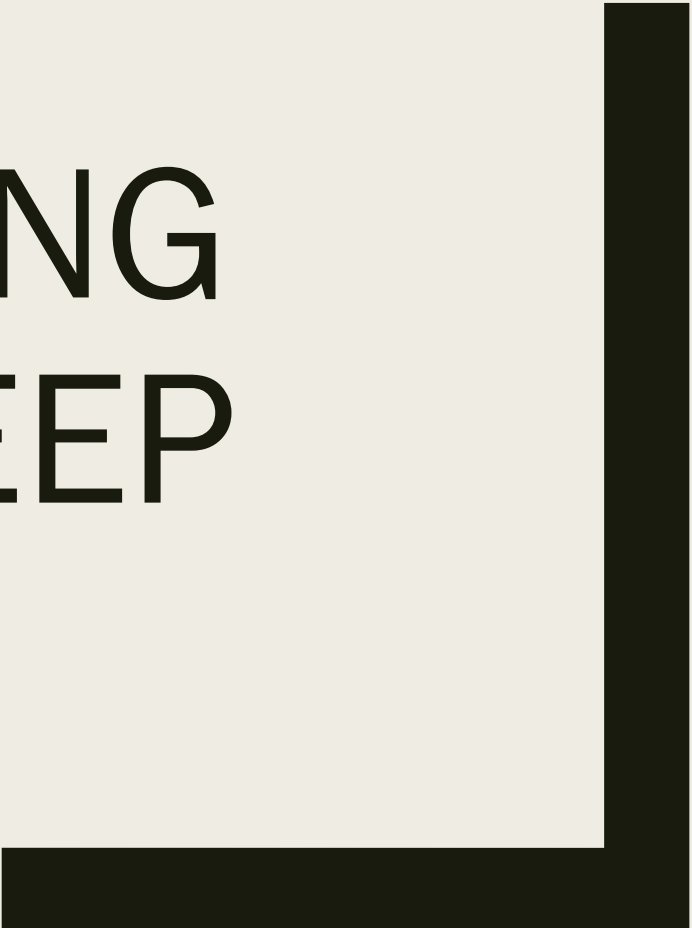




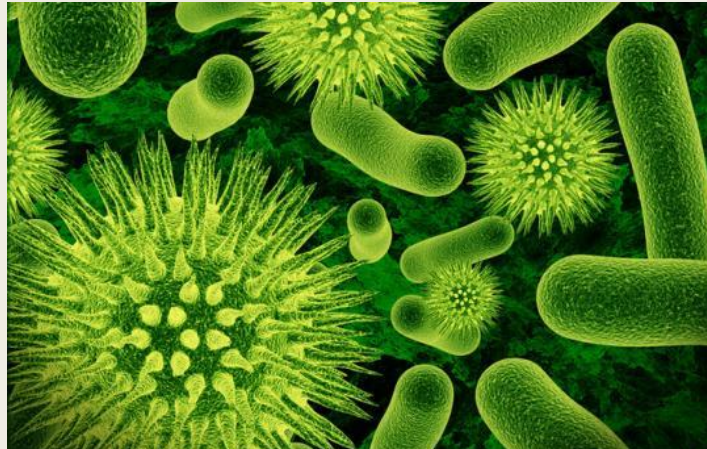
BREASTFEEDING AND SAFE SLEEP

Michigan Premiere Public Health Conference
October 4, 2017



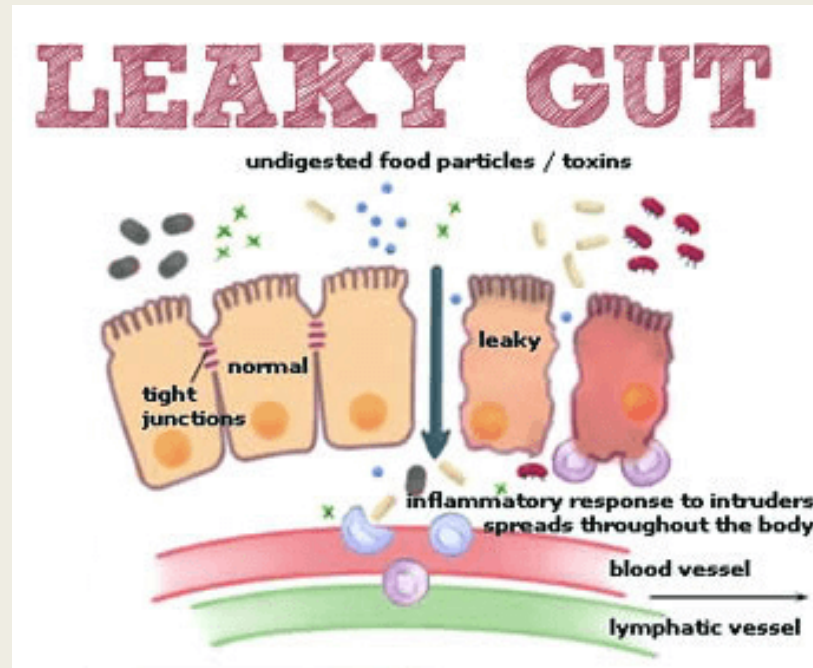
Breastfeeding can reduce the risk of sudden unexplained infant deaths

- Antibodies in mom's breastmilk are *specific* for germs the baby has been exposed to.
- Breastmilk protects against RSV infections. RSV causes inflammation of the lungs which can affect the infant's ability to clear his airway.



- Formula increases Leaky Gut Syndrome

Increased permeability of the intestines to whole, undigested proteins. These are perceived as foreign by the body and set off an allergic or immune response. This sets the stage for chronic illness or disease.



- Allergens in formula (dairy & soy) can cause allergic symptoms in infants. The resultant stuffy nose and airway can affect his ability to breathe.



- Breastfed infants have higher blood levels of progesterone, which stimulates breathing

- Lower rates of reflux (because breastmilk empties from the stomach faster). Reflux can cause choking, which obviously, effects breathing.
- More efficient coordination of sucking, swallowing and breathing.
- Better development of jawbone and muscles of the upper airway.



- Breastfed infants are more easily aroused from active sleep than formula-fed infants at 2-3 months of age.

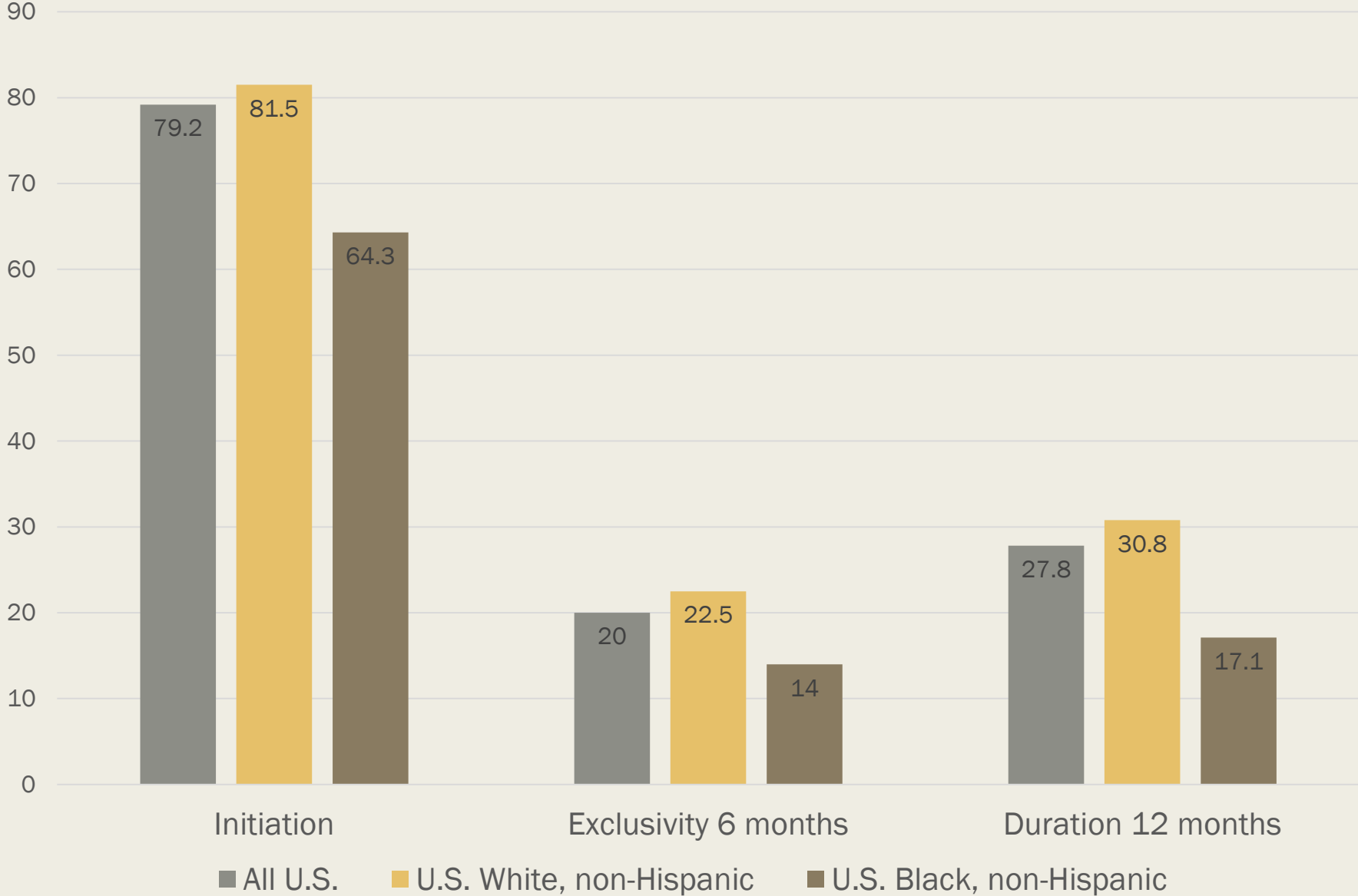


What is *normal* sleep?

Breastfeeding is an important protective factor
against Sudden Unexpected Infant Death

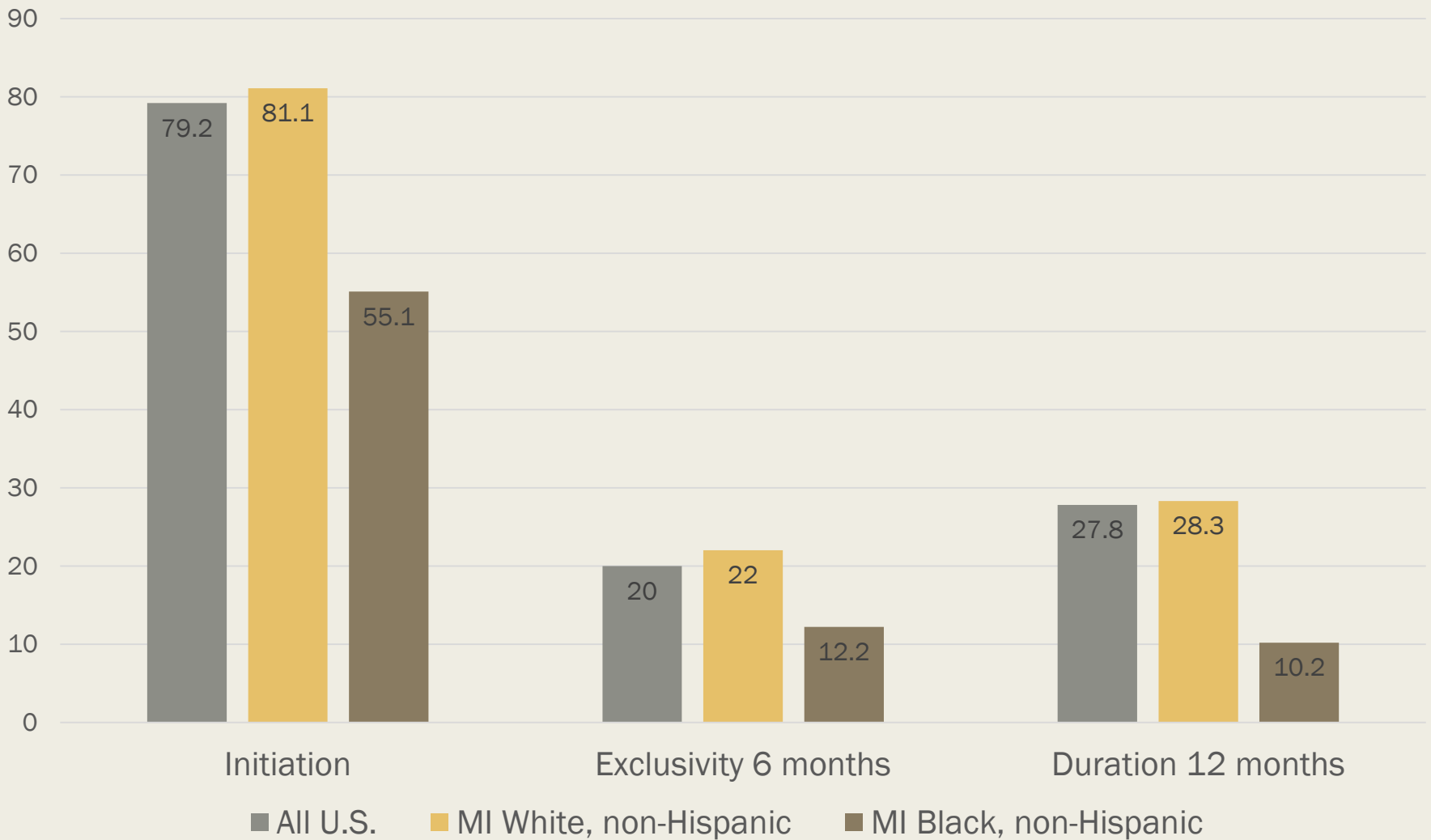


U.S. Breastfeeding Rates



Michigan Breastfeeding Rates

Comparison of breastfeeding rates between Non-Hispanic White and Non-Hispanic Black women in Michigan, NIS, 2011-2015



What is PRAMS?

Pregnancy Risk Assessment Monitoring System

2,000 - 3,600 mothers per year are sampled

Oversample:

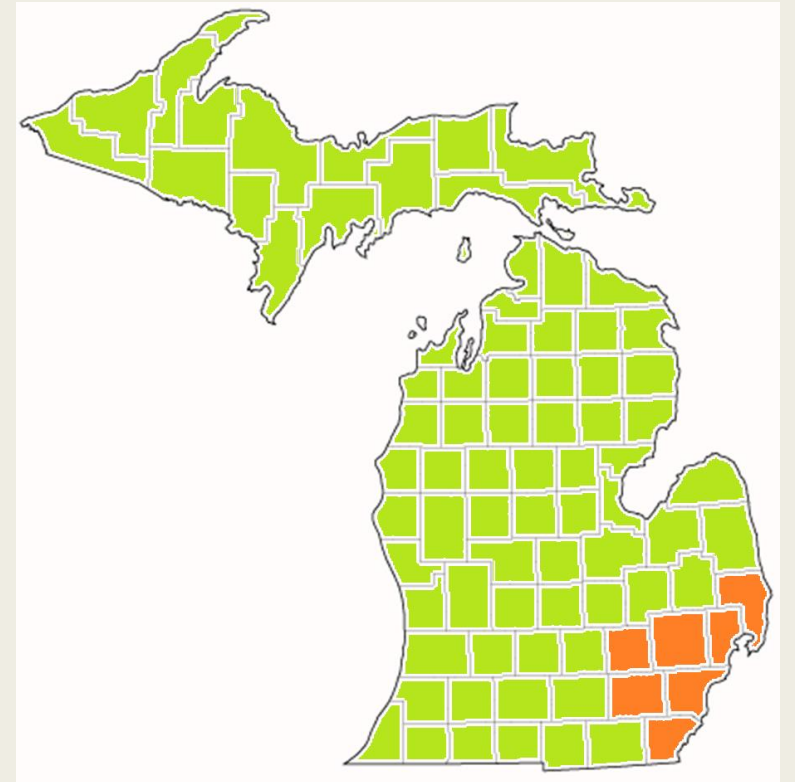
- *Low birth weight*
- *African American*
- *Southeast Michigan*

Survey completed 3-9 months post-partum

Population based survey

Results weighted to number of pregnancies each birth year

- *About equal to number of live births*
- *About equal to number of mothers*



Data Analyzed

Phase 6

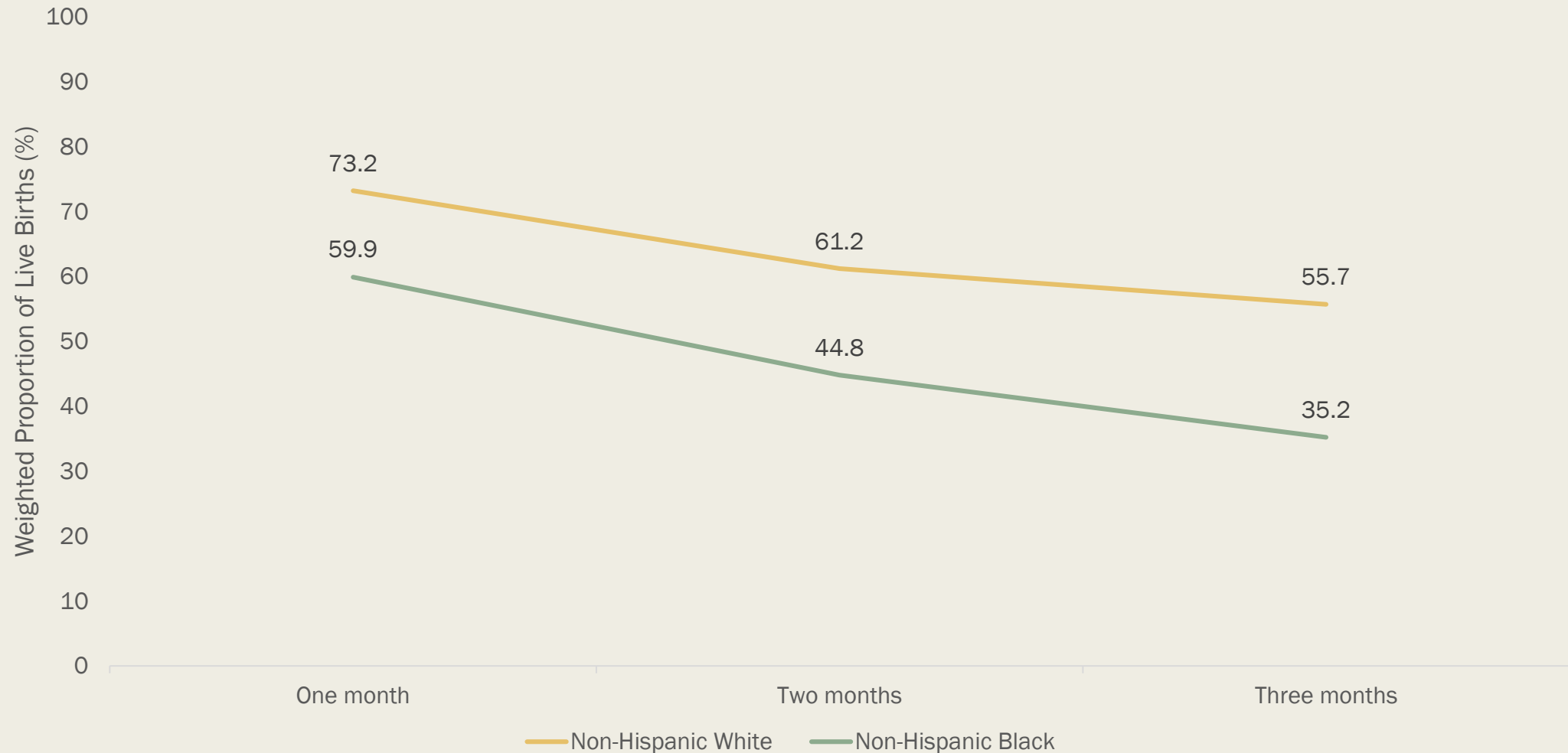
- 2009-2011
 - 2009 = *~113,000 pregnancies*
 - 1,667 respondents
 - 2010 = *~111,000 pregnancies*
 - 1,413 respondents
 - 2011 = *~110,000 pregnancies*
 - 1,657 respondents
- *~334,000 combined pregnancies represented by 4,737 respondents*

Phase 7

- 2012-2015
 - 2012 = *~110,000 pregnancies*
 - 1,989 respondents
 - 2013 = *~110,000 pregnancies*
 - 2,025 respondents
 - 2014 = *~111,000 pregnancies*
 - 1,650 respondents
 - 2015 = *not yet weighted*
- *~331,000 combined pregnancies represented by 5,664 respondents*

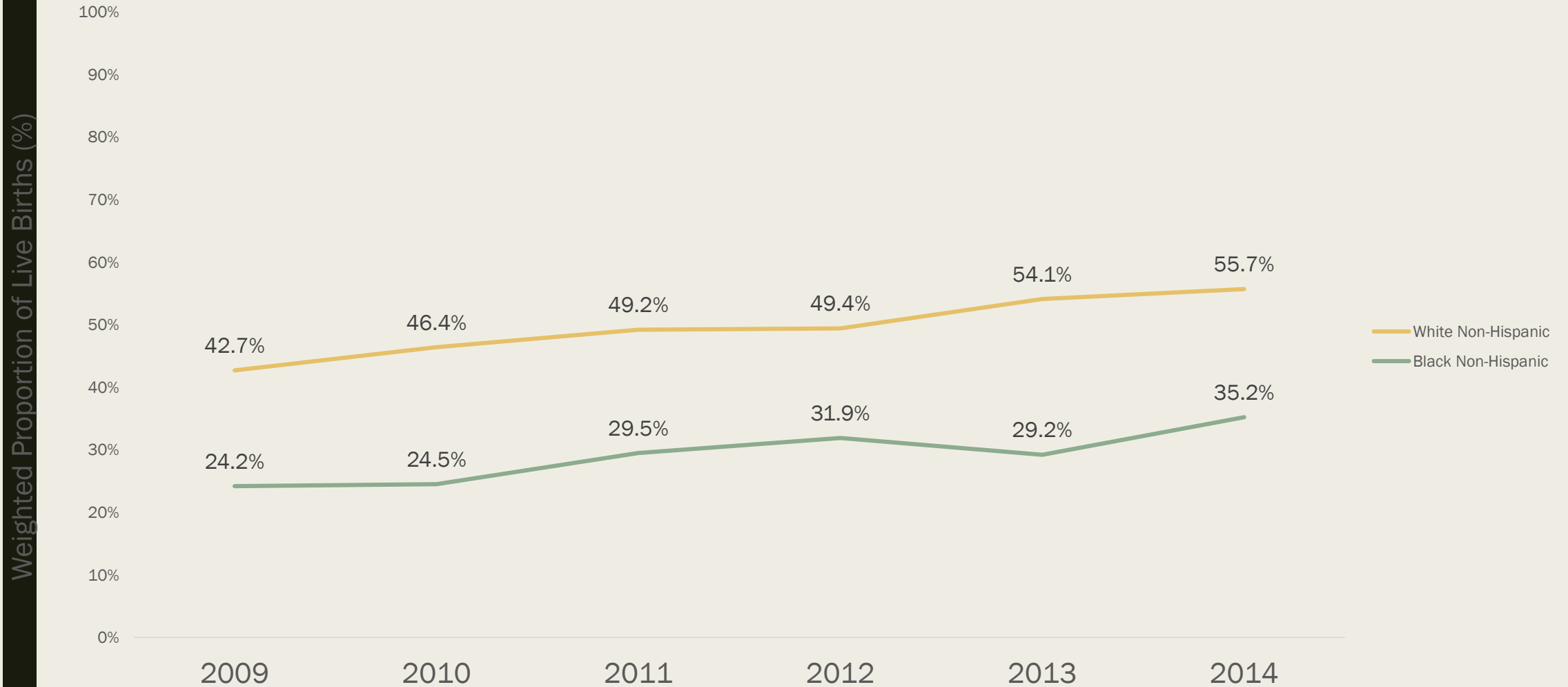
About 665,000 pregnancy experiences represented by 10,401 respondents to MI PRAMS from 2009-2014

Racial Disparities Exist in Duration [Michigan PRAMS 2014]



Racial disparities have existed over time

[3 Month BF Duration; Michigan PRAMS 2009-2014]



Odds Ratio

- The risk of something happening when exposed to an event as compared to the risk of something happening when not exposed to that event.

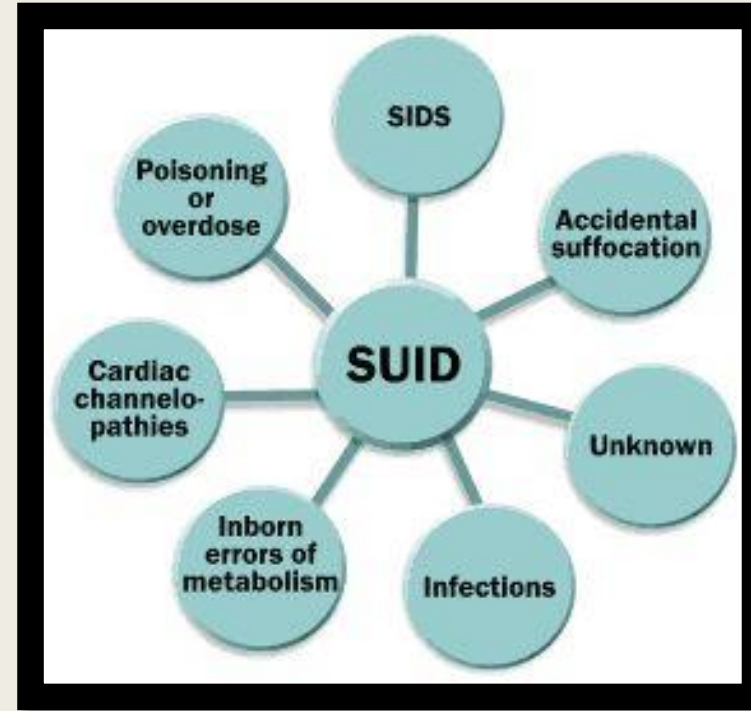


- For example, odds ratio of smoking to squamous cell carcinoma is 11.1. Meaning that the risks of getting cancer if you smoke is 11.1 times greater than your risk of getting cancer if you didn't smoke.

SUIDS

SIDS

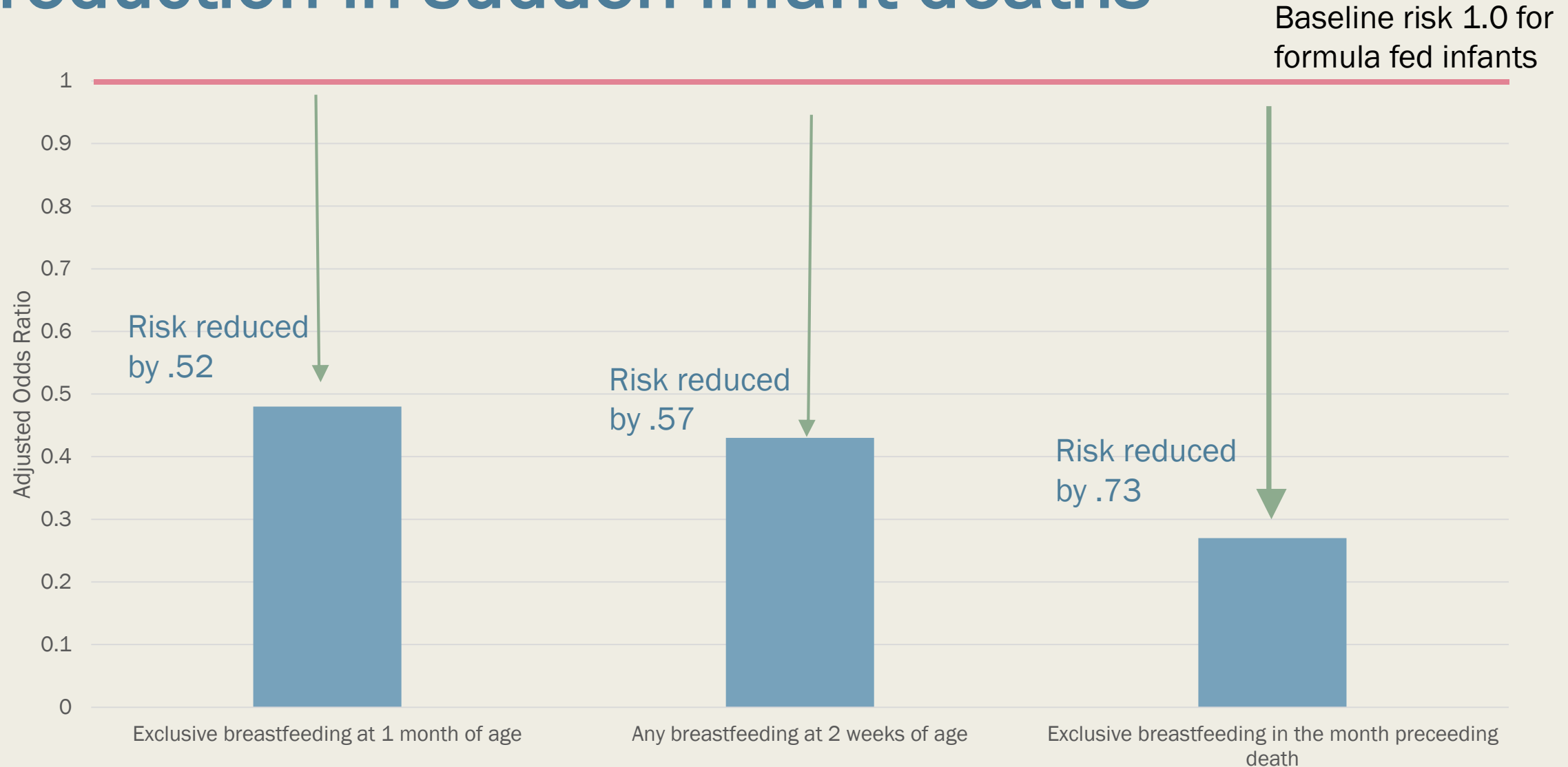
Smothering/Asphyxiation



“Does Breastfeeding Reduce the Risk of Sudden Infant Death Syndrome?”

- [Vennemann](#), et al. Pediatrics, 2009
- Population-based, case-control study of 333 infants and 998 age-matched controls, in Germany from 1998-2001.
- Infant feeding examined at 2 weeks of age, 1 month, & last month of life. Detailed info gathered on amount of breast and formula infant received.
- Controlled for variables; maternal smoking in pregnancy, maternal family status, maternal age, socioeconomic status of family, previous live births, birth weight, bed sharing in last night, pillow in infant's bed, additional heating during last sleep, sleep position, and pacifier use.

Exclusive breastfeeding has the greatest reduction in sudden infant deaths



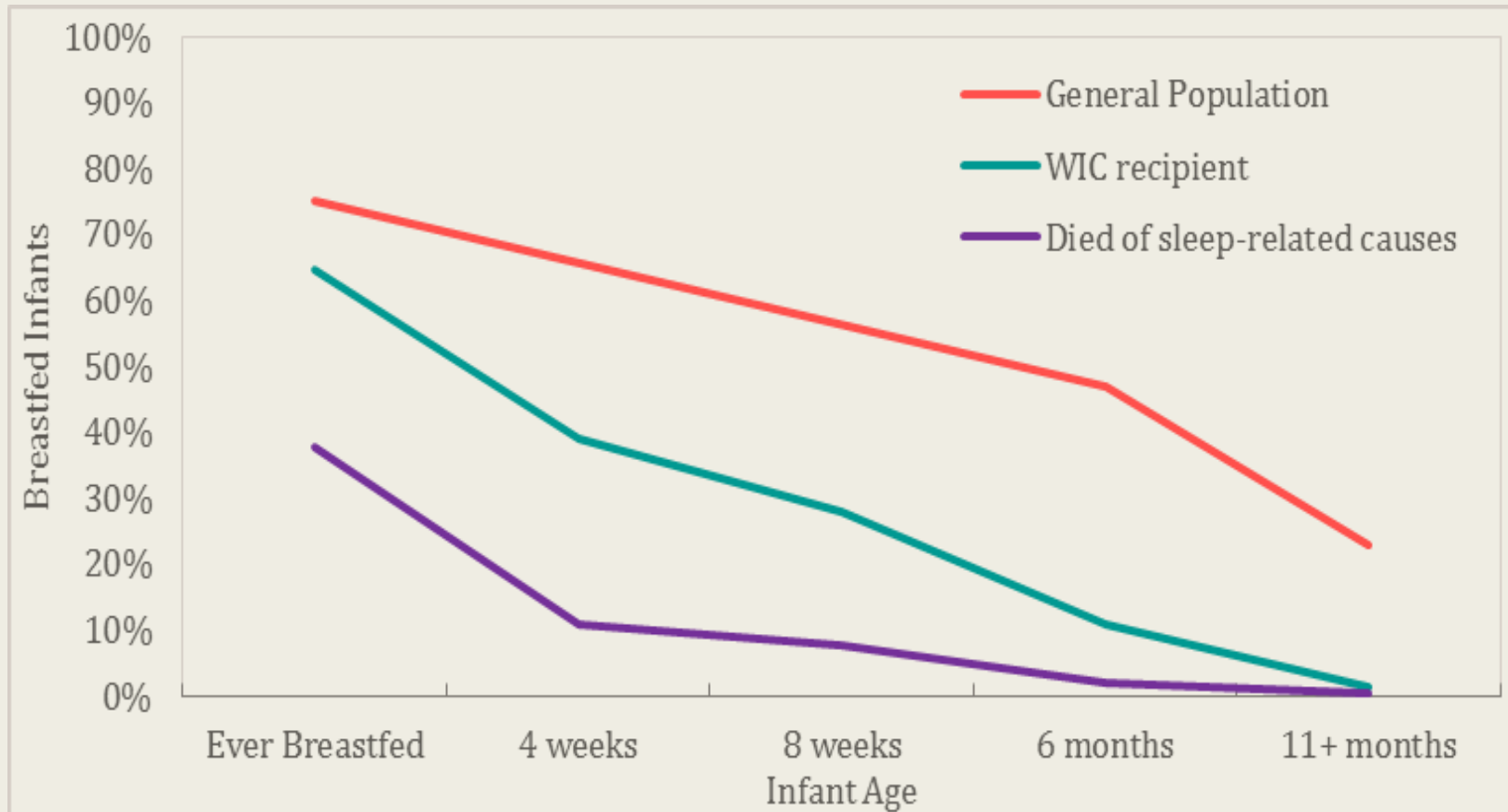
Michigan's Data on Breastfeeding and Sleep-Related Infant Deaths

- The majority of infants who died of sleep-related causes had formula for their last feeding (65%)
- Infants who were formula fed were more likely to have a mother who smoked during pregnancy compared to infants who were breastfed (51% v 32%)
- Of all infants found in an adult bed only 19% were breastfed vs 81% formula fed

* Source: CDC SUID Case Registry, Michigan Public Health Institute, 2016*

Michigan Breastfeeding and Sleep-Related Infant Deaths

- Formula fed infants are overrepresented in our data set:



* Source: CDC SUID Case Registry, Michigan Public Health Institute, 2016*

Breastfeeding and Sleep-Related Infant Deaths

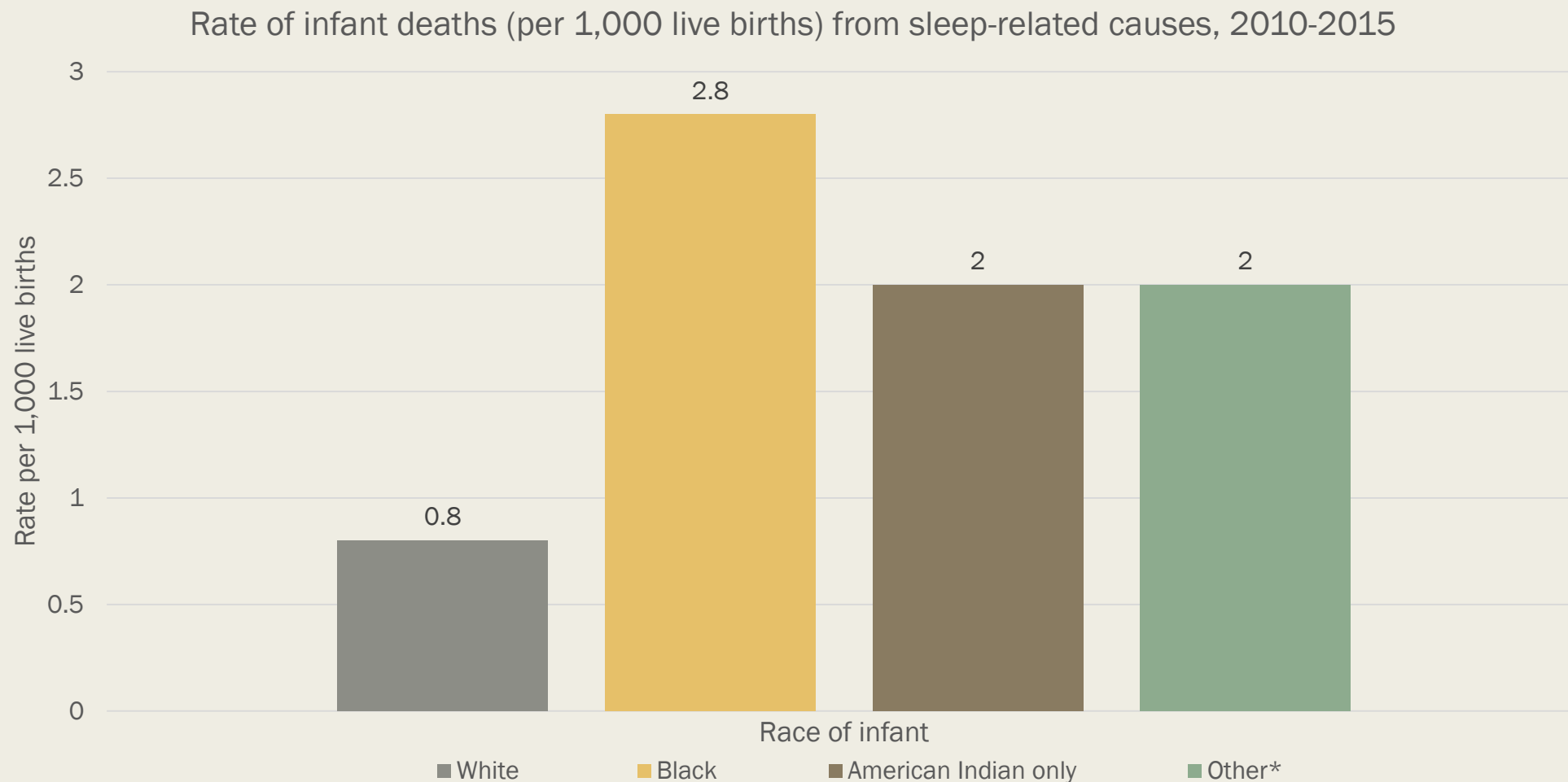
■ What does this mean?

- *Michigan's data supports the studies out there that breastfeeding (and/or the factors associated with breastfeeding) is a protective factor against sleep related infant deaths*
- *So the next question becomes "Is it safe to co-sleep if you are breastfeeding?"*

There is no consensus about the level of risk which is why the AAP recommends room-sharing, not bed-sharing.



Unacceptable racial disparity in sleep-related deaths.



*Other includes Asian, Pacific Islander and Multi-racial

Data from the CDC SUID Case Registry, Michigan Public Health Institute, 2017

The Risk Associated with Co-Sleeping Overall

Co-Sleeping = can mean bed-sharing, room-sharing, or sofa or recliner-sharing
There is a four times greater risk of infant death when co-sleeping



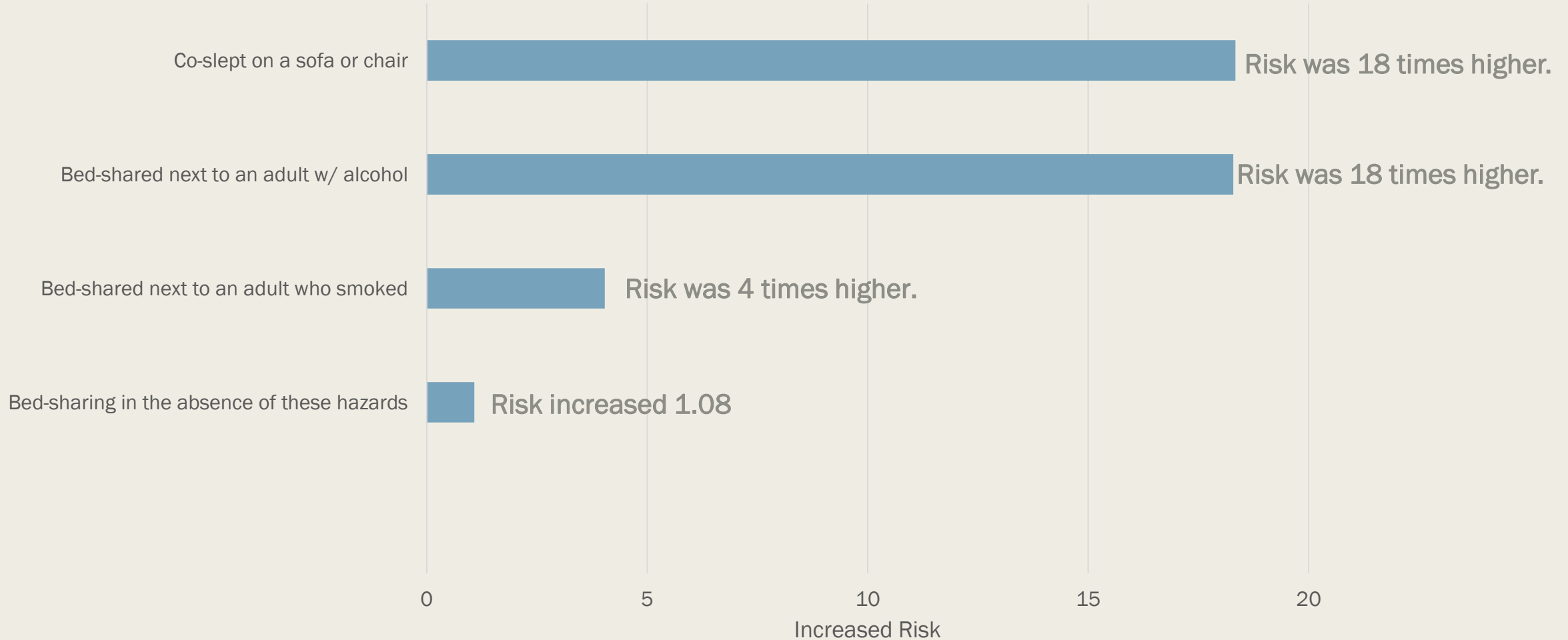
Bed-Sharing = the baby sleeps with his mother on a flat surface



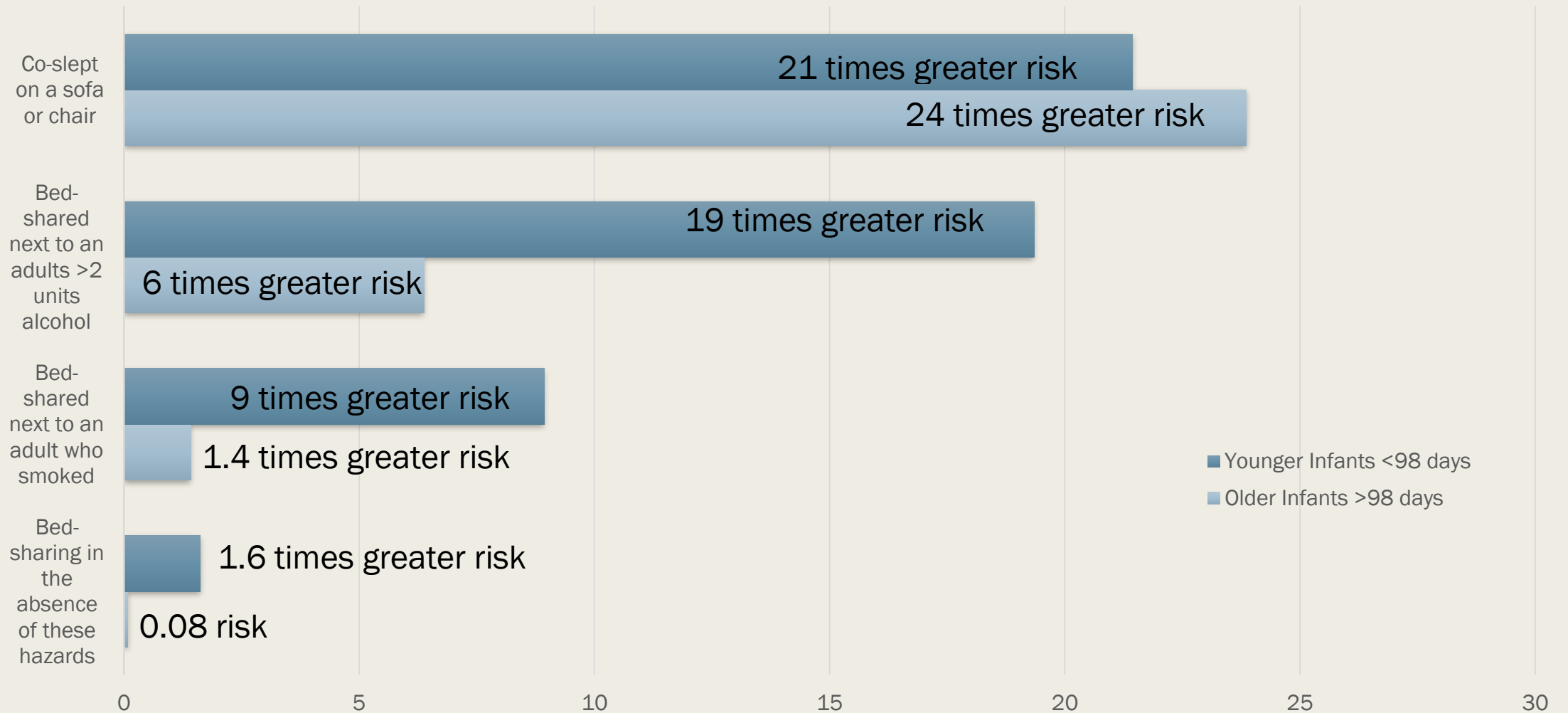
Room-sharing = the baby sleeps in the same room as, but on a separate surface from, an adult.



Co-Sleeping Risk Increases with Adverse Environmental Factors



Younger infants at greater risk of co-sleeping death

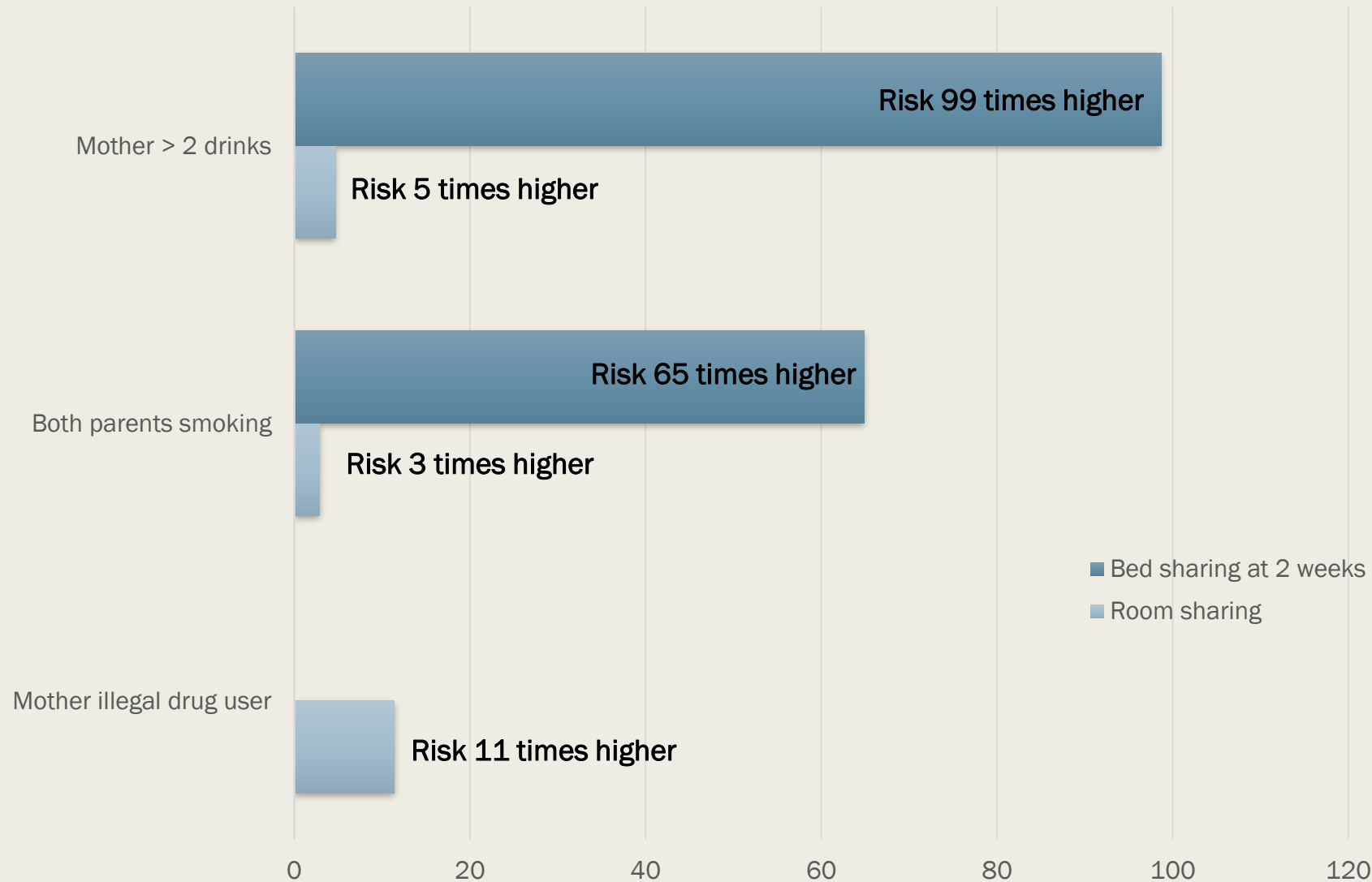


Face down sleeping increases risk of sleep-related death

- Back to Sleep campaign launched 1994
 - *1970's death rate was 1.5 infant deaths per 1,000 live births*
 - *Back to Sleep campaign resulted in 50% decrease in U.S. SIDS rate*
 - *Current rate 0.5 infant deaths per 1,000 live births*
- 74% of parents are compliant with recommendations to place babies supine (face up)
- Risk of death is 2-13 times higher for infants place to sleep face down (prone)



Risk of dying increases with bed-sharing vs room-sharing



To Bed-Share or not to Bed-Share? That is the question.

It's not risk free.

There are a lot of variables:

- Routine vs. non-routine
- Parent vs. another caregiver
- Breastfed vs formula-fed
- Age and weight of the baby
- Smoking, drugs, bed type, covers, pets

Summary: What makes Bed-Sharing riskier?

Infant < 4 months old

Smoking prenatally and after birth

Impaired caregiver (fatigue, alcohol, illicit drugs, pain meds, certain antidepressants)

Non parental bed-sharing (including other children)

Soft surface (waterbed, old mattress, couch, armchair)

Soft bedding accessories (pillows, blankets)

Weaning from breastfeeding

Low birthweight or preterm infant (< 37 weeks)



There is no completely risk-free way to bed-share with your infant.

How can parents feed their babies? (While keeping them safe and not losing their minds?)



Breastfeeding is protective against infant deaths. Nurse as long as you're able. Every ounce counts.

You could feed your baby in your bed at night



- Keep blankets and pillows away from your baby's head.
- Keep your other kids and pets out of the bed.
- Be careful if you have large breasts. They can suffocate a baby.
- Lay on a firm mattress with clean sheets
- Be sure your baby is protected from falling out of bed or rolling into a nook between the bed and wall.

***When your baby is done nursing, put him back into his own sleep space that's near you.**

You could feed your baby in a rocker at night



Be careful not to fall asleep with your baby here. The cushions in a rocker can block your baby's airway.

You could feed your baby on a couch at night



This is unsafe because if this mom falls asleep, the baby could slip down into the cushions. The baby is also sleeping face down which could block his airway.



This is unsafe because of the pillows, loose blankets, hidden nooks, and side sleeping.