

The image shows the top portion of a presentation slide. In the top right corner is the logo for Children's Healthcare of Atlanta, which consists of a green circle containing two stylized white figures of a child and an adult, with the text "Children's" in a large, bold, black font and "Healthcare of Atlanta" in a smaller, black font below it. The main title of the slide, "Social Drivers of Breast/Chestfeeding", is displayed in a large, bold, green font. Below the title is a solid green horizontal line. Underneath the line, the presenter's name, "Michelle-Marie Peña, MD MSPH", is written in a black font. Below the name, the presenter's roles, "Medical Director for Health Equity, Children's Healthcare of Atlanta" and "Physician Lead, Grady NICU Human Milk Working Group", are listed in an italicized black font. At the bottom of the slide, there is a decorative horizontal row of small, light gray dots.

1




Financial Disclosures

- I am a Co-Investigator for a clinical trial funded by an NIH NICHD R01 and March of Dimes studying the impact on financial transfers on human milk provision and skin-to-skin in low-income parents.
- I am a K12 BIRCWH (Building Interdisciplinary Research Careers in Women's Health) Scholar studying skin-to-skin in the NICU.

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Personal Disclosures

- I'm a Cuban-American cis woman
- Neonatologist & Researcher
- I'm a mother of 2 healthy term children
 - I was not breastfed
 - Latch difficulties
 - Proud exclusive pumper
 - Supportive partner



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Language

- Breastfeeding or chestfeeding
- Birthing parents
- Breastmilk or parent's milk


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Objectives

- Review social factors that contribute to breastfeeding inequities.
- Emphasize the importance of centering the parent voice in understanding and addressing breastfeeding inequities.
- Identify strategies for incorporating lived experiences into effective interventions.
- Formulate actionable steps that stakeholders can take to promote breastfeeding equity and support parents in meeting their feeding goals.

Today: Focus on in-hospital lactation support

I don't have all the answers, but I am committed to learning.

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Setting the Tone: Lactation support is a team sport

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Setting the Tone: We all play an important role

- Let's meet each other
- Let's learn from each other



Community
lactation provider



Hospital lactation
provider



Providers + Staff

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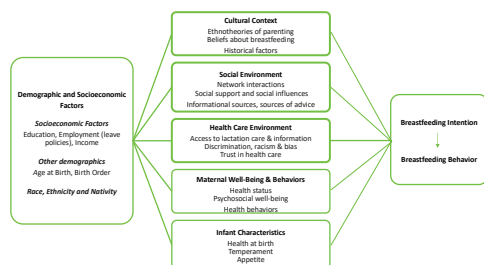
Social Drivers of Breastfeeding: Conceptual Model



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Conceptual Model for Breastfeeding



Adapted from Lee et al. Social Science Quarterly, 2009.



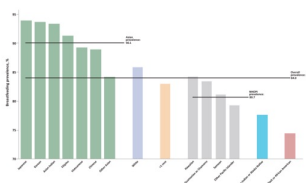
Data by Social Drivers



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Breastfeeding Inequities – Race



- Structural racism
→ inequitable distribution of SDOH
- Personally mediated racism and bias
- Historical trauma

Figure 2. Breastfeeding initiation by maternal race groups, with disaggregation of those with Hispanic ancestry in other Pacific Islander categories. All data are by period of delivery, 2002-2003. Two states were excluded: California, because breastfeeding data are not reported by race and ethnicity; and Michigan, because data are collected inconsistently. Source: National Vital Statistics System (19). [A color version of this figure is available.]

Marks KJ, Nakayama JY, Chang KV, Gap ME, Anstey EH, Boundy EO, Hamner HC, Li R. Disaggregation of Breastfeeding Initiation Rates by Race and Ethnicity - United States, 2020-2021. Prev Chronic Dis. 2023 Dec 14;20(1):14. doi: 10.5888/pcd2020199. PMID: 38096123; PMCID: PMC10720002.

Robinson L, Fall A, Hanson L. Racism, Bias, and Discrimination as Modifiable Barriers to Breastfeeding for African American Women: A Scoping Review of the Literature. J Midwifery Womens Health. 2023 Nov;64(6):734.

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Breastfeeding Inequities – Ethnicity

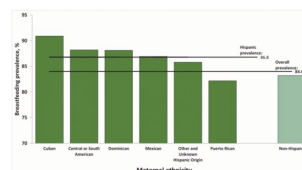


Figure 2. Breastfeeding initiation by maternal ethnicity groups, with disaggregation of Hispanic ethnicity subgroups, for all states and the District of Columbia, 2020-2021. Two states were excluded: California, because breastfeeding data are not reported by race and ethnicity; and Michigan, because data are collected inconsistently. Source: National Vital Statistics System (19). [A color version of this figure is available.]

Marks KJ, Nakayama JY, Chang KV, Gap ME, Anstey EH, Boundy EO, Hamner HC, Li R. Disaggregation of Breastfeeding Initiation Rates by Race and Ethnicity - United States, 2020-2021. Prev Chronic Dis. 2023 Dec 14;20(1):14. doi: 10.5888/pcd2020199. PMID: 38096123; PMCID: PMC10720002.

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Breastfeeding Inequities

TABLE 1. Breastfeeding duration for respondents with live, singleton births in the 2016–2019 Pregnancy Risk Assessment Monitoring System, 43 states and the District of Columbia.*

	Sample	Row percent never breastfed	Row percent ever breastfed	Row percent breastfeeding at 3 months or time of survey	Row percent breastfeeding at 6 months or time of survey
Race and ethnicity					
Non-Hispanic White	59.2	11.8	88.2	63.4	59.2
Non-Hispanic Black	14.8	22.1	77.8	44.7	36.3
Hispanic	16.3	8.6	91.3	59.2	51.0
Asian	5.3	7.5	92.5	74.1	69.0
Other	4.4	10.8	89.2	62.0	55.0
Spanish preferred language	11.6	8.5	91.5	62.0	53.7

Chao LE, Yee LM, Feinglass J. Rates of breastfeeding initiation and duration in the United States: data insights from the 2016–2019 Pregnancy Risk Assessment Monitoring System. *Front Public Health*. 2023 Dec 19;11:1256432. doi: 10.3389/fpubh.2023.1256432. PMID: 38193551; PMCID: PMC10773697.

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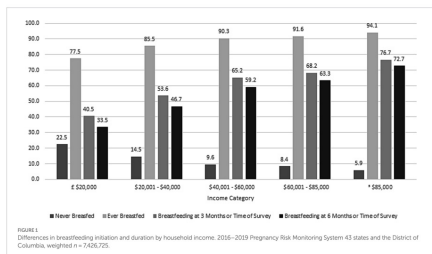
Racial and Ethnic Groupings Caveat*

- Social and cultural groupings
- Evolving
- *Exposure to racism and discrimination*
- Intersectional with other factors like SDOH

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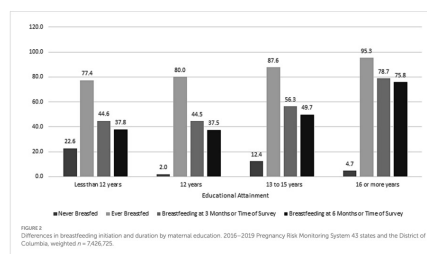
Breastfeeding Inequities - Income



Chao LE, Yee LM, Feinglass J. Rates of breastfeeding initiation and duration in the United States: data insights from the 2016–2019 Pregnancy Risk Assessment Monitoring System. *Front Public Health*. 2023 Dec 19;11:1256432. doi: 10.3389/fpubh.2023.1256432. PMID: 38193551; PMCID: PMC10773697.

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Breastfeeding Inequities - Education



Chao LE, Yee LM, Feinglass J. Rates of breastfeeding initiation and duration in the United States: data insights from the 2016–2019 Pregnancy Risk Assessment Monitoring System. *Front Public Health*. 2023 Dec 19;11:1256432. doi: 10.3389/fpubh.2023.1256432. PMID: 38193551; PMCID: PMC10773697.

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Breastfeeding Inequities - SES

- Education → Improved job mobility and wealth → financial support
- Financial support:
 - Access to more lactation support
 - Breast pumps and supplies
 - Paid support for childcare or other household tasks
- Breastfeeding, Is. Not. Free.

Chao LE, Yee LM, Feinglass J. Rates of breastfeeding initiation and duration in the United States: data insights from the 2016–2019 Pregnancy Risk Assessment Monitoring System. *Front Public Health*. 2023 Dec 19;11:1256432. doi: 10.3389/fpubh.2023.1256432. PMID: 38193551; PMCID: PMC10773697.

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Breastfeeding Inequities - Employment

Breastfeeding Medicine
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Reviews

Maternity Leave and Its Impact on Breastfeeding: A Review of the Literature

Deborah Navarro-Rosenblatt¹ and Maria Luisa Gamenda²

- Work is a common barrier to breastfeeding
- Association between parental leave length and breastfeeding duration

Delle Donne A, Hatch A, Carr NE, Aden J, Shapiro J. Extended Maternity Leave and Breastfeeding in Active Duty Mothers. *Pediatrics*. 2019 Aug;144(2):e20183795. doi: 10.1542/peds.2018-3795. Epub 2019 Jul 22. PMID: 31333385.

Navarro-Rosenblatt D, Gamenda ML. Maternity Leave and Its Impact on Breastfeeding: A Review of the Literature. *Breastfeed Med*. 2018 Nov;13(9):589-597. doi: 10.1089/bfm.2018.0132. Epub 2018 Sep 25. PMID: 30564255.

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Breastfeeding Inequities - Food insecurity

- Food insecurity is associated with shorter breastfeeding duration
 - A study by de Brito et al. found that mothers experiencing food insecurity had a lower prevalence of breastfeeding at four months postpartum (adjusted prevalence ratio [aPR] 0.65; 95% CI, 0.43-0.98).
 - Buccini et al. reported that household food insecurity (HFI) is associated with lower odds of exclusive breastfeeding (EBF) with an odds ratio (OR) of 0.61 (95% CI, 0.49-0.76).

de Brito JN, Friedman JK, Johnson ST, Berge JM, Mason SM. Exploring the associations of food and financial insecurity and food assistance with breastfeeding practices among first-time mothers. *Public Health Nutr*. 2024 Sep 6;27(13):4160. doi: 10.1017/S1368980024001314. PMID: 39238065; PMCID: PMC11505288.

Buccini G, Larrison C, Neugane S, Paluga M, Schmitz RM, Brown S, Gubert MB. Complex interwoven association between breastfeeding practices and household food insecurity: Systematic review and meta-analysis. *Matern Child Nutr*. 2024 Oct;20(4):e13696. doi: 10.1111/mcn.13696. Epub 2024 Jul 3. PMID: 38960401; PMCID: PMC11574660.

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Breastfeeding Inequities - Housing

- Housing instability → less likely to initiate and shorter duration of breastfeeding
- Used the World Health Organization (WHO)/UNICEF *Ten Steps to Successful Breastfeeding* as a framework to develop the Ten Steps to a Breastfeeding-Friendly Shelter

Table 1 Ten Steps to a Breastfeeding-Friendly Shelter Pilot Framework.

Step	Description of the Policy Step
1	Have a written policy that is communicated to all staff and residents.
2	Train all staff in implementation of this policy.
3	Provide water and electricity to all breastfeeding residents at night.
4	Protect the right of babies to breastfeed in dining and public areas.
5	Provide a clean, private, and safe space (not a bathroom) for breastfeeding support.
6	Provide breastfeeding residents and staff with equipment and materials to collect and store their milk.
7a	Develop a relationship with breastfeeding resources in the community.
7b	Bring in an infant feeding expert on a scheduled basis.
8	Provide breastfeeding residents with their nursing babies 6 months of age or younger with them in any classes or groups within the facility.
9	Train all staff and residents with infants in paced bottle-feeding techniques to support the infant's ability to regulate its intake.
10	Keep a reference guide of current community breastfeeding resources, train all staff in its use, give residents referrals to the shelter (2019).

Note. Adapted from Implementation: Outcomes, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services - The Revised Baby-Friendly Hospital Initiative (WHO, 2019).

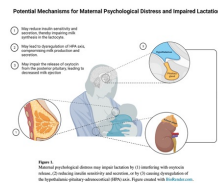
Ernst A, Lee N, Karamanian V. Building a Policy: Ten Steps to a Breastfeeding-Friendly Shelter. *J Hum Lact*. 2020 Nov;36(4):795-802. doi: 10.1177/0890334420935822. Epub 2020 Jun 24. PMID: 32379055.

Richards R, McNeill RM, Balogh L. Health behaviors and infant health outcomes in homeless pregnant women in the United States. *Pediatrics*. 2011 Sep;128(3):438-46. doi: 10.1542/peds.2010-0885. Epub 2011 Aug 2. PMID: 21853555.

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Breastfeeding Inequities - PMADs and Stress

- Perinatal mood and anxiety disorders (PMADs) are associated with decreased breastfeeding initiation and shorter duration
- Psychological distress can impair the release of oxytocin and elevate cortisol levels → decreased milk production
- Black and Hispanic birthing parents are more likely to experience PMADs (SDOH, negative birth experiences)



Nagel EM, Howland MA, Pando C, Stang J, Mason SM, Fields DA, Demerath EW. Maternal Psychological Distress and Lactation and Breastfeeding Outcomes: a Narrative Review. *Clin Ther*. 2022 Feb;44(2):315-327. doi: 10.1016/j.clinther.2021.11.007. Epub 2021 Dec 20. PMID: 34857652; PMCID: PMC8560537.

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Breastfeeding Inequities - NICU

- Minority parents are more likely to experience PMADs (SDOH, negative birth experiences)
- Over the course of the NICU stay, the role of the parent is more important than the role of the nurse

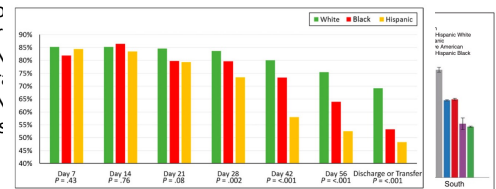


FIGURE 3
Any mother's milk provision over time according to race and ethnicity at all Massachusetts level 3 birth centers (according to day of hospitalization). The χ^2 P values are shown.

Parker MG, Burnham LA, Melvin P, Singh R, Lopez AM, Belfort MB, Moses JM, Gupta M. Addressing Disparities in Mother's Milk for VLBW Infants Through Statewide Quality Improvement. *Pediatrics*. 2019 Jul;144(1):e20183809. doi: 10.1542/peds.2018-3809. Epub 2019 Jun 18. PMID: 31213519.

Patel AL, Johnson T, Meier PP. Racial and socioeconomic disparities in breast milk feeding in US neonatal intensive care units. *Pediatr Res*. 2021 Jan;89(1):344-352. doi: 10.1038/s41390-020-0120-y. Epub 2020 Nov 13. PMID: 33188286; PMCID: PMC7662724.

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Hospitals: How we can Center the Patient Voice



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Methods

- Learn directly from parents
 - Interviews, focus groups
 - Surveys
 - Gemba walk: "go and see"
- Women's Health Advisory Council
- Community partners

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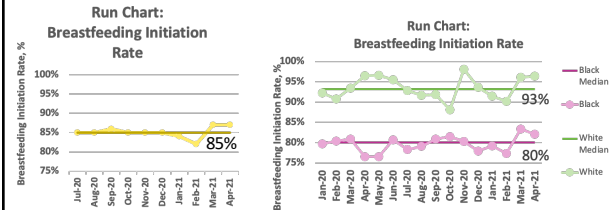


Example Approach



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Case Example: Chest/Breastfeeding Initiation Rate in Philadelphia, PA



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Gratitude HUP Neonatal Health Equity Taskforce



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Community-Hospital Partnerships



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Methods

- Community-engaged research
- Mixed Methods:
 - Semi-structured phone interviews 2-16 weeks postpartum
 - 15 question survey on sociodemographic factors and feeding information sources
- Interviews and survey conducted by a community partner who identifies as Black with expertise in
 - Chest/breastfeeding
 - Trauma-informed care



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Sampling

- **Sample:** Postpartum parents who self-identify as Black or African American
- **Sampling:**
 - Convenience sampling: Post-partum patients admitted at HUP
 - Purposive sampling: Formula v. any parent's milk intention during postpartum hospitalization (chart review)

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Participant Characteristics

Characteristic	(n=30 parents) Mean [SD] or n (%)
Parent age (years)	25.5 [5.4]
Infant age at interview (days)	51 [26]
First-time parent	18 (60%)
Formula-only intention (chart review)	13 (43%)
Formula-only at interview	14 (47%)
Exclusive parent's milk at interview	6 (20%)
High school or less	16 (53%)
Medicaid	24 (83%)
Employed	16 (53%)
Any paid parental leave (of those employed)	11 (69%)



Results: Sources of Advice and Content Themes and Subthemes

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Themes and Subthemes: Theme 1

Theme 1. Friends, family, and partner advice largely influenced the ultimate feeding plan

Subtheme 1. Experiences and opinions of friends and family influenced the advice they provided.

- "My mom, she has two and we was breastfed, and so she knew and gave me information about it."
- "Everybody was saying just if it don't work out, just use the formula because it...worked for them more than producing breastmilk."

Subtheme 2. Some parents decided to try chest/breastfeeding despite discouraging advice.

- "The people I'm around, it's not a norm to them. Even when I was doing it, I had everybody like what... he gonna be clingy, oh, your breast gonna get saggy...which I didn't care about because if I wanna breastfeed my child..."

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Themes and Subthemes: Theme 1 (Cont.)

Theme 1. Friends, family, and partner advice largely influenced the ultimate feeding plan

Subtheme 3. Peer parents provided logistical advice.

- "...she showed me over FaceTime what to do. She came to my house and helped. So even though she didn't continue with it, she has a lot of information to share with me and it helped a lot."

Subtheme 4. Partners can be important sources of motivational support.

- "My fiancé tells me not to stop, like, to keep going. Because I cried like the first three days home. And he just kept pushing me to keep going..."

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Themes and Subthemes: Theme 2

Theme 2. Prenatal discussions with obstetric providers ranged from superficial to more in-depth.

- "And it wasn't really conversations. They just asked...how I wanted to feed, and I would tell them breastfeeding."
- "...going a little deeper on both ends...and so she gave me all these examples of the type of mom you could be and...none of it's wrong...And that, to me, just that openness...as long as the baby eats, it's fine."

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Themes and Subthemes: Theme 3

Theme 3. Lactation support and advice varied.

Subtheme 1. Some felt the lactation support was supportive, while others felt pressured to chest/breastfeed.

- "...they were very, very helpful each time...They came running every time I would call..."
- "...we supplemented at nighttime with formula and the look on her (lactation consultant) face was like, she was mortified, but didn't want to say."

Subtheme 2. Some parents desired more chest/breastfeeding advice before formula was introduced.

- "I was gonna actually do both because I was gonna go back to work...but nobody never came by to actually, oh, let's see, let's try it. They was just giving me bottles."

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Themes and Subthemes: Theme 4

Theme 4. Outpatient pediatricians strongly supported chest/breastfeeding.

Subtheme 1. Pediatricians strongly encouraged chest/breastfeeding.

- "...they're like don't stop, we don't want you to stop early on and stuff like that. So they've also been a really...good help....not just with him, with me, too."

Subtheme 2. Some pediatricians provided technical lactation support.

- "...I could actually try and breastfeed right there, and they would help me try to get him to latch."

Subtheme 3. Some felt the pediatrician's advice conflicted with their feeding goals.

- "...I went to the pediatrician for the baby... it wasn't really helpful...And at that time it was formula [feeding plan]...I was engorged I didn't wanna breastfeed anymore. And she was just telling me the benefits of breastfeeding and stuff again, just like the other doctors."

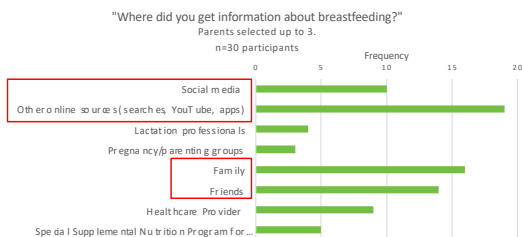
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Parent expectations, surprises and barriers (opportunities for intervention/education)

Surprise about pain and engorgement
Concern about inadequate supply early on
Surprised that latching may not come easily
Desire to learn more about pumping, milk supply and milk management
Plans to return to work influence feeding goals
Prior breastfeeding experiences impact future feeding goals
Parents who desire to provide both parent's milk and formula are navigating the real world in a variety of ways
Formula is perceived as more convenient, especially to avoid challenges related to chest/breastfeeding

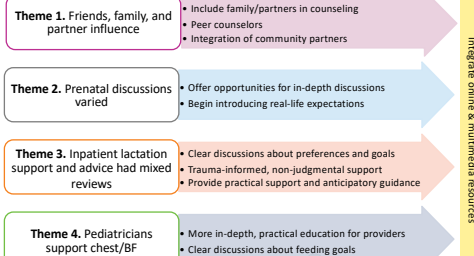
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Survey Data: Information Sources



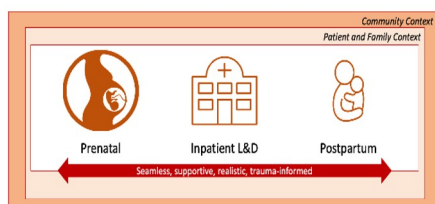
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Implications: Intervention Development



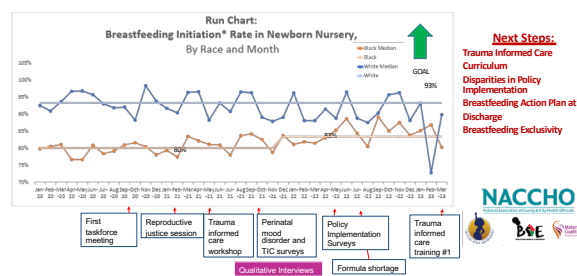
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Care Approach



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Example of Data Display by Racial/Ethnic Disparities



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Strategies to Mitigate Social Drivers

Let's do something about it



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Culture

- Culture of parents' milk as the norm
 - Still with inclusivity and acceptance of all feeding goals
- **Current state: The lactation support a parent receives is dependent on where a parent delivers**
 - Ultimate goal: A true standard of care that is community-engaged and informed

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Culture → Strategies

1. Lactation education and communication
2. Improving lactation staffing
3. Lactation support by all (nursing, providers)
4. Screening and supporting parents with PMADs
5. Screening and addressing SDOH
6. NICU: Supporting parents separated from infant



<https://recipeforbusinesssuccess.wordpress.com/>

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Group Think: Breakout Groups



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Setting the Tone

- Fill out one row with your group
- Ideally try to mix up the roles



Community
lactation provider



Hospital lactation
provider



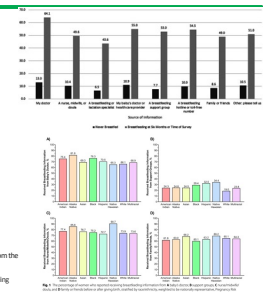
Providers + Staff

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Lactation Education

- Education that is culturally sensitive, relevant
- Aim to enhance self-efficacy
- Role of community
- Meet parents where they are: Where are families getting their information?



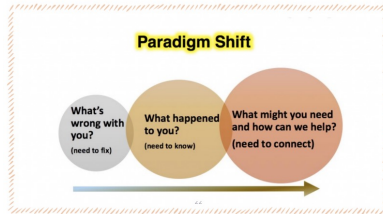
Chen LE, New UM, Tseng CL. Rates of breastfeeding initiation and duration in the United States: data insights from the 2016-2019 Pregnancy Risk Assessment Monitoring System. *Front Public Health*. 2023 Dec 19;11:1256432. doi: 10.3389/fpubh.2023.1256432. PMID: 38132151. PMCID: PMC10773897

Quintero, S.M., Strassle, P.D., Landolfo Tobols, A. et al. Racial/ethnicity-specific associations between breastfeeding information source and breastfeeding rates among U.S. women. *BMC Public Health* 23, 520 (2023). <https://doi.org/10.1186/s12889-023-15407-8>

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Communication

- Trauma-informed care → address social drivers, build trust



<http://teacheracademy.uci.edu/trauma-informed-practice-during-the-ongoing-pandemic/> Children's Healthcare of Atlanta

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Lactation staffing

- Diversifying the workforce
 - Only 1.6% of surveyed IBCLCs in 2011 identify as Black, 4.7% as Hispanic, 1.4 % Asian/Pacific Islander, 0.8 % American Indian/Native Alaskan, 0.7 % mixed race, and 3.7 % other
 - Structural barriers
- Peer counselors (example: WIC, community organizations)

Cheneynd S, Meyer A-M, Sturte A, Costello R, Labbok M. Recognition of International Board Certified Lactation Consultants by health insurance providers in the United States: Results of a National Survey of Lactation Consultants. *Journal of Human Lactation*. 2013;28(4):517-526. doi: 10.1177/0890344113509974

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Nursing & Provider Lactation Support

- Opportunities for training (Baby Friendly, CHAMPS, certifications, **EPIC**)
- Care models to build capacity for lactation support
- Culture of shared responsibility: lactation, skin to skin

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Screening and Addressing for PMAD

- Trauma-informed care approach
- Incorporated in all care
- Screening approaches
- Access to support

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Addressing SDOH

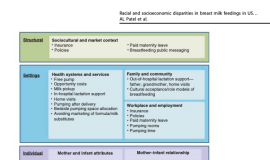
- *Individual:* Screening, Referral, follow up
- *Community:*
 - Improving access to lactation support services (Zipmilk), home visits
 - Supporting community-based organizations
 - Improving access to affordable and nutritious foods
- *Policy:* supporting CBOs, Paid maternity leave

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A Note on the NICU

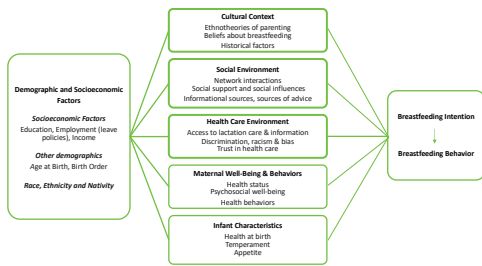
- NICU: Supporting parents separated from infant
- Lactation staffing standards
- Culture, skin-to-skin
- Structural considerations:
 - Visitation, rooming in
 - Breast pump access, supplies
 - Storing breastmilk



Patel AL, Johnson TL, Mader PP. Racial and socioeconomic disparities in breast milk feedings in US neonatal intensive care units. *Pediatrics*. 2023;Jan;159(1):344-352. doi: 10.1093/peds/159-020-012831. Epub 2020 Nov 13. PMID: 33188286; PMCID: PMC7662724

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Conceptual Model for Breastfeeding

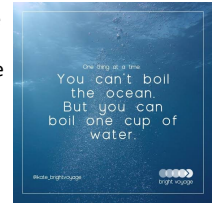


Adapted from Lee et al. Social Science Quarterly, 2009.

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Take Home Points

- Every parent is doing their best.
- Breastfeeding is hard, especially in the US...
 - Families may also be facing adverse social drivers of health
- We all play a role: think about social drivers, trauma-informed care
 - Start somewhere
 - Bring these ideas back to your communities



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Final Affirmations

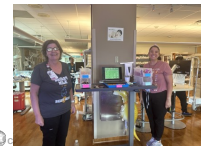
- Patients matter.
- They know themselves and their babies best.
- You matter.
- You are enough.
- We need you. We need each other. We all play a role.
- Your work is important.
- You bring value to patients' lives and health.



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Thank you

- Claire Eden
- Heidi Karpen
- GaPQC team – Plug for GaPQC site visits
- HUP Team
- Grady team



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References

1. Delie-Dorrie A, Hatch A, Carr NK, Aden J, Shapiro J. Extended Maternity Leave and Breastfeeding in Active Duty Mothers. *Pediatrics*. 2019 Aug;144(2):e20183795. doi: 10.1542/peds.2018-3795. Epub 2019 Jul 22. PMID: 31331985.
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Extra



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Breastfeeding inequities persist – Race and Ethnicity

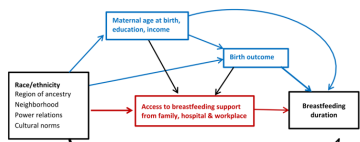


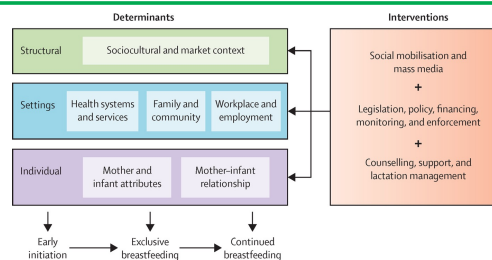
Fig. 1. Conceptual model of causal pathways for racial/ethnic disparities in breastfeeding duration. The diagram illustrates two causal pathways through which race/ethnicity influences breastfeeding duration: (1) race/ethnicity→sociodemographic factors (maternal age at birth, education, and income)→birth outcome→breastfeeding duration (pathway in blue) and (2) race/ethnicity→breastfeeding support→breastfeeding duration (pathway in red).

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Conceptual Model for Breastfeeding



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Breastfeeding Inequities Persist – Race and Ethnicity

Commentary

Social Determinants of States

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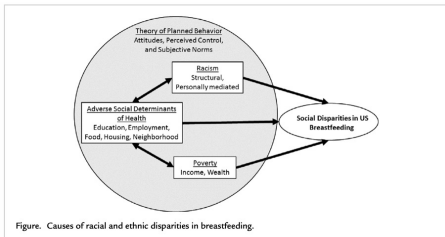


Figure. Causes of racial and ethnic disparities in breastfeeding.

Standish KR, Parker MG. Social Determinants of Breastfeeding in the United States. *Clin Ther*. 2022 Feb;44(2):186-192. doi: 10.1016/j.clinther.2021.11.009. Epub 2021 Dec 17. PMID: 34690570.

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Advice Parent to Parent

Chest/breastfeeding is hard, but don't give up
Have a Support System in Place
Educate Yourself
Trust Yourself
Seek Help from your Healthcare Team

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