



## **Sudden Infant Death Syndrome (SIDS) and Safe Sleep**

### **Background:**

According to the Centers for Disease Control and Prevention (CDC), Sudden Unexpected Infant Death (SUID) is defined as an infant death that occurs suddenly and unexpectedly, and whose manner and cause is not immediately obvious prior to investigation. Each year in the United States, more than 4,500 infants die suddenly of no obvious cause. Half of these SUIDs are due to Sudden Infant Death Syndrome (SIDS), the leading cause of SUID and of all deaths among infants aged 1-12 months. Sudden Infant Death Syndrome is defined as the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and review of the clinical history.

In 1992 the American Academy of Pediatrics (AAP) recommended placing babies on their backs to sleep. In 1994 the National Institute of Child Health and Human Development (NICHD) began the Back to Sleep campaign as a way to educate parents, caregivers, and health care providers about ways to reduce the risk for SIDS. The campaign focused on promoting infant back sleeping and other risk-reduction strategies to parents, family members, child care providers, health professionals, and all other caregivers of infants.

As a result of growing public awareness and successful intervention strategies, the rate of SIDS deaths has declined. According to the National Center for Health Statistics at CDC, the SIDS rate (deaths per 1,000 live births) dropped from 1.4 in 1988 to 0.55 in 2006. This represents a 61% rate decrease over that period of time. And, according to sleep position data provided by NICHD the percent of infants sleeping on their back rose from 13% in 1992 (the year AAP recommended back sleeping) to 75.7% in 2006.

### **Safe Sleep:**

Babies placed on their stomach or sides to sleep are at greater risk for SIDS than babies who are placed on their backs to sleep. While babies tend to cry more when placed on their back, the safest way for a baby to sleep is on his/her back. He/She should be placed on his/her back, alone in a safety-approved crib. The crib should have a firm mattress, closely fitted to the sides of the crib, with a tight-fitting sheet. No wedges and positioning devices should be used. And, nobody should ever share a sleep surface with the baby. Bed-sharing poses risks for infants' safety. They can get trapped between the mattress and the structure of the bed or covered by an adult's blankets and pillows. According to the American Academy of Pediatrics Task Force on Infant Sleep Position and Sudden Infant Death Syndrome [*Pediatrics* 2000 Mar; 105 (3 Pt 1): 650-656], belly-sleep has up to 12.9 times the risk of death as back-sleep.

Reducing the risk of SIDS and Accidental Suffocation during sleep hinges on safe sleep practices:

- Keeping the baby's sleep area close but separate from where others sleep
- Babies should not sleep in a bed, on a couch or in a chair with others
- Babies should sleep on their backs on firm mattresses in safety approved cribs
- Babies' sleeping areas should be free of all loose bedding, comforters, quilts, sheepskins, stuffed animals, bumpers and pillows



## PA Pregnancy Risk Assessment Monitoring System

A survey for healthier mothers and babies in Pennsylvania

### SIDS Risk & Racial Disparity:

Nationally, African American babies are more than two times as likely to die of SIDS as white babies. American Indian/Alaska Native babies are nearly three times as likely to die of SIDS as white babies (source: NICHD).

Based on the study: *Trends and factors associated with infant sleeping position: the national infant sleep position study, 1993-2007*, published in the December, 2009 edition of *Pediatric Adolescent Medicine*, the study researchers concluded:

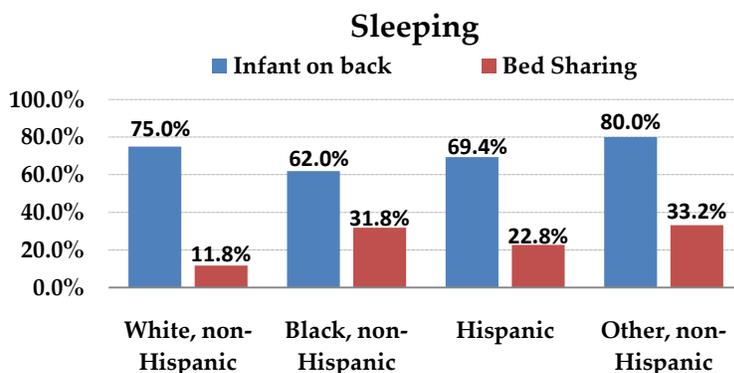
“Since 2001, supine sleep has reached a plateau, and there continue to be racial disparities. There have been changes in factors associated with sleep position, and maternal attitudes about issues such as comfort and choking may account for much of the racial disparity in practice. To decrease sudden infant death syndrome rates, we must ensure that public health measures reach the populations at risk and include messages that address concerns about infant comfort and choking.”

### Pennsylvania:

According to weighted 2007 and 2008 survey response data compiled within the Pennsylvania Pregnancy Risk Assessment Monitoring System (PA PRAMS), Pennsylvania’s Black, non-Hispanic mothers are less likely to lay their babies down to sleep on their backs (62.0%) than the state’s White, non-Hispanic mothers (75.0%), Other, non-Hispanic mothers (80%) or Hispanic mothers (69.4%). This reflects analysis conducted on responses to the survey question: How do you most often lay your baby down to sleep now? (On his or her back; On his or her side; On his or her stomach).

Response data indicates that mothers in the category - Other, non-Hispanic - are most likely to indicate bed sharing (33.2%) when compared to other racial and ethnic categories identified, Black, non-Hispanic (31.8%), Hispanic (22.8%), and White, non-Hispanic (11.8%). This reflects analysis conducted on responses to the survey question: How often does your new baby sleep in the same bed with you or anyone else? Those mothers indicating that their new baby always, or almost always, sleeps with them or somebody else are identified as the bed sharing segment.

Black, non-Hispanic mothers are 2.7 times more likely than White, non-Hispanic mothers to indicate bed-sharing. Additionally, White, non-Hispanic mothers are 1.2 times more likely than Black, non-Hispanic mothers to indicate placing their babies on their backs to sleep.



The Pregnancy Risk Assessment Monitoring System (PRAMS) is a collaborative surveillance project between the Centers for Disease Control and Prevention (CDC) and the Pennsylvania Department of Health. PRAMS collects Pennsylvania-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. PRAMS data is intended to be representative of Pennsylvania women residents whose pregnancies resulted in live births.



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In comparing the safe sleep practice of placing one's infant on his or her back to sleep across Pennsylvania's maternal population categorized by education level, it is clear a positive relationship exists. As the level of education increases, so too does the likelihood of relying on this safe sleep approach. Mothers with 16 or more years of education are 1.8 times more likely to indicate they place their baby on his/her back to sleep than mothers with less than 9 years education.

Sleeping on back	Maternal education in Yrs				
	0-8	9-11	12	13-15	>=16
No	56.5%	30.9%	26.1%	29.1%	21.6%
Yes	43.5%	69.1%	73.9%	70.9%	78.4%
TOTAL %	100%	100%	100%	100%	100%
Source: PA PRAMS 2007 & 2008 data (p = 0.003)					

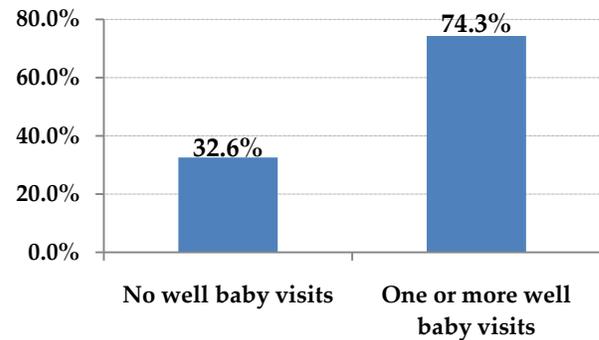
The survey response data further indicates that one's marital status is associated with safe/unsafe sleep practices. Pennsylvania's married mothers are more likely to indicate placing their babies on their backs to sleep, and least likely to indicate their babies co-sleep.

Sleeping on back	Marital Status	
	Married	Other (than Married)
No	23.7%	31.5%
Yes	76.3%	68.5%
TOTAL %	100%	100%
p = 0.004		
Bed-Sharing	Marital Status	
	Married	Other (than Married)
No	86.2%	79.5%
Yes	13.8%	20.5%
TOTAL %	100%	100%
Source: PA PRAMS 2007 & 2008 (p = 0.003)		

Married mothers are 1.1 times more likely to indicate their babies are placed on their backs to sleep; and mothers identified as other (than married) are 1.5 times more likely to indicate their babies share a bed.

Analysis shows that those mothers indicating that their babies have had at least one well baby care visit are also 2.3 times more likely to indicate they place their babies on their back to sleep.

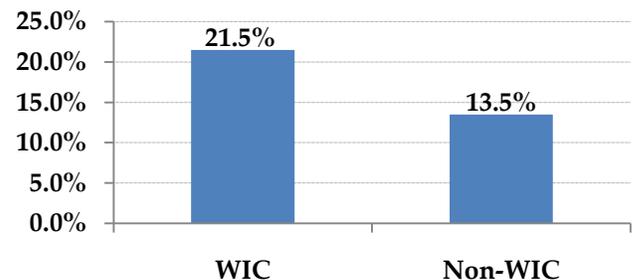
### Sleep on back by well baby visit



Source: PA PRAMS 2007 & 2008 (p = 0.001)

These data show that PA Mothers obtaining services through the Women, Infants and Children (WIC) program are 1.6 times more likely to indicate their babies bed-share than non-WIC mothers.

### Bed-sharing by WIC status



Source: PA PRAMS 2007 & 2008 (p = 0.0005)

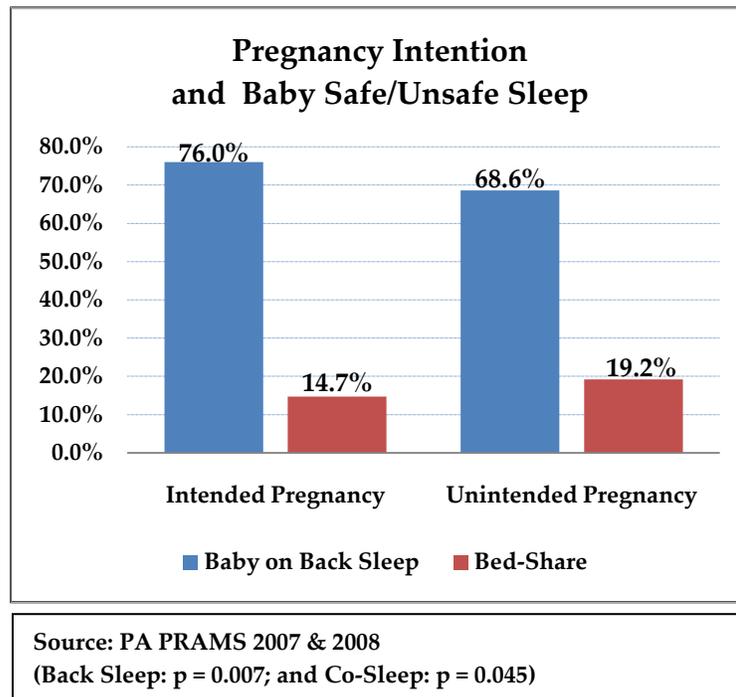
The subpopulation of sampled PA mothers indicating they were on Medicaid before getting pregnant were also 1.4 times more likely to indicate their new babies co-slept.

Co-sleeping	On Medicaid	Not on Medicaid
No	79.9%	85.6%
Yes	20.1%	14.4%
TOTAL %	100%	100%
Source: PA PRAMS 2007 & 2008 (p = 0.013)		



## Pregnancy Intendedness

Sampled PA mothers were asked “thinking back to just before you were pregnant, how did you feel about becoming pregnant?” Possible responses included: I wanted to be pregnant sooner; I wanted to be pregnant later; I wanted to be pregnant then; I didn’t want to be pregnant then or at any time in the future; and I don’t know. For the purpose of analysis, mothers that responded “sooner” and “then” are grouped as those intending their pregnancy, and those who responded otherwise are grouped as unintended. Mothers who intended their pregnancy are 1.1 times more likely to indicate they place their babies on their back to sleep. Mothers who did not intend their pregnancy were 1.3 times more likely to also indicate they permit their babies to bed-share.



## Pennsylvania Summary

According to analysis on the 2007 & 2008 PA PRAMS project dataset, Pennsylvania mothers identified at the highest risk of failing to place their babies on their backs to sleep and/or permitting bed-sharing are:

- Non-White (Black, non-Hispanic; Hispanic, and Other, non-Hispanic)
- Less educated
- Other than married
- Not attending well-baby visits
- On Medicaid
- On WIC
- Indicating an unintentional pregnancy



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### Safe Sleep

While babies tend to cry more when placed on their back, the safest way for a baby to sleep is on his/her back. He/She should be placed on his/her back, alone in a crib. The crib should have a firm mattress, closely fitted to the sides of the crib, with a tight-fitting sheet. No wedges and positioning devices should be used. And, nobody should ever share a sleep surface with the baby. According to the American Academy of Pediatrics Task Force on Infant Sleep Position and Sudden Infant Death Syndrome [*Pediatrics* 2000 Mar; 105 (3 Pt 1): 650-656], belly-sleep has up to 12.9 times the risk of death as back-sleep.

### Agenda for Action

- ✓ Pennsylvania recently enacted SIDS legislation (Act 73, Sudden Infant Death Syndrome Education and Prevention Program Act) which requires that hospitals provide SIDS education to new parents. The passage of this legislation coincided with a number of SIDS initiatives. The Department recently released a Request for Applications (RFA) to implement a statewide program dedicated to SIDS and safe sleep education and awareness. This RFA strives to develop a cohesive program, across the state, dedicated to a consistent message relating to SIDS and safe sleep practices. The Department also announced an initiative to provide small no-bid grants to community based agencies that directly address the promotion of safe sleep practices and safe sleep environments. SIDS education is also provided to new and expectant mothers through prenatal home visiting programs administered at the local level by county/municipal health departments.
- ✓ In recognizing the data-driven profile of at-risk maternal populations, the Department will focus efforts and resources on those maternal population segments indicating the greatest potential for improvement. As the 2007 & 2008 PA PRAMS data has shown, the Women, Infant & Children (WIC) mothers are 1.6 times more likely than non-WIC mothers to permit bed-sharing; and therefore, the state-wide WIC clinics serve as ideal hubs for reaching high risk mothers.

### Resources & Contacts

- Pennsylvania Department of Health's website: [www.health.state.pa.us](http://www.health.state.pa.us) [Select Health Topics A-Z, then Sudden Infant Death Syndrome (SIDS)]
- Pennsylvania Department of Health, Division of Child and Adult Health Services, SIDS Program Administrator – Giselle Hallden. Phone: (717) 772-2762 Email: [ghallden@state.pa.us](mailto:ghallden@state.pa.us)
- The Centers for Disease Control and Prevention (CDC) – Sudden Infant Death Syndrome (SIDS) and Sudden Unexpected Infant Death website: [www.cdc.gov/sids/](http://www.cdc.gov/sids/)

### Sources

**PA Prams 2007 & 2008 Combined Data Set** – Source: PONDER (PRAMS On-Line Data for Epidemiologic Research). PONDER is a Web-based query system that allows users to design analysis by choosing from an indexed list of variables

**The Centers for Disease Control and Prevention (CDC)** – Sudden Infant Death Syndrome (SIDS) and Sudden Unexpected Infant Death: Home: <http://www.cdc.gov/sids/>

**American SIDS Institute** – Featured Questions and Answers, Response by Betty McEntire, PhD, Executive Director, American SIDS Institute. <http://sids.org/nfeaturedques.htm>

**U.S. National Library of Medicine, National Institutes of Health, PubMed** – Abstract: Trends and factors associated with infant sleeping position: the national infant sleep position study, 1993-2007. Colson ER, Rybin D, Smith LA, Colton T, Lister G, Corwin MJ, Department of Pediatrics, Yale University School of Medicine, New Haven CT 06520. <http://www.ncbi.nlm.nih.gov/pubmed/19996049>

**National Institutes of Health, Eunice Kennedy Shriver National Institute of Child Health & Human Development** – Sudden Infant Death Syndrome (SIDS). [http://www.nichd.nih.gov/health/topics/Sudden\\_Infant\\_Death\\_Syndrome.cfm](http://www.nichd.nih.gov/health/topics/Sudden_Infant_Death_Syndrome.cfm)