CDC Levels of Care Assessment Tool (CDC LOCATeSM)



Risk-Appropriate Care (Perinatal Regionalization)

- Strategy promoted in 1976 March of Dimes report*
- Guidelines set by AAP (2004 & 2012) and ACOG/SMFM (2015 & 2019)
- Simple concept embraced by many states
- Enhanced by public health research



*Committee on Perinatal Health. Toward Improving the Outcome of Pregnancy: Recommendations for the Regional Development of Maternal and Perinatal Health Services. White Plains, NY: March of Dimes National Foundation, 1976.

How Does Risk-Appropriate Care Work?

Shared understanding of facilities' levels of care (Level I, Level II, Level III, or Level IV)

Delivery occurs at facilities where the anticipated appropriate level of care is available

Level III and IV facilities work to provide support to Level I and II facilities when needed



Levels of Neonatal Care

Facility Level	Definition
Level I	Well born nursery – Provide basic levels of care to neonates who are low risk and have the capability to perform neonatal resuscitation at delivery and provide postnatal care for healthy newborn infants.
Level II	Special care nursery – Provide care to stable or moderately ill newborn infants who are born at 32 weeks' gestation or more weighing 1500 g or more at birth with problems that are expected to resolve rapidly, without anticipated need of subspecialty-level services of an urgent basis.
Level III	NICU – Meet level II requirements and have continuously available personnel (neonatologists, neonatal nurses, and respiratory therapists) and equipment to provide life support for as long as necessary. A broad range of pediatric medical and surgical subspecialists should be readily accessible on site or by prearranged consultative agreements.
Level IV	Regional NICU – Meet level III requirements, have considerable experience in the care of the most complex and critically ill newborn infants, and have pediatric medical and surgical consultants available on-site 24 hours a day, with the capability for surgical repair of complex conditions.



Levels of Maternal Care

Facility Level	Definition
Accredited Birth Center	Care for low-risk pregnant persons with uncomplicated singleton term vertex pregnancies who are expected to have an uncomplicated birth.
Level I	Care for low- to moderate-risk pregnancies with ability to detect, stabilize, and initiate management of unanticipated maternal-fetal or neonatal problems that occur during the antepartum, intrapartum, or postpartum period until the patient can be transferred to a facility at which specialty maternal care is available.
Level II	Level I facility plus care of appropriate moderate- to high-risk antepartum, intrapartum, or postpartum conditions.
Level III	Level II facility plus care of more complex maternal medical conditions, obstetric complications, and fetal conditions.
Level IV	Level III facility plus on-site medical and surgical care of the most complex maternal conditions and critically ill pregnant persons and fetuses throughout antepartum, intrapartum, and postpartum care.





Variation in Interpretation of Guidelines

Definitions, criteria, compliance mechanisms, and regulatory source of neonatal levels of care vary widely.¹

31 states had policies for neonatal levels of care (2019).²
22 of these states require ongoing monitoring; 10 require site visits

• 17 states had policies for levels of maternal care (2018).³

¹Blackmon, L., Barfield, W. & Stark, A. Hospital neonatal services in the United States: variation in definitions, criteria, and regulatory status, 2008. *J Perinatol* 29, 788–794 (2009) doi:10.1038/jp.2009.148

² Kroelinger CD, Okoroh EM, Goodman DA, Lasswell SM, Barfield WD. Designation of neonatal levels of care: a review of state regulatory and monitoring policies. *J Perinatol* 40,:369-376 (2020) doi: 10.1038/s41372-019-0500-0

³ Vladutiu CJ, Minnaert JJ, Sosa S, Menard MK. Levels of Maternal Care in the United States: An Assessment of Publicly Available State Guidelines. J Womens Health 29, 353-361 (2020) doi: 10.1089/jwh.2019.7743







What is CDC LOCATeSM?

Produces standardized assessments

• Based on guidelines by AAP and ACOG/SMFM

Facilitates stakeholder conversations

- Increases (common) understanding of risk appropriate care landscape
- Provides data for possible quality improvement initiatives by facilities and systems

...while, minimizing burden on respondents



What LOCATeSM is NOT...

- NOT... A comprehensive assessment of all neonatal and maternal criteria
- **<u>NOT</u>**... A tool for formal designation of levels of care
- **<u>NOT</u>**... A tool for health care regulation



Development of LOCATeSM





LOCATeSM States and Other Jurisdictions*



* As of April 2022

LOCATeSM Content

Assessment includes questions about:

- Facility services & their availability
- Facility personnel & their availability [Assessing levels of care]
- Self-reported levels of care [Understanding discrepancies and reasons for them]
- Volume of services [Understanding how experience matters]
- Drills & protocols for maternal emergencies [Helping identify QI opportunities]
- Transports [Availability for planning]
- Facility-level statistics [Facilitating rapid development of summary information]

Web-based platforms: Survey Monkey or REDCap



The LOCATeSM Process





Neonatal Assessment Discrepancies*

34.5% of facilities have discrepancies between selfreported level and LOCATeSMassessed level

Based on the 2012 AAP guidelines for neonatal levels of care, what do you consider your neonatal level of care to be?

Facility Level	Self-Reported	LOCATe SM Assessment
Level I	34.2%	44.6%
Level II	35.5%	41.0%
Level III	17.6%	11.4%
Level IV	6.5%	3.0%
Unknown	6.3%	-

* Based on data from 603 facilities in 16 jurisdictions



Maternal Assessment Discrepancies*

46.6% of facilities have discrepancies between selfreported level and LOCATeSMassessed level

Based on the 2015 ACOG/SMFM guidelines for maternal levels of care, what do you consider your maternal level of care to be?

Facility Level	Self-Reported	LOCATe SM Assessment
< Level I	2.6%	13.4%
Level I	23.3%	36.1%
Level II	40.4%	38.4%
Level III	15.8%	7.1%
Level IV	8.2%	5.0%
Unknown	9.7%	-

* Based on data from 463 facilities in 13 jurisdictions

Madni SA, Ewing AC, Beauregard JL, Brantley MD, Menard MK, Goodman DA. CDC LOCATe: discrepancies between self-reported level of maternal care and LOCATe-assessed level of maternal care among 463 birth facilities. *J Perinatol* (2021) doi: 10.1038/s41372-021-01268-3



LOCATeSM results can be used to...

Examine differences in maternal/neonatal outcomes within and between levels of care by merging LOCATeSM results with birth record and hospital discharge data.

Identify priority areas and leverage perinatal quality collaborative (PQC) for implementation. Use aggregate findings as talking points to **encourage prioritization of levels of care in the state**.

Use results to coordinate maternal and neonatal emergency preparedness plans and drills.

Present results to partners to increase buy-in and work locally to address challenges. Analyze differences in outcomes based on specific facility characteristics and inform adoption of new guidelines based on findings.



Thank you!

Questions?

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NOTE: The findings and conclusions in this presentation are those of the presenter and do not necessarily represent the official position of the Centers for Disease Control and Prevention

