American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™
Georgia Chapter

Children's℠ Healthcare of Atlanta

Structural support for ideal nutrition in preterm infants

Claire Eden, IBCLC; Allison T. Rose, MD

Disclosures

Claire Eden, IBCLC is a licensed lactation consultant supporting the breastfeeding initiatives of the Georgia Chapter, American Academy of Pediatrics, including the EPIC® Breastfeeding Education Program, and has been supporting NICU families at Children's Healthcare of Atlanta with breastfeeding since 2014.

Disclosures

Allison Rose, MD is a neonatologist in Atlanta, Georgia and cares for very premature infants in the neonatal intensive care unit.

Disclosures

Together they have received a grant from the American Academy of Pediatrics Section on Neonatal-Perinatal Medicine for the Georgia Chapter of the American Academy of Pediatrics to advocate for Medicaid coverage of donor human milk.

Overview and Objectives

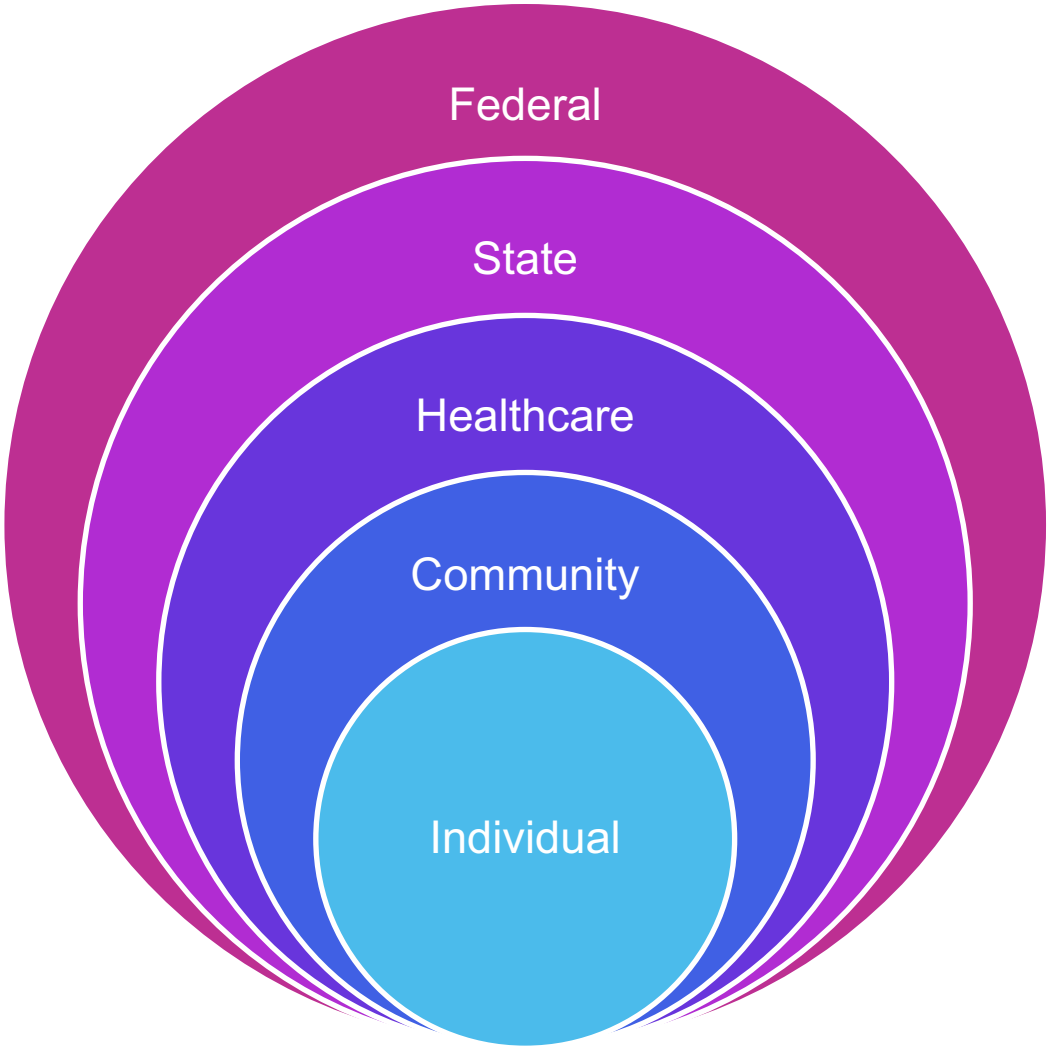
- Identify barriers to human milk provision to preterm infants in your practice, hospital, community or state
- Recognize racial and ethnic disparities in the provision of human milk, both mother's own milk and pasteurized donor human milk
- Understand the role community, healthcare, state and federal advocacy can have on supporting structural change to improve human milk provision

What is ideal nutrition for preterm infant?

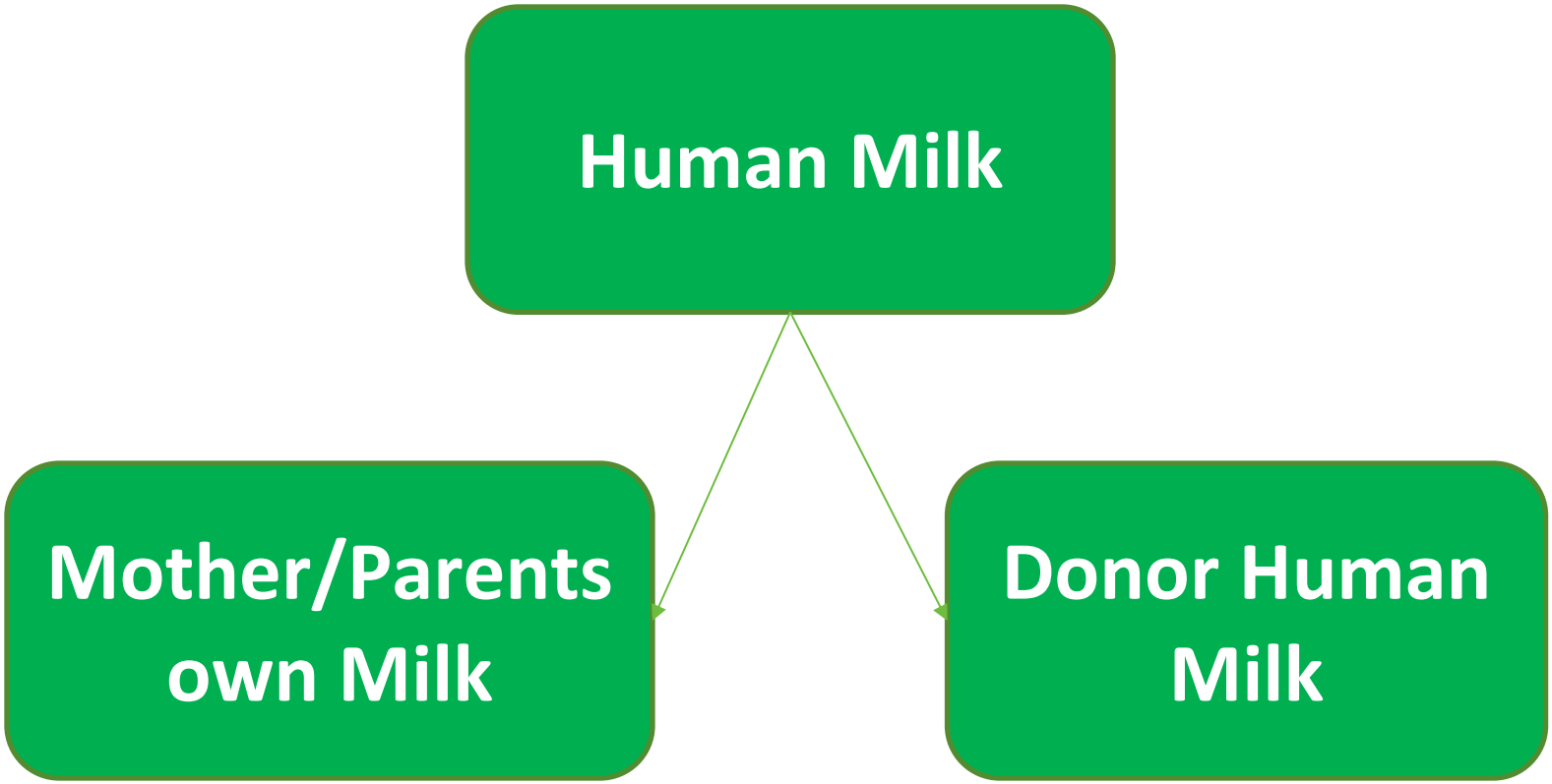
Breastfeeding and human milk are the normative standards for infant feeding and nutrition.

- AAP Policy Statement: Breastfeeding and the Use of Human Milk, 2022.

Structural Support for Ideal Nutrition

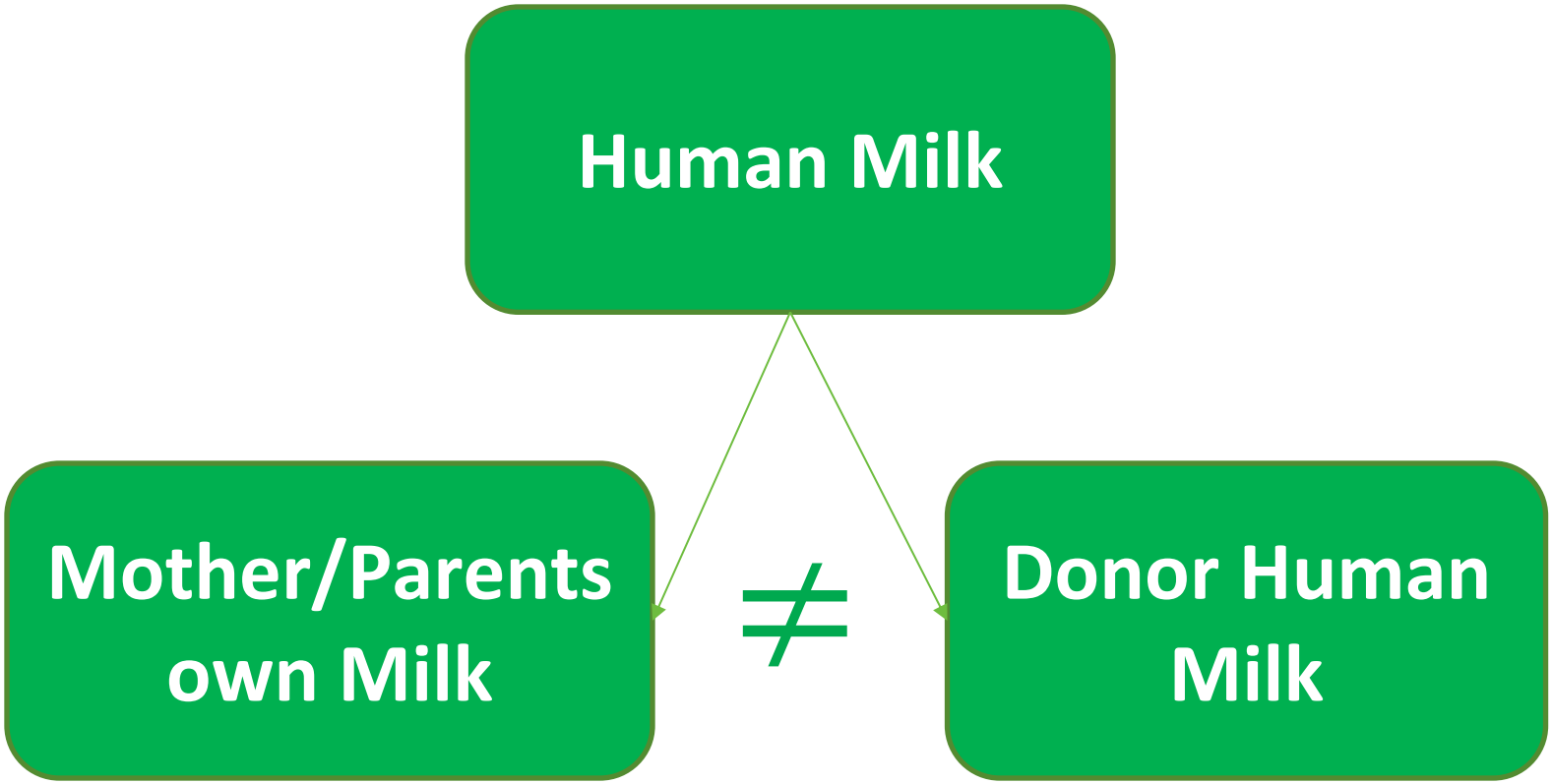


Language



Bartick, M et al. Academy of Breastfeeding Medicine Position Statement and Guideline: Infant Feeding and Lactation-Related Language and Gender, Breastfeeding Medicine, 2021

Language



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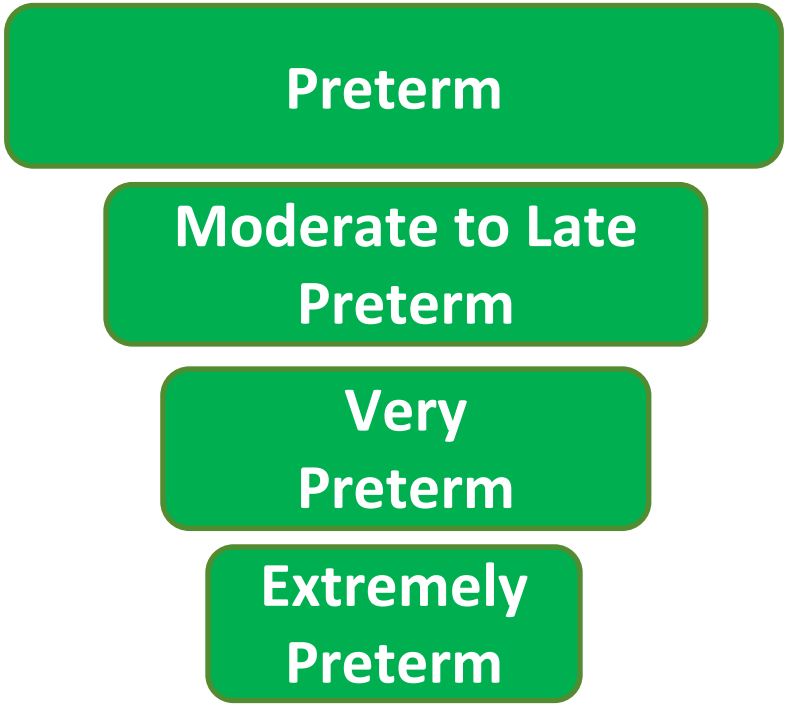
Language – Gestational Age



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Language – Birth Weight

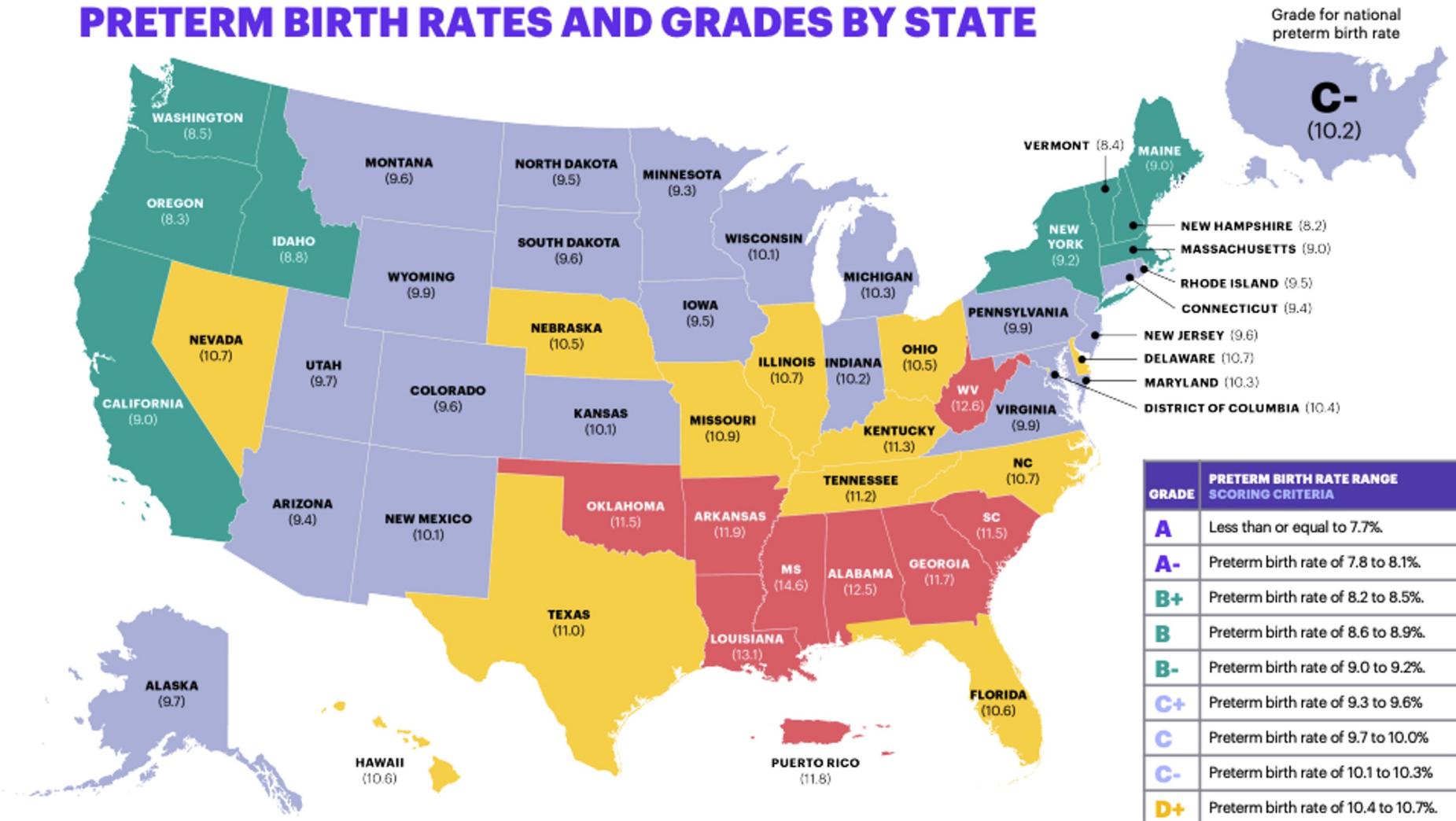
Low Birth Weight:
LBW <2500 g

Very Low Birth Weight:
VLBW <1500

Extremely Low Birth Weight
ELBW <1000 g

Bartick, M et al. Academy of Breastfeeding Medicine Position Statement and Guideline: Infant Feeding and Lactation-Related Language and Gender, Breastfeeding Medicine, 2021

PRETERM BIRTH RATES AND GRADES BY STATE



GRADE	PRETERM BIRTH RATE RANGE SCORING CRITERIA
A	Less than or equal to 7.7%.
A-	Preterm birth rate of 7.8 to 8.1%.
B+	Preterm birth rate of 8.2 to 8.5%.
B	Preterm birth rate of 8.6 to 8.9%.
B-	Preterm birth rate of 9.0 to 9.2%.
C+	Preterm birth rate of 9.3 to 9.6%
C	Preterm birth rate of 9.7 to 10.0%
C-	Preterm birth rate of 10.1 to 10.3%
D+	Preterm birth rate of 10.4 to 10.7%.
D	Preterm birth rate of 10.8 to 11.1%.
D-	Preterm birth rate of 11.2 to 11.4%.
F	Preterm birth rate greater than or equal to 11.5%.

Puerto Rico is not included in the United States total.

Preterm is less than 37 completed weeks of gestation, based on obstetric estimate of gestational age.

Source: Preterm birth rates are from the National Center for Health Statistics, 2019 final natality data.

Grades assigned by March of Dimes Perinatal Data Center.

MARCH OF DIMES

Very Preterm Births

- 55,000 very preterm births/year
- Long hospital stay, $$$$
- Significant risk of morbidities
- High resource utilization after discharge
  - Readmissions
  - Early intervention programs
- High economic burden on families and society

Photo from: https://www.healthline.com/health/baby/incubator-baby

US Department of Health and Human Services, CDC, National Center for Health Statistics, Division of Vital Statistics, natality public-use data 2016-2019

NICU Levels of Care

Level I

NICU Levels of Care

Level II

Level I

NICU Levels of Care

Level III

Level II

Level I

NICU Levels of Care

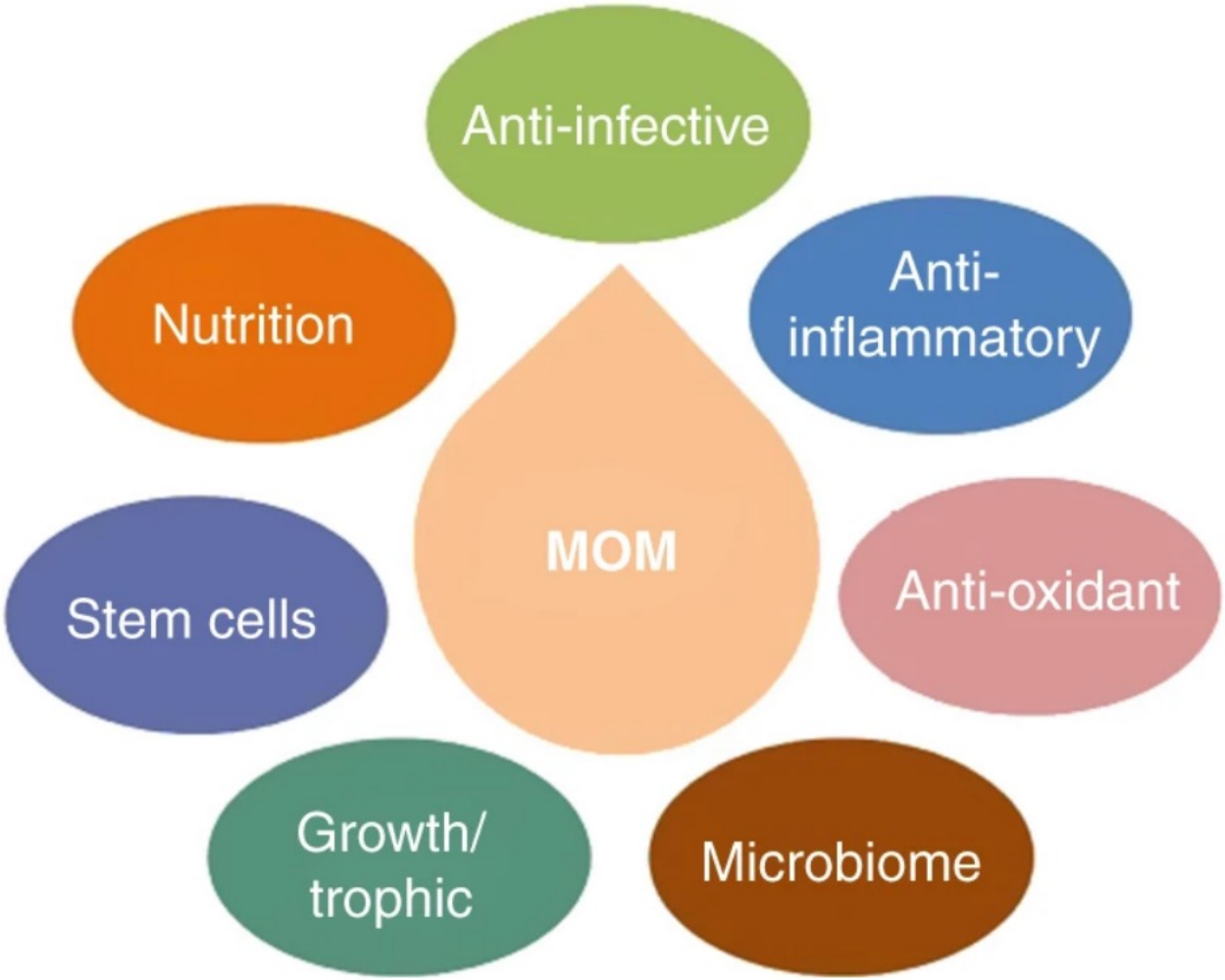
Level IV

Level III

Level II

Level I

Mother's own milk bioactive components

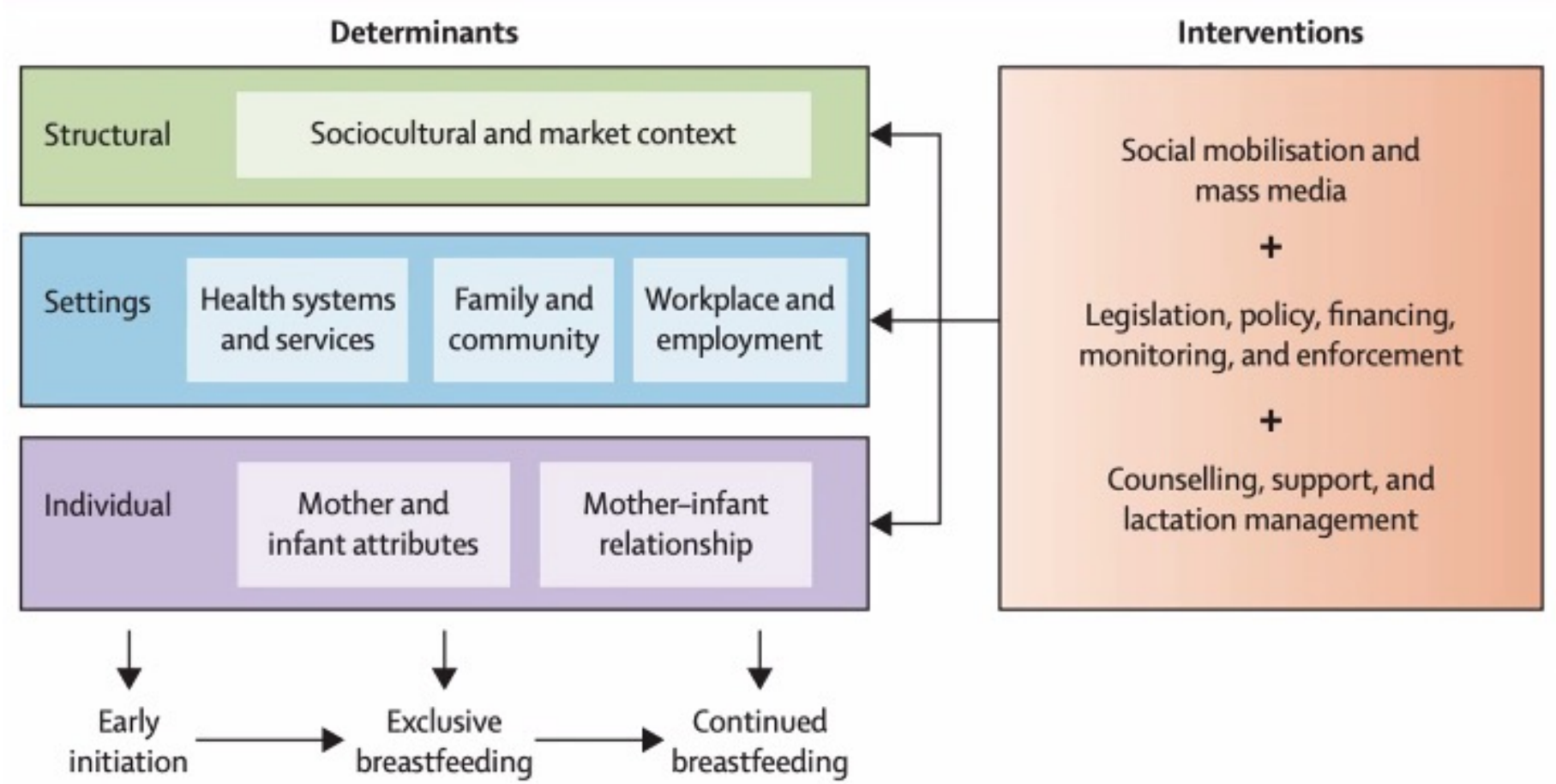


Patel, A et all. Racial and Socioeconomic disparities in breast milk feedings in US neonatal intensive care units. Ped Research. 2020.

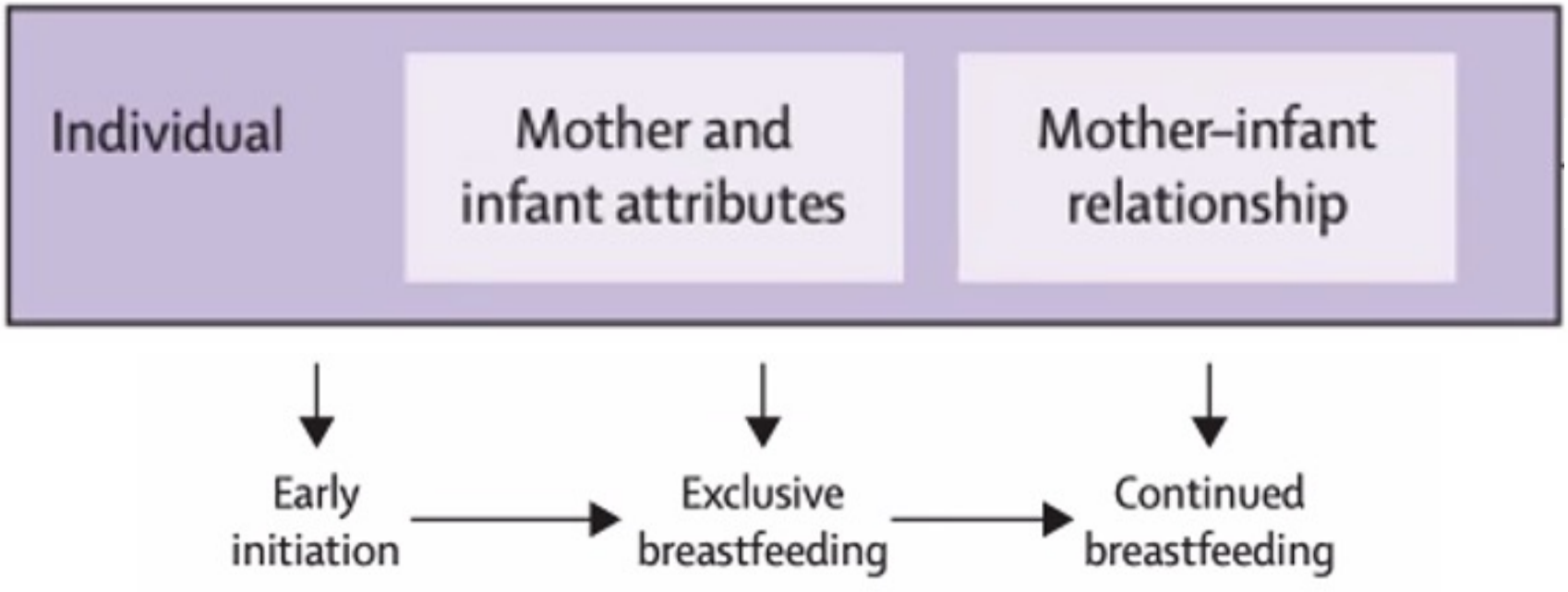
When Human Milk is the Standard in the NICU

- Lower incidence of sepsis
- Lower incidence of NEC
- Fewer feeding problems
- Shorter hospital stays
- Better brain development
- Lower mortality rates

Determinants of an enabling breastfeeding environment

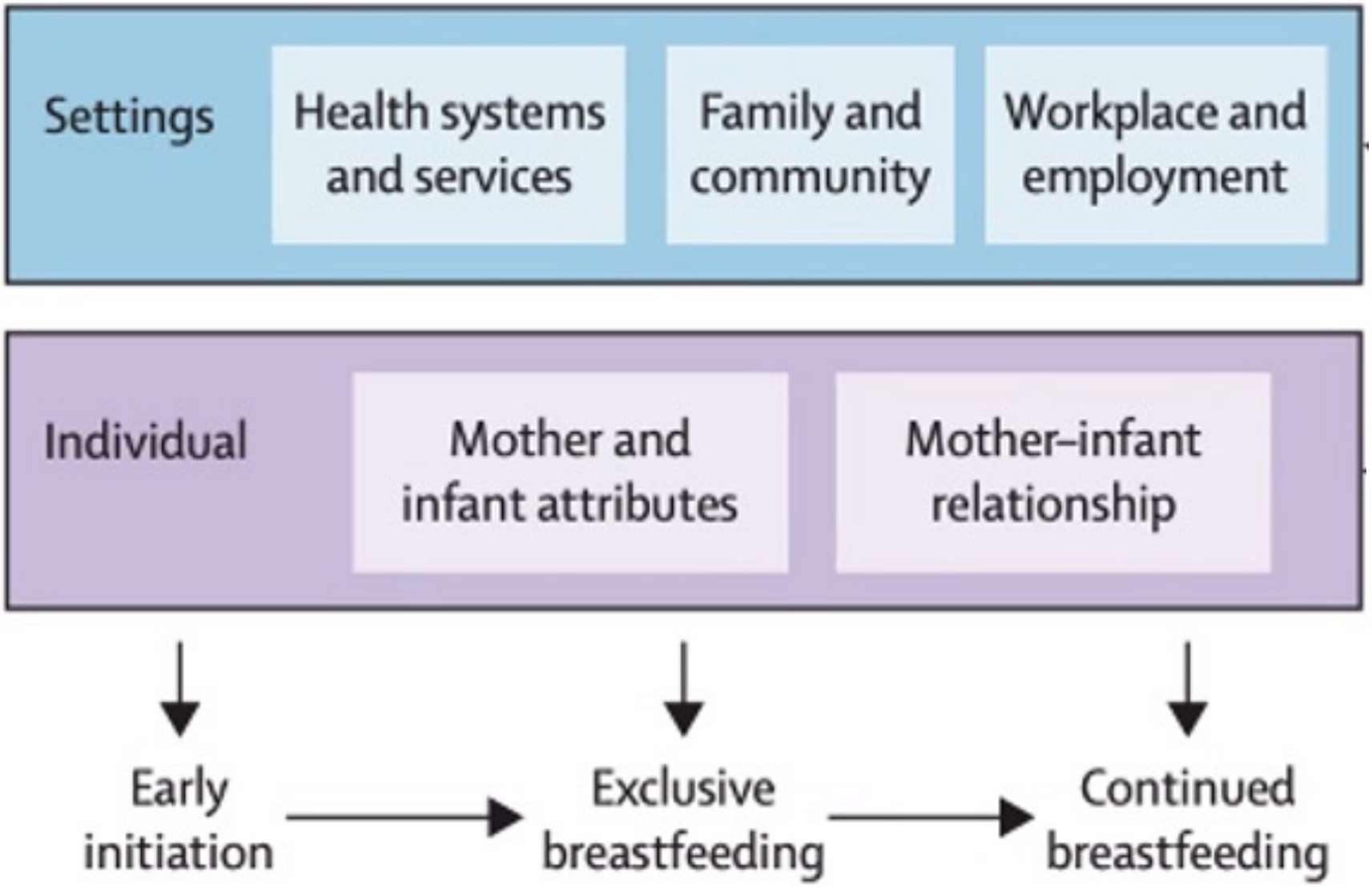


Rollins, NC et al. Why invest, and what it will take to improve breastfeeding practices? Lancet. 2016



- Maternal/Parental health condition
- Infant health condition/unexpected infant illness
- Cultural and language barriers
- Self-efficacy

Rollins, NC et al. Why invest, and what it will take to improve breastfeeding practices? Lancet. 2016

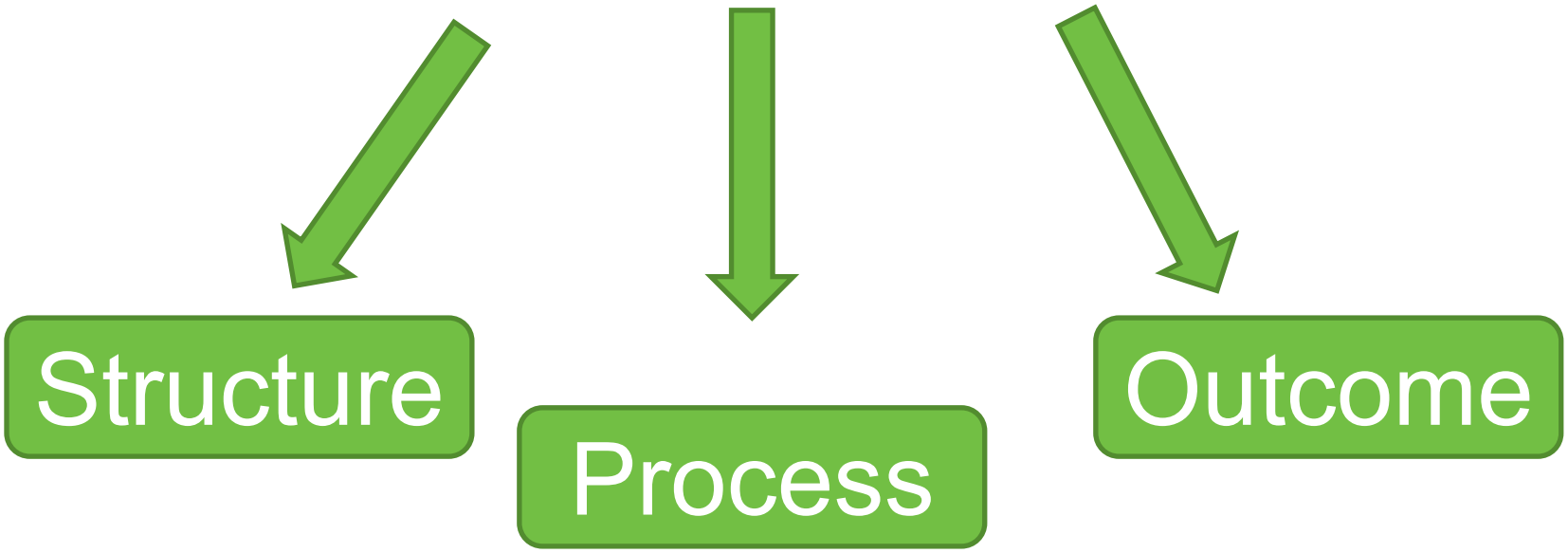

Settings
Health systems and services
Family and community
Workplace and employment
Individual
Mother and infant attributes
Mother–infant relationship
Early initiation
Exclusive breastfeeding
Continued breastfeeding

Health Systems and Services

Health Systems and Services

Racial/Ethnic Disparities in Neonatal Intensive Care: A Systematic Review

Krista Sigurdson, PhD,[a,b,c] Briana Mitchell, BS,[a,c] Jessica Liu, PhD,[a,c] Christine Morton, PhD,[d] Jeffrey B. Gould, MD, MPH,[a,c] Henry C. Lee, MD, MS,[a,c] Nicole Capdarest-Arest, MA, LIS, AHIP,[e] Jochen Profit, MD, MPH[a,c]



Health Systems and Services

Racial/Ethnic Disparities in Neonatal Intensive Care: A Systematic Review

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Breast Milk (19 studies per their inclusion criteria)

- Hospitals serving more patients of color were less likely to have premature infants fed breast milk for all races.
- Black infants had most benefit in breast milk feeding rates when cared for in hospitals with higher proportion of white infants
- Socio-economic status affects breast milk feeding in all races but disproportionally black infants

Health Systems and Services

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Breast Milk (19 studies per their inclusion criteria)

- Adaptive interview study showed black mothers reported limited education in breastfeeding education and support during pregnancy, childbirth, stay in NICU and recover in the community
- WIC eligibility negatively predicted breast milk feeding at discharge in racial diverse group of mothers of VLBW infants
- Breast milk feeding goals positively predicted breast milk feeding at discharge

Human Milk Access in the NICU

7 days → 28 days → Discharge

83.3% → 81.7% → 42.0%

Non-Hispanic Black Infants

7 days → 28 days → Discharge

83.7% → 73.8% → 47.2%

Hispanic Infants

7 days → 28 days → Discharge

84.3% → 83.6% → 69.4%

Non-Hispanic White Infants

Parker, MG et al. Racial and ethnic disparities in the use of mother's milk feeding for very low birth weight infants in Massachusetts. J Pediatr. 2019

Human Milk Access in the NICU

Non-Hispanic Black Infants

- Written prenatal consultation note that included information about human milk

Hispanic Infants

- First milk expression within 6 hours of birth

Non-Hispanic White Infants

- **Lactation consultation note within the first 24 hours after birth**
- **Skin-to-skin documented in the first month.**

Parker, MG et al. Racial and ethnic disparities in the use of mother's milk feedir very low birth weight infants in Massachusetts. J Pediatr. 2019

Health Systems and Services

- Parent/infant separation
- Parent “visitation” policy
- Unit culture
- Meals and parking
- Family-centered rounds
- Skin to skin policies

Health Systems and Services

- Pump access
- Lactation support
- Access to donor human milk

Lactation Support

Barriers

- Not all patients' mothers have access to the full range of lactation support
- Lactation care is medically marginalized in part due to poor reimbursement
- Many NICUs have inadequate lactation staffing
- Outpatient clinical lactation support is non-existent in many areas
- Learning to directly breastfeed is often not prioritized prior to discharge

Lactation Support

Solutions

- Coding for lactation services: Federal
- Dedicated NICU-specific lactation support
- Staffing guidelines from recogn

Breast Pump Access

Barriers

- ACA means most privately insured have easy access but those on Medicaid don't
- Timeliness is key
- Pandemic closures of WIC clinics has limited a common access point
- Pump is medical equipment that should be suited to mother's needs but instead is treated as a one size fits all
- Loaner programs require a lot of resources

Breast Pump Access

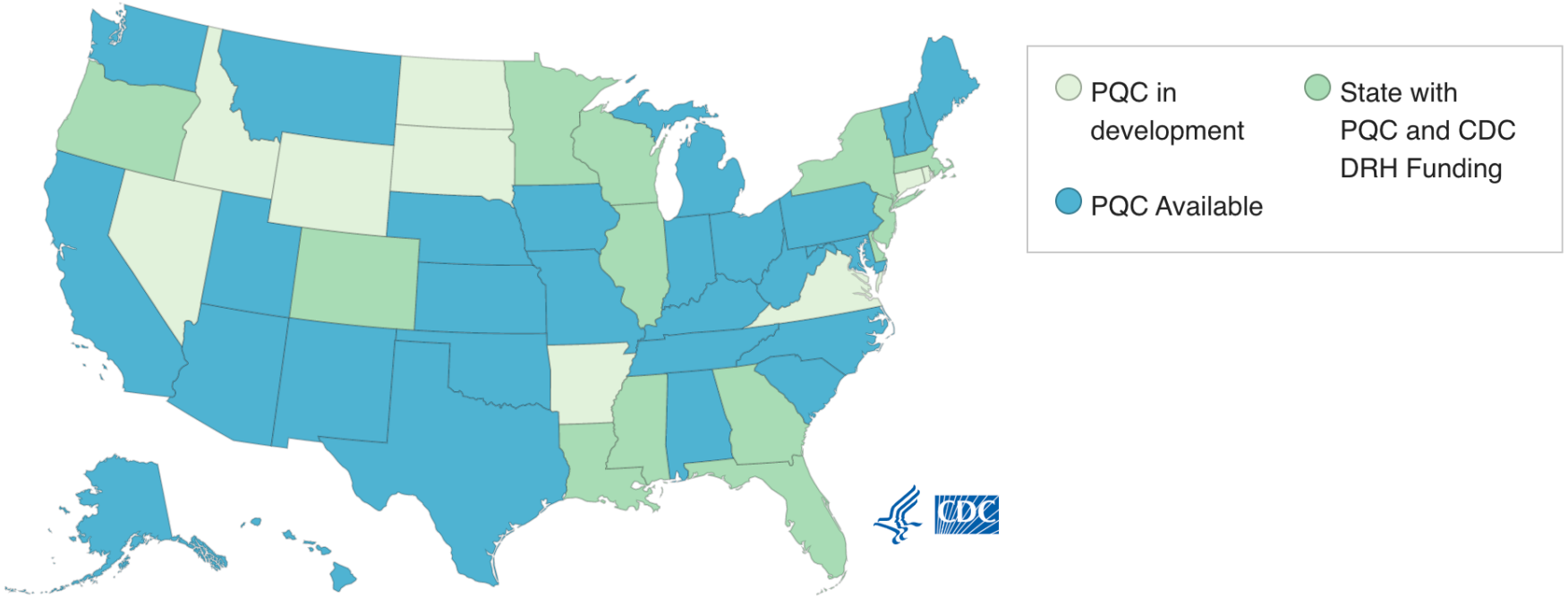
Solutions

- Update/strengthen breast pump section in state Medicaid policies
- Increase connectivity between mother and baby in coding

Coalition to increase Access to Medically-indicated breast Pumps

Improving Healthcare Systems and Services

Status of PQCs in the United States



California Perinatal Quality Care Collaborative

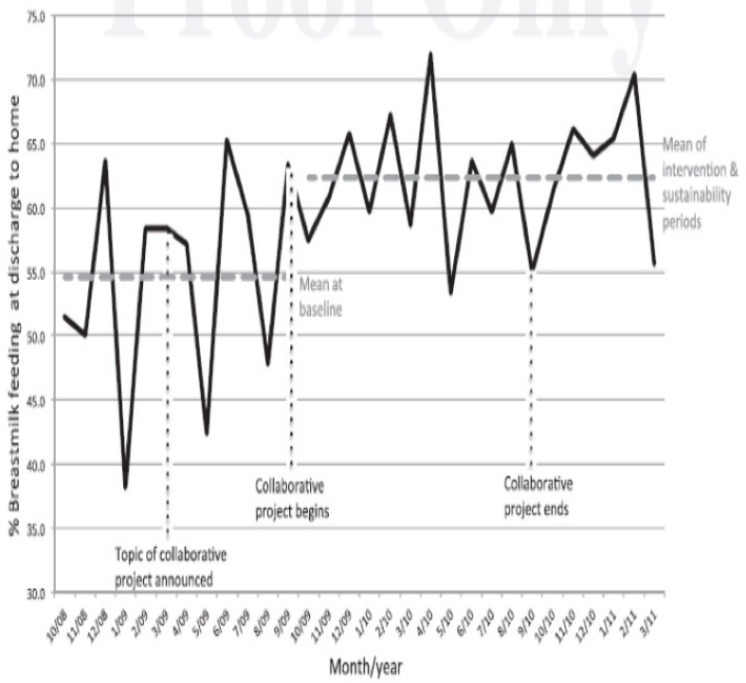
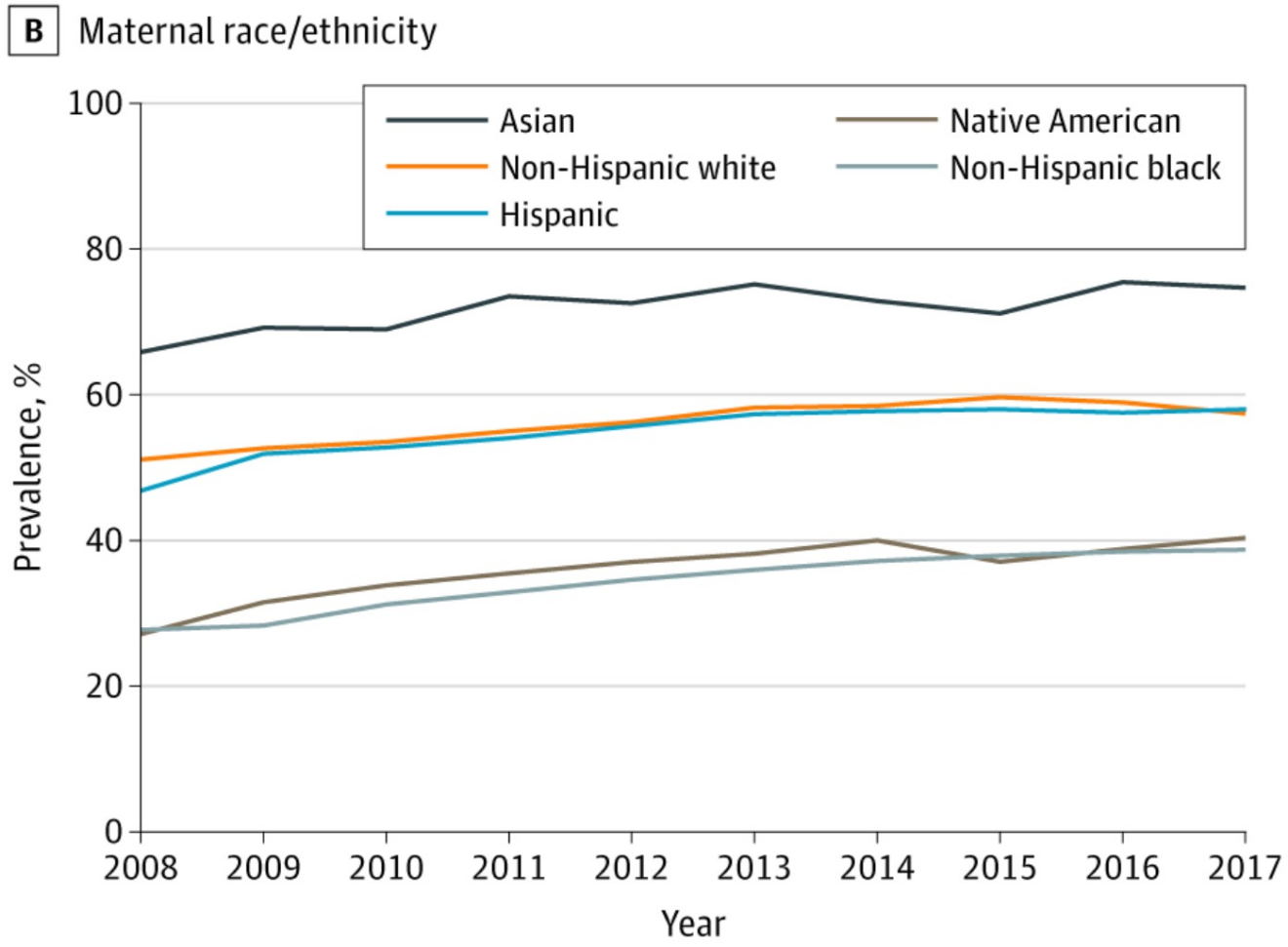


FIGURE 1
Annotated run chart of breast milk feeding at discharge for collaborative participants.

- 11 California NICUs
- VLBW Infants
- Increased breast milk feeding at discharge from 54.6% to 64%.
- Decreased morbidity (NEC) from 7% to 2%.

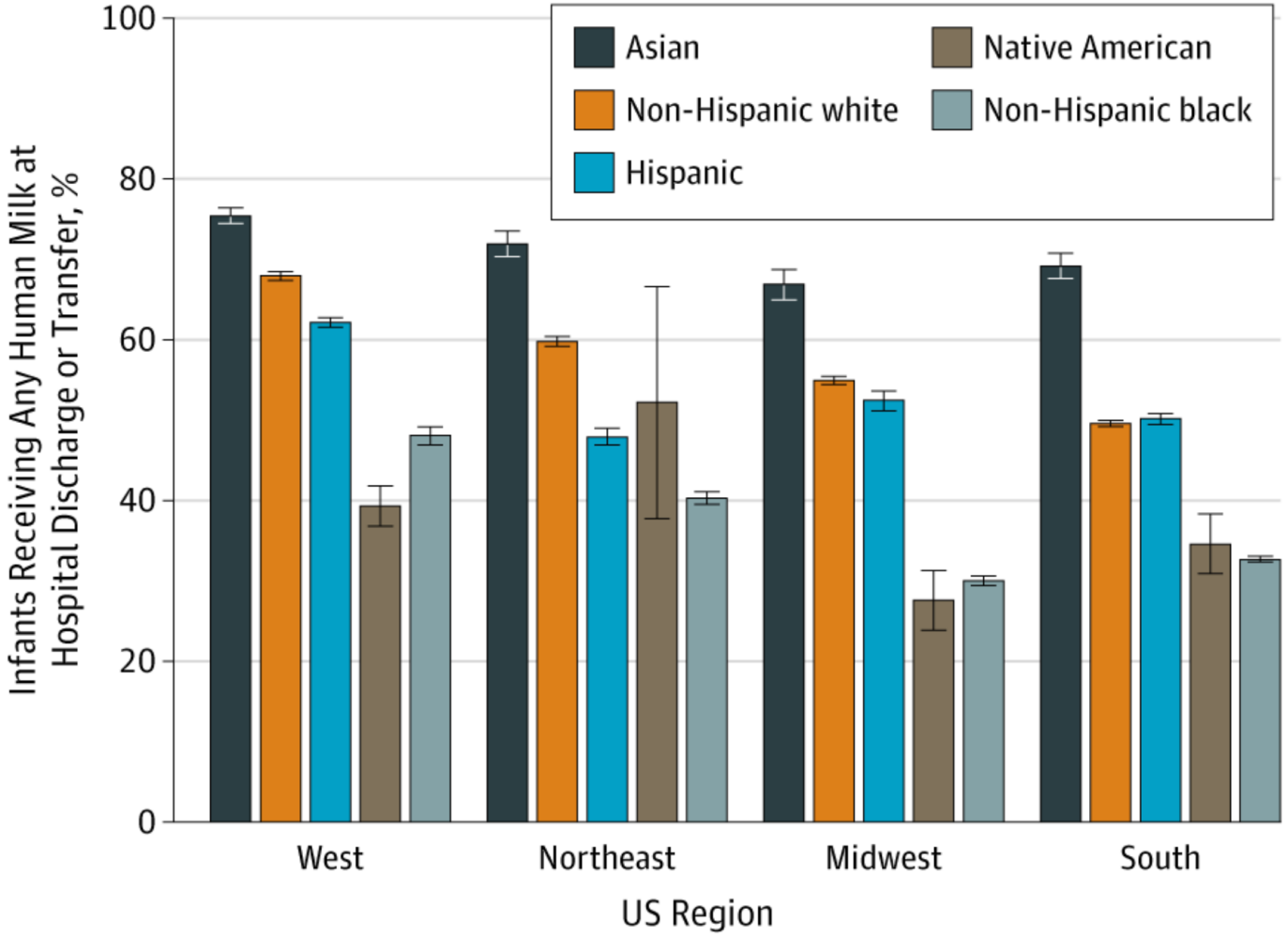
https://www.cpqcc.org/improvement/previous-projects

Breast milk feeding by maternal race/ethnicity



Parker et al. National Trends in the Provision of Human Milk at Hospital Discharge Among Very Low-Birth-Weight Infants. JAMA 2019.

US regional variation in any human milk at discharge by maternal race/ethnicity



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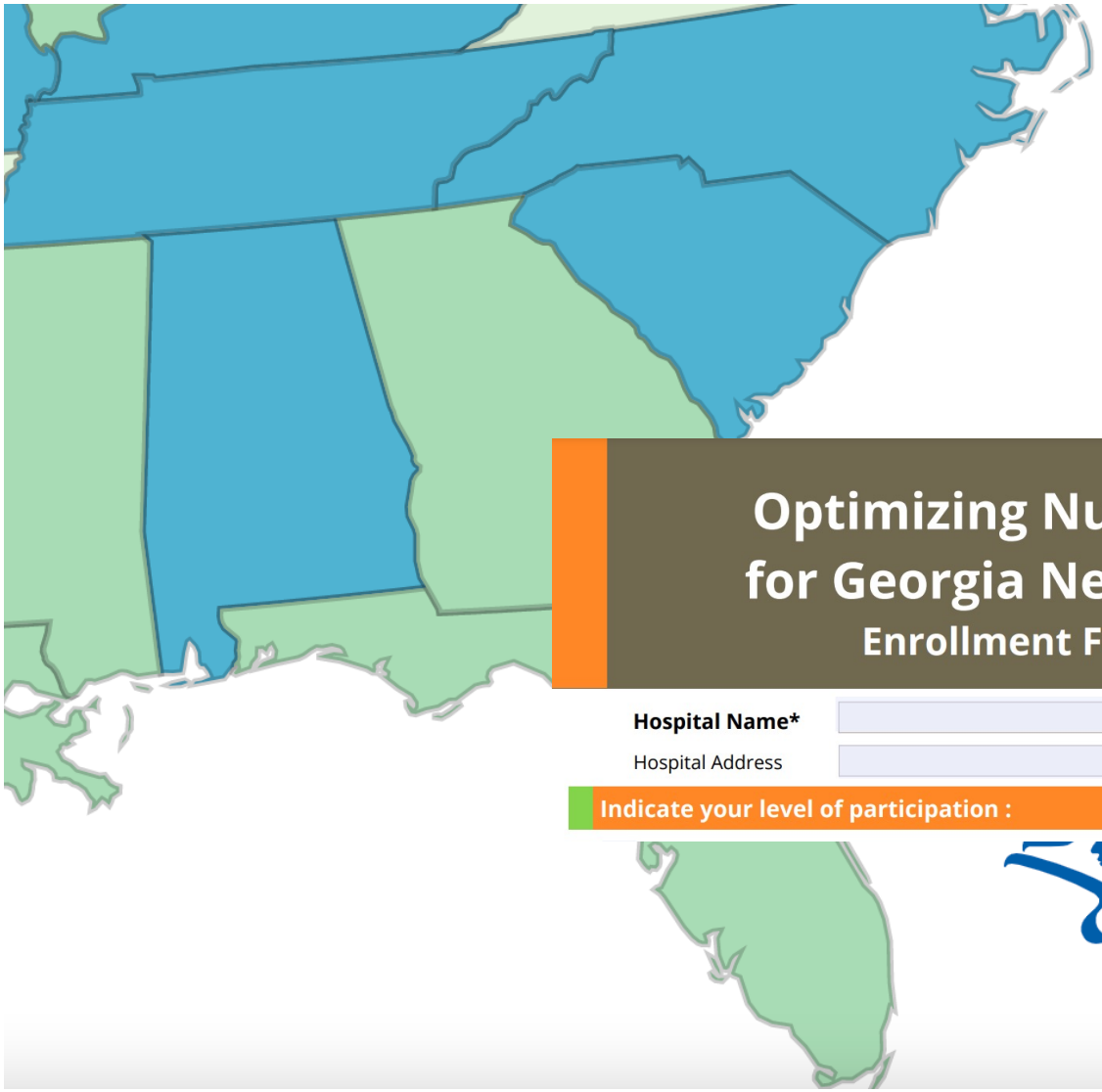


Optimizing Nutrition for Georgia Newborns

Enrollment Form

GaPQC
GEORGIA PERINATAL QUALITY COLLABORATIVE

Hospital Name*

Hospital Address

Indicate your level of participation :

Lactation Station

Family and Community

Peer Support

- RUSH Mother's Milk Club
- Virtual Support Groups
- WIC peer counselors: some had babies in the NICU
- Group Support in the NICU

Transporting the milk

- Individualized counseling
- Supplies
- Pooling
- Inventory
- Donation
- Alternatives to hand delivery

The Washington Post
Democracy Dies in Darkness

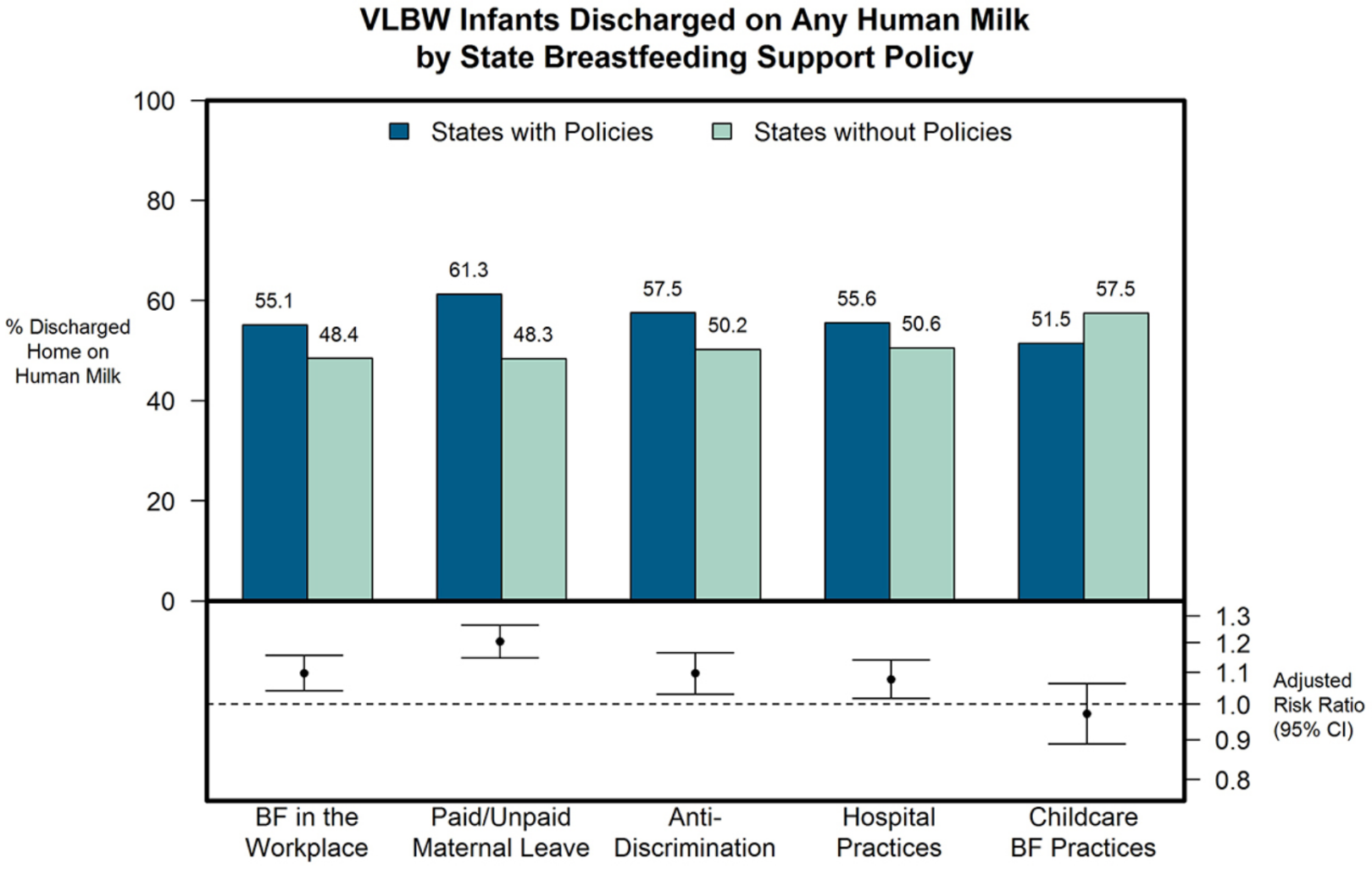
Why these bikers crisscross New York delivering donated breast milk

https://www.washingtonpost.com/lifestyle/2019/11/04/why-these-bikers-crisscross-new-york-delivering-donated-breast-milk/

Workplace/Employment

States with Supportive Breastfeeding Policies Have Higher Rates of Discharge Home on Any Human Milk among Surviving VLBW Infants

Issue 9 – September 2019



Government and Policy

- State and federal
- WIC
- Code for lactation services
- Paid family leave
- Post-partum Medicaid coverage
- Medicaid coverage for DHM
- ACA breastfeeding work/employment
- State level quality improvement programs (GaPQC etc)

Donor Human Milk Use in Advanced Neonatal Care Units

Summary

- Infants with very low birthweight (VLBW) are at increased risk for long- and short-term health problems. Human milk is the recommended nutrition source for infants with VLBW, who should receive supplemental donor milk when mother's own milk is insufficient or unavailable.
- Analysis of CDC's 2020 Maternity Practices in Infant Nutrition and Care survey data found that donor milk was not available for infants with VLBW at 13.0% of U.S. hospitals with neonatal intensive care units (level III or IV).
- Identifying and addressing barriers to provision of donor milk for infants with VLBW could help ensure that these infants receive donor milk when needed and help decrease associated morbidity and mortality.

CDC MMWR August 2022

Benefits of Donor Human Milk

- In units that incorporate donor human milk in nutritional plan:
  - Improved breastfeeding rates
  - May shorten NICU length of stay

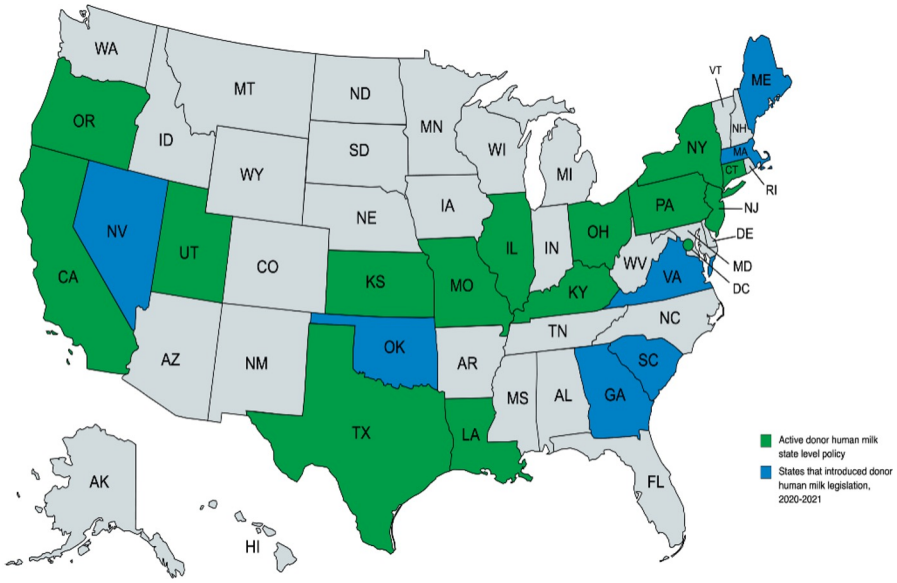
- In infants who receive donor human milk instead of formula:
  - Decrease rates of necrotizing enterocolitis

Barriers to Donor Milk Access in the NICU

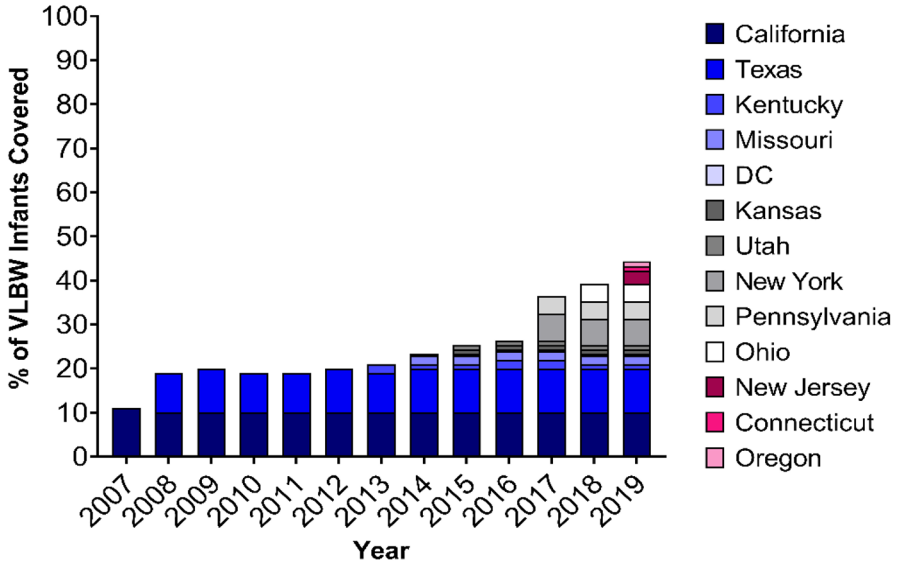
- How/if to classify human milk
- Lack of reimbursement by payors
- Systemic issues which leave safety-net hospitals underfunded
- Lack of knowledge among parents, medical providers, policy makers, and the public
- Systems barriers/administrative inefficiencies/limited resources

Policy Barriers to Donor Human Milk Access

US States with active or proposed insurance coverage for donor human milk



Percent of very preterm infants born in a state with active insurance coverage for donor human milk



Summary

- Understanding barriers and their root cause to providing human milk to preterm infants is important.
- Understanding how different races/ethnicities are impacted by barriers and solutions is key to improving outcomes for everyone.
- Solutions can range to small local change to large state and federal policy.