Sudden Unexpected Infant Death

Striving to keep kids alive in Wisconsin

Spring 2016 Update

A sudden unexpected infant death (SUID) is the death of an infant younger than age 1 that occurs suddenly and unexpectedly and whose cause of death is not immediately obvious before investigation (CDC). Most SUIDs are reported as one of three types:

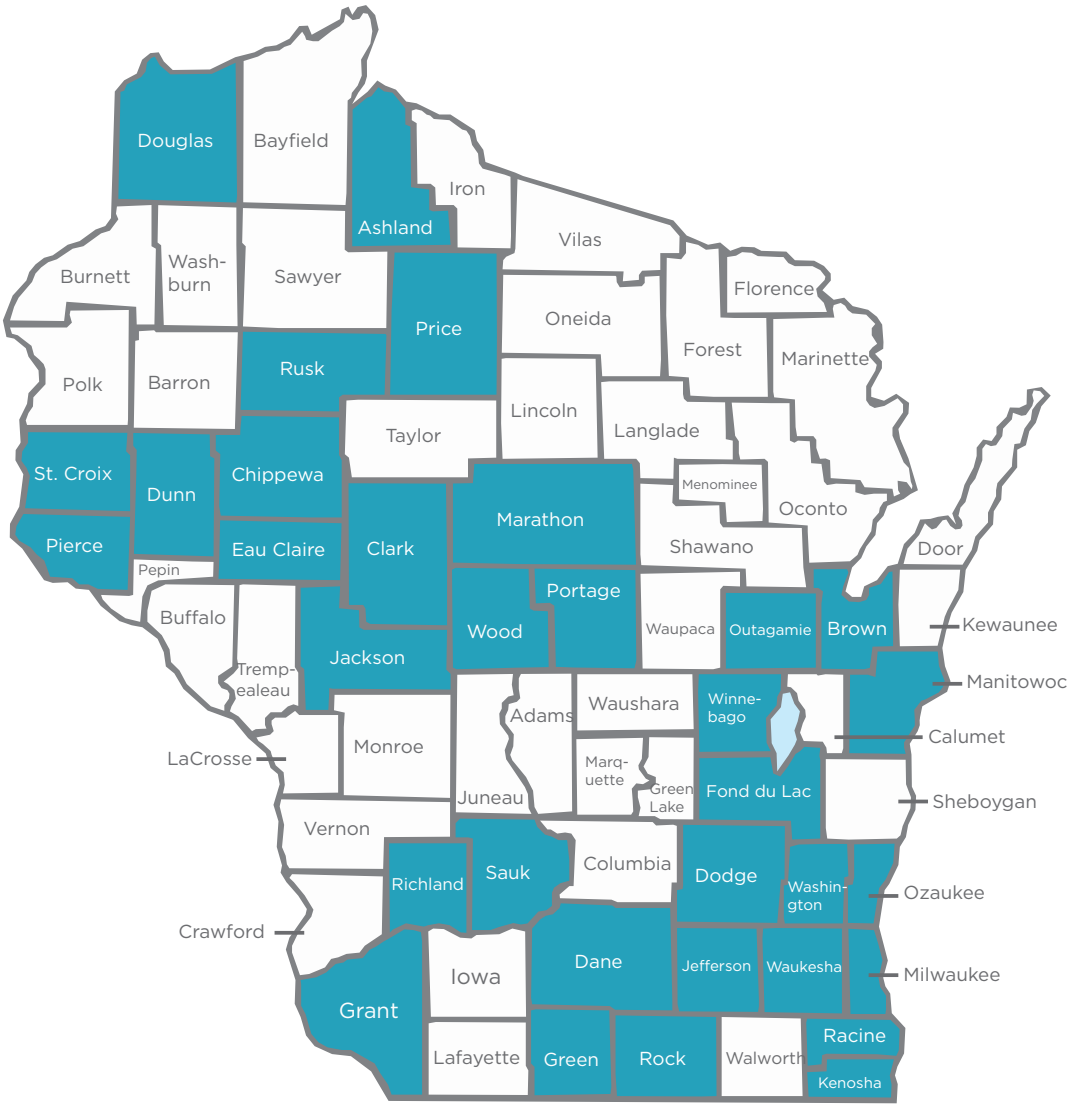
- Accidental suffocation and strangulation in bed
- Sudden infant death syndrome (SIDS)
- Unknown cause

This report includes 2013-2014 data from the Wisconsin's SUID case registry and Wisconsin Vital Records (birth and mortality). This document builds on the May 2015 SUID report http://www.chawisconsin.org/documents/IP5SUIDreport.pdf.

WHERE DID SUIDS OCCUR IN WISCONSIN?

During 2013-2014, nearly 50 percent (n = 33) of Wisconsin's 72 counties experienced a SUID. SUIDs occur across Wisconsin and are not isolated to a particular region or location.

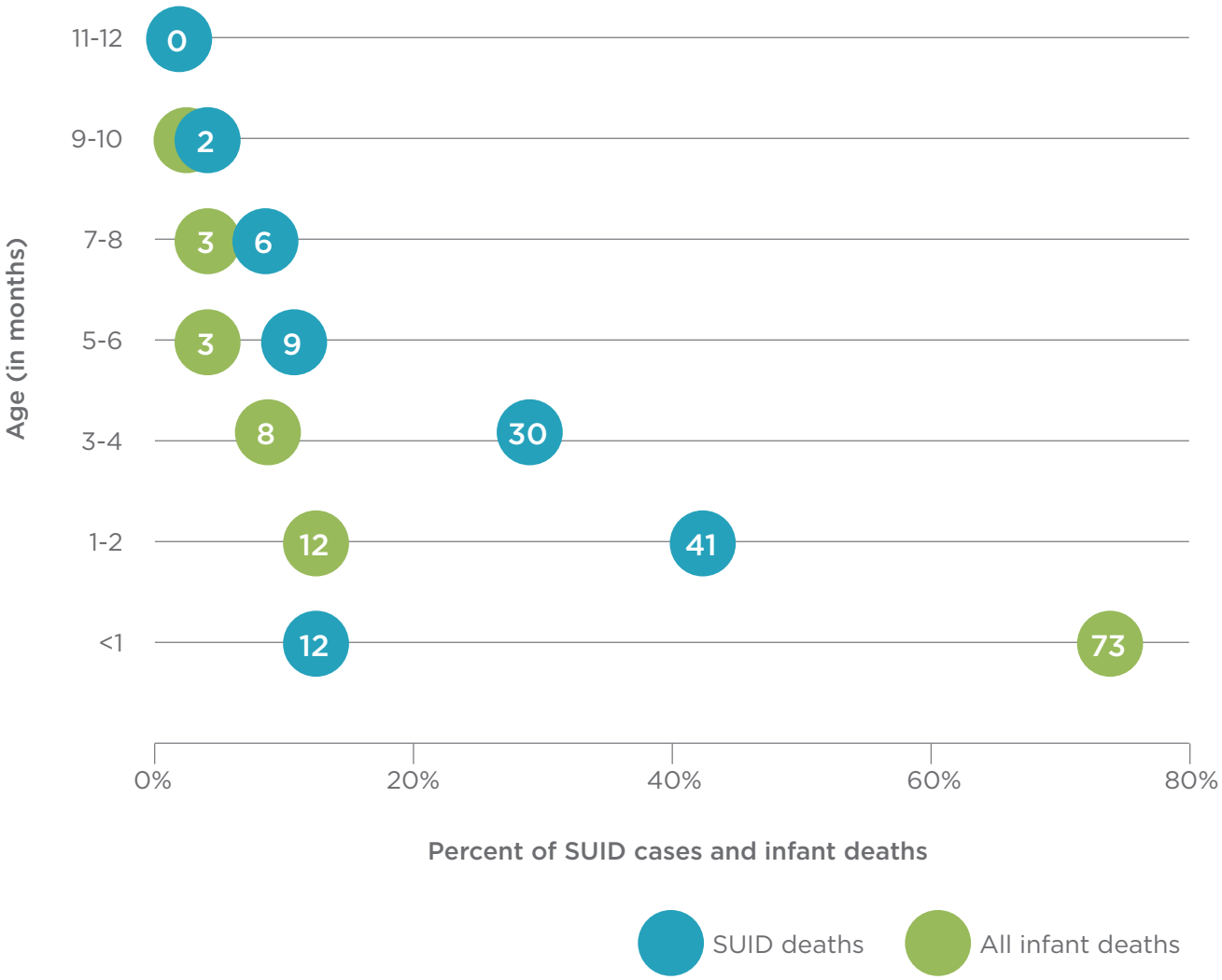
Figure 1: SUID cases by county in Wisconsin, 2013-2014



HOW MANY SUIDS OCCURRED AND TO WHOM?

There were 119 SUID deaths during 2013-2014, and the majority (87 percent) occurred to infants age 1 month or older. Most SUIDs occurred to infants ages 1 to 4 months, whereas the majority of all infant deaths occur to infants younger than 1 month of age.

Figure 2: Age distribution of SUID cases and infant deaths, Wisconsin 2013-2014

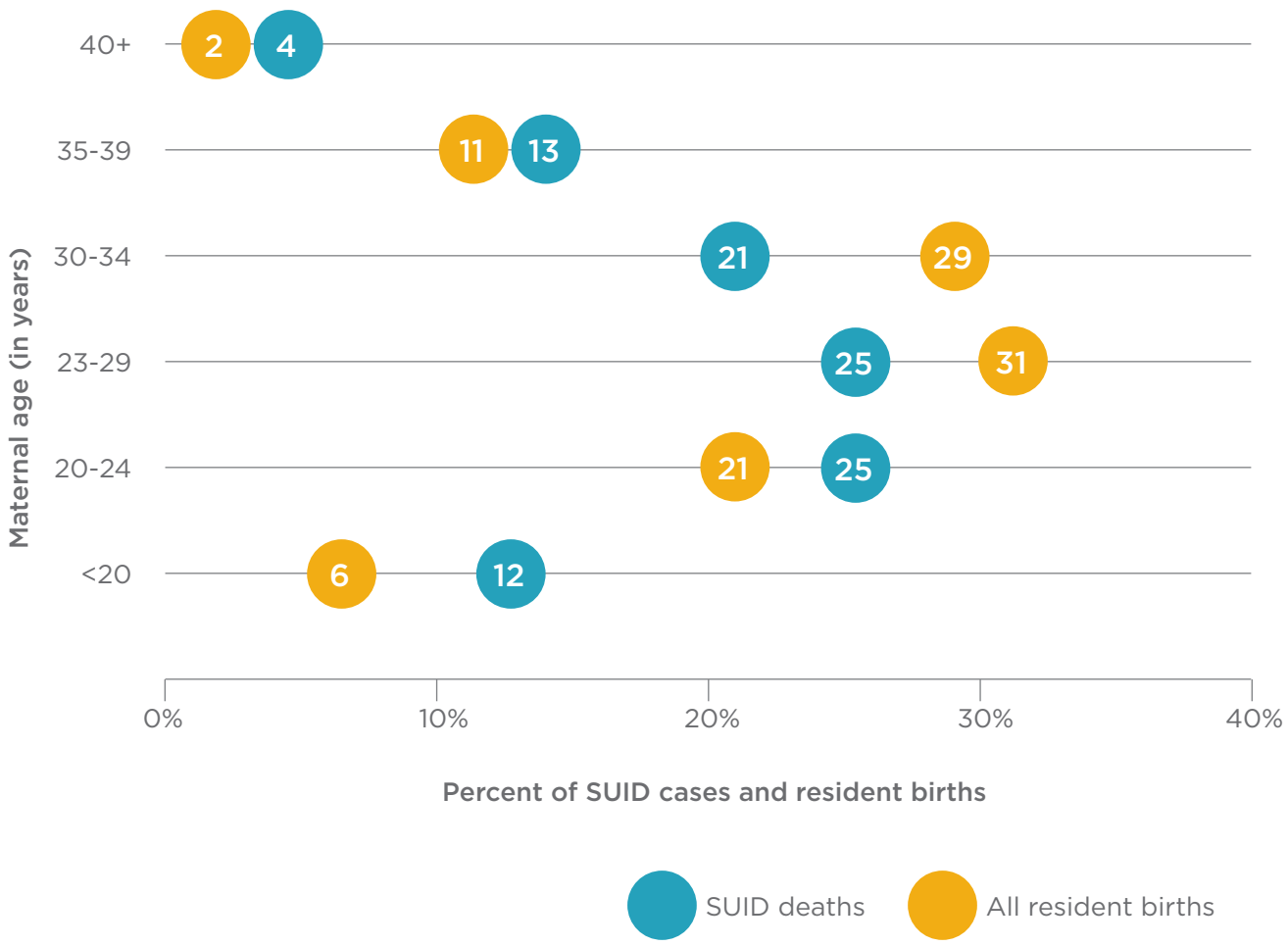


SUIDs affected mothers of all races, ethnicities, ages and educational levels. This is reflected in birth and death certificates used for SUID case reviews. Black and White mothers experienced the greatest percentage of SUID cases. However, there are disparities between these groups when compared to their percentage of births.

Figure 3: Maternal race as written on birth certificates for SUID cases and resident births, Wisconsin 2013-2014

When examining maternal age in SUIDs and all births, there are relevant differences. Although mothers of all ages experienced a SUID, mothers younger than age 20 experienced a greater burden in comparison to their percent of all births. (Figure 4)

Figure 4: Maternal age as written on birth certificates for SUID cases and resident births, Wisconsin 2013-2014



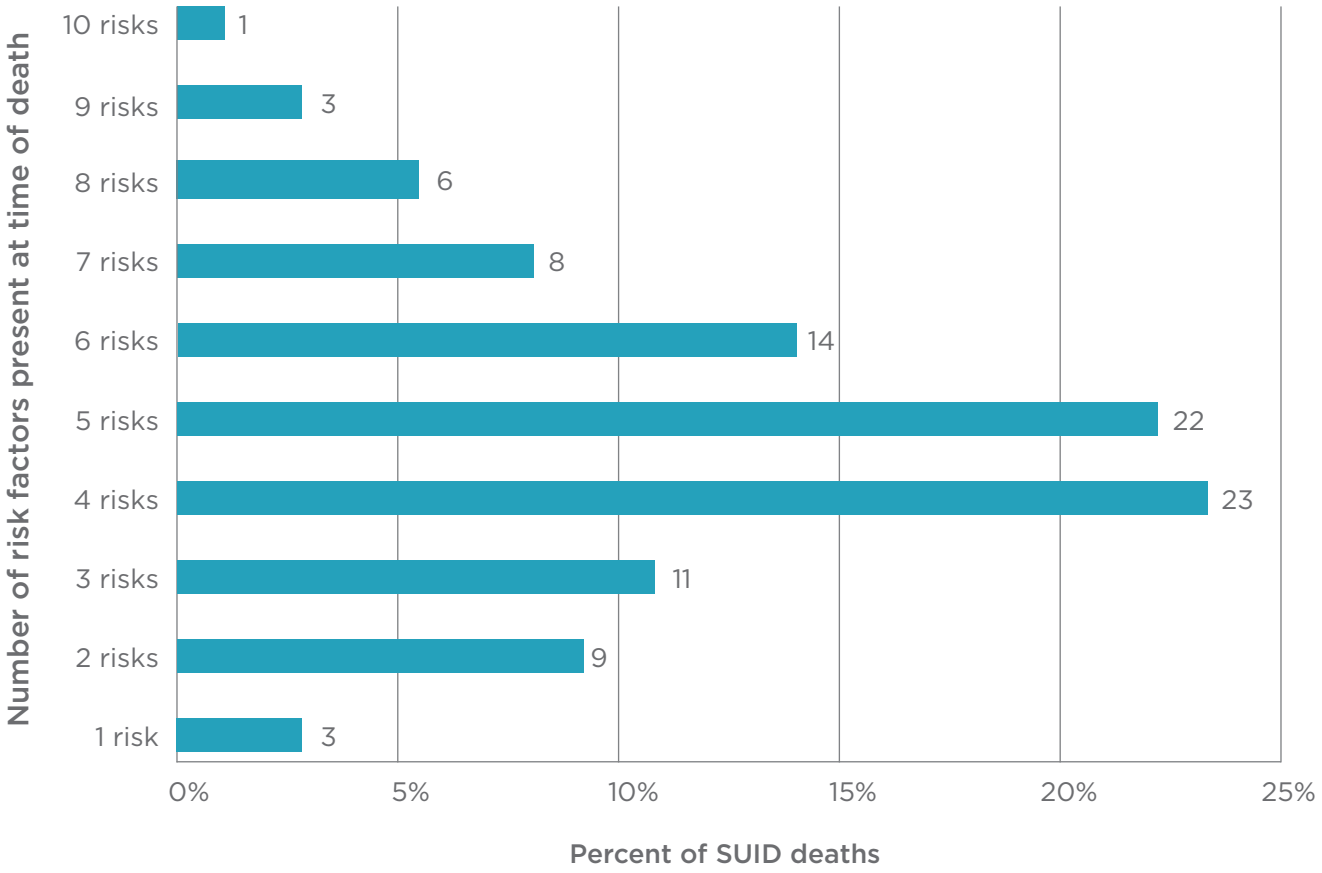
WHAT RISKS WERE PRESENT AT THE TIME OF THE SUID?

Each American Academy of Pediatrics' recommendation not followed is considered a risk factor for SUID (listed after Figure 5). SUIDs are complicated and often involve many risk factors. In fact, more than 80 percent of 2013-2014 SUID deaths had at least three risk factors present. The triple risk model is helpful in understanding the complicated nature of SUID. This model highlights the convergence of three conditions that may take place when an infant dies from SUID. The conditions are:

- A vulnerable infant (e.g., born before 37 weeks gestation);
- A critical period of development (e.g., ages 2 to 4 months); and
- External challenges (e.g., exposure to secondhand smoke, pillows in the sleep environment)

The number of risk factors present at the time of a SUID suggests that most deaths involved multiple risk factors over 2013 to 2014.

Figure 5: Number of AAP risk factors present at time of death, Wisconsin 2013-2014



AMERICAN ACADEMY OF PEDIATRICS' RECOMMENDATIONS FOR SAFE INFANT SLEEP

The top 10 evidence-based recommendations are listed below. Each recommendation contains key highlights from the 119 SUID deaths in 2013-2014. SUID deaths are complex and often involve more than one risk factor.

Recommendation 1: Back to sleep for every sleep, including naps

- 24 percent of SUID infants were not placed on their back to sleep at the time of the incident.
- Nearly 70 percent of SUID infants were placed on their back to sleep.

Recommendation 2: Use a firm sleep surface

- 78 percent of SUID infants were not placed to sleep on a firm surface, defined as a crib or bassinet.
- 50 percent of SUID infants were sleeping in an adult bed.
- 58 percent of SUID infants who were not in a crib or bassinet at the time of death occurred in a home that contained a crib or bassinet.
- 21 percent of SUID infants were placed to sleep on a firm sleep surface, defined as a crib or bassinet.

Recommendation 3: Room sharing without bed sharing is recommended

- 58 percent of SUID infants were sharing the same sleep surface with an adult, child or animal at the time of the incident.
- 8 percent of SUID infants were following the recommendation of room sharing without bed sharing.

Recommendation 4: Keep soft objects and loose bedding out of the crib

- 78 percent of SUID infants had soft objects or loose bedding in their sleep environment, most commonly comforters, blankets or pillows.

Recommendation 5: Pregnant women should receive regular prenatal care (at least 6 visits)

- 13 percent of mothers who experienced a SUID received between 1 and 5 prenatal visits.
- 12 percent of SUID cases had unknown prenatal care information.
- 74 percent of mothers who experienced a SUID received regular prenatal care.

Recommendation 6: Avoid smoke exposure during pregnancy and after birth

- 44 percent of infants who died in a sleep environment were exposed to secondhand smoke after birth.
- 41 percent of women who experienced a SUID smoked before pregnancy and 40 percent of women who experienced a SUID death smoked at least once during pregnancy.

Recommendation 7: Avoid alcohol and illicit drug use during pregnancy and after birth

- 6 percent of SUIDs had a death scene investigator note that the caregiver was under the influence of drugs and/or alcohol at the time of the incident. It is unknown whether the alcohol or drug use was a causal or contributing factor in the death.
- 93 percent of SUID cases did not have a death scene investigator document that the caregiver was under the influence of drugs or alcohol.

Recommendation 8: Breastfeeding is recommended

- 35 percent of SUIDs were never breastfed and 73 percent had formula as their last meal.

Recommendation 9: Consider offering a pacifier at nap and bed times

- 76 percent of SUID infants were not using a pacifier at the time of the incident.

Recommendation 10: Avoid overheating

- 2 percent of SUIDs had a death scene investigator indicate that the infant was overheated at the time of the incident.

WHAT CAN WE DO TO PREVENT SUIDS?

Everyone plays a role in preventing SUID deaths. The data collected in this report highlight many opportunities at the policy, community, interpersonal and individual level to decrease SUIDs. Below are examples of SUID prevention occurring in Wisconsin.

Sleep baby safe initiative

Beginning in 2016, local health departments and tribes can choose to work on infant safe sleep as part of their Maternal and Child Health Title V contracts. In 2016, 27 local health departments and tribes are working on infant safe sleep. The Alliance is partnering with the Wisconsin Department of Health Services (DHS), Maternal and Child Health Title V Program to develop tools that support tribal and local health departments in addressing infant safe sleep. These tools are intended to enhance local efforts to promote a consistent, clear and concise message on infant safe sleep.

Death scene investigation training

In 2014, Shapiro-Mendoza and colleagues published a classification system for SUID cases in the CDC's SUID Case Registry. From 2013-2014, 16 percent of Wisconsin SUIDs were categorized with a missing or incomplete death scene investigation and/or autopsy. In order to address this complicated issue, the Alliance, in partnership with the Wisconsin Department of Justice and Milwaukee County Medical Examiner's Office are offering death scene investigation training to law enforcement, coroners/medical examiners and other professionals. More than 200 Wisconsin death scene investigators have received training and death scene investigation dolls.

Reducing overall infant mortality

Although there are other causes, the leading cause of infant mortality is prematurity. To combat the multiple causes of infant mortality, the federal Maternal and Child Health Bureau is sponsoring the Collaborative Improvement and Innovation Network (CoIIN) to reduce infant mortality. The infant mortality CoIIN implements continuous quality improvement projects to address the root causes of infant mortality, gathers the results of the projects and other resources on a shared workspace online, and tracks data across the participating states. Wisconsin is participating in three CoIIN teams including preconception and inter-conception care, safe sleep and SUID, as well as social determinants of health.

Keeping Kids Alive IN WISCONSIN
Children's Health Alliance of Wisconsin

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