Cooper Medical School of Rowan University

# Breastfeeding, Bedsharing and Safe Sleep: Preventing Infant Deaths in the US

Lori Feldman-Winter, MD, MPH
Professor of Pediatrics- CMSRU

New York City Breastfeeding Leadership Council
Annual Meeting
May 21, 2021

# Disclosure

**Lori Feldman-Winter, MD, MPH**

Has documented no financial relationships to disclose or Conflicts of Interest (COIs) to resolve.

# Unapproved or Off Label

-This presentation ***will not*** involve discussion of unapproved or off-label, experimental or investigational use medications or therapeutics.

-This presentation is comprised of ***my own personal*** viewpoints and research and not meant to represent the AAP, ABM or any institution with which I am affiliated.

Cooper

Cooper Medical School of Rowan University

# Learning Objectives

1. Describe the link between breastfeeding and SUID risk
2. Identify strategies to integrate breastfeeding and safe sleep education during one-on-one education (i.e. home visit) and group education settings
3. Demonstrate effective counseling strategies to promote breastfeeding and safe sleep (i.e. motivational interviewing and L*O*V*E)

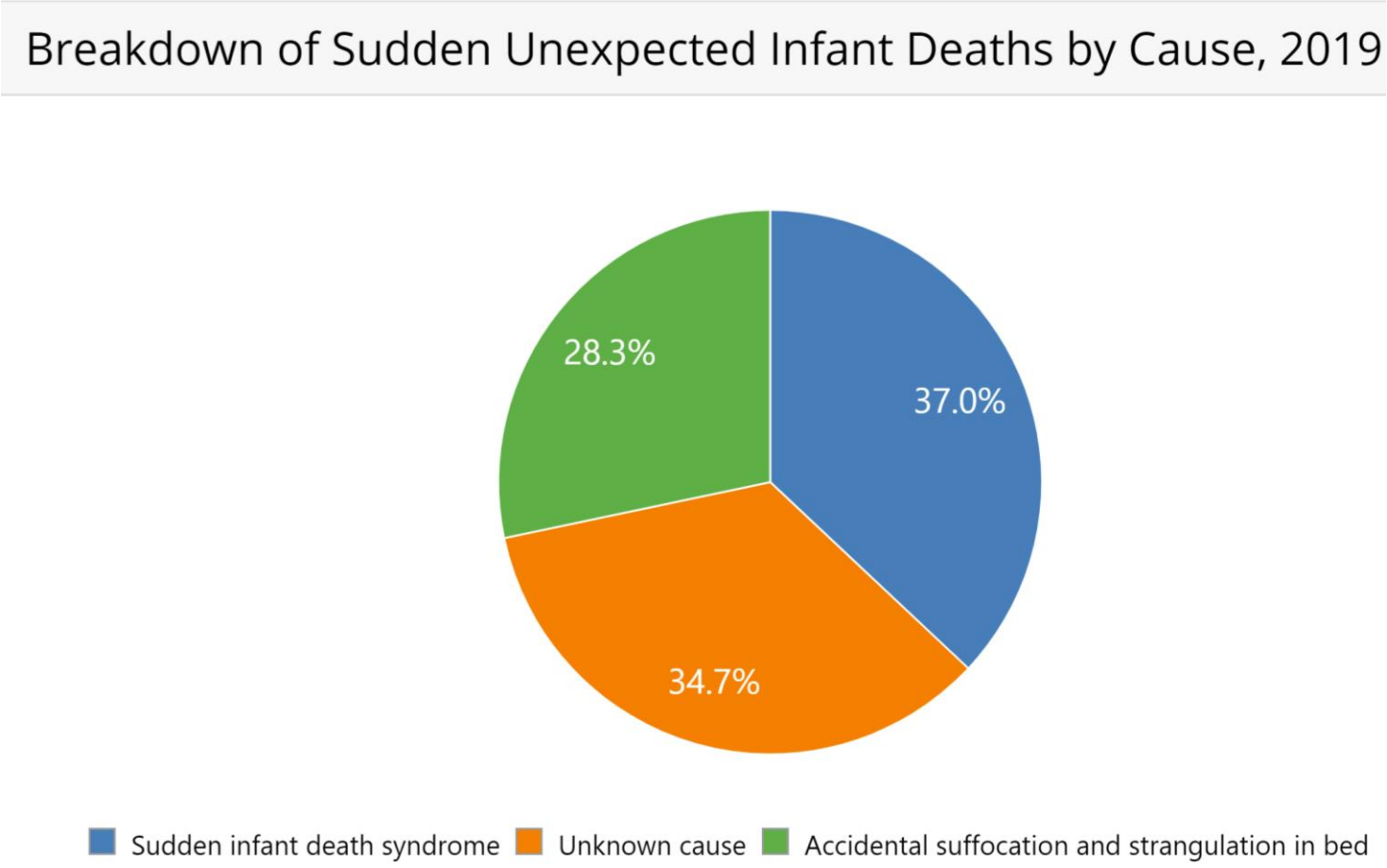
# What do we know?

- Breastfeeding is associated with decreased risk of SUID/SIDS
- Rooming-in (room sharing without bed sharing) is also associated with decreased risk of SUID/SIDS
- Worry that rooming-in leads to bedsharing and sleep deprivation
- What does the research tell us?

# Background

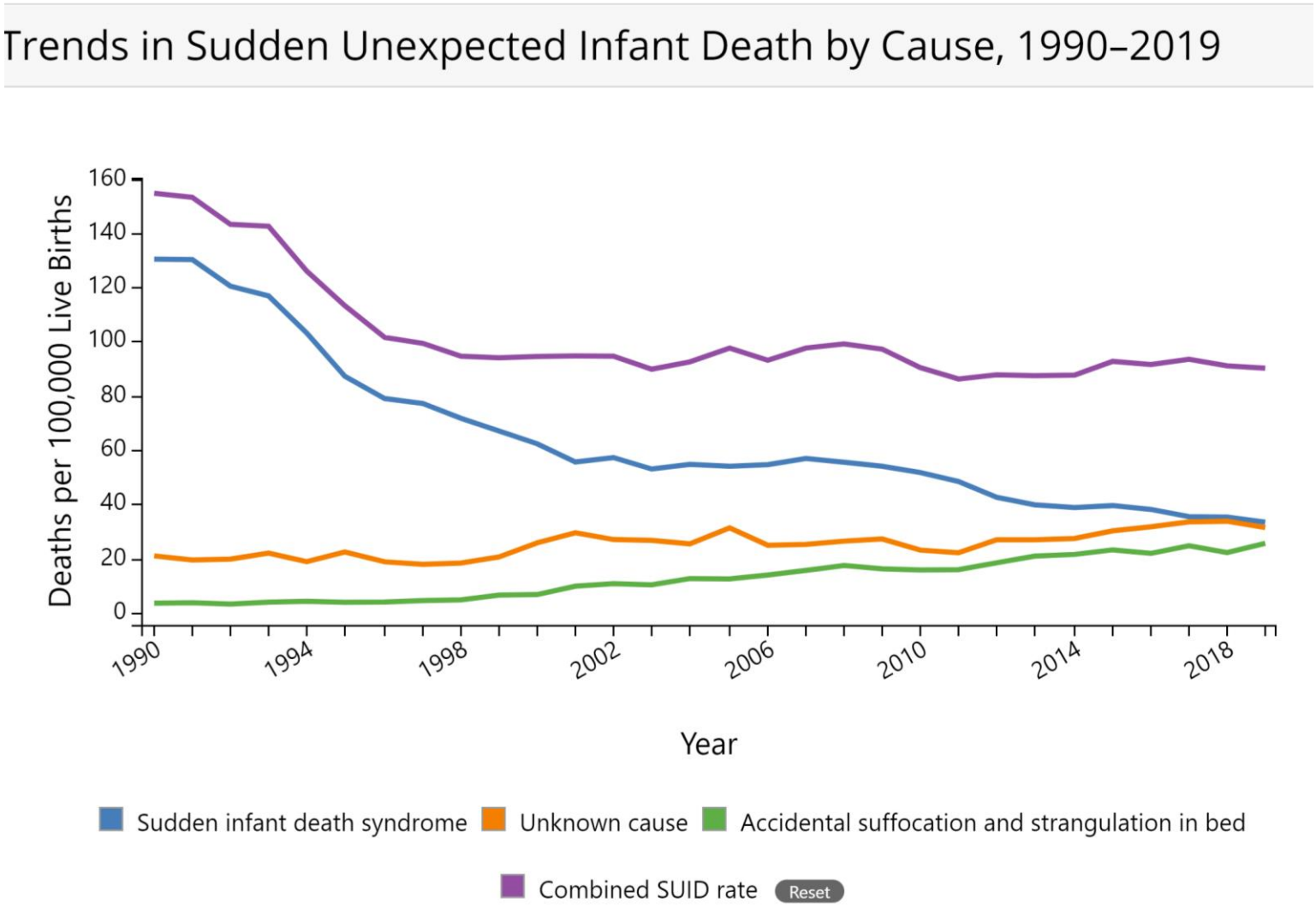
- 3400 deaths annually (down from 3700)
- SUID (SUDI) includes SIDS plus accidental suffocation and strangulation
- Back to Sleep Campaign and supine sleep led to most dramatic decline in SIDS/SUID from 1990 – early 2000's
- Rates have not declined much since then
- SUID/SIDS remains leading cause of post-neonatal death (1 month- 1 year of age)

# Components of SUID



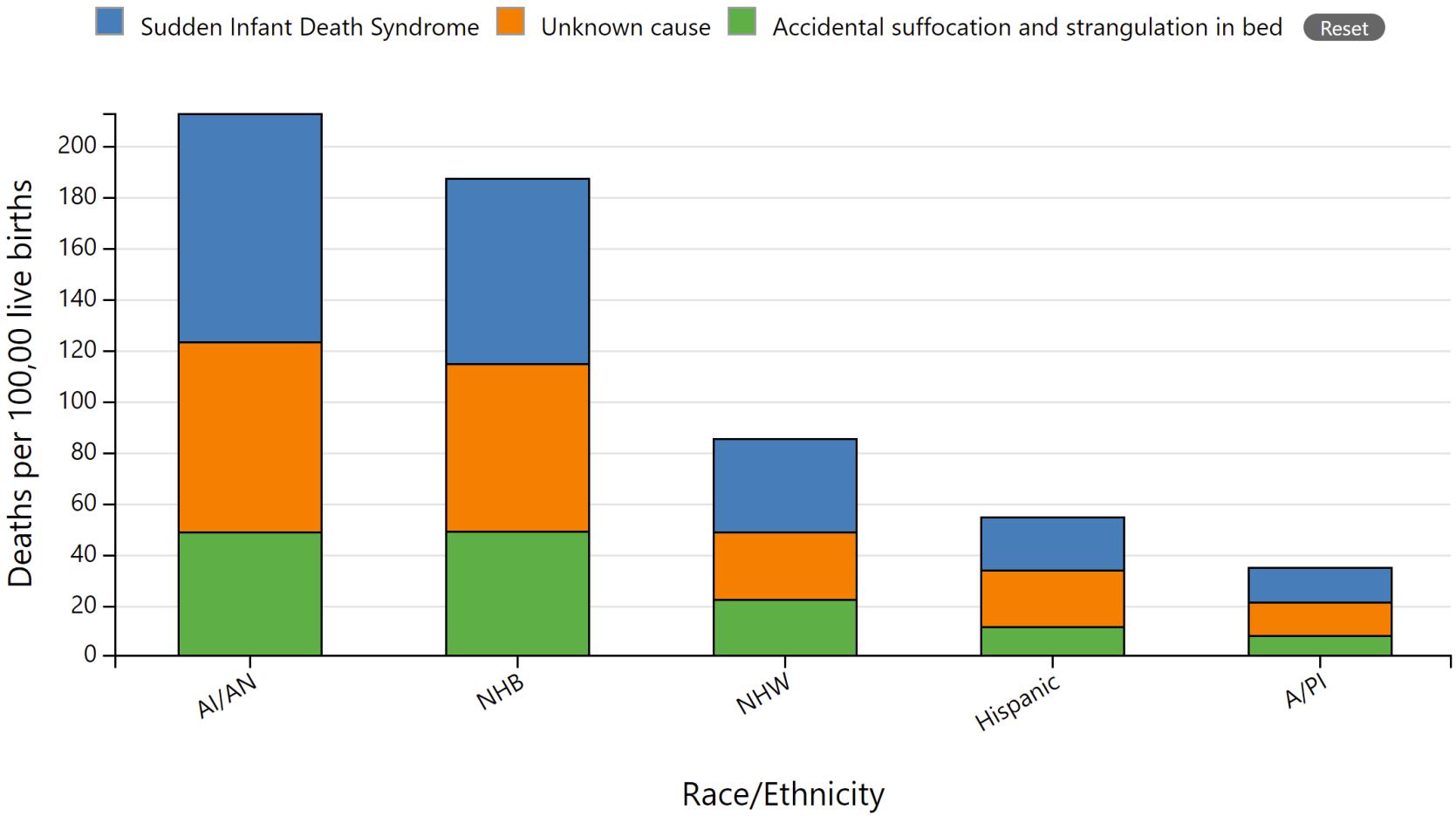

https://www.cdc.gov/sids/data.htm

# U.S. SUID Rate 1990-2019




https://www.cdc.gov/sids/data.htm

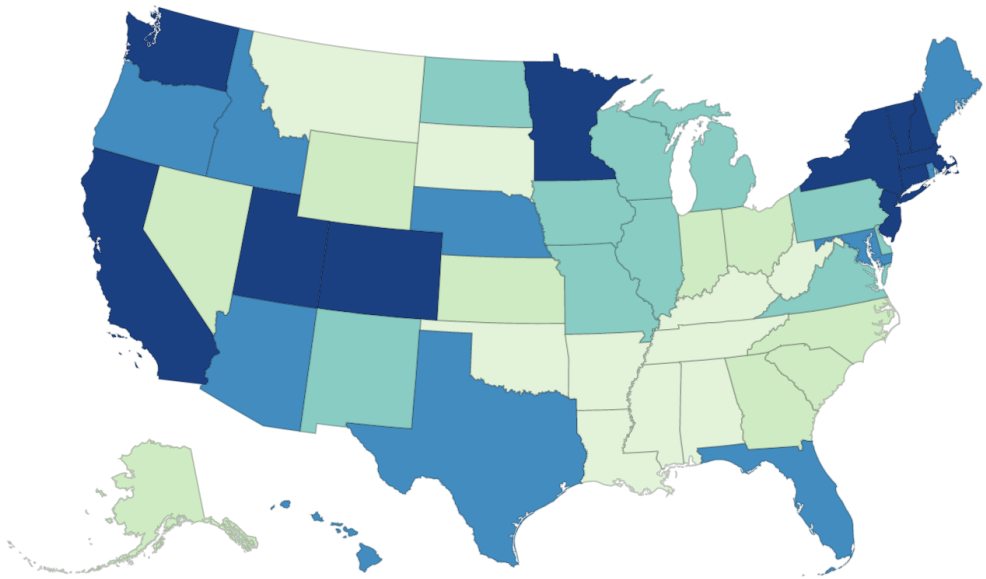
# Sudden Unexpected Infant Death by Race/Ethnicity, 2014–2018




AI/AN = American Indian/Alaska Native; NHB = Non-Hispanic Black; NHW = Non-Hispanic White; A/PI = Asian/Pacific Islander

# Geographic Differences in SUID

SUID Rates by State, 2015–2019



SUID Rates per 100,000 Live Births

- 46.3 - 72.4
- 74.8 - 90.4
- 90.5 - 101.6
- 106.6 - 127.2
- 133.3 - 184.7

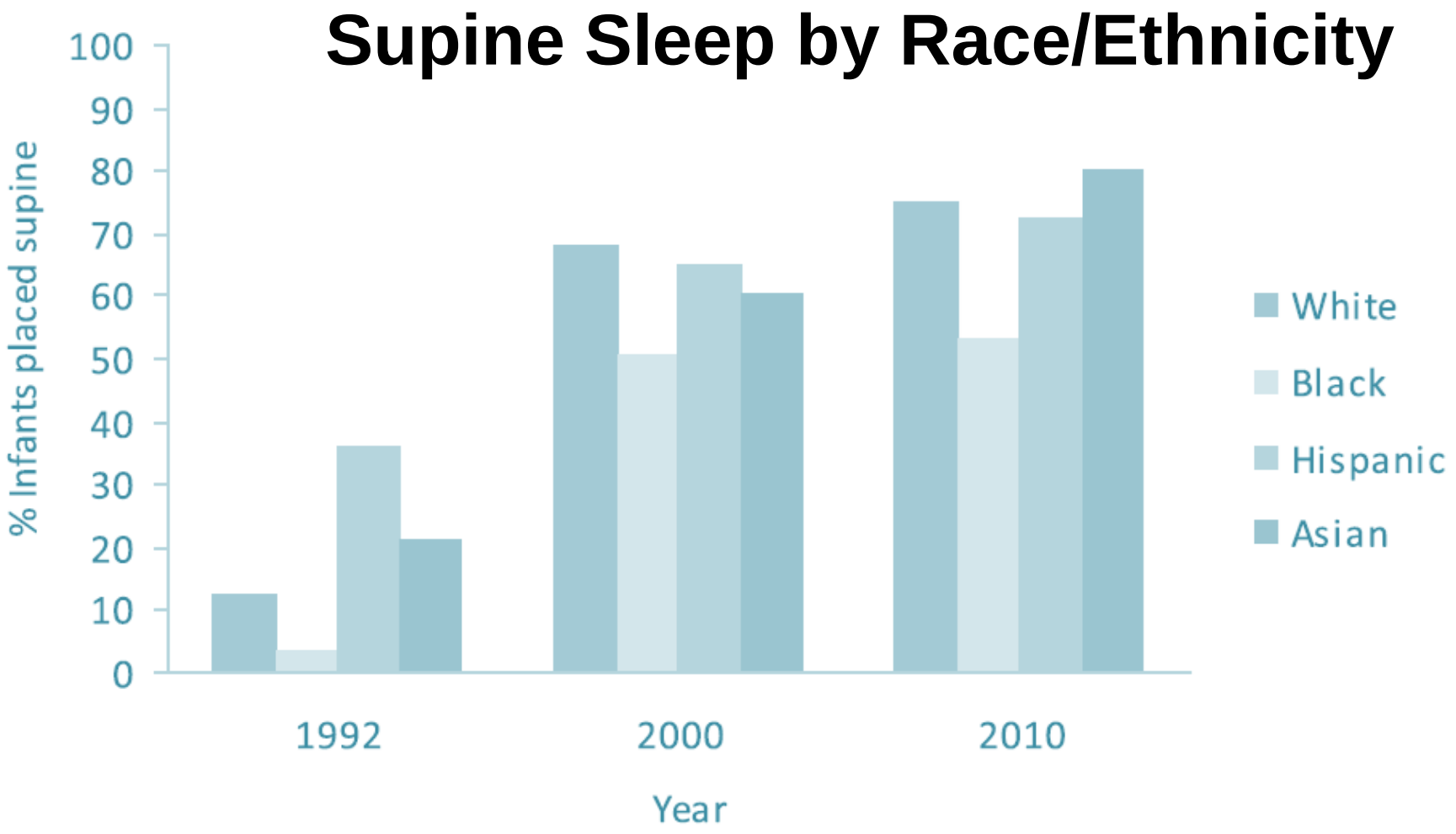
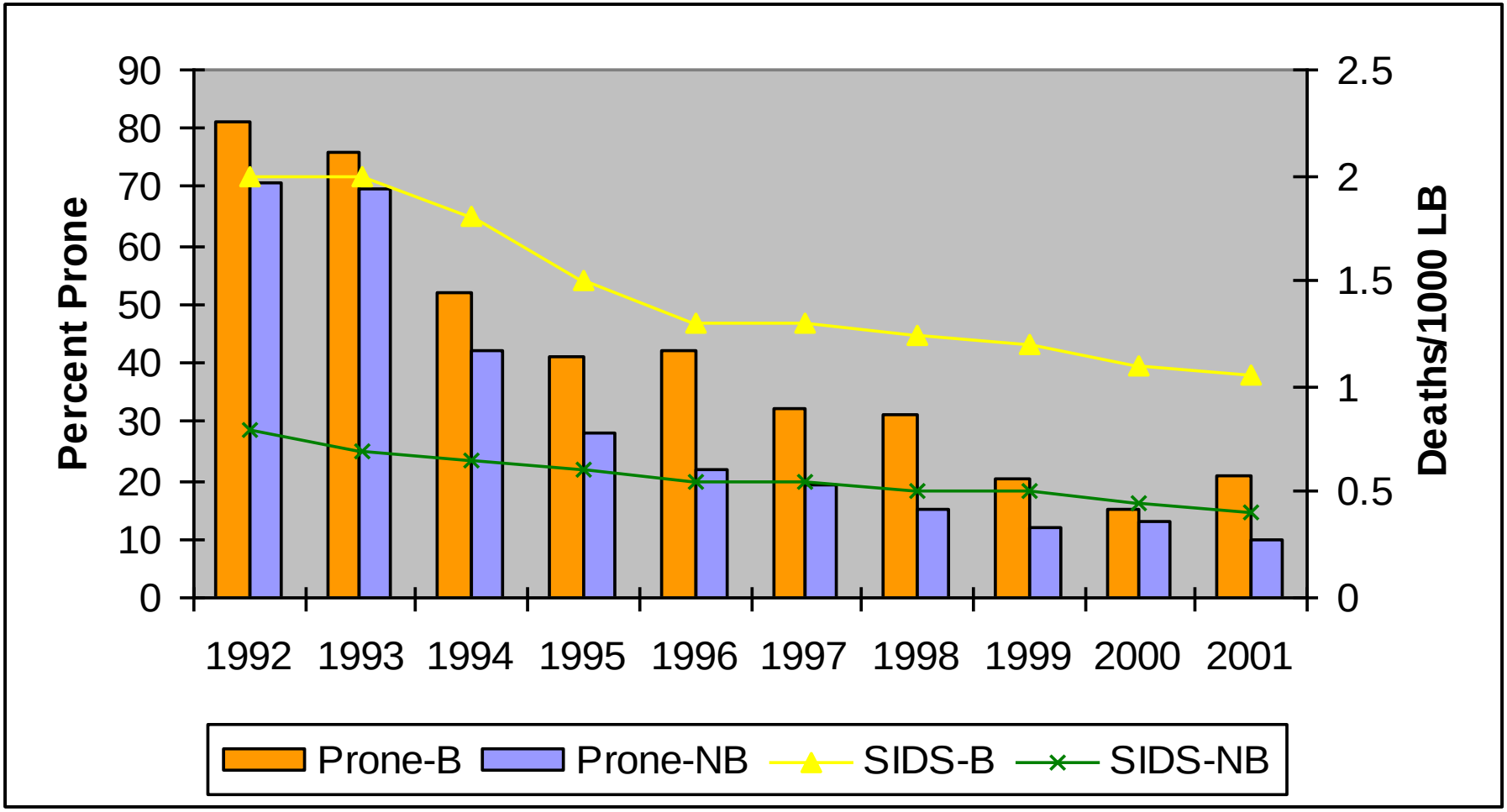



**FIGURE 3**

Prevalence of supine sleep positioning by maternal race and ethnic origin, 1992–2010. Source: National Infant Sleep Position Study. Note that data collection for the National Infant Sleep Position Study ended in 2010.

# Black vs Non-Black Prone Prevalence and SIDS Rates




Sources: National Center for Health Statistics, National Infant Sleep Position study

# Mechanisms for ASSB Deaths

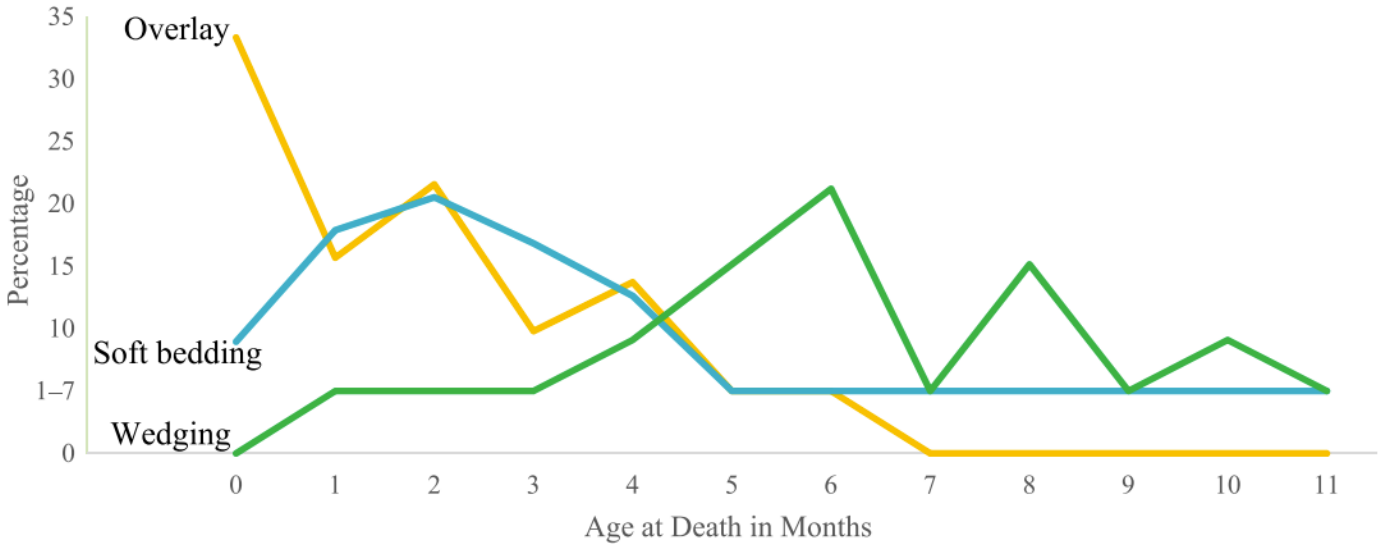
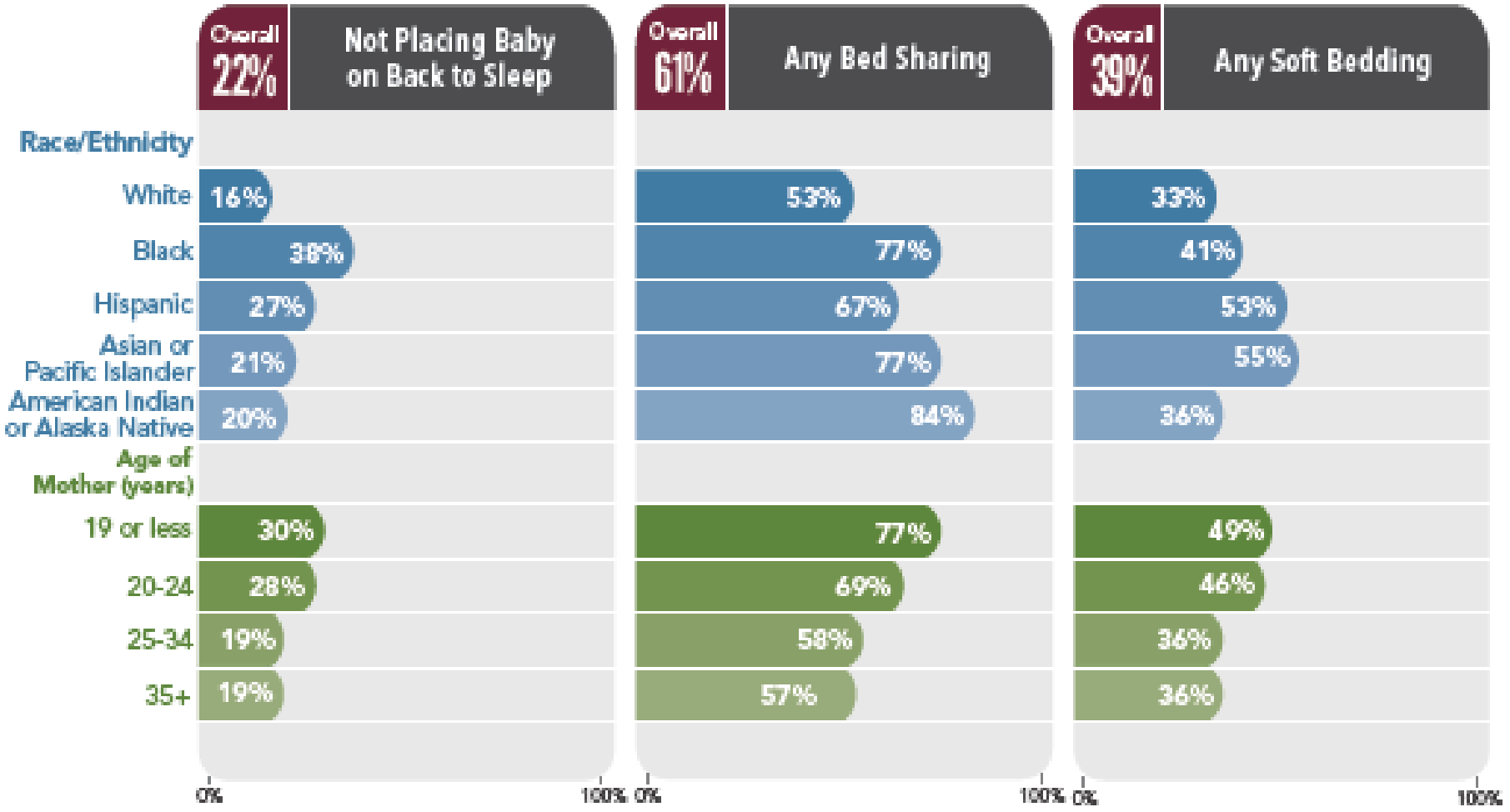



**FIGURE 1**

Age distribution for each mechanism of suffocation death (2011–2014; $n$ = 274). In an effort to protect confidentiality and per the data-use agreement with states, percentages in the 1% to 7% range with a numerator of 1 through 2 are all shown on the y-axis at the same level (5%).

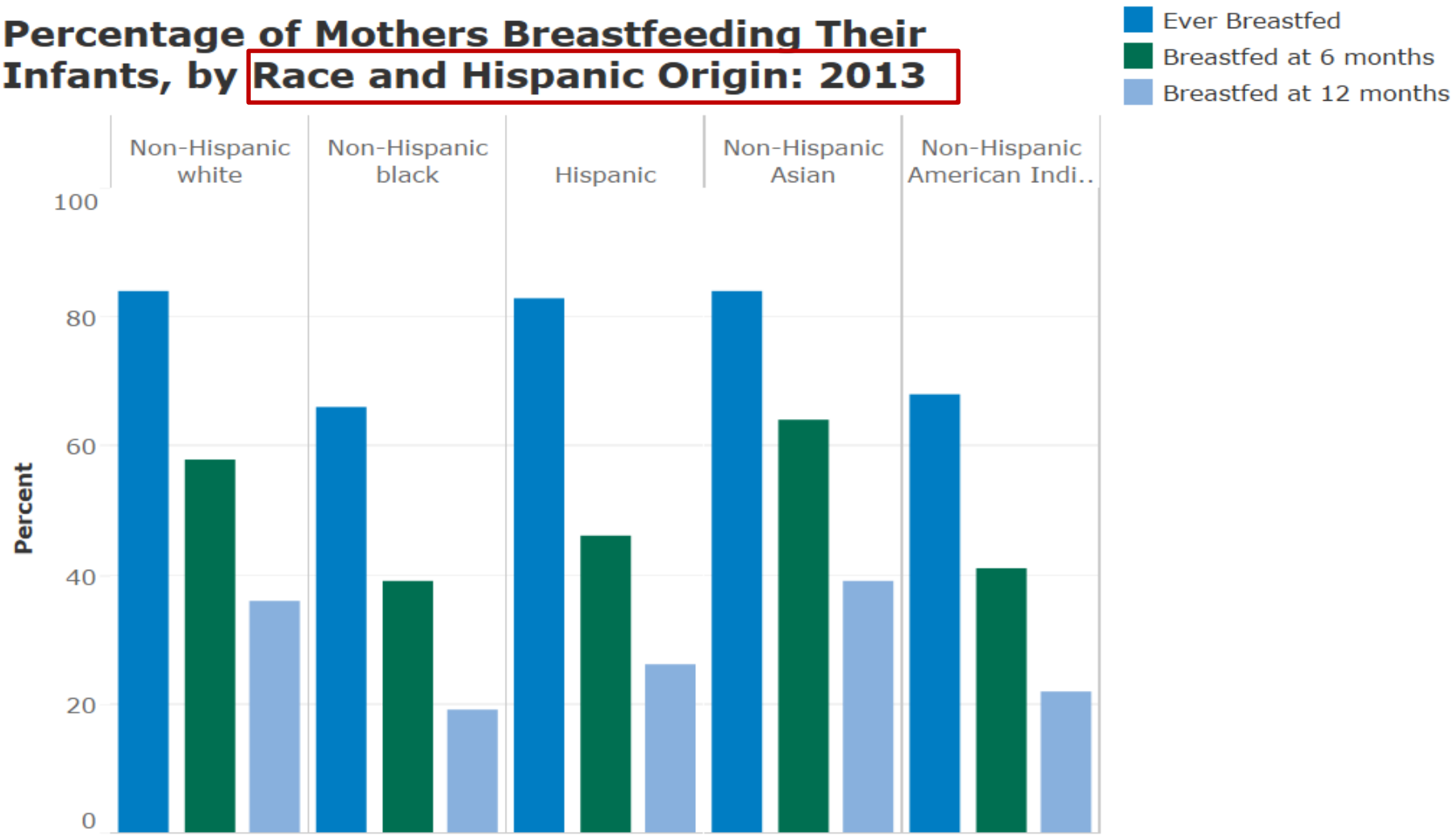
Erck Lambert et al Pediatrics. 2019 May; 143(5): e20183408.

# UNSAFE SLEEP PRACTICES WITH BABIES ARE COMMON.



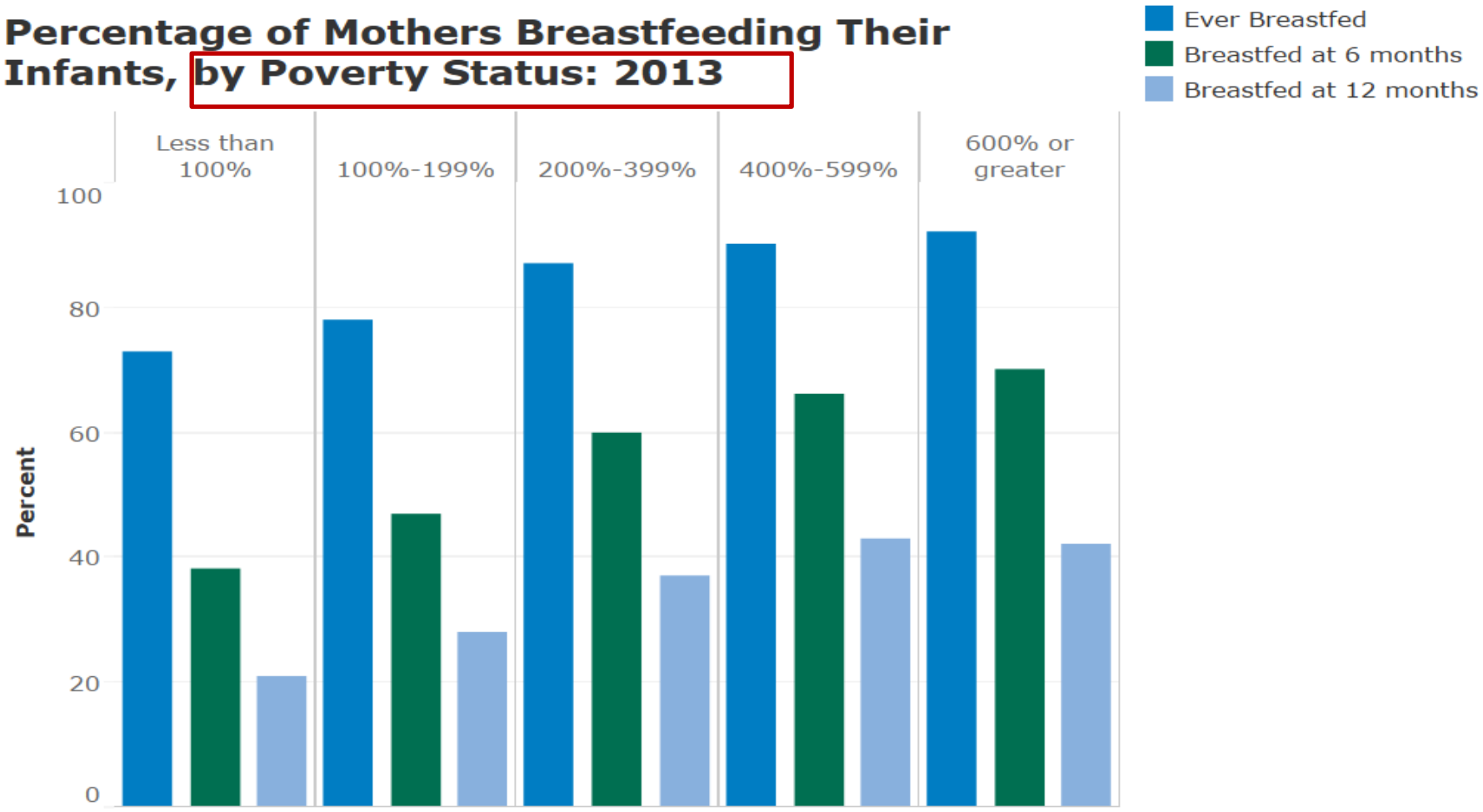

SOURCE: Pregnancy Risk Assessment Monitoring System (PRAMS), 2015.

# Breastfeeding Disparities Continue to Exist



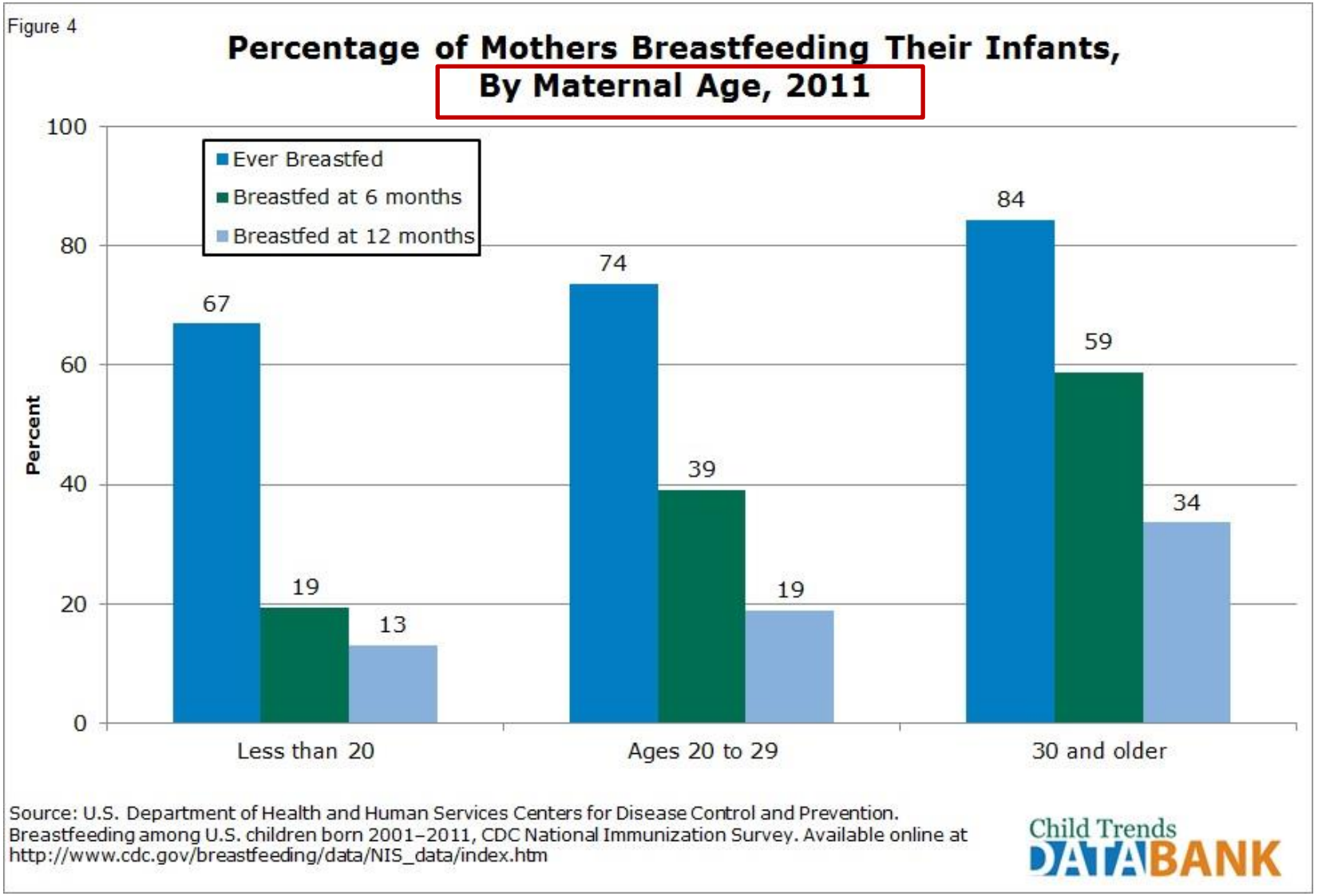

*Source*: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. *Breastfeeding among U.S. children born 2001–2013, CDC National Immunization Survey*. Atlanta, GA: Author. Available online at http://www.cdc.gov/breastfeeding/data/NIS_data/index.htm

# Breastfeeding Disparities Continue to Exist

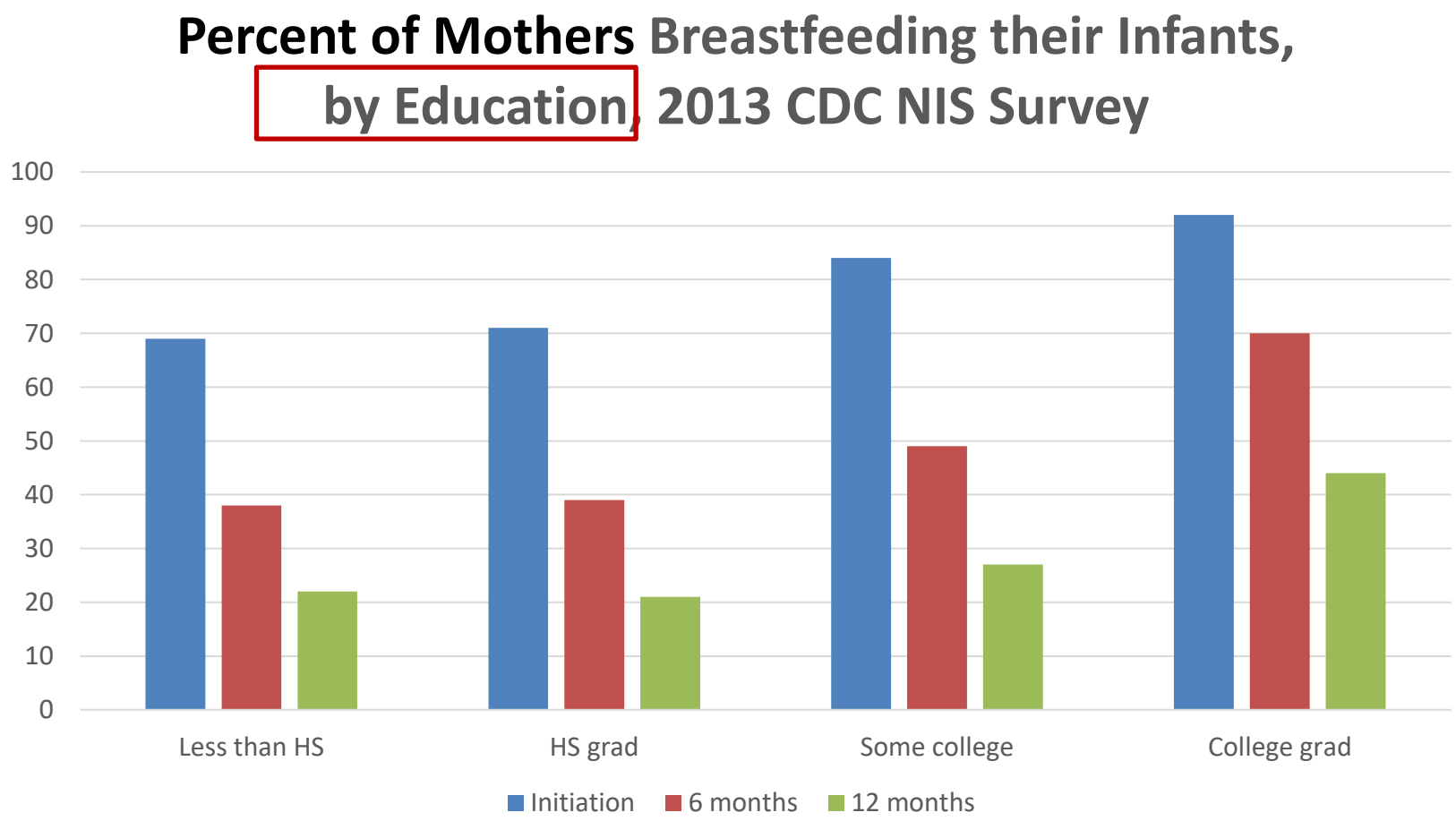



Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. *Breastfeeding among U.S. children born 2001–2013, CDC National Immunization Survey*. Atlanta, GA: Author. Available online at http://www.cdc.gov/breastfeeding/data/NIS_data/index.htm

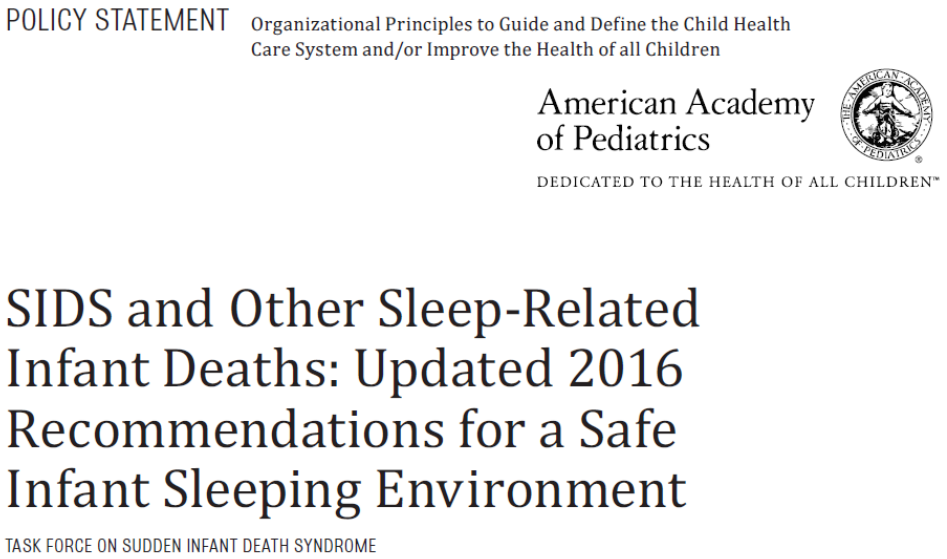
# Breastfeeding Disparities Continue to Exist



# Breastfeeding Disparities Continue to Exist



# 2016 SIDS Task Force Policy Statement and Technical Report




Strength of Recommendations Taxonomy (SORT)

*Level of Evidence (LOE)*
--Based on study design
------*Strength of Recommendation*
--Based on quality of studies and consistency of evidence

# AAP SIDS Policy and Breastfeeding

- Breastfeeding **emphasized as being protective**
- Within sleep position, skin to skin care is recommended for all mothers and newborns, regardless of feeding or delivery method…for at least an hour (reference to **"Safe Sleep and SSC in the Neonatal Period for the Healthy Newborn"**)
- Focus on ***exclusive*** breastfeeding for 6 months
  - 73% reduction in risk
- Any Breastfeeding still better than no breastfeeding

# Theoretical Model

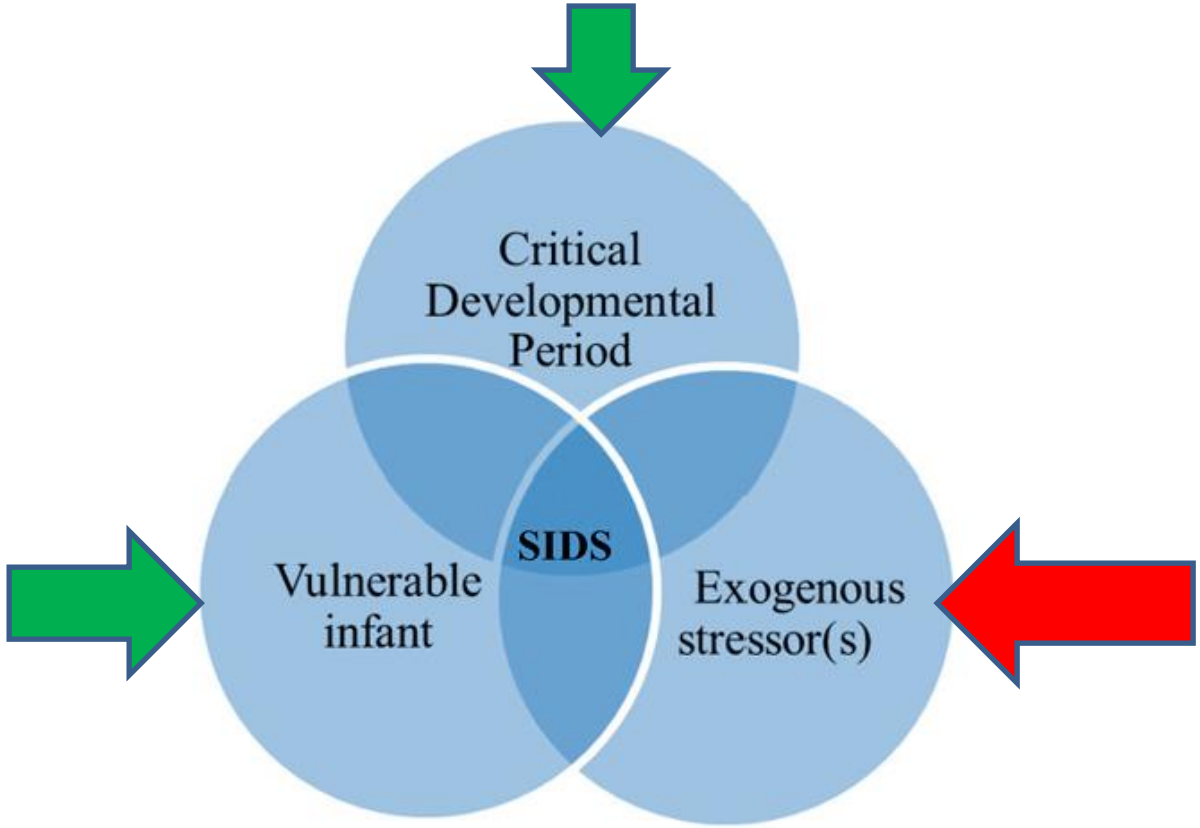



**FIGURE 4**
Triple risk model for SIDS. Adapted from Filiano and Kinney.[26]

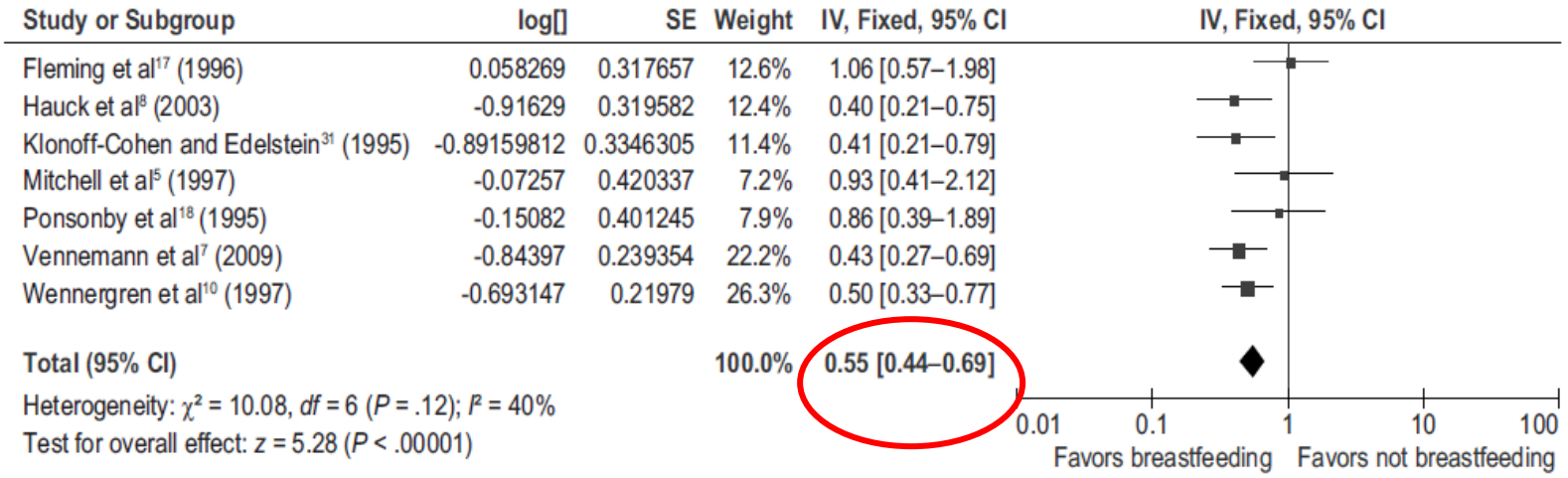
# Breastfeeding is Associated with a Decrease in Infant Mortality

| Outcome and Reference | % Lower Risk | Breast-feeding | Compared to: | Comments | OR or RR or HR[c] | 95% CI[d] |
|---|---|---|---|---|---|---|
| **Infant Mortality, US[1]** | **19%** | Ever | Never | US Cohort | OR 0.81 | 0.68-0.97 |
| **Neonatal Mortality, (8-27 D) [1]** | **51%** | Ever | Never | US Cohort | OR 0.49 | 0.34-0.72 |
| **Post-neonatal Mortality, (1 mo-1Yr) [2]** | **21%** | Ever | Never | US Nationally Repr. Sample | OR 0.79 | 0.67-0.93 |
| | **38%** | >3 M | Never | | OR 0.62 | 0.46-0.82 |

[1]Ware JL, Chen A, Morrow AL, Kmet J. *Breastfeed Med*. 2019;14(7):465-474
[2]Chen A, Rogan WJ. *Pediatrics.* 2004;113(5):e435-9

# Breastfeeding Reduces Risk of SIDS

- Meta-analysis reviewed 288 studies 1966-2008; used 18 original case-control studies for meta-analysis



| Study or Subgroup | log[] | SE | Weight | IV, Fixed, 95% CI |
|---|---|---|---|---|
| Fleming et al[17] (1996) | 0.058269 | 0.317657 | 12.6% | 1.06 [0.57–1.98] |
| Hauck et al[8] (2003) | -0.91629 | 0.319582 | 12.4% | 0.40 [0.21–0.75] |
| Klonoff-Cohen and Edelstein[31] (1995) | -0.89159812 | 0.3346305 | 11.4% | 0.41 [0.21–0.79] |
| Mitchell et al[5] (1997) | -0.07257 | 0.420337 | 7.2% | 0.93 [0.41–2.12] |
| Ponsonby et al[18] (1995) | -0.15082 | 0.401245 | 7.9% | 0.86 [0.39–1.89] |
| Vennemann et al[7] (2009) | -0.84397 | 0.239354 | 22.2% | 0.43 [0.27–0.69] |
| Wennergren et al[10] (1997) | -0.693147 | 0.21979 | 26.3% | 0.50 [0.33–0.77] |
| **Total (95% CI)** | | | **100.0%** | **0.55 [0.44–0.69]** |

Heterogeneity: $\chi^2 = 10.08$, $df = 6$ ($P = .12$); $I^2 = 40\%$

Test for overall effect: $z = 5.28$ ($P < .00001$)



FIGURE 3
Multivariable analysis of any breastfeeding versus no breastfeeding.

Hauck F Pediatrics 2011

# Exclusive Breastfeeding Reduces SIDS More

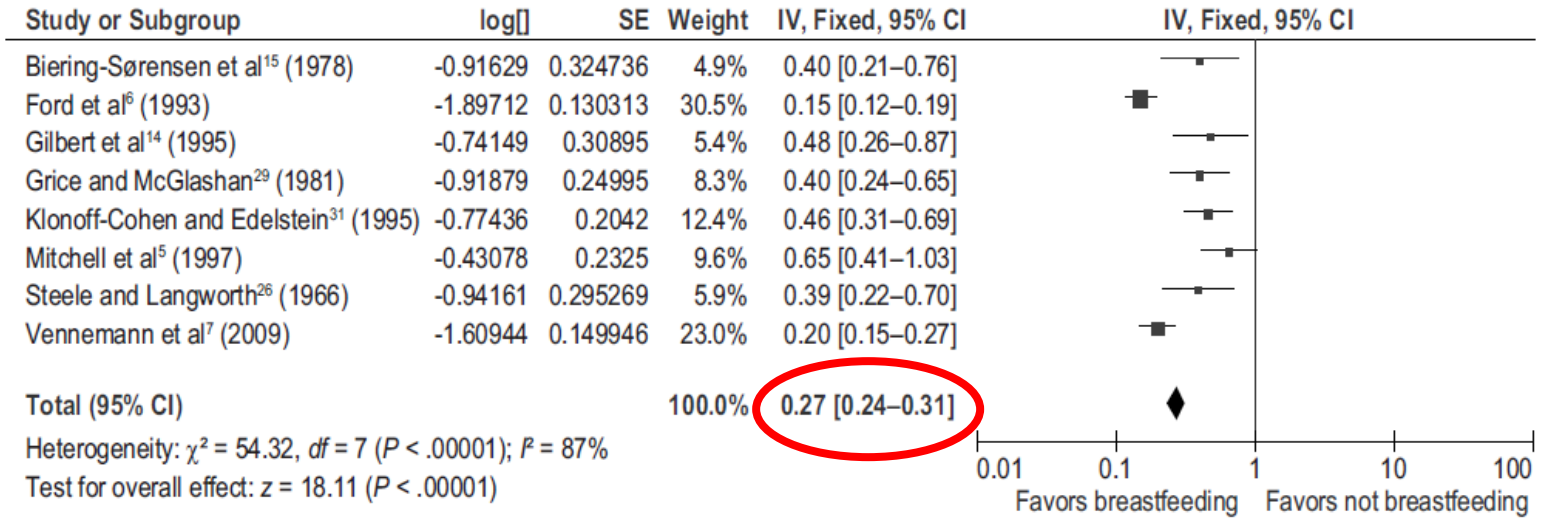



**FIGURE 4**
Univariable analysis of exclusive breastfeeding of any duration.

Exclusive Breastfeeding Reduces SIDS by 73%; duration matters too…

Hauck F Pediatrics 2011

# Duration of Breastfeeding and Risk of SIDS

- Individual level data from 8 case control studies
- 2267 SIDS cases and 6837 control

| | Pooled Adjusted Model ANY Breastfeeding | Pooled Adjusted Model Exclusive Breastfeeding |
|---|---|---|
| Never | 1.0 | 1.0 |
| 0-2 months | 0.91 (0.68-1.22) | 0.82 (0.59-1.14) |
| 2-4 months | 0.60 (0.44-0.82) | 0.61 (0.42-0.87) |
| 4-6 months | 0.40 (0.26-0.63) | **0.46** (0.29-0.74) |
| > 6 months | **0.36** (0.22-0.61) | |

Hauck F et al. *Pediatrics*. 2017

# Breastfeed to Reduce SIDS/SUID (NICHD)



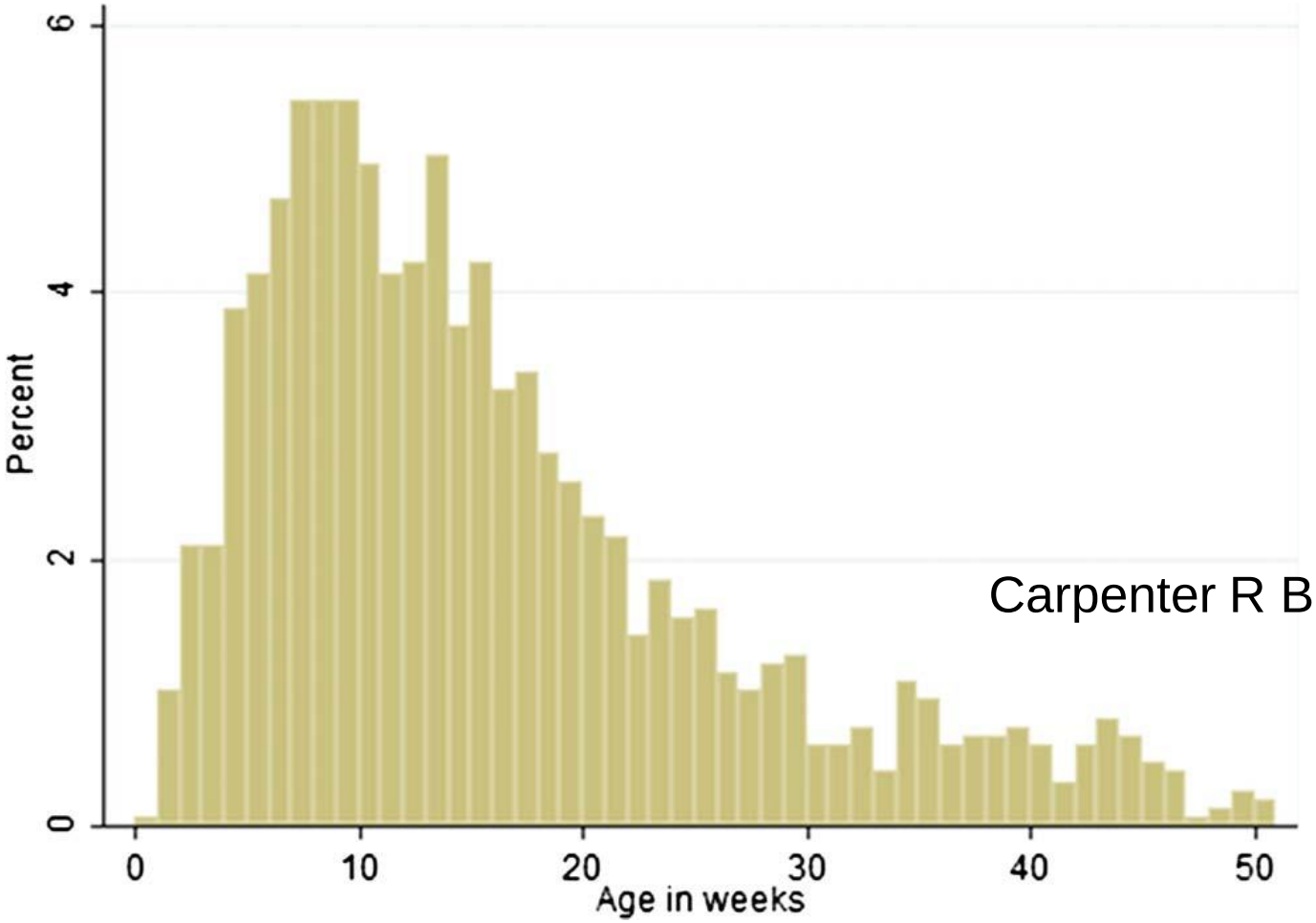




- What is the risk of SIDS/SUID from bedsharing?
- Is there still a risk if mom is breastfeeding and there are no other risks?

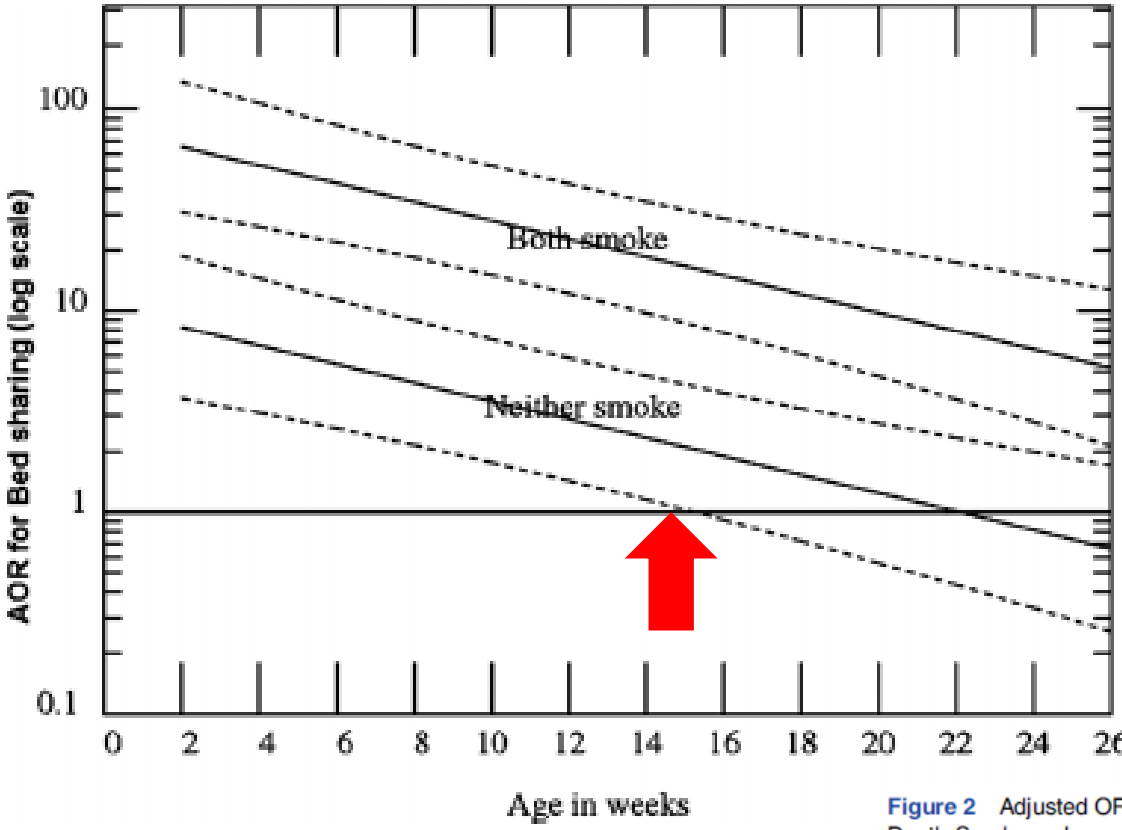
# SIDS and Bedsharing

- 19 studies with actual data; 1472 SIDS Cases; 4679




Carpenter R BMJ 2013

# SIDS and Bedsharing among breastfeeding infants smoking/non-smoking




Carpenter R BMJ 2013

**Figure 2** Adjusted ORs (AORs; log scale) for Sudden Infant Death Syndrome by age for bed sharing breast-fed infants, when neither parent smokes and both smoke versus comparable infants sleeping supine in the parents' room. AORs are also adjusted for feeding, sleeping position when last left, where last slept, sex, race, and birth weight, mother's age, parity, marital status, alcohol and drug use.

# SIDS and Bed-Sharing among BF

Table 3 Average AORs for smoking and maternal alcohol when room sharing and bed sharing with the multiplicative increase in risk due to bed sharing, for infants aged under 3 months and 3 months up to a year

| Age group | Risk factors | | Room sharing | | Bed sharing | | Increase when bed sharing | |
|---|---|---|---|---|---|---|---|---|
| | Smoking | Alcohol | AOR | 95% CI | AOR | 95% CI | Multiplier | 95% CI |
| <3 month | No | No | 1 | – | 5.1 | 2.3 to 11.4 | 5.1 | 2.3 to 11.4 |
| | Partner | No | 0.7 | 0.5 to 1.1 | 7.8 | 3.6 to 17.2 | 11.2 | 5.0 to 25.1 |
| | Mother | No | 1.3 | 0.8 to 2.2 | 20.3 | 7.4 to 56.4 | 15.2 | 5.3 to 43.4 |
| | Both | No | 2.9 | 2.0 to 4.2 | 21.6 | 11.1 to 42.3 | 7.5 | 3.9 to 14.6 |
| | Both | Yes | 13.7 | 5.5 to 34.4 | 151.0 | 50.2 to 448.4 | 10.8 | 3.0 to 39.2 |
| 3 months and over | No | No | 1 | – | 1.0 | 0.3 to 3.1 | 1.0 | 0.3 to 3.1 |
| | Partner | No | 1.2 | 0.9 to 1.7 | 3.0 | 1.2 to 7.5 | 2.5 | 1.0 to 6.3 |
| | Mother | No | 1.7 | 1.2 to 2.4 | 6.1 | 1.7 to 22.6 | 3.6* | 0.9 to 13.9 |
| | Both | No | 3.0 | 2.3 to 4.0 | 13.7 | 6.1 to 31.0 | 4.6 | 2.0 to 10.3 |
| | Both | Yes | 15.7 | 8.1 to 30.4 | 243.8 | 76.1 to 781.4 | 15.6 | 4.2 to 57.4 |

*This multiplier is significant at p=0.062.
The AORs are adjusted for all other factors in the table, any drug use by the mother since birth, bottle feeding, sex, whether matched or unmatched, race, birth weight group, mother's age group, number of live births (grouped), mother single and where slept.
AOR, Adjusted OR.

**5.1 times the risk of <15 weeks of age**

Carpenter R BMJ 2013

Limitations in Carpenter study:

Control group was female, lowering risk of SIDS/SUID, magnifying the risk of bedsharing

# SIDS and Bed-Sharing among BF

- Combined 2 studies, 400 cases, 1386 controls
- Calculated Unadjusted OR (sample size too small for AOR)
- Co-slept on chair/sofa 21.4 (7.93-58.04)
- Co-slept if adult used alcohol 19.35 (7.05-53.11)
- **Co-slept no other risk factors *1.62 (0.96-2.73)***

**Table 3.** The risk associated with co-sleeping overall and by different co-sleeping environments in younger and older infants.

| | Younger infants (<98 days) | | | | | | Older infants (≥98 days) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIDS | | Controls | | OR [95% CI]* | P-value | SIDS | | Controls | | OR [95% CI]* | P-value |
| **Overall** | N | (%) | N | (%) | | | N | (%) | N | (%) | | |
| Did not co-sleep for the last sleep | 110 | 49.8% | 566 | 84.2% | 1.00 [Ref] | | 145 | 81.0% | 607 | 85.0% | 1.00 [Ref] | |
| Co-slept for the last sleep | 111 | 50.2% | 106 | 15.8% | 5.24 [3.71–7.39] | <0.0001 | 34 | 19.0% | 107 | 15.0% | 1.40 [0.91–2.15] | 0.13 |
| **Different co-sleeping environments** | N | (%) | N | (%) | | | N | (%) | N | (%) | | |
| Did not co-sleep for the last sleep | 110 | 49.8% | 566 | 84.2% | 1.00 [Ref] | | 145 | 81.0% | 607 | 85.0% | 1.00 [Ref] | |
| Co-slept on a sofa or chair | 22 | 10.0% | 5 | 0.7% | 21.44[7.93–58.04] | <0.0001 | 11 | 6.1% | 2 | 0.3% | 23.86 [5.22–109.2] | <0.0001 |
| Bed-shared next to adult (>2 units of alcohol) | 19 | 8.6% | 5 | 0.7% | 19.35 [7.05–53.11] | <0.0001 | 10 | 5.6% | 7 | 1.0% | 6.38 [2.38–17.12] | 0.0002 |
| Bed-shared next to adult who smoked | 47 | 21.3% | 26 | 3.9% | 8.93 [5.27–15.14] | <0.0001 | 12 | 6.7% | 37 | 5.2% | 1.42 [0.72–2.79] | 0.32 |
| Bed-shared in the absence of these hazards | 23 | 10.4% | 70 | 10.4% | 1.62 [0.96–2.73] | 0.07 | 1 | 0.6% | 61 | 8.5% | 0.08 [0.01–0.52] | 0.009 |

*Adjusted for infant age and whether a day or night sleep.

doi:10.1371/journal.pone.0107799.t003

Blair P PLOS One 2014

Limitations of Blair study:

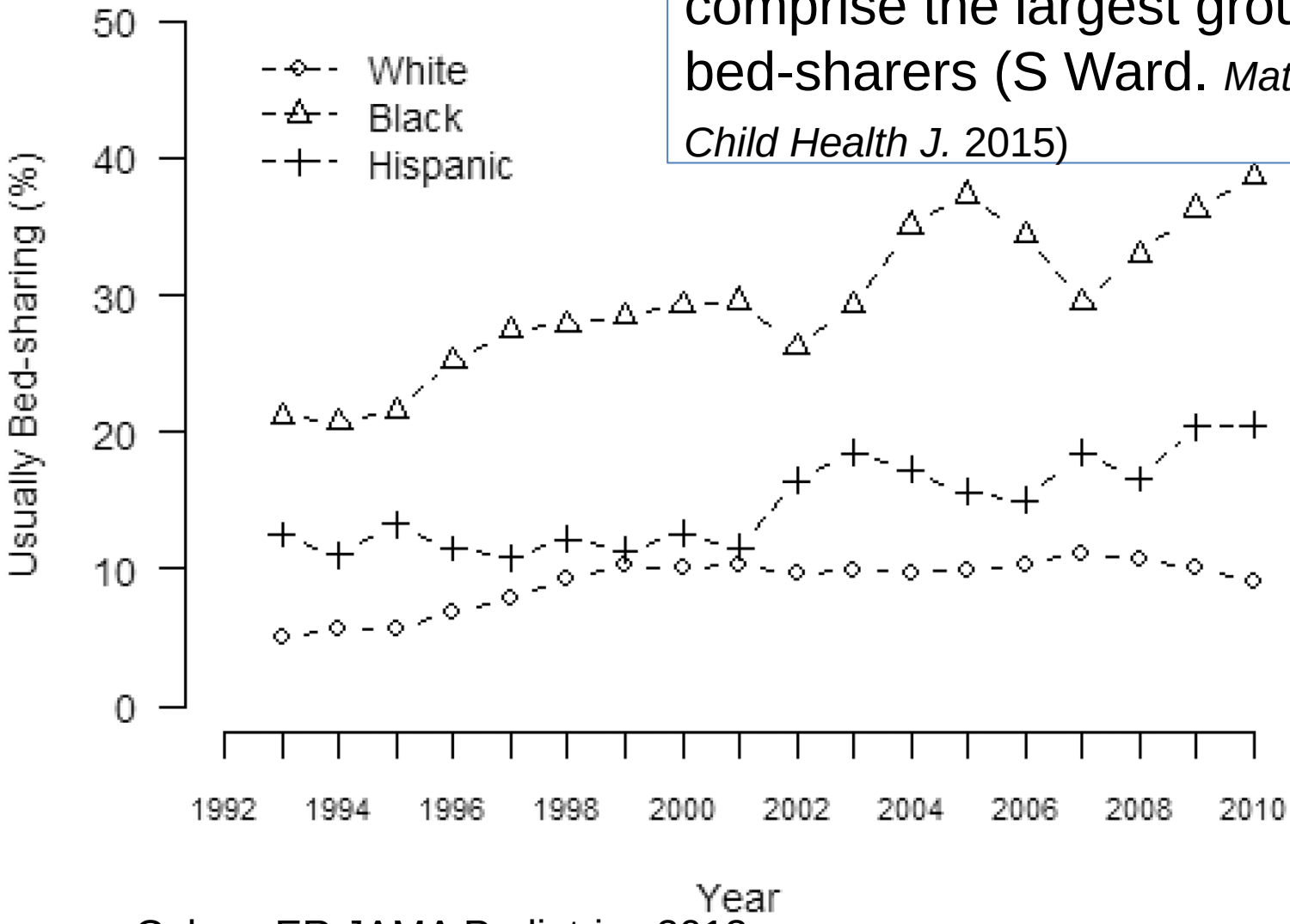
Control group included both room-sharing and solitary sleep infants increasing the risk of SUIDS/SIDS and minimizing the risk difference; parental drug use not included in analysis

Note: There was a significant protective effect for non-hazardous bedsharing among the older breastfeeding infants [OR=0.08 (95% CI 0.01, 0.52)] was apparent.

(>50% decreased risk)

# Is Prevalence of Bed-sharing Increasing?

Breastfeeding mothers comprise the largest group of bed-sharers (S Ward. *Matern Child Health J.* 2015)

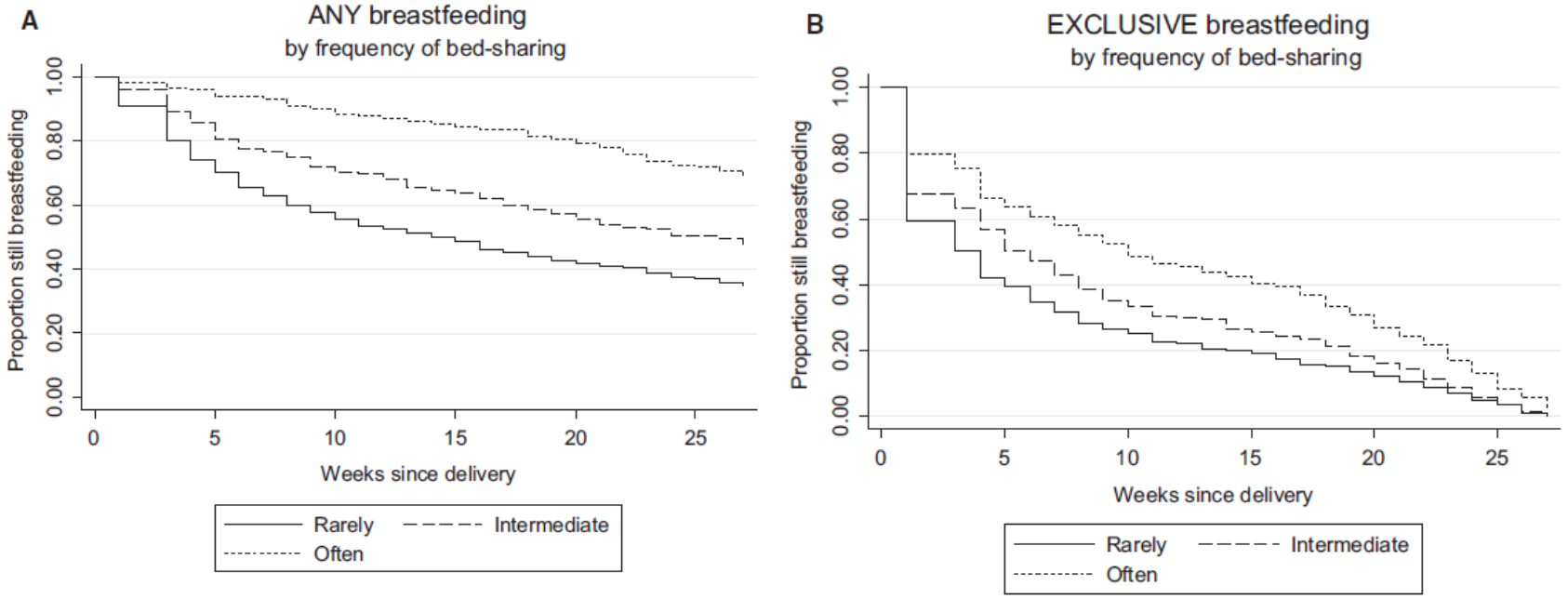



Colson ER JAMA Pediatrics 2013

Bedsharing is correlated with increased breastfeeding but is not a requirement for continued exclusive breastfeeding.

# Bed Sharing *Increases* the Duration of (exclusive) Breastfeeding

- 870 participants from the in-hospital RCT study then followed weekly up to 26 weeks
- Identified intent to breastfeed, duration, exclusivity




Ball HL Acta Pediatrica 2016

# Key Points about Breastfeeding and Bed-Sharing

- Infant sleep location is associated with breastfeeding duration
- Mothers who bedshare breastfed for longer
- **Frequent bed sharing mothers differed** from mothers who bed shared less often or not at all in prenatal breastfeeding intent, the importance they attached to breastfeeding and subsequent breastfeeding duration and exclusivity

# Additional Outcomes of Bedsharing



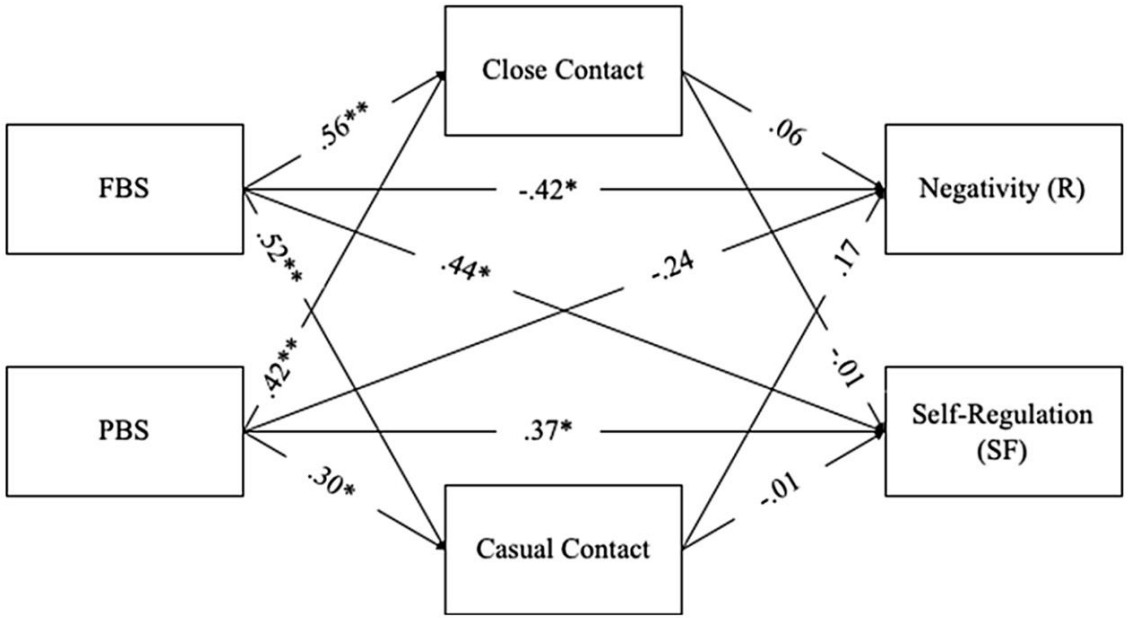



**Fig. 1.** Mediational model of bed-sharing practices predicting SFP outcomes through close and casual contact. Paths show standardized regression coefficients. Model controlled for gender, breastfeeding at 3 months, concurrent bed-sharing practices, infant prematurity, negativity at 3 and 6 months, and maternal education.
*$p < .05$. **$p < .001$.

# Advice for Bedsharing / Breastfeeding

- Study of Attitudes and Factors Effecting Infant Care Practices (**SAFE**) survey of 3218 mothers 2011-2014, at 60 DOL
- 30.5% of mothers were exclusively breastfeeding, 29.5% reported partial breastfeeding.
- 65.5%, reported usually room sharing without bedsharing (58.2% of EBF; 70% of non-BF), while 20.7% reported bed-sharing.
- Compared to mothers who room shared without bedsharing, mothers who bedshared were more likely to report exclusive breastfeeding (**AOR 2.46, 1.76-3.45**) or partial breastfeeding (**AOR 1.75, 1.33-2.31**).
- **Receiving advice regarding sleep location did not decrease breastfeeding, but** bedsharing increased over the course of the study.

Moon RY et al. J Community Health. 2017 Aug;42(4):707-715.

# Additional Safe Sleep Interventions

- SAFE study yielded no difference in bedsharing between intervention and control group and bedsharing increased in both groups over time
- There has been some success reaching parents with text messages and email with video, social networks or other media (relies on technology) (Kellams A et al. Pediatrics, 2017)
- “ABC” approach has not been shown to decrease sleep related deaths

# Factors Associated With Choice of Infant Sleep Location

- Surveyed 3260 mothers from 32 US hospitals who responded at infant age 2 to 6 months
- 45.4% practiced and intended to roomshare without bed-sharing
- 24.2% intended to practice some bed-sharing
- Factors associated with intended bed-sharing included African American race and exclusive breastfeeding
- The highest likelihood of bed-sharing intent was associated with **perceived social norms** favoring bed-sharing (adjusted odds ratio [aOR] 5.84; 95% confidence interval [CI] 4.14–8.22) and positive attitudes toward bed-sharing (aOR 190.1; 95% CI 62.4–579.0).
- Women with a **doctor's advice** to room-share without bed-sharing intended to practice bed-sharing less (aOR 0.56; 95% CI 0.36–0.85).

Kellams A et al Pediatrics.145(3), 2020:e20191523

# Options for Sleep Surfaces

- Standard crib, bassinet, portable crib, play yard, flat surface with firm mattress and tight-fitting sheet
- New: CPSC standards for bedside sleepers, not yet for in-bed sleepers



Moon RL et al Pediatrics 2016

US NICHD Photo

Baby Box?



Blair P. et al. Concerns about the promotion of a cardboard baby box as a place for infants to sleep. BMJ 2018

# Additional Options for Sleep Surfaces



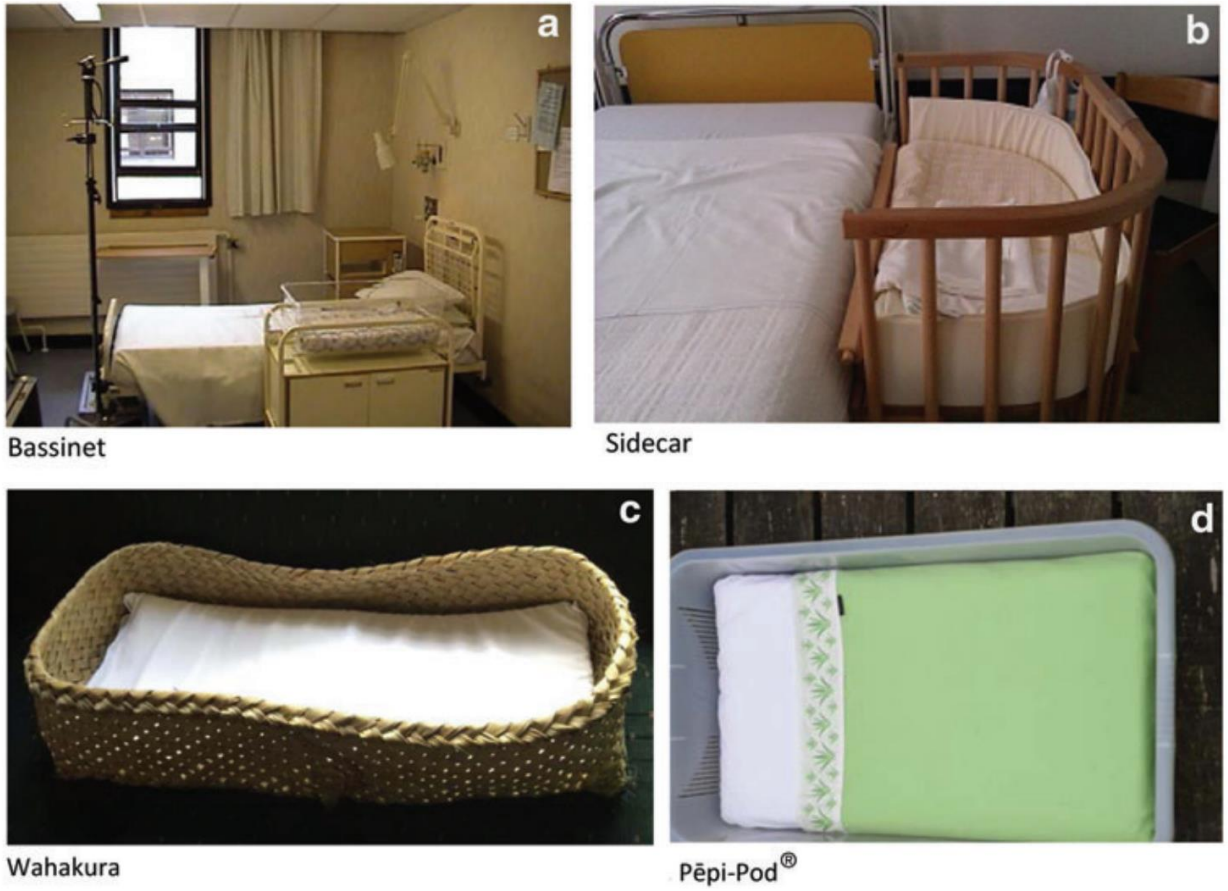



**FIG. 3.** Bassinet, sidecar, *wahakura*, and Pēpi-Pod®. **(a)** bassinet, **(b)** sidecar, **(c)** *wahakura*, **(d)** Pēpi-Pod. Color images are available online.

# ABM Protocol #6 Bedsharing and Breastfeeding, 2020, Safe bedsharing:

1. Never sleep with infant on a sofa, armchair, or unsuitable surface, including a pillow
2. Place infant to sleep away from any person impaired by alcohol or drugs
3. Place infant supine for sleep
4. Place infant to sleep away from secondhand smoke and away from a caregiver who routinely smokes and clothing or objects that smell of smoke (thirdhand smoke) (In cases where the mother smokes, this will not be possible).
5. The bed should be away from walls and furniture to prevent wedging of the infant's head or body
6. The bed's surface should be firm, just as with a crib without thick covers (e.g., duvets, doonas), pillows, or other objects that could cause accidental head covering and asphyxiation
7. The infant should not be left alone on an adult bed

# Safe Bedsharing

8. Adoption of the C-position (“cuddle curl”), with the infant’s head across from the adult’s breast, adult’s legs and arm(s) curled around the infant, infant on their back, away from the pillow, is the optimal safe sleeping position

9. There is insufficient evidence to make recommendations on multiple bed-sharers or the position of the infant in bed with respect to both parents in the absence of hazardous circumstances. Each locality should consider the cultural circumstances unique to its situation with respect to sleep conditions.

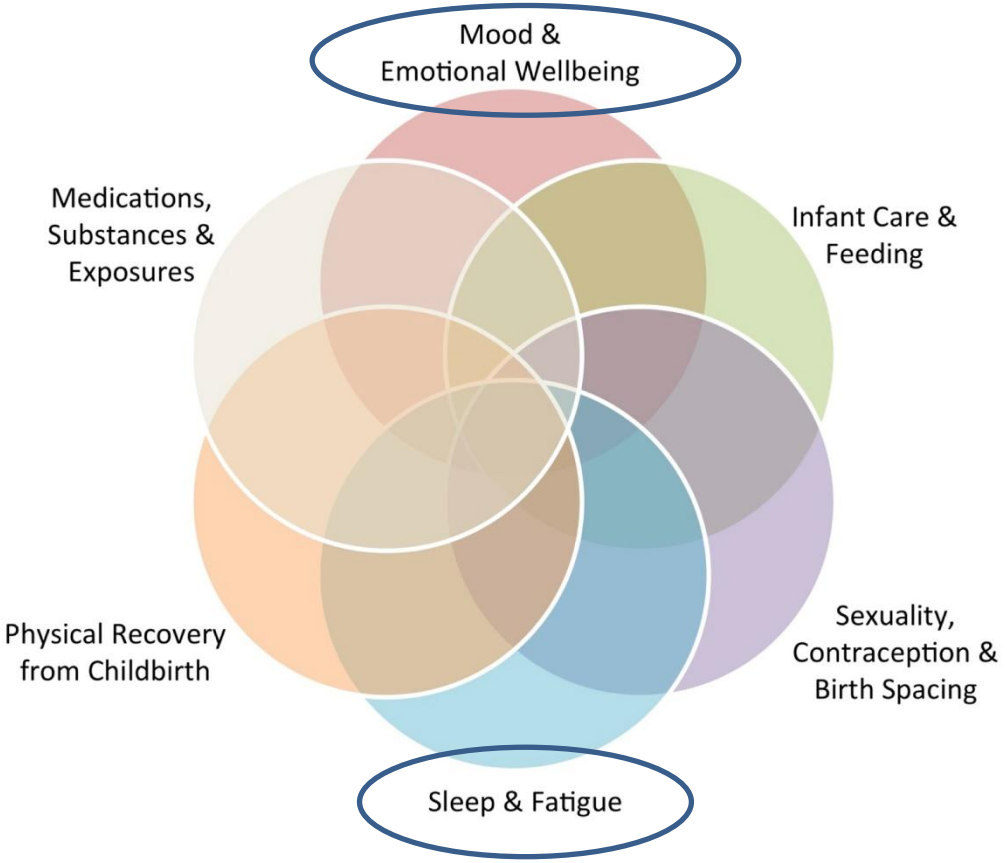


**FIG. 1.** C-position or “Cuddle curl.” Breastsleeping mothers adopt a characteristic position (Protective C or Cuddle Curl) in which they make a safe space for their baby to sleep with their bodies. Mother’s arm is above the baby’s head preventing him/her moving up the bed into the pillows, and her knees are tucked under his/her feet to prevent him/her moving down the bed. Baby is positioned flat on his/her back on the flat mattress for sleep, and next to the mother’s breasts for easy feeding. © Baby Sleep Information Source, licensed for use under Creative Commons, 2016. Color images are available online.

# Additional Concerns for Sleep

- Room sharing infants wake more frequently, less total sleep time, and less time in consolidated sleep than solitary sleeping newborns (Paul IM, et al. Pediatrics. 2017 Jul;140)
  - While statistically different, about 40 min. total sleep time difference, and may be accounted for by the significantly different rates of night feeding- important for breastfeeding
- Does sleep pattern protect against SUID/SIDS?
  - Solitary sleep carries 10-fold increase in SUID/SIDS (Blair PS BMJ 1999)
- Does infant sleep pattern adversely affect the adult caregiver?

# The Fourth Trimester




Doctors worry about: complications such as infection and bleeding

Mothers worry about: discomfort, fatigue, and emotional lability.

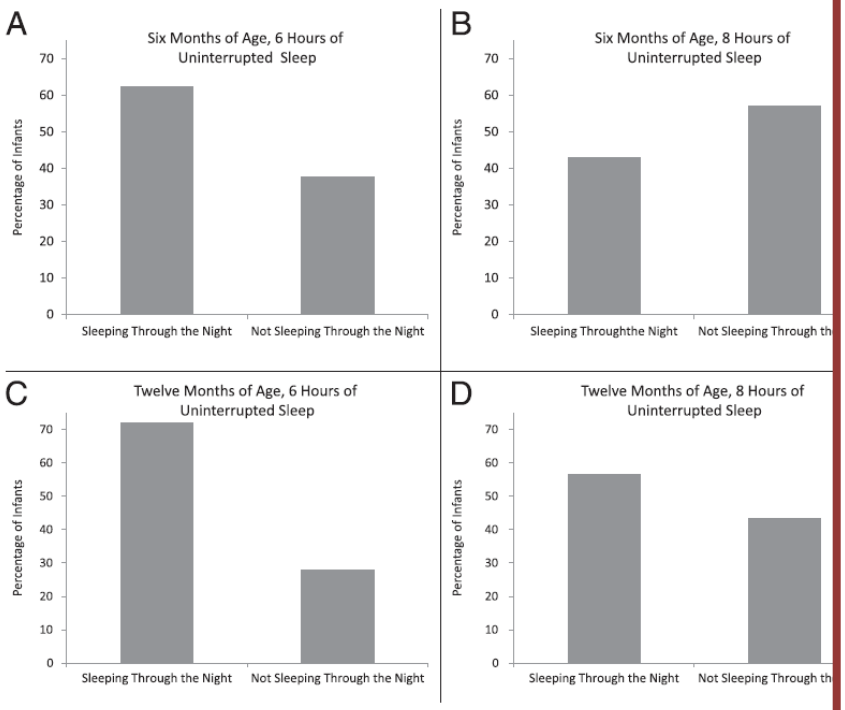
Interrelated health domains in the fourth trimester
*Tully K et al. The fourth trimester. Am J Obstet Gynecol 2017*.

# Maternal Sleep, Fatigue and Depression Correlated

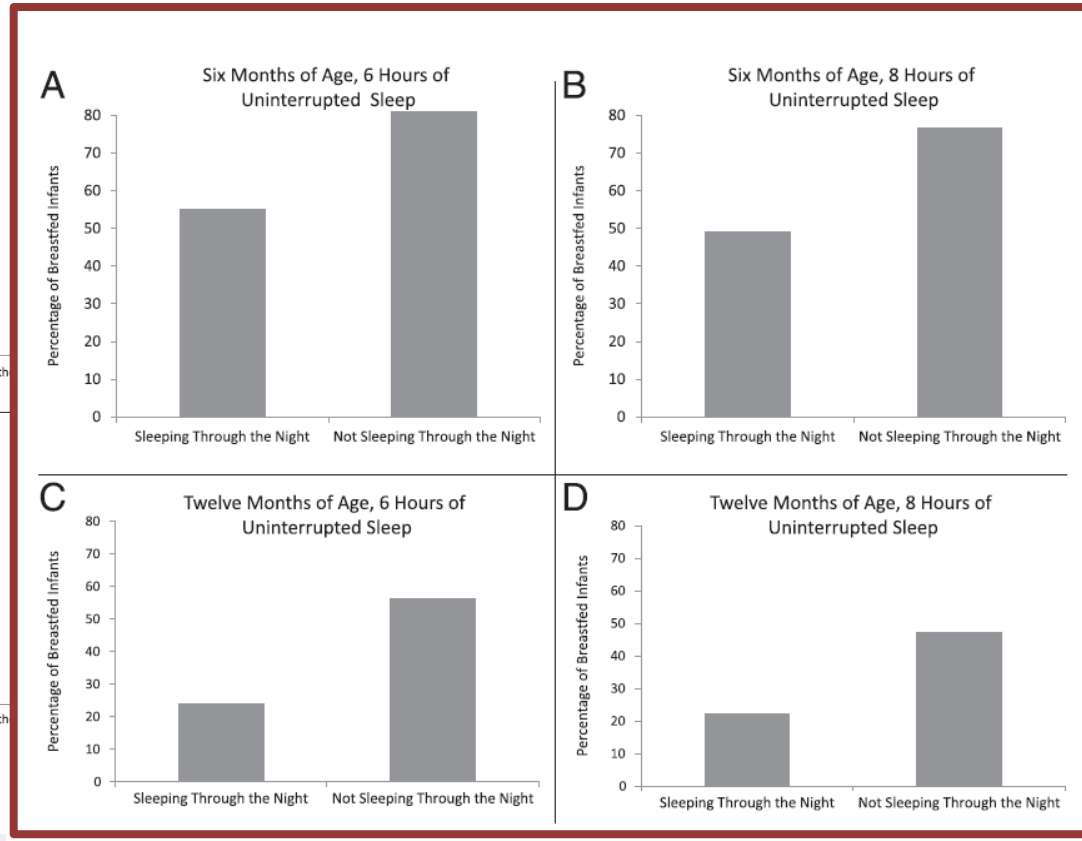
- Maternal sleep and wake disturbance, depression, and fatigue are strongly inter-correlated (r = .519 to .746)
- Although the infant's sleep pattern in the late postpartum is related with maternal sleep disruption, **infant sleep itself does not explain maternal fatigue and depression.**
- Organization and regularity of the home environment are strongly correlated with maternal sleep disruption, fatigue, and depression.
- Interventions aimed at regularity of the home environment may aid maternal sleep pattern, fatigue, and depression.

Thomas and Spieker *MCN Am Matern Child Nurs*. 2016

# Does Sleep Matter for Infants?




All Dyads




**WHAT THIS STUDY ADDS:** A high percentage of 6- and 12-month-old infants do not sleep through the night (uninterrupted sleep duration). When controlling for well-known confounding variables, no significant association was found between sleeping through the night, mental and psychomotor development, and maternal mood.

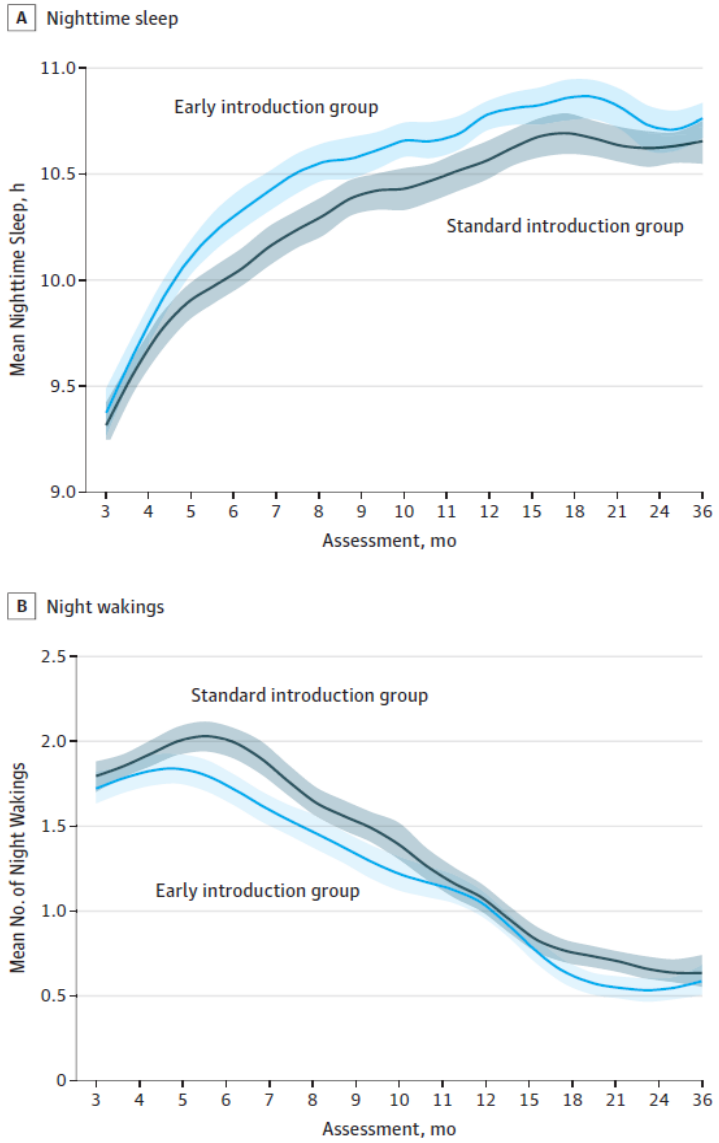
## Breastfeeding Dyads

More likely to not be sleeping
Through the night at 6 and 12 months

Pennestri M-H et al Pediatrics. 2018

# What else can increase sleep time?

Figure 3. Nocturnal Sleep Characteristics by Study Group in the Intention-to-Treat Unadjusted Analysis

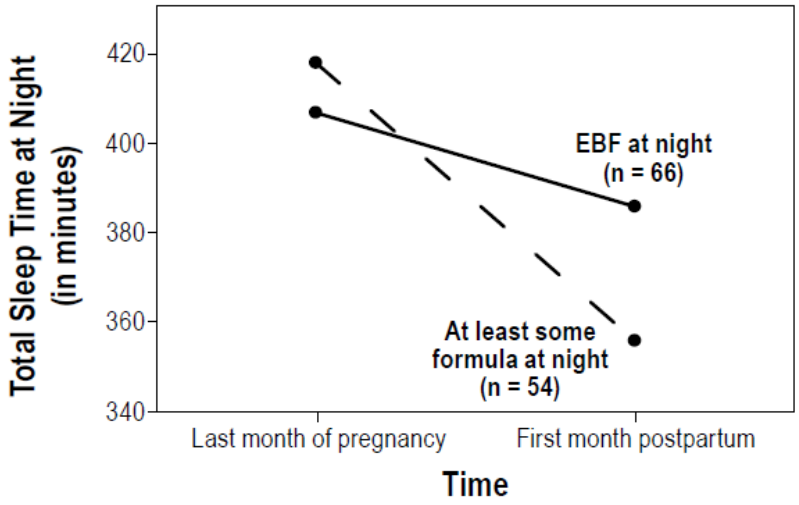



- Early solid food introduction was associated with increased sleep time and fewer awakenings
- Early solid group exclusively breastfed to 3 months then fed solids, late group Excl breastfed to 6 months
- **Actual time gained minimal, not clinically significant (17 minutes)**
- Did not analyze for effect of solids on weaning
- *Is it worth it???*

Perkins M, et al
JAMA Pediatrics. 2018

# Does increasing infant sleep result in increasing maternal sleep?

**Figure 1**—Total sleep time at night over time and by feeding group

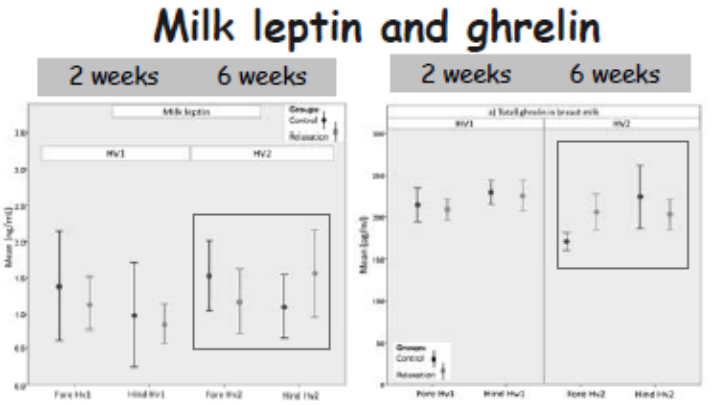



EBF, exclusive breastfeeding.

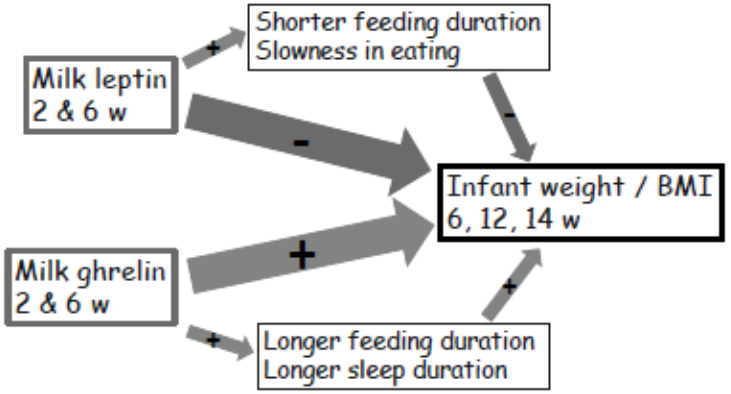
- Studies using wrist actigraphy to objectively measure sleep duration in *new parents* found that those who fed breastmilk to their 1-month-old and 3-month-old infants slept approximately **30 to 45 minutes longer** than *parents* who fed formula to their infant.

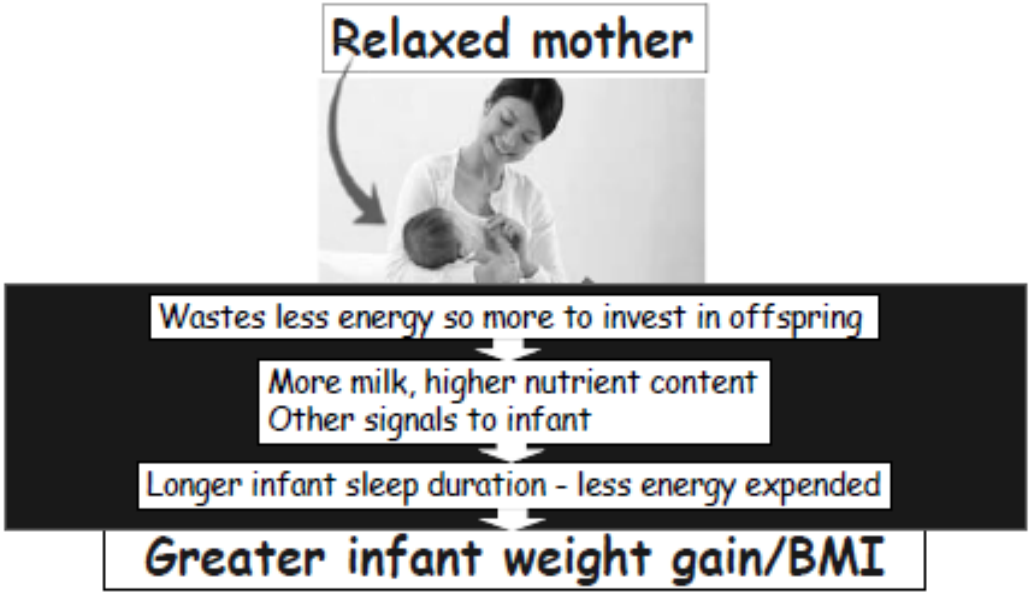

Doan T et al. *J Perinat Neonatal Nurs*. 2007;21(3):200-206.
Doan T et al. *J Clin Sleep Med*. 2014;10(3):313-319.

# RCT on maternal relaxation




Opposite changes in leptin/ghrelin during feed at 6w




**Fewtrell M. et al.** Am J Clin Nutr. 2019

# Recommendations

- All parents/caregivers should have discussions with open-ended questions with their healthcare practitioners, concerning bedsharing safety, safe sleep, and breastfeeding
- **Avoid bed-sharing for highest risk situations:**
  - Former premature and low birth weight infants
  - Smokers, or those impaired with alcohol or drugs
  - Non-parents
  - Soft surfaces such as waterbeds or soft mattresses
  - Pillows and other objects that can lead to suffocation
  - Recommend against co-bedding twins
- Always encourage back to sleep

# A Conversations Approach

- Engage families at the speed of trust
- Use open ended questions to begin conversations
- Understand what matters most to the mother and the family
- Provide support for decision and help to bring clarity to any misconceptions
- Promote, protect and support breastfeeding

# How Can We Become Better Listeners?

- Provide a safe space
- Hearing concerns
- Probing
- Validating feelings
- Filling the knowledge bank
- Dispelling myths without discounting the source
- Acknowledge bias





# One Approach to Conversations

**L**
- Listen to what moms are saying

**O**
- Ask open-ended questions

**V**
- Validate feelings

**E**
- Educate on point



# Bottom Line



- SIDS prevention and breastfeeding promotion are aligned strategies for the public's health
- Recognition that families choose bed-sharing, but data in US still reveal hazards even in no-other-risk population
- Recognition that bed-sharing is correlated with longer period of exclusive breastfeeding, but bedside sleeping may also support optimal breastfeeding patterns

# Future Directions



- Need more/better studies about the effects of exclusive/any breastfeeding, no-other-risk population to determine if “making the bed safer” is protective against SIDS
- Need more research to identify the vulnerable infant—genetic and metabolic markers
- Need research to determine potential effects of safety and protection during skin-to-skin care



# Questions?