

The Alabama Department of Public Health and The March of Dimes Prematurity Summit



Embassy Suites
Montgomery, Alabama
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Sleep-Related Infant Deaths and Opportunities for Prevention

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Disclosures

- I have no relevant financial disclosures
- I will not be discussing any unapproved or off - label uses of therapeutic agents of products

Well Actually, One Disclosure...

- Even my family does not get it right all the time....

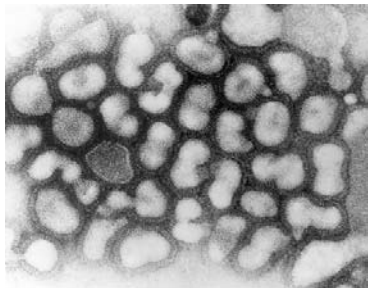


Michael Warren Uncle Mike is cool with this since they are both awake. Then its ABC (Alone, on his Back, and in a Crib) for Mr. Sawyer! Love you guys...see you in a couple of hours.

Objectives

- At the end of this presentation, the learner will be able to:
 - Identify the latest recommendations for infant safe sleep and understand the rationale for the recommendations
 - Describe state - level public health efforts implemented in Tennessee to reduce sleep - related infant deaths

**Before We Begin...
Putting Things in Perspective**



**Before We Begin...
Putting Things in Perspective**

- In 2009, 286 pediatric deaths nationwide (height of H1N1 epidemic)
- Standard recommendations for vaccination
- Drastic public health measures taken to reduce spread (i.e. school closings)

Source: CDC 2009-2010 Seasonal Influenza Update Summary.
<http://www.cdc.gov/flu/weekly/weeklyarchive/2009-2010/09-10summary.htm>

**Before We Begin...
Putting Things in Perspective**

- Influenza results in 100 - 200 deaths annually among children nationwide
- Given the energy that goes into preventing influenza - related deaths, what should we do for something that killed 101 infants in Alabama last year?

Source: Communication from Amy Stratton, Alabama Department of Public Health, 10/7/2014.

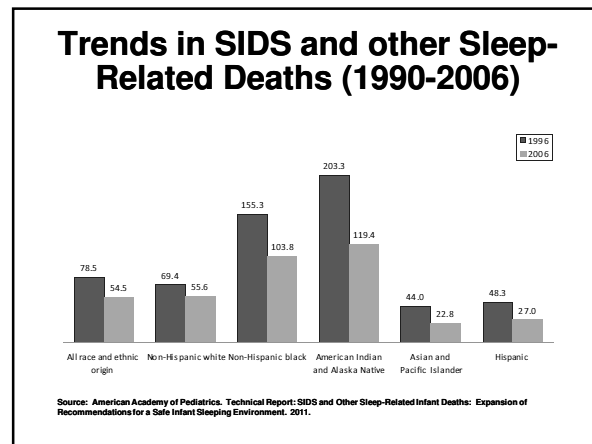
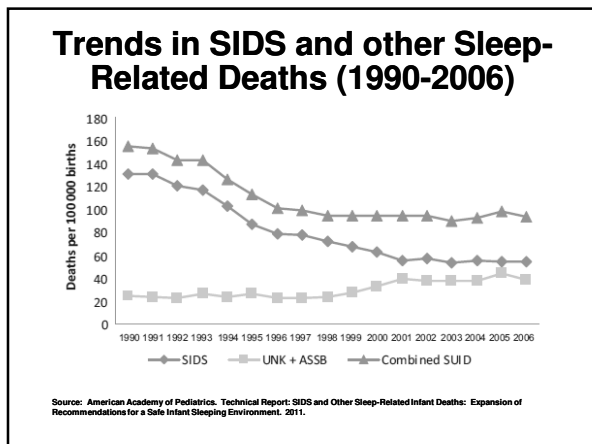
QUIZ: Which is the Safest Infant Sleep Environment?



**Current Recommendations
for Infant Safe Sleep**

Important Definitions

- SIDS: Sudden Infant Death Syndrome (no explanation for infant death)
- SUID: Sudden, Unexpected Infant Death (any sudden infant death, whether explained or unexplained)
- ASSB: Accidental suffocation and strangulation in bed (other sleep - related death, not SIDS)



- ## Infant Safe Sleep Recommendations
- In 2011, the American Academy of Pediatrics released updated guidelines for infant safe sleep¹
 - Update to “Back to Sleep”
 - Specific recommendations included:
 - Infants should sleep alone (no bed - sharing)
 - Infants should sleep on their back
 - Infants should sleep in a crib or bassinette

Policy Statement
SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment

abstract
 Despite a major decrease in the incidence of sudden infant death syndrome (SIDS) since the American Academy of Pediatrics (AAP) released its recommendation in 1992 that infants be placed for sleep in a non-prone position, this decline has plateaued in recent years. Current reality, other causes of sudden unexpected infant death that occur during sleep (sleep-related deaths), including suffocation, asphyxia, and entrapment, and ill-defined or unspecified causes of death have increased in incidence, particularly since the AAP published its last statement on SIDS in 2005. It has become increasingly important to address these other causes of sleep-related infant death. Many of the modifiable and nonmodifiable risk factors for SIDS and suffocation are strikingly similar. The AAP, therefore, is expanding its recommendations from SIDS to SUIDs to encompass both SIDS and suffocation.

<http://pediatrics.aappublications.org/content/early/2011/10/12/peds.2011-2284>

- ## Always Remember the ABC's
- Babies should sleep:
 - **ALONE**
 - Not with adults, other children, or pets
 - Not with toys, stuffed animals, blankets
 - **On their BACK**
 - Not on their side
 - Not on their stomach

- ## Always Remember the ABC's
- **In a CRIB or bassinette**
 - Not in the parent's bed or a sibling's bed
 - Not in a couch or chair
 - Not in a car seat or carrier

Other Safe Sleep Recommendations

- Regular prenatal care for pregnant women
- Avoid smoke exposure during pregnancy and after birth
- Avoid alcohol and illicit drug use during pregnancy and after birth
- Breastfeed

Other Safe Sleep Recommendations

- Avoid overheating
- Consider pacifier
- Immunize according to CDC / AAP schedule
- Avoid commercial “SIDS risk reduction” devices

Infant Safe Sleep Recommendations

- Higher risk of death associated with bed sharing
 - Overall odds of dying: 2.89 times greater
 - Odds of dying if infant < 3 months old: 10.37 times greater
 - Odds of dying if mother smokes: 6.72 times greater

Source: Yemmaman MM et al. Bed Sharing and the Risk of Sudden Infant Death Syndrome: Can We resolve the Debate? Journal of Pediatrics. 2012; 160: 44-8.

Bed - Sharing Practices in Alabama

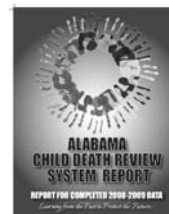
- From 2009 Alabama Child Death Review:
- 23 suspected SIDS cases reviewed
 - 10 infants (43.5%) sleeping in adult beds
 - 5 infants (21.7%) were not sleeping alone

Bed - Sharing Practices in Alabama

- 15 cases of suffocation - related deaths reviewed
 - 4 cases (26.7%) reported to be sleep - related (e.g. bedding, overlay, wedged)
 - 6 victims (40%) reported to be sleeping in an adult bed when the death occurred

Bed - Sharing Practices in Alabama

- 2 deaths (13.3%) occurred while a child was sleeping on a couch



Source: Alabama Child Death Review System Report. Report for Completed 2008-2009 Data. Available at: <http://www.adph.org/cdr/>

Bed - Sharing Practices in Tennessee

How often does your baby sleep in the bed with you or anyone else?



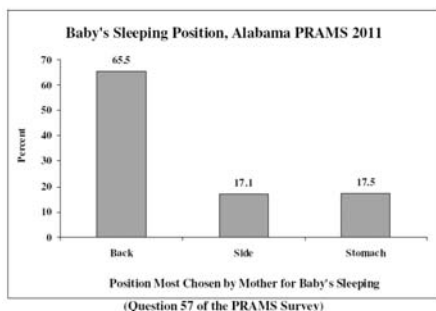
Source: Tennessee Pregnancy Risk Assessment Monitoring Survey (PRAMS) Summary Report, 2009.

Infant Safe Sleep Recommendations

- Higher risk of death associated with sleeping on side or stomach
 - Odds of dying if sleeping on side: **2.0 times greater**
 - Odds of dying if sleeping on stomach: **2.6 times greater**

Sources: Li D, et al. Infant Sleeping Position and the Risk of Sudden Infant Death Syndrome in California, 1997-2000. American Journal of Epidemiology. 2003; 157(5): 446-455. Hausck FR et al. The Contribution of Prone Sleeping Position to the Racial Disparity in Sudden Infant Death Syndrome: The Chicago Infant Mortality Study. Pediatrics. 2002. 110: 773-780.

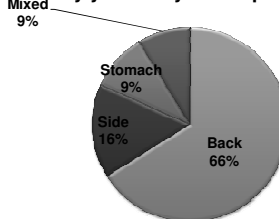
Sleep Positioning in Alabama



Source: Alabama Pregnancy Risk Assessment Monitoring Survey (PRAMS) 2011 Surveillance Report. Available at: <http://adph.org/healthstats/Default.asp?ids=1518>.

Sleep Positioning in Tennessee

In which position do you most often lay your baby to sleep now?



Source: Tennessee Pregnancy Risk Assessment Monitoring Survey (PRAMS) Summary Report, 2009.

What About Reflux?

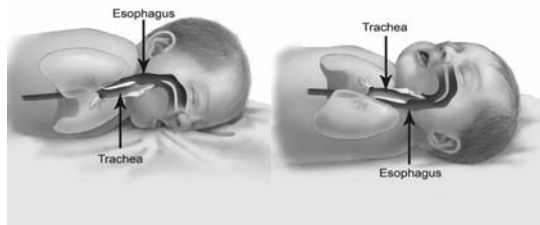
- All babies reflux
 - Babies have protective mechanisms to keep their airway safe
 - The back position is still the safest
- Elevating the head of the bed is not recommended
 - Does not help reflux
 - Baby may slide to foot of bed and compromise airway

What About Reflux?

- Rare exceptions: example — compromised airway protective mechanisms (such as grade 3 - 4 laryngeal cleft before surgical repair)

Source: American Academy of Pediatrics. Policy Statement: SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment. Pediatrics. 2011; 128: 1035-1039.

Sleep Position and Choking Risk



Images courtesy of the Back to Sleep campaign; for educational purposes only; NICHD, NIH, DHHS; <http://www.nichd.nih.gov/sids>

What About Preterm Babies?

- Preterm infants are at increased risk of sleep - related deaths
- AAP recommends that preterm infants be placed on their back as soon as medically stable
 - Well in advance of discharge home
 - By 32 weeks postmenstrual age

What About Preterm Babies?

- Make a point of educating families on the new position and why back sleeping is important

Source: American Academy of Pediatrics. Policy Statement: SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment. Pediatrics. 2011; 128: 1030-1039.

Myth Busters: Infant Sleep

- What is a good sleeper?
- When should my baby sleep through the night?
- But won't my baby sleep better if I:
 - Put rice cereal in the bottle?
 - Put them to sleep on their stomach?

Source: Moon, RY. Sleep: What Every Parent Needs to Know. 2013.

“Normal” Sleep in the First Year of Life

Source: Moon, RY. Sleep: What Every Parent Needs to Know. 2013.

The “Lake Wobegon” Effect: “But the Parents I Know....”

Table 4 Predicted SIDS infant death rates for normal women*

Group number	Risk factors present			Room sharing		Bed sharing		Ratio of rates	
	Feeding	smoking	Alcohol	Rate/1000	95% CI	Rate/1000	95% CI	Ratio	95% CI
Minimum risk	Br	No	No	0.08	0.05 to 0.14	0.23	0.11 to 0.49	2.7	1.4 to 5.3
1	Bol	No	No	0.13	0.08 to 0.21	0.34	0.16 to 0.73	2.7	1.4 to 5.3
2	Br	Partner	No	0.09	0.05 to 0.16	0.52	0.25 to 1.08	5.6	2.9 to 10.8
3	Br	Mother	No	0.13	0.08 to 0.23	1.27	0.54 to 3.00	9.7	4.4 to 21.7
4	Br	Both	No	0.24	0.15 to 0.41	1.88	0.94 to 3.73	7.7	4.3 to 13.8
5	Bol	Both	Yes	1.77	0.87 to 3.48	27.5	10.4 to 68.4	15.6	5.7 to 41.5

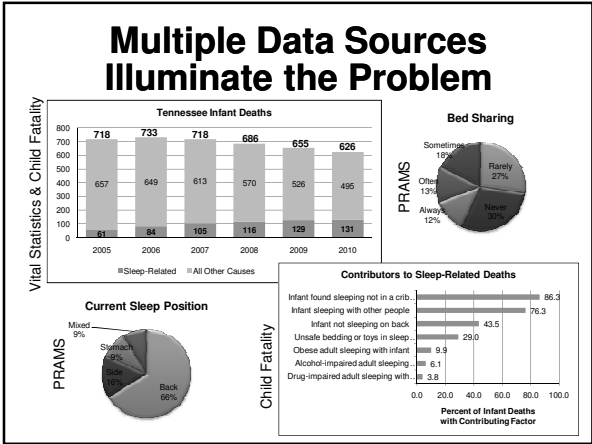
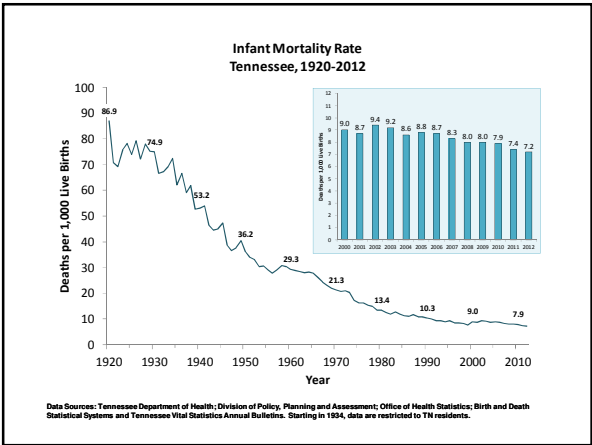
*Predicted SIDS mortality rates for a co-sleeping, white mother age 26 to 30, having a second normal weight baby with birth weight between 2.5 and 3.5 kg and having no other risk factors, that is mother is not a drug user, has a partner and rooms shares.
Bol, bottle; Br, breast; SIDS, Sudden Infant Death Syndrome.

Source: Carpenter R, McGarvey C, Mitchell EA, et al. Bed sharing when parents do not smoke: is there a risk of SIDS? An individual level analysis of five major case-control studies. BMJ Open. 2015; 3:e002295.

Tennessee Public Health Efforts to Prevent Sleep-Related Infant Deaths

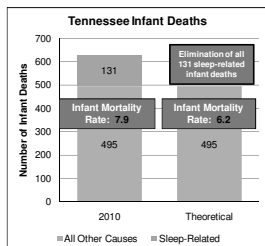
- ### Overview: Tennessee's Safe Sleep Efforts
- 2012
 - Analysis of various data sources
 - Development of statewide Safe Sleep campaign
 - 2013
 - Evaluation of broad public awareness campaign
 - Engagement of other key partners

- ### Overview: Tennessee's Safe Sleep Efforts
- 2014
 - Launch of Hospital Safe Sleep Project

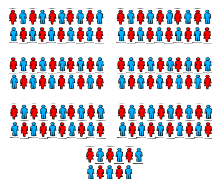


- ### Why Focus on Safe Sleep?
- If we could eliminate these preventable sleep - related deaths, we would move from the bottom five states in infant mortality to the national average!

Data Illuminates.... but the Heart Motivates



**131 Children =
Equivalent of 6
Kindergarten
Classrooms**



Broad Public Awareness Campaign



Material Distribution

- Regional and local health departments
- Hospitals
- Pediatrician offices
- OB offices
- Daycares / child care centers
- Child welfare
- Safekids Coalitions
- March of Dimes

Evaluation of Awareness Campaign

- Parents (N = 1,372)
 - 65% reported making changes based on the campaign message
 - Over half that made changes removed pillows and fluffy bedding from the infants sleep area
- Grandparents (N = 284)

Evaluation of Awareness Campaign

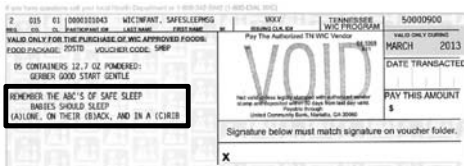
- 52.5% reported making changes
 - Over 40% talked to their son or daughter and almost 1/3 removed fluffy blankets and bedding
- Child Care Providers (N = 102)
 - 72.5% reported making a change

Evaluation of Awareness Campaign

- Over half talked to a parent about safe sleep
- About 1/3 reported removing pillows or fluffy bedding and 1/3 also reported changing a baby's sleep position

Key Partnership: WIC

- State - level initiative
- Idea from division - wide meeting on Safe Sleep
- Printed on ~38,000 vouchers per month



Key Partnership: Welcome Baby

- Universal outreach program to all new parents
 - Funded with MIECHV funds
 - All packets contain safe sleep information
- Low risk receive packet by mail
- Medium risk receive phone call
- High risk receive a home visit with education and promotional items such as a onesie with a safe sleep message



Key Partnership: Hospitals



Key Partnership: Hospitals

- Hospitals commit to:
 - Develop / implement safe sleep policy
 - Educate staff at least annually
 - Monitor compliance quarterly
- Partner hospitals will receive:
 - Free “Sleep Baby, Safe and Snug” board book for each birth

Key Partnership: Hospitals

- Free TDH “ABCs of Safe Sleep” materials
- Free educational flipchart
- Free Recognition on TDH website
- Signed certificate from TDH Commissioner
- Press release template

Why Focus on Hospitals?

- Because the AAP says so!
 - AAP recommends that health care professionals endorse risk - reduction strategies
- Because we can impact the families of almost every baby born in Tennessee
 - Nearly all (98.7%) of Tennessee births occur in hospitals¹

Source: Tennessee Department of Health, Division of Policy Planning and Assessment.

Why Focus on Hospitals?

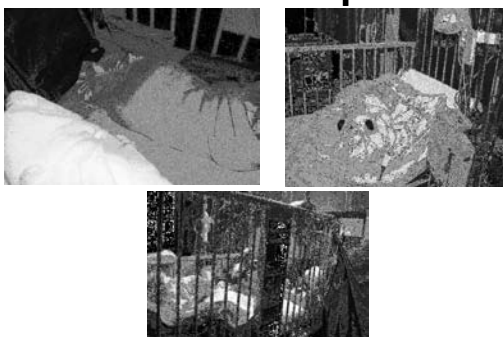
- Health care providers may not always provide the most up-to-date information or model correct safe sleep practices
 - 2006 study: Only 52% of NICU nurses provided discharge instructions for exclusive back sleeping

Why Focus on Hospitals?

- 2007 study: Only 74% of pediatricians and 62% of family physicians recommended exclusive back sleeping
- 2009 study: 72% of nurses knew back sleeping protective for SIDS; only 30% regularly placed infants on back

Sources: Aris C, et al. NICU nurses knowledge and discharge teaching related to infant sleep position and risk of SIDS. *Advances in Neonatal Care*. 2006; 6(5): 281-294. Moon RY, et al. Physician Recommendations Regarding SIDS Risk Reduction: A National Survey of Pediatricians and Family Physicians. *Clinical Pediatrics*. 2007; 46: 791-800. Carrier CT. Back to Sleep: A Culture Change to Improve Practice. *Newborn and Infant Nursing Reviews*. 2009; 9: 163-168.

Real Examples from Tennessee Hospitals



Why Focus on Hospitals?

- What parents see matters!
 - 1998 study: Among parents who observed stomach sleeping in hospital, 93% intended to place infant on stomach at home¹
 - 2001 study: Parents who saw exclusive back sleeping in nursery more likely to put baby on back at home²

Sources: Brenner RA et al. Prevalence and Predictors of the Prone Sleep Position Among Inner-City Infants. *JAMA*. 1998; 280(4): 541-546. Colson SS et al. Position for newborn sleep: associations with parents' perceptions of their nursery experience. *Birth*. 2001. Dec; 28(4): 249-53.

Why Focus on Hospitals?

- Because hospital - based interventions can make a difference!
 - Large metropolitan level II nursery: NICU staff education and trigger tool and rapid - cycle change → increased use of appropriate bedding and parent education¹

Why Focus on Hospitals?

- Large TX NICU: Safe sleep algorithm, crib card, education for staff / parents, crib audit tool, and post discharge telephone reminders → increased supine positioning; improved parental compliance

Why Focus on Hospitals?

- York, PA hospital: Educational DVD, face to face review with nurses, parental acknowledgement statement → improved parental intent for supine positioning and use of crib / bassinette; improved understanding of AAP guidelines

Sources: Carrier CT. Back to Sleep: A Culture Change to Improve Practice. *Newborn and Infant Nursing Reviews*. 2009; 9: 163-16. Gafter P et al. Integrating "Back to Sleep" Recommendations into Neonatal ICU Practices. *Pediatrics* 2012; 131:e1264-e1270. Goodstein M. Creating a Hospital and Community Based Infant Safe Sleep Education and Awareness Program: The York Hospital Experience. Presentation on Cribs for Kids website. Available at: http://cribsforkids.org/wp-content/uploads/2012/09/Goodstein_ISSProgram_ISS.pdf

Key Partnership: Local Communities



Funding Sources

- HRSA
 - Maternal and Child Health Block Grant
 - Early Childhood Comprehensive Systems (ECCS)
- CDC
 - Core Violence and Injury Prevention Grant (sleep - related deaths are one of four priority areas)

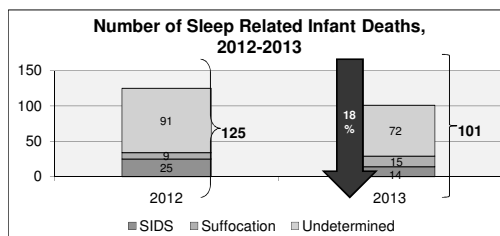
Funding Sources

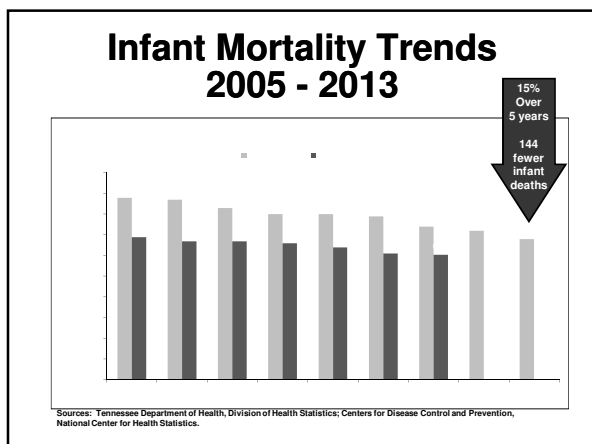
- Other Sources
 - Fetal Infant Mortality Review (Medicaid administrative match)
 - Community foundations
 - Corporate partners

Key Lessons Learned

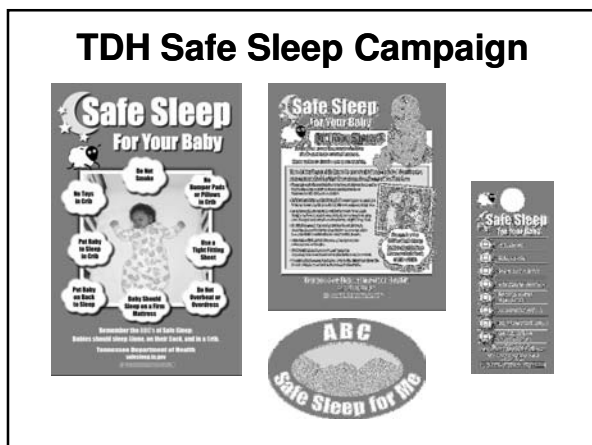
- Utilize data to identify risk factors and develop campaign focus – Sources include Child fatality, PRAMS, vital records
- Gather input on campaign materials early in process
- Capitalize on multiple funding sources
- Engage diverse set community partners
- Keep campaign fresh

Preliminary Data: SUID Reduction





Resources to Help You Prevent Sleep-Related Infant Deaths



- ### NICHD “Safe to Sleep” Campaign
- Expansion of original “Back to Sleep” campaign which started in 1994
 - Since start of original campaign:
 - SIDS rate declined by almost 50%
 - Increase in percentage of babies put to sleep on back

- ### NICHD “Safe to Sleep” Campaign
- Incorporates latest AAP recommendations for infant safe sleep
 - Website:
<http://www.nichd.nih.gov/sids/>
-

NICHD “Safe to Sleep” Resources

Safe Sleep For Your Baby

Ponga a su bebé a dormir sin peligro

What does a safe sleep environment look like?

Reduce the Risk of Sudden Infant Death Syndrome (SIDS) and Other Sleep-Related Causes of Infant Death.

SAFE TO SLEEP

Reduce the Risk of Sudden Infant Death Syndrome (SIDS) and Other Sleep-Related Causes of Infant Death.

SIEMPRE AL DORMIR

Reduce the Risk of Sudden Infant Death Syndrome (SIDS) and Other Sleep-Related Causes of Infant Death.

SALE TO SLEEP

First Candle

First Candle

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FIRST BIRTHDAY PARTIES

Pledge your baby's first birthday party to raise funds for First Candle to help other babies reach their first birthday.

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Cribs for Kids

Cribs for Kids

Helping every baby sleep safer

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Find Products for Your Needs.

LEARN MORE

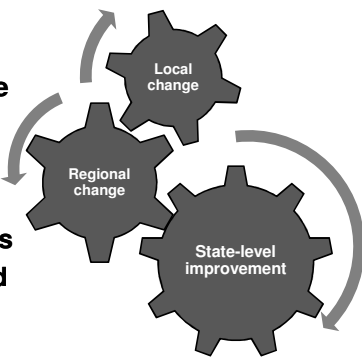
Charlie's Kids

Charlie's Kids FOUNDATION

sleep baby safe and snug

You Play a Vital Role!

• **Your work is vital in the efforts to maximize the health of Alabama's mothers and babies**



Contact Information

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