation Pyxis machines for quick and easy access (completed) • OB Provider education distributed and tracked via an electronic education module (in progress) • Provide education on hypertensive crisis in pregnancy and postpartum to providers in other related locations and specialties (ED, Anesthesia, Trauma, etc.) (in progress) • Collaborative interdepartmental meeting(s) with WHU and ED to review treatment guidelines and specific clinical opportunities (in progress) • Conduct team debriefs with team members caring for a patient with hypertensive emergency (coming soon) • Complete case revies for patients who were not treated within 60 minutes, per the PA PQC measure. Disseminate key findings and improvement opportunities at the monthly WHU interdisciplinary forum (completed/ongoing) • Conduct interdisciplinary simulations on hypertensive emergencies biannually or more frequently (completed/ongoing)	• How are you providing and tracking education completed for providers outside of OB specialty?
Punxsutawney Hospital	• Develop order sets for the ED for timely treatment of Hypertensive pregnant/postpartum patients • Education of ED staff/physicians on identifying & treating Hypertensive pregnant/postpartum patient using ACOG & AIM guidelines	
St. Clair Hospital	**AIM Bundle** • Unit-standard, stage-based, obstetric hemorrhage emergency management plan with checklists • Quantification of blood loss • Standards for early warning signs, diagnostic criteria, monitoring, and treatment of severe preeclampsia/eclampsia (include order sets and algorithms) • Establish a culture of huddles for high-risk patients and post-event debriefs to identify successes and opportunities	• Data tracking tips. • Discussion/debrief with families • HIS/EMR Support – tips on how other organizations built tools to help collect data from the EMR

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
St. Luke's University Health Network	• Verified with ED if current screening process is to determine if patient recently had a baby • Enlisted our EPIC IT team members to assist us with building a screening tool to be used in ED • Contacted WellSpan contact to get input on what they have included in their screening tool o Ordered AWHONN magnets to distribute at discharge for mothers to put on fridge	
Tower Health- Reading Hospital	• HTN protocol in place by 7/1/20 (model after the California Quality Collaborative). • AWHONN post birth warning signs education for staff & for all post-partum patients prior to discharge.	
UPMC Womens Health Service Line	Readiness: • Diagnostic criteria, monitoring & treatment of severe preeclampsia/eclampsia, algorithms, order sets, protocols, staff & provider education, unit-based drills, debriefs. Process defined for timely triage & inpatient, outpatient, & ED evaluation. Medications for treatment stocked and immediately available. Recognition and Prevention: • Created prenatal and postpartum patient education on signs and symptoms of hypertensive pregnancy disorders to align with new perinatal TJC standards. • Expanding remote monitoring for outpatient B/P monitoring and symptomatology and is currently being spread to the other system hospitals. Last quarter HZN and NW, Hamot and Altoona next. • Adding to the banner bar in Cerner EHR an alert that the patient is postpartum for 6 weeks after birth as an additional alert for ED providers that a pts visit may be related to they recently gave birth versus a non-pregnancy related condition. Response: • Implemented Nurse Driven Protocol for ordering remote monitoring. • Provided take home toolkit for participants. Due to Covid-19, more patients are provided blood pressure cuffs in the outpatient setting. • Post birth warning sign magnets provided to all mothers upon discharge across UPMC • Implemented Maternal Fetal Triage Index (MFTI) obstetrical triage rapid assessment tool • Finalized System wide policy for assessing and managing HTN. • Rolled out to all 15 hospitals providing patients with purple wrist bands to be worn for the 4th trimester as a reminder to tell any healthcare provider they delivered, and issue can be related to the recent delivery HTN.	• What are their strategies for meeting the educational needs of patients with language barriers?

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
WellSpan Health	Completed: • Roll out of low dose aspirin screening in epic at the first OB visit • Free aspirin provided at office • Roll out of Relias OB education-Hypertension module complete • Roll out of Meds to Beds (YH) to get severe HTN meds to patients prior to discharge. • Implemented new policy on severe hypertension • Implemented new physician guidelines on severe hypertension • Implemented severe maternal morbidity reviews • Creation of an Epic grease board alert to OB team of severe HTN and to trigger need for repeat BP measurement in pregnant and postpartum women with severe hypertension • Education on SMM for all ED nurses rolled out at each entity • System wide ED policy approved by the ED system workgroup • System wide debriefing form created and approved by the WCSL Education Committee In process: • Post-birth screen in the ED with BPA (DONE) goes live Sept. 15th	

Moving on Maternal Depression (MOMD)

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
WellSpan Health **Ongoing**	We are essentially following all of the MOMD steps. • Ensuring system wide follow up for women with increased scores-increasing access to resources system wide • Have postpartum case manager who will call all women who score high at discharge. She is also available for referral in the prenatal and postpartum setting. • Embedding alerts and improved documentation into the EHR-BPA to fire with high EPDS scores • Required documentation on discharge summary of any patient with an increased EPDS score. • Increasing patient education in Babyscripts on mental health—including Spanish materials Working on developing process to screen for PPD in NICU • Screening in the PEDS/Family practice visit—BPA created • Creating a data dashboard to track system wide screening and follow up	• Implications for documentation in the maternal record, how to start community conversations to address this topic.

Immediate Postpartum Long-Acting Reversible Contraception (IP LARC)

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Geisinger Medical Center (GMC) **Ongoing**	• (Re)educate providers and nurses on IUD insertion immediately postpartum. • Clarified billing, coding, and reimbursement processes. • Clarified patient eligibility for reimbursement outside of the DRG. • Improving device access on L&D (storage). • Assessing patient desire for IP LARC.	• Have you performed a cost-benefit analysis to determine the financial impact of providing this service within vs. outside of the DRG? • How are you handling lack of reimbursement outside of the DRG from commercial payers?
Geisinger Wyoming Valley (GMV) **Ongoing**	• (Re)educate providers and nurses on IUD insertion immediately postpartum. • Clarified billing, coding, and reimbursement processes. • Clarified patient eligibility for reimbursement outside of the DRG. • Improving device access on L&D (storage). • Assessing patient desire for IP LARC.	• Have you performed a cost-benefit analysis to determine the financial impact of providing this service within vs. outside of the DRG? • How are you handling lack of reimbursement outside of the DRG from commercial payers?
Main Line Health, Lankenau Medical Center **Beginning**	• "Desires IPLARC" has been implemented as a field in the EMR • Education for providers, residents, and staff about offering and documenting LARC desire and LARC placement – supply, role, etc. • Prenatal patients are educated about pros/cons of IPLARC, and determination of interest is obtained	• How are sites managing the data collection process? • What is the most effective workflow for monthly reporting?
St. Luke's University Hospital-Anderson campus	• Provide counseling materials to outpatient offices and labor & delivery • Using EMR to identify patients who desire and receive LARC	
St. Luke's University Hospital-Allentown campus	• Provide counseling materials to outpatient offices and labor & delivery • Using EMR to identify patients who desire and receive LARC	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
UPMC Horizon **Ongoing**	• Ensure IT systems are modified to document acquisition, stocking, ordering, placement, counseling, consent, billing, and reimbursement for IPLARC. • Notify prenatal offices about IPLARC. Assure patient receives comprehensive contraceptive counseling prenatally. • Modify L&D, OB OR, postpartum workflows to identify and have devices available for pts desiring LARC. Store LARC devices for easy access in a timely manner. o Educate clinicians, community partners and nurses on informed consent and shared decision making. • Involve pharmacy for obtaining the device & distribution to ensure timely placement. • Assure billing codes are in place and that staff in all necessary departments are educated on correct billing procedures- device and procedure costs. • Participate in hands-on training of IPLARC insertion. • Shared UPMC consent processes for IPLARC to customize for each hospital. • Educate providers, nurses, lactation consultants, social workers about clinical recommendations related to IPLARC placement and breastfeeding. • Connect with providers and staff at prenatal care sites to ensure they are aware the hospital is providing IPLARC and that education materials are available. • Assure patient receives comprehensive contraceptive counseling prior to discharge.	• We are still in the process of rolling out LARC. Nexplanon's for starters and moving to Postplacental IUD's. • On-going education and training options are helpful.
UPMC Harrisburg, Williamsport **Beginning**	**Harrisburg:** • Plan to provide IP IUD insertion education to pilot practice providers over the new few months and finalize IP LARC with IUD processes with pharmacy. o Brainstorm best way for storage of devices in L&D (challenge due to the box size of the IUDs) • Plan to present data at department meeting after a period of a few months, in an attempt to gain buy-in from all practices (they all have patients with either MA or UPMC commercial insurances, so expanding to those groups would better serve our population as a whole)	• We are still in the process of rolling out LARC. Nexplanon's for starters and moving to Postplacental IUD's. • On-going education and training options are helpful.
WellSpan Health **Beginning**	• Assess baseline data on the provision of PPTL • Assessing data on cost of Nexplanon and insurance coverage • Approved system wide nursing policy on IPLARC • Working with pharmacy to ensure IPLARC is available at each facility. • Meetings occurring at each 2 entities (Gettysburg and Ephrata) to move forward initiative • Working on provider guidelines	• How to handle lack of insurance coverage outside of Medicaid.

Maternal OUD

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Allegheny Health Network- Forbes Hospital	• Have OB offices send list of patients who have positive screen. • Social work able to initiate plan before patient even arrives for delivery. • Social work to reach out to other facilities to see how they are working through this.	
Allegheny Health Network- Jefferson Hospital	• We provided staff-wide education on SUD/OUD as well as use of the 5P screening tool. • We began screening all pregnant people for OUD/SUD in the outpatient setting. • We refer appropriate patients to our Perinatal Hope Program and/or a social worker to more fully identify their needs and make a plan for the remainder of their pregnancy care. • We educated our inpatient staff and started using the 5P screen inpatient on any patient without a previous outpatient screen.	• Their facility's urine drug testing and sending of cord stats in relation to implementation of a 5P screen.

Allegheny Health Network- Saint Vincent Hospital	• Staff Education
	• Provider documentation education *(completed)*
	• Laminated tip sheets located at provider PC's
	• Incorporate information: SVH Growing Hope program & community support available for addicted moms-to-be
	    o Utilization of NAS informational booklet *(implemented)*, access in provider offices and community locations
	    o Distribution of community agency support listing *(in process, target for completion – November 2020)*	

Conemaugh Memorial Medical Center	• Solidifying reporting process used to capture women screened for SUD and OUD. • Identification of standardized and universal screening tool. • Implementation of screening tool across all practices.	

Einstein Medical Center Philadelphia	• No workflow in current state
	    o Solution- work with current MAT program pilot to determine how to perform out-patient screening for OUD
	• Need standardized screening tool
	    o Solution- choose tool from ones presented at PA PQC and work with MAT program pilot leaders to coordinate efforts
	• Change in workflow for providers and MA staff
	    o Solution- develop educational plan for provider and MA staff
	• Lack of provider resources for SBIRT
	    o Solution- develop multi-disciplinary team to determine utilization of resources	

Evangelical Community Hospital **Beginning**	• Positive screening initiates a plan of care by an obstetrical provider and consult with Care Management as needed.	• Learn about resources that we can give to patients with a positive screening. • Are patients reluctant with being honest on the screening tool?

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Geisinger Bloomsburg **Ongoing**	• Implementing universal NIDA screening in L&D and Outpatient • Implementing a clinical pathway for positive screens • Re-educating on protocol for when to obtain a urine drug test	• Process for when patient refuses to complete screening tool? • Or mother refuses to give urine sample? • How to implement and track universal screening and adherence to algorithm in outpatient prenatal clinics?
Geisinger Community Medical Center **Ongoing**	• Implementing universal NIDA screening in L&D and Outpatient • Implementing a clinical pathway for positive screens • Re-educating on protocol for when to obtain a urine drug test	• Process for when patient refuses to complete screening tool? • Or mother refuses to give urine sample? • How to implement and track universal screening and adherence to algorithm in outpatient prenatal clinics?
Geisinger Lewistown **Ongoing**	• Implementing universal NIDA screening in L&D and Outpatient • Implementing a clinical pathway for positive screens • Re-educating on protocol for when to obtain a urine drug test	• Process for when patient refuses to complete screening tool? • Or mother refuses to give urine sample? • How to implement and track universal screening and adherence to algorithm in outpatient prenatal clinics?
Geisinger Wyoming Valley **Ongoing**	• Implementing universal NIDA screening in L&D and Outpatient • Implementing a clinical pathway for positive screens • Re-educating on protocol for when to obtain a urine drug test	• Process for when patient refuses to complete screening tool? • Or mother refuses to give urine sample? • How to implement and track universal screening and adherence to algorithm in outpatient prenatal clinics?
Guthrie Hospital	• Finding a validated screening tool- chose 4P's tool • Educating staff and training on chosen tool • Implement screening of all pregnant women at least once during prenatal care (to start)	
Jefferson Health- Abington Hospital	• Universal Screening with 5Ps tool at first prenatal visit & all triage & inpatient admissions to L&D	
Lehigh Valley Health Network- Pocono	• Educate all Prenatal Care Providers on the 4P's and scripting • Educate on the referral process to the LSW • Provide educational materials to pregnant women with OUD • Created an OB nurse navigator position to follow at risk patients from prenatal through post-partum for compliance	
Main Line Health **Completing**	• Social Work Evaluation of Outpatient Resources Across 4 Hospitals & 4 Geographic Counties: Goal to Optimize & Standardize • Develop Clinical and Psychosocial Pathways for OUD/SUD and NAS • Coordinate early consultation with Neonatology to optimize therapies and care plan	• Best Practices for OUD/NAS Pathways • Outpatient Resource Referrals • Overcoming Epic Documentation Challenges (Problem List)

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Moses Taylor Hospital **Ongoing**	• Initiated the use of the 5 P screening tool in both Labor and Delivery at MTH and Prenatal offices.	• Other tools hospitals have developed to help with patient educations.
Penn Medicine-Chester County Hospital	• Completed process mapping, gap analysis, Affinity Diagram, & brainstorming • Established working groups: ○ Development of staff and patient education program ○ Implementation of Eat, Sleep, Console ○ Establishment of 5P's in inpatient and outpatient settings	• How to partner with residential programs to help mothers spend time with their infants when admitted for NAS.
Penn Medicine-Hospital of the University of Pennsylvania	• Create standardized workflow for SUD/OUD screening and education • Screen all pregnant patients for SUD/OUD using a validated screening tool • Map local SUD/OUD treatment options that provide MAT and women-centered care including local resources that support recovery	• How do you manage limited outpatient social work and referral capabilities? • How do you overcome disparities in care based on differences in resources by practice location?
Penn State Health-Hershey Medical Center & Children's Hospital	• Gain consensus & approval on a validated screening tool to screen all pregnant women for substance use- Done • Draft a paper patient-friendly form to screen patients at the time of the first prenatal appointment- Done • Develop workflow to identify: who will respond to patients who screened positive; who will refer patients to treatment; and to whom can we refer our patients- Done • Draft Substance Use Treatment Referral Reference List- Done • Provide unbiased non-judgmental, trauma-informed care: ○ Complete baseline attitudes measurement staff survey- Done ○ Provide education/intervention- Done ○ Complete reassessment through the attitudes measurement staff survey • Complete staff education regarding: ○ The 5Ps tool and screening rationale- Done ○ The 5Ps screening process and SBIRT- Done • Spread to other practice sites within the health system- In progress	
Penn State Health-Holy Spirit Medical Center **Ongoing**	• Implementing universal SUD screening: L&D, Outpatient • Implementing a clinical pathway for positive screens • Re-educating on protocol for when to obtain a urine drug test	• Process for when patient refuses to complete screening tool? ○ Or mother refuses to give urine sample? • How to implement and track universal screening and adherence to algorithm in outpatient prenatal clinics?

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
St. Clair Hospital **Sustaining**	• We began using the 5Ps tool for outpatient prenatal visits and inpatient admissions to our hospital in June 2019. • We coordinated with the affiliated OB offices for them to utilize this tool for screening their pregnant patients in the office setting, starting with the 1st prenatal visit and then again in the 2nd and 3rd trimester. • We provided the OB offices with referral forms to be faxed to our Level 2 Nursery Coordinator for follow-up care. When our nursery coordinator receives a referral, she reaches out to the family to discuss the care they can expect when they arrive for their delivery. • We educated inpatient nursing staff on 5Ps screening tool and implemented it to be utilized on all patients admitted.	• Handouts for patients on drug use in pregnancy. • Educational Videos on NAS Scoring for staff – what are other facilities using for education.

Tower Health-Reading Hospital	• Clinical pathway for pregnant women with OUD
	   o Screening for SUD
	   o Hospital observation for MAT induction, methadone and buprenorphine offered
	   o Connection with methadone program in county.
	   o Suboxone maintenance program at Women's Health Center for pregnant women with OUD.
	      ▪ Intensive case management with the COE, drug & alcohol treatment, social services, prenatal development of Plan of Safe Care, connection with Early Intervention, prenatal parent education on NAS.	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:

UPMC Womens Health Service Line	Access:
	  o Maternal medical support to prevent withdrawal during pregnancy
	  o On call service for all UPMC hospitals 24/7
	  o Provide regular prenatal and other medical appointments
	  o 4 Outreach Community Centers
	  o Same day on next day within 24-hour appointments
	Prevention:
	  o Community education
	  o Obstetrical provider education
	  o Minimize fetal exposure to Opioid substances
	  o Early engage mother as a leader in her recovery
	  o Narcan "to go"
	Response:
	  o Pregnancy Recovery Center (Prenatal & Postpartum)
	  o UPMC Healthplan engagement
	     ▪ Support programs for patients, families, staff
	  o Multidisciplinary team OB, MFM, SW, Nurses, Mental Health therapists
	  o Methadone Conversion to buprenorphine from inpt. to outpt.
	  o Outpatient buprenorphine medication treatment
	  o Warm hand overs
	  o ED Physician and APP trained in buprenorphine treatment
	• Reporting: Centers of Excellence
	  o State, Allegheny County, UPMC Healthplan
	  o Report as appropriate to various committees	

Wayne Memorial Hospital **Ongoing**	• Screen all pregnant women for OUD/SUD using the 5P's prenatal substance abuse screen	• Plans of safe care.

Neonatal Abstinence Syndrome (NAS)

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Allegheny Health Network- Saint Vincent Hospital	• Met with key stakeholders (neonatologists, pediatrician, pharmacy, NICU nurse manager, MCH educator, two NICU nurses) re: modified Finnegan assessment, pharma logical intervention, nurse education/process in place to achieve a more standardized approach in NAS scoring babies in the NICU • Presented Eat, Sleep, Console (ESC) initiative to (9) Family Practice Residents plus medical students on 11/5/2020. Presented by: Dr. Susheel, NICU NM, and NICU nurse • Mother-baby staff assigned to watch YouTube video titled: "Reconsidering the Standard Approach to Neonatal Abstinence Syndrome" by Dr. Matthew Grossman on 11/2/2020 • Two Mother-baby nurses (as part of their master's capstone project) spearheading ESC initiative on Mother-baby (started on 11/16/2020). One of the nurses will focus on the mothers and their NAS babies, the other nurse will focus on the other mothers and their babies to prepare them to better manage the Baby's Second Night and reinforce the '5 S's' by Dr. Harvey Karp. • Identified (6) super users on Mother-baby to resource mother-baby nurses re: ESC scoring • NICU NM working with IT re: EPIC build for ESC documentation • Developed a tracking sheet titled "NAS Admission Log" for babies admitted to NICU. Data points include: patient label, baby from Mother-Baby or outside transfer, Strict No Publicity, date and time of NICU admission, discharge date, pharma logical intervention. • Implementation date for ESC on Mother-baby is 12/14/2020	
Allegheny Health Network- West Penn Hospital	• Reviewing and enforcing our process of inter-user reliability with Finnegan • Implementation of Eat-Sleep-Console strategy for management of NAS • Improve communication and provide education to referring PCP's • Obtain certification as NAS Center of Excellence	
Doylestown Hospital **Ongoing**	• Create an inter-rater reliability tool by working with contacts within the PA PQC. • Review with staff ESC tool and inter-rater reliability process to achieve 90% reliability. • Provide family education about NAS and ESC and what to expect in prenatal period through discharge. • Reinforce the Neonatal Consult template and pamphlet to help families understand their hospital stay from beginning to end. • Create a questionnaire for mother to complete prior to consult and at time of discharge to monitor effectiveness of educational process.	• Thoughts on not having an inter-rater reliability program. • Other measures that can be monitored after discharge with the follow up phone calls.

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Einstein Medical Center Montgomery **Ongoing**	Sustain: • Multidisciplinary meetings targeted for monthly • Continued distribution of information antenatally (pamphlets), and updated results at OB provider meetings • Non-pharmacologic supportive measures • Breastfeeding "Traffic Light" Improve: • Transportation and Food Vouchers for parents to stay with infants (has been varied as COVID restrictions and guidelines have changed) • Post discharge follow-up and evaluation of Plan of Safe Care • Community Out-reach through clinics and support groups • ESC education and pathway revisions Start: • Infant massage training • Facility enhancements - parent lounge	• Changes/obstacles/solutions due to COVID visitation restrictions and changing hospital policies? • How many infants being scored with ESC tool have needed a second line medication? • Anyone able to report a readmission for NAS in the 2 weeks following discharge when using ESC tool?

Einstein Medical Center Philadelphia	**ESC** *(pilot in January 2021)*
	• Open baby type NICU
	  o Solution – Maryann Malloy to transition Care-by-Parent room to be able to be used for ESC dyad
	• No current protocol in place for ESC at EMCP
	  o Solution – Development of policy & procedure by EMCP PA PQC team
	• No educational materials for staff re: ESC
	  o Solution – Development of Healthstream educational module by EMCP PA PQC team in conjunction with Nursing Education and Professional Development Dept.
	Prenatal Consults *(implementation in December 2020)*
	• Data collection of total opioid use mothers
	  o Solution – place ticket for report from AeCIS
	• Lack of educational materials in out-pt OB offices
	  o Solution – finish informational pamphlet for mothers
	• Ensure on-going inter-rater reliability for use of the MOM NAS Score in the NICU by implementing a process for above by December 1, 2020
	• Standardize use of MOM NAS Scoring system at EMCP by introduction and validation of system to Term Nursery by December 31, 2020
	Use of MOM NAS Score on MBU *(Implementation Sept.-Dec. 31, 2020)*
	• Staff perception of difficulty of using MOM NAS Score
	  o Solution –
	    ▪ Education
	    ▪ Score NICU infants prior to rollout on MBU	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Geisinger Bloomsburg Hospital (GMC) **Sustaining**	• Reviewed maternal risk factors • Sought guidance from PQC members • Evaluated equipment needs • Implemented staff education • Implemented Eat Sleep Console for NAS monitoring • Created process to identify eligible patients • Involved physicians, nurses and pharmacists in MFM, prenatal care and pediatric care • Involved Certified Recovery Specialists and care managers • Developed EMR documentation • Developed education for prenatal patients • Survey of patient experience in process	• What method is best to survey patients to ensure the processes put into place are enhancing the patient experience? • What types of questions to ask patients in the survey? • What timeframe to release the survey to the patients? • Who is responsible to educate patients prenatally about CYS referral required by law? • How to educate patients and also providers about CYS referral?
Jefferson Health – Abington Hospital	• Implementation of Eat, Sleep, Console tool for NAS assessment	
Moses Taylor Hospital **Ongoing**	• Standardized LOS for newborns born to mothers born to with OUD. • Utilize the Pediatric Department to encourage bonding during increased newborn LOS. • Developed a standardized opioid protocol for weaning newborns with NAS. • Development of an educational tool to help parents understand NAS admission.	• How to use Vermont Oxford for staff education.
Mount Nittany Health System-Mount Nittany Medical Center **Ongoing**	• Consideration of prenatal visit with pediatric hospitalist to review welcome brochure with NAS mothers • Staff completion of VON modules- now increasing! • Creating a non-pharmacologic intervention standardized protocol.	• Repetition is the key- what are some opportunities for the pediatrics team to interact with families before birth? • How to best trial non-pharmacologic interventions protocol without creating more work for RNs? • How to involve parents in non-pharmacologic interventions protocol?
Penn Medicine-Hospital of the University of Pennsylvania **Ongoing**	• Centered around mother-infant dyad collaborating with newborn nursery to reduce Mom/Baby separation • Facilitating participation in escalation huddles to maximize non-pharmacologic interventions • Transfer from S8 to ICN; Escalation in treatment in the ICN • *Both with discussion of non-pharm measures attempted prior to escalation • Staff & Family education • Data collection and discharge phone calls to collect data and patient feedback • Prenatal Consults • Nonpharmacologic bundle • Volunteer program- on hold (COVID) • Feeding policies created: breastfeeding eligibility policy, routine fortification	• Strategies for getting parents to spend more time at the bedside • Feedback on initiation of ESC and some suggestions. • Strategies to engage with hospital administration around rooming in patient rooms after birth parents are discharged but infants remain in the hospital for observation.

Site Name:	Key Interventions:	Our team would most like to learn from our peers:

Penn Medicine-Lancaster General/Women and Babies
 	
Beginning
	• Identified physician & unit-based champions to participate in Eat, Sleep, Console (ESC) implementation team
	    o Completed assessment of current state with champions and identified areas of opportunity to improve standardization and care of NAS infants
	    o Established a target condition to identify stakeholders and develop an action plan
	    o Investigate EMR tools for OUD screening, ESC assessment and order set changes
	    o Implemented ESC program for well newborn population - Feb 2021
	    o Further expand ESC for NICU population - TBD
	• Establish a method for reporting and determining baseline data
	    o Validate current NAS report provides correct information
	    o % Pharmacologic treatment rates
	    o % 30-day readmission rates for NAS infants
		• If the infant is transferred to the NICU, do they continue to use ESC in that setting?
		• If the infant requires a rescue dose of Morphine, is the infant transferred to the NICU for care, or is there another process for a single dose treatment?

Penn Medicine-Pennsylvania Hospital, Newborn Medicine	Prenatal consultation: • Creation of an EMR template for a prenatal consult for pregnant women with OUD • Consistent use of NAS pamphlet with consult • Educating OB staff about need for prenatal consultation when able NAS care: • PAH-specific NAS protocol (vs using CHOPs) • Guidelines on obtaining UDS for mothers and infants now live EI referral: • Standardized EI referral (via EMR) by assigning neonatal NP who tracks/reports all OENs	• How to successfully implement Eat Sleep Console without private rooms? NRN study starting soon. • How to increase prenatal consultation rates? How to make them effective?
Penn State Health-Hershey Medical Center & Children's Hospital **Completing**	• Universal collection of meconium at delivery or transfer • Cerner (EHR) order and task created • Store refrigerated specimen for 7 days • Collection and storage of umbilical cord tissue for preterm infants <35 weeks- In Progress	• Does your hospital use a standardized screening protocol to determine which babies will require toxicology testing? o What is your screening criteria?
St. Luke's University Health Network	• Working with IT to create an EPIC report to accurately identify any babies with NAS & who are affected by OUD • PA PQC core team: working on completing the required NAS education to build competence & consistency within our NAS scoring throughout the network	
Temple University Hospital	• Education to Moms pre/post delivery • Getting OUD screening into EPIC • Teaching for Eat, Sleep, Console approach available on Healthstream • Created Nesting Room protocol	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Thomas Jefferson University Hospital-Center City (Intensive Care Nursery /Well Baby Nursery)	Improve Parental and Staff Education • ICN nurses to treatment program for education sessions • Educational materials and provider education at OB clinic • Breast feeding education during methadone/buprenorphine stabilization hospitalization • Standardized prenatal neonatology consult Improve Breast Pump Access • Coordinating with WIC • Standardized process with post-partum and case management Improve Treatment Program Involvement in supporting breast feeding • Working with new management to • improve maternal access from inpatient treatment to hospital • Create pumping and milk storage space • Support leaving sessions to pump Improve breast feeding support while in hospital • Improving lactation consultant access • Support skin-to-skin in NICU • Encourage early breast feeding in DR, upon post-partum arrival	
Tower Health-Reading Hospital	• Implement "Eat Sleep Console" program on Specialty care unit. (Moms will room-in with newborns.) Transfer family to pediatrics when mother is discharged. • Staff education, music therapy, cuddlers, OT, patient/family education, community education	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:

UPMC Womens Health Service Line	Access:
	• Maternal medical support to prevent withdrawal during pregnancy
	• Provide regular prenatal and other medical appointments
	Prevention:
	• Minimize fetal exposure to illicit substances
	• Engage mother as a leader in her recovery
	Response:
	    o Parent Partnership Unit (PPU)
	        ▪ Eat, Sleep, Console (ESC) implemented and continuing to spread across system
	        ▪ Implemented ESC and developed a PPU model at Altoona
	        ▪ Developing a service line SUD Committee with membership consisting of representatives from each hospital for Plans of Safe Care.
	        ▪ Created a NOWs Brochure for Prenatal offices and hospitals to provide patients with education about the condition in effort that parents are prepared to stay and provide that non-pharm care to the infant.
	        ▪ Magee is expanding the PPU to 6, Level II NICU beds so that babies that require medication can stay with the mothers so that the non-pharm care can be provided without interruption by the mother.
	• Reporting:
	    o Pa DOH of all NAS occurrences
	    o Internal leadership and appropriate committees e.g., NICU
		• How you can best implement Eat, Sleep, Console when baby requires medication therapy? Though we are working on a plan for babies to receive treatment while in the PPU with the addition of Level II NICU beds.

UPMC Womens Health Service Line- Magee, Horizon, Northwest, Hamot, Cole **Ongoing**	Parental PresenceCaregiver / Cuddler Presence Reinforce or Increase: • Rooming-in • Parental presence • Skin to skin • Holding • Swaddling • Optimal feeding • Quiet environment • Limit visitors	• Education classes on hold due to pandemic. • Parents prepared to stay and administer the non-pharm care- though we recently created a nice brochure for prenatal offices to provide patients so that they can be prepared to stay and care for baby.

Maternal Mortality: Hemorrhage

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Einstein Medical Center Philadelphia	Change in workflow for providers and nursing staff • Solution – educational plan developed for provider and nursing staff (January 2021) PPH Scoring in AeCIS • Solution – Cerner working with CMQCC to standardize scoring for risk tool based on AWHONN project (Jan. 2021)	
Jefferson Health- Thomas Jefferson University Hospital	• Upgrade to EMR allows PPH calculation tool to flow directly into Delivery Summary • Collect data to determine predictability of PPH score • Hemorrhage supplies added to delivery cart for remote deliveries (ICU) • Assign K2 antepartum hemorrhage module	
Penn Medicine- Chester County Hospital	• Code OB Emergency Response Developed • Hemorrhage Carts on Labor & Delivery and Mother/Baby • OB Emergency Cards • Interdisciplinary Simulations	• What strategies are being used to prevent postpartum hemorrhage from occurring?

Penn Medicine- Lancaster General/Women and Babies
 	
Ongoing
	• Train champions to facilitate QBL process
	  o Feedback and process recommendations for clinical workflow
	  o Communication/Education with teams
	• Implemented EMR tool for PPH risk assessment (12/2/19)
	• Inventory tools/equipment required for QBL process
	  o Additional scale obtained for L&D
	• Implemented QBL with EMR calculator for high-risk patients (2/12/20)
	  o Expanded QBL process to all vaginal delivery patients (7/27/20)
	  o Expand QBL process to include cesarean deliveries (1/21)
	  o Current QBL process reviewed, and a new and improved process was trialed by our L&D team. Implementation of new process planned for 4/5/21.
	  o Currently developing standard response interventions based on QBL values
	• Order set changes approved by OBGYN Care Management team
	• Established a method for reporting and determining baseline data
	  o OB Vaginal & Cesarean PPH reports built in EMR
	  o Blood utilization and uterotonic usage reports
	  o QBL report
		• Have you developed standard interventions for care based on QBL values? If so, are you using a stage-based approach? (Ex. Stage 1 for QBL >500 mL for vaginal delivery)

Penn Medicine- Pennsylvania Hospital	• We implemented a comprehensive Code Crimson policy that includes 3 levels of hemorrhage with specific assessments, actions, and checklists for each. • We made significant improvements to our QBL calculator and created a dashboard to measure our progress. • We educated all nurses and providers working in L&D or Mother Baby and had drills prior to implementation. A debrief occurs after each event.	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Penn State Health- Hershey Medical Center & Children's Hospital	• Assessment by provider using an evidence- based tool. • Risk Assessment score placed in EMR and on electronic Chalkboard. • Postpartum Hemorrhage kit with emergency medications present at every delivery. • Postpartum Hemorrhage Cart containing guidelines for actions & emergency supplies immediately available. • Simulation exercises are ongoing.	
Temple University Hospital	• Risk assessment for every patient • Implement the hemorrhage protocol (everything will be consistent) • Hemorrhage cart (virtual) • Running Drills • Cultural diversity training • Pain Management protocol	
Tower Health- Reading Hospital	• Create standard for prenatal identification of high-risk patients, quantitative blood loss, and early interventions • All nurses, providers attend yearly sim. QBL roll-out scheduled for 3/7/20; Sims – yearly • Policy / protocol in place and communicated by 7/1/20	

Site Name:	Key Interventions:	Our team would most like to learn from our peers:

UPMC Womens Health Service Line	Readiness:
	• Includes: hemorrhage cart supplies, checklist, algorithms, hemorrhage medication kit, response team, advanced gynecologic surgery, massive transfusion protocols, unit guidelines, unit-based drills with post-drill debriefs, and staff/provider education
	Recognition and Prevention:
	• Standardized assessment tool
	   ○ Admission, other appropriate times
	   ○ Measurement from EBL to **QBL & defined quantity**
	Response:
	• Conducted tracer document for compliance to new Perinatal Joint Commission Standards
	• Created system wide policy for assessing and managing PPH. Updated hemorrhage checklist.
	• Service Line Education Committee is creating hemorrhage module for staff education
	• Feb and March rolled out new medical device for hemorrhage
	   ○ Rolling this out to other 14 birthday hospitals April 14
	• Creating hemorrhage education for patients
	Reporting:
	• Event reporting to Risk/Quality Department
	• Multidisciplinary review for opportunities in systems and processes
	   ○ Internal hospital systematic reviews are conducted per occurrence
	• Monitor outcomes and metrics via Obstetrical Dashboard all hospitals have direct access
	• Report as appropriate to various committees
		• Providing education on PPH. Would like to see what education other hospitals are providing patients beyond AWHONNs Post Birth Warning Signs.

Maternal Mortality: Timely Fourth Trimester Contact

Site Name:	Key Interventions:	Our team would most like to learn from our peers:
Jefferson Health-Abington Hospital	• Standardized guidelines for PP follow-up (current focus on HTN and PPD) • Interprofessional postpartum rounding on inpatient Mother-baby units • Developing standardized guidelines for postpartum follow-up	