

A short horizontal line with a teal segment on the left and an orange segment on the right.

Health Equity Rounds: Reducing Disparities in Sudden Unexpected Infant Death

*MA Center for Unexpected Child and Infant Death Annual Conference
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Introduction to Health Equity Rounds (HER)





Case

Pause for Reflection



Additional Information



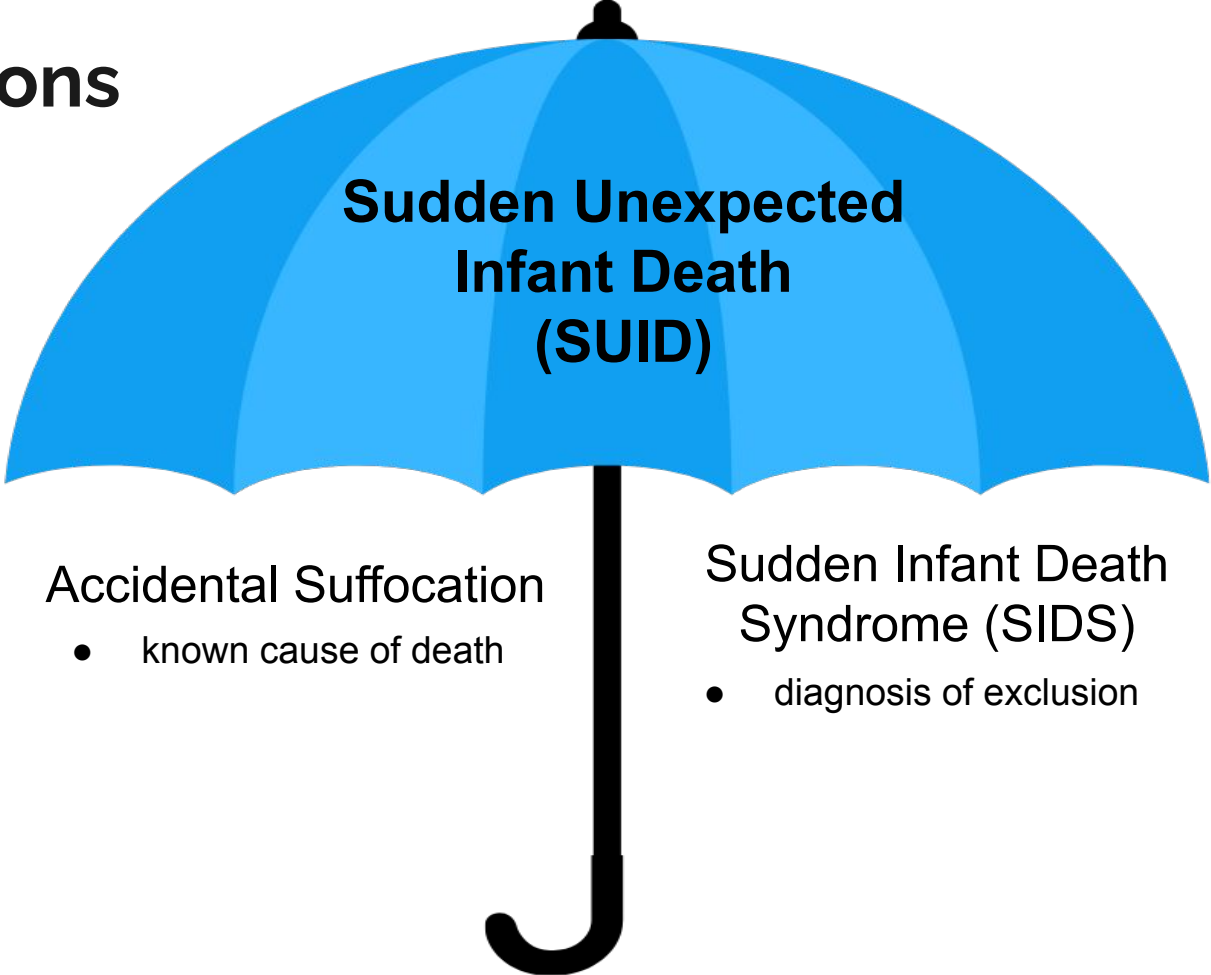
Today's Learning Objectives



- Understand differences between SUID, SIDS, and accidental suffocation
- Recognize the role of structural racism and socioeconomic disparities in SUID incidence
- Categorize barriers to safe sleeping practices and how housing status affects implementation of these recommendations
- Highlight culturally humble strategies providers can use to have conversations about safe sleep practices with families

SUID and SIDS

Definitions



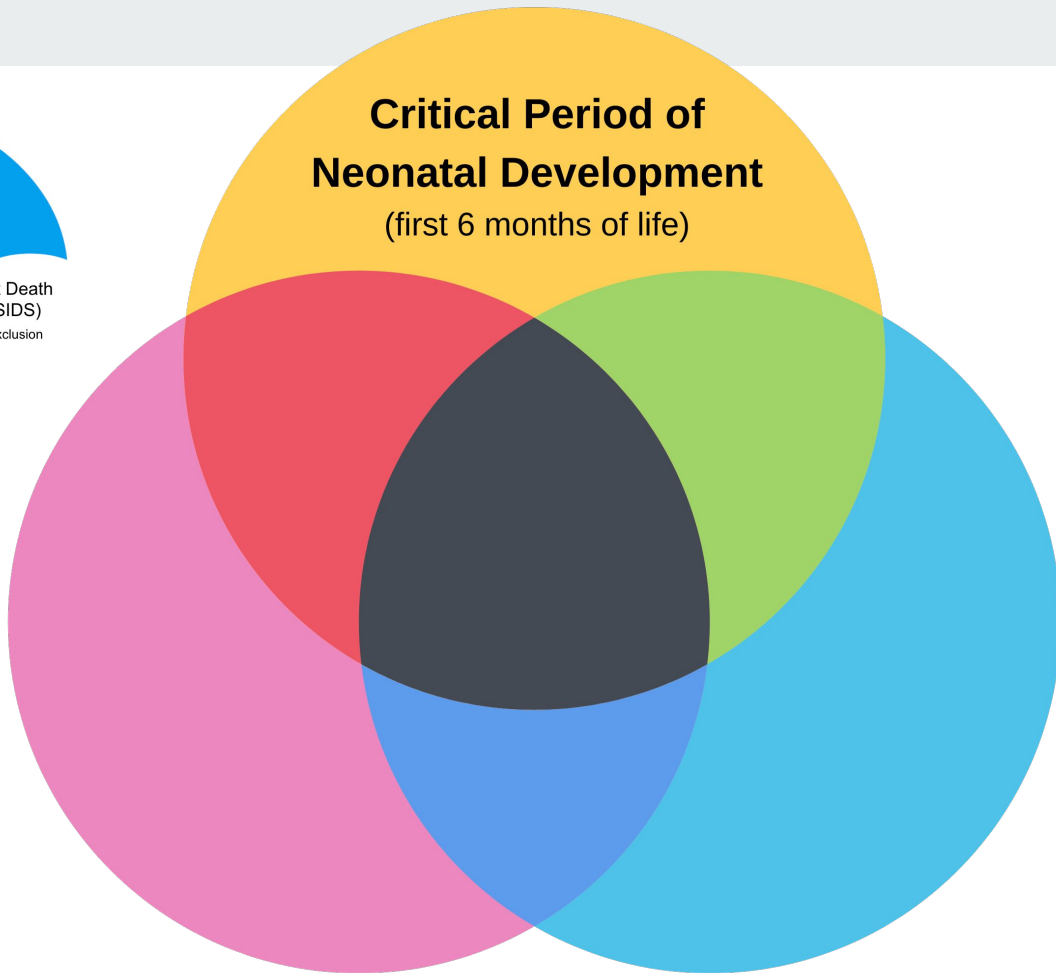
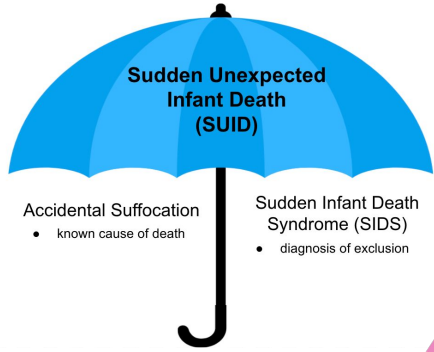
Sudden Unexpected Infant Death (SUID)

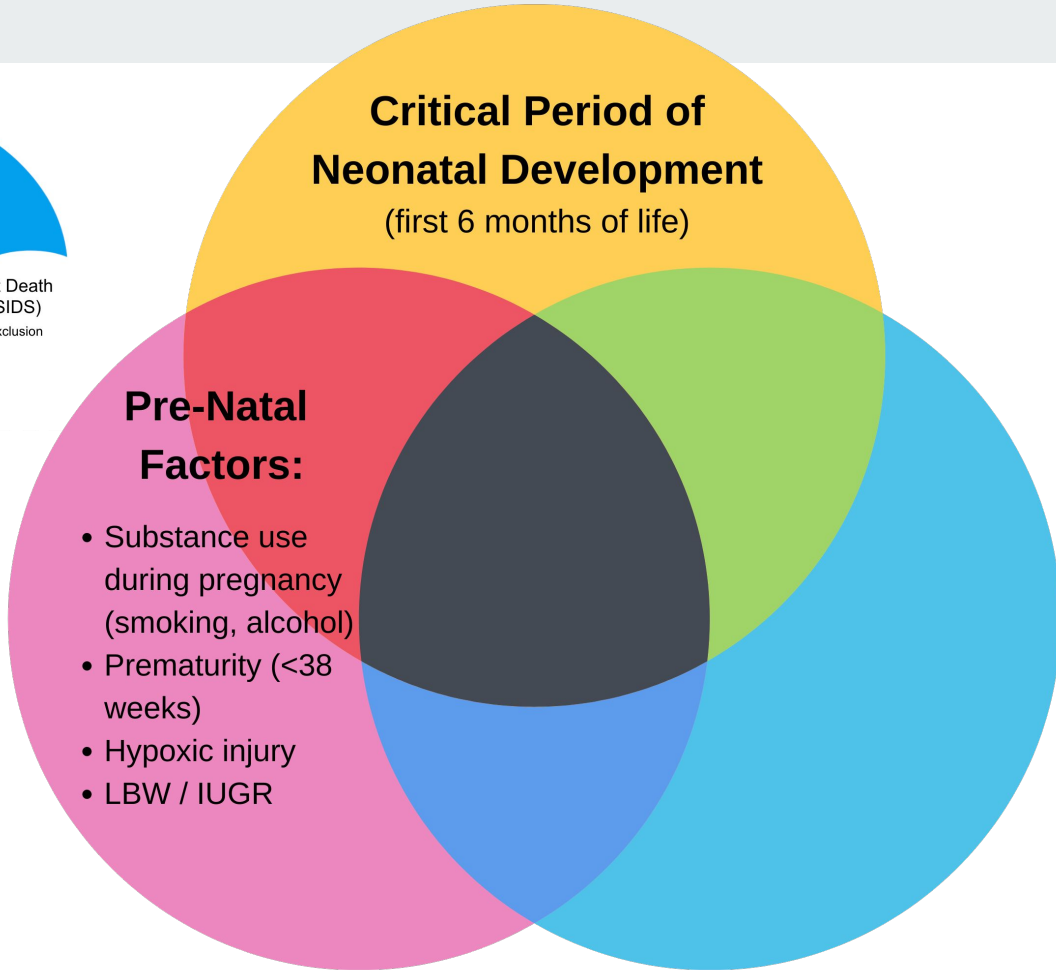
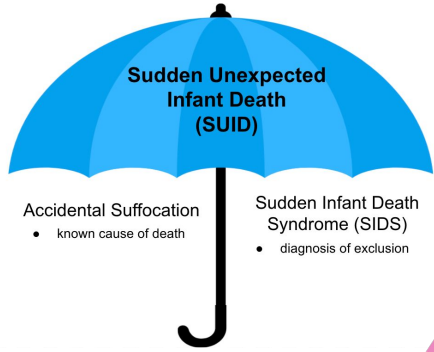
Accidental Suffocation

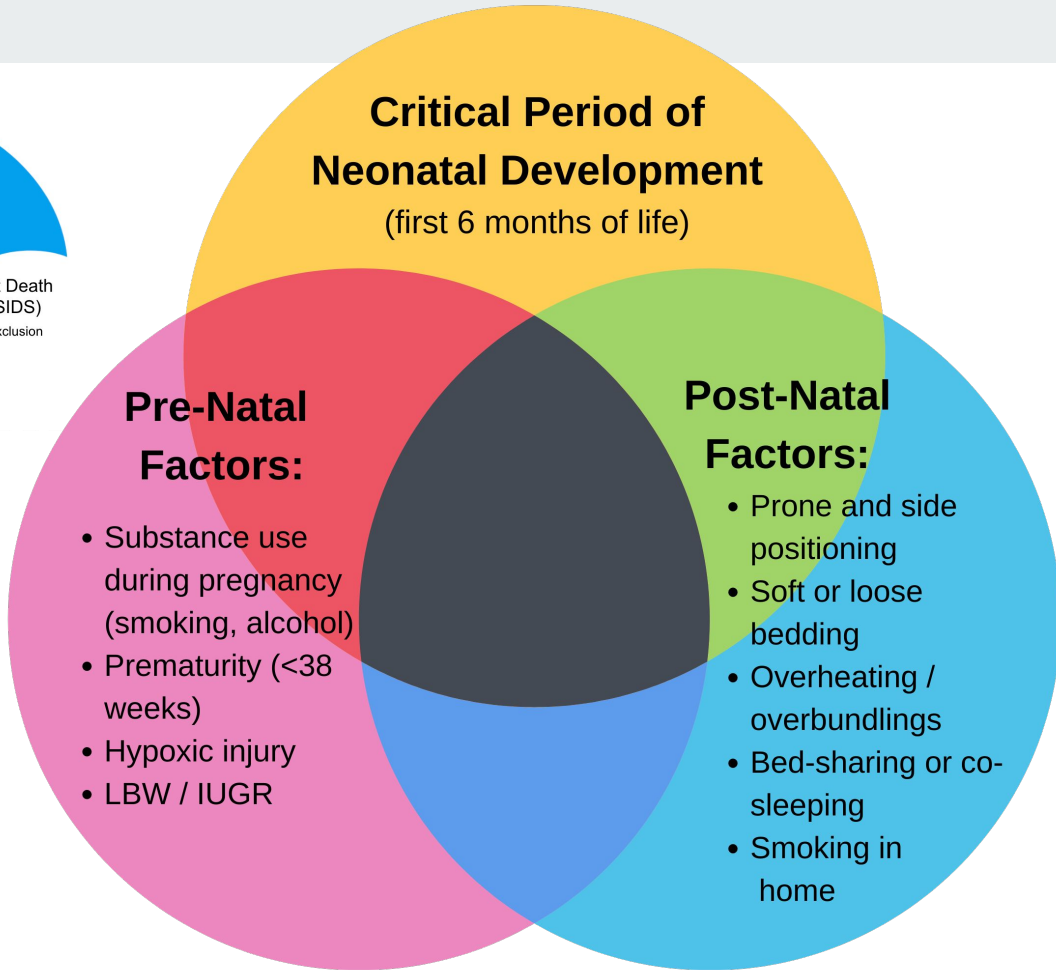
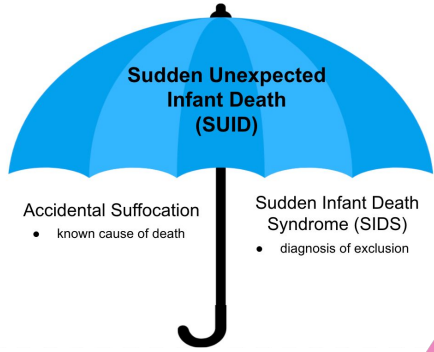
- known cause of death

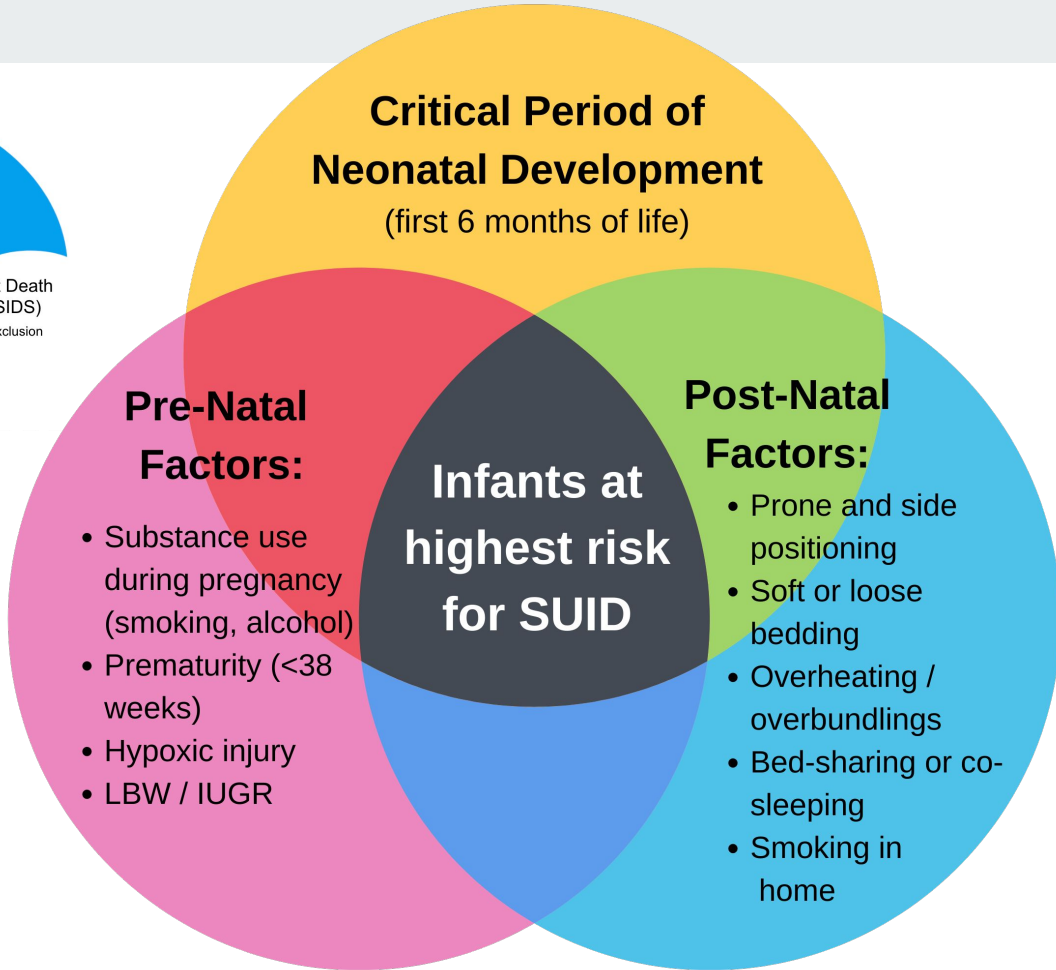
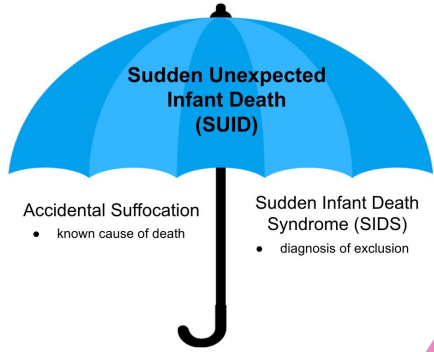
Sudden Infant Death Syndrome (SIDS)

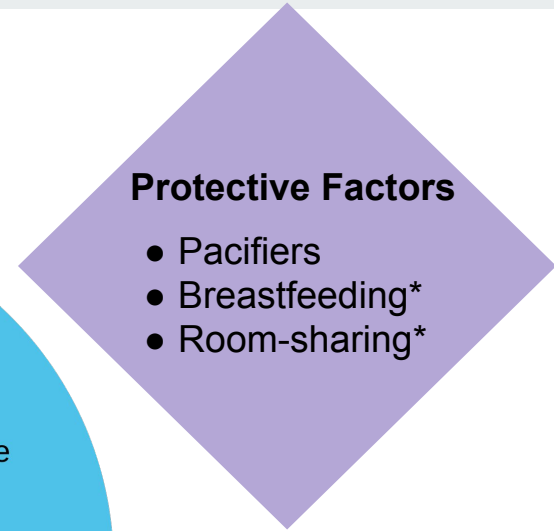
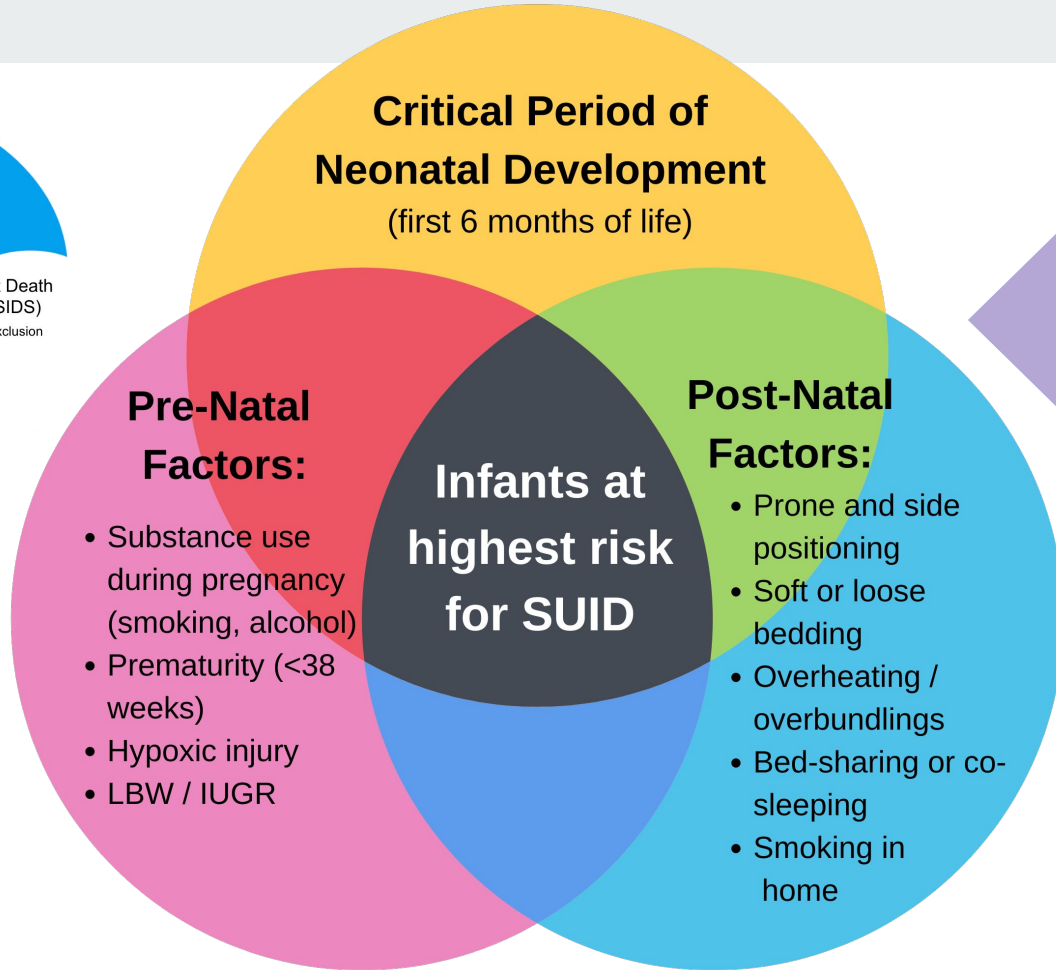
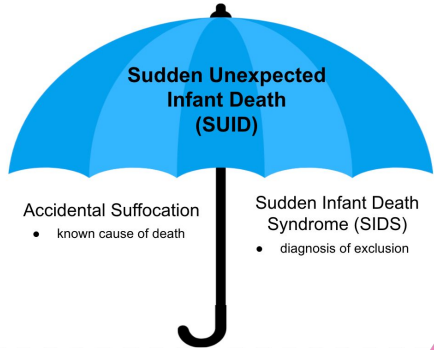
- diagnosis of exclusion





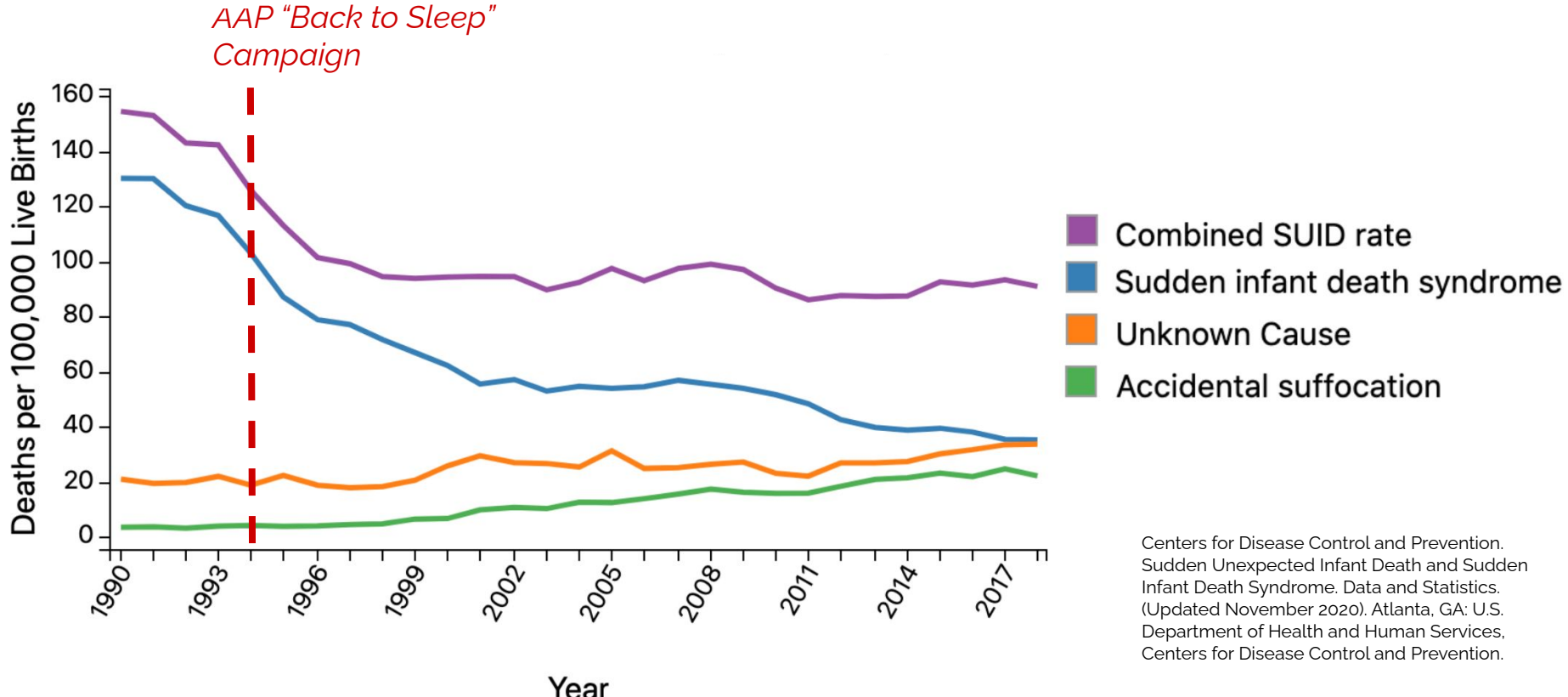






*protective in isolation but also associated with bed-sharing

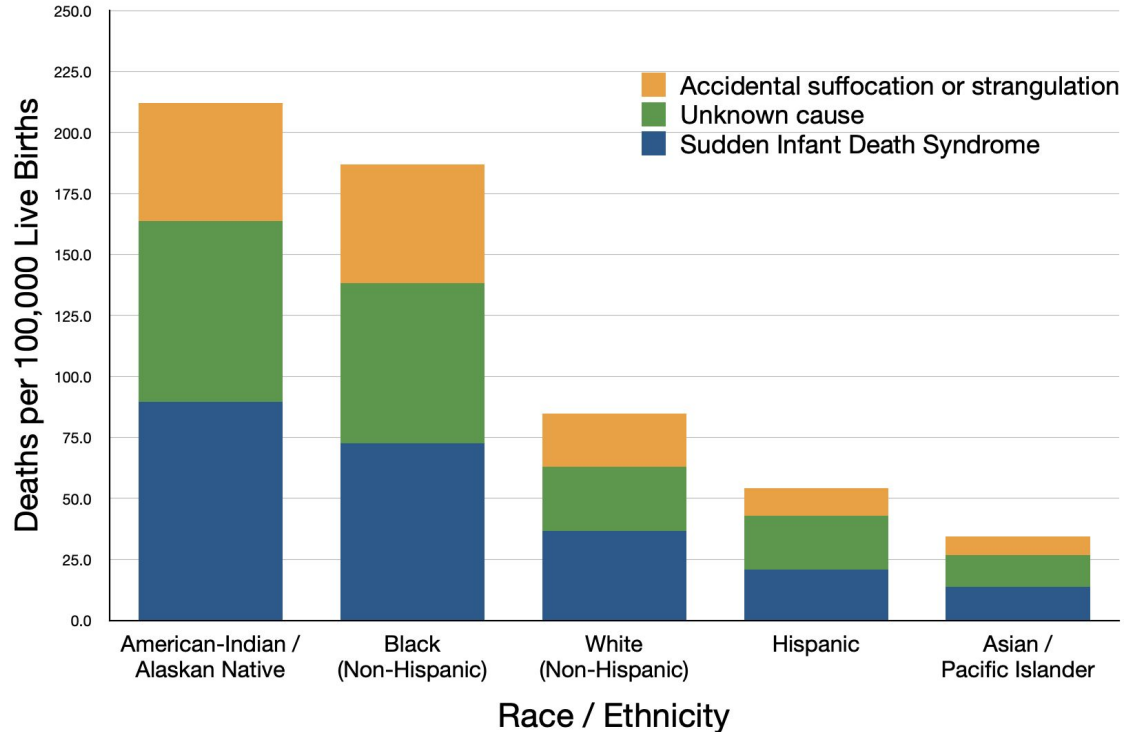
Trends in SUID by Cause, 1990-2018



Disparities by Race and Ethnicity

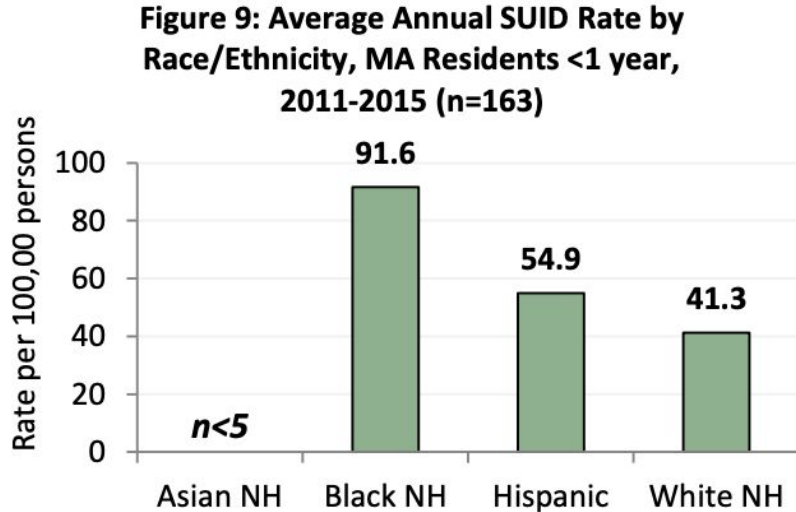


Sudden Unexpected Infant Death by Race / Ethnicity, 2014-2018



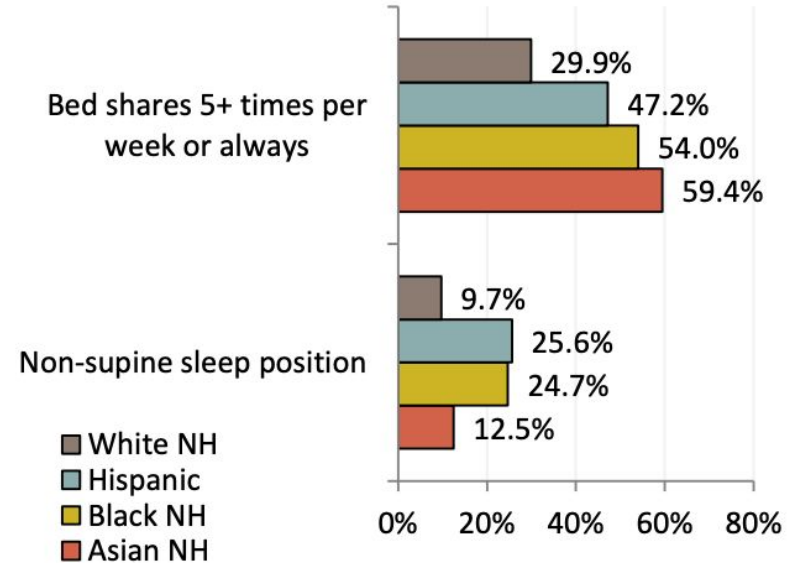
Centers for Disease Control and Prevention. Sudden Unexpected Infant Death and Sudden Infant Death Syndrome. Data and Statistics. (Updated November 2020). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Disparities by Race and Ethnicity



Source: MA Registry of Vital Records & Statistics, 2011-2015

Figure 10: Infant Sleep Practices by Race/Ethnicity, MA PRAMS, 2015 (Sample n=1,245)



Source: MA Pregnancy Risk Assessment Monitoring System, 2015

Barriers to Safe Sleep

Social Drivers of SUID

Low SUID prevalence

- Canada: 0.45/1000
- NZ non-Māori: 0.34/1000
- US White: 0.87/1000
- Japan: 0.6/1000
- Sweden: 0.17/1000

- Better health care
- Less inequality
- Lower poverty rates

High SUID prevalence

- Indigenous Canadians: 5.7/1000
- NZ Māori: 1.82/1000
- US Black: 1.70/1000
- US American-Indian/Alaskan Indian: 1.92/1000

- Legacies of historical trauma
- Poor access to healthcare
- Significant poverty/inequality

Caregiver Concerns When Selecting Sleep Positions



Herman S, Adkins M, Moon RY. Knowledge and beliefs of African-American and American Indian parents and supporters about infant safe sleep. *J Community Health*. 2015;40(1):12-19. doi:10.1007/s10900-014-9886-y

Colson ER, Levenson S, Rybin D, Calianos C, Margolis A, Colton T, Lister G, Corwin MJ. Barriers to following the supine sleep recommendation among mothers at four centers for the Women, Infants, and Children Program. *Pediatrics*. 2006 Aug;118(2):e243-50. doi:10.1542/peds.2005-2517. PMID: 16882769.

Concerns about Comfort



- 36% felt prone was better for comfort

*“I want her to sleep exactly how she is [in the crib] but **she just seems uncomfortable** or whatever like **she want to be close to something**, so I want to get her to that.”*

*“But I feel if **she’s uncomfortable**, then okay, have them sleep on their stomach. **We can - we sleep on our stomach**, we never have a problem.”*

*“...It seems like the **baby wants a blanket too**. I can’t sleep without a blanket, even if it’s hot.”*

Concerns about Choking



- 50% felt that prone was better for choking

*“He likes to sleep on his **stomach** because he **has acid reflux** when he’s on his **back**. It comes up, he don’t know how to control it.”*

*“...that way **if they did throw up** they’re on their side so they’re not going to swallow any of it ...their airway’s still open...”*

Importance of Proximity and Vigilance



“I just feel safer with my baby next to me or by her dad.”

*“...And i just felt like she was safer there because **I could roll over and put my hand on her belly and feel her breathing.**”*

*“But a lot of people...who say they can’t feel their baby or something, that’s just crazy to me because **my instincts as a mother....when he moves in his sleep, I’m jumping up, so I just don’t understand it, how you can’t.**”*

Lack of Trust in Medical Community



- 60% reported trusting the MD or RN most about infant sleeping position

“...[brochure authors] can’t possibly have children, because getting a baby...to do exactly what you want it to do in its sleep, you’d have to be, like, a night owl, to sit up and watch the baby...”

“I listen more to the elderly people because like the social workers and stuff some of them don’t have kids. They just go by the book...so I feel like I listen more to like my grandparents.”

Lack of Advice, Wrong Advice, Poor Rationale



- 42% received advice from RN, 36% from MD, 15% from relative/friend that supine is best

*“...[my mom] laid us on our bellies because at least when I was a baby that’s what you were supposed to do...and I’ve noticed that like over the years they, they changed it....so I guess I’m wondering which one really is supposed to be the **safest**. Or is there not one that is more safe than the other?”*

Unhelpful / Unrealistic Advice



*“We’re all busy, we’re all working....you’re exhausted. You’re like I’m not going to fight with this baby to put them in a safe place that I know is safe. What else can I do? How else can I, instead of a just a flat cold hard mattress, **what are some other alternatives for safe sleep?**”*

*“I think you should give a tip on how there can be a **safe way the baby can sleep in the bed** instead of just saying, no, you can’t do it.”*

*“But in the middle of night, I’ll pick him up when he needs to eat, and **I’m tired, and I’ll just feed him the breast, and hope he don’t suffocate, really I’m so tired.**”*



“How do you discuss safer sleep practices with a family who doesn’t know where they’re sleeping?”

Barriers to Safe Sleep for Families with Housing Insecurity

AAP Safe Sleep and the Built Environment

Guidelines for Built Home Environment

Firm sleep surfaces

Safe crib use

Sleep in parents' room, on a separate surface

Avoid bed-sharing

Avoid pillows, toys, loose bedding

Limit cigarette smoke in environment

Avoid overheating

Sleep routine for baby = peace of mind for you.

With a little practice, your baby can get into a sleep routine. That helps them know when it's time to get some zzzs and also helps them sleep safely. **Here's help on making it happen.**

Sleep routine



The safest way to put your baby to sleep - every nap, every night.

When babies sleep on soft surfaces, in bed with us, or surrounded by soft bedding and toys, they're at greater risk for Sudden Infant Death Syndrome (SIDS). Here are four ways to keep your baby's sleep space safe.

- 1 Put baby to bed on their back. When they're too young to turn themselves over, this is the safest way to sleep.
- 2 Put them to sleep in their own space.
- 3 Use a firm and flat mattress.
- 4 Keep the sleep surface clutter-free (skip the pillows, bumpers, blankets and toys).



Keeps baby safe



Helps you sleep more sound



Sets good habits now

American Academy of Pediatrics
MEMBER OF THE BOARD OF ALL CHILDREN
Learn more at [healthychildren.org/safesleep](https://www.healthychildren.org/safesleep)

Other guidelines

Supine sleeping position until 1 year of age

Breastfeeding

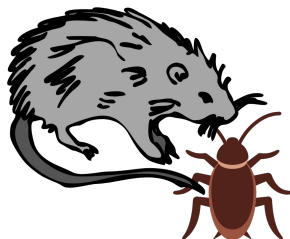
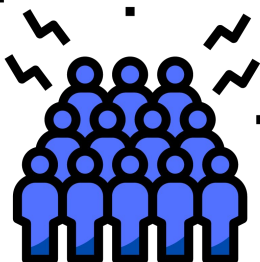
Pacifier use at nap times

Avoid alcohol and drug use by parent

Immunizations

Barriers to Safe Sleep in the Physical Environment

Overcrowding/Lack of Space



Vermin infestation/Safety



Heating/Cooling

Table 1 Recommendations of the WHO Housing and health guidelines

Topic	Recommendation	Strength of recommendation
Crowding 	Strategies should be developed and implemented to prevent and reduce household crowding.	Strong
Indoor cold and insulation 	Indoor housing temperatures should be high enough to protect residents from the harmful health effects of cold. For countries with temperate or colder climates, 18 °C has been proposed as a safe and well-balanced indoor temperature to protect the health of general populations during cold seasons.	Strong
	In climate zones with a cold season, efficient and safe thermal insulation should be installed in new housing and retrofitted in existing housing.	Conditional
Indoor heat 	In populations exposed to high ambient temperatures, strategies to protect populations from excess indoor heat should be developed and implemented.	Conditional
Home safety and injuries 	Housing should be equipped with safety devices (such as smoke and carbon monoxide alarms, stair gates and window guards) and measures should be taken to reduce hazards that lead to unintentional injuries.	Strong
Accessibility 	Based on the current and projected national prevalence of populations with functional impairments and taking into account trends of ageing, an adequate proportion of the housing stock should be accessible to people with functional impairments.	Strong



A BRIEF HISTORY OF RACISM & HOUSING IN AMERICA

1600'S - 1630'S

Colonists arrive and force **displacement of indigenous people** from ancestral homelands.

The beginning of the **Trans-Atlantic slave trade**, trafficking of people from West Africa to English settlements in North America.

1820'S

The **Industrial Revolution** draws people to cities. Many, especially free Blacks and escaped slaves, face homelessness. Police departments are formed and begin to jail people for "loitering."

1860'S - 1870'S

After the **Emancipation Proclamation**, free black people experience **homelessness**. "**Black Codes**" and **Jim Crow Laws** are enacted. The **KKK** is established. Lynching becomes commonplace.

1640'S - 1670'S

The **earliest cases of homelessness** are documented in the colonies. **Native people become homeless during "King Philip's War"** which was the last major effort by indigenous people to expel English settlers.

1830'S

The **Indian Removal Act** displaces tens of thousands of native people - this is the first major **federal legislation to create mass homelessness**.

1920'S
Institutionalized housing discrimination begins - **redlining, GI Bill & Federal Housing Administration loans** - resulting in **housing segregation & exclusion of POC from home ownership**. Mississippi River floods, creating mass homelessness.

1960'S
Fair Housing Act is passed, but inadequately enforced. **Deinstitutionalization of mental health** and mass incarceration creates a **pipeline between jails/prisons and homelessness**.

Present
Ongoing **housing discrimination, gentrification**, zoning ordinance disparities for Black and native people; Policing driving **mass incarceration**.

1880'S

The **Great Migration** of Black individuals and families from former slave states in the South to large cities in other parts of the US. After arrival, they are pushed into overcrowded, segregated housing.

1930'S

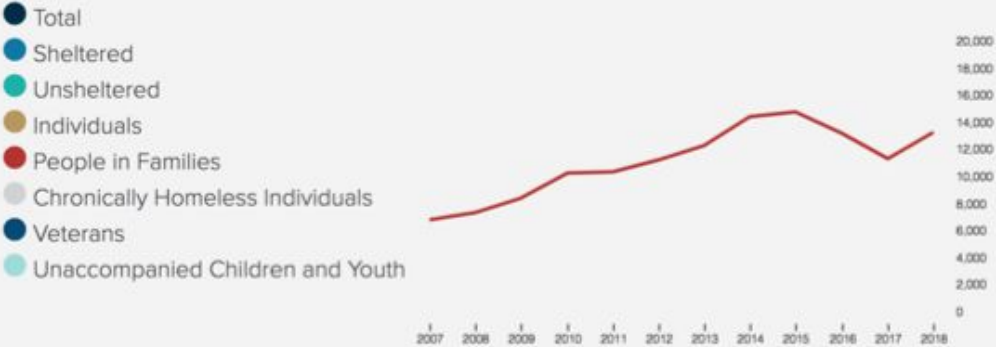
The Great Depression creates an unprecedented degree of homelessness and unemployment.

1970'S - 1990'S

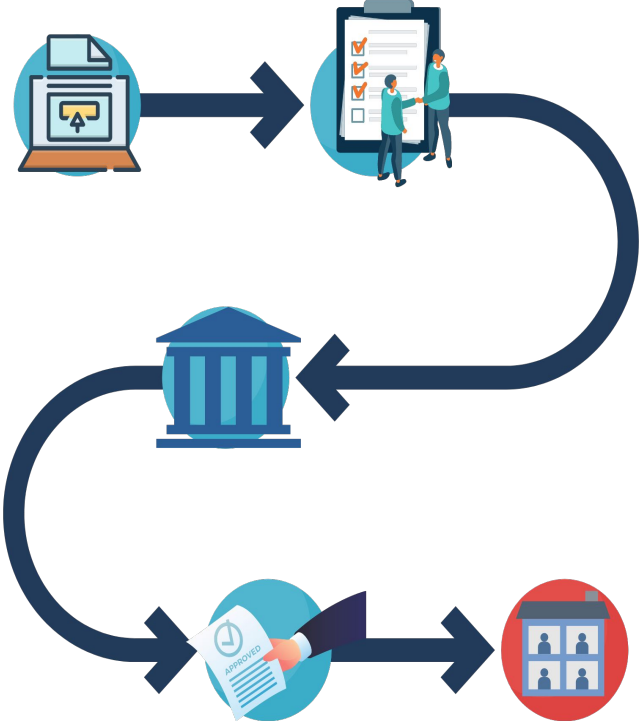
80% reduction in federal investments in public housing drives massive spike in homelessness, with disproportionate impact on POC.

Homelessness and Housing in Massachusetts

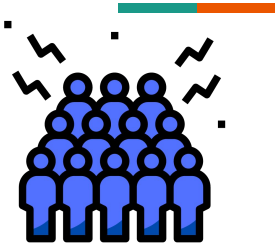
Number of People Experiencing Homelessness, by Type, 2007-2018



Types of Emergency Shelter		Housing Programs	
Congregate Shelter <ul style="list-style-type: none"> Families are placed with other families Shared common areas 	Scattered-site Shelter <ul style="list-style-type: none"> Apartments rented by the state 	Transitional Housing	Permanent Supportive Housing
Co-shelter <ul style="list-style-type: none"> Similar to scattered site shelter, but placed with 2-3 other families Shared common spaces 	Hotels and Motels <ul style="list-style-type: none"> Historically used as overflow to meet demand 	Multi-family Subsidized	Section 8 Housing Choice/ Other Voucher Program
		Public Housing	



Housing Environments and Barriers to “Safe Sleep”



Overcrowding/
Co-sheltered



Unsafe
conditions



No space
for cribs



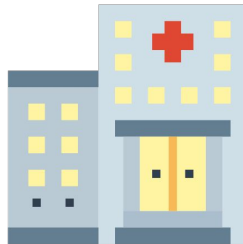
Frequent
moves



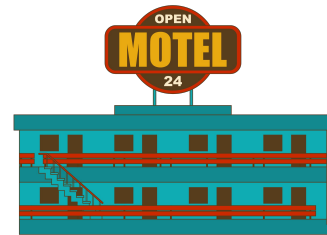
Unreliable
utilities



Temporarily
staying with
friends/family



ED Boarding



Staying in
motels/hotels



Unsheltered

Conclusion and Skills

Discussion of Safe Sleep Practices

- Cultural humility and values clarification

“What does ‘safe sleep’ for your baby mean to you?”

- Empowering parents through knowledge

Try saying “**We worry about babies sleeping on their stomachs because their necks aren’t very strong, and then can have a hard time moving their mouth and nose away from the bed to breathe.**”

in addition to, or instead of,

“**Studies have shown that sleeping on the back is safest.**”



Discussion of Safe Sleep Practices



- Recognition that there are many different ways to be housed.
- Try: **“Where will/does the baby sleep?”**

instead of

“Do you have a crib?”

- Sleeping arrangements are dynamic! Co-sleeping often happens despite the parent’s intention.
- Try: **“Does your baby sleep anywhere else?”**

or

“A lot of parents find it difficult to have their baby sleep in their crib, on their back, every night. Does this happen to you?”

Unicef Baby Friendly Initiative



**CARING FOR YOUR
BABY AT NIGHT**



A guide for parents



<https://www.unicef.org.uk/babyfriendly/>

Co-sleeping Conversation Tips



First 24-48h is crucial! (Cullen et al, 2016)

- Morally neutral stance
- Focus on risk minimization
- Strongly avoid couch or armchair sleeping

Some parents choose to sleep with their baby in bed and some fall asleep with their baby during the night while feeding and comforting whether they intend to or not. Therefore it is very important to consider the following points:

- Keep your baby away from the pillows.
- Make sure your baby cannot fall out of bed or become trapped between the mattress and wall.
- Make sure the bedclothes cannot cover your baby's face or head.
- Don't leave your baby alone in the bed, as even very young babies can wriggle into a dangerous position.

BEWARE

- It is not safe to bed-share in the early months if your baby was born very small or preterm.
- Do not sleep with your baby when you have been drinking any alcohol or taking drugs that may cause drowsiness (legal or illegal).
- Do not sleep with your baby if you or anyone else is a smoker.
- Do not put yourself in a position where you could doze off with your baby on a sofa or armchair.

Summary

- Safe sleep can be a conversation between provider and parent - aim to come up with a tailored plan for each family
- Keep dynamic sleeping arrangements in mind
- Be prepared to offer recommendations for risk minimization during co-sleeping
- Individual practice does not replace broader social reforms



<https://www.happiestbaby.com/blogs/baby/wake-sleep-teaching-babies-to-sleep-on-their-own>

Resources

[Massachusetts Center for Unexpected Infant and Child Death](#)

[Safe sleep for caregivers - Mass.Gov](#)

[Safe To Sleep - NICHD](#)



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Visit our website:
www.bmc.org/HER

References

1. Gettler, L.T., & Mckenna, J.J. (2010). Never sleep with baby? Or keep me close but keep me safe: Eliminated “safe infant sleep” rhetoric in the United States. *Current Pediatric Reviews*, 6(1), 71-77
2. Cullen, D., Vodde, C. R., Williams, K. J., Stiffler, D., & Luna, G. (2016). Infant Co-Bedding: Practices and Teaching Strategies. *Journal for specialists in pediatric nursing : JSPN*, 21(2), 54–63.
3. The Unicef UK Baby Friendly Initiative. (2020, December 01). Retrieved December 06, 2020, from <http://unicef.org.uk/babyfriendly>
4. Broussard, D. L., Sappenfield, W. M., & Goodman, D. A. (2012). The Black and White of infant back sleeping and infant bed sharing in Florida, 2004-2005. *Maternal and child health journal*, 16(3), 713–724.
5. Joyner, B. L., Oden, R. P., Ajao, T. I., & Moon, R. Y. (2010). Where should my baby sleep: a qualitative study of African American infant sleep location decisions. *Journal of the National Medical Association*, 102(10), 881–889. [https://doi.org/10.1016/s0027-9684\(15\)30706-9](https://doi.org/10.1016/s0027-9684(15)30706-9)
6. Moon, R. Y., Oden, R. P., Joyner, B. L., & Ajao, T. I. (2010). Qualitative analysis of beliefs and perceptions about sudden infant death syndrome in African-American mothers: implications for safe sleep recommendations. *The Journal of pediatrics*, 157(1), 92–97.e2. <https://doi.org/10.1016/j.jpeds.2010.01.027>
7. Safe Sleep Campaign Toolkit. Retrieved December 12, 2020 from <https://www.aap.org/en-us/about-the-aap/aap-press-room/campaigns/Safe-Sleep/Pages/default.aspx>
8. Chu T, Hackett M, & Kaur N (2016). Housing influences among sleep-related infant injury deaths in the USA. *Health Promotion International*, 31(2), 396 - 404.
9. Basic Facts on Homelessness and Housing in Massachusetts and Across the Country. Retrieved December 10, 2020 from <https://mahomeless.org/basic-facts/>.
10. National Alliance to End Homelessness: Massachusetts. Retrieved on December 9, 2020 from <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-report/massachusetts/>.
11. Massachusetts Family Homelessness System, City of Ideas; The Boston Foundation. Retrieved Dec 10, 2020 from <https://www.tbf.org/old-blog/2017/february/massachusetts-family-homelessness-system>.
12. Bartick M, Tomori C. Sudden infant death and social justice: A syndemics approach. *Matern Child Nutr*. 2019 Jan;15(1):e12652. doi: 10.1111/mcn.12652. Epub 2018 Aug 23. PMID: 30136404; PMCID: PMC7198924.
13. Herman S, Adkins M, Moon RY. Knowledge and beliefs of African-American and American Indian parents and supporters about infant safe sleep. *J Community Health*. 2015;40(1):12-19. doi:10.1007/s10900-014-9886-y
14. Colson ER, Levenson S, Rybin D, Calianos C, Margolis A, Colton T, Lister G, Corwin MJ. Barriers to following the supine sleep recommendation among mothers at four centers for the Women, Infants, and Children Program. *Pediatrics*. 2006 Aug;118(2):e243-50. doi: 10.1542/peds.2005-2517. PMID: 16882769.



Additional Questions

- Do any conference participants today have resources you recommend for physicians or for families?
- Please share one thing that you learned today in the chat or with a colleague or friend