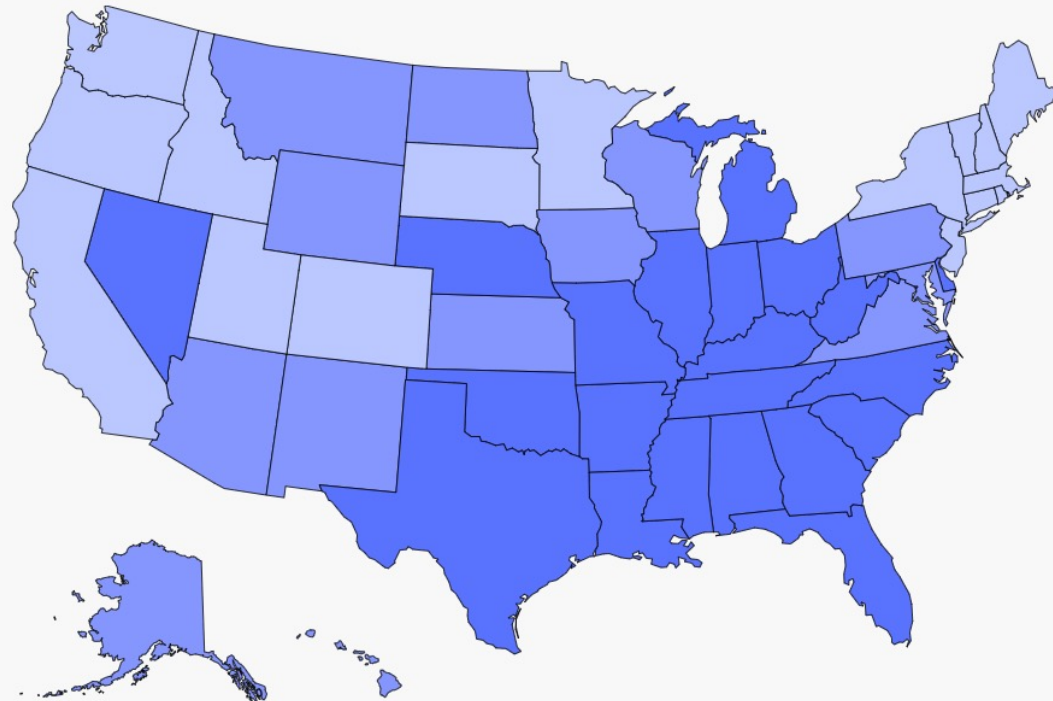


MCH Leadership Lab

*Project opportunities related to preterm
infant health and development*

2023-2024 Academic Year

Preterm birth rate by county: United States, 2020



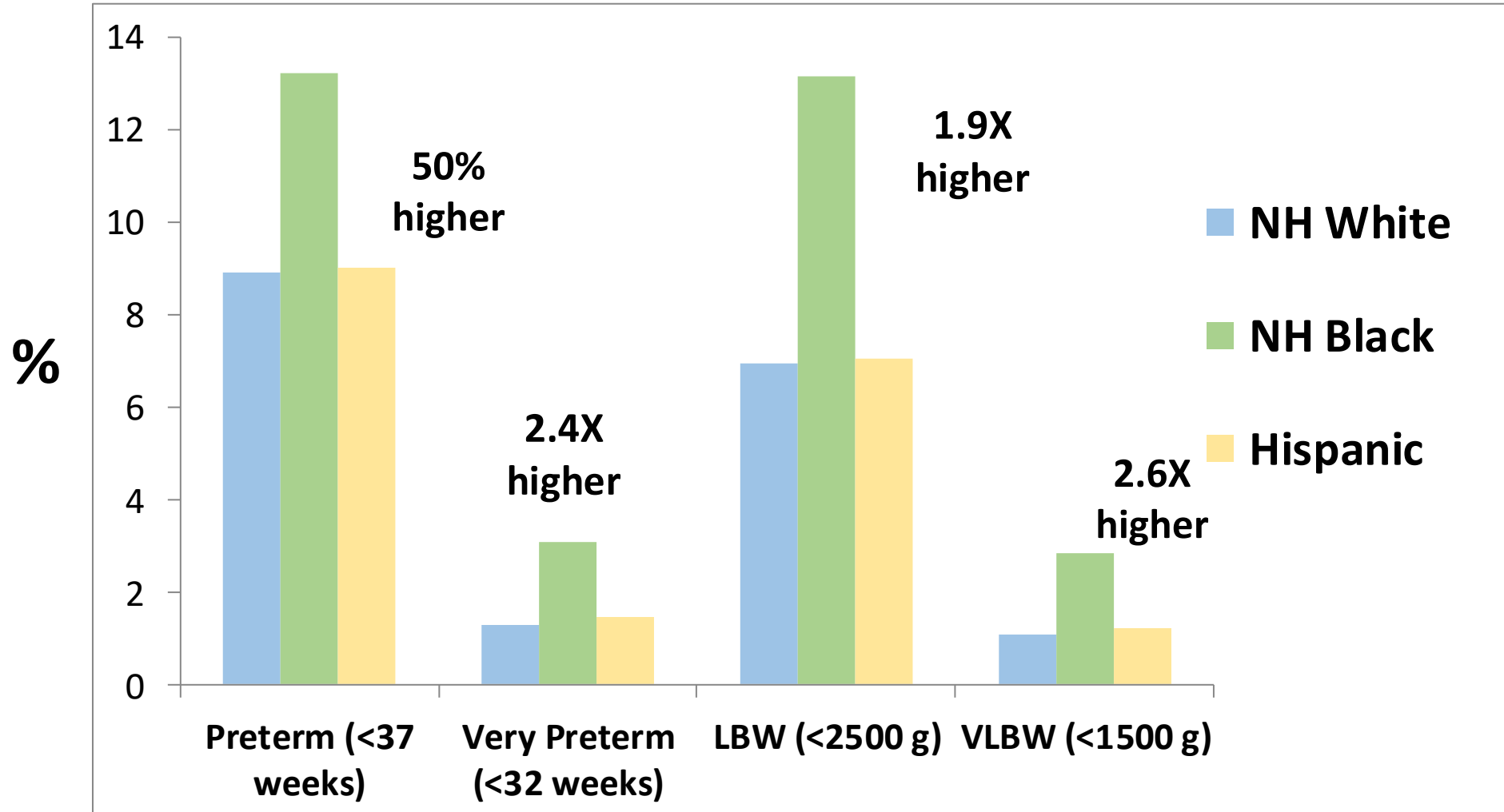
Percent of live births

- **Higher than US Rate of 10.1 (21)**
- **Between HP 2030 Objective and US Rate (14)**
- **Met or lower than HP 2030 Objective of 9.4 (16)**

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1 in 10 births is preterm (<37 weeks of gestation)
Preterm birth is 2nd leading cause of infant death in U.S.

Racial inequities in preterm birth, United States



Hamilton et al. Births: Final data for 2014. National Center for Health Statistics. 2015

Slide from
H. Burris

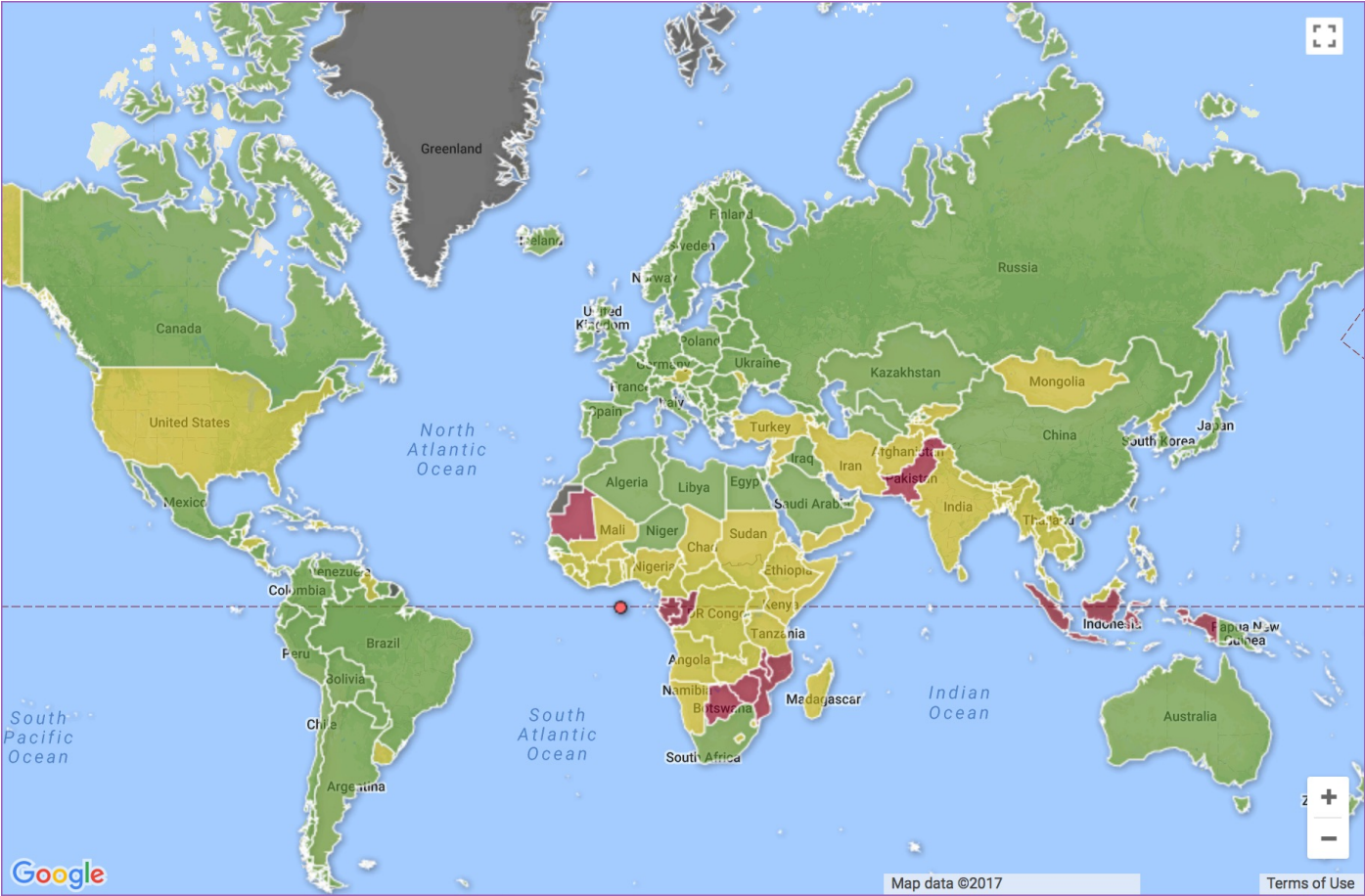
Worldwide

15 million preterm births/year

1.1 million infant deaths/year

Leading cause of neonatal mortality

75% of deaths preventable with basic (non-ICU) care





Many effective hospital based interventions

- Mechanical ventilation
- Thermoregulation
- Medications
- **Nutrition support, human milk**
- Developmentally & family-centered care



The overarching goal of our research is for very preterm infants to leave the NICU *well-nourished*, because this is a foundation for their lifelong health and well-being.



Belfort Lab

PI: Mandy Brown Belfort, MD MPH

Areas of Focus

- Human milk/breastfeeding
 - Diet interventions
 - Milk bioactives
- Infant growth assessment
- Neurodevelopment
- Neuroimaging (MRI)
- Cardiometabolic outcomes
- NICU nutrition quality

Methods

- Mid-IR human milk analysis
- Anthropometry
- Air displacement plethysmography
- Bioimpedance spectroscopy
- Observational & interventional study designs
- Quality improvement

Current Projects

- Nourish RCT
- Zinc exosomes
- Lactoferrin-brain
- HMO-brain
- Neonatal Nutrition Collaborative
- NICU Nutrition QI & dashboard

Environment

- Weekly lab & ops meetings
- WIPs – academic skills
- Biospecimens & data
- Neuroscience collaboration
- Postdoctoral fellows
- Early career faculty
- RAs, research RNs
- Project/data manager


T E A M S C I E N C E

STUDY PROTOCOL

Open Access

Targeting human milk fortification to improve very preterm infant growth and brain development: study protocol for Nourish, a single-center randomized, controlled clinical trial



Mandy B. Belfort^{1,2*} , Lianne J. Woodward³, Sara Cherkerzian^{1,2}, Hunter Pepin^{1,4}, Deirdre Ellard^{1,4}, Tina Steele^{1,5}, Christoph Fusch⁶, P. Ellen Grant^{2,7} and Terrie E. Inder^{1,2}

MCH Leadership Lab students

Attend and contribute to weekly Newborn Nutrition Lab meetings

Contribute to ongoing research or QI project with faculty mentor

Opportunities for shadowing of research and clinical teams



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