The Impact of the Tennessee Initiative for Perinatal Quality Care

"Safe to Sleep" Project

TIPQC
Tennessee Initiative for Perinatal Quality Care

www.tipqc.org

PROBLEM

It is estimated that approximately 3,500 infants die annually in the United States from sleep-related infant deaths, which are identified when a baby is found deceased in a sleeping environment and is found with his or her head pressed into the mattress or pillow, in the presence of a co-sleeper, found wedged against an object, or when an infant is found in other circumstances that may have contributed to the infant's suffocation or strangulation. Sleep-related infant deaths also include sudden infant death syndrome (SIDS), ill-defined deaths, and accidental suffocation and strangulation. After an initial decrease in the 1990s, the overall death rate attributable to sleep-related infant deaths has not declined in more recent years.[1]

In Tennessee for the years 2014-2018, sleep-related death was the 4th leading cause of infant death. The number of sleep-related deaths for the past five years is shown in the table below.[2]

These sleep-related deaths accounted for 23% of all infant fatalities in Tennessee between 2013 and 2017, and 21% of these sleep-related deaths were considered to be "probably preventable". While the overall infant mortality rate decreased from 7.4 per 1,000 live births in 2017 to 6.9 per 1,000 live births in 2018, the rate of sleep-related deaths increased slightly from 1.7 per 1,000 live births in 2016 to 1.8 per 1,000 live births in 2018.

Year	Number of Sleep-Related Deaths
2013	117
2014	99
2015	142
2016	139
2017	144

ACTION

Starting in spring 2020, 13 hospitals from across the state joined the Tennessee Initiative for Perinatal Quality Care (TIPQC) to reduce the number of sleep-related deaths through modeling and teaching in the hospital. Participating hospitals were provided a toolkit, data collection tools, and a road map for implementation. Focus areas were developing and implementing safe sleep policies in compliance with AAP guidelines, education of providers, staff, and parents, and regularly performing safe sleep audits. Teams participated in monthly huddles, quarterly learning sessions, and annual state-wide meetings.

[1] (SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment, Task Force on Sudden Infant Death Syndrome, 2016).

[2] Source: https://data.tn.gov/t/Public/views/ChildFatalityDashboard/Infant-Sleep?iframeSizedToWindow=true&%3Aembed=y&%3AshowAppBanner=false&%3Adisplay_count=no&%3AshowVizHome=no&%3Aorigin=viz_share_link&%3Atabs=no&%3Atoolbar=no

Project Statistics

23%

of all Tennessee infant fatalities from 2013-2017 were due to sleep-related causes

4th

sleep-related death was the 4th leading cause of infant death in Tennessee from 2014-2018

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EXPLANATION OF IMPACT

From June 2020 to June 2021, over 3,100 safe sleep audits in Newborn Nurseries, NICUs, and parent rooms were conducted by the participating teams. Approximately 72% (71.6%) of the audits captured in June to September 2020 (the "Baseline" period of the project) were compliant with AAP guidelines – see Figure. Significant improvement from the baseline percent compliance was seen over the course of the project.Specifically, a signal of special cause variation was indicated in March '21, shifting the percent compliance to 87.7% - a 22% relative increase.

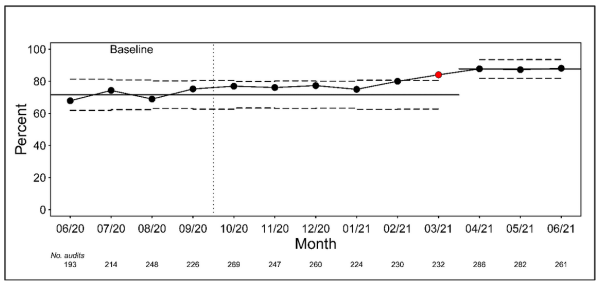

Figure: Percent of audits compliant with Safe Sleep recommendations

Significant improvement in compliance (indicated by special cause variation) was also seen in each unit the audits were conducted. Specifically, there was a 26% relative increase in the percent compliance in the NICU audits (68.3% to 86.0%, indicated in April '21); a 45% relative increase in the percent compliance in the Newborn Nursery audits (65.0% to 94.1%, indicated in March '21); and over a 16% relative increase in the percent compliance in the parent room audits (77.3% to >90.0%, indicated in June '21).

The main reasons for non-compliance across all the audit locations (NICU, Newborn Nursery, and parent rooms) were (in decreasing order) additional objects in crib, head of bed elevated, and unsafe bedding. By the end of the project, there was a decrease in the number of infants not compliant because of an elevated head of bed, positioning devices, and additional objects in crib (across all audit locations).

The innovations the participating teams utilized to decrease non-compliance included sleep sacks (and the removal of all other bedding), crib caddies, review of their hospital marketing pictures to ensure that the correct message was being displayed to the community, daily "safe sleep" rounds in the newborn nursery and NICU, traveling road shows to demonstrate what safe sleep looks like to their staff, and incorporating social media to spread the word regarding safe sleep.

WHO WAS RESPONSIBLE

The collaborative and statewide efforts of TIPQC and the participating hospitals have all contributed to this improvement. The participating hospitals are continuing their efforts to implement all of the best practices in the safety bundle with the goal to further improve the process and outcome measures. Especially notable is the education of the providers on potentially better practices, and basic quality improvement processes.

Project Statistics

>3,100

safe sleep audits conducted by 13 participating teams from June 2020 – June 2021

22%

increase in safe sleep audits compliant with AAP guidelines from June 2020 – June 2021

CONTACT

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