Creating Change: How Knowledge Translates into Action for Protecting Babies from Sudden Infant Death?

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Abstract: We know how to protect babies from sudden infant death syndrome (SIDS) and have had considerable success in doing so. Yet babies continue to die in non-supine positions, unsafe sleeping environments and exposed to smoking. Why? Understanding what underpins the success to date is essential to the design of strategies for the final stage of prevention. This paper reviews influences on changing SIDS mortality, describes the practice of creating change as it relates to protecting babies from sudden infant death, and presents three principles that emerge from the success to date to focus the design of research and intervention programmes for ending the SIDS story.

Keywords: Sudden infant death syndrome, prevention, smoking, bed sharing, sleep position, appreciative inquiry, innovation diffusion.

INTRODUCTION

Sudden infant death syndrome (SIDS) is now considered preventable [1]. However, uptake of the safety advice has been variable between groups, across the recommended behaviours, and over time, so that the success of prevention has not been equitable [2]. In New Zealand death is more likely for Maori than non-Maori babies, exposure to smoking is more prevalent than exposure to prone sleeping, and the rate of decline in deaths has slowed considerably [3]. Such variations hold clues for prevention. It is reasonable to assume that parents want the best for their babies so why would some seem to act in ways that endanger their babies' lives? The work of education remains unfinished while babies continue to die with known risks operating. Understanding the changing nature of the prevention success to date is important to the design of strategies for the final stage.

This paper reviews the influences on SIDS mortality and the practice of creating change from an education perspective. Using the New Zealand experience, it outlines three phases in the SIDS prevention process, identifies key factors acting as bridges or barriers to change, gives practical examples of responses made and planned, and presents principles for guiding the design of new initiatives to eliminate SIDS completely.

CREATING CHANGE

The Place of Knowledge

Knowledge does not guarantee behaviour change. It is an important component of change, but in some situations, for some people and with some practices, knowing the SIDS risks has not been enough to safeguard babies. While knowing to avoid sleeping babies prone may have got the SIDS change started, other influences have helped continue it and new influences will be needed to complete it.

Similarly, the translation of knowledge into action does not guarantee health change. It is an essential precursor, but effectiveness also depends on the protective influence of a recommended action. As risk factors vary in the strength of their association with SIDS, so too will the impact on prevention of action to avoid them. Effort is maximised when the focus is held on achieving high uptake of those practices with the greatest power to protect.

Creating change requires two kinds of knowledge; the scientific kind which is the content of prevention education, and the qualitative kind to guide its process. It is important, therefore, to consider both kinds when designing strategies and programmes. Science has identified a triple response to the SIDS threat: sleep babies face-up, maintain a clear face, and ensure babies are smokefree. This is content.

On the other hand, qualitative evidence provides context for understanding the social realities of people that may act as bridges or barriers to action on SIDS recommendations. Such insights are a check against studies and interventions being based on simplistic thinking or faulty assumptions.

For both kinds of knowledge, the enquiry approach makes a difference to what is learned. An appreciative approach, as described later in this article, searches for the strengths of a person, system, intervention or community and uses this knowledge as the evidence basis for creating more positive change. Such an approach has been used for this review.

Personal Behaviour Change

Established scientific knowledge is the core of prevention while its translation into action at the interpersonal level needs to be responsive to diverse situations. That translation, whether written or verbal, must exchange academic purity for pragmatic realism. It must present knowledge in a practical, personal and irresistible form that engages people

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1573-3963/10 $55.00+.00

in conversations that fit with, and empower, their lives. SIDS information needs to make sense to people. Translation hasn't happened until a person understands and is enabled to take action. For a parent, it is not the specifics of study findings that need to be translated, but their potential to protect a child. This process requires freedom to shape, integrate, focus, place emphasis, in order to facilitate individual understanding.

Interpersonal communication is where people talk and translation happens. The skills of open questioning, reflective listening and purposeful summarising are the translation devices. They may be well-known, but are they well-practiced? The tipping point for changing smoking, for example, may come from subtle changes to how a question is asked, what is done with the answer, who offers the information, how it is phrased or presented, its specificity and focus, or how support is offered. Changing the question inevitably changes the answer. Asking, "Are you smokefree?" "Would you like to be?" leads to a very different conversation from asking "Are you a smoker?" "Do you know you should quit?" Following on with, "When are you already smokefree and what supports you to be so?" leads to a very different action plan from following on with "When do you smoke and what are the triggers?"

Behaviour change is not something we do to others. It is something we do ourselves which in turn may influence others. What motivates action or inaction is complex, for people are relational beings. Information is filtered for its meaning and relevance through a personal view of the world that reflects social, cultural and educational values and experiences.

Learning happens across four domains of behaviour, and as the examples that follow show, all must be considered in research and intervention design. The four domains are: cognitive (what we know), emotional (what we feel), spiritual (what we believe) and physical (what we do).

- A pregnant woman may know that smoking leads to a small baby, but she feels frightened about the pain of childbirth and believes that a small baby will come out more easily so she continues to smoke.
- Her midwife may know that smoking is the number one preventable risk factor for adverse pregnancy outcomes, but she feels reluctant to raise the issue and provoke resistance; believes smoking is a social issue and not really her business so she says nothing.
- The baby's father may know that 'back is best', but he feels concerned about flat heads and believes they are caused by sleeping on the back so he puts his baby down to sleep on the front as his mother used to do for him.
- Parents may know that bed sharing is unsafe for their baby because they smoke, but they feel exhausted from not enough sleep and believe their baby will settle quickly snuggled up with them so they bed share anyway, as is common in their culture.

If beliefs, concerns and contexts such as these stay hidden, the opportunity for protecting babies may be lost.

Environmental Change

For change to be sustained over time, SIDS prevention strategies must be designed to influence environments as well as behaviours. The sense of importance a parent attaches to safety advice may be weakened if, for example, doctors are vague with women about the essential nature of a smokefree pregnancy, hospitals ambivalent about modelling back positioning for newborns, and communities complacent about infant vulnerability during sleep.

A key element of creating change is to remove the cues that serve to undermine safety information and invite risk behaviour, and replace them with a system of cues that serve to promote safety. In practical terms this means to make it normal for people to be asked about smoking and supported to be smokefree, normal to be stepped through an infant safe sleep check for ensuring protection, normal for neonatologists to ensure babies sleep supine before discharge (unless monitored) [4], normal to see images in magazines and shop displays of safe sleeping environments and normal for peers to be confident about what is essential to safety when a baby sleeps.

Normalising optimal practices in health services requires systems-level change. It requires going beyond 'the champion' and creating accountable practice environments. This means embedding expectations into all aspects of a service, both management and clinical, for example: into policy development, role descriptions, professional development schedules and reporting requirements. Implementation then needs to be monitored and regular feedback on individual and service performance provided. For example, a hospital or service that provides a powerful context of support for promoting infant health and survival is one that:

- has a written policy stating its commitment to protecting babies from sudden infant death?
- integrates infant safety education into new staff induction and professional update programmes
- screens for smoking early in pregnancy
- provides referral to a smokefree service
- discusses smoking at every antenatal visit
- documents actions undertaken
- models supine sleeping for newborns
- provides side-car cots for co-sleeping in hospital
- provides intensive one on one support through a complete breastfeeding session
- practices skin-to-skin bonding within safety guidelines
- assesses infant resilience against established risk factors
- steps families through a safe sleep check as part of discharge
- makes follow-up contact at two weeks to reinforce sleep safety
- reports on smokefree status to its governors.

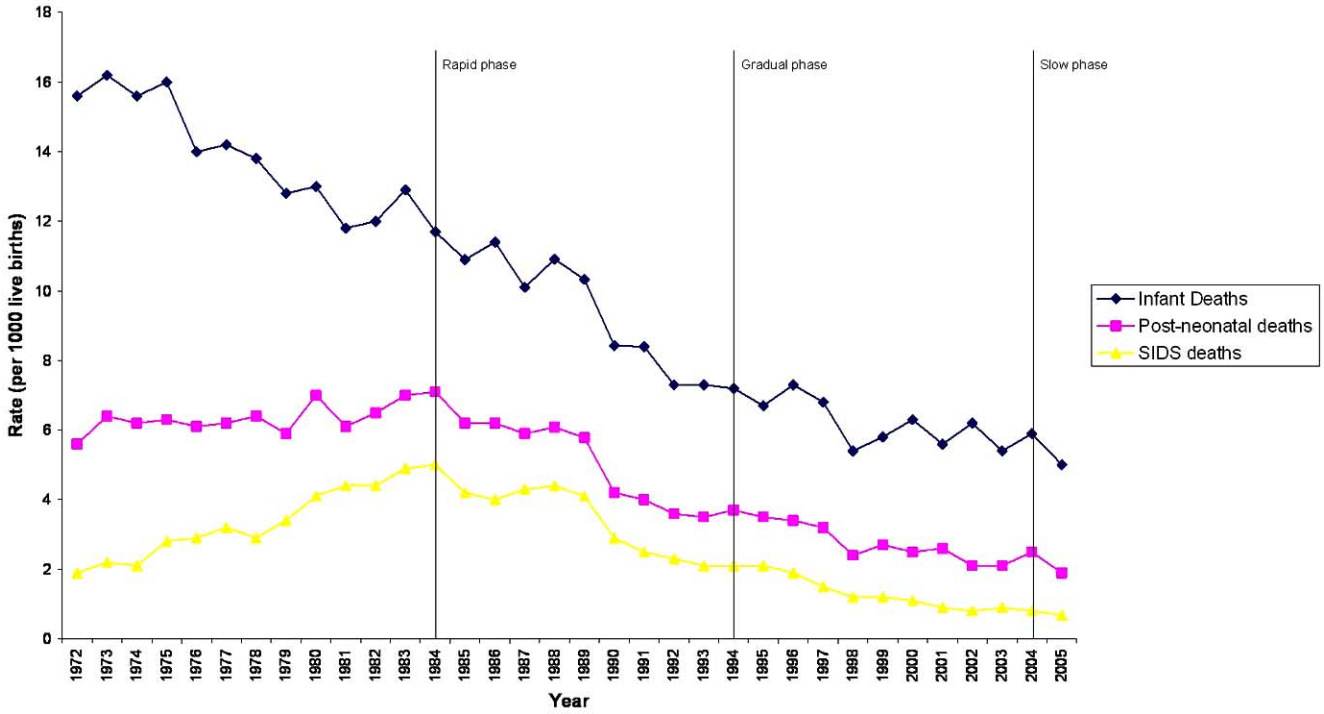

Fig. (1). New Zealand infant, postneonatal, and SIDS mortality per 1000 live births (1980-2008).

PREVENTION PHASES

The work of SIDS prevention is to find and take the steps that move us from established evidence to protected babies, and to remove or circumvent whatever is in the way. In New Zealand we are 80% along that path. Fig. (**1**) tracks our changing rates of infant deaths. The SIDS decline has occurred in three phases: rapid at first, becoming gradual and now slow. Much of the early change happened before organised prevention was in place. Understanding what supported the seemingly-effortless early change, why organised prevention had only modest impact by comparison, and what has brought SIDS prevention almost to a standstill is important to creating the change needed now. Features of each phase are summarised on Table (**1**).

Rapid Change (1984-1994)

The starting context for the phase of rapid change was high SIDS incidence (5.0 per 1000 live births), high community and professional concern, high parental anxiety, and no confirmed way to protect babies from SIDS. SIDS parent groups were many, strong and active at the local level. Also, awareness of the prone sleeping risk was emerging. The community was primed and ready for action as the response to initial education and subsequent publicity campaigns showed, but, in 1984, scientific evidence was still six years away.

The first coordinated prevention education for professionals and parents was launched in Canterbury by the local Cot Death Society in May 1987 [5]. Its central message was

Table 1. Characteristics of the Three Phases of the Changing Rates of SIDS in New Zealand

	Phase 1	Phase 2	Phase 3
Prevention pace	Rapid	Gradual	Slow
Participation mode	Leadership	Partnership	Ownership
Dominant expertise	Scientific	Professional	Local
Dominant Methods	Awareness campaigns	Education programmes	Innovations
Target audience	Parents	Professionals	Vulnerable groups
Engagement process	Knowledge based	Systems focus	Shared vision
Communicators	Researchers	Professionals	Peers and elders
Approach	Telling	Advising	Trusting
Strategy	Reduce risks	Increase protection	Pursue protection
Confidence in advice	High	Moderate	Low
Behavioural change	To non-prone	To face-up, face clear	To smokefree
Costs to uptake	Low	Moderate	High
Supported by	Knowing	Believing	Enabling
Education purpose	To inform	To reform	To transform

"Cot Death, you cannot predict it, you cannot prevent it, and you can reduce risks". Distributed material promoted side sleeping, a clear face and avoiding all smoking as well as general infant health information. It was distributed through pharmacies, general practices and child health nurses. A major goal of the education was to refocus parental anxiety towards reducing possible risks and maximising infant health, until more was known. The initial release made national television, requests came from across the country, immediate reprinting was required, and from 1988, the material and its revisions were provided nationally.

Education was strengthened in September 1989 by the first of eight annual Red Nose Day campaigns. A clear focus on positioning developed in 1990 with the screening of a promotional advertisement on national television showing a hospital midwife placing a newborn baby on the side to sleep and advising parents to avoid sleeping babies prone. Mortality review committees were established in this period, the New Zealand Cot Death Study was undertaken, initial findings were released and a national prevention programme was launched in 1991. Attention on the issue was high at all levels.

It is simplistic to credit a single influence with an education effect. What can be inferred from principle is that the combination of strong context, (primed public, community action, emerging evidence), extensive reach (prepared health professionals, influential communicators, use of television) and acceptable message (new information, supported by grandparents, easy to adopt) resulted in the prone to side change and tumbling death rates in this phase. During the next three years, the rate of decline slowed despite repeated Red Nose Day campaigns and the integration of prevention work into health services. Campaigns and the prone-to-side change were no longer enough to maintain the pace of reducing SIDS mortality of this early phase.

Gradual Change (1994-2004)

The phase of gradual change in New Zealand started with confirmed risk factors, prone sleeping much reduced, new health-funded SIDS education services, including a Maori-specific service, hospitals modeling side sleeping for newborns and SIDS rates at 2.1/1000 live births. (A regional Pacific service was also introduced later.) However, the changing death rates had set in motion a cascade of other changes including changes to the profile of the SIDS baby, status of risk factors and acceptability of messages [6].

New risks emerged from further studies, all vying for their place in prevention programmes. Side sleeping, for example, became a risk factor, relative to the back, but there was low trust in the back position and it was confusing for people that the very practice that had saved so many lives (side sleeping) was now to be treated as unsafe. Breastfeeding came and went as a main SIDS message, and the bed sharing message, added as a risk in 1992, was modified the following year to 'mainly when associated with maternal smoking' [7]. Heavy reliance on information strategies that had worked so well for the prone-to-side change left professionals unsupported for addressing the next behavioural challenge, smoking in pregnancy.

The unity of effort, so much a mark of the early change, gave way to divisiveness as controversy raged over bed sharing and dummies. It did not make sense to people that if breastfeeding protected against SIDS, how could one practice (bed sharing) understood to support breastfeeding, increase the SIDS risk and another (use of dummies) understood to undermine breastfeeding, help prevent SIDS. Fears amongst professionals and the public that babies may choke or get flat heads from sleeping on their backs slowed the side-to-back positioning change in hospitals and homes. Through much of this time the SIDS and toxic gas controversy was playing out in the media, and the health system was restructured several times. The context had changed.

Actions taken during this turbulent time focused attention on maternity and child health professionals and environments, and Maori-specific and Pacific-specific prevention embraced a community development approach. Throughout this period professionals were supported with bi-annual 'SIDS Talk' bulletins [8] designed to align readers with changing knowledge, foster understanding, bring balance to controversy, link networks, engage commitment, and promote success. Training programmes and personalised services for addressing smoking in pregnancy were started and grew into independent multi-centre health contracts from 2000. Information leaflets for parents were frequently modified and from 2000 were presented issue by issue (positioning, head shape, bed sharing and smoking) and included a summary 'cot card' for placement in newborn cots in hospitals.

Materials were deliberately written as 'ready access updates' for busy health professionals to support them to shape their discussion with families. As such, SIDS leaflets acted as a cost-effective system for aligning knowledge, focusing discussion, fostering understanding and supporting action. Maori resources, produced in 1996, presented prevention information based on respected cultural concepts, proverbs and practices. Breastfeeding and bed sharing were upheld as cultural practices, smoking as an introduced one. The promotional strategy was 'increasing protection' rather than 'reducing risks' as the key message and leaflet title "Give your baby the best start in life" showed.

In 1998, an infant positioning project was initiated following the concerning results of the first national audit of hospital practice (described below). In 2001 a national safe bed sharing project was implemented, informed by feedback from a survey (unpublished) involving 68 coroners across the country. A team of 18 hospital and community health workers were prepared to deliver education sessions in their settings. The aim was to raise awareness of asphyxia risks and the importance of a clear face for babies as they slept, wherever they slept.

Success in this gradual phase of change was more in preparing the environment to be able to support the side-to-back, face clear and smokefree change needed to continue the reduction in SIDS.

Slow Change (2004-Present)

The phase of slow change started with the lowest ever SIDS rates, but rising rates of accidental asphyxia deaths.

Considered together as sudden unexpected deaths in infancy (SUDI), the death rate was 1.2 per 1000 live births. The inequality gap was widening due to variations in the prevalence of smoking and bed sharing, with the highest prevalence of both practices in Maori communities. It was clear where prevention needed to focus in a behavioral, environmental and social sense.

There was growing attention being given by coroners and the media to deaths related to bed sharing. The bed sharing controversy continued and was heightened in 2007 following promotion by the Ministry of Health of the evidence for a small increase in SIDS risk for young babies of smokefree mothers. This amounted to a strategy change from a targeted to a universal ban on bed sharing which was hotly resisted. Added to these polarised discussions has been the selective and high profile reporting by some coroners of the co-sleeping arrangements of SUDI babies, without mention of smoking, or other factors, to complete the risk profile and give the reported information meaning. The co-sleeping controversy has distorted the early prevention effort in this prevention phase, diverting energy away from addressing major risks for more vulnerable babies and towards debating the possible small increase in risk for less vulnerable babies.

With this as a starting context, education activities from the previous phase continued with their multi-level approach to supporting personal, professional and environmental change, but the need to move on from controversy and align action to a shared vision was now paramount. During 2009, a Safe Sleep programme was designed to provide that vision and is now the major thrust of current prevention work. The vision is: safe sleep for every baby (to address inequalities), in every place (to address all unsafe settings) and at every sleep (to address the relationship between infant development and changing risk factors and the 'unusual that night' scenarios).

The emphasis now is less on advice messages and more on enabling strategies, less on traditional approaches and more on creative ones, less on controlled authorities more on trusted autonomy. The vulnerable stage of development is presented as a baby's first 1000 sleeps. Information is being presented as essential safety principles. Parents are being supported to use these principles to create safe sleep for their babies wherever they may sleep, to understand safety as a context of influences rather than a single influence, and to be watchful about 'what may change' during the sleep period.

Interventions are now being designed for creating cultural change. Innovative approaches are responding to the urgent need to protect babies most at risk and are seeking broad participation across different social systems as the following examples show.

- Beginning with hospitals, in October 2004 a new staff induction resource and associated training were developed to support a cultural change in maternity settings for promoting infant safety.
- In October 2005, a national smokefree pregnancy forum was held and attended by a multidisciplinary group of high level health leaders. Recommendations from their discussions have helped shape the culture of health policy and been the framework for strategic action on the issue since then [9].
- In May 2006, a national network of neonatal nurses was prepared with training and materials to integrate safe sleep practices into the culture of NICU care.
- The Maori-led 'Wahakura' project is winning support as a way to change the culture of antenatal care for Maori. Wahakura means 'holder of what is precious' and is a dedicated sleeping space for babies woven from flax. While its physical purpose is to protect vulnerable babies when sleeping in and out of the adult bed, the wahakura comes with rules of use and discussion with elders about health, safety and wellbeing in a broader and culturally relevant sense.
- From 2009, Safe Sleep champions are spreading across the country to provide visible leadership and bring more people to education. An online version of an infant safety education programme, 'Baby Essentials' [10], with a summary version in twenty languages, is tracking participation and able to focus promotion where it is most needed.

In these ways and others, the safe sleep vision is pulling large numbers of people from across New Zealand society into conversations about protecting babies' lives.

BRIDGES AND BARRIERS

Creating change is a strategic act. It requires people to be vigilant about factors that act either as bridges or barriers to the uptake of recommendations. Interventions need to be designed and implemented with consideration for these influences so as to maximise support, minimise challenge and streamline the prevention process. Factors can be subtle as are those found in attitudes, language and thinking, or more obvious as are those found in policies, systems and resourcing. Below are three examples of important influences that have both supported and challenged SIDS prevention efforts to date.

Knowledge

Knowledge needs to have impact, be remembered and appeal to people, if it is to contribute to change. While scientific evidence that is causally related to an issue acts most directly as a bridge to prevention, how that knowledge is presented to and accepted by people may act as a barrier. New information in the first phase of change was clear and simple, 'don't sleep prone'. It had impact from being new, clear, powerfully promoted, easy to change and with a high perceived benefit from doing so.

Much attention since has been given to deciding, formulating and communicating advice messages for parents that best reflected the accuracy of the scientific information as it has developed. The rush to share new findings is understandable given the high stakes, but people become confused by multiple messages, changing messages and prolonged controversy. Impact is lost. It is likely that the preference for reporting new evidence over crafting strategy from what was well established has been a barrier that has contributed to the slowing of the SIDS change.

Presenting SIDS information as safety principles ('face-up, face clear, smokefree' and 'in own bed' if more vulne-

rable) gets around the changing nature of knowledge. Principles stand the test of time. Principle-based education is evidence-based practice that allows for empathy in the translation of knowledge and enables fit with people's lives. Promoting essential principles of care has been a mechanism for moving beyond controversy and unifying the current prevention effort in New Zealand.

Perceptions of Value

Behaviours are valued differently by people. Change can cost. People become attached to how they live their lives and may perceive a loss in thinking or acting differently. Smoking, for example, is addictive. Changing it carries a high perceived cost from nicotine withdrawal that acts as a barrier to smokefree change. Likewise, bed sharing has a high value for many people, including babies, whether it is practiced as a cultural norm, a solution to being exhausted, or as a loving response to a baby's need for comfort or breastfeeding.

There is more at stake for a person in changing smoking or avoiding bed sharing than there is in a prone-to-side change of sleeping position or a feet-to-foot placement in the cot. The latter are simple discrete behaviours whereas the former are complex sets of behaviours that are not well understood. Prevention expectations need to be matched to the perceived value of a recommended action by an individual or group, and to its relative complexity.

There is also likely to be more at stake for some parents from avoiding bed sharing than from changing smoking. Babies have a view on how they want to be comforted and are active participants in the decision. Yet, the most common recommendation in the literature is 'Don't bed share if you smoke' and not 'Don't smoke (in pregnancy) if you intend to bed share'. These are the behaviours most influencing SIDS and are areas where researchers and interventionists may need to test their base assumptions.

Faulty assumptions about the value to a person, system or community of a practice or enabler, will undermine research or interventions based on those assumptions and block potential for change in that practice, or, in the use of that enabler. When a valued behaviour is in conflict with what is safe for a baby, cost-benefit discussions need to be had, barriers in understandings overcome, and enablers found. Nicotine replacement products and personalised support are options for enabling smokefree change. Innovations such as side-car cots, co-sleepers (protected spaces for babies in adult beds) and cot loan schemes are options being explored to address bed sharing concerns for more vulnerable babies.

Context

Change happens in context. Just as graffiti invite crime, so, too, environmental signals can support or undermine SIDS prevention. Group behaviour is especially influential, but so is imagery, language and an influential role model. For example, seeing very vulnerable babies placed prone by trusted staff in neonatal intensive care units may play down for parents the high importance of supine sleeping for premature and low birth weight babies, once home. Having a popular best friend who stopped smoking when she became pregnant may strengthen the appeal of nicotine replacement support offered by a midwife.

Contexts that influence perceptions of importance and confidence also influence change. Language can tip the balance. Language that creates images of hope and possibility is likely to encourage talk of change. When talk is about 'pursuing protection' rather than 'reducing risk', of 'confidence in the gagging reflex' rather than 'fear of choking', of 'becoming more smokefree' rather than 'smoking less', then the context of the discussion is changed. Groups at highest risk for SIDS live in social and family environments where the signals inviting protective practices may be weak, but signals are there. An essential part of a SIDS prevention strategy is to expect the highest standards of support for recommended practice in mainstream settings, and to grow the networks of positive influence within more vulnerable contexts and communities.

EXAMPLES OF EDUCATIONAL RESPONSES

SIDS is a pediatric problem with a largely educational solution. Creating change needs to be designed into education using appropriate methodologies and evaluation methods. Using the framework of programme logic [11] (need, action, impact, outcome) the examples below briefly describe how SIDS related change was set in motion at four levels within a New Zealand context. The logic is that if actions link to need and impact can be described, a contributing effect on outcome can be implied.

Personal Change

Providing personal support to address smoking in pregnancy is intensive and, therefore, expensive at a population level. Knowledge of risk does not, on its own, lead to change.

The 'Just Imagine' project [12] responded to the need for a cost-effective intervention with broad reach, which presented knowledge about smoking in pregnancy within a personalised context using influential communicators. The project took the form of a booklet of eleven stories of becoming smokefree in pregnancy of people who had participated in a smokefree support programme. Stories were transcribed from taped interviews with contributors from a variety of cultures, and included men. They were presented with photographs of story tellers, were told in people's own words and were offered for distribution through midwives.

The booklet had high impact on acceptability to midwives for use with families as comments provided on request forms show e.g. "Fantastically inspiring stories that have encouraged me to approach change with my smoking clients when in the past I have given up at their first resistance". The limited supply of 10000 copies was exhausted between November 2008 and March 2009. A Maori midwife wrote of how the booklet engaged a previously resistant 16 year old Maori client from a large family most of whose members smoked. Having noted the young woman's interest in reading information and then wanting to discuss it, the midwife offered the booklet as a different approach to raising the issue, but said nothing. At the next visit the young woman raised the topic herself, her resistance was gone and a planned and positive approach to smokefree change followed as this comment reveals, "Miss A could not wait to

see me in regards to being smokefree and would marvel at her progress".

Professional Change

A national survey of pregnancy care professionals in 1999 identified low confidence to address smoking in pregnancy, despite high rates (33%) at that time. While most asked about smoking and advised on risks, 45% of 811 respondents indicated that '*knowing the risks, but not knowing how to influence change'* was the main difficulty faced [13].

'Partners in Change' was designed as an educational response for midwives and has been funded by the Ministry of Health since 2000. It is provided as a joint venture with midwifery organisations and takes the form of one day specialist-facilitated courses across the country, supplemented by two-hour peer-facilitated workshops to extend reach and foster ownership. 'Support' and 'change' are presented as a partnership to base the programme within the practice philosophy of midwifery. The education defines a support role to match the change process so that midwives identify resistant, ambivalent or ready responses and pitch their conversations appropriately. Content includes the evidence basis for why action is needed, an understanding of behaviour change, skill practice in questioning and listening, and a demonstration live interview with smoking pregnant women to give credibility to the approach. Time is spent practicing 'using two minutes' to direct the education towards immediate implementation, with the support of picture cards to focus and shape discussions. Reflective case studies of midwives' experiences in applying learning are a certification requirement and strength-based written feedback is provided on their work. Case studies act as a mechanism for assessing impact on learning as well as impact on midwives' practice.

The programme has been active for nine years, involved more than 1700 midwives, received more than 750 case studies and recorded high rates of increased confidence by midwives. The following examples from recent case studies illustrate changes in attitude and skill supported by the course. *"I now see that when viewed through a health and not a social lens, addressing smoking <u>is</u> my business". "A simple rephrasing has helped Mrs. B." "I learned from this consultation to avoid making value judgements about an individual's ability to change in the face of concurrent adversity". "Her eyes lit up and you could almost see the light bulb switch on. 'I could do that!' she said"*.

Organisational Change

Through the 1990's hospitals were sending ambivalent signals to parents, visitors and staff about the protective value of supine sleeping for babies. An unpublished 1992 study identified back sleeping rates of 6% for babies in Canterbury, New Zealand, hospitals and a 1998 audit of hospital practice across the country observed 52% of babies asleep on their backs.

The 'Infant Positioning Project' was designed to increase supine sleeping rates for newborns in hospitals to 90% by 2001, through peer education and systems leadership. It took the form of an annual education day for representatives from each hospital who were supported with a peer education resource, user's guide and self-audit tool. The project aimed to strengthen both management and clinical practice through policy and systems development, staff education, role clarity and brief intervention. A service standard was developed to focus activities for each of these areas.

Follow-up audits in 2001, 2005 and 2008 reported back sleeping rates for newborns at 88%, 88% and 90% respectively [14]. By 2008, common management practices included written safe sleep policies, monitoring systems, staff education, dedicated responsibility for safe sleep leadership and the display of cot cards in infant cots promoting safe sleep principles. During 2006 and 2007 the project had a specific focus on neonatal intensive care settings. This resulted in an increase in back sleeping observations for NICU babies and the beginning of systematic 'chartering of exceptions' for babies placed non-supine. Comments from NICU peer educators indicate interest in their sessions: *'Well received, many questions'. 'Staff very keen to use the Talk Card in special care baby unit - requested extra copies'. 'Had best attendance of any education all year'.*

Cultural Change

Society is a complex honeycomb of separate social systems and information can be blocked from spreading within and across these systems by language, culture and other differences. For groups most at risk of sudden infant death, change needs to happen at a rate greater than in the general population in order to redress inequalities. A lot more conversations about keeping babies safe will need to happen in the social environments of smoking parents, low income families, foreign language speaking communities, teenaged parent groups and others.

The '6+1' project [15] was designed to open up opportunities for such conversations in these groups by supporting young parents themselves to build trust in the safety principles within their family and social networks. The pilot project was inspired by the Italian project of the same name [16]. It combined the three concepts of peer education, the 'pass it on' principle and a package of 6+1 facts for protecting a baby's life. A group of four women and three men who were representative of priority families attended an education day to prepare them as paid communicators of the 6+1 information. The six infant health messages and one cognitive message (read to your baby) were presented in a simple 6+1 baby book to focus the project and support discussions. The agreement with parents was to have a minimum ten 6+1 conversations within a four week period, pass a booklet on to each person and encourage them to do the same with others.

The project was successful in engaging priority communicators. The four women were participants in a smokefree pregnancy programme, two of the men were 17 year old fathers recruited from a school, and the third a single father of four. The project achieved more than expected conversations within the timeframe (92 instead of 70) and photo evidence showed it was successful in involving people across cultures, genders, professions and generations in these

conversations. Parents reported a personal benefit from: feeling valued ("*Makes me feel like I've got a purpose.*"), being a peer ("*So easy to start chatting.*"), increased personal confidence in the safety information ("*It's impacted on how I look after my own baby.*") and being empowered ("*Us as experts should stay. Give us the power.*") The project is to be extended in 2010.

GUIDING PRINCIPLES

The literature is rich with models, methods and tools of change. For readers new to this field, two approaches to intentional change stand out as relevant for guiding current efforts to prevent sudden infant deaths. From questions about experiences of best moments and high points, Appreciative Inquiry [17] supports: discovery of 'what is working well' for a person, system, or group, imagining of 'what could be' if these moments were more common, designing of strategies for this vision with 'what we know' about what works, and delivery of innovative solutions to create 'what will be'. Diffusion of Innovations Theory [18] provides a framework for designing strategies to speed up the spread of an idea or practice by modifying the factors related to context, adoption and presentation.

Using these models and the SIDS story of change, three principles have emerged to guide the elimination of SIDS: develop contexts that support, networks that influence and programmes of value. These principles could be applied to any change challenge. They have equal application across research, programme design and practice. As the scientific evidence supports, parents of babies most at risk of SIDS can be isolated in social systems where recommended practices are not the norm, with weak role model networks for spreading support, and face a high perceived cost to uptake of safety recommendations. The wahakura project [19] for addressing co-sleeping with vulnerable babies is an example of a focused effort within a social system to increase signals that align with safe sleep recommendations, spread support for them from within the system, and enable easy and valued uptake of a recommended practice.

CONCLUSION

The flow from strong evidence through careful translation to its high uptake is the essence of the SIDS success. This paper has shown that the principles for creating the SIDS change are the same today as they were twenty five years ago. What has changed is where the work must focus, who must be the communicators and what will enable action. Creating contexts that support, networks that influence and programmes of value within social systems most at risk, has the potential to eliminate SIDS completely.

ACKNOWLEDGEMENTS

This review is an acknowledgement of the sustained team work across New Zealand that has led to the SIDS change to date. In particular, it acknowledges researchers for their high quality evidence, health professionals for their day to day commitment to translating that evidence for families, and the wider community for their supportive action. Since 2004, activities of the prevention programmes of the Maori and Pacific SIDS teams and Change for our Children, mentioned in this review, have been largely funded by the New Zealand Ministry of Health.

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Received: 18 December, 2009 Revised: 22 February, 2010 Accepted: 31 March, 2010