Effectiveness of an innovative E-learning program

Supporting nurses and midwives in delivery & implementation of safe infant sleeping recommendations across acute and community settings

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Clinical Skills Development Service, Qld Health

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National CEO, SIDS and Kids
Objectives

- Provide an overview of the evidence and the contributing factors behind development of the E-Learning Program

- Relevant policy and public health recommendations

- Effectiveness of the E-learning program in positively impacting knowledge and knowledge application of safe infant sleeping
SIDS rates: Queensland & Australia
1981 - 2009

1985-2005: 83% reduction in SIDS deaths nationally
However SUDI deaths (include SIDS) 2007: 0.5/1000 live births Aus; Qld 0.8/1000 live births

• 2008-9 Qld not available
Increased SIDS & SUDI rate in Qld

RTR messages not received?

Nursing Knowledge, Attitudes & Practices

KAP deficits identified

Infant Wrapping Study: Nursing knowledge, attitudes & practices

Safe Sleeping Education Project

Posititional Plagiocephaly Project

On-line Safe Sleeping Education Program & Indigenous E-Learning module

Baby Help Indigenous Infant Illness Assessment

RTR messages not implemented?

Infant Care Practices Study

Suboptimal practices

SIDS&Kids public health messages

Parent information

SIDS&Kids Information Statements

SIDS&Kids & QH Indigenous Resources

Review of National Safe Sleeping Campaign

Baby Help Indigenous Infant Illness Assessment
Commission for Children and Young People and Child Guardian (Sept 2005)

3 key recommendations

1. Develop and implement a state-wide policy about safe sleeping practices
2. Develop a training package in relation to the policy
3. Develop culturally appropriate materials and communication strategies to convey SS messages to all parents, especially those of high risk

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Safe Sleeping Education Project (and Positional Plagiocephaly project)

Young, Williams, Colditz, Leung (2006-2007)

- National survey of SIDS and Kids member organisations
- Pre-test / post-test intervention design
- Survey and Audit tools
  Young & Schluter (2002) J of Neonatal, Paediatric & Child Health Nursing
- Methods – 3 phases:
  Phase 1: Pre-test survey & audit to benchmark KAP
  Phase 2: Educational intervention
  Phase 3: 6 weeks Post-test survey & audit
- Results: 102 paired staff responses – pretest and posttest
  100 postnatal & community child health observational & chart audits
Safe Sleeping Education Project
(& Positional Plagiocephaly project)

Key outcomes

• Intervention was effective in positively impacting knowledge, self reported and actual practices related to safe infant sleeping

• Considerable improvements are still required relating to
  - Risk factors for SUDI including SIDS
  - Current Safe Sleeping recommendations
  - Awareness of recommended sleep position for baby with reflux
  - Knowledge & attitudes relating to risk of aspiration
Policy and Guidelines relevant to all health professionals & volunteers working in Qld Health facilities:

6 Minimum Standards

- Sleep Position
- Parent / Carer education
- Role modelling
- Anti smoking
- Shared sleep environments
- Culturally specific & individual circumstances

November 2008, updated May 2012
Below is a list of e-learning programs supported by the Skills Development Centre.

Click on any of the above course listings to view a summary of their objectives or description. Course registration or login is available from these pages.

If you are a first-time user of these e-learning programs please register by clicking on new user when in the course description page.

- ACLS MCQ
- Child Safety
- Dysphagia
- Gait Analysis
- Incident Management
- Insertion of Chest Tubes
- Intravenous Needle Insertion
- MERT program
- Monitoring and assessment in Intensive Care
- Oxygen Therapy
- Paediatric Asthma
- Paediatric Diabetes
- Protocol Initiated X-Ray
- Neonatal Intensive Care
My Courses:
Click on one of the courses in the list below to access the content.

Safe Infant Sleeping
Programme Structure

The program comprises three modules and is accompanied by a suite of clinical teaching tools, case studies and a comprehensive reference list for clinicians and educators who seek additional reading and resource material.

Module 1 Sudden Infant Death

Learning objectives:

- Define Sudden Unexpected Deaths in Infancy and SIDS
- Describe the problem of sudden infant death in Australia
- Provide an overview of the evidence that underpins current best practice in prevention of SIDS and fatal sleeping accidents
- Explain the risk factors for SUDI and SIDS
- Describe the role of the health professional in promoting safe infant care practices

Module 2 Safe Sleeping

Learning objectives:

- Outline the three key modifiable risk factors for SUDI
- Explain key recommendations, and the supporting evidence, to address the three key modifiable risk factors
- Explore common reasons why parents may choose not to place their babies on their back to sleep and strategies to address these
- Describe essential elements of a hospital policy to promote safe sleeping

Module 3 Environment, behaviours and roles

Learning objectives:

- Explain SUDI risk factors that relate to infant sleeping environment, sleep locations, and infant care practices
- Describe safe and unsafe sleeping environments
- Provide evidence-based information about safe sleeping environments and infant care practices that reduce the risk of SUDI
- Develop participants ability to apply knowledge of evidence-based safe sleeping recommendations and infant care practices to tailor SUDI risk reduction strategies to individual family situations
Current Public Health Messages

These recommendations are strategies based on identified modifiable risk factors which health professionals can influence the most:

- Put baby on the back to sleep, from birth
- Sleep baby with face uncovered
- Cigarette smoke is bad for babies: Keep smokefree before and after birth

However, reviews of child deaths and studies of parental practices conducted in Queensland and elsewhere, have identified evidence that suggests that many parents and health professionals do not practice safe infant sleeping recommendations which may, in turn, contribute to current infant mortality rates.
Anatomy & Physiology Simplified

The diagrams above simplify the baby’s anatomy and physiology and may be useful tools to use when educating colleagues and parents about why the supine or back position is the safest sleep position for babies.

The movie and animation demonstrate the benefits of the supine sleep position for babies. This is explained below.

When placed on the tummy the oesophagus (food pipe) is higher than the airway allowing food and fluid to more easily enter the baby’s airway if the baby vomits or coughs.

Fluid in the airway increases the likelihood that the laryngeal chemoreceptors will be activated potentially leading to a lethal sequence of events.

When a baby is on the back the airway is located above the food pipe allowing gravity to draw food and fluid down and away from the airway; the baby is also able to use their protective swallowing and arousal mechanisms.
5. Which of the items below is NOT a current SIDS and Kids Safe Sleeping campaign message?

- a) Put baby on the back to sleep from birth.
- b) Sleep baby with face uncovered.
- c) Cigarette smoke is bad for babies: Keep smoke free before and after birth.
- d) Sleep baby on a separate sleeping surface in their own room for the first 12 months of life.

6. You are a community child health nurse and Debbie brings her second child, 5 month old Joshua, to see you because she is having trouble getting him to settle to sleep at night. Discussion elicits the information that Joshua is frequently placed on his tummy to sleep as Debbie says he settles better, and sleeps longer, in that position, particularly when he has a cold. His medical history shows that Joshua was born at 36 weeks and has had a series of mild respiratory illnesses recently; his immunisations are up to date and Debbie is breastfeeding.

What are Joshua’s risk factors for sudden infant death?

- a) Male gender, tummy (prone) sleeping, birth at <37 weeks, respiratory illnesses.
- b) Tummy (prone) sleeping, immunisation, birth at <37 weeks, male gender.
- c) Respiratory illnesses, male gender, restlessness at night, immunisation.
- d) Male gender, birth at <37 weeks, respiratory illnesses.

7. How do health professionals identify families at risk of sudden and unexpected infant death?

- a) Review all available information on the infant and family and identify risk factors.
- b) All families are at risk.
- c) All available information about the family is collected.
- d) Assessment of the infant’s medical history.

8. How do health professionals target safe sleeping education strategies to suit the individual family?
SUPINE IS SAFEST
There is overwhelming evidence that the supine position is safest for babies.
Sample

- E-learning program participants
- 22 month period: July 2010 – May 2012
- n= 4799 registrants
- n= 2023 completions
## Location

<table>
<thead>
<tr>
<th>Location</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>Queensland</td>
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<tr>
<td>Overseas</td>
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<tr>
<td>South Australia</td>
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<tr>
<td>NSW</td>
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<td>0.2</td>
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<tr>
<td>ACT</td>
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<tr>
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<td><strong>2023</strong></td>
<td><strong>100</strong></td>
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## Professional Background

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<tr>
<th>Professional Background</th>
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<tr>
<td>Nurse and/or Midwife</td>
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<tr>
<td>Student</td>
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<tr>
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<tr>
<td>Child Care Worker</td>
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<td>1.4</td>
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<tr>
<td>Medical</td>
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<td>0.6</td>
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<tr>
<td>SIDS &amp; Kids Employee</td>
<td>6</td>
<td>0.3</td>
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<tr>
<td>Parent</td>
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<td>0.3</td>
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<tr>
<td>Indigenous Health Worker</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>2023</strong></td>
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## Sector: Public, Private, NGO

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<tr>
<td>Public</td>
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<td>Private</td>
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<td>Interstate</td>
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<tr>
<td>Overseas</td>
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<td>Nongovernmental organisation (SIDS&amp;KIDS)</td>
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<td>0.3</td>
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<tr>
<td><strong>Total</strong></td>
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# Impact of program: Knowledge & Application of Knowledge

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<thead>
<tr>
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<th>Mean Pre-test % (SD)</th>
<th>Mean Post-test Average % (SD)</th>
<th>*p Value</th>
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<tbody>
<tr>
<td>All participants</td>
<td>69.5% (±13.12)</td>
<td>86.5% (±6.1)</td>
<td>&lt;0.0001</td>
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</table>

*Paired T-Test
# Knowledge & Knowledge application scores

## Nurses & Midwives Vs all other participants

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<tr>
<th></th>
<th>Mean Pre-test % (SD)</th>
<th>Mean Post-test Average % (SD)</th>
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</thead>
<tbody>
<tr>
<td>Nurses &amp; Midwives (n=1861)</td>
<td>69.9% (±12.9)</td>
<td>86.6% (±6.1)</td>
</tr>
<tr>
<td>All other participants (n=162)</td>
<td>64.8% (±15.1)</td>
<td>86.8% (±5.9)</td>
</tr>
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*p value 0.02 0.54

*Independent T-Test
# Knowledge & Knowledge application scores

**Public Vs Private Sector (n=1982)**

<table>
<thead>
<tr>
<th></th>
<th>Mean Pre-test % (SD)</th>
<th>Mean Post-test Average % (SD)</th>
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</thead>
<tbody>
<tr>
<td><strong>Public (n=1857)</strong></td>
<td>69.9% (±12.7)</td>
<td>86.6% (±6.1)</td>
</tr>
<tr>
<td><strong>Private (n=125)</strong></td>
<td>64% (±16.9)</td>
<td>86.9% (±6.3)</td>
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*p value 0.004 0.41

*Independent T-Test
Summary of Key Outcomes

• Nurses and midwives and public sector – higher baseline knowledge

• E-learning program was effective in positively and consistently impacting knowledge and knowledge application in all participants related to
  – classification of infant death
  – risk factors for sudden unexpected deaths in infancy, including SIDS and fatal sleeping accidents, related to safe infant sleeping
  – evidence relating to safe sleeping public health recommendations
    – Infant care practices & parent advice
Collaborations

- Queensland Health: Maternity Child Health & Safety Branch
- SIDS & Kids National & Qld
- SIDS & Kids National Scientific Advisory Group & collegial network
- Multidisciplinary network
- Qld Aboriginal and Torres Strait Islander Advisory Group
- Commission for Children & Young People & Child Guardian
- Royal Children’s Hospital
- Royal Brisbane & Women’s Hospital
- QH Skills Development Centre
- Tertiary sector: University of Qld & University of Auckland
- Designers and Illustrators
Completion of modules

- Issued with a certificate/notification of completion
- Access to lariat card template
- Access to teaching resources (if scoring over 85%)
- Information is downloaded to a database so we will be able to provide feedback to Districts of registration, participation, completion.
- RCNA awarded 5 CEP Points
- ACM awarded 5 MIDPLUS points
- Submitted to RACGP & RANZCOG
- May 2012: 2023 completions; 4799 registrants
Module 1 - Unit 1: Introduction

Module structure

This module aims to provide you with sufficient knowledge to enable you to model best practice in relation to safe infant sleeping and to identify those families who would benefit from a targeted safe sleeping intervention.

<table>
<thead>
<tr>
<th>Module 1 is divided into five units:</th>
</tr>
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<tbody>
<tr>
<td>Unit 1</td>
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<td>Unit 4</td>
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<td>Unit 5</td>
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</tbody>
</table>
JEANS FOR GENES DAY
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www.jeansforgenes.org.au Freecall 1800 GENIES (436 437)
Management a barrier to baby friendly healthcare

Lack of funding, limited top level support and a lack of sufficient staff and mentor education about the importance of breastfeeding were identified as significant barriers in overcoming such stigmatisation.

The staff's understanding and personal views are often discordant with BFHI criteria, says Ana Walsh, PhD candidate from UniSA's school of nursing and midwifery.

"Ultimately, it seems that the BFHI is valued by those who see it and misunderstood by those who don't," she said.

"Many respondents believed that the accreditation process itself was too difficult in their current hospital environment, taking time away from hospital business, and of little value and a lack of specific policies that promote breastfeeding within the hospital.

Lack of support of breastfeeding once the mothers were out of the hospital environment - through the need to return to work and a hectic work culture within the community, was also questioned.

BFHI accreditation will have positive outcomes for mothers, infants and community staff and that understanding the barriers to its implementation is an important step forward," Walsh said.

"Implementation requires a conscious understanding of the BFHI principles by all health staff and dissemination of this information into the community."

The delivery man

With less than one per cent of practising midwives in Australia are male, those few who take on the role tend to turn heads. Danny Ruspandini reports.

When Jason Whibleed registered as only the 52nd male midwife in the UK, never did he think the job involved delivering babies without his trousers on.

As a scene-to-be mother lay on a mattress on the floor of her home, Whibleed stood to the side as part of a support staff in his first case of obstetrics.

"I registered to become a male midwife and was the only number 52 on the UK list."

In the UK, and increasingly now in Australia, midwifery is used as a stepping stone into other areas such as the Flying Doctor service, says Whibleed. Those already trained in intensive care simply 'add' the midwifery sector to their resumes.

ACM Calendar Jan 2012

Australian College of Midwives Year Planner 2012
Summary

Sudden unexpected infant death remains a problem

Target knowledge, attitudes and practices of all health professionals

Safe Sleeping Education Program

Promotion of appropriate modelling of health behaviours and evidence based parent education