

Nationally, SIDS is the third most common cause of infant deaths, and the most common cause of death in the postneonatal period (from 28 to 364 days of age)^{1,2}. The majority of SIDS deaths occur between 2 and 3 months of age¹⁰.

In Delaware, SIDS was the fourth most frequent cause of infant deaths overall, and the most common cause of postneonatal infant death in 2003-2007, when it accounted for 22 percent of all postneonatal deaths.

Black infants died from SUID at three times the rate of white infants.

Sudden Unexpected Infant Death (SUID) in Delaware

Sudden, unexpected infant deaths are defined as infant deaths that occur suddenly and unexpectedly, and whose manner and cause of death are not immediately obvious prior to investigation¹². Sudden Infant Death Syndrome (SIDS) is the most well known cause of SUID cases, and is the most frequently cited sleep-related cause of infant death. However, as the definition of SIDS has become narrower and more precise^{6,10,11}, more infant deaths are being classified as SUID cases rather than SIDS cases.

SIDS (Sudden Infant Death Syndrome) is defined as the sudden death of an infant younger than 1 year of age that remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and a review of the clinical history. It is a diagnosis of exclusion, when no other anatomical cause can be identified⁶.

For example, some deaths formerly classified as SIDS, may now be classified as due to unintentional suffocation or an undetermined cause. In order to capture all deaths attributable to sleep-related causes, the CDC employed the SUID classification, which includes deaths due to SIDS, suffocation, asphyxiation, accidental threats to breathing, hyperthermia, hypothermia, metabolic disorders, neglect or homicide, and unknown causes⁸. This article will present infant deaths that may be considered SUID cases, and includes deaths due to SIDS, unintentional or undetermined suffocation, undetermined causes, accidental threats to breathing, and asphyxia.

Table 1. SUID Causes and Corresponding Cause of Death Codes According to the International Classification of Diseases, Ninth and Tenth Revisions (ICD-9 & ICD-10)

Cause of Death	ICD-10	ICD-9
SUID		
SIDS	R95	798.0
Accidental suffocation in bed	W75	E913.0
Accidental suffocation other	W76-W77, W81-W84	E913.1-E913.9
Undetermined hanging, strangulation, suffocation	Y20	E983
Asphyxia	T71	799.01
Undetermined/Unknown cause	R99	799.9

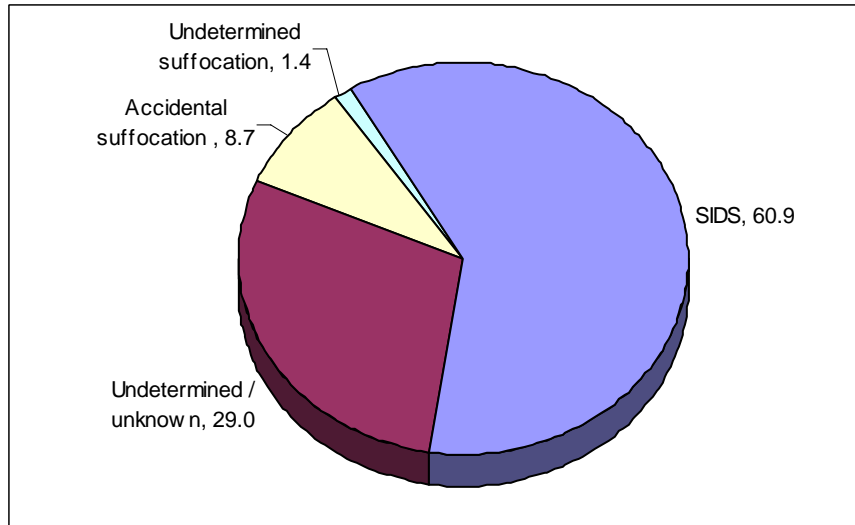
Between 2003 and 2007, an average of 99 infants under the age of one died each year in Delaware; 14 of those were SUID cases. Preventing those deaths would have reduced Delaware's overall IMR approximately 14 percent, to 7.3

The most common cause of sudden unexpected infant death was SIDS, which accounted for 42 of the 69 total SUID deaths from 2003-2007, followed by undetermined deaths, accidental suffocation and strangulation in bed, and suffocation of undetermined intent.

Descriptions entered on the death certificate provided the following information about the SUID cases:

- Fifteen of the 20 undetermined infant deaths were noted for either co-sleeping and/or unsafe sleep situations.
- All of the accidental and undetermined suffocation deaths were noted for unsafe sleep situations that resulted in wedging, overlaying, or obstructions to breathing.
- Seventeen of the 42 SIDS deaths were noted for co-sleeping and/or unsafe sleep situations.

Figure 1. Distribution of SUID Cases by Cause, Delaware, 2003-2007



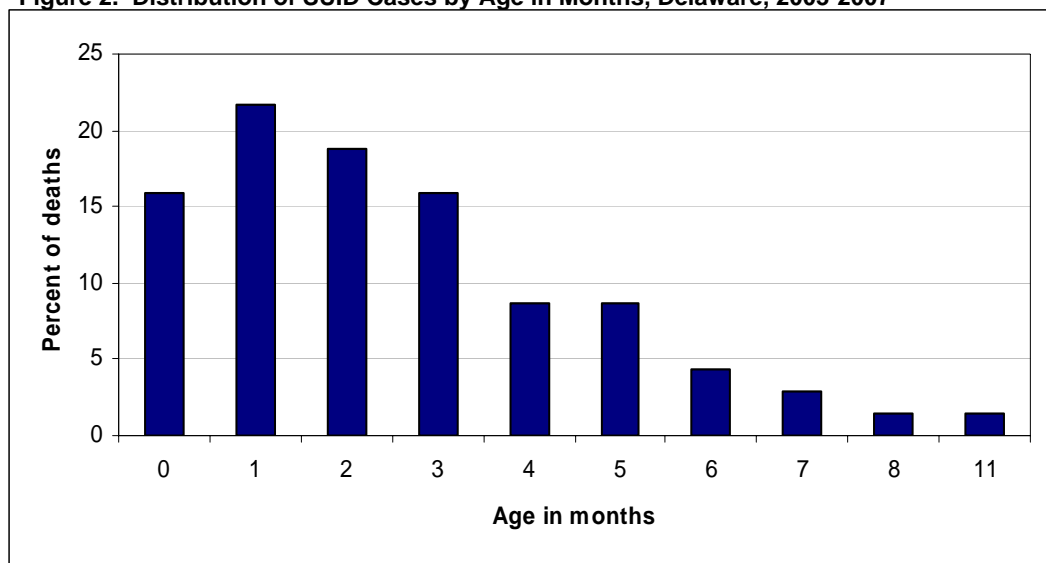
Source: Delaware Health Statistics Center

In total, over half (57 percent) of SUID cases had sleep-related risk factors noted on the death certificate, either co-sleeping and/or unsafe sleep situations. Unsafe sleep situations include putting an infant to sleep with pillows, comforters, or stuffed toys, and placing an infant in an overly warm environment, in a prone (facedown) sleeping position, or on a soft surface (not in an approved crib or bassinet, such as on couch, sofa, waterbed, or pillows).

Though accidental suffocation and strangulation in bed was responsible for less than 10 percent of SUID cases; it represented 60 percent of the total infant deaths due to unintentional injury.

Figure 2. Distribution of SUID Cases by Age in Months, Delaware, 2003-2007

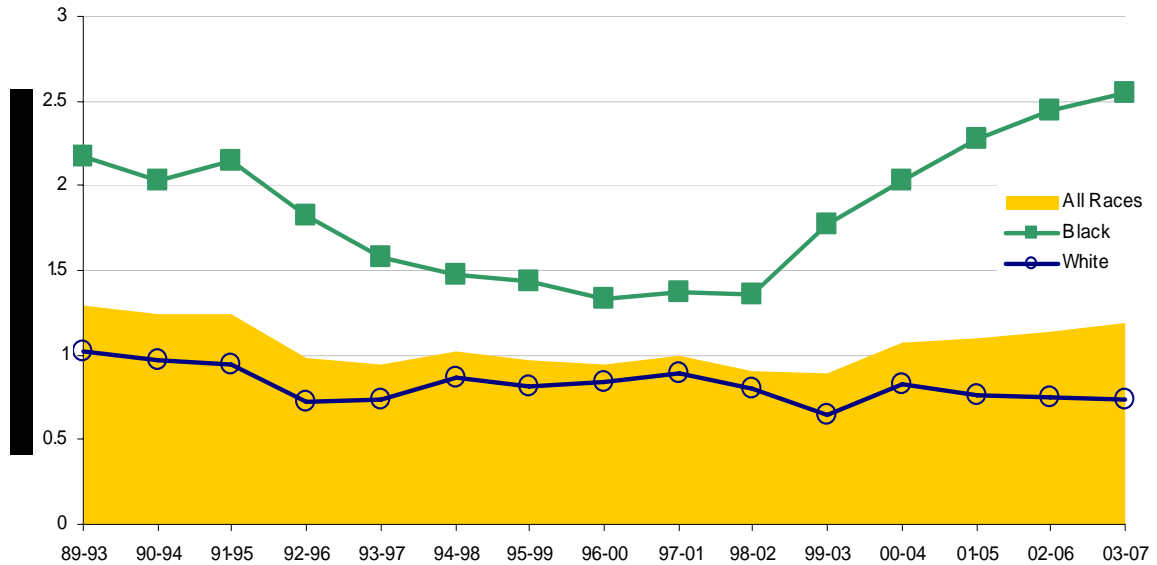
SUID cases occurred predominantly in the postneonatal period, where they accounted for 23 percent of postneonatal deaths; the mean age at death was 86 days, or approximately 3 months.



Source: Delaware Health Statistics Center

In 2003-2007, Delaware's overall infant mortality rate (IMR) was 8.5 deaths per 1,000 births. The mortality rate for SIDS cases of all races was 0.7 per 1,000 births. Like the all-cause IMR, the SIDS IMR for black infants was more than double that of white infants, and when infant mortality rates for SUID cases were calculated, the black IMR was more than three times the white IMR (2.6 versus .7). Though the SIDS rate decreased 39 percent between 1989-1993 and 2003-2007, the overall SUID rate in 2003-2007 was only 8 percent lower than in 1989-1993.

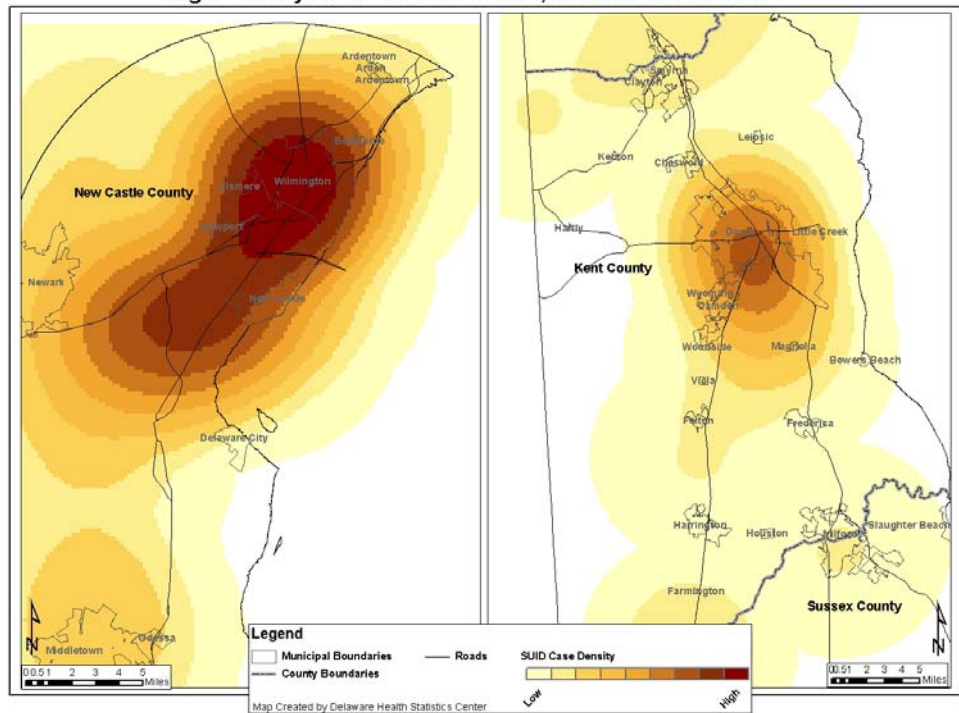
Figure 3. Five-year Average SUID IMR by Race, Delaware, 1989-2007



Source: Delaware Health Statistics Center

SUID cases were most highly concentrated in the northern New Castle County area surrounding Wilmington and spreading south of Newport and west of New Castle. The Dover area also showed a higher density of cases than the rest of the state.

High Density Areas of SUID Cases, Delaware 2000-2007



The American Academy of Pediatrics and the Back to Sleep Campaign recommend the following to lower the risk of SIDS and SUID:

- *After feeding and burping, place baby on her back in a safety-approved crib or bassinet near your bed, but not in your bed. The crib or bassinet is the safest place for baby to sleep.*
- *Enjoy cuddling baby when awake, but don't fall asleep together while holding baby close.*
- *Baby should NEVER sleep on sofas; chairs; recliners; waterbeds; soft surfaces such as pillows, cushions, sheepskins, or quilts; or any bed with another adult or child.*
- *Use a firm crib mattress with a tight-fitting crib sheet.*
- *Keep pillows, quilts, comforters, sheepskins, stuffed toys, bumper pads, and other soft objects out of baby's crib or bassinet.*
- *Avoid sleep positioners, apnea monitors, and other items that promise to reduce the risk of SIDS. These have not been proven safe or effective.*
- *Make sure that baby is not too warm. Keep the room at a temperature that feels comfortable for a lightly clothed adult.*
- *Use light sleep clothing like a one-piece sleeper instead of loose blankets. Be sure the sleeper is the right fit (not too large) for baby.*
- *Keep baby's head uncovered during sleep.*
- *Don't allow anyone to smoke around your baby, or in your home or car.*
- *Talk to grandparents, relatives, friends, babysitters, and child care providers about safe sleep and what works best to help baby fall asleep on her back EVERY TIME. Tell everyone who takes care of your baby to follow these important safe sleep practices⁸.*

More detailed information about safe sleep practices may be found at the following websites:

- <http://www.sidscenter.org/documents/SIDRC/BackToSleep.pdf>
- http://www.nichd.nih.gov/publications/pubs/safe_sleep_gen.cfm
- <http://www.nichd.nih.gov/sids/>

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If you have comments, suggestions, and/or questions, please contact the Delaware Health Statistics Center at (302) 744-4541.

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