SLEEP-RELATED SUDDEN UNEXPECTED INFANT DEATH

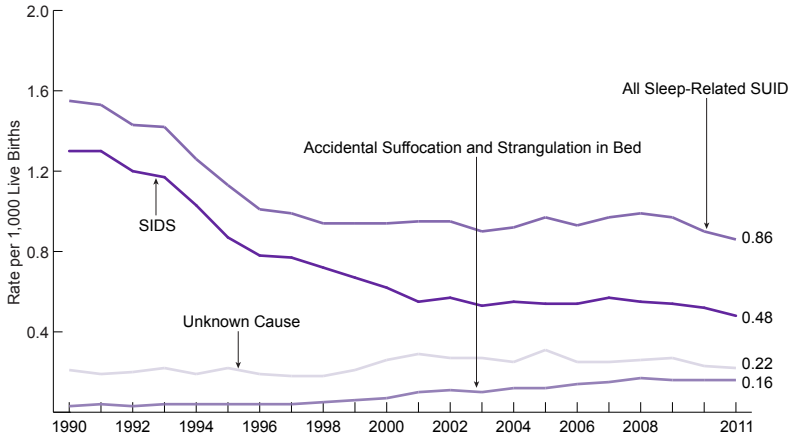
Sleep-related sudden unexpected infant death (SUID) accounts for the most deaths in infants between 1 month and 1 year of age at 38 percent in 2011 (see page on infant mortality). SUID is defined by a *Healthy People 2020* objective to include deaths due to sudden infant death syndrome (SIDS), unknown causes, and accidental suffocation and strangulation in bed.[1] These causes of death have been grouped due to evidence that some deaths previously classified as SIDS are now being assigned to other sleep-related causes of death.[2] For example, SIDS rates declined from 1998 to 2001, while death rates due to other unknown causes and accidental suffocation and strangulation in bed were rising. SUID is generally believed to result from the intersection of three risks: a biological vulnerability (e.g., a dysfunctional arousal system); a critical period of development (1–6 months of age); and an environmental cofactor such as stomach or side sleep position, soft bedding, or overheating.[2]

In 2011, there were a total of 3,403 cases of SUID, occurring at a rate of 0.86 per 1,000 live births (figure 1). The SUID rate generally declined from 1990 to 1998, which has been attributed to the American Academy of Pediatrics (AAP) recommendation that infants be placed to sleep on their backs, with an accompanying public awareness campaign known as "Back to Sleep."[2] The SUID rate generally plateaued from 1998 to 2009 but then declined for 2 consecutive years reaching a historic low in 2011.

Despite recent progress, SUID rates vary greatly by race and ethnicity. In 2011, SUID rates were highest for infants born to American Indian/Alaska Native and non-Hispanic Black mothers (2.01 and 1.62 per 1,000 live births, respectively); these rates were twice or more the rate among infants born to non-Hispanic Whites (0.84 per 1,000; figure 2). Compared with non-Hispanic Whites, the higher rate of SUID was the leading contributor to the higher overall infant mortality rate for American Indians/Alaska Natives, accounting for 37 percent of the disparity. SUID was the second leading cause of the higher non-Hispanic Black infant mortality rate, accounting for 12 percent of the disparity. SUID rates were generally lowest for infants born to Asian/Pacific Islander mothers (0.38 per 1,000) and Hispanic mothers (0.50 per 1,000), except for Puerto Ricans (1.19 per 1,000). However, SUID rates have been shown to be higher among infants born to Native Hawaiian mothers.[3] Racial and ethnic differences in safe sleep practices may contribute to SUID disparities (see page on safe sleep behavior).

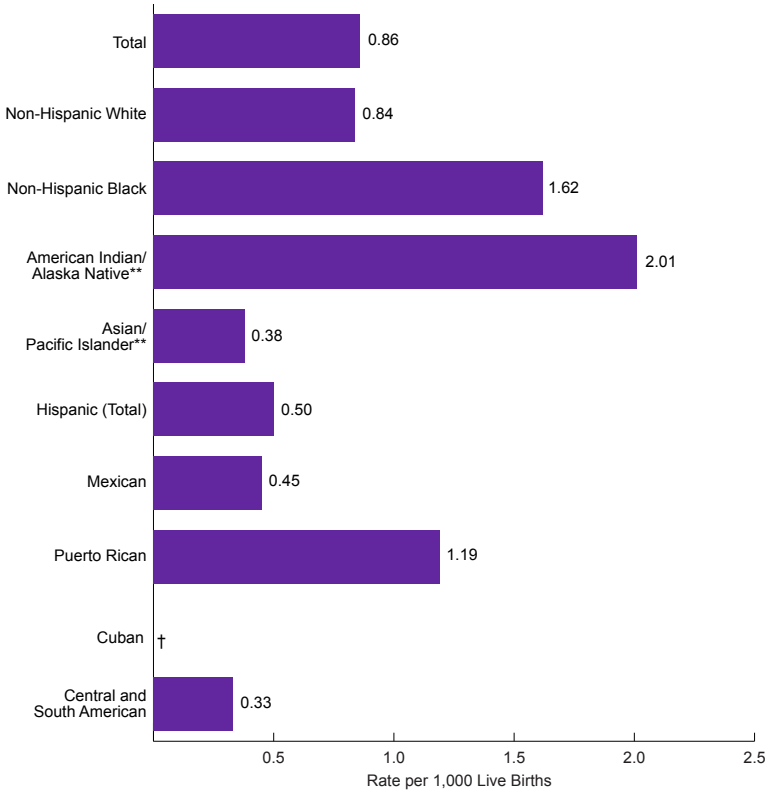
In 2011, the American Academy of Pediatrics released expanded recommendations to promote safe sleep environments and other protective factors that can reduce the risk of sleep-related infant deaths.[4] These form the basis of the new "Safe to Sleep" campaign[5] and include recommendations beyond the back sleep position, such as sleeping in a safety-approved crib or bassinet, removing loose bedding and soft objects from the sleep surface, room sharing without bed sharing, breastfeeding, and avoiding exposure to tobacco smoke and other drugs. In addition, a new classification system developed by the Centers for Disease Control and Prevention may help improve SUID investigation and prioritize prevention opportunities at state and local levels.[6]

Figure 1. Sleep-Related SUID* Mortality Rates per 1,000 Live Births, by Listed Cause of Death, 1990–2011



**Sudden unexpected infant deaths (SUID) include sudden infant death syndrome (SIDS; ICD-10 code of R95), unknown cause (R99), and accidental suffocation or strangulation in bed (W75).*

Figure 2. Sleep-Related SUID* Mortality Rates per 1,000 Live Births, by Maternal Race/Ethnicity, 2011



**Sudden unexpected infant deaths (SUID) include sudden infant death syndrome (SIDS; ICD-10 code of R95), unknown cause (R99), and accidental suffocation or strangulation in bed (W75). **May include Hispanics.*
†Fewer than 20 deaths. Data did not meet standards of reliability or precision.

Data Sources

Figure 1. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed mortality file 1979–1998. CDC WONDER Online Database. 2003. Available at: http://wonder.cdc.gov/cmf-icd9.html. Accessed August 8, 2014.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed mortality file 1999–2011. CDC WONDER Online Database. July 2014. Available at: http://wonder.cdc.gov/cmf-icd10.html. Accessed August 8, 2014.

Figure 2. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. 2011 Linked Birth/Infant Death File. Analyzed by the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau.

Endnotes

1. U.S. Department of Health and Human Services. *Healthy People 2020* Topics & Objectives: Maternal, Infant, and Child Health. Available at: http://www.healthypeople.gov/2020/topicsobjectives2020. Accessed September 26, 2014.
2. American Academy of Pediatrics. Technical report—SIDS and other sleep-related deaths: expansion of recommendations for a safe infant sleep environment. *Pediatrics*. November 2011;128(5):e1341–e1367.
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6. Shapiro-Mendoza CK, Camperlengo L, Ludvigsen R, et al. Classification system for the Sudden Unexpected Infant Death Case Registry and its application. *Pediatrics*. July 2014;134(1):e210–e219.

Suggested Citation

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