NICHQ
National Institute for Children's Health Quality

Missouri Safe Sleep Strategic Plan

This Missouri Safe Sleep Strategic Plan was prepared by NICHQ for and endorsed by the Missouri Safe Sleep Coalition.

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The Missouri Safe Sleep Coalition and its Strategic Plan

The Missouri Safe Sleep Coalition was initiated in late 2016 by the Missouri Department of Social Services (DSS), Children's Division (CD) to exclusively focus on safe sleep for infants. The primary goal of the Coalition is to substantially reduce and eliminate injuries and deaths as a result of unsafe sleep environments and practices in Missouri through increased education, awareness, practice and training. The Missouri Safe Sleep Coalition consists of members from the Department of Social Services, Department of Health and Senior Services (DHSS), Children's Trust Fund (CTF), Infant Loss Resources, Office of Child Advocate, Children's Mercy Hospital, Generate Health St. Louis, Saint Francis Healthcare System, Nurses for Newborns, SSM Health, and the Missouri Chapter of the American Academy of Pediatrics (AAP). The Coalition members meet regularly to share expertise and work together to develop, support and distribute consistent safe-sleep messaging statewide.

As a result of the commitment of the Coalition, several projects and resources are currently in development, including the creation of a safe sleep educational brochure to be consistently distributed to the public, and a safe sleep interactive training to be used by multiple departments for direct service providers, as well as the general public.

In the beginning of 2019, the Coalition embarked on developing a statewide Safe Sleep Strategic Plan (SSSP). With funding from the Missouri Children's Trust Fund, the Department of Social Services, and the Department of Health and Senior Services, the Coalition secured the National Institute for Children's Health Quality (NICHQ) to provide safe sleep expertise and to facilitate the process of the SSSP development. A group of Coalition members formed the "core team" for the strategic planning process and meet approximately weekly over six months. With a strategic plan in place, the Missouri Safe Sleep Coalition will be driven by a clear, shared statewide goal and aims, prepared with strategies and proven programming to reduce sleep-related infant death and committed to measuring the impact on infant lives in Missouri.

The Safe Sleep Strategic Plan development focused on the following:

1. **Literature Review: Evidence-Based and Evidence-Informed Safe Sleep Practices:**
   A literature review to inform the Missouri Safe Sleep Strategic Plan examines and compiles literature and analyses of current evidence-based safe sleep practice guidelines, policies and initiatives that provide health care provider training and modeling, increase infant caregiver knowledge and education, and promote safe sleep polices at the local, state and federal level.

2. **Review of Promising Practices:**
   Promising Practices for Safe Sleep to Inform the Missouri Safe Sleep Strategic Plan identifies emerging and promising practices to promote safe sleep in other states and communities. Three national programs led by NICHQ provided significant inputs for the review of promising practices: the National Action Partnership to Promote Safe Sleep –Improvement and Innovation Network (NAPPSS-IIN), the National Safe Sleep Collaborative Improvement and Innovation Network to Reduce Infant Mortality (Safe Sleep IM CoIIN), and the Collaborative Improvement and Innovation Network to Reduce Infant Mortality (IM CoIIN – 2014-2018). All were funded by the Health Resources and Services Administration (HRSA) of the U.S. Health and Human Services; these three programs represent over 20 states that have conducted specific, collaborative efforts to reduce sleep related infant deaths.

3. **Missouri Safe Sleep Coalition Convening:**
   The in-person convening of the Coalition provided all Coalition members an opportunity to discuss strategic plan goals; select and prioritize aims; develop strategies and identify activities and programs to carry out those strategies; and discuss ways to measure progress and success. Prior to the convening, NICHQ fielded a survey to safe sleep champions across Missouri to complete its environmental scan of Missouri's strategic plan needs. The survey was disseminated to coalition members, community champions, healthcare professionals and stakeholders to learn what is working in Missouri safe sleep efforts, where there are gaps and challenges, and what the opportunities are for building a statewide strategic plan to ensure that safe sleep practices are used to keep babies alive and safe in Missouri. Responses from the survey laid a foundation for robust discussions in the in-person convening and subsequent strategic planning sessions.

4. **Safe Sleep Strategic Plan:**
   Together, the literature review, promising practices review, survey of safe sleep champions, and Safe Sleep Coalition convening discussion guided the development of the Missouri Safe Sleep Strategic Plan to reduce sleep related fatalities. The plan, presented in this document includes an over-arching long-term goal and core focus areas, five aims, and multiple strategies and activities. Facilitated Coalition discussions also led to identification of potential measures to track progress and outcomes so that specific data sources and data collection strategies can be developed by the Safe Sleep Coalition as the strategic plan is rolled out.

Sleep-related Infant Death In Missouri

In 2017, over 22,000 infants died in the United States, a five percent decrease from 2013.[2] Yet, SUID rates have remained persistently high, with about 3,600 deaths occurring among U.S. babies each year. Twenty-six percent of SUIDs are caused by accidental suffocation and strangulation in bed, 38 percent by SIDS, and 26 percent from unknown causes.[3]

Missouri infant mortality rates and SUID rates are similar to or worse than national rates, with Missouri ranking 20th among U.S. in infant mortality rates.[4] Missouri's infant mortality rate in 2017 was 6.2 live births compared to 5.8 for the U.S. In 2017, 76 percent of all infant deaths not related to medical causes were related to the infant's sleep environment. 84 percent of infant sleep related deaths were determined to have been from suffocation and 54 percent occurred while the infant was sleeping in an adult bed, with 51 of 54 of those infant deaths occurring while the infant was sharing a sleep surface with an adult.[5]

According to Missouri's Child Fatality Review Program 2017 Report, the number of infants who died in a sleep environment was enough children to fill four standard kindergarten classrooms.[5]

The statistics below from Missouri's Child Fatality Review Program 2017 Report point to the importance of focusing on social determinants of health and health equity in Missouri's safe sleep strategic planning process:

- Sixty-one percent of infants who died from SUID were white, 35 percent black, and 4 percent multi-racial.
- A black baby in St. Louis is 4 times more likely to die of a sleep-related death than a white baby.
- 71 percent of all infants who died from sleep related-deaths were in households receiving Medicaid.

SUID, SUDI and SIDS: Distinctions and Definitions from AAP Guidelines

Sudden Unexpected Infant Death (SUID), also known as sudden unexpected death in infancy (SUDI), is a term used to describe any sudden and unexpected death, whether explained or unexplained (including sudden infant death syndrome (SIDS) and ill-defined deaths), occurring during infancy. After case investigation, SUID can be attributed to causes of death such as suffocation, asphyxia, entrapment, infection, ingestions, metabolic diseases, and trauma (unintentional or nonaccidental).

SIDS is a subcategory of SUID and is a cause assigned to infant deaths that cannot be explained after a thorough case investigation including autopsy, a scene investigation, and review of clinical history. The distinction between SIDS and other SUIDs, particularly those that occur during an unobserved sleep period (i.e., sleep-related infant deaths), such as unintentional suffocation, is challenging, cannot be determined by autopsy alone, and may remain unresolved after a full case investigation. A few deaths that are diagnosed as SIDS are found, with further specialized investigations, to be attributable to metabolic (or other) disorders.[1]

Subsequently, Missouri faces multiple challenges that impact the overall infant mortality rates throughout the state. A statewide survey prior to the Missouri Safe Sleep Coalition convening provided insight on these challenges, including gaps and communities and strategies that require improvement. The coalition convening itself allowed coalition members and participants to discuss challenges and begin to discuss how to overcome them:

Inconsistent Messaging:

Messages about safe sleep environments for infants are inconsistent across the United States, within states and, specifically within Missouri. The Coalition identified this inconsistent messaging emanating from retail advertising (imagery), product promotions, health care providers, trusted messengers (family members and others), community members and even public health messaging to be one of three top challenges to Missouri's success in reducing sleep-related death. From these discussions, the Coalition committed to creating and delivering consistent messaging in an effort to *change the social norms* regarding safe sleep practices. This includes consistent, clear messages delivered through multiple media (e.g., YouTube, traditional advertising, hospital websites, posters, transit advertising); simple messages that are supported by further education and information; and messages that are resonant with the community, such as those that have a call to community action. Coalition members and participants in the state-wide survey vocalized the need for consistent language regarding the use of the terms "SIDS," "SUIDS," and "sleep-related deaths," (see definitions, previous page).

Need for Gap Assessment of the Variations in County Engagement:

While some counties and the city of St. Louis are conducting robust safe sleep programming, other counties within Missouri demonstrate little to no engagement with initiatives and strategies that are working to reduce sleep-related infant mortality. This variation was identified as an important challenge; addressing this important challenge must begin with a county-by-county assessment of practices and resources to identify the areas of greatest, immediate need, and the opportunities for community engagement within and across counties. An early, robust gap assessment of county-by-county practices and engagement in safe sleep promotion will drive the solutions to reduction in unsafe sleep practices across the state.

Health Inequity:

Given the significant disparities in SUIDS in the U.S. and in Missouri, addressing contextual factors around health equity, culture and tradition is crucial to a successful campaign. The Coalition recognizes the importance of both fully incorporating its health equity emphasis into all aspects of the campaign and having one of its five key aims focused intention.
ally and specifically on health equity. The Missouri Safe Sleep Strategic Plan emphasis on health equity will specifically focus on geographic, racial disparities, and economic disparities and status, and will include programming for caregivers, community organizations, and other trusted champions who can reinforce safe sleep education, knowledge, and practices.

Finding Solutions

Hundreds of communities, states, organizations, government agencies and individuals have created and applied multiple interventions, programs, practices, campaigns, teaching methods and resources to spread safe infant sleep guidelines, information and resources to professionals, parents and caregivers. A significant amount of research demonstrates success in many of these interventions and practices, used both individually and collectively. Such successes found in the literature are accumulating to build the evidence base for certain interventions and practices.

Messaging and Public Awareness

Developing or adopting a safe sleep campaign can be used to spread health messaging to parents and caregivers, health professionals and community health workers, and the general public. This includes health advertising campaigns and educational materials and messages for families, parents and other caregivers. The primary health messaging campaign to promote safe sleep and prevent sleep-related infant death is the Safe to Sleep Campaign. The campaign and its simple, single public message is credited with reductions in sleep-related infant mortality through the 1990s. Safe to Sleep continues to provide public health messaging resources to organizations and state health agencies, and has enabled states and organizations to spread clear, consistent evidence-based health messaging. A more local approach to consistent and coordinated safe sleep messaging is demonstrated through the B'more for Healthy Babies initiative. B'more brings together communities, organizations, and resources so that every baby can have the best start possible. With mixed media and communications, the campaign reaches and educates all members of community—parents, health care providers, family members, educators, community leaders—to support safe sleep and other infant mortality reduction strategies. This initiative also demonstrates effective culturally competent messages and materials that target African American parents and families, addressing cultural barriers to safe sleep behaviors.

Caregiver and Provider Education

Messaging and campaigns alone are not enough to create consistent behavior change in caregivers' practice of safe sleep behaviors. Creating an environment that surrounds parents with safe sleep messaging, support, encouragement, and the norms to practice these behaviors consistently continues to be the aim of targeted and broad-based community programs. These include hospital healthy newborn nurseries and neonatal intensive care units that model and teach safe sleep to parents, family members and friends. Pediatricians, health centers, home visitors, community centers have developed educational programs for parents and other caregivers. Research shows the using multiple methods for teaching and messaging is key to behavior change. These methods should include one-on-one education; mothers who received individual education on safe sleep were more likely to be placing their babies in a supine position at 3 months of age than mothers who did not receive one-on-one education.

Practicing safe sleep behaviors has been an important component of Safe to Sleep from its earliest days through current practice. More than awareness, *parents need training in safe sleep practice*. Group classes in prenatal and postpartum care at maternity and health centers, individual postpartum and pre-discharge from the hospital, pediatric and gynecologist follow-up appointments, home visiting professionals or nurses all are key touchpoints for initial training on safe sleep practices for new families.

Interventions focused on training health professionals provide both safe sleep messages and appropriate modeling for families. These interventions facilitate behavior change at both the individual provider and the organizational level by increasing knowledge and awareness among providers, and by creating a culture of infant safe sleep safety. At birth hospitals and other health care facilities, staff behaviors are closely observed by parents and caregivers, stressing the importance modeling recommended behavior to result in more parents adhering to proper safe sleep practices. In Missouri, training of nurses in NICUs and well-baby nurseries using the *Curriculum for Nurses Continuing Education Program* on SIDS Risk Reduction developed by NICHD and First Candle/SIDS Alliance, resulted in a majority of participants scoring 90 percent or better on the post-test. Educational trainings and mandatory completion of safe sleep curricula also increase the occurrence and effectiveness of safe sleep conversations between health care professionals and parents. Along with proper sleep placement, parents are receiving more messages from providers about the benefits of breastfeeding, the dangers of co-sleeping, and misconceptions about the supine position.

Community Engagement

Connecting with community partners an organization that share the same goal of decreasing infant mortality activates community champions to provide education and resources and spread safe sleep messages. The Arkansas Department of Health's Office of Minority Health and Health Disparities turned to a nontraditional partner for maternal and infant health: Brothers United, an alliance of African American fraternities including Alpha Phi Alpha, Kappa Alpha Psi, Omega Psi Phi, Phi Beta Sigma and Iota Phi Theta. Members of these organizations were trained on infant mortality that review prevention strategies and provide materials for the chapters to share in their communities, establishing Brothers United members as change agents in their communities, hosting educational events that activate men as key community stakeholders for improving infant health outcomes. Another community-based training program, implemented by First Candle of Connecticut, is Straight Talk for Infant Sleep, an evidence-based training program for nurses, community health providers, social service agencies, and faith-based groups who are closely aligned with families. The goal of the training is to prepare participants to become safe sleep champions in their community by learning how to engage with families

Direct on Scene Education (DOSE) an innovative training program that utilizes first responders as safe sleep change agents, began in Florida and is not implemented in eleven states. First Responders are trained to identify and remove hazards while on scene during

emergency and non-emergency 911 calls, along with delivering education on scene to families and caregivers. If a responder arrives to an expectant mother or an infant less than one year of age, they will initiate an "environmental check" and distribute Baby Safe Sleep Kits. This unique approach to delivering materials is successful through its focus on non-healthcare or social service professionals.

Health Equity and Reducing Disparities

Financial inability to purchase a crib can lead to bed-sharing, causing higher rates of suffocation and SIDS among low-income families. Cribs for Kids offers free or reduced-cost cribs to low-income families, along with a fitted sheet, wearable blankets, and safe sleep educational materials. These education and intervention efforts have been shown to increase parental knowledge of safe sleep practices, intended use of the supine position, and avoidance of bed-sharing. In Alleghany County, Pennsylvania, over 23,000 cribs have been distributed in low-income communities since 1998. Distributing cribs allow infants who would have slept in an adult bed with a parent to sleep in their own crib.

Safe sleep practices and cultural norms have been studied in relation to social determinants of health including housing, lack of health care access, and food insecurity. Social determinants are known to place families in situations where ideal safe sleep environment may not be available. Home visiting and WIC services have presented opportunities for assessing and teaching about safe sleep practices. Community supports like these help families feel less isolated and more empowered to practice safe parenting strategies including safe sleep.

Legislation and Regulation

In 2010, the Commonwealth of Pennsylvania passed the Sudden Infant Death Syndrome Education and Prevention Act mandating consistent infant safe sleep education in all birth hospitals. Parents must receive safe sleep information prior to hospital discharge and sign that they have received and understand the information, increasing their exposure to educational materials.

Statewide implementation of educational policies and initiatives will increase knowledge among families, health care professionals, community workers, and other caregivers. Seventy-one hospitals in Tennessee adopted a safe sleep policy that requires, at a minimum, staff trainings on AAP safe sleep recommendations, correct modeling of safe sleep practices, and parent education, resulting in a decrease in any risk factors of unsafe sleep decreased by over.[8]

State and local legislation can also mandate participation in national surveillance programs. The Center for Disease Control and Prevention (CDC) supports SUID monitoring programs in 22 states and jurisdictions, covering about one in three SUID cases in the United States. The SUID and SDY (Sudden Death in the Young) Case Registry gathers information about the circumstances associated with SUID and SDY cases, along with information about the investigations of these deaths. The states and jurisdictions involved in the registry receive

access to this data and analyze SUID and SDY trends and circumstances to develop strategies that prevent future deaths. Through this data, the Michigan Public Health Institute (MPHI) discovered an increase in infant deaths within families receiving child protective services. To address this issue, MPHI worked with the Michigan Department of Health and Human Services to develop an infant safe sleep training and a policy that requires all child protection workers (e.g., foster care, child protective services) receive this training on safe sleep environments and behaviors.

In 2015, the State of Missouri's Revised Statue (RSMo) Section 210.223 went into effect on August 28, requiring: childcare facilities licensed to care for children under 12 months of age to implement and maintain a written safe sleep policy that meets the most recent recommendations of the AAP; written instructions from a licensed health care provider when an infant requires alternative sleep positions or special sleeping arrangements; successful completion of DHSS-approved safe sleep training on the most recent AAP recommendations every three (3) years. Missouri's DHSS Section for Child Care Regulation monitors compliance with this statute.

Overarching Goal and Core Focus Areas

By the end of 2022, decrease Infant Deaths Associated with Unsafe Sleep per live birth by 20% from 2018 rates and decrease the disparity in Infant Deaths Associated with Unsafe Sleep per live birth between black and white infants by 25% from 2018.

This goal statement assumes a three-year plan beginning in 2020; with percentage reductions established by the Coalition.

Following are five ***core focus areas*** of the Missouri SSSP to reach the goal of reducing sleep-related infant death.

1. **Messaging and Communication:**
   Focusing on messaging and communication shows how evidence and practice demonstrate the importance of public campaigns to change community and family norms related to safe sleep practices. Messaging tailored to the general public through traditional and non-traditional media allows wide spread dissemination of safe sleep messages, reaching deeply into communities through local businesses, community organizations, faith-based organizations, and other community influencers.

2. **Education:**
   Education and support are necessary to create consistent behavior change in parents' and other caregivers' practice of safe sleep behaviors. This includes a wide range, of educational programming and resources intended to be implemented throughout the state. Additionally, education ensures that that all professionals who interact with families and their infants are trained in safe sleep behaviors and model practices for parents and other caregivers is essential to increasing safe sleep across Missouri. Education will focus on families and their caregivers, child care providers, healthcare professionals, and community worker.

3. **Health Equity / Reducing Disparities:**
   Addressing health equity and reducing disparities is both a central core focus area, and imbedded throughout the messaging, education and community engagement and advocacy across the state of Missouri. This includes addressing multiple barriers, systemic disparities, social determinants of health and cultural norms that prevent adherence to safe sleep focusing on social determinants of health as a priority in community outreach.

4. **Community Engagement:**
   Community engagement involves reaching deeply into communities across the state to provide events and programs that will appeal to and motivate target audiences to promote safe infant sleep and sustain behaviors. This begins with an analysis of safe sleep messaging and programming in every county to clearly drive SSSP programming where it is most needed. Community engagement includes identifying, customizing and applying programs and interventions that have been demonstrated success in Missouri and other states and

communities, with an emphasis on engaging trusted messengers and champions in counties and communities statewide.

5. **Legislation and Regulation:**
   Developing and implementing state, city, county and/or institutional policies for regulation, certification, implementation, and reporting is essential to reducing sleep-related infant deaths in Missouri. This includes statewide partnerships with agencies and advocacy groups to foster safe sleep policies, regulations, and reporting, and informing and educate policymakers and state and local legislatures and advocating for evidenced based intervention of the importance of promoting safe infant sleep as a means to reduce infant mortality.

Measuring Change

The ultimate measure of the Safe Sleep Coalition work is the reduction in sleep related deaths and reduction in disparities among those deaths, the proof that lives have been saved and improved by these significant efforts. A shared measurement system used among all Coalition member organizations and agencies to track progress and measure the outcomes of its five aims is critical to ensuring that the Coalition activities and goals are well-coordinated and successful. The following are brief descriptions of the plans for measuring progress and change in each aim; the workplan (separate document) contains more specific measurement and tracking activities.

The Coalition also is fully committed to identifying shared measures and data sources for measuring the ultimate Safe Sleep Strategic Plan outcome: the decrease in infant sleep-related deaths in the state of Missouri and the decrease in disparities among those deaths. As the Coalition establishes its numeric goal for the SSSP, members will discuss and identify the existing state measures that will be used to measure SSSP outcomes, whether by selecting one existing measure for the SSSP outcomes or combining synchronistic measures for a comprehensive view of the outcomes achieved.

The goal of developing and **communicating consistent and compelling messaging** throughout the state of Missouri is to increase awareness of the important of safe sleep practice among the general population and within specific caregiver audiences. Measuring increased awareness will include recording the number of activities implemented to spread messaging, the number of organizations that that have adopted and disseminated these consistent messages, and the number of counties and diverse communities that the team has worked with to disseminate messages across Missouri. In addition to tracking the amount of communications, tracking the nature of messaging and the general public understanding will demonstrate the level of consistency and clarity.

To ensure that providers, professionals, parents, infant caregivers have the **knowledge, skills, and self-efficacy** to practice safe sleep for every sleep, the safe Sleep Coalition will track the number of activities, events and program participants, and – importantly – will measure knowledge, skill acquisition and behavior change among providers and caregivers. Measuring increased knowledge and adherence to practices will include tracking the number of caregivers educated in safe sleep, professionals trained in providing culturally appropriate safe sleep education (providers, home visitors, childcare, first responders), safe sleep certified hospitals, and childcare centers certified in safe sleep practices.

To ensure that all programs and interventions focus on increasing **health equity** to reduce disparities, particularly racial disparities, the Coalition will be tracking the number of counties that have implemented programs and activities with focus on health equity by addressing racial, geographic, and economic disparities. Measures also will include changed understanding and behavior among providers and community partners about the factors in heath equity, implicit bias and delivering information and education to parents and caregivers in a culturally appropriate way.

Measures of the effectiveness of the Coalition's **community engagement** efforts to activate community champions to provide education and resources and spread safe sleep messages include record of the number of counties with organization and individual champions, the types of community champions, and the level of community activity. In addition to number of counties, the Coalition also will track the type of community partner and their influence on target audiences relevant to race, economic status and geography.

The purpose of advocating for supportive state and local **policies and regulations** for safe sleep practices is to increase the number of identified legislative actions passed into law, such as laws that establish mandatory data collection beyond SUID, or laws that require childcare centers to be accredited for safe sleep practices. Example measures of these activities include tracking the number of advocacy education sessions held to inform lawmakers, legislative events/activities sessions held or hospitals and health centers that created/implemented safe sleep policies, and ultimately the number and impact of successes in new policies and legislation action.

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