

## Safer Infant Sleep

Reducing sleep-related infant death in priority populations:  
the role of evidence-based, responsive & practical public health strategies

Professor Jeanine Young AM FACN PhD BSc(Hons)  
RN RM Neonatal Nurse (ENB 405)

School of Nursing, Midwifery & Paramedicine  
University of the Sunshine Coast

Queensland Child Death Review Board  
Queensland Paediatric Quality Council IM Subcommittee  
International Society for Study & Prevention of Infant Death  
Little Sparklers – Director, Board Member



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The University of the  
Sunshine Coast acknowledges  
the Traditional Custodians  
of the land on which its  
campuses sit. We recognise  
and pay respect to Elders past,  
present and emerging.



Image provided courtesy of Lynne Stuart



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# Objectives



**Outline** the problem of infant mortality in Australia

**Highlight** findings from 4 studies comprising our Safe Sleep Research Program

- ✓ Queensland Infant Care Practice Study (I-CARE)
- ✓ Queensland SUDI Study
- ✓ Queensland Pēpi-Pod® Program
- ✓ ESCCaPE Trial (Qld) & Mini-ESCCaPE Trial (ACT)

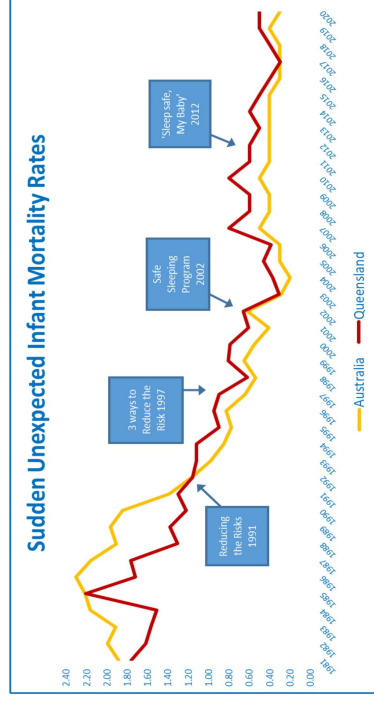


**Translation** of findings into Policy, Education and Practice:  
Safer Infant Sleep Clinical Guideline

## Background: the problem



- Sudden Unexpected Death in Infancy (SUDI): leading cause of post-neonatal mortality in Australia
- 86% decrease in rate of SUDI deaths since first campaign in 1991
- Rates plateaued with little change in incidence since 2004
- Queensland SUDI rates exceed Australian national average



## Sleep Safe, My Baby Campaign 2012

**YOUNG J, WATSON K, ELLIS L, RAVEN L.** (2012) Responding to evidence: Breastfeed baby if you can – the sixth public health recommendation to reduce the risk of sudden and unexpected death in infancy. *Breastfeeding Review* 20(1): 7-15.

**MITCHELL EA, FREEMANTLE J, YOUNG J, BYARD RW.** (2012) Scientific consensus forum to review the evidence underpinning the recommendations of the Australian SIDS and Kids. Safe Sleeping Health Promotion Programme – October 2010. *Journal of Paediatrics and Child Health* 48(6): 626-633. DOI: 10.1111/j.1440-1754.2011.02215.x



**Table 1: Six ways to reduce the risk of sudden unexpected death in infancy and sleep baby safely**

1. Sleep baby on the back from birth, not on the tummy or side
2. Sleep baby with head and face uncovered
3. Keep baby smoke free before birth and after
4. Provide a safe sleeping environment night and day
5. Sleep baby in their own safe sleeping place in the same room as an adult caregiver for the first six to twelve months
6. Breastfeed baby if you can

## safe sleeping

Six ways to sleep baby safely and reduce the risk of sudden unexpected death in infancy:



**red nose**  
cua  
1300 888 888 | rednose.com.au



*ICARE Qld 2017 Study*

## Infant care practices employed by Queensland caregivers: uptake of safe sleep messages and challenges encountered

**Roni Cole:** *PhD Candidate, Paediatric Clinical Nurse, SCHHS (Completed March 2022)*

Professor Jeanine Young, University of the Sunshine Coast, Qld, Australia

Dr Lauren Kearney, University of the Sunshine Coast, Qld, Australia

Associate Professor John Thompson, University of Auckland

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# Methods: Part 1 Cross sectional survey



## Population Setting

- Queensland families with young infants

## Sample Frame

- Queensland Registry of Births, Deaths and Marriages: Birth Notifications
- Most comprehensive representation of population – reportedly 98% capture of births

## Data Collection

- **Cross-sectional survey** at 3-months of age
- Choice of reply-paid paper questionnaire or electronically
- Adapted/contemporised ICP survey tool (Young et al. 2008)

## Sample Size

- n=10,200 eligible participants identified
- Response rate: 33% (n=3,341)
- Online response 27%, paper reply-paid 73%

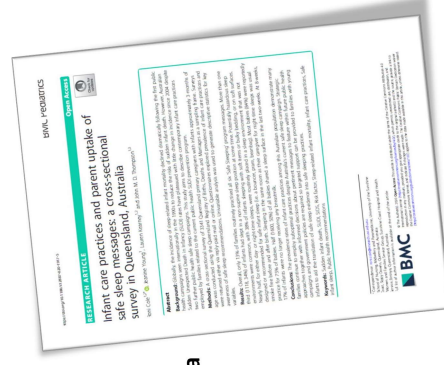


## Uptake of safe sleep messages

### Article 1

#### Infant care practices and parent uptake of safe sleep messages: a cross-sectional survey in Queensland, Australia

- What is the prevalence of the contemporary infant care practices, related to the six key messages in Australia's 'Safe Sleeping' public health SUDI risk reduction program, used by Queensland families with young infants?
- What proportion of Queensland families with young infants implements all six of Australia's 'Safe Sleeping' program messages?





# Uptake of safe sleep messages

## Article 1 – key findings

- ▶ Only 13% routinely practise all six 'Safe Sleeping' program messages
- ▶ 34% slept in a non-supine sleep position at some time
- ▶ 38% slept with soft items or bulky bedding, or on soft surfaces
- ▶ 46% routinely placed in a sleep environment not designed or recommended for safe infant sleep for day-time sleeps
- ▶ 50% shared a sleep surface at some stage in the last 2-weeks
- ▶ 17% of infants no longer received any breastmilk at 8-weeks old
- ▶ 84% reportedly smoke free before and after birth
- ▶ 75% usually room-share for night-time sleep



# Awareness of safe sleep messages

## Article 2

### Awareness of infant safe sleep messages and associated care practices: findings from an Australian cohort of families with young infants

- Are Queensland families with young infants aware of the current national safe infant sleeping messages?
- Does parental awareness of safe sleep advice improve their use of recommended infant sleeping practices within the home?



# Awareness of safe sleep messages

## Article 2 – key findings

- ▶ Most (96%) families are aware of sleep-related infant mortality and sudden infant death sleep messages
- ▶ 26% of caregivers could not identify the current 6 key safe sleep messages
- ▶ Awareness of advice does not always translate into safe infant care
  - Of those who knew the message:
    - 14% were not smoke-free
    - 28% employed practices which may increase risk of head or face covering
    - 14% were not usually supine for sleep
    - 18% were not breastmilk fed

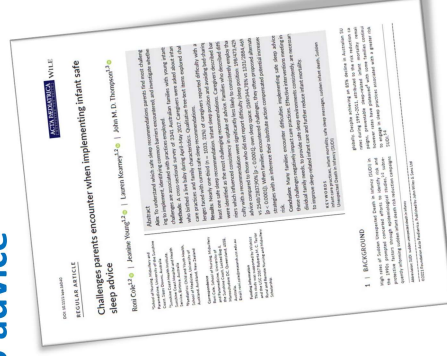


# Challenges implementing safe sleep advice

## Article 3

### Challenges parents encounter when implementing infant safe sleep advice

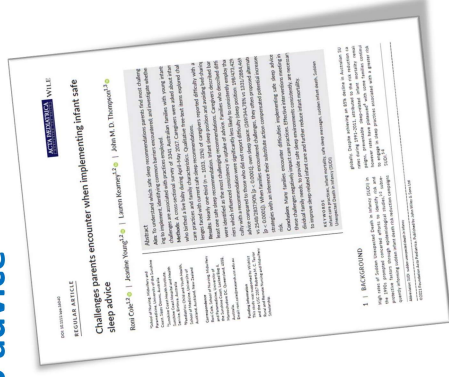
- Which safe sleep advice do Queensland families with young infants have the greatest challenges implementing when caring for their baby?
- When families have difficulty implementing safe sleep advice, are they more likely to use unsafe sleep practices?



# Challenges implementing safe sleep advice

## Article 3 – key findings

- ▶ 31% of caregivers reported difficulty with at least one safe sleep recommendation.
- ▶ Infant sleep position and avoiding bedsharing identified as the most challenging recommendations.
- ▶ Families who described difficulty with advice were significantly less likely to consistently employ that advice compared to those who did not report difficulty
  - Sleep position: 198/473,42% vs 2548/2837,90% [ $p<0.0001$ ]
  - Own sleep space: 269/344,78% vs 1331/2884,46% [ $p<0.0001$ ].



## Shared sleeping practices



		n	%
Has baby ever slept on any sleep surface with another person who was sleeping at any time since birth?	Yes	1336	75
Has baby slept on a sleep surface with another person who was sleeping at any time during the last 2 weeks?	Yes	860	49
Has baby ever shared a sofa or couch with another person who was sleeping at any time	Yes	472	27
Was it usually planned to share the sleep surface with baby?	No	766	57



## What parents said about shared sleeping...



### ✓ 'Not Bedsharing' (n=172, 31.4%) was one of top two most difficult messages

*"More info on co-sleeping, how to do it safely. Most people do it but its still considered taboo and if it was made more out in the open and talked about people would be better informed."* 1393

*"We have consciously decided to bedshare. We have read the guidelines on how to make this as safe as possible. Bedsharing supports night feeding and exclusive breastfeeding. Prior to bedsharing I would fall asleep while feeding at night on the couch or bed."* 2051

*"SIDS recommendations are too strict and often don't suit with what babies biologically need from their parents. There needs to be more information readily available to parents on safe bedsharing, baby wearing and other non-western sleeping styles."* 4337

## What parents said about shared sleeping...



*"I felt so guilty about co-sleeping with baby, but resorted to it out of desperation. My post-natal midwife/nurse was very understanding and didn't judge me but instead offered advice to make this as safe as possible, which was enormously helpful. In contrast, the antenatal information I received left me thinking I would be a terrible mother and kill my baby if I even thought about co-sleeping. While I understand the risks, this was not helpful after many sleepless nights and made me feel hopeless and very guilty."* 5115

*"There needs to be more information available on sharing a sleep surface. I'm in a mothers group - almost all mothers have shared sleep surface eg. bringing baby into bed with them at night. Very few aware of how to do this safely ie. 'c' shape, remove blankets, don't place baby between adults. Even if parents don't want to share a sleep surface - sometimes it does happen. Please conductor releasing info to make this more safe. I'm not endorsing/encouraging co-sleeping, just being realistic. It happens. My baby sleeps in a bassinet 99.9% of time - its safest! But as a very occasional one off, I need/want to make co-sleeping as safe as possible."* 3132



## Sixth message 'Breastfeed baby'

### Article 4

Reducing sleep-related infant mortality through understanding factors associated with breastfeeding duration: a cross-sectional study

What characteristics and factors influence engagement with the most recently added 'Safe Sleeping' program message, the sixth message: 'breastfeed baby'?



## Sixth message 'Breastfeed baby'

### Article 4 – key findings

Significant predictors for breastfeeding cessation at 8-weeks:

- young maternal age
- single parent
- cigarette smoker
- public patient
- higher pre-pregnancy body mass index (BMI)
- delivery via caesarean section
- birth of a male infant
- in-hospital formula supplementation
- admission to a neonatal nursery
- dummy use
- infant sleep location (*not sharing sleep*)

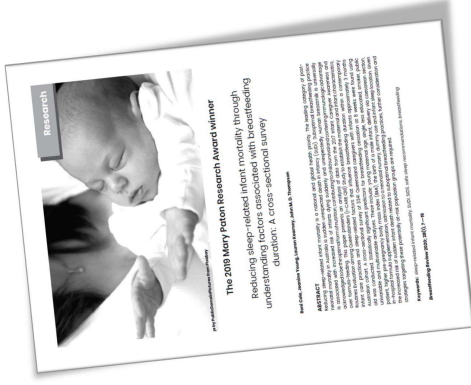




## Sixth message 'breastfeed baby'

### Article 4 – key findings

- Babies more likely to be BF at 8 weeks of age when
- Planned sleep surface sharing
  - Shared sleeping in last 2 weeks
  - Higher Frequency of shared sleeping
  - Longer duration of shared sleeping
  - Room-sharing



## Consensus Forum

### Aim:

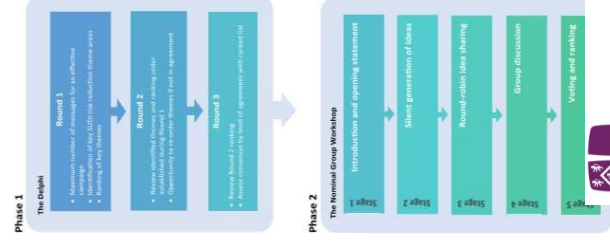
Develop priorities to inform revision of Red Nose SUDI risk reduction program

Consensus Group Method (Humphry-Murto et al 2017)

- Phase 1: Delphi (n=56 SUDI experts, Australia & International)
- Phase 2: Nominal Group Workshop (n=17 Red Nose NSAG, key stakeholders)

Results: Top 4 Priority Themes (50% indicated ≤4 messages)

- Sleep Position
- Sleep Space
- Smoking
- Surface Sharing



# Integrated overview



## Objective One Measure contemporary infant care practices

- Suboptimal uptake of advice

## Objective Two Understand influencing factors for engagement and uptake

- Shaping consistency of advice
- Challenges adopting advice

## Objective Three Establish focused priorities for future SUDI campaigns

- Extending safe infant sleep program messaging
- Establish a partnership approach

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# Summary



- Infant safe sleep education needs to support and empower families to employ safer sleep practices consistently

- Safe sleep advice needs to prepare families for the real-life complexities and challenges of caring for their infant by equipping them with practical strategies

- **Risk Minimisation approaches** consider sociocultural contributors and provide practical strategies to support families to make sleep environments safer

- **Recommendations: Risk minimisation strategies should be embedded into guidelines, health professional and parent resources**



Before you share a sleep surface with your baby, consider whether you are happy it is safe for YOUR baby

### Red Nose supports a risk minimisation approach

Based on the best available research, Red Nose provides a risk minimisation approach that helps to facilitate safer sleep for babies, taking into account their cultural beliefs and environmental circumstances.

In some circumstances parents have no option but to share a sleep surface with their baby because no other sleep surface is available.

Research shows that babies who are exclusively breastfed, settled, sleep or be more closely observed by their parent or caregiver are less likely to be at risk of SUDI.

Any risk of SUDI is likely to be lower if parents follow the Red Nose approach to sharing a sleep surface.

J Young, H Jeffery, R Horne, on behalf of the Red Nose National Scientific Advisory Group

[https://rednose.org.au/download/Infostatement\\_SharingSleepSurfacewithBaby\\_Dec2019.pdf](https://rednose.org.au/download/Infostatement_SharingSleepSurfacewithBaby_Dec2019.pdf)

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# Extending the reach: a retrospective cohort study of Sudden Unexpected Deaths in Infancy in Queensland, Australia

## STUDY AIM

To explore and comprehensively understand the factors associated with Sudden Unexpected Death in Infancy (SUDI) in Queensland, particularly among Aboriginal and Torres Strait Islander infants and socially vulnerable families, in order to inform infant health messages and service delivery to those most at risk.

Dr Rebecca Shipstone, PhD Candidate, USC (*completed 2021*)  
Professor Jeanine Young, University of the Sunshine Coast (Principal Supervisor)  
Associate Professor John Thompson, University of Auckland (Co-Supervisor)

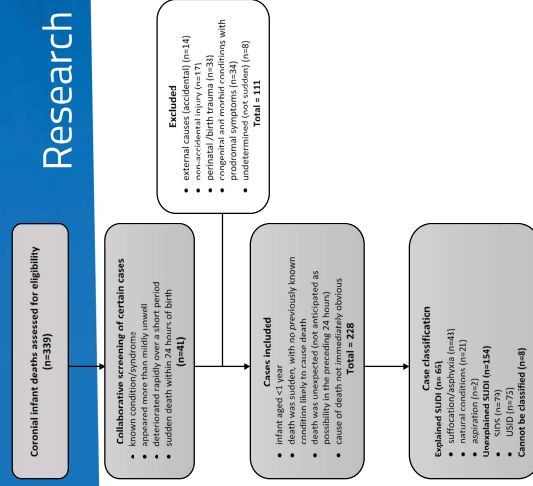


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## Research methods



### Study design

Retrospective cohort study of all cases of SUDI in Queensland between 1 January 2010 – 31 December 2014.

### Study sample

Cases of SUDI identified following review of all descriptive circumstances of all coronial infant deaths.

228 cases of SUDI (67.3% of reportable infant deaths).

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# QLD SUDI Study – implications

Shipstone (PhD Candidate), Young, Thompson, Kearney



## Objective One

### Improving data collection and classification

- Data collected during death scene investigation can enhance accuracy of risk factor information
- San Diego definition is reliable with clear interpretive guidance and evidentiary threshold

## Objective Two

### A better understanding of Indigenous SUDI

- Understanding Indigenous SUDI is predicated on identifying Indigenous infants accurately
- Addressing background sociodemographic factors paramount.

## Objective Three

### The role of multiple adversity in SUDI

- The way in which risk reduction strategies are prioritised and distributed needs to be re-evaluated.
- Individually tailored or community based, complex, multi-model interventions needed.

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# QLD SUDI STUDY - PUBLICATIONS



- SHIPSTONE R, YOUNG J, KEARNEY L, THOMPSON JMD. (2020) Applying a social exclusion framework to explore the relationship between Sudden Unexpected Deaths in Infancy (SUDI) and social vulnerability. *Frontiers in Public Health* (Inequalities in Health) <https://www.frontiersin.org/articles/10.3389/fpubh.2020.563573>
- SHIPSTONE R, YOUNG J, KEARNEY L, THOMPSON JMD. (2020) Prevalence of risk factors for sudden infant death among Indigenous and non-Indigenous people in Australia: a retrospective cohort study. *Acta Paediatrica* (Accepted 24 March 2020; published 14 April 2020) <https://doi.org/10.1111/apa.15274>
- SHIPSTONE R, YOUNG J, THOMPSON JMD. (2019) The real divide: the use of algorithm-derived Indigenous status to measure disparities in sudden unexpected deaths in Infancy in Queensland. *Australian and New Zealand Journal of Public Health Online*; <http://doi:10.1111/1753-6405.12951>. (Published 31 October 2019).
- SHIPSTONE R, SHIPSTONE RA, THOMPSON JMD, YOUNG J. (2019) How reliable is parental/carer assessment of infant health status. *Journal of Forensic Science and Pathology* <https://doi.org/10.1007/s12024-019-00157-8>. (Published 23 August 2019).
- SHIPSTONE RA, THOMPSON JMD, BYARD RW. (2019) An evaluation of pathologists' application of the diagnostic criteria from the San Diego definition of SIDS and unclassified sudden infant death. *International Journal of Legal Medicine*, Published 18 July 2019) <https://doi.org/10.1007/s00414-019-02126-w>.
- SHIPSTONE RA, THOMPSON JMD, YOUNG J, BYARD RW. (2019) The use of post-mortem lividity to determine infant sleep position at time of death in cases of Sudden Unexpected Death in Infancy. *Acta Paediatrica* (Published 3 May 2019) DOI: [10.1111/apa.14834](https://doi.org/10.1111/apa.14834).
- BYARD RW, SHIPSTONE RA, YOUNG J. (2019) Continuing major inconsistencies in the classification of unexpected infant deaths. *Journal of Forensic Legal Medicine* 64 (May 2019): 20-22 <https://doi.org/10.1016/j.jflm.2019.03.007>
- SHIPSTONE R, YOUNG J, KEARNEY L. (2017) New Frameworks for understanding Sudden Unexpected Deaths in Infancy (SUDI) in socially vulnerable families. *Journal of Pediatric Nursing Nov-Dec 37: 35-41.* July 8 DOI: <https://dx.doi.org/10.1016/j.pedn.2017.06.022> (online). Located at [http://www.pediatricnursing.org/article/S0882-5963\(17\)30161-6/fulltext](http://www.pediatricnursing.org/article/S0882-5963(17)30161-6/fulltext)

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## What do we do now with what we know?



<https://www.dreamstime.com/stock-image-baby-thinking-image27733811>

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## What do we do now with what we know?



- Public health safe sleep campaigns have been associated with reduced post-neonatal mortality world wide (sleep position)
- Australian Post-neonatal infant mortality plateaued 2008-2015; some reductions seen in parts of Qld associated with targeted interventions (QFCC, 2020)
- Qld Infant Care Practice Study (n>3300 parents): some key safe sleep messages not implemented; identified messages that parents found most challenging to implement (Cole et al 2019, 2020a, 2020b, 2021)
- Qld SUDI study (228 SUDI, 2010-2014): infant deaths associated with practices that parents found most challenging to implement (Shipstone et al 2019a, 2019b, 2019c, 2020a, 2020b)



➡ Public Health Campaigns need to be responsive to populations most at risk  
(Young and Shipstone 2018, Pease et al 2021)

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# Supporting culturally valued infant care practices in high risk infant sleep environments: trial of a safe sleep enabler

**Professor Jeanine Young PhD RN RM**  
University of the Sunshine Coast, Qld  
Member, Qld Child Death Review Board

**Leanne Craigie, Principal Project Officer, BSc**  
Children's Health Qld Hospital & Health Service

**Karen Watson, PhD Candidate, MSc**  
University of the Sunshine Coast, Qld

**Stephanie Cowan, Director**  
Change for our Children Ltd, New Zealand



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## Identification of the issue



- Indigenous SUDI rate 3-4 times higher
- Co-sleeping: cultural norm in Indigenous communities
- Risk factors associated with co-sleeping that increase SUDI risk are more common in Indigenous populations
- Successful trials of safe sleep enablers in NZ Maori communities (Wahakura)

### Need

- culturally acceptable strategies to promote safe sleeping environments in Indigenous communities



Photo Courtesy Stephanie Cowan



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# Escalation of Risk



**Table 2:** Interaction between maternal smoking in pregnancy and bed sharing on risk of SUDI.

	Cases	Controls	Univariable OR (95%CI)	Multivariable * OR (95%CI)
Smoking	Bed sharing (missing=10)			
No	21 (17.1)	138 (53.5)	1.00	<b>p=0.002</b> (interaction)
Yes	11 (8.9)	29 (11.2)	<b>2.75 (1.17, 6.48)</b>	1.00
No	32 (35.2)	74 (28.7)	<b>2.64 (1.33, 5.26)</b>	1.59 (0.52, 4.87)
Yes	59 (48.0)	17 (6.6)	<b>31.1 (14.0, 69.3)</b>	1.91 (0.77, 4.72)
				<b>32.8 (11.2, 95.8)</b>

Bold indicates significant at the 5% level.  
 \*Bed sharing and maternal smoking combinations were adjusted for ethnicity, marital status, number of previous live births, maternal age, maternal smoking in pregnancy, multiple birth, sex, birthweight, age of infant, position placed to sleep, breastfeeding and sharing parental bedroom.

Mitchell et al 2017 NZMJ 130(1456): 52-64

# Collaboration for Change



Pēpi-Pod® Program established in 2010 as 'little sister' to Wahakura (2007-2008).

Program components include:

- Safe Sleep enabler
- Safe Sleep education
- Commitment by carer to spread safe sleep messages

Collaboration in 2010 to bring Pēpi-Pod® Program to

- Queensland (Prof Jeanine Young & Mrs Stephanie Cowan)
- Aboriginal and Torres Strait Islander: priority group
- Qld Pilot and Main Study 2012-present.



- 2009-2015: 29% post-perinatal mortality reduction in New Zealand (Mitchell, et al., 2016)
- Commitment by NZ Ministry of Health August 2016



# Queensland Pēpi-Pod® Program 2013-2021

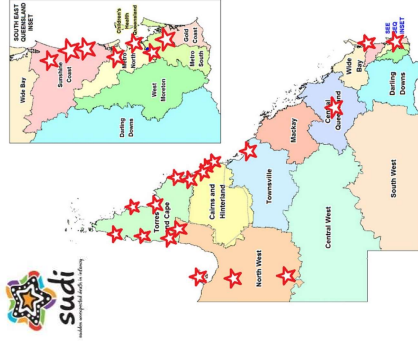


Image: Pēpi-Pod Program Materials. 2015.

**SUDI related Infant Mortality x 3-4 for Aboriginal and Torres Strait Islander babies**

## Pēpi-Pod Program

### Safe Space

Purpose designed box transformed into an infant bed, tight fitting mattress and bedding

### Safe Care

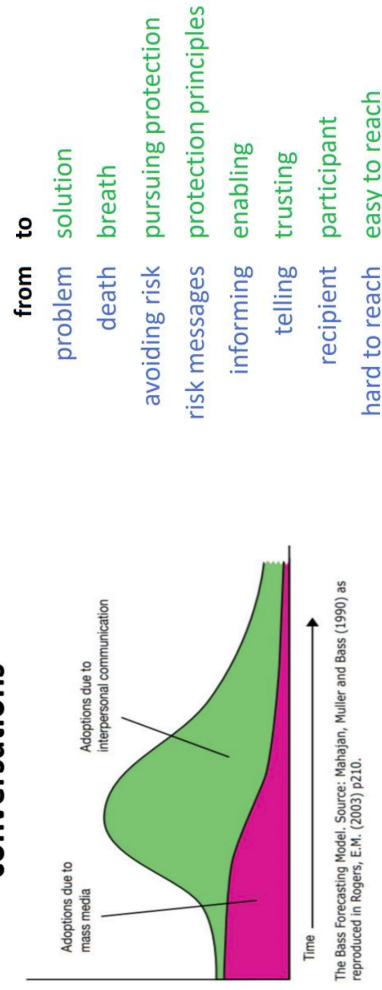
Parent education about safe sleeping & 'Rules of Protection'

### Role of the Family

Commitment: spread what they have learned about protecting babies as they sleep

## Importance of peer to peer conversations

## Use enabling language



The Bass Forecasting Model. Source: Mahajan, Muller and Bass (1990) as reproduced in Rogers, E.M. (2003) p210.

Rogers, E. M. (2003). *Diffusion of innovations*. New York: Free Press.

Cowan (2022) Different Thinking, Different Results. Cf



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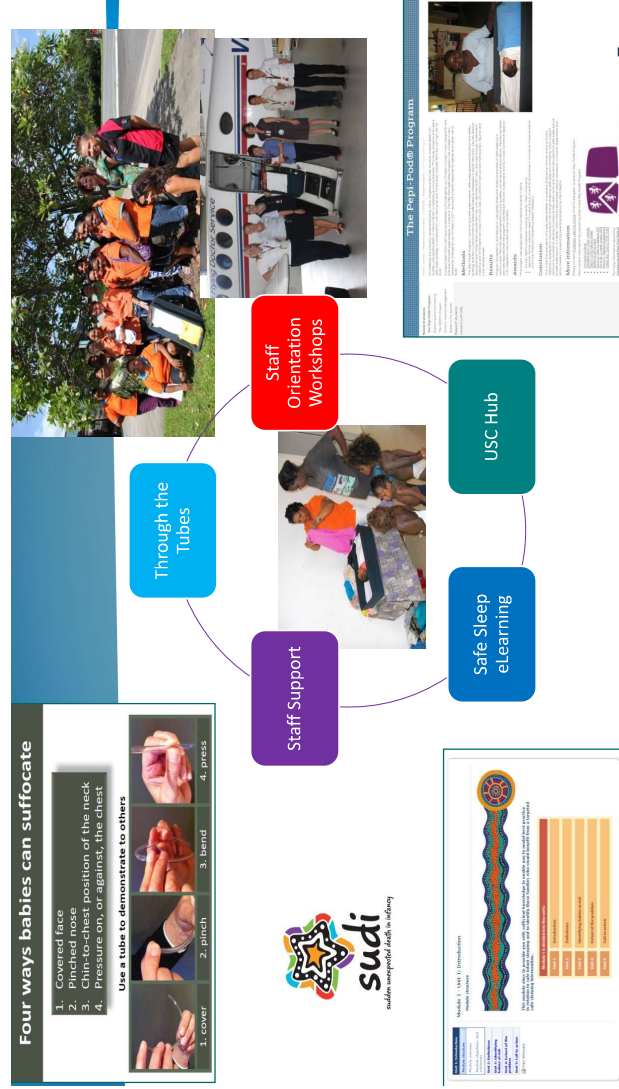
... compared to verbatim-based reasoning, **gist-based** reasoning is associated with **improved** judgment and decision making, and **increased** adoption of behaviors recommended to reduce health risks.

Middlemiss, Wendy, et al. "Crafting effective messages to enhance safe infant sleep." *Journal of the American Association of Nurse Practitioners* (2020).



The **gist** of the Pēpi-Pod® approach

Cowan (2022) Different Thinking, Different Results. Change for our Children



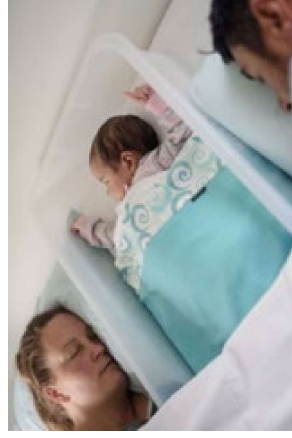




## Queensland Pēpi-Pod® Program Findings (2013-2018)



- Acceptable
- Feasible, Sustainable
- Safety established
  - Nil adverse events
  - 99% families recall Rules of Protection
- Convenience and Portability
- Reduced interaction – Smoking and shared sleeping 57%







## Measuring the Effectiveness of the Pēpi-Pod® Program in Reducing Infant Mortality in Queensland

Julie McEniery<sup>1</sup>, Jeanine Young<sup>1,2</sup>, Diane Cruice<sup>1</sup>, John Thompson<sup>2,3</sup>

<sup>1</sup>Queensland Paediatric Quality Council, Brisbane, Australia

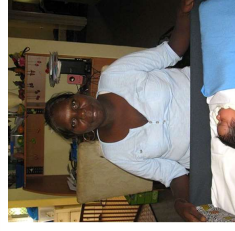
<sup>2</sup>University of the Sunshine Coast, Sippy Downs, Australia

<sup>3</sup>The University of Auckland, Auckland, New Zealand



### Pēpi-Pod® Program: Queensland

- Pēpi-Pod® Program successfully introduced as a staged research intervention targeted at high risk infants in selected communities in Queensland (Young et al <sup>2,3,4</sup>)
- Confirmed cultural, community, and individual acceptability feasibility and safety of the Program
- Not designed to detect mortality benefit
- Some communities have continued the Program post research
- New Zealand Pēpi-Pod® Program has demonstrated a temporal association with a reduction in infant mortality in New Zealand (Mitchell et al <sup>5</sup>)
- **Our research question: is this also true in Queensland?**



With permission, Jeanine Young

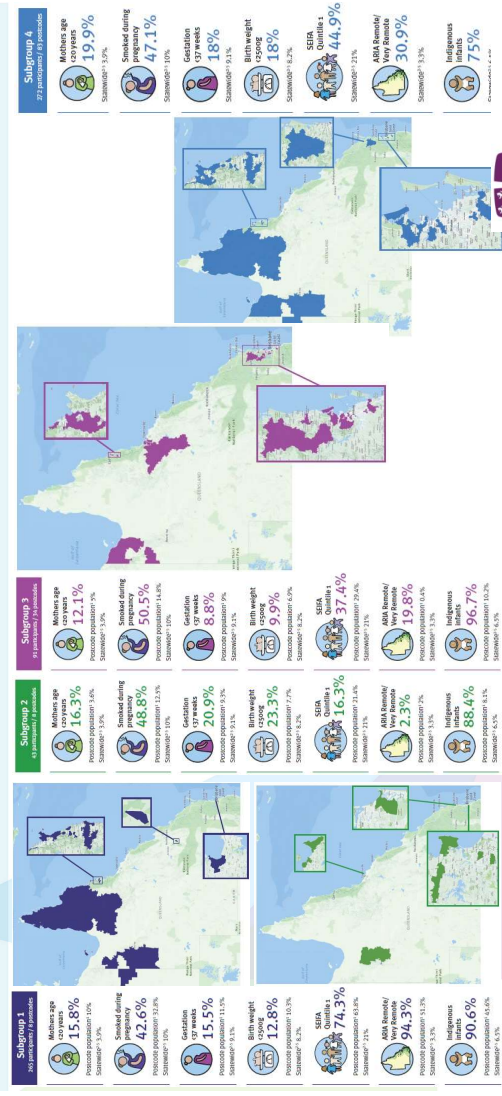
2. Young J, Craigie L, Hine H, et al. Safe Sleep Advice to Safe Sleep Action: Trial of an Innovative Safe Infant Sleep Enabler – The Pēpi-Pod® Program. *Women and Birth*. 2013;26  
3. Young J, Craigie L, Watson K, Kearney L, Cowan S, Barnes M. Safe Sleep, Every Sleep: Reducing Infant Deaths in Indigenous Communities. *Women and Birth*. 2015;28:531-2  
4. Young J, Craigie L, Cowan S, Kearney L, Watson K. Reducing risk for Aboriginal and Torres Strait Islander babies: trial of a safe sleep enabler to reduce the risk of sudden unexpected deaths in infancy in high risk environments. (The Queensland The Pēpi-Pod® Program). Final Research Project Report. University of the Sunshine Coast, Queensland  
5. Mitchell EA, Cowan S, Tipene-Leach D. The recent fall in post perinatal mortality in New Zealand and the Safe Sleep programme. *Acta Paediatrica*. 2016;105:1312-20

## Pēpi-Pod® Program Outcome Study

### Method

- Using research participant data (n=617) and linked Queensland population data
- Research locations were stratified into three subgroups based on
  - participation rate within each geographic location and
  - participant Indigeneity as a proportion of the location's Indigenous population
- Outcome was Study Infant Mortality Rate (IMR)
  - defined as all-cause post-neonatal infant mortality between 1–6 months of age
  - comparing outcomes within and between research location subgroups
  - and whole of Queensland Study IMR before and after the research intervention

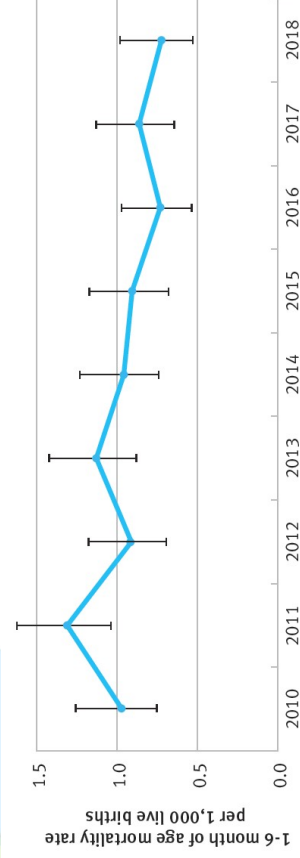
## Pēpi-Pod® Program Research Location Subgroups



## Pēpi-Pod® Program Outcome State Population



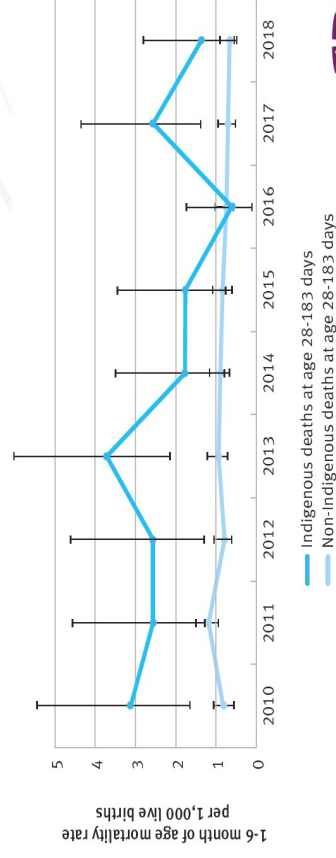
- Study IMR for the whole of Queensland fell steadily
  - Linear regression analysis shows a significant decrease of 0.048/1000 births per year ( $p=0.029$ )



## Pēpi-Pod® Program Outcome State Population



- Study IMR fall for Indigenous infants was more pronounced
  - Indigenous infants: a greater decrease of 0.215/1000 births per year smaller sample size, did not reach statistical significance ( $p=0.073$ )
  - Non-Indigenous infants: a lesser decrease of 0.038/1000 births per year, larger sample size, statistically significant ( $p=0.048$ )



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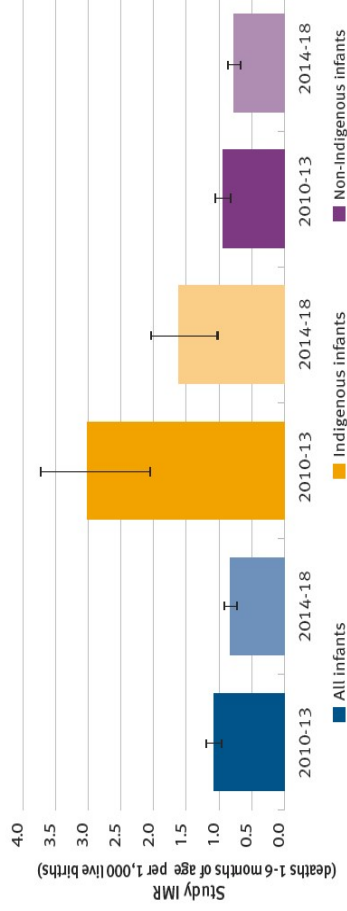
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## Pēpi-Pod® Program Outcome State Population



- Study IMR fell after the Pēpi-Pod® Program intervention
  - For the whole of Queensland Study Rate Ratio **0.78** [95%CI 0.65,0.92]  $p=0.004$
  - More for Indigenous Queensland infants RR **0.53** [CI 0.35,0.81]  $p=0.003$
  - Also for non-Indigenous infants RR **0.82** [CI 0.68,0.99]  $p=0.038$



## Pēpi-Pod® Program Queensland Outcome



- We hypothesise that the Pēpi-Pod® Program was responsible for this reduction in Study IMR, in
  - Subgroup 1 (highest rate of participation and participant Indigeneity)
  - Statewide infant population (all infants, Indigenous infants, non-Indigenous infants)
- The Pēpi-Pod® Program presents a practical and tangible strategy to reduce infant mortality experienced by priority populations



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# Publications



## Reports

YOUNG J, COWAN S, KEARNEY L, WATSON K, CRAIGIE L. (2020) A strategy to promote safe sleeping environments and reduce the risk of Sudden Unexpected Death in Infancy in Aboriginal and Torres Strait Islander communities. (ID: 99489008702621) Final Implementation Project Report for the Department of Child Safety, Youth and Women, Queensland Government, 2018. Available at <https://doi.org/10.25907/00011>

YOUNG J, CRAIGIE L, COWAN S, KEARNEY L, WATSON K. (2018) Reducing risk for Aboriginal and Torres Strait Islander babies: trial of a safe sleep enabler to reduce the risk of sudden unexpected deaths in infancy in high risk environments (The Queensland Pepi-Pod Program). Final Research Project Report. University of the Sunshine Coast, Sippy Downs, Queensland. DOI: <http://dx.doi.org/10.25907/5c6b462922760>

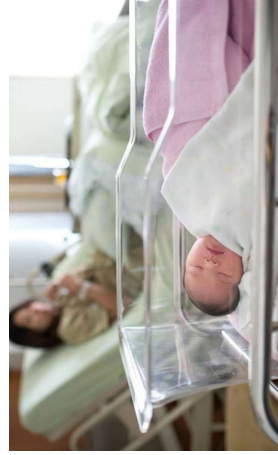
## Publications

YOUNG J, WATSON K, CRAIGIE L, NEVILLE J, HUNT J. (2019) Best practice principles for research with Aboriginal and Torres Strait Islander communities in action: Case study of a safe infant sleep strategy. Women and Birth 32(5): 460-465. doi:10.1016/j.wombi.2019.06.022.

YOUNG J, WATSON K, CRAIGIE L, COWAN S, KEARNEY L. (2017) Uniting cultural practices and safe sleep environments for vulnerable Indigenous Australian infants. Australian Nursing and Midwifery Journal. April 24(9): 37. [PMID: 29272090]



## Enabling Safe and Close Care in Postnatal Environments



Professor Jeanine Young, USC, Adj SCHHS  
Dr Lauren Kearney, USC & SCHHS  
Mrs Cheryl Rutherford, MUM, SCHHS  
Dr Kendall George, USC  
Mrs Stephanie Cowan, Change for our Children  
Mrs Jo Hoey, USC RM & RA  
Bryanna Martin, SCHHS RM



**Sunshine Coast**  
Hospital and Health Service  
Exceptional people. Exceptional healthcare.



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## ESCCaPE: Enabling Safe and Close Care in Postnatal Environments

Study Aim: To pilot two neonatal infant sleep spaces designed to promote closeness and safe sleeping in the postnatal environment within the SCCHS

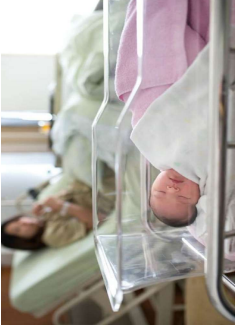
First Days Pepi-Pod



MaBim Side-Car Crib



Standard Cot



**Sunshine Coast  
Hospital and Health Service**  
Exceptional people. Exceptional healthcare.



## Acceptability of Portable Sleep Spaces

### MaBim

*Really helped me to settle baby when I was not doing skin to skin.  
(Primip)*

*Having had 3 babies via caesarean - made a huge difference - huge! Not stressing having to meet baby's needs, versatile, feel safer when I'm trying to manoeuvre it being able to adjust the height was important. (Multip)*

*C-section birth, the cot increased my independence to access and feed my baby as opposed to the standard cot (needing to get up and down) which was more challenging in first days. (Multip)*



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## Acceptability of Portable Sleep Spaces

### **Pépi-Pod**

*It has made my stay comfortable, and reduced the amount of pain caused by movement. Has helped me bond better with my baby [feel closer to baby]. Easy access when he was choking - safety of the baby is great in this cot.*

*Baby spent a lot of time skin to skin, or being held so having the pod in bed helped me not to have to get up each time to put baby back in cot e.g. when meals came, phone calls, having a hot drink.*

*When lying down during night, it was much easier to place my hand on baby when he would wake, and he would settle again.*

**Negative:** Not enough room in the hospital bed. Baby was comfortable in Pépi-pod, mother was not

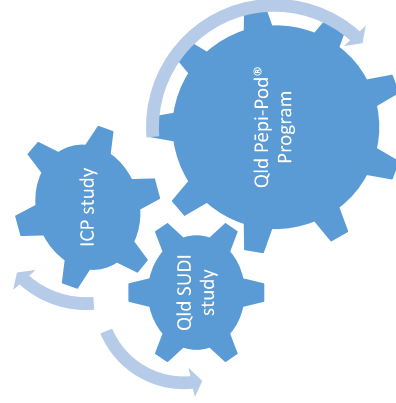
### **Standard Cot**

*Creates a barrier between mother and baby. Too high for mothers to get baby out of cot when she is in bed – having to get up and down all the time*

*Baby cried at night time when left in the cot, stopped crying when placed on my chest for sleeping*



## Moving a new strategy forward



## Sharing a Sleep Surface with a Baby

Before you share a sleep surface with your baby, consider whether you are happy it is safe for YOUR baby

### Red Nose supports a risk minimisation approach

Based on the best available research, Red Nose promotes a risk minimisation approach that helps to facilitate informed choice to suit a family's cultural beliefs and environmental circumstances.

In some circumstances parents have no option but to share a sleep surface with their baby because no other sleep surface is available.

Bed-sharing and co-sleeping is a common and culturally valued practice, and many babies are brought into bed to feed, settle, sleep or be more closely observed by their parents and care-givers. Most parents who co-sleep may not originally plan to share a sleep surface, but will

choose to do so as a night-time infant care strategy, most frequently to assist breastfeeding and increase parental sleep (84.1% reported by McKenna and Volpe 2007)<sup>44</sup>.

Parents may unintentionally fall asleep with their baby. McEwen and McIsaac (2015) reported that 51.8% of fathers with babies aged 0-6 years reported falling asleep while feeding, and were most likely to fall asleep if they were either exclusively or partially breastfeeding, and if lying down<sup>45</sup>. In all of the above circumstances, it is very important to give consideration to strategies to reduce risk in shared sleeping environments.



#### Strategies to reduce risk in a shared sleeping environment include:

- Place baby on the back to sleep (not on the tummy or side).
- Place the baby at the side of one parent - not in between two parents, as this would increase the risk of the baby becoming trapped between the parent and the wall.
- Make sure the mattress is clean

## ACM Position Statement on Bed-sharing & Co-sleeping

The ACM supports the facilitation of women and their families making informed choices in maternity and child care, including decisions about where their baby sleeps.

The ACM advocates a risk minimisation approach in which the individual family's circumstances are considered when providing advice about infant care practices parents will use in caring for their baby. The ACM believes that in ensuring the safety of babies, it is crucial to respect and support cultural norms and practices.

The ACM does not support a risk elimination approach in which all parents are informed not to bed-share or co-sleep with their baby under any circumstances.

<https://www.midwives.org.au/resources/acm-position-statement-co-sleeping-and-bed-sharing>

American Academy of  
Breastfeeding Medicine

Australian Breastfeeding Association

Lullaby Trust UK

The Beyond Sleep Training Project

UK National Institute of Clinical Excellence (NICE)

**UNIVERSAL NEED**

Ask about infant sleep plan  
Assess the level of risk  
Advise about benefits risks and safe sleep plan

**ADDITIONAL NEED**

Assist to identify, facilitate insight,  
supported conversation, follow up

**SIGNIFICANT NEED**

Arrange resources,  
appropriate services,  
continuity of care

Figure 4. Risk minimisation response model

[illegible]

- [illegible]



## What we have learned



- Parents want coherent and individualised services regarding infant sleep practices that allow them to have choice over their sleeping arrangements, which consider culture, social and family values
- A Risk minimisation approach (versus a never bedshare risk elimination approach) is more likely to engage families in conversations which will assist them to create safer sleep environments wherever baby sleeps
- Strengths-based approaches are key – partner with families who are experts on their baby
- Provide opportunities for transparent conversations (think about language used) and assist them to find solutions that work in their unique situation – one size does not fit all



jyoung4@usc.edu.au



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## Questions



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Rise, and shine.