

PQCNC Infant Safe Sleep

Perinatal Quality Collaborative of North Carolina - PQCNC



NON-PROFIT STATE
PERINATAL QUALITY
COLLABORATIVE



BEGAN IN 2007



FUNDED BY NC MEDICAID



TASKED WITH WORKING
WITH DELIVERY HOSPITALS
IN NORTH CAROLINA

PQCNC Initiatives

- 39 weeks
- SVB
- CABS I
- Milk-NCCC
- Milk – Well
- CCHD
- National CLABSI
- NAS
- How's Your Baby
- CMOP
- AIM OBH
- ASNS
- Birth Certificate Accuracy
- AIM RPC
- NHPC
- cLOUDi
- LPI
- AIM Sepsis
- AIM Cardiac

Safe Sleep - Background

- Comprehensively Lessening Opioid Use Disorder Impact (cLOUDi) – 2021-2023
- Care of the Late Preterm Infant – 2023-2025

Improvements to Care

- Use of open-ended questions
- Safe sleep calculator

scientific reports

OPEN

Development and validation of the Safe Sleep Calculator to assess risk of sudden unexpected death in infancy

C. G. McIntosh^{1,2,3,4}, J. M. D. Thompson¹, K. Leech³, R. Carpenter^{4,5} & E. A. Mitchell¹

We describe the development and validation of a Sudden Unexpected Death in Infancy (SUDI) risk assessment clinical tool. An initial SUDI risk assessment algorithm was developed from an individual participant data meta-analysis of five international SIDS/SUDI case-control studies. The algorithm was translated into a clinical web tool called the Safe Sleep Calculator, which was tested at the routine infant 6-week check-up in primary care clinics in New Zealand. Evidence was gathered through mixed-methods research to inform the revision of the algorithm and the clinical tool. The revised algorithm performance was validated on a new contemporary New Zealand SUDI case-control study dataset and the pilot population data set. The area under the Receiver Operator Characteristic (ROC) curve is 0.89, with a sensitivity of 83.0% and a specificity of 80.9% in the NZ infant population when 0.3 per 1000 live births or more risk is used to define 'at higher risk'. The Safe Sleep Calculator SUDI risk assessment tool provides individualized evidence-based specific SUDI prevention advice for every infant and enables the concentration of additional SUDI prevention efforts and resource for infants at higher risk.

Sudden Unexpected Death in Infancy (SUDI) remains the leading category of death in babies in high-income countries contributing one-third to a half of all post-neonatal mortality¹. SUDI includes deaths certified as Sudden Infant Death Syndrome (SIDS; ICD R95), ill-defined and unknown cause of mortality (R99) and accidental suffocation and strangulation in bed (W75). While the causes of SUDI remain a subject of research, International case-control studies have consistently identified contributory risk and protective factors for SUDI and SIDS that have remained consistent over time and in different countries². Broad population health messages based on the epidemiology of SUDI/SIDS have been effective for the prevention of SUDI/SIDS. For example, the 'Back to Sleep' campaign in the early 1990s resulted in a rapid sustained reduction in SIDS in New Zealand and internationally. However, such an approach has not been effective enough for all groups. Although in New Zealand whilst Māori SUDI rates have declined, Māori infants remain nearly seven times, and Pacific Peoples infants nearly four times more likely to die of SUDI compared to Non-Māori/Non-Pacific (predominantly European) infants in New Zealand^{3,4}.

Information sharing between parents and clinicians about the risks of bedsharing for an individual baby is important because bedsharing markedly increases the risk for some babies but is a much lesser risk for others. Clinicians require knowledge to move from rule-based dialogue to informed conversations with parents. This is particularly important for Māori and Pacific Peoples families for whom rates of maternal smoking in pregnancy are higher than for other population groups, and bedsharing with infants is also a culturally valued and sometimes necessary behaviour due to the effects of poverty induced crowded housing. A SUDI risk assessment tool may help to support effective conversations with parents about the choices they make to lower SUDI risk and prompt specific targeted resources and support to reduce SUDI risk.

Using scoring systems for SUDI/SIDS risk is not a new concept with a number developed from the 1970s through to recent years, some of which have been implemented and used to target SUDI/SIDS intervention programs⁵⁻⁸. Early scoring systems were hampered by a lack of sensitivity and reproducibility of results when used in different geographic areas of the same country, and between countries^{9,10}. Nevertheless, the areas in which

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Safe Sleep Calculator

- <https://delphi.pqcnc.org/safe-sleep/login>