

Perinatal Regionalization: A Report to the Secretary's Advisory Committee on Infant Mortality



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Birth

Birth in quality,
risk appropriate
facility

NICU
quality &
safety

Newborn/neonatal

Well-child care based on Bright Futures

Immunization

Diagnostic & treatment services

Education on child development and parenting

Injury & SIDS prevention

Protection from violence, home and community safety

Quality early care and education

Newborn screening
with appropriate follow up

Intergenerational screening
& treatment for mental health

Education and support for breastfeeding

Smoking cessation yielding smoke free environment for infant

Evidence-based home visiting

*Better health
for women*

Women's Clinical
Preventive Services

Family Planning &
Reproductive Life Plan

Well-woman visits &
Pre/interconception Care

Reduced infant mortality

*Improved survival for
low birthweight &
preterm infants*

*Reduced infant
& child morbidity*

*Optimized health &
developmental outcomes*

*Better infant
& child health
outcomes*

Perinatal Regionalization

- ❑ A system of designating where infants are born/ transferred based on the amount and type of care needed at birth.
- ❑ To provide risk appropriate and cost efficient care / to achieve the best possible outcomes.
- ❑ Toward Improving the Outcome of Pregnancy I and II.
- ❑ Definition of levels of care/ AAP policy statement (2012).
- ❑ National performance measure: At least 90% of VLBW infants born in a facility for high-risk neonatal care.

Collaborative Improvement and Innovation Network (COIIN) in Infant Mortality

- **Partnership among federal, national and state organizations to reduce infant mortality**

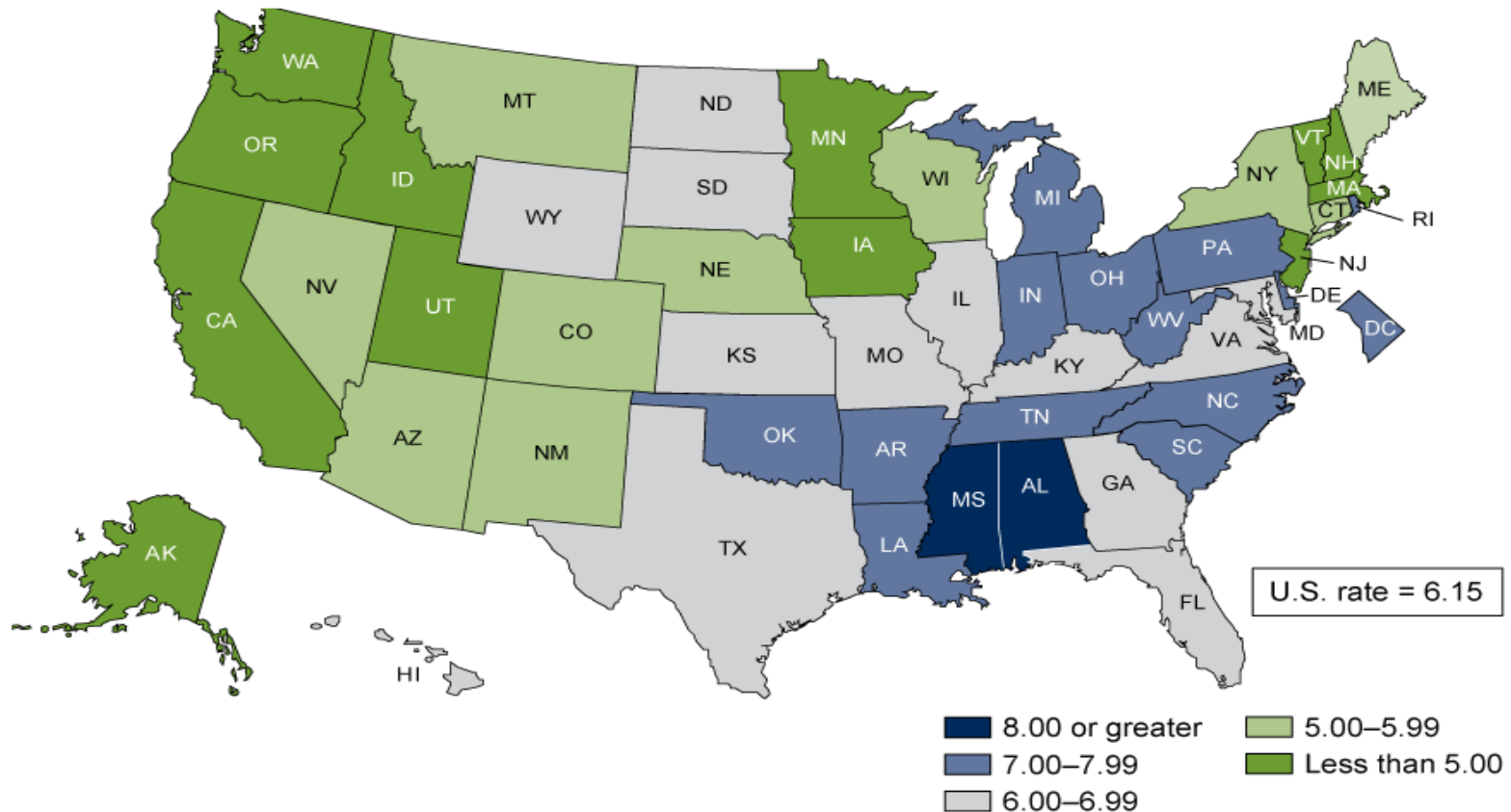
HRSA, ASTHO, AMCHP, CDC, CityMatCH, CMS, MOD, NGA, NPP

- **Began in 13 southern states in January 2012 as a spin-off of the ASTHO President's Challenge**

AL, AR, FL, GA, KY, LA, MS, NC, NM, OK, SC, TN, TX

- **Expanding nationally through a HRSA/MCHB contract with NICHQ**

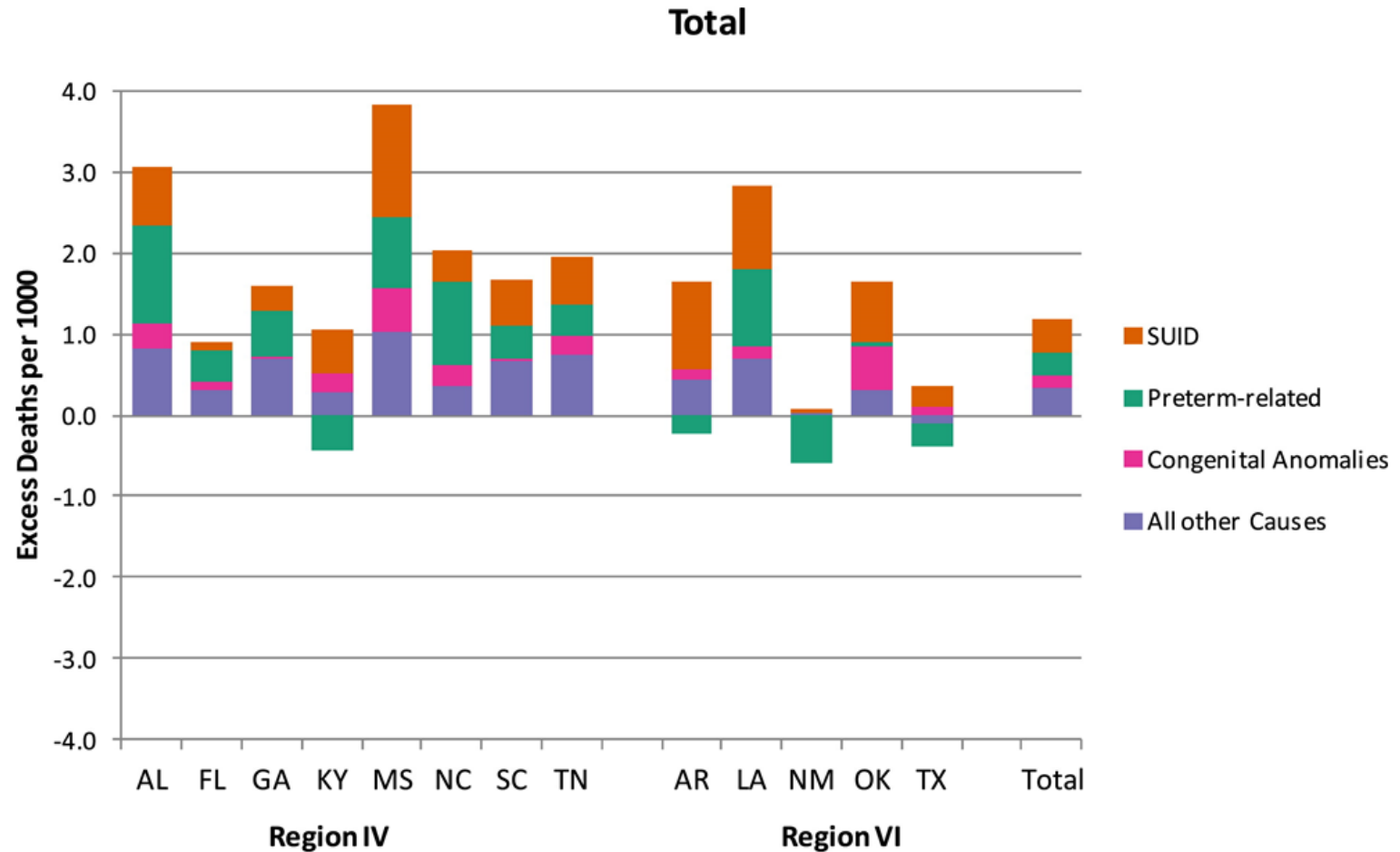
U.S. Variation in Infant Mortality by States: An Opportunity for Quality Improvement



Source: CDC/NCHS; National Vital Statistics System. Infant Mortality Rate by States, 2010

Slide courtesy of CAPT Wanda D. Barfield, MD, MPH, FAAP

Excess Infant Mortality among S.E. States, 2007-2009



Source: Hirai AH, Sappenfield WM, Kogan, MD, Barfield WD, Goodman DA, Ghandour RM, Lu MC. *Am J Prev Med* 2014;46:219-227.

Strategies for Infant Mortality Reduction: U.S. Regions IV and VI

- ❑ **Prevention of Elective Deliveries < 39 weeks**
 - Reduce by 33%
- ❑ **SIDS/SUID Risk Reduction**
 - Increase safe sleep practices by 5%
- ❑ **Perinatal Regionalization**
 - Increase mothers delivering at appropriate facilities by 20%
- ❑ **Smoking Cessation in Pregnancy**
 - Reduce by 3%
- ❑ **Preconception and Interconception Care**
 - Change Medicaid policy and procedures in at least 5-8 states

Source: ASTHO President's Challenge: www.astho.org

Slide courtesy of CAPT Wanda D. Barfield, MD, MPH, FAAP

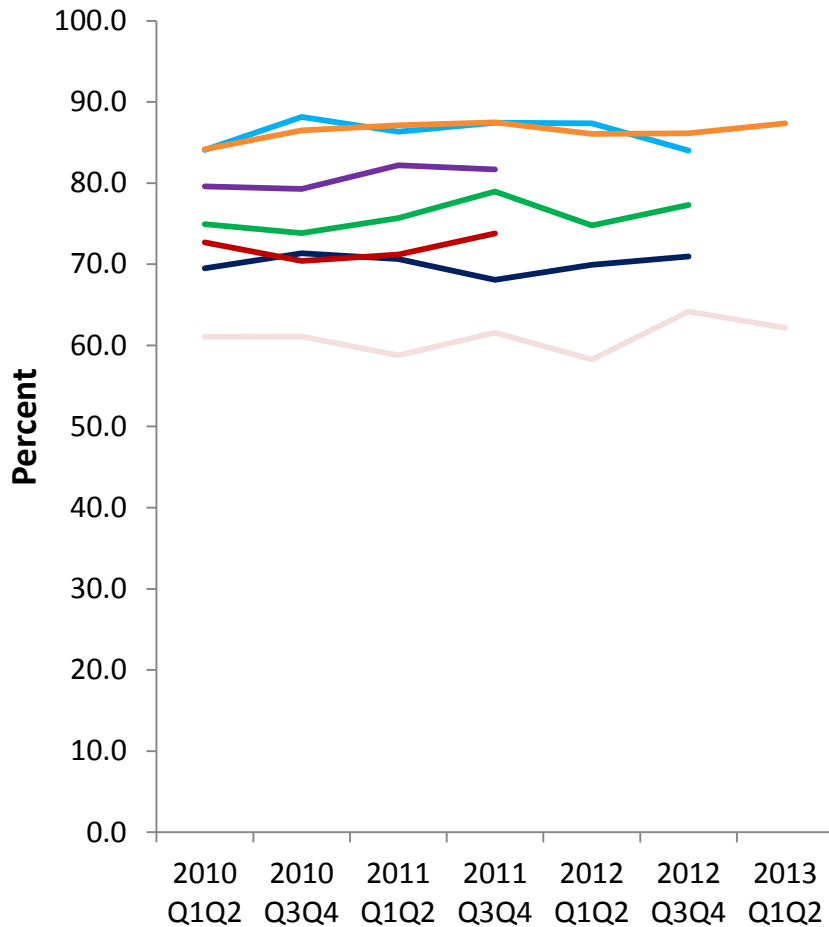
Reducing Infant Mortality: Provision of Risk-Appropriate Care

- ❑ **Meta-analysis of 30 years of data on perinatal regionalization (104,944 VLBW infants)**
- ❑ **Odds of death at non-level II facilities**
 - Infants weighing $\leq 1,500\text{g}$
OR 1.62 (95% CI 1.44-1.83)
 - Infants weighing $\leq 1000\text{g}$
OR 1.64 (95% CI 1.14-2.36)
 - Infants born ≤ 32 weeks
OR 1.55 (95% CI 1.21, 1.98)
- ❑ **In the U.S., VLBW infants are not delivered in 90% of Level III facilities**

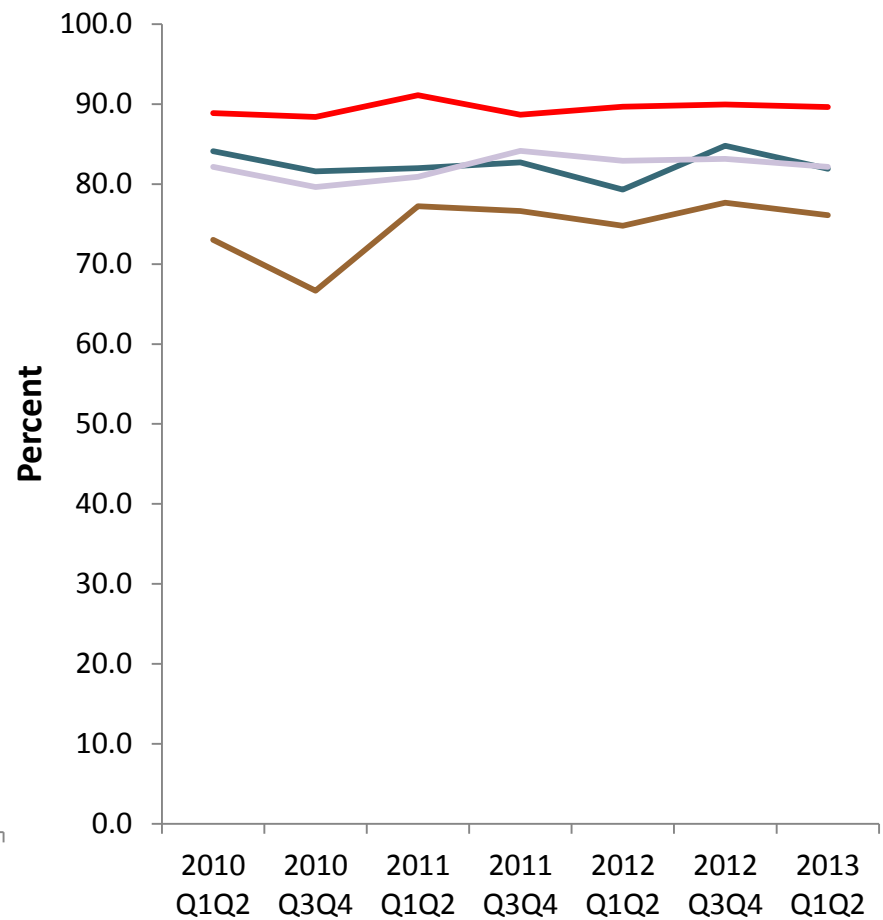


Source: Lasswell SM, Barfield WD, Rochat RW. Perinatal regionalization for very low-birth weight and very preterm infants: a meta-analysis. JAMA 2010 Sept 1;304(9) VLBW: very low birth weight

% VLBW Infants Born at Level 3 Hospitals in [State], Compared to Other Region IV and VI States



Region IV



Region VI

*Data source: State Vital Statistics Death and Birth File from the CoIIN Dashboard

CoIN Action Steps for Perinatal Regionalization

- **There are opportunities for States to:**
 - Use clear and consistent evidence, particularly for high-risk newborns, that delivery at the appropriate level of care can decrease infant deaths.
 - Develop a process and system of designating perinatal levels of care in the state's maternity hospitals – using the 2012 AAP guidelines.
 - Develop and implement referral and transport policies and mechanisms to ensure that every mother and newborn receive risk appropriate care.