CDC Levels of Care Assessment Tool^{SM} Implementation Toolkit

Developed in collaboration with the Collaborative for Maternal and Infant Health

by
The Collaborative for Implementation Practice

Collaborative for Implementation Practice
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Overview

The following resources were developed to guide implementation of the Levels of Care Assessment Tool^{SM} (LOCATe^{SM}) with birthing facilities in North Carolina. CDC LOCATe^{SM} is designed to be a self-assessment tool and can be administered in a number of ways. In North Carolina's Region IV, the Collaborative for Maternal and Infant Health (CMIH) Perinatal Nurse Champion was available to provide facilitation support, which included initial outreach to birthing facilities about CDC LOCATe^{SM}; sharing of relevant materials to prepare facilities for the assessment; in-person facilitation of the assessment; and reporting of results. The tools documented below were co-developed by the Perinatal Nurse Champion and Implementation Specialists from the Collaborative for Implementation Practice (CIP) to support high-quality, standardized support to facilities who agreed to participate in CDC LOCATe^{SM}. The resources represent implementation science-informed best practices for readiness and engagement with facilities, practitioner fidelity with assessment facilitation and communication with facilities about their results.

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CDC Levels of Care Assessment Tool^{SM}:

A Method of Assessing Risk-Appropriate Care

Collaborative for Maternal and Infant Health

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Objectives

- Define Risk-Appropriate Care
- Describe Implementation in North Carolina
- Complete the CDC LOCATe^{SM} Assessment
- Discuss Next Steps

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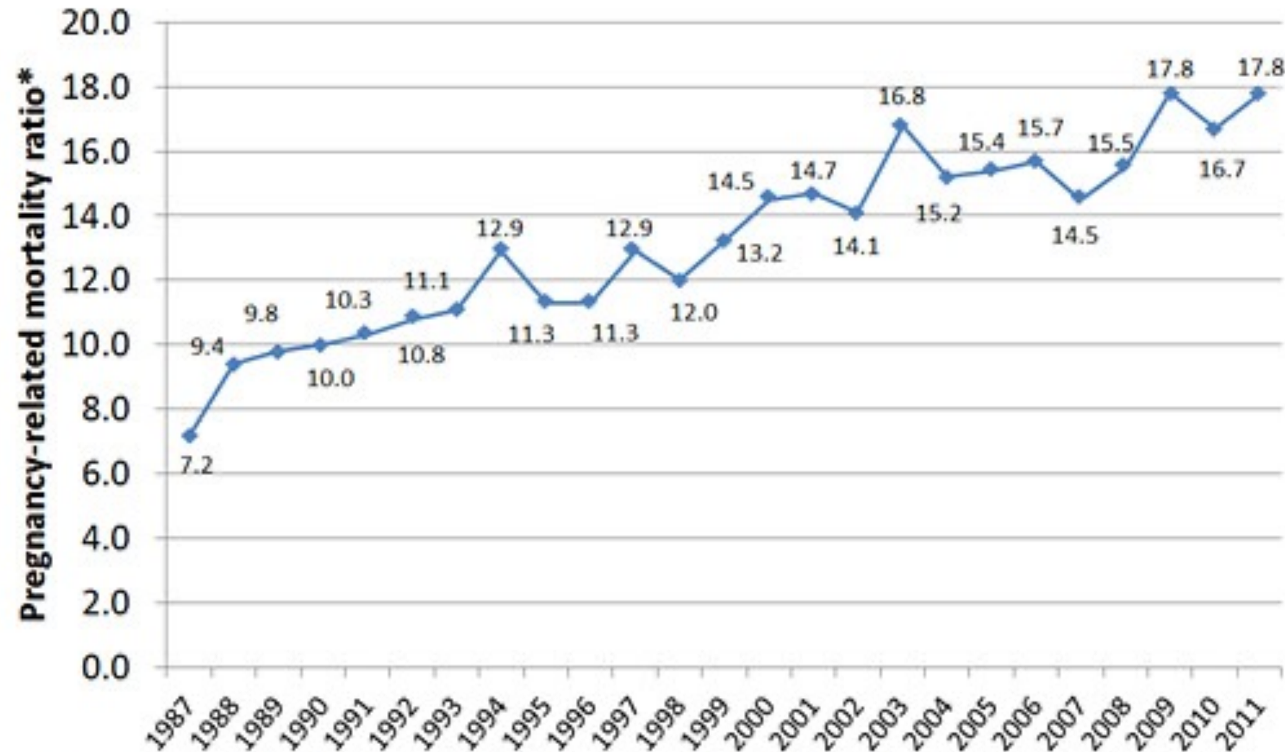
Why Risk-Appropriate Care?

Maternal Mortality in the US has more than doubled in the past 15 years



www.cdc.gov/reproductivehealth/MaternalInfantHealth/PMSS.html

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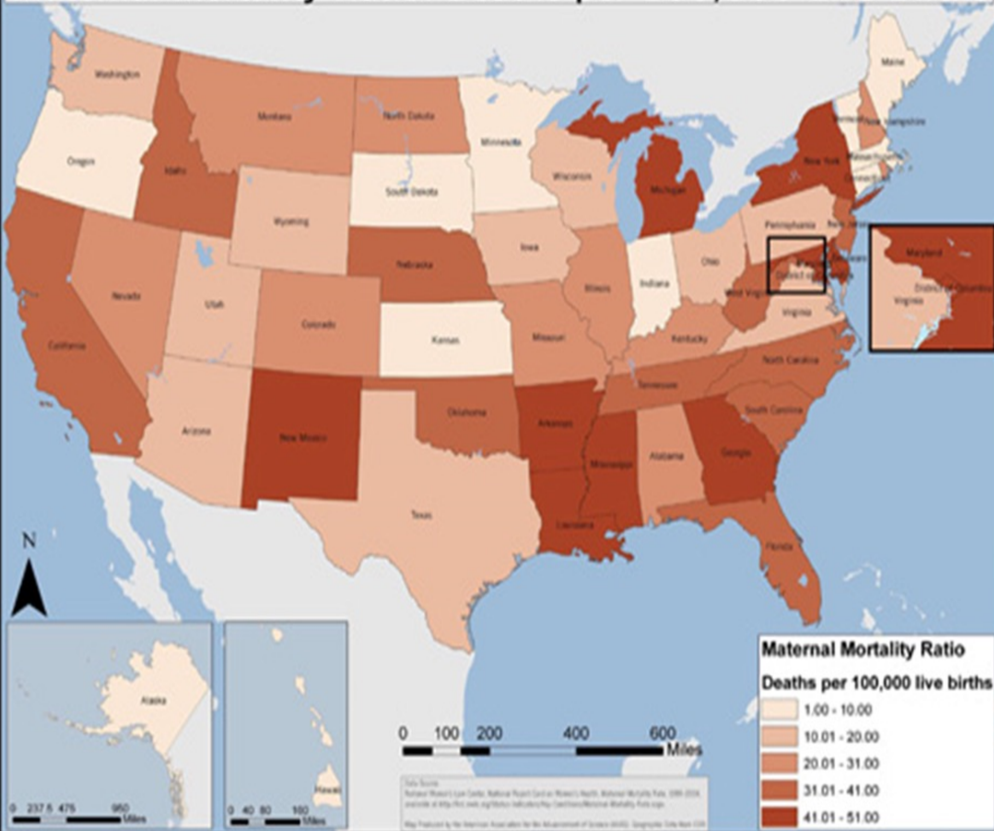
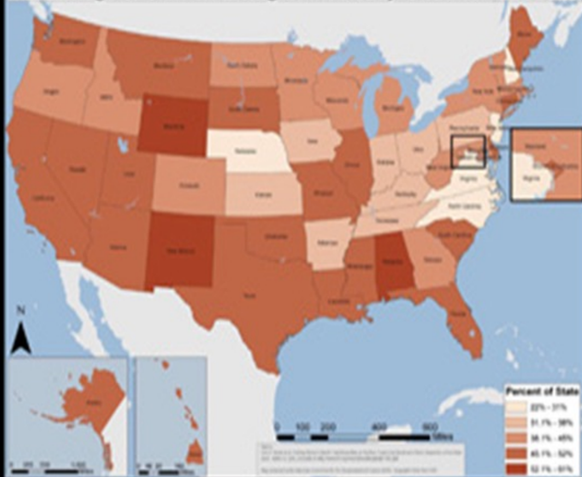
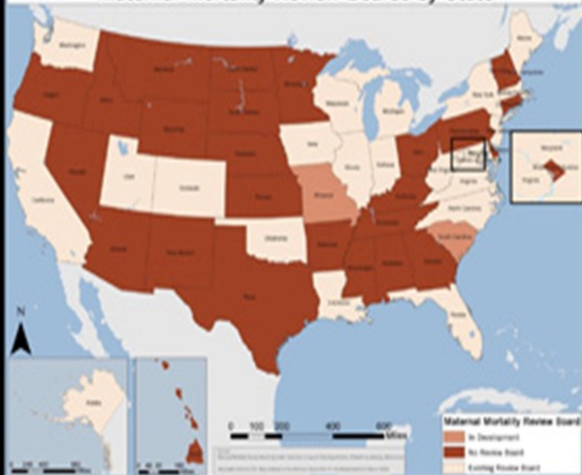
AMNESTY INTERNATIONAL

MATERNAL HEALTH CARE CRISIS IN THE UNITED STATES







REGIONAL TRENDS IN MATERNAL MORTALITY CAN BE SEEN (ABOVE) PARTICULARLY IN THE HIGH RATES CONCENTRATED IN THE SOUTHEASTERN US AND WASHINGTON, D.C. MAINE HAS THE LOWEST MATERNAL MORTALITY RATIO (1.2 PER 100,000 LIVE BIRTHS) AND GEORGIA THE HIGHEST (34.9 PER 100,000 LIVE BIRTHS). ADDITIONALLY, HIGH PERCENTAGES OF WOMEN LIVE IN AREAS WITH SHORTAGES OF HEALTH CARE PROFESSIONALS, INCLUDING PRIMARY CARE AND OBSTETRIC CARE PROVIDERS.

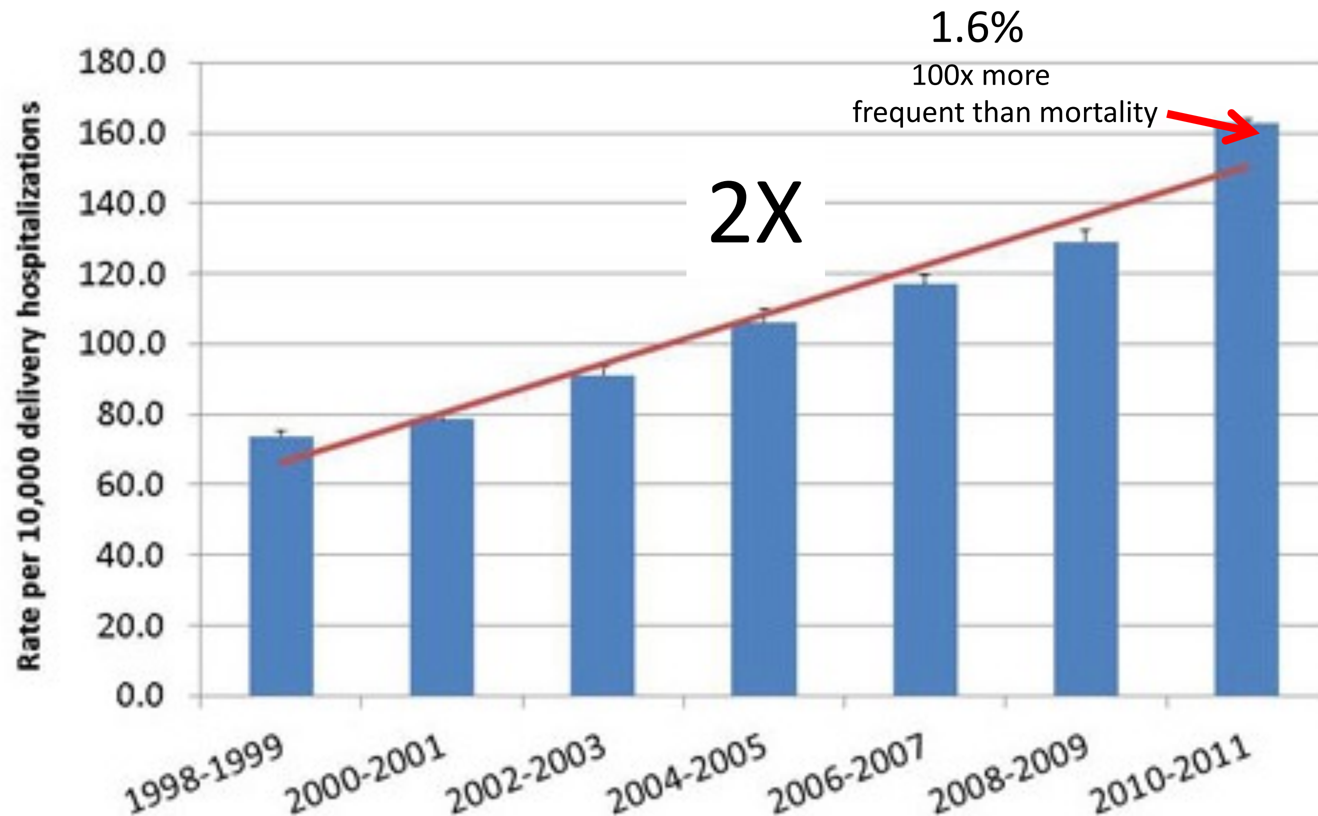
WOMEN IN THE UNITED STATES HAVE A HIGHER RISK OF DYING OF PREGNANCY-RELATED COMPLICATIONS THAN THOSE IN 40 OTHER COUNTRIES -- DESPITE THE FACT THAT THE USA SPENDS MORE THAN ANY OTHER COUNTRY ON HEALTH CARE, AND MORE ON MATERNAL HEALTH THAN ANY OTHER TYPE OF HOSPITAL CARE. APPROXIMATELY HALF OF THESE DEATHS COULD BE PREVENTED IF QUALITY MATERNAL HEALTH CARE WERE ACCESSIBLE TO ALL WOMEN IN THE USA. THERE ARE HUGE RACIAL AND GEOGRAPHIC DISPARITIES, WITH AFRICAN-AMERICAN WOMEN AT ALMOST FOUR TIMES GREATER RISK THAN WHITE WOMEN, AND WOMEN IN WASHINGTON, DC AT ALMOST THIRTY TIMES GREATER RISK THAN WOMEN IN MAINE. THIS IS NOT JUST A PUBLIC HEALTH EMERGENCY – IT IS A HUMAN RIGHTS CRISIS.

CBSNEWS.COM

Maternal mortality: An American crisis

With its rate of maternal deaths increasing, the U.S. is the only...

Trends in Severe Maternal Morbidity



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Infant Deaths per 1,000 Live Births

These death rates are derived from information collected from North Carolina resident birth and death certificates. Numerators are all deaths occurring to resident infants (less than 365 days old at the time of death) during the time period. Denominators include all resident live births recorded during the same time period. Rates represent the number of infant deaths per 1,000 live births.

LEGEND

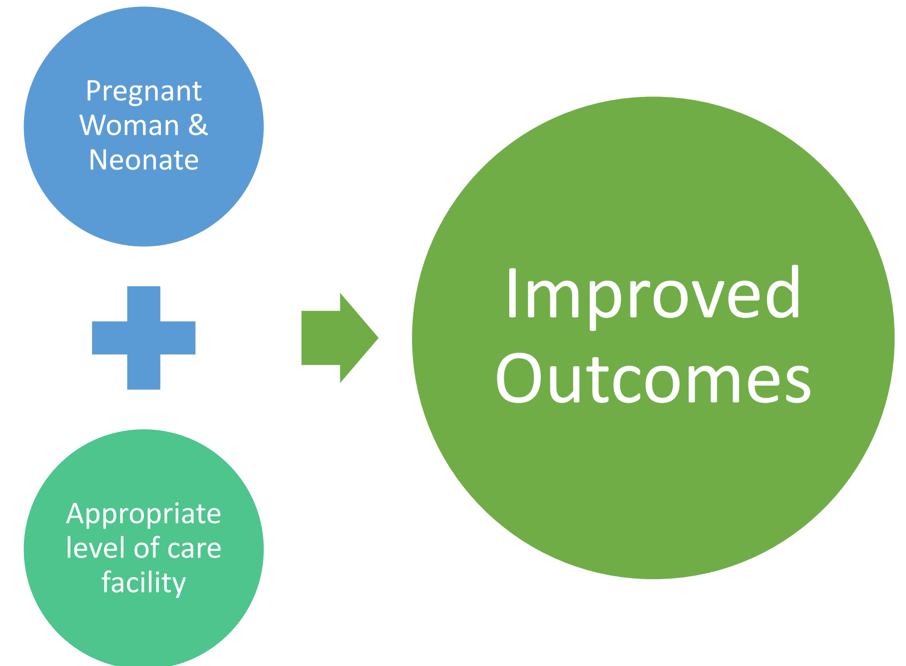
Rate

Infant Death Rate 2011-2015

- 13.6 to 20.3
- 8.5 to 13.5
- 5.4 to 8.4
- 1.3 to 5.3

Risk-Appropriate Care

- Strategy promoted in 1976 March of Dimes report
- Simple concept quickly embraced by many states
- Enhanced by public health research
- Implementation complicated by:
  - Reimbursement policies
  - Hospital competition
  - Regional context
- CDC developed CDC LOCATe^{SM} to address variations in definitions and monitoring of levels of care



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CDC Levels of Care Assessment Tool^{SM}

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Goals of CDC LOCATe^{SM}

1. Produce standardized assessments
   - Foster collaboration across borders
   - Strengthen evidence for increased specificity in criteria

2. Facilitate stakeholder conversations
   - Increase (common) understanding of landscape
   - Data driven improvements in facilities & systems

…while minimizing burden on respondents

Project Goals and Agreements

- Complete the CDC LOCATe^{SM} assessment
- Provide data results to the CDC
- What are the desired system goals?

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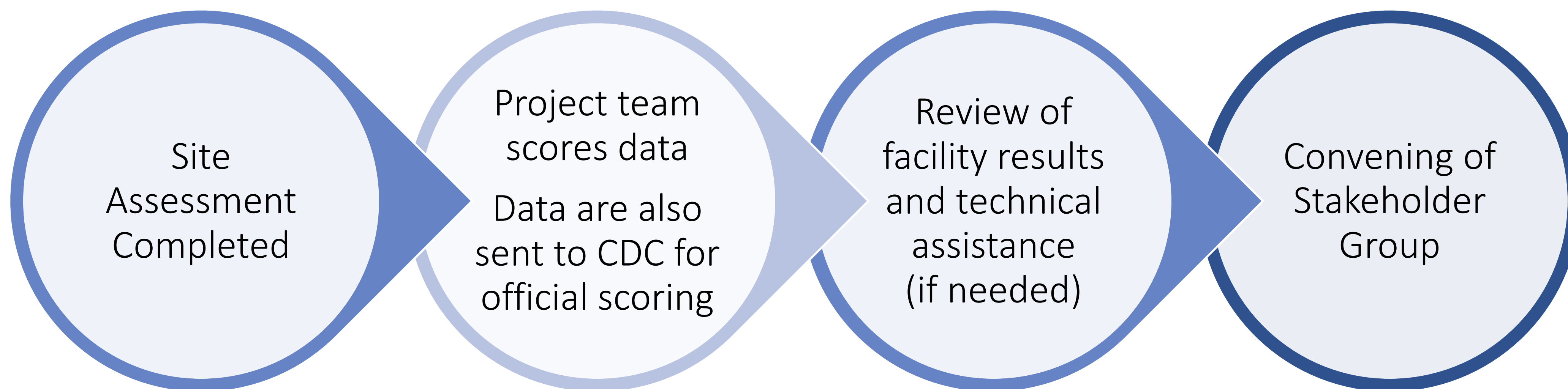
Result Timeline



Survey results will be available within 2 weeks of site visit.

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Otterloo, L. R., & Connelly, C. (2018). Risk Appropriate Care to Improve Birth Outcomes. Journal of Obstetrics Gynecology and Neonatal Nursing.

PNOC CDC LOCATe℠ Administration Fidelity Checklist

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The Fidelity Checklist is used by an observer to document administration of CDC LOCATe℠. The checklist identifies best practices for in-person CDC LOCATe℠ administration conducted by a trained facilitator.

Protocol Steps	Step Completed? Y=Yes N=No N/A= unsure/not applicable		
1. Skilled Facilitator: An individual with expertise in risk-appropriate care and skill in administering CDC LOCATe℠ is identified to facilitate.	Y	N	N/A
2. Respondents Invited: Facilitator invites knowledgeable participants to participate in completing CDC LOCATe℠. The following roles must be represented during the facilitation: • Women's Services Manager • NICU Manager • Obstetrician • Neonatologist	Y	N	N/A
3. Respondents Prepared for Assessment: Facilitator ensures that all respondents receive a copy of CDC LOCATe℠ prior to the assessment.	Y	N	N/A
4. Needed Data Accessed Prior to Assessment: Birthing facility data coordinator pulls all data needed to complete CDC LOCATe℠ and shares with the facilitator and other respondents via email in advance of the assessment.	Y	N	N/A
5. Space Secured for Facilitation: Facilitator ensures that the room is set up with a laptop, projector, internet connection, and conference/video phone for any participants joining remotely.	Y	N	N/A
6. Materials: Facilitator has hard copies of CDC LOCATe℠ for all participants.	Y	N	N/A
7. Overview: Facilitator provides an overview of CDC LOCATe℠, including the overall objective for assessing facility's levels of care and immediate goals for PNOC contract, and instructions for scoring the items.	Y	N	N/A
8. Consent: Facilitator obtains informed consent from participants to collect and share their responses with NCDHHS and CDC and use their responses to understand perinatal regionalization and inform action planning.	Y	N	N/A
9. Documentation: Facilitator documents date of the assessment and the birthing facility being assessed. Names, roles and emails of participants are captured on a sign-in sheet.	Y	N	N/A
10. Administration: Facilitator reads each item in CDC LOCATe℠, skipping items as indicated in the assessment.	Y	N	N/A
11. Consensus: The team is given an opportunity to review, discuss, and come to consensus on the score for each item. Facilitator answers questions and provides clarification as needed for the respondents.	Y	N	N/A
12. Recording: Facilitator documents each response in SurveyMonkey or on the scoring form.	Y	N	N/A
13. Note-taking: For items where there is further clarity or information needed, the Facilitator records the question and captures the team discussion and needed follow-up.	Y	N	N/A
14. Closing: Facilitator closes the assessment by sharing a timeline for sharing back of data and action planning.	Y	N	N/A
15. Document Feedback: Facilitator uses CDC LOCATe℠ feedback form to record lessons learned from the assessment.	Y	N	N/A

CDC LOCATe℠ Observation Tool

The CDC LOCATe℠ Observation Tool identifies best practices for facilitators to use when administering CDC LOCATe℠. Items are recorded as observed or not observed during the assessment, with an example of the observed behavior. Observation data are used to guide feedback and support to improve facilitation of CDC LOCATe℠.

Birthing Facility:	______________________	**Date:**	______________
Facilitator:	______________	**Observer(s):**	______________________

Directions: Check the box to indicate that the Facilitator demonstrated the best practice. Document behaviors observed or permanent products that serve as examples of the best practice. The checklist **should serve as guide for CDC LOCATe℠ facilitation coaching support.**

☐ Appropriate participants are in **attendance** (sign in sheet – include email addresses).
Observations: ______________________

☐ CDC LOCATe℠ **materials are provided** to participants (e.g., hard copies of CDC LOCATe℠ assessment).
Observations: ______________________

☐ CDC LOCATe℠ assessment started **on time.**
Observations: ______________________

☐ **Objectives** were reviewed (PowerPoint slide deck with contract and systems goals).
Observations: ______________________

☐ Facilitator obtained **consent** from participants to collect and share data with NCDHHS, CDC (PowerPoint slide).
Observations: ______________________

☐ Facilitator **operationalized terminology** and **concepts** (e.g., provided definitions, provided clarifications or examples for items that are unclear) to build a **common understanding.**
Observations: ______________________

☐ Facilitator's delivery and/or materials: a) **prompted discussion** about the facility's resources; b) **prompted** discussion about the facility's practices; c) **promoted a deeper reflection** on risk-appropriate care.
Observations: ______________________

☐ Facilitator used **guiding questions** relevant to CDC LOCATe℠ items.
Observations: ______________________

☐ **Data** needed to complete CDC LOCATe℠ were made available in advance.
Observations: ______________________

☐ Facilitator gave participants the opportunity to review, discuss and **come to consensus** for each item.
Observations: ______________________

☐ Facilitator **identified next steps** for participants (e.g., timeline for sharing data and action planning).
Observations: ______________________

Additional Comments:

CDC Levels of Care Assessment Tool[SM] (CDC LOCATe[SM]) Report

Facility Name

Assessment Date

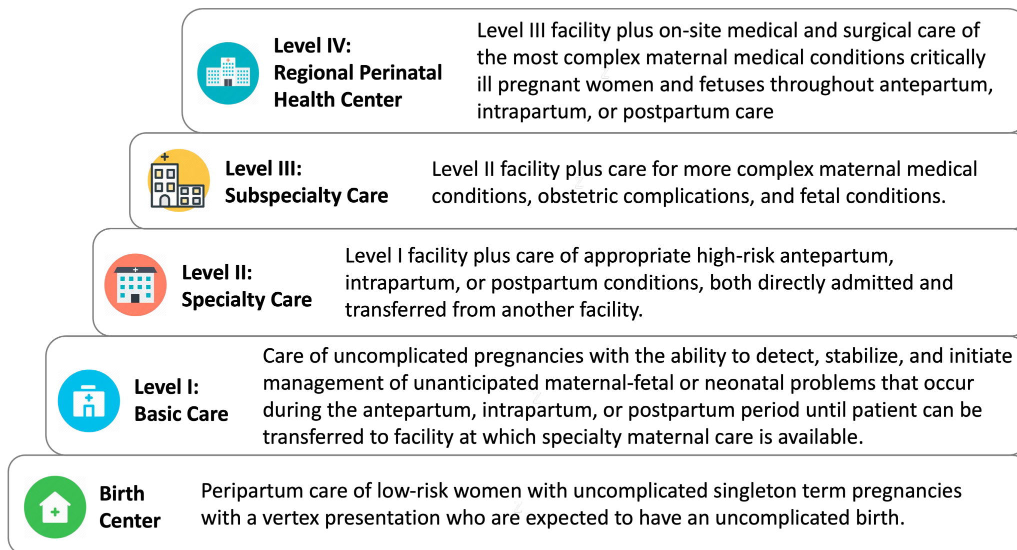
Submitted by

Summary of Findings

- **Self-assessed Neonatal Level of Care:**
- **Self-assessed Maternal Level of Care:**

Rationale for Assessing Levels of Care

Over thirty years ago, the March of Dimes demonstrated that timely access to risk-appropriate care for mothers and babies could reduce both maternal and infant mortality.[1] Since then, the framework for regionalization of care has focused almost exclusively on newborns.[2] During this same 30-year period, maternal mortality and morbidity have risen significantly.[3] In response, the American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) have recommended the following Levels of Maternal care classification system to women with the level of care that best meets their risk status:



Each facility, regardless of level, plays a critical role in providing high quality care. For example, Level I facilities provide safe, risk-appropriate care for women at low-risk for complications and have a particularly critical role in rural areas. Facilities work together to formalize transport protocols that facilitate the transfer of patients who require a higher level of care during the perinatal period.

North Carolina's Perinatal Health Strategic Plan identifies perinatal regionalization as a key strategy in improving the quality of maternal care. The plan recommends ensuring "that all pregnant women and high-risk infants have access to the appropriate level of care through a well-established regional perinatal system."[4] The Perinatal Neonatal Outreach Coordination (PNOC) program goal is to engage hospitals and providers in translation of maternal and child health research into clinical practice, particularly related to appropriate levels of perinatal care. By assessing levels of neonatal and maternal care services at birthing facilities in NC using the the Centers for Disease Control and Prevention (CDC) Levels of Care Assessment Tool℠ (CDC LOCATe℠), current gaps in risk-appropriate care may be identified. CDC LOCATe℠ was developed to: standardize assessment of birthing facilities that aligns with the classification system above; and facilitate stakeholder conversations about the landscape of maternity care. CDC LOCATe℠ is not a regulatory tool and is not used by the NC Division of Health Service Regulation nor by the Join Commission nationally. The intention of CDC LOCATe℠ administration is to give facilities an opportunity to self-assess, consider areas for changes in practice, and to collect initial data about North Carolina's maternity care landscape that may later inform strategies to support risk-appropriate care in the state.

Assessment Overview

- Date:
- Location:
- Participants:
- Additional notes:

CDC LOCATe^{SM} Assessment Results

Please find below your facility's self-assessed level of neonatal care, followed by your facility's self-assessed level of maternal care. Please note that CDC LOCATe^{SM} assessed levels for neonatal care are different from Neonatal Intensive Care Unit (NICU) regulations. As neonatal and maternal care levels are assessed separately, the levels assessed by CDC LOCATe^{SM} may be different (e.g., a facility is assessed at Level II for neonatal care, and a Level III for maternal care).

CDC LOCATe^{SM} Level of Neonatal Care: Level			
Level IV	Providers Onsite, 24/7 ☐ Neonatologist ☐ Pediatric Surgeon ☐ Pediatric Anesthesiologist ☐ Pediatric Ophthalmologist	Services Onsite ☐ Advanced imaging ☐ Complex ventilation	Surgery Onsite ☐ Complex sub-specialty surgery OR ☐ Congenital cardiac surgery
Level III	Providers Available ☐ Neonatologist ☐ Pediatric Surgeon ☐ Pediatric Anesthesiologist ☐ Pediatric Ophthalmologist	Services Onsite ☐ Advanced imaging ☐ Complex ventilation	
Level II	Providers Available ☐ Neonatologist	Services Onsite ☐ Complex ventilation OR ☐ CPAP	
Level I	Neonatal Services Available ☐ Basic level of care to low risk neonates ☐ Neonatal resuscitation at every delivery		

Discussion – Level of Neonatal Care

- Your CDC LOCATe^{SM}-assessed level of level of neonatal care was Level .
- Your facility reported some capabilities of a Level neonatal care facility but does not have

  which [is/are] necessary to be considered a Level facility.

CDC LOCATe℠ Level of Maternal Care: Level		
Level IV	**Providers Onsite, 24/7** ☐ OB/GYN ☐ General Surgeon ☐ MFM ☐ Critical Care Specialist ☐ Cardiologist ☐ Anesthesiologist is an OB specialist, in charge of OB anesthesia ☐ Neurologist ☐ Neonatologist ☐ Hematologist ☐ Nephrologist ☐ Infection Disease Specialist	**Services Onsite, 24/7** ☐ Laboratory ☐ Blood Bank ☐ OB Ultrasound ☐ Nuclear Medicine ☐ ICU accepts OB patients ☐ MRI ☐ General Radiology ☐ CT Scan ☐ Interventional Radiology ☐ Organ Transplant*
Level III	**Providers Available to be Onsite, 24/7** ☐ OB/GYN ☐ General Surgeon ☐ MFM ☐ Critical Care Specialist ☐ Cardiologist ☐ Anesthesiologist is an OB specialist, in charge of OB anesthesia ☐ Neurologist ☐ Neonatologist ☐ Hematologist ☐ Nephrologist ☐ Infection Disease Specialist	**Services Onsite, 24/7** ☐ Laboratory ☐ Blood Bank ☐ OB Ultrasound ☐ Nuclear Medicine ☐ ICU accepts OB patients ☐ MRI ☐ General Radiology ☐ CT Scan ☐ Interventional Radiology
Level II	**Providers Available** ☐ OB/GYN ☐ General Surgeon ☐ MFM ☐ Anesthesiologist Physician	**Services Onsite, 24/7** ☐ Laboratory ☐ Blood Bank ☐ OB Ultrasound ☐ MRI ☐ General Radiology ☐ CT Scan
Level I	**Providers Available** ☐ OB/GYN **OR** ☐ Family Med. w/C-section privileges ☐ CRNA **OR** ☐ Anesthesiologist Physician	**Services Onsite, 24/7** ☐ Laboratory ☐ Blood Bank ☐ OB Ultrasound
Birth Center	**Providers Available** ☐ Midwife	**Services Onsite** ☐ OB Unit

* Not required of a Level IV but may be indicative of this level.

Discussion – Level of Maternal Care

- Your CDC LOCATe[SM]-assessed level of maternal care was Level .
- Your facility reported some capabilities of a Level maternal care facility but does not have

  which [is/are] necessary to be considered a Level facility.

Maternal Care Protocols

CDC LOCATe[SM] also asks about the presence of three maternal care protocols. These protocols are not used in the determination of level of care, however, having these protocols in place and practicing/drilling them regularly can standardize health care processes. Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care.

Protocol	Practices Drills
☐ Obstetric Hemorrhage	☐ Obstetric Hemorrhage
☐ Hypertensive Emergency	☐ Hypertensive Emergency
☐ Thromboembolism prophylaxis	☐ Thromboembolism prophylaxis

Resources

- Patient Transport
  The development and use of protocols to safely transport women and infants to facilities that match their risk status or care needs is critical in advancing a system of risk-appropriate care. The resources below may serve as a useful guide to facilities wishing to formalize their transport policies.
  - Arizona Department of Health Services Maternal and Newborn Transport Services Policy and Procedure Manual – https://www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/high-risk/complete-transport-manual.pdf

- Quality Improvement
  The results of the CDC LOCATe[SM] assessment may spur conversations about opportunities for quality improvement in your facility. Both the Agency for Healthcare Research and Quality (AHRQ) and the Health Resources Services Administration (HRSA) have developed perinatal quality improvement tools that aligns with the triple aim of The National Quality Strategy: better care; healthy people and communities; and affordable care.
  - Toolkit for Improving Perinatal Safety – https://www.ahrq.gov/professionals/quality-patient-safety/hais/tools/perinatal-care/index.html
  - Alliance for Innovation on Maternal Health (AIM) – https://saferbirth.org

- Maternal Care Protocols
  The Council on Patient Safety in Women's Health Care provides Patient Safety Bundles for the protocols asked about in CDC LOCATe^{SM}. Resources for each recommended protocol are noted below:
    - Obstetric Hemorrhage – https://saferbirth.org/psbs/obstetric-hemorrhage/
    - Hypertensive Emergency – https://saferbirth.org/psbs/severe-hypertension-in-pregnancy/
    - Thromboembolism Prophylaxis – https://saferbirth.org/psbs/archive-maternal-venous-thromboembolism/

[1] March of Dimes. (2010). Toward improving the outcome of pregnancy III: enhancing perinatal health through quality, safety, and performance initiatives. White Plains (NY): March of Dimes.

[2] American College of Obstetricians and Gynecologists. (2015). Obstetric Care Consensus. Levels of Maternal Care. https://www.acog.org/Clinical-Guidance-and-Publications/Obstetric-Care-Consensus-Series/Levels-of-Maternal-Care?IsMobileSet=false

[3] Catalano, A., Bennett, A., Busacker, A., Carr, A., Goodman, D., Kroelinger, C., Okoroh, C., Brantley, M., and Barfield, W. (2017). Implementing CDC's Level of Care Assessment Tool (LOCATe): A National Collaboration to Improve Maternal Health. *Journal of Women's Health.* 26(12): 1265-1269.

[4] North Carolina Perinatal Health Strategic Plan Update. (2017). https://publichealth.nc.gov/shd/presentations/2017/workshops/PerinatalHealthStrategicPlan2017SHDConf.pdf