

# Transforming Perinatal Care: PQCNC

Making North Carolina the best place to give  
birth and be born!



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# At the PQCNC Table

- Patients and Family Members
- Perinatal providers (65 Hospitals)
  - Nurses (Peds, NICU, & OB)
  - Practitioners
  - Midwives
  - Doctors (OB, MFM, Neos, Peds, FP)
  - Hospital Administrators
  - Lactation consultants, Infection Control, Case Managers, SW
- DPH (Womens and Childrens, State Center for Health Stats)
- Payers (Medicaid, BCBSNC)
- ORHCC
- State Legislators
- NC Hospital Association
- AIM organizations

# AIM

## (Alliance for Innovation on Maternal Health)

- PQCNC was approved as state AIM lead organization in 2018 by AIM national leadership
- Maternal Child Health Bureau, HRSA and ACOG lead this national effort
- PQCNC recognized by AIM as lead organization for AIM North Carolina
- PQCNC maternal projects led by PQCNC OB Clinical Lead
  - Dr. Arthur Ollendorff
- PQCNC leading these partners
  - DPH, NC ACOG, NC OB GYN Society, BCBSNC, NC AWHONN, CCNC, NCHA/NCQC, NC Midwives, NC Academy of FP, NC IOM, DMA
- AIM HRSA Grant awarded 10/23
- AIM projects
  - Obstetric Hemorrhage
  - Hypertension/Preeclampsia
  - Reduction of Primary CS Rate
  - Obstetric Care for Women with Opioid Use Disorder (cLOUDi)
- AIM Data
  - Severe Maternal Morbidity (SMM)
  - 21 coded conditions
  - Blood transfusions, ventilation, shock, sepsis, pulmonary edema, stroke, renal failure, heart failure

# PQCNC Value Equation

- Partnership with patients and families
- Spread best practice
- Reducing disparities
- Resource optimization

# PQCNC Initiatives-Past, Current and Future

- Central-Line Associated Blood Stream Infections (CABSI)
- 39 weeks
- **Support for Intended Vaginal Birth (SIVB)**
- Patient-Family Engagement (PFE)
- Exclusive Breastmilk in the NICU and Nursery
- **Conservative Management of Preeclampsia (CMOP)**
- Neonatal Abstinence Syndrome (NAS)
- Screening for Critical Congenital Heart Disease (CCHD)
- Antibiotic Stewardship for Neonatal Sepsis
- **Obstetric Hemorrhage (AIM)**
- **Cesarean Section Reduction (AIM)**
- Newborn Hypoglycemia
- Birth Certificate Accuracy
- Maternal Substance Use Disorder and Neonatal Abstinence Syndrome (Kickoff January 2021-Dec 2023) (AIM)
- Sepsis in Obstetrics, Cardiac Care Obstetrics, and Care of the Late Preterm Infant

Key  
Past  
Current  
Future  
Maternal Projects

# Current PQCNC Participants

- Cone Health
- Atrium Lincoln
- CHS Stanly
- Duke Regional
- Columbus Regional
- OBH
- Onslow
- UNC Nash
- Caromont
- First Moore
- NHRMC
- Carolina East
- Lenoir
- Vidant Chowan
- Vidant Duplin
- Rowan
- Atrium Blue Ridge
- Davis Regional
- Lake Norman
- Mission
- Rex
- Scotland
- Novant Brunswick
- Vidant Beaufort
- Carteret
- Vidant
- Sentara Albermale
- Vidant Edgecombe
- WakeMed Cary
- Vidant Roanoke
- UNC
- NH Forsyth
- WakeMed
- Cape Fear Valley
- Randolph
- WakeMed North
- NH Presbyterian
- NH Matthews
- UNC Caldwell (roster)
- Atrium Blue Ridge
- CHS Pineville
- Novant Mint Hill
- Catawba
- NH Thomasville
- Atrium Levine
- Atrium University
- NH Huntersville
- Atrium Cleveland
- Duke Regional
- Vidant Duplin
- Harris
- Frye
- NH Rowan
- Iredell
- Pardee
- Wilkes
- Atrium Northeast
- Park Ridge
- Atrium Union

# Comprehensively Lessen Opioid Use Disorder Impact (cLOUDi)

- Aim statement, action plan, key driver diagram and metrics developed by 150 person Expert Team over 10 months (February-December 2020)
- Aims Year One
  - Universal screening for all pregnant women using validated verbal screening tools
    - 100% screening
  - Brief intervention, Assessment, Referral and Treatment for all mothers
  - Reduce stigma and bias associated with the care of women with OUD and their infants
- Convert newborn care to ESC...reduce stays for NAS by 25%
- Assure offering of Plan of Safe Care to 100% of at risk infants
- Spans antepartum, hospital and postpartum periods through 6 months post delivery
- Partnership with CMARC/CC4C for newborn follow up data
- 53 hospitals enrolled
- 35 Outpatient clinic organizations with large maternal Substance Use populations
- Partnering with Provider Support Network teams (DPH and Regional Support)
- Partnering with NC Matters and DHHS (Perinatal Substance Abuse Hotline)

# Celebrating cLOUDi 3.0





# cLOUDi 2021-2023

- 63 hospitals
- Hospitals universal validated verbal SUD screening tool in 2020: 0
- Hospitals with universal validated screening tool 6/2023: 54
- Maternal patients in hospitals participating in cLOUDi 3.0: 133,777
- Maternal patients identified with validated screening tools: 1119
- % maternal patients with OUD: 1%
- Number maternal patients accepting referral treatment: 306
- % maternal patients accepting referral: 27%

# clOUDi 2021-2023

- Infants delivered in participating hospitals: 144,021
- Hospitals ESC in 2020:
- Hospitals ESC in 2023:

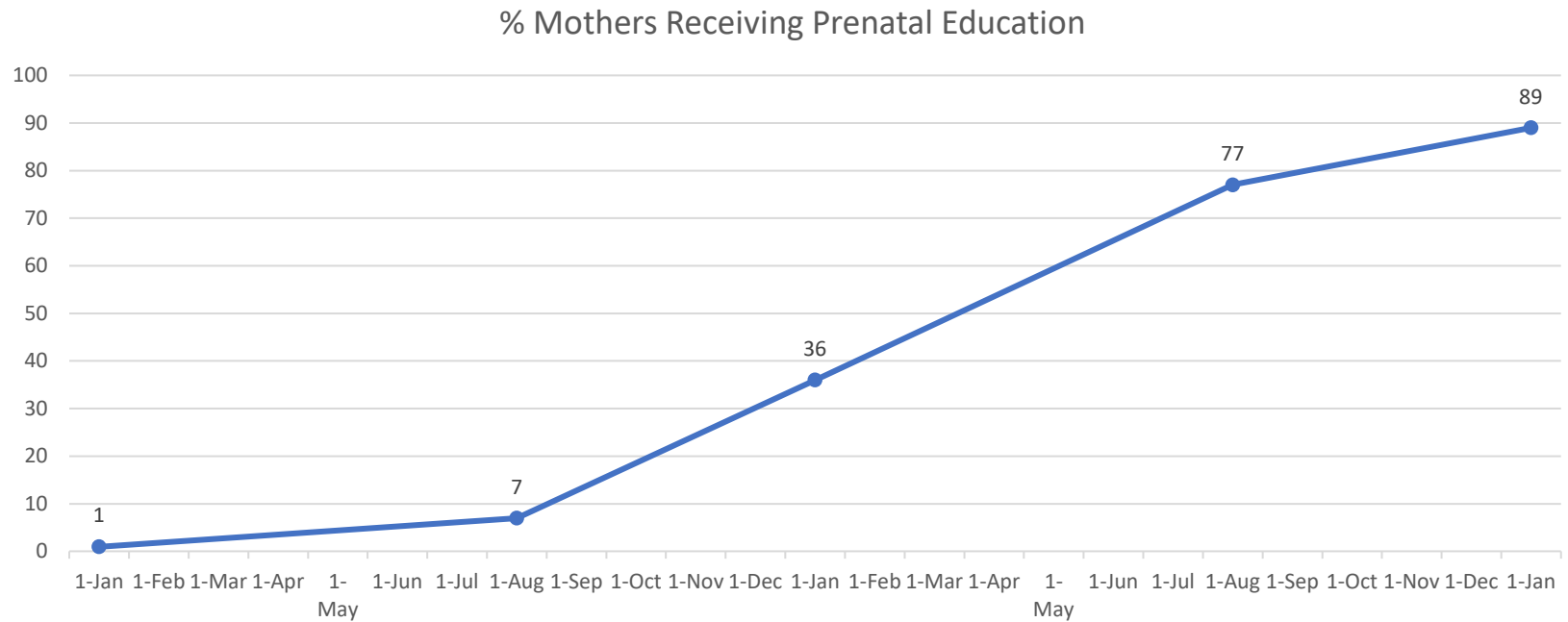
# clOUdi Before (2021 Snapshot) and After (2023 Snapshot)

- Do you verbally screen all patients for SUD: 89% to 100%
- Do you know your screening tool: 21% to 100%
- Validated verbal screening: 0% to 85% of hospitals
  - Most reported the screening was “do you use drugs”
  - In meeting with facilities was clear that “universal screening” targeted clinical criteria (late prenatal care, age, abruption)
  - Also biases of screener impacted intensity of screening or any screening
- Implicit bias training: 62% to 81%
- Is there formal education for all mothers regarding care of baby at risk for NAS pre-delivery: 65% to 90%
- SW consult for all maternal patients with OUD: 79% to 91%

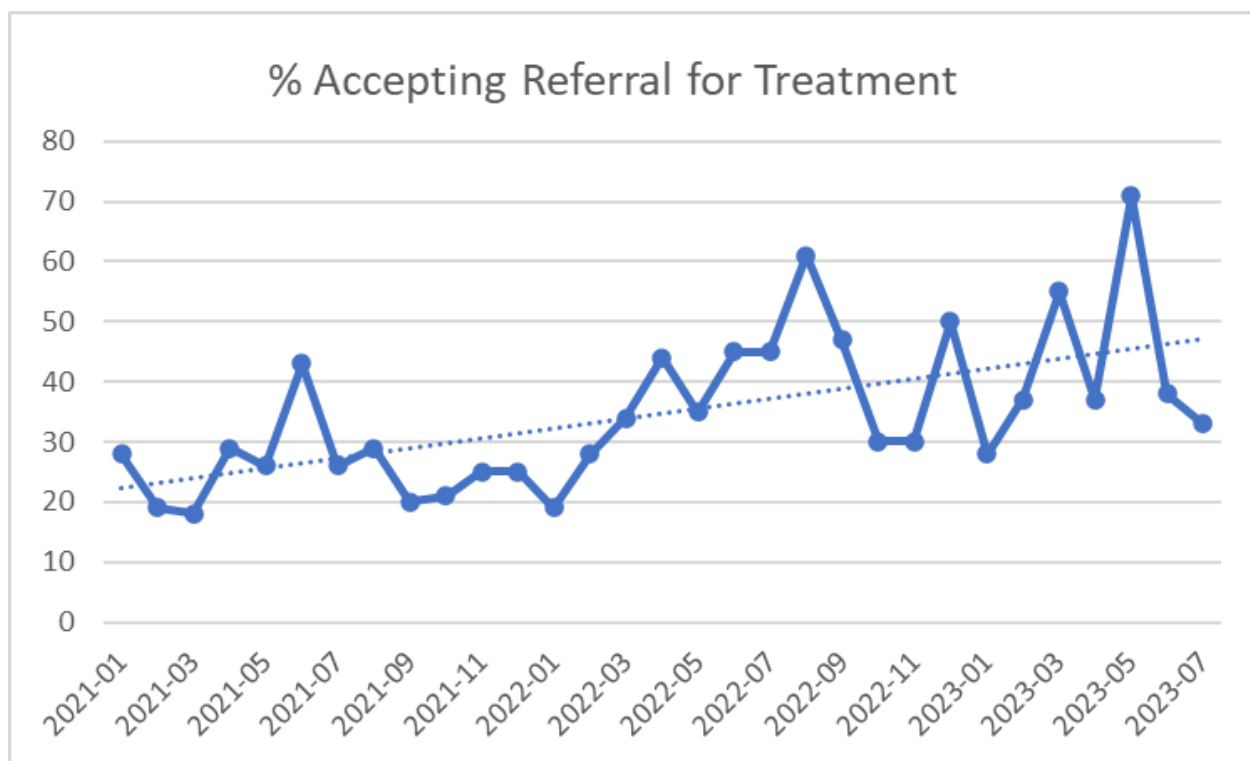
# clOUDi Before (2021 Snapshot) and After (2023 Snapshot)

- Does your hospital encourage breastfeeding per AAP guidelines: 79 to 90%
  - More on the opportunity here in a minute
- ESC for caring for infants: 40% to 90% of hospitals
  - Moms as medicine
- Do you transfer infants requiring narcotics for NAS: 25% to 10%

# Prenatal Education re NAS Treatment

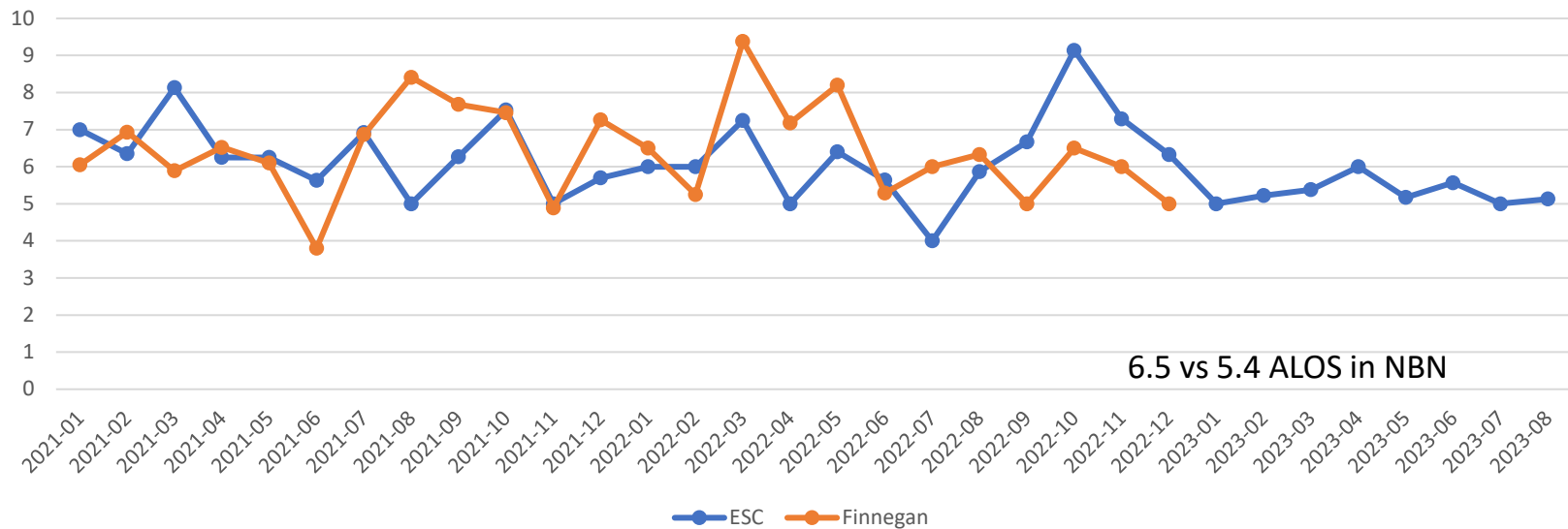


# Accepting Referral for Treatment

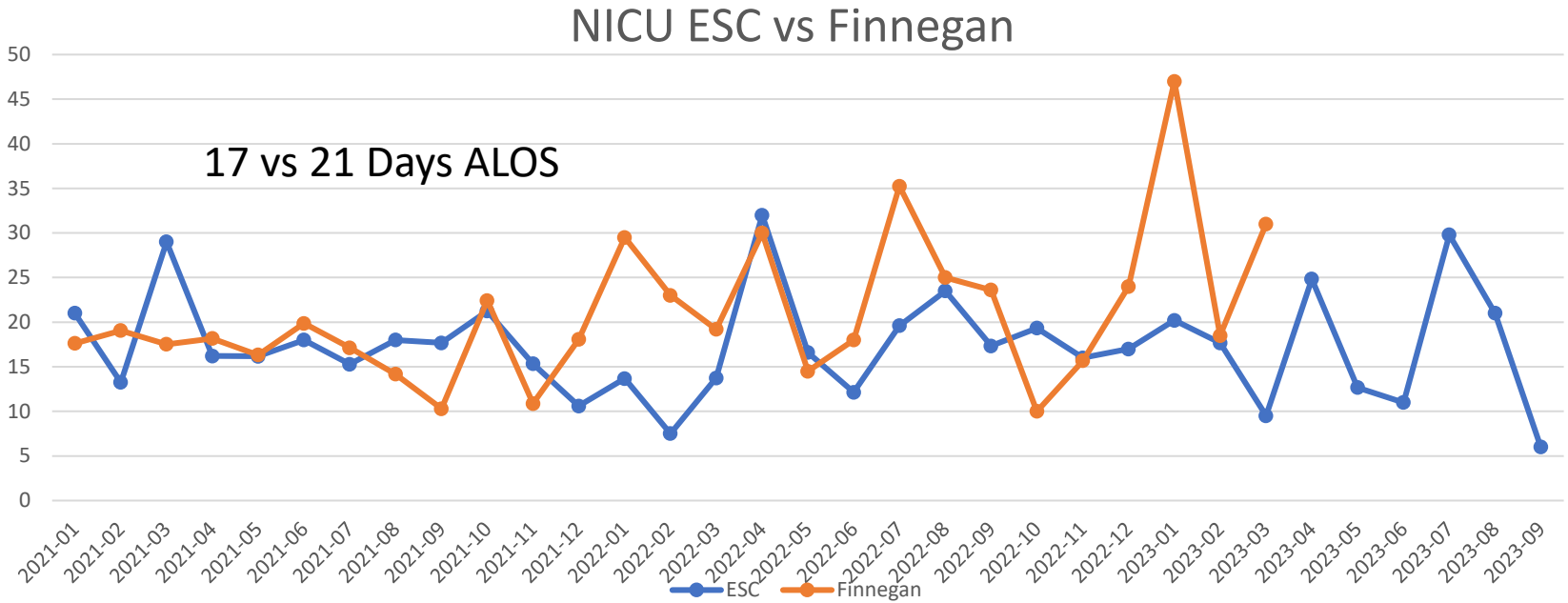


# clOU Di in the NBN

## NBN ALOS ESC vs Finnegan



# NICU ESC vs Finnegan

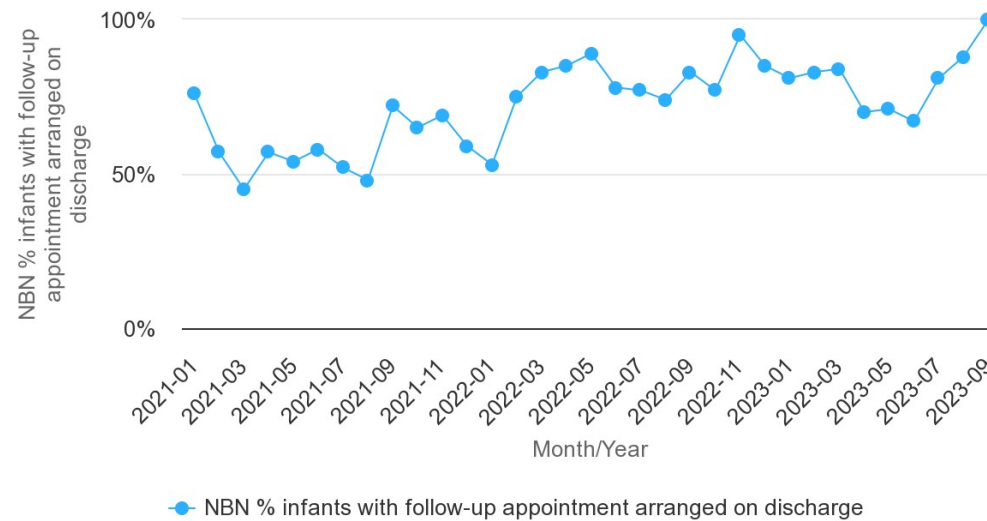




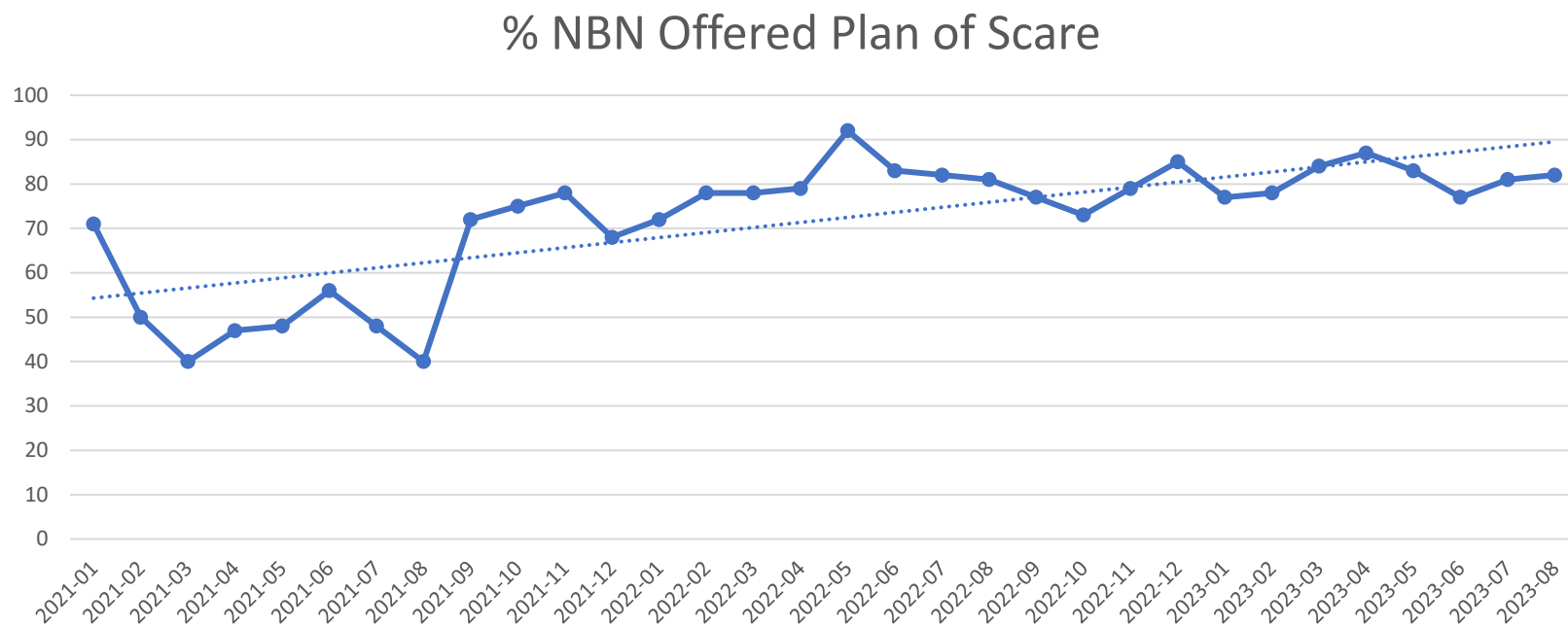
# NBN Follow Up Appointments

## NBN: % infants with follow-up appointment arranged on discharge

Groupings: North Carolina

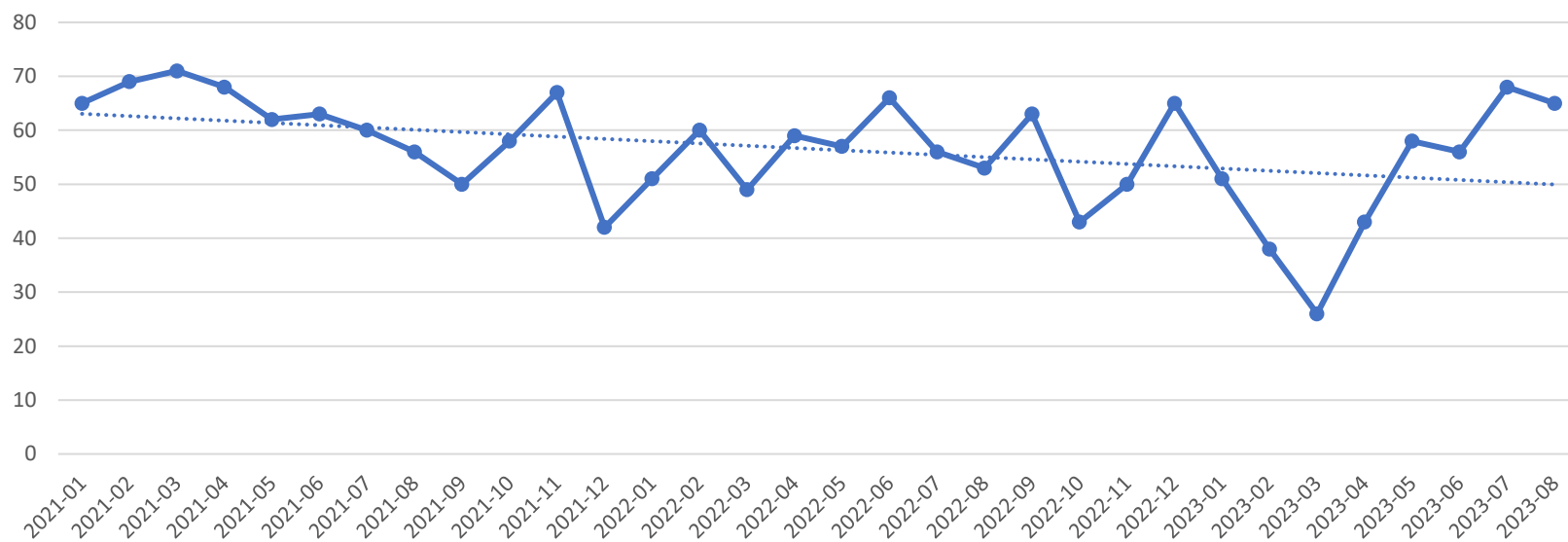


# NBN Plan of Safe Care

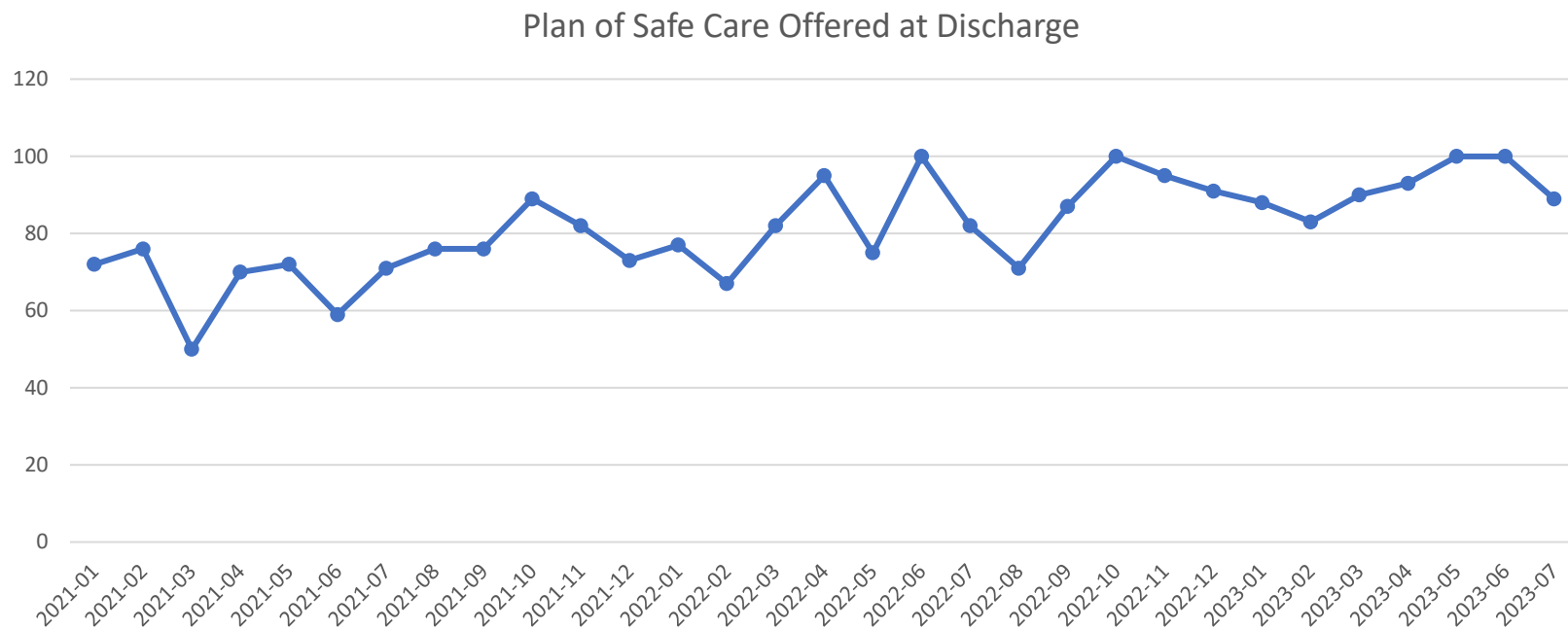


# Breastfeeding NBN

## % Infants Ever Breastfed



# NICU Plan of Safe Care Offered



# Opportunities

- Assessing screening processes
- Further examination of acceptance of referral for treatment rates
- Continuing to improve rates of CMARC/CC4C referrals
  - Services to support baby and family
- Narcan for all patients at discharge
  - Maternal and Child Mortality impacts
- Examining your ESC process
  - Is mom really considered medicine for her baby
  - Have you evaluated the role of bias in care of these couplets
- Safe sleep calculator

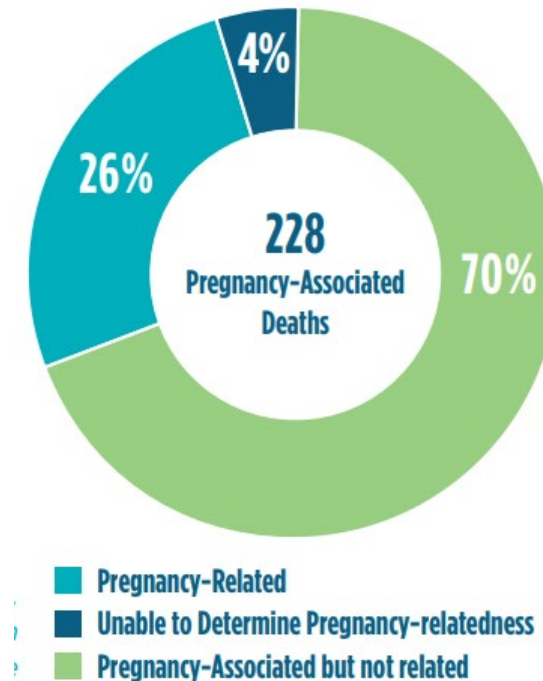
# Continuing the cLOUDi Journey

- Moving to sustainment
- PQCNC cLOUDi month August 2024
- Examining administrative data for reporting

Table 4. Underlying causes of pregnancy-related deaths\*, overall and by race-ethnicity<sup>1</sup>, data from Maternal Mortality Review Committees in 36 US states, 2017–2019.<sup>1</sup>

Condition	Total		Hispanic		Non-Hispanic									
					AIAN		Asian		Black		NHOPI		White	
	N	%	n	%	n	%	n	%	n	%	n	%	n	%
Mental health conditions <sup>2</sup>	224	22.7	34	24.1	2	–	1	3.1	21	7.0	0	–	159	34.8
Hemorrhage <sup>3</sup>	135	13.7	30	21.3	–	–	10	31.3	33	10.9	1	–	53	11.6
Cardiac and coronary conditions <sup>4</sup>	126	12.8	15	10.8	1	–	7	21.9	48	15.9	0	–	49	10.7
Infection	91	9.2	15	10.6	1	–	0	0.0	23	7.6	0	–	49	10.7
Embolism-thrombotic	86	8.7	9	6.4	0	–	2	6.3	36	11.9	0	–	34	7.4
Cardiomyopathy	84	8.5	5	3.6	0	–	2	6.3	42	13.9	0	–	33	7.2
Hypertensive disorders of pregnancy	64	6.5	7	5.0	0	–	1	3.1	30	9.9	1	–	22	4.8
Amniotic fluid embolism	37	3.8	6	4.3	1	–	7	21.9	10	3.3	2	–	9	2.0
Injury <sup>5</sup>	35	3.6	5	3.6	1	–	1	3.1	15	5.0	0	–	10	2.2
Cerebrovascular accident	25	2.5	2	1.4	0	–	0	0.0	10	3.3	0	–	13	2.8
Cancer	19	1.9	3	2.1	0	–	1	3.1	7	2.3	0	–	7	1.5
Metabolic/endocrine conditions	12	1.2	2	1.4	0	–	0	0.0	6	2.0	0	–	3	0.7
Pulmonary conditions	12	1.2	1	0.7	0	–	0	0.0	4	1.3	1	–	5	1.1

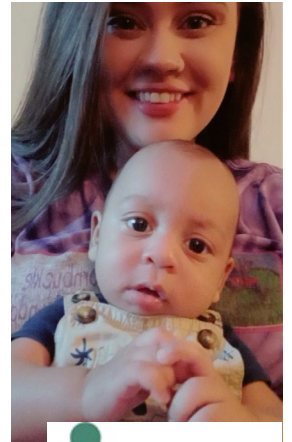
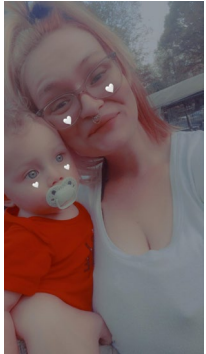
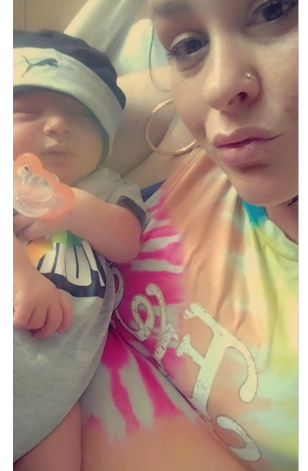
Figure 1. Deaths by Pregnancy-Relatedness, NC Residents 2014–16



- 40% increase in overdose deaths in NC 2019-2020
- So what does 2020-2022 look like?
- 320 pregnancy Associated maternal deaths

Trost SL et al. Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017-2019. Centers for Disease Control and Prevention; 2022.

# This is clODi

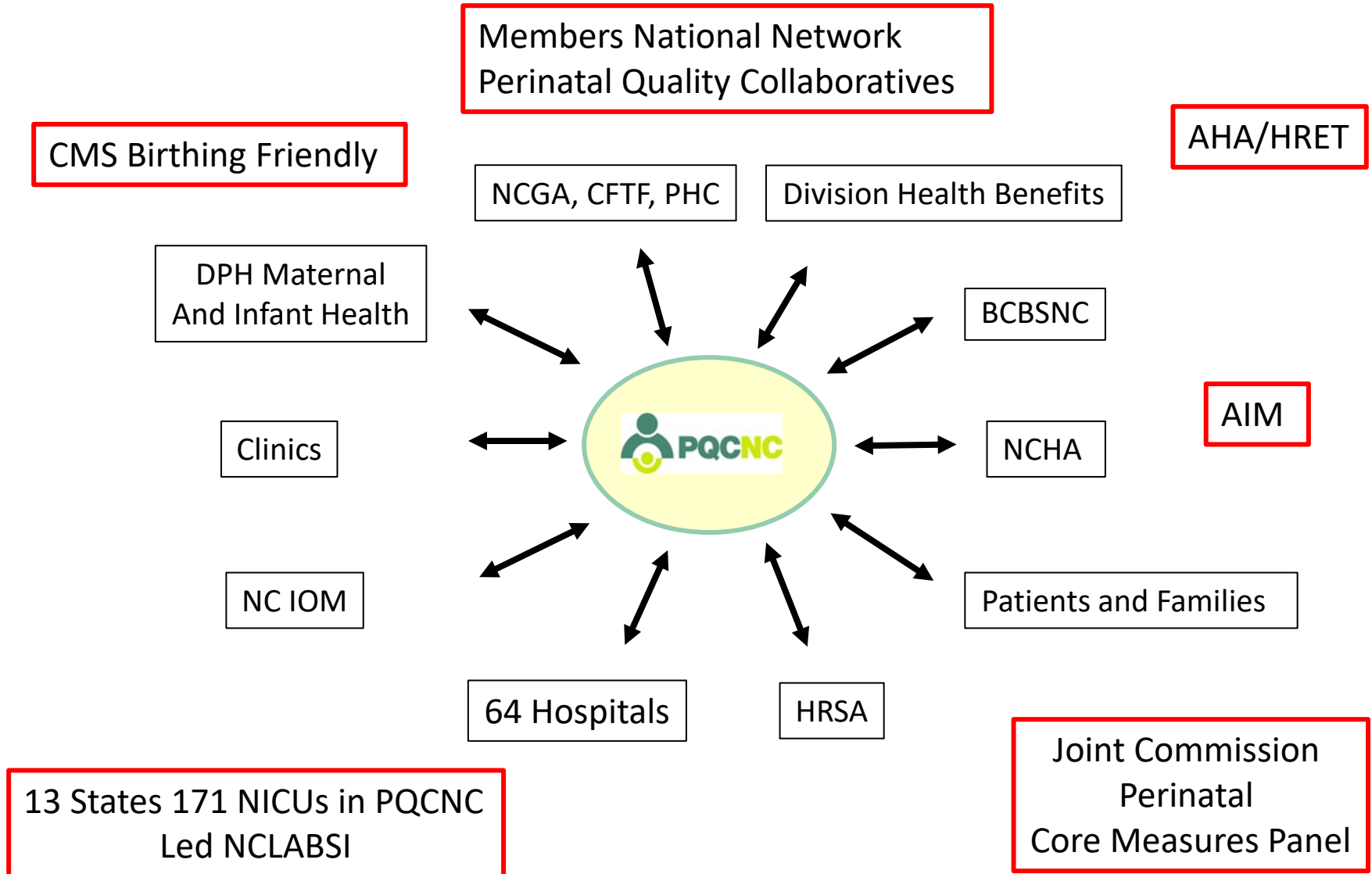




# Current Partnerships

- DHHS primary funders
- Hospitals
- All healthcare systems
- Patients and Families
- PMH leadership (DMA)
- PSN staff (previously perinatal and neonatal outreach)
- NCHA
- DPH
  - Vital Records
  - SCHS
- BCBSNC
- Maternal Morbidity Mortality Review Committee
- Child Fatality Task Force

# Who are our PQCNC *Partners*?



# Huge Opportunities

- Access to SMM data
- Access to CMARC follow up data for NAS infants
  - Readmissions
  - Unexpected ER visits
  - Well child appointments kept
- Focus on disparities in perinatal care
  - PQCNC has always included race/ethnic observations in its projects
  - We identified inequities in ANS use in CMOP, published this year on this, raised consciousness, educated in emails, learning sessions and will follow up with future data analyses
  - Dashboarding these disparities and working with these hospitals to identify causes and opportunities to improve care
    - Manner in which screening is done, environment of trust
    - Concern from parents about formally accepting treatment

# PQCNC 2024 Initiatives

- Sepsis in Obstetrics Care (AIM)
  - Launch 2024
- Care of the Late Preterm Infant
  - Launch 2024
  - Safe Sleep component
  - Safe sleep calculator
- Cardiac Care in Obstetrics (AIM)
  - Pilot launch 2024 Regions 4/6
  - Statewide launch 2025





Committed to making NC the  
best place to give birth and be born