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Sunshine Coast**
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**An Evaluation of '*Baby Help*': An Illness Assessment Tool for
Indigenous Infants.**

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By

Karen Watson

(Student ID Number: 1038538)

Faculty of Health & Science, University of the Sunshine Coast.

Supervisors:

Associate Professor Margaret Barnes, University of the Sunshine Coast

Adjunct Professor Jeanine Young, Royal Children's Hospital & Health
Service, Children's Health Service District.

List of Publications & Presentations

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Abstract

Background

The health and well being of Aboriginal and Torres Strait Islander people is identified as a priority by state and federal governments, but remains amongst the poorest in the world. Safety, health, social and educational measures of well being are consistently lower for Indigenous Queenslanders, with mortality rates for Indigenous infants twice that of the non-Indigenous population. Despite efforts to improve health care delivery and access for this population, life expectancy remains considerably shorter overall. Initiatives that deliver effective, accessible and culturally respectful programs of education and health promotion need to be developed, supported and evaluated for efficacy within Indigenous communities.

Aims

This study aims to evaluate the effectiveness of an infant illness assessment tool implemented and supported by Indigenous Child Health Workers (ICHW) and Child Health Workers (CHW) amongst Aboriginal and Torres Strait Islander families and caregivers.

Methods

Utilising a pre/ post implementation design and a multiple method approach, the knowledge, attitudes and practices of ICHW and CHW relating to the '*Baby Help*' implementation was explored.

Outcomes

The model for development and consultation used in the design of the '*Baby Help*' was successful; however impact could potentially have been greater if aspects of education, distribution and support had been fully developed prior to its release. Participants identified various concepts of support for their roles as; access to appropriate resources and educational opportunities; collaboration with colleagues and peers; and professional mentorship. Pre implementation, participants displayed high levels of knowledge in relation to infant illness management. Significant changes in relation to two of the knowledge themes were seen post implementation, with the tool viewed as being a resource that would support ICHW and CHW practice. Issues relating to literacy and the importance of implementation of the resource by a health professional were strongly identified. Policy, funding and practice need to subscribe to the development of initiatives utilising recognised strategies for successful health promotion within Indigenous populations, with community consultation; capacity building and evaluation intrinsic components of the process.

Key Words Indigenous health; infant illness assessment; Indigenous child health worker; Aboriginal and Torres Strait Islander; paediatrics; Indigenous infant health; health promotion evaluation.

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List of Abbreviations

- AHS: Area Health Service
- Buranga Centre: Indigenous student support service centre on the University of the Sunshine Coast campus.
- CHW: Child Health Worker. For the purposes of this study this term will be used to identify study participants working as Line Managers; Registered Nurses; Educators or Ancillary staff (i.e. Child care coordinators; practice managers) and who have contact with Indigenous parents and carers of children aged between 0-2 years in their practice or support individuals who have this role.
- ICHW: Indigenous Child Health Worker. For the purposes of this study this term will be used to identify Indigenous Health Workers working in contact with Indigenous parents and carers of children aged between 0-2 years in their practice. It includes: immunization; ante and post natal; maternity; paediatric; family; child; child and youth; chronic disease; and general health workers.
- Health Worker: From chapter 5 onwards the cumulative term 'Health Worker' meaning both ICHW and CHW, will be used to discuss results from the study. Where a breakdown of respondents is necessary, the terms ICHW and CHW will be used.
- MCH&SB: Maternity Child Health and Safety Branch. This division of Corporate

Office in Queensland Health is now known as Child Health and Safety Branch.

- SIDS: Sudden Infant Death Syndrome
- SUDI: Sudden Unexpected Death in Infancy
- ‘Aboriginal and Torres Strait Islander’ and ‘Indigenous’ are terms used throughout this document interchangeably to refer to Australian Aboriginal and/ or Torres Strait Islander peoples.
- Where the terms ‘Aboriginal’ or ‘Torres Strait Islander’ are used in the text in isolation, the author intends comments to be attributed to only the one cultural identity.

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: _____

Date: _____

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'The future depends on what we do in the present'.

Mahatma Gandhi

Chapter One: Introduction

1.1 Background and Significance

The history of Australia's Indigenous peoples since colonisation is one of dispossession of their lands and livelihood, destruction of their societal foundations through dispersal of family and tribal groups, and the debasement of their culture in the enforced adherence to alien religious and social values (Eckermann et al, 2006). Illness suffered by Australian Aboriginal peoples prior to European arrival is thought to have been relatively minor (Carson et al, 2007). Diseases such as small pox, whooping cough, venereal disease, tuberculosis, influenza and measles were introduced and decimated the Indigenous population with the arrival of European settlers (Carson et al, 2007).

Because of this, early thought was that Indigenous peoples were in fact an inferior and dying race and it was not necessary to identify or make provision for them in policy or practice (Couzos & Murray, 2003; Eckermann et al, 2006). When it became apparent that they would not 'disappear', policy that was developed in the period between 1890 and 1950 evolved around protectionism, where forceful removal to poorly equipped missions and reserves was designed to 'civilise' these long standing inhabitants of the land (Eckermann et al, 2006). Segregated and uncollaborative health services met only basic health needs of the inhabitants with the level of care being dictated by the community location and condition, the inclination of service providers and the religious affiliations of the establishment (Couzos & Murray, 2003). During the 1950s to 1960s policy developed around assimilation of the Indigenous

peoples into white society. This served to ignore Indigenous culture and move towards providing unified services that embraced the 'dominant' cultural systems. This allowed for no consideration of the appropriateness, and therefore potential for utilisation, of services offered for Indigenous peoples (Altman, 2003).

In the late 1960s there was a recognition and acknowledgement, locally and world wide, of the appalling circumstances of Indigenous Australian peoples and growing movement towards more positive relations (Eckermann et al, 2006). Born of this realisation in the 1970s to 1990s was the development of policy based on self determination, self management and recognition of cultural diversity. In health terms this meant the development of community controlled health services that were aimed at providing culturally appropriate and therefore more accessible health care. The role of the Indigenous Health Worker evolved in recognition of the need to liaise between the cultures and to facilitate health care for Indigenous peoples.

The health of Australia's Aboriginal and Torres Strait Islander people has been deteriorating for many years (Eckermann et al, 2006). The enormous social, economic and educational disadvantage and the repercussions of this exclusion have not been fully acknowledged, or the impact on health and wellbeing of Indigenous people recognised, until quite recently in our history (Eckermann et al, 2006). The great improvements in health determinants or measures of disadvantage are yet to be seen (Couzos & Murray, 2003). There has been repeated failure in health policies to address the issue of Indigenous health and disadvantage and there is still a failure to deliver health reform and initiatives that impact outcomes for Indigenous peoples (Couzos & Murray, 2003).

Statistics that display the disparities between Indigenous and non-Indigenous health are frequently reported. The Indigenous population of Australia have a life expectancy 9.7 to 11.5 years less than the life expectancy of the non-Indigenous population (ABS, 2010a). Malnutrition, communicable diseases, substance abuse, cardiovascular disease, diabetes, unintentional injuries and domestic violence are major health and social problems (ABS, 2008; Dion & Downey, 2006).

Infant mortality rates have been identified as a significant indicator of the social progress of a culture or society and also a measure of the effectiveness and availability of health services for mothers and children (Freemantle et al, 2006). Overall infant mortality rates amongst Australian Indigenous peoples are almost three times greater than mortality rates for the non-Indigenous population (AIHW, 2010). Reviews of Queensland's rates of Indigenous infant death reveal it is more than double that of the non-Indigenous population (11.8 per 1000 live births compared to 5.4), and this is accepted as an under-reported figure with actual mortality rates being higher given the recognised issues in reporting of Indigenous status (Save the Children, 2009) and child death classification systems (CCYPCG, 2007). Indigenous infants are significantly over-represented in deaths related to sudden unexpected deaths in infancy [SUDI] including Sudden Infant Death Syndrome [SIDS] (CCYPCG, 2008), with reports attributing some deaths, in part, to preventable conditions and a delay in seeking or gaining medical attention (Vlack et al, 2000; Freemantle et al, 2006; Fleming et al, 2000).

Limitations to access, use and availability of health care facilities and resources compound the disparities displayed in health between Indigenous and non-

Indigenous populations (ABS, 2006). Remoteness was a major contributing factor in findings from Rothstein, Heazlewood and Fraser (2007), where high rates of largely preventable disease were identified in children from remote Aboriginal and Torres Strait Islander communities and attributed primarily to deficiencies in existing primary health care activities in those regions (Rothstein, Heazlewood and Fraser, 2007). Conversely, Scrimgeour (2007) found that similar social and health problems exist in both remote and urban Indigenous communities and that it was support for programs to improve health and wellbeing amongst all communities that was needed (Scrimgeour, 2007). The problem of access also arises when health services that are provided are not appropriate or acceptable for Indigenous users, which in turn leads to outcomes not being realised (AHMAC, 2004; Vlack et al, 2000).

The Commission for Children and Young People and Child Guardian [CCYPCG] made recommendations in 2006 with relation to infant and child deaths. Here they identified that preventative programs were needed that target disadvantaged populations, including Aboriginal and Torres Strait Islanders, with specific health promotion interventions being implemented (CCYPCG, 2006). There is a need for effective maternal and infant antenatal and postnatal health services and education programs within the Indigenous community that aim to address health disparities (CCYPCG, 2006). Importantly, services that are provided need to be conscious of, and address, both the environmental and cultural barriers that exist.

The development of, and support for, the role of the Indigenous Health Worker has improved Aboriginal and Torres Strait Islander peoples access to health services (Murray & Wronsky, 2006; Mikhailovich, Morrison, & Arabena, 2007). The

Indigenous Child Health Worker delivers evidence-based preventative and early intervention strategies that are known to be effective towards improving the health of infants, children and young people, and supporting families in their parenting role (Queensland Health, 2007[a]). The role of the Indigenous Child Health Worker aims to assist communities to assume a stronger role in the control and management of their health and lifestyle through primary care strategies, education and encouraging participation where families can learn more about health issues and disease prevention (Queensland Health, 2007[b]).

Long-term solutions are needed to address socio-economic and lifestyle factors that contribute to the disparity between Indigenous and non-Indigenous health. Meanwhile, the burden is on state and federal health authorities in the short term to institute initiatives that positively impact on the provision of appropriate services and facilitate the early recognition and treatment of ill health in the Indigenous community.

'*Baby Help*' is a Queensland Health initiative and is aimed at promoting early recognition of serious illness in Indigenous children aged 0-2 years. The tool, originally the '*Baby Check*', was developed for the National Health Service in the United Kingdom by Professor Colin Morley, with the aim of assisting in the assessment of the severity of illness in infants (Morley et al, 1991). Evaluations of the '*Baby Check*', when applied retrospectively to Sudden Unexpected Death of an Infant [SUDI] cases, indicated that it was probable that there was a failure by parents, carers and even health professionals to identify the severity of infant illness (Fleming et al, 2000). The Indigenous Health Division of the University of

Queensland's School of Population Health, through extensive consultation with Indigenous key stakeholders, responded to an identified need for an educational tool for Indigenous parents and carers and adapted the *'Baby Check'* tool to be appropriate and meaningful for Indigenous consumers (Vlack et al, 2000).

1.2 Research Context

The development of the *'Baby Help'* tool and the implementation strategy to be used for its introduction to the Indigenous Child Health Worker and Child Health Worker was co-ordinated through the office of Queensland Health, Maternity Child Health and Safety Branch [MCH&SB] and was outside of the principal investigator's control. The initial introduction of this resource to the Indigenous Child Health Worker and Child Health Worker community was determined by MCH&SB and occurred in May 2008 at an organised state-wide workshop day during an Indigenous Health Showcase conducted in Cairns.

At the inception of the *'Baby Help'* project, no formal evaluation to accompany the introduction and implementation of this tool amongst Indigenous Child Health Workers and Child Health Workers was planned. This created an opportunity to collaborate with MCH&SB, Queensland Health and the Indigenous Child Health Worker and Child Health Worker community to evaluate this initiative in practice.

The scheduled introduction to the tool would have proceeded regardless of whether or not an evaluation process was in place. This was primarily because the tool was considered by MCH&SB to be ready for dissemination and withholding the tool and its anticipated potential to positively impact on Indigenous child health issues would

be considered unethical. For the researcher, face to face access to this usually widely dispersed population at the one venue was a rare opportunity and facilitated the collection of pre implementation data within a timeframe that also met study requirements. Therefore pre surveys and focus group sessions were administered under the guidance of the research supervisor within this conference forum.

It is only through evaluation of implemented strategies and feedback from those who use the strategy in practice that a picture of the efficacy and value of a given initiative as an agent of change can be developed.

1.3 Research Problem

How effective was the implementation and dissemination of a health promotion tool, designed to be culturally appropriate and meaningful for the Indigenous population, in improving the knowledge and practice of Indigenous Child Health Workers and Child Health Workers and in providing support for them in their roles within the community?

1.4 Research Design

A methodology that involved focus groups and a pre test / post test intervention design was used for this study. The study was conducted in four phases.

Phase 1: Focus Groups

Focus group discussions were undertaken at the Indigenous Showcase held in Cairns during May 2008. Here participants joined in open discussion of themes that

aimed to stimulate thought and dialogue about the elements relating to support for their role. Themes and opinions from group interaction were captured in text.

Phase 2 Pre test: Staff Pre Implementation Survey

Participants at the same Indigenous Showcase were also the targeted population for the pre implementation survey. This showcase event provided the researcher with a unique opportunity to access this population within the one venue. The survey was conducted prior to an education session covering the identification and management of infant illness.

Phase 3: Educational Implementation Period

The '*Baby Help*' tool launch took place with the assembled Indigenous Child Health and Child Health Workers at the Cairns conference venue immediately following the focus groups and implementation survey. During this session Dr Susan Vlack, one of the original team members who contributed to the development of the '*Baby Help*' tool, outlined clinical approaches to recognition and management of common and serious illness in infants (Vlack, 2008).

Phase 4: Post test: Staff Post Implementation Survey

A post implementation survey was conducted six months after the educational intervention. The content of this survey was based on the pre-survey in addition to themes relating specifically to the '*Baby Help*' tool.

1.5 Expected Outcomes

It was anticipated that the successful implementation of evidence-based guidelines relating to infant illness assessment, management and referral would impact positively on the practice of Indigenous Child Health Workers and Child Health Workers. We anticipated that this would be measurable in Indigenous Child Health Worker and Child Health Worker practice in the following ways

- 1) Demonstrated knowledge and self reported practices consistent with early and appropriate recognition, treatment and referral of serious illness in infants after the educational intervention and use of the *'Baby Help'* in practice;
- 2) Self report of greater confidence and skill in the assessment and management of infant illness after the educational intervention and use of the *'Baby Help'* in practice;
- 3) Self report of improved quality and efficiency of consultations between health carer and parent in terms of:
 - i) appropriate infant assessment;
 - ii) early identification of problems and appropriate referral related to the use of *'Baby Help'* guidelines as a framework for an illness related consultation.
- 4) Self report of improved support for the Indigenous Child Health Worker and Child Health Worker roles through access to infant assessment resources to assist in community education.

1.6 Thesis Organisation

This thesis is organised into four key parts.

Part one (Chapter 2) of the thesis will provide an overview of the themes surrounding Indigenous Health, both historical and present. These include legislation in Australian and international contexts; the role of the Indigenous Child Health Worker; Indigenous ways of learning and the success of other health promotion programs. The innovation that this research brings to existing knowledge will be discussed. The theoretical framework in which this study is grounded will be described. Finally, guidelines for research within the Indigenous population will be outlined.

Part Two (Chapter 3) explores the conceptualisation of this study together with a description of evaluation research, and the domains used to evaluate this health promotion activity will be introduced. The methodology used for this study shall be explained as it relates to the study aims. The research population shall be identified and the tools used during the four phases of the study will be outlined.

Part Three (Chapter 4) presents the results of the thematic analysis of focus group and written feedback and the analysis of the survey responses in relation to knowledge, attitudes and practices of Indigenous Child Health Workers and Child Health Workers. The implementation process employed for the tool shall be reviewed and evaluated according to specific domains that have been identified as being important in effective Indigenous health promotion.

Part Four (Chapter 5 & 6) is dedicated to the discussion of results in relation to the success of the implementation of the health promotion tool in achieving the study aims. Recommendations for future health promotion initiatives are made. The relevance and contribution that this study has made to existing knowledge regarding Indigenous health promotion initiatives shall be examined and directions for future research in this area identified.

Chapter Two: Overview

2.1 Introduction

This literature review will address key issues relating to, and impacting on, Indigenous health. Specifically, these issues relate to current state and national policy and guidelines for practice in addressing the disparities between Indigenous and non Indigenous indicators of health, wellbeing and lifestyle; Indigenous infant and child health; education and literacy; Indigenous research present and future; and the important role of the Indigenous Health Worker in bridging communities. Literature included in this review was identified from a number of health related databases including CINAHL; Medline; and PUBMED in addition to the educational database EdNA and the search engine Google Scholar from September 2007 to June 2010. Search terms including Indigenous health, education, literacy, research, policy, children and infant health, Indigenous nursing, Indigenous health workers, rural and remote health, cultural sensitivity, vulnerable populations, health promotion, evaluation, evaluation research, Aboriginal and Torres Strait Islander, child health nursing, '*Baby Check*', infant illness assessment and focus group were used to identify literature relevant to the research questions in this study. Literature used in this research study and thesis was published between 1984 and 2010.

2.2 Government Policy

'Childhood is a complex area with many factors combining to influence children's health and development. A child's health and wellbeing depends on what happens to them as individuals, as part of a family, as members of communities and within Australian society as a whole'.

(Australian Government: Department of Health and Ageing, 2010)

The health of a child can be influenced over a lifetime by the reduction of factors that increase the risk of ill health and enhancement of factors that are protective of health during the child's development (Barnes, Rowe & Roden, 2008). Government initiatives have been developed to address inequalities that exist in children's health and particularly non-Indigenous and Indigenous health. In the National Public Health Strategic Framework for Children 2005-2008 (NPHP, 2005), five strategic directions were identified for development, health gain and capacity building across disciplines, sectors, national groups and projects. The guiding principles identified in this framework were

- Promoting health and wellbeing
- Closing the health gap
- Identifying the health needs of Aboriginal and Torres Strait Islander children
- Empowering children, parents, families and communities
- Strengthening partnerships
- Ensuring health sector responsibility.

More recently in the Department of Health and Ageing Hospitals Reform Commission Report (2009) recommendations for redesign of the health system are

made in order to meet emerging challenges. Among the recommendations are the following initiatives

- Formation of a new Australian Health Promotion and Prevention Agency
- Healthy Australia Goals 2020 – everyone taking responsibility for health
- Shifting the curve of health spending towards prevention
- Building prevention and early intervention into our health system
- A healthy start to life for all Australian children
- Encouraging good mental health in our young people

(A healthier future for all Australians - Final Report June 2009. National Health and Hospitals Reform Commission Report).

Additionally, in late 2008, the Council of Australian Governments (COAG) agreed to six goals aimed specifically at closing the gap between Indigenous and non-Indigenous Australians across urban, rural and remote areas. These goals are to

- close the gap in life expectancy within a generation;
- halve the gap in mortality rates for Indigenous children under five by 2018;
- ensure all Indigenous four years olds in remote communities have access to early childhood education within five years;
- halve the gap in reading, writing and numeracy achievements for Indigenous children within a decade;
- halve the gap for Indigenous students in year 12 attainment or equivalent attainment rates by 2020; and

- halve the gap in employment outcomes between Indigenous and non-Indigenous Australians within a decade (COAG, 2008).

To address key health issues, five priority areas were identified for targeting by the National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes (COAG, 2008). These included smoking, providing a healthy transition to adulthood, making Indigenous health everyone's business, delivering effective primary health care services, and better coordinating the patient journey through the health system.

It is apparent that there are high levels of consideration being given to Indigenous health issues amongst policy makers, but further evidence is required to demonstrate if these policies are being translated to improvements in outcomes for the Indigenous peoples. In a literature review detailing the outcomes of interventions and health promotion activities in the Indigenous maternal and child population for the period 1983-2003, the Australian Government Department of Health and Ageing identified a sparse amount of high quality evidence. Additionally, there was almost no information relating to the success of health promotion interventions (Herceg, 2005).

2.3 Indigenous Infant and Child Health: State and National Perspectives

Strong links have been established between social, economic and environmental deprivation and the health status of a group or population (Nutbeam, 2000; Wilkinson, 2005). Through prolonged and systematic disadvantage and social stratification, elements such as education (30% of Indigenous students did not meet

benchmarked literacy levels for grade five in 2005), housing and infrastructure (overcrowding and low home ownership rates), income and unemployment (high comparative rates of unemployment and lower overall incomes in Indigenous families), family separation (the majority of Indigenous families have been impacted on in some manner by the forced removal of children over the period between 1910 to 1970) and exposure to the justice system (25% of the total prison population in 2009 were from an Indigenous background, a proportion that is fourteen times greater than that of the non-Indigenous prison population), Australia's Indigenous peoples are one of the most disadvantaged in the world (Couzos & Murray, 2003, Eckermann et al, 2006; ABS 2009).

Indigenous children have a higher rate of hospitalisations with the predominant reasons being for treatment of respiratory and skin infections (AIHW, 2009). Paediatric outreach services in far north Queensland have identified a high burden of complex and chronic diseases such as suppurative otitis media, rheumatic fever and heart disease amongst Indigenous children (Rothstein, Heazlewood and Fraser, 2007). Skin infections and rheumatic fever, suffered almost exclusively by Aboriginal people and can lead to cardiovascular disease, are diseases of poverty, linked to overcrowding and poor hygiene infrastructure (Couzos & Murray, 2003). Otitis media in childhood is linked to hearing loss and ongoing learning difficulties. The follow on scenario of poor educational outcomes, unemployment and entrance into the justice system are not only conceivable but almost inevitable for some children (Couzos & Murray, 2003).

Failure to thrive and growth faltering remain common problems in communities, and despite gains in outcome statistics as a result of improved clinical management, high levels of preventable disease remain in this population (AIHW, 2009; Rothstein, Heazlewood and Fraser, 2007). Hospitalisation for diabetes is 6 times higher for Indigenous children aged 0-14 with diet, obesity and undiagnosed disease contributing to the burden of this illness (AIHW, 2009).

Even though overall mortality rates for children and young people continue to decline, Indigenous children across all age groups experience a mortality rate that is three times greater than that of non-Indigenous children in data for the period 2002-2006 (AIHW, 2009). Sudden infant death occurred at a rate that was five times greater in Indigenous infants and Indigenous children were three times more likely to die than non-Indigenous children as a result of an injury (including poisoning) or diseases of the nervous or circulatory system again during the 2002-2006 time frame (AIHW, 2009)

2.4 '*Baby Check*' to '*Baby Help*': Tool Development

The development and implementation of the '*Baby Help*' tool is a Queensland Health initiative and aimed to address issues of early identification and treatment of serious illness in Aboriginal and Torres Strait Islander children aged 0-2 years. In response to child mortality statistics within the Aboriginal and Torres Strait Islander community, during 1996 Queensland Health in association with the University of Queensland, undertook to adapt '*Baby Check*' (Vlack et al, 2000), a childhood illness assessment tool originally developed by Morley and colleagues (1991) and used by the British National Health Service (Thomson et al, 1999). This tool was originally designed to

help parents and physicians assess the severity of acute illness in infants by employing an illness scoring system (Thomson et al, 1999). This system evaluated nineteen signs and symptoms of illness in babies aged six months or younger and culminated in an overall total illness score. Actions that should be undertaken in response to this score were then identified (Thomson et al, 1999). This tool had been extensively trialled and found to be appropriate and meaningful in determining severity of infant illness amongst a broad population base in the United Kingdom (Thomson et al, 1999).

The '*Baby Check*' tool not only aimed to inform parents and carers but was also designed to aide health professionals in identifying serious illness (Thomson et al, 1999). In a large case-control study that investigated sudden and unexpected deaths in infancy, Fleming and colleagues (2000) identified that when the '*Baby Check*' was applied retrospectively to explained SUDI cases, 44% of babies who had died suddenly and unexpectedly would have been identified as needing medical attention in the 24 hours prior to their deaths according to the criteria outlined in the '*Baby Check*' tool (Fleming et al, 2000). This raised the probability that in a considerable proportion of instances, there is a failure of parents, carers and health professionals in the identification of the severity of infant illness (Fleming et al, 2000). There is potentially an additional problem amongst the Indigenous community where historically there has been reluctance to access health services for a number of environmental and cultural reasons that could further contribute to a delay in treatment for sick infants and children (Vlack et al, 2000).

The '*Baby Check*' (Morley et al, 1991) in its original form was determined by the Indigenous Health Division in the School of Population Health at the University of Queensland to be inappropriate for use within the Aboriginal and Torres Strait Islander population (Vlack et al, 2000). In recognition of the importance of providing culturally appropriate frameworks for Indigenous health initiatives to be successful, consultation with the community and key stakeholders was undertaken, which led to extensive and culturally specific adaptation of the tool (Vlack et al, 2000). Alterations to the tool included language that was used being adapted to be meaningful to Indigenous readers; utilisation of a colour coded action guide rather than a numerical system, and development of a management and action plan for the most common signs and symptoms seen in childhood illness i.e. temperature, level of consciousness, disturbances to sleep and mood, and vomiting (Vlack et al, 2000). The resulting '*Baby Help*' tool was piloted and demonstrated to be an appropriate resource aimed at improving knowledge of the signs and symptoms of childhood illness including management options (Vlack et al, 2000).

An anticipated outcome of the British '*Baby Check*' was a decrease in primary health consultation rates for minor illness; however this was shown not to be the case (Jewell, 1999). Although frequency in consultation rates was not reduced, results indicated that the tool improved the quality of the consultation between the primary health carer and parents, and empowered parents through guiding them in the communication of their concerns about their child's health (Fleming et al, 2000). Further findings from randomised control trials conducted on the '*Baby Check*' showed that the tool by itself, without reinforcement relating to its intended application and use being delivered by a health care professional, was less likely to

impact on parent/ carer behaviour (Heaney et al, 2001). Initial trials of the '*Baby Help*' tool also identified that dissemination of this health information to parents and carers through written literature, workshops and health professionals would be the most cost effective and appropriate approach in this population (Vlack et al, 2000). Study recommendations proposed by Vlack and colleagues (2000) included that the tool should be formally and fully evaluated in a number of communities that are representative of the diverse Queensland Indigenous population; the resource should be aimed initially at mothers of children aged 0-2 years and the family members that provide care for the child; and the resource should be delivered to end users through medical centres and health professionals, and discussed in programs and workshops in these communities (Vlack et al, 2000)

During 2007, in preparation of the '*Baby Help*' tool for distribution, it was sent for final comment amongst a comprehensive group which included the original authors (Vlack et al, 2000), Area Health Services, Indigenous Child Health Coordinators, and the Area Health Services Clinical Networks and Chairs, Director of Hearing Health and team members, Indigenous Child Health Workers and their Line Managers, Nutritionists and Nursing Educators (Personal communication MCH&SB; October 2008). The feedback that was obtained from this process was collated and considered by the Indigenous Child and Youth Health team at MCH&SB and formed the basis for the final tool used in this study. It was through this consultation process that the need for additional general health information relating to illness in Aboriginal and Torres Strait Islander children aged between 0-2 years was identified and evidence based information covering these issues included in the booklet. The '*Baby Help*' content was also revised to complement existing information currently provided

to parents through the Child Health Information booklet contained in the Queensland Health Personal Health Record.

2.5 Theoretical Framework

Through the Ottawa Charter (1986) and subsequently the Jakarta Declaration (1997), the important role that health promotion plays in improving the control an individual has over variables that impact on their health has been recognised and applied to public health policy (Nutbeam, 2000: WHO, 1986: WHO, 1997). Health literacy, a goal of health promotion, can be defined as an individual's ability to obtain, and knowledgably use, health information and concepts to inform health and lifestyle choices (Zarcadoolas, Pleasant, & Greer, 2005). Health literacy is commonly recognised as entailing a dual responsibility between health service provider and the consumer. This relationship is equitable when individual needs are met and aspects of education, service provision and social and cultural factors are incorporated (Green, 2007).

Poor general functional literacy levels in developed countries have been reported to be between 7.5 to 47%. In Australia it is thought to be around 17% of the population for those aged 16-65 (UN, 2009), with poor literacy being linked to the divides in health statistics in both rich and poor countries (Nutbeam, 2008). Pigone & Dewalt, (2006) demonstrate graphically the interrelatedness of socio-economic status, environment and educational opportunity and how these accrue to impact on health literacy (See figure 1).

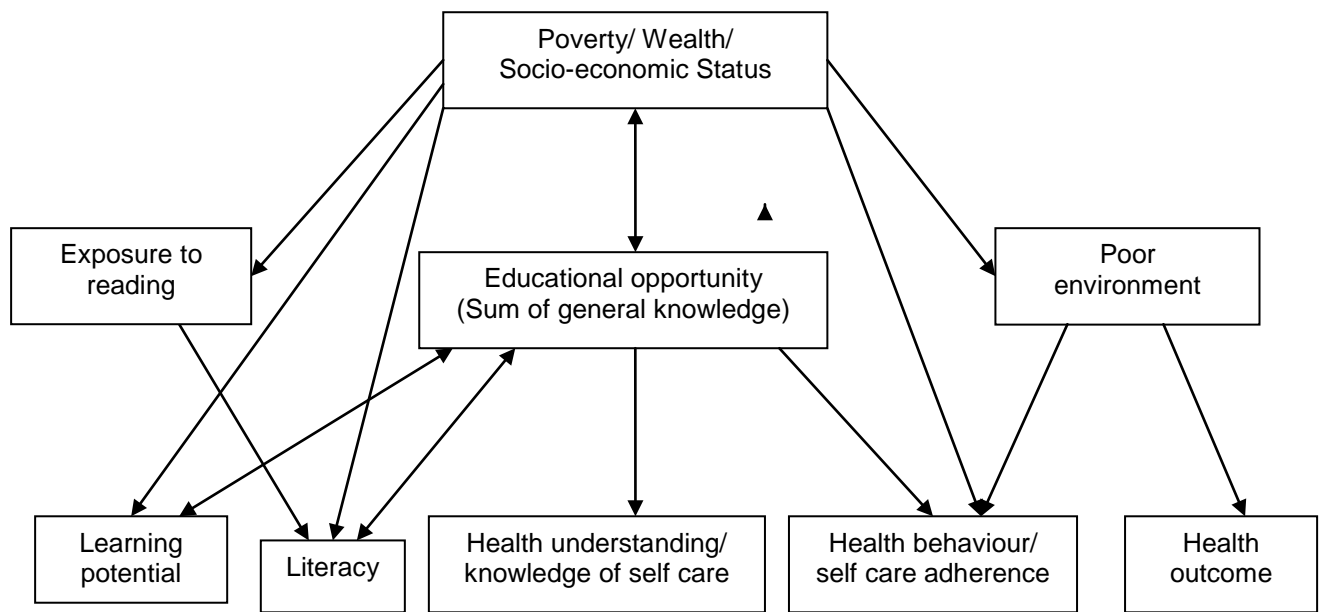


Figure 2.1: Impact of low literacy levels (Pigone & DeWalt, 2006: 896)

In a review of literature relating to literacy and child health outcomes, DeWalt & Hink (2009) identify the link between low parental literacy and poorer health outcomes for young children. They state that a better understanding of the relationship that exists between knowledge and behaviour is necessary in order to implement targeted interventions (DeWalt & Hink, 2009). Importantly, it was identified in this review that consumer health knowledge can be increased through improving written materials and that if written health information is combined with ‘brief counselling’, then a further improvement in health behaviour can be seen (DeWalt & Hink, 2009).

Nutbeam advocates that levels of health literacy can be ‘measured’ in terms of the development of autonomy. This is brought about through cognitive development and exposure to health information. He identifies three ‘levels’ of literacy that can be achieved, functional, interactive and critical (Nutbeam, 2000). Through this hierarchy

of literacy an underlying assumption that can be made when conducting an evaluation of a health promotion activity is that movement through the levels can be identified if the promotion activity has been effective in its application (Nutbeam, 2000).

Table 2.1: Levels of health literacy (Nutbeam, 2000: 266)

Health literacy level and educational goal	Content	Outcome	
		Individual benefit	Community/ social benefit
Level 1: Functional health literacy: communication of information	Transmission of factual information on health risks and health services utilisation	Improved knowledge of risks and health services, compliance with prescribed actions	Increased participation in population health programs (screening immunisation)
Level 2: Interactive health literacy: development of personal skills	As above and opportunities to develop skills in a supportive environment	Improved capacity to act independently on knowledge, improved motivation and self confidence	Improved capacity to influence social norms, interact with social groups
Level 3: Critical health literacy: personal and community empowerment	As above and provision of information on social and economic determinants of health and opportunities to achieve policy and or organisational change	Improved individual resilience to social and economic adversity	Improved capacity to act on social and economic determinants of health, improved community empowerment

Zarcadoolas, Pleasant, Greer (2005) propose that there are four domains that need to be considered when undertaking to positively impact on public health literacy.

These are:

Fundamental literacy: directly relating to reading, writing, communicating and interpreting information.

Science literacy: an awareness of, and a level of, competence with technology and scientific concepts.

Civic Literacy: community and social awareness that includes involvement and participation in the decision making processes contributing to the overall health of the community.

Cultural Literacy: an application of collective beliefs and world views to interpret and apply health information.

When considering health promotion activities within the Aboriginal and Torres Strait Islander community, a process that centres on the development of personal skills (fundamental and science literacy), strengthens and builds community (civic literacy) and creates a supportive environment for Indigenous peoples (cultural literacy) is the most appropriate and sustainable form of intervention for this population (Australian Indigenous Health Promotion Network Workshop [AIHPNW], 2006). Emphasis should be on ameliorating the impact of low literacy, which needs to take place through quality health communication and sensitivity among health professionals (Nutbeam, 2008).

2.6 Indigenous concepts of health & methods of learning

Education is inextricably linked to literacy and is therefore a key factor for the improvement of health (ABS, 2005). Society dictates that through educational attainment there are greater opportunities available to individuals in relation to employment, income, and environment and also greater ability to access and utilise health services (ABS, 2005). It is widely acknowledged that parents or carers who are better educated are more likely to prevent accidents or sickness in their children, avoid minor health issues becoming major problems and interact better with health services in obtaining the best outcomes for their children (Ewald & Boughton, 2002).

Historically, 'orality' has been recognised as a feature of the Indigenous culture in Australia. This means that they are a culture that has managed the passage of knowledge through the spoken word (Dunn, 2001). This does not mean that Indigenous peoples have less potential for literacy, but rather that they had not developed the same use or value for the written word as in other cultures that have chronicled history through text. To this day, elders in Indigenous society are held in great esteem, command respect and act as silos for cultural heritage. Indigenous peoples have passed their culture on through the relating of traditions and experiences, or '*yarning*', and it is still relatively recent in their history that text has been introduced and recognised as a valuable repository. These differences in the management of knowledge go far deeper and actually translate into differences in ways of learning that cannot simply be overcome by creating common learning experiences e.g. schooling. It has been suggested that what is involved goes to the very patterns of thought and ways of communicating and learning (Eckermann, 1994).

It can be imagined then that different structures for knowledge develop through different cultures, societies and lifestyles and that it would be important to consider these differences when employing a dominant mode of education within a culturally diverse group. Additionally, the observance of the different ways of learning would be important when implementing educational interventions into a targeted population. Certainly Anglo-Saxon specific learning tools reflect the 'dominant' culture and as such are quite exclusive in their application. It is reasonable to conceive them as less effective and even potentially offensive to the culture which is being ignored. Trudgen (2000) identified that there are inherent misconceptions in Anglo-Saxon approaches to learning when looking at implementing educational initiatives in traditional Indigenous societies. These relate to the assumption that by teaching children adults will learn; and that by enlisting the assistance of elders, communities will be educated. Instead Trudgen (2000) proposes that new knowledge needs to be introduced to Indigenous communities with and through the elders and taught to the community as a whole.

The concept of 'health' is interpreted to mean different things to different people and to different cultural groups (McLennan & Khavarpour, 2004). In their study into psychosocial determinants of health in Indigenous communities, Reilly et al (2008) found one factor that impacted on health was the concept of self determination. Individuals need to feel that they have control or can make decisions about events within their lives, something that can only be achieved through improved knowledge, literacy and therefore ownership of health information.

In a review of available literature relating to interventions that have had impact on Aboriginal and Torres Strait Islander mothers, babies and young people, it was found that there is limited high quality evidence as to what constitutes an effective intervention within this community (Herceg, 2005). This review made recommendations for the process of interventions including that the findings be placed in the public arena, be they positive or negative, so that they would make a contribution to the body of knowledge relating to Indigenous health (Herceg, 2005). Analysis of evidence to date indicates that the success of the programs reviewed could not be pinned to any one component, but rather attributed to a number of aspects.

Elements common to successful interventions have been identified and it was anticipated that these factors could increase the chances of success in any subsequent programs for this specific group. These commonalities relate to:

1. Community based or controlled services
2. Dedicated services for women and children
3. Continuity of care and broad service provision (one stop service provision)
4. Integration of other services
5. Outreach or home visiting
6. Safe environments with a focus on communication, relationship building and trust
7. Flexibility in service provision
8. Culturally respectful
9. Inclusion of family

10. Trained workforce that values Indigenous and female staff
11. Transport provision
12. Playgroup and child care service provision (Herceg, 2005).

Factors that Mikhailovich, Morrison, & Arabena (2007) identified as contributing to the success of health promotion initiatives and their evaluation within the Indigenous population included:

1. Recognition of the role of elders in promoting widespread support for health promotion activities in a community.
2. The value of participatory research models and mixed method approaches.
3. Development of methodology for research that explicitly addresses ethical guidelines for the Aboriginal and Torres Strait Islander population.
4. Utilisation of Aboriginal and Torres Strait Islander Health Workers as 'cultural brokers' or to work in partnership with non-Indigenous health professionals in achieving positive health outcomes within a community.

It would be important for individuals developing health promotion initiatives to take these factors into consideration in their program design. Additionally, for the researcher, identifying how well programs and evaluations meet with these factors would aid in the evaluation process.

Brough et al (2004) described an approach to Indigenous health promotion in the 'Strong in the City' campaign. They argued that utilising a need-driven response to health promotion focuses on the gaps and weaknesses or 'negative' aspects of a community, and instead suggest that grounding health promotion initiative in community strengths and the social and cultural resources that exist, would be far

more acknowledging and capacity building (Brough et al, 2004). Enlisting the community in a bottom-up approach to solving health problems where resources and support are made available would be potentially more empowering to a community. Additionally, there is a strong relationship between spirituality and well-being in the Indigenous culture that needs to be integrated into health promotion activities in order to raise the effectiveness of implemented strategies (McLennan & Khavarpour, 2004).

Peculiarities to the location of a health promotion program implementation were highlighted as potentially impacting on its success across the board (Herceg, 2005). For example the difference in environmental resources available to urban, rural and remotely located Indigenous populations would impact on program implementation. Most Indigenous Australians speak English in their homes (86%: ABS, 2006), but looking at rurality and language spoken, of the 12% of Indigenous families in Australia who spoke an Indigenous language at home, the majority (56%) lived in very remote locations. Very little literature is available that has investigated the learning methods that are most appropriate and meaningful for Aboriginal and Torres Strait Islander peoples (Vlack et al, 2000). In order to transfer knowledge and information, it is important to connect with individuals in ways that are meaningful and 'speak' to the target audience. Additionally, culture needs to be an acknowledged and intrinsic component of educational initiatives for them to be successful, and will be influenced by rurality and language used by that population group (Durnan & Boughton, 1999)

Couzos and Murray (2008) identify five instruments that can be used to influence health policy implementation. These are *education* (awareness raising campaigns), *incentives* (subsidies to encourage behaviour), *regulation* (limitations to behaviour), *service provision* (infrastructure development) and *research* (surveillance). It has been shown that educational campaigns are most successful when supported by additional strategies (Couzos and Murray, 2008). Through the implementation of the 'Baby Help' tool via the Indigenous Child Health Worker and Child Health Worker, it is hoped that tool utilisation will be supported and it will become a recognised health resource in the community.

2.7 Role of the Indigenous Health Worker

For nearly 40 years Indigenous Health Workers have played a key role in improving the delivery of Indigenous specific services and increased acceptability and access for the communities they work within (Genat, 2006). Respect is a key component for the cross cultural relations that occur between nurses and doctors and their clients and communities, and the role of the Indigenous Health Worker facilitates this interaction in numerous ways (Eckermann et al, 2006). Acknowledgement of the important contribution they make to improving health service delivery has led to greater recognition and broadening of responsibilities and the need for improved role clarification, education and support (Genat, 2006). In their book detailing Aboriginal Health Workers in practice, Genat (2006) highlighted this role as being one of diverse responsibilities that vary between clients, locations, settings and individuals. This would make it a difficult task to streamline role definitions and boundaries or to identify practice guidelines that would apply to every situation (Couzos & Murray, 2008).

Because of the diversity of the Indigenous Health Worker role, one clear message is that 'support' for the role is needed to facilitate health improvements for Indigenous communities and also to facilitate recruitment and retention of an Indigenous Health Workforce. Recruitment and retention of an Aboriginal health workforce has been a longstanding issue with it being a key policy objective endorsed by the Australian Health Ministers Advisory Council (2004). Until this year, 2010, there has been limited investigation into interpretations of what Indigenous Health Workers would determine as support in their practice. It would stand to reason that individual interpretations of support would vary as widely as their roles in the community are required to.

2.8 Research involving Aboriginal and Torres Strait Islander People

It is perhaps an irony that in many instances the reason a group or individual is recognised as being vulnerable is cause for them to become the focus of research activities (Bond-Sutton, 2003). In the Aboriginal and Torres Strait Islander population throughout Australia, there are well documented disparities with non-Indigenous statistics in the areas of health outcomes relating to mortality, morbidity, health risk factors and disability that range across the life span (AIHW, 2009). Aboriginal and Torres Strait Islander people are hospitalised at a rate that is five times greater than that of the non-Indigenous population for treatment of diseases that are known to be preventable (AIHW, 2009). However, despite increasing amounts of research being conducted on Indigenous peoples over the last 40 years little has been achieved to positively impact the overall wellbeing of Indigenous Australians (Thomas & Anderson, 2006; Cochrane, 2008). Health statistics for this population rate amongst

the worst in the world and have displayed only small improvement over time (ABS, 2005; Thomas & Anderson, 2006; Save the Children Report, 2009).

Aboriginal and Torres Strait Islander people are identified as requiring special consideration in research because of the relative health, economic, educational and environmental disadvantage they have experienced as a population. These socio-economic indicators are each closely linked to health outcomes or, to put it another way, the most disadvantage groups in society have been shown to suffer the poorest health (Harris et al, 1999). Additionally, within communities and as a group there has been past abuse of trust and deprivation of autonomy that has contributed to extreme wariness towards researchers and research endeavours by Indigenous peoples (Thomas & Anderson, 2006; Stewart et al, 2006). Common concerns have related to poorly designed studies with insufficient collaboration and limited feedback to participants in research activities and lack of respect for cultural diversity (Bailey et al, 2006; Stewart et al, 2006).

In 1986, guidelines were developed by the Aboriginal and Torres Strait Islander Community Controlled Health Sector for the conduct of ethical research amongst Aboriginal and Torres Strait Islander peoples (NHMRC, 2003; Stewart et al, 2006). Since 1991, Australian ethics committees have been charged with the responsibility of consulting with Aboriginal and Torres Strait Islander representatives when reviewing proposals that relate to this population (Stewart et al, 2006). These guidelines came about from the recognition that a consultative process was necessary between Aboriginal and Torres Strait Islander communities and researchers prior to operationalising research activities (Stewart et al, 2006). Core

values are identified in these guidelines that have been developed, not to reduce or limit the responsibilities of ethical bodies, but rather to inform their activities (NHMRC, 2007). However, one study undertaken in 2006 that surveyed involvement of Indigenous reviewers on Hospital Ethics Committees [HECs], fell short of displaying a commitment to this ideal (Stewart et al, 2006). Out of a sample of 163 ethics committees, only 20% (34) had formal procedures in place for consultation, whereas almost equal numbers of HECs had ad hoc or no formal mechanisms for consultancy in place (40 & 41% respectively) (Stewart et al, 2006).

Researchers are charged with developing their research proposal with a recognition of, and commitment to core principles. There are six values around which these guidelines have been developed that relate to:

Spirit and Integrity: this is of particular importance to the Aboriginal and Torres Strait Islander peoples as it relates to their concept of the interconnectedness of the past, present and future.

Reciprocity: to meet this value the researcher needs to demonstrate a benefit to the community that is *valued* by the community. This benefit needs to be negotiated and contribute to cohesion and survival within the community without introducing inducements into agreements between researchers and community members.

Respect: respect and dignity are closely linked to strength of culture in Aboriginal and Torres Strait Islander peoples. The demonstration of respect would be in the recognition of contributions of others, the recognition of difference in relation to individual values and aspirations and an appreciation of the consequences of research, both negative and positive.

Equality: this is the recognition and demonstration of the equal value of people. ‘To treat people less favourably is not only unethical, but discriminatory’ (NHMRC, 2003: pg14).

Responsibility: researchers have an obligation to do no harm and to be accountable for their practice.

Survival and protection: recognises the distinctiveness of the Aboriginal and Torres Strait Islander cultures and respect for the bonds that exist between these cultures and their members (NHMRC, 2007).

The ethical guidelines for conduct of research in Aboriginal and Torres Strait Islander communities were created in response to the identified need to eliminate ‘*difference blindness*’. Inter-cultural obstacles to the development of strategies that will improve well being within this community need to be addressed, and researchers mindful of their role as it relates to the above principles. Ignorance in the interpretation of an individual’s actions and behaviours is possible when these are not viewed through the values, beliefs and cultural heritage in which the patterns of behaviour have been developed (NHMRC, 2003). As customs are so deeply embedded in the experience of an individual it is important for researchers to possess cultural competence in the conduct of their research (NHMRC, 2003). It is a paradox that the oldest inhabitants of this continent need to have these precautions in place, essentially making them a stranger in their own land.

2.9 The Future of Indigenous Research

A key practical recommendation for improvement of research practice and outcome within this community is the involvement of Indigenous peoples in all stages of the

research process (Stewart et al, 2006). This should not be in a tokenistic manner but rather roles that are meaningful and provide ownership of the research project and acknowledgement for, and recognition of their contributions (Pyett, 2002). Partnership models of primary health care introduced in Aboriginal and Torres Strait Islander communities have proven successful in improving health statistics (Kelly, 2006). 'Participatory research' or the active participation of community members is 'fundamental for effective research practices to be established and outcomes to be achieved' (Bailey et al, 2006; pg 8). Community based research capacity building is recognised as a structured approach to building knowledge and skills and enabling health workers to contribute to research being conducted within their community (Bailey et al, 2006).

Within Indigenous research publications there is a plethora of descriptive studies. Sanson-Fisher et al (2006) present concerns that this provides information relating to health patterns and determinants but does not necessarily provide change related evidence. Nor would it take into consideration cultural beliefs, practices and norms. Perhaps the methods used to acquire knowledge in Aboriginal and Torres Strait Islander communities are at the moment the most important aspect of research as it would seem that valuable information is being ignored in the pursuit of health determinates and fast solutions (Cochrane, 2008). One might ask if we are not doing Aboriginal and Torres Strait Islander people and communities a disservice by labelling them as 'vulnerable' or 'special' and not acting instead to resolve the factors that have contributed to this status. There is potential for Aboriginal and Torres Strait Islander people to be enabled. Through the appropriate, community based and ethical health investigation that engages and educates community members in the

research of identified problems, Aboriginal and Torres Strait Islander peoples will be less vulnerable to harm, coercion or deception; unintentional in most cases, but that can eventuate as a result of the ignorance of the researcher.

2.10 The Significance and Innovation of this Research

The Council of Australian Governments in 2007 committed to 'closing the gap' between Indigenous and non-Indigenous health statistics with one of the primary milestones for the campaign being to "*halve the gap in mortality rates for Indigenous children under five within a decade*" (COAG, 2007; Mackean et al, 2008; Save the Children, 2009). In addition to establishing primary health infrastructure and addressing issues of access and cultural validity of services offered, effective health promotion initiatives are vital to achieving this goal (Mikhailovich, Morrison, & Arabena, 2007).

In their review of evaluations of Indigenous health initiatives, both Mikhailovich, Morrison, & Arabena (2007); and Herceg (2005) found that evaluations from many programs had either not been performed, were limited by design or funding, or were not disseminated through publication. Therefore limited high quality evidence relating to health promotion intervention within the Aboriginal and Torres Strait Islander community is available (Herceg, 2005). This study aims to go some way to addressing this gap in the literature by evaluation of a targeted, culturally specific, and educationally supported health promotion initiative within the Aboriginal and Torres Strait Islander community from the perspective of the Indigenous Child Health Worker and Child Health Worker.

2.11 Summary

The health and wellbeing of Aboriginal and Torres Strait Islander peoples in Australia needs urgent application of evidence based strategies that work towards reduction of risk factors for poor health and promotion of those factors that are protective and contribute to building of capacity within Indigenous communities (Kruske, Hikuroa & Bradford, 2008). The development of state and national policy and funding for Indigenous health only provides the foundation for initiatives within this community. In development of programs for health promotion, attention needs to be given to cultural and environmental variables of health, access, education and literacy.

The gap in the literature relating to the evaluation of programs implemented within the Indigenous population is clear. The implementation of an illness assessment tool '*Baby Help*' was aimed at addressing issues of early identification and treatment of serious illness in Aboriginal and Torres Strait Islander children aged 0-2 years. There was no formal evaluation planned to accompany the '*Baby Help*'. This study provided an opportunity to evaluate the effectiveness of this intervention in collaboration with MCH&SB, Queensland Health and the Indigenous Child Health Worker and Child Health Worker community. Additionally, we sought to gain insight into the role of the Indigenous Child Health Worker and Child Health Worker and what barriers they perceive there to be to their practice.

Chapter Three: Methodology

3.1 Introduction

This study was originally conceptualised as an evaluation of a health promotion activity within the Aboriginal and Torres Strait Islander community; specifically the introduction and evaluation of the effectiveness of *'Baby Help'*, an infant illness assessment tool designed to assist Indigenous parents and carers in identifying the early signs of serious illness. Assessing the end user of this tool would have provided insights into its uptake and appropriateness for Indigenous families. However, access to this population for the purpose of research was identified by the Maternity, Child Health & Safety Branch (MCH&SB), Queensland Health and the Nursing Research Unit, Royal Children's Hospital & Health Service District, at a very early stage of proposal development to be problematic and potentially outside the scope permitted by the guidelines and resources of the scholarship funding that was available (Royal Children's Hospital Foundation - Research Skills Development Scholarship for Nurses to be conducted within a 12 month period).

In consultation with key stakeholders and in consideration of the resource limitations, it was decided that a more feasible focus of the study should be on the Indigenous Child Health Worker and Child Health Workers and their role in the implementation of this tool in the wider community. Indigenous Health Workers deliver care in a wide range of community settings. They are uniquely positioned to support the implementation of health promotion and educational materials and to feed back their interpretations relating to the efficacy and benefit of individual resources to their practice, and their perceptions of its acceptance and use within the community. At

the inception of the *'Baby Help'* project, no formal evaluation to accompany the implementation of this tool for the Indigenous Child Health Worker and Child Health Worker was planned by Maternity Child Health & Safety Branch (MCH&SB), Queensland Health. This provided an opportunity to collaborate with MCH&SB, Queensland Health and the Indigenous Child Health Worker and Child Health Worker community to evaluate this initiative in practice.

3.2 Evaluation Research

In health care, *evaluative research* refers to the assessment of organisations, programs, products or individuals to ascertain the relative success of their implementation and impact as an agent of change (Minichiello et al, 2004, Clarke & Dawson, 1999). Stufflebeam and Shinkfield (2007:16) define evaluation as:

"...the systematic process of delineating, obtaining, reporting and applying descriptive and judgemental information about some objects merit, worth, probity, feasibility, safety, significance and/or equity".

Evaluation can take the form of a description of the performance of the subject being evaluated, or the measurement of performance of a subject against a set of criteria (Rossi et al, 2004). The overarching goal of evaluative research is to answer practical questions relating to the implementation and outcomes of a given program (Blanche, Durrheim, & Painter, 2009). Social programs are implemented with the goal of improving social conditions, and therefore there is a need to detail the ability of the program to produce social benefit (Rossi et al, 2004). To continue funding for

programs where no evidence of their value exists is inadequate and unacceptable; steps must be taken to ensure that outcomes positively impact the end user (Crane, 1998).

In the evaluation of a program, one or more of five domains can be assessed. These domains as described by Rossi et al (2004:29) are:

1. The need for the program
2. The design of the program
3. The implementation of the program and it's service delivery
4. The impact and outcomes of the program
5. The efficiency of the program (cost / quality).

When evaluating any of the above domains, there are four levels of information that can be gathered from participants. McNamara (2006: Selecting which methods to use section; paragraph 3) identifies these as:

1. Reactions and feelings
2. Learning, enhanced attitudes/ perceptions of knowledge
3. Skill changes in the form of learning applied to practice
4. Effectiveness in the form of improved performance.

For the implementation of the '*Baby Help*' Infant Illness Assessment tool, the first domain, the need for the health promotion program, had been established prior to the development of the tool by the University of Queensland, School of Population Health (Vlack et al, 2000). Therefore, for the purposes of this study, focus was placed on the remaining four domains.

Both the program design and implementation were evaluated utilising the four levels of information described by McNamara (2006). This information has been gathered through focus group discussion; survey responses and anecdotal evidence. The impact and outcomes of the program were evaluated utilising levels two and three information to determine change in knowledge. Effectiveness (level 4) information was used in relation to the Indigenous Child Health Workers and Child Health Workers perception of the impact the tool had on performance. The efficacy of the program was evaluated in terms of perceived support by the Indigenous Child Health Worker and Child Health Worker.

3.3 '*Baby Help*' Evaluation

The development of the '*Baby Help*' tool and the implementation strategy to be used for its introduction to the Indigenous Child Health Worker and Child Health Worker workforce was co-ordinated through the office of Maternity Child Health & Safety Branch. A timeline for the initial introduction of this resource to the Indigenous Child Health Worker and Child Health Worker community was set by the MCH&SB and occurred in May 2008 at an organised state-wide workshop during an Indigenous Health Showcase conducted in Cairns, Queensland. This scheduled introduction to the tool was planned regardless of whether or not an evaluation process was in place, primarily because the tool was considered by MCH&SB to be ready for dissemination and withholding the tool and its anticipated potential to positively impact on Indigenous Child Health issues would be unethical. For the researcher, face-to-face access to this usually widely dispersed population at the one venue was a rare opportunity and facilitated the collection of implementation data within a

timeframe that also met study requirements. Therefore implementation surveys including questionnaires and focus group discussions were completed within this conference forum.

Post implementation surveys were scheduled to be undertaken 8-12 weeks post introduction of the '*Baby Help*' tool into primary health facilities for use by Health Workers. Following introduction of the tool to Indigenous Child Health Workers and Child Health Workers amongst conference attendees, MCH&SB determined to withhold the widespread distribution of the tool until consumer testing could be conducted amongst a pilot group of parents and carers of children aged 0-2. This was to ascertain if the tool would be interpreted by end users appropriately. Informed from this consumer focus group, MCH&SB went on to develop an instruction sheet for staff (ICHW & CHW) to utilise as a guide when introducing the tool to parents and carers (Appendix 10). This instruction sheet was introduced to a gathering of ICHW by MCH&SB staff in October 2008 as an addendum to the '*Baby Help*'. Ultimately these events meant that the release of the '*Baby Help*' to the Indigenous Child Health Worker and Child Health Workers for use in the Indigenous population was delayed until December 2008. This impacted Phase 3 of this study by delaying post test implementation by approximately six months.

This study employed a multiple research method design to evaluate the impact of a health promotion initiative introduced to Indigenous communities by the Indigenous Child Health Workers and Child Health Workers. The '*Baby Help*' aimed to contribute to:

a) *Early recognition and treatment of serious illness in infants.*

Infant death rates are higher compared to any other age group across the lifespan (CCYPCG, 2008). Indigenous infants die suddenly and unexpectedly (SUDI) at five times the rate of non-Indigenous infants (CCYPCG, 2008). Enquiries into SUDI deaths have identified failures to recognise the severity of illness by both parent and health carer (Fleming et al, 2000). '*Baby Check*', the original tool on which '*Baby Help*' is based, has been identified as having the potential to guide families and health workers in their management decisions when presented with a sick infant (Thomson et al, 1999).

b) *Improved community knowledge and practice in terms of infant assessment and identification of problems:* Parents often have difficulty identifying and communicating their concerns about their baby's health to health professionals (Fleming, 2000). The '*Baby Help*' tool aims to provide a framework to quantify infant illness and facilitate earlier and appropriate referral (Morley et al, 1991; Thomson et al, 1999).

c) *Confidence and skill in the assessment and management of infant illness:* The use of '*Baby Help*' was anticipated to provide the Indigenous Child Health Worker and Child Health Worker with a framework for assessment which would facilitate the development of confidence and knowledge and improve the Indigenous Child Health Worker and Child Health Worker's ability to act as a resource and educator for infant caregivers.

This study was limited to an evaluation of the impact of the *'Baby Help'* tool on Indigenous Child Health Workers' and Child Health Worker's knowledge, practice and perceived experiences of families using *'Baby Help'* in the community. Although beyond the scope of this study, it is possible that *'Baby Help'*, if successfully integrated into Indigenous Child Health Worker and Child Health Worker practice, will positively impact health literacy, consultation efficacy and illness care practices amongst mothers and primary carers within the Aboriginal and Torres Strait Islander community.

3.4 Study Aims

The primary aims of this project were to:

1. Identify the level and types of support required by Indigenous Health Workers and Child Health Workers when a new resource is introduced into their practice and subsequently into the community.
2. Identify current knowledge, attitudes and self reported practices of Indigenous Child Health Workers and Child Health Workers in relation to infant illness, illness management and referral processes;
3. Identify the success of the implementation strategies employed for the *'Baby Help'* tool in the provision of support for and development of the role of the ICHW and CHW in practice.
4. Determine the impact of a health advice and illness assessment tool on the knowledge and practices of families relating to infant illness, management and referral, as perceived by Indigenous Child Health Workers and Child Health Worker.

Research Questions

This study sought to answer the following research questions:

- 1) Did the implementation strategy employed for the *'Baby Help'* tool provide appropriate and effective support for the role of the Indigenous Child Health Worker and Child Health Worker in practice?
- 2) **Were** the knowledge, attitudes and self reported practices of Indigenous Child Health Workers and Child Health Workers consistent with early and appropriate i) recognition, ii) treatment and iii) referral of serious illness in infants?
- 3) **Did** an educational intervention and utilisation of the *'Baby Help'* in practice, significantly and positively impact Indigenous Child Health Worker and Child Health Worker knowledge, attitudes and self reported practices relating to early and appropriate i) recognition, ii) treatment and iii) referral of serious illness in infants?
- 4) **Has** utilisation of *'Baby Help'* result in improved caregiver knowledge and practice relating to appropriate i) recognition, ii) treatment and iii) referral of illness in infants, as perceived by the Indigenous Child Health Worker and Child Health Worker?

3.5 Population

The target population comprised Indigenous Child Health Workers and Child Health Workers working within Queensland's Aboriginal and Torres Strait Islander communities who provide care for mothers and care givers of children aged 0-2 years. All Indigenous Child Health Workers and Child Health Workers who participated in the introductory session for the *'Baby Help'* tool were eligible to participate in the study and were invited to take part (n=49). For the purposes of this study 'Indigenous Child Health Workers' will be taken to mean Indigenous Health

Workers working in contact with **Indigenous** parents and carers of children aged between 0-2 years in their practice. It includes: immunization; ante/ postnatal; maternity; paediatric; family; child; child and youth; chronic disease; and general health workers. The term 'Child Health Worker' will be used to identify study participants working as line managers; registered nurses; educators or ancillary staff (i.e. child care coordinators; practice managers) and who have contact with **Indigenous** parents and carers of children aged between 0-2 years in their practice or support individuals who have this role.

3.6 Research Design

A mixed methods design utilising focus groups and a pre test/ post test intervention was implemented for this study. This was conducted in four phases, and surveyed the knowledge, attitudes and self reported practices of Indigenous Child Health Workers and Child Health Workers relating to appropriate infant illness assessment, management and referral.

Phase 1: Staff Survey Pre Implementation

With the then Maternity, Child Health & Safety Branch acting as cultural broker for this study, the chief researcher identified participants through their attendance at an inaugural Indigenous Workshop held in May 2008. Designed as an opportunity for Indigenous Child Health Workers and Child Health Workers to share their practice experience and knowledge with their counterparts throughout the state, workers employed across the (then) three Area Health Services (AHS) attended a specifically convened training day (n=50). This provided the researcher with a unique opportunity to access this population within the one venue. The consent form

(Appendix 1), information sheet (Appendix 2) and surveys; section 1 and 2 (Appendix 6 & 7), were given to attendees on Day One of the workshop prior to the education session on identification and management of infant illness. Before surveys were distributed, a short oral presentation was given where the chief researcher was introduced, an overview of the '*Baby Help*' tool and the aims of the study were given, and the goals of the evaluation process and criteria for voluntary consent were established. The option for conference attendees to not participate was provided and emphasised at this time. The survey took approximately 20-30 minutes to complete and all surveys were returned to the researcher prior to the participants receiving the '*Baby Help*' tool. Informed consent included permission to contact the participant as part of the *Phase 3* follow-up and preferred contact details were obtained on separate forms at this time. The pre implementation survey, as well as identifying demographics that were particular to the respondent population, aimed at situating participants on a knowledge scale in relation to information derived from the '*Baby Help*' content.

Phase 2: Focus Groups

Following survey completion, focus group discussions were initiated in groups utilising the seating format at the conference venue. Eight tables of participants consented to join in open discussion of themes presented during an hour and a half long session. Utilising power point presentation, four questions were posed over the time frame (Appendix 5) that aimed to stimulate thought and discussion relating to elements of support for their role. Participants recorded the opinions and perceptions of the group on paper. Facilitators who included the chief researcher; a research supervisor; senior Indigenous Health staff members and members of the MCH&SB

Indigenous Health Team were available for clarification of themes and facilitation of groups.

Phase 3: Educational Implementation Period

The '*Baby Help*' tool launch took advantage of the assembly of a large number of Indigenous Child Health Workers and Child Health Workers from across the [then] three Queensland Health Service Districts who had gathered to participate in the Indigenous Health Showcase in Cairns. One of the original authors of the '*Baby Help*' tool presented a one and a half hour information session on this specifically convened training day for the Indigenous Child Health Workers and Child Health Workers present.

This information session aimed to outline clinical approaches to recognition of serious illness in infants. Focus was placed on the clinical aspects of respiratory; gastrointestinal and skin disease and infection together with fever management and disease identification. Discussion covered the potential for children in the 0-2 year age grouping to become unwell very quickly in the presence of subtle physical evidence making the diagnosis of problems difficult. Statistics relating to the high rates of serious illness and infection in Aboriginal and Torres Strait Islander children were discussed and specific methods of identifying the classic features of common childhood illness were reiterated (Vlack, 2008).

Phase 4: Staff Survey Post Implementation

Participants were contacted 8-12 weeks after '*Baby Help*' was distributed into communities. It was considered that this amount of time would be adequate for the

Indigenous Child Health Workers and Child Health Workers to have had an opportunity to work with their clients utilising the '*Baby Help*' tool. Consent had been obtained for this contact at the time of the original workshop and participants were aware of the timeframe for implementation. Utilising postal and email reminders (Appendix 3) and a second mail out to non responders (Appendix 4), participants were asked to complete a post implementation survey that was based on the pre implementation survey with additional themes relating to experiences with the '*Baby Help*' tool. Following the pre implementation positioning of participants on a scale for knowledge directly relating to the content of the '*Baby Help*' tool, the post implementation survey aimed to take a second snapshot of knowledge levels in order to gain a comparison.

3.7 Survey tool development and pilot

A survey tool specifically designed to evaluate Indigenous Child Health Worker and Child Health Worker knowledge, opinions and practices relating to infant illness assessment, intervention and referral processes was developed based on the content of the revised '*Baby Help*' tool ('*Baby Help*' tool, version April 2008). The penultimate version of the survey was reviewed by an expert panel of maternity, paediatric and child health registered nursing staff and included nursing and Indigenous academics and researchers familiar with the original '*Baby Help*' tool and its intention. Their comments and suggestions were incorporated into the final survey version.

Feedback relating to the appropriateness of the survey for Indigenous participants in relation to language and content was provided by the Buranga Centre at the

University of the Sunshine Coast and the Indigenous Project Officer at Maternity, Child Health and Safety Branch. Permission to pilot the survey tool with a representative sample population was sought (through the Royal Children's Hospital Ethics Committee) prior to overall ethics approval, and a total of six Queensland Health Indigenous Health Workers who were not included in the targeted population as they were not attending the Cairns Showcase, were asked to take part. Responses were obtained from three health workers (n=50%) with recommended changes to the survey tools being minor and predominantly related to language used. For example, in the pilot responses, the interpretation of one question was noted to be different to that intended by the researcher and the wording was altered to facilitate greater understanding. In the demographic section of the survey an identifier for cultural background that included 'Australian South Sea Islander' was added.

3.8 Study Tools

Pre Survey Section One: Scope of Practice

This survey contained 26 questions in mixed frameworks depending on the content covered. Fixed choice, Likert scale and short answer responses were included.

1. Demographic Data- Questions were designed to establish an individual's practice background and context in which they worked. Following consultation with the expert panel it was acknowledged that the scope of the Indigenous Health Workers and Child Health Workers practice was wide and varied depending on the location and situation they worked within. The demographic questions were therefore designed in an attempt to capture the specifics of individual practice that could impact uniquely

on their other responses. For example; questions relating to the size of communities and distances travelled to access services were included.

Rationale: As the scope of practice for the Indigenous Child Health Workers and Child Health Workers can be extremely diverse, it was seen as important to be able to appreciate each individual's practice situation in order to better interpret information gained from survey responses (Appendix 6).

2. *Self reported practice:* This part of the survey explored practice, experience, environment and attitudes relating to role support in an attempt to interpret individual practice relating to infant illness that it is intended the '*Baby Help*' tool will impact on.

Rationale: Measurement of Indigenous Child Health Worker and Child Health Worker practice relating to advice, education and perceived community uptake of the '*Baby Help*' tool would determine if this has been a successful resource with which to enhance and support Indigenous Child Health Worker and Child Health Worker practice.

Pre Survey Section Two: Knowledge, Attitudes and Practice

This survey contained 18 questions and used a mixed pattern of question styles including fixed choice with single or multiple correct answers; short answer responses and rating scales being used (Appendix 7).

Knowledge and practice data: This survey aimed to establish a current knowledge level directly relating to information contained within the '*Baby Help*' Infant Illness Assessment tool. Utilising information contained in the '*Baby Help*' booklet relating to identification and evidence-based treatment of common childhood illnesses and conditions, and related themes of gastrointestinal illness; dehydration; fever; burns;

sleep positioning; respiratory illness; medication; ear health; skin conditions; and health promotion. Survey questions were designed and reviewed by the expert panel for representativeness, suitability and application. Evaluating the practice level at which an individual operates will enable an assessment to be made regarding change of knowledge levels that could be attributed to the introduction of the 'Baby Help' infant illness assessment tool. Questions included in this part of the study were designed to assess:

1. *Knowledge about symptoms of illness in children.*
2. *Knowledge of appropriate treatment practices that should be initiated.*
3. *Knowledge of need for referral.*

Rationale: The ability of a health carer to recognise the severity of illness in children and advise, treat or refer appropriately to primary care resources is essential to ensure sick infants receive appropriate medical care. This ability is developed as a product of time, education and experience (Benner, 1984), and regardless of the individual's point on the practice continuum, with the appropriate implementation of educational opportunities, an expansion of the individual's knowledge base should be seen.

Focus Groups

Focus group interview techniques are a recognised qualitative data collection method that utilises the dynamics of a group to infer lived experiences and perspectives from individuals (Freeman, 2006). Through a focus group session the researcher in this study aimed to gain information relating to:

1. *Perspectives of support for the role of ICHW.*

Rationale: Through the development of educational resources, MCH&SB are aiming to support the Indigenous Child Health Worker role of health promotion and education in practical ways. However, the extent to which the Indigenous Child Health Workers and Child Health Workers feel supported professionally, educationally and within the community is not known. Exploring this issue has the potential to identify how best to support the Indigenous Child Health Worker & Child Health Worker in practice and give valuable insight into future directions for health promotion activities.

2. *Attitudes regarding tool efficacy and use.*

Rationale: The pilot of the 'Baby Help' tool in 2000 identified that it was perceived to be a culturally appropriate and effective resource to improve the knowledge of signs of childhood illness (Vlack et al, 2000). Seeking attitudes from professionals who will be utilising the information in practice and educating mothers and carers regarding tool use is a valuable means of providing feedback to inform future initiatives.

3.9 Ethical Issues

This project was conducted in accordance with the National Statement on Ethical Conduct in Research involving Humans' (NHMRC, 2007). Ethical approval was obtained from both the [then] Royal Children's Hospital and Health Services District Ethics Committee and the University of the Sunshine Coast Ethics Committee prior to the commencement of this study. Informed consent was obtained from all participants prior to their recruitment into the study.

Participation or non-participation in this study in no way impacted the introduction, education or access participants obtained with regard to the '*Baby Help*' Infant Illness Assessment tool and participants were assured both verbally and in written form that they were free to withdraw from the study at any time.

Survey responses for individual participants were de-identified through numerical coding and this code was used for data entry and matching pre and post implementation responses. No data has or will be published in a form that allows for any individual to be recognised.

Data was regularly saved onto USB storage devices for back-up and compact disks for long term storage. All information was kept in the strictest confidence, in a locked filing cabinet accessible only to the chief investigator. As this study originated through a funding grant from the Royal Children's Hospital Foundation, all data in a de-identified form shall be stored at the Royal Children's Hospital securely for a minimum period of five years prior to it being destroyed.

Indigenous Research Conduct

Having identified the six ethical guidelines for research conducted within the Indigenous population it is necessary to now address how these principles were met within this current study.

Spirit and Integrity: Recognition for this concept was directly addressed through the researcher's attainment of knowledge relating to Indigenous history and specific cultural concepts of community and family. Efforts to address this principle were performed through recognition and translation of Indigenous specific concepts into

content and wording of questions and information throughout this study. Drafts of all relevant documentation were reviewed by an Indigenous representative through Indigenous Services (Buranga Centre), at the University of the Sunshine Coast.

Reciprocity: Through the evaluation of the *'Baby Help'* tool, valuable feedback has been obtained from Indigenous Child Health Workers and Child Health Workers relating to support, education, resources and practice within their communities. While there was no negotiation of benefits entered into relating to the study concept or conduct, outcomes of this evaluation could conceivably contribute to health worker role cohesion and the improved management of infant illness.

Respect: Issues of respect have been addressed in the following ways; recognition of the contribution of participants and colleagues in the development and application of this study (see acknowledgements) and consideration for and acceptance of individual values and differences through the unbiased analysis of data produced from this study. Additionally, at the time of this report being compiled, an abridged version of study findings was being produced for dissemination specifically amongst study participants.

The chief researcher acknowledges that this guideline could have been addressed more comprehensively through longer attendance at the Workshop event where the *'Baby Help'* was launched. This event was aimed at showcasing the work that Indigenous Child Health and Child Health Workers throughout the state were achieving. It is regrettable that greater time collaborating with attendees within this forum was not accommodated.

Equality: All study participants, colleagues and advisors were treated equally through out the conduct of this study.

Responsibility: By adhering to the outline for ethical performance of this study that was reviewed by research ethics committees at both Royal Children's Hospital and the University of the Sunshine Coast, the obligation to do no harm and to be accountable for research practice has been met.

Survival and Protection: This principle is addressed through the recognition that it is a priority to conduct evaluation of health promotion initiatives within the Aboriginal and Torres Strait Islander population, recognising their culture as being distinctive and individual.

This study has been a learning process in Indigenous culture, ways and meaning for the chief researcher. Depending on hindsight is only regrettable if there are no lessons learnt. Future studies in this area would need to include greater evaluation of Indigenous Child Health Worker and Child Health Worker practice within practice settings. Additionally, avenues for research capacity building within the Indigenous Child Health Worker population would be a priority in any future studies undertaken within this population.

3.10 Data Analysis

Data entry and analyses were conducted using EXCEL and the statistical package SPSS Version 17.0, (SPSS Inc) respectively. Summary statistics were used to describe the demographics of respondents. Frequencies, mean, median and standard deviations were initially calculated on responses for knowledge surveys. Additional analysis

employing non-parametric paired and independent sample tests (Mann Whitney and Wilcoxon Signed Rank Tests) were applied to data with a significance level (p) of 0.05 being used. Focus group and additional textual data obtained in the form of written comments was categorised and reported by employing the principles of thematic analysis as outlined by Newell & Burnard (2006).

Chapter Four: Findings

4.1 Introduction

As detailed in the previous chapter, this study included three phases. Phase one involved the pre implementation scope of practice survey; knowledge, attitudes and practice survey; and participation in focus group sessions. The second phase included the educational intervention and a period of implementation within communities, and following this, in the third phase, participants were asked to complete a post implementation scope of practice survey and repeat the knowledge attitudes and practice survey. This chapter will report on the outcomes of analysis of data collected and is organised into the following sections:

1. Description of study participants and demographic data;
2. Results from analysis of focus group data, and written responses from initial survey participants;
3. Scope of Practice (SOP) results: data related to education, experience, practice, and access are described for both pre and post implementation groups;
4. Knowledge, Attitudes and Practice (KAP) results for the pre implementation participants;
5. Comparison of Knowledge, Attitudes and Practice between pre and post implementation groups.

4.2 Study Participants

As discussed, participants in the study were recruited during an educational day during the Statewide Indigenous Health Showcase that was designed to introduce health workers to the 'Baby Help' tool and Indigenous specific Safe Sleeping resources. Figure 4.1 provides a description of the participant population for the study.

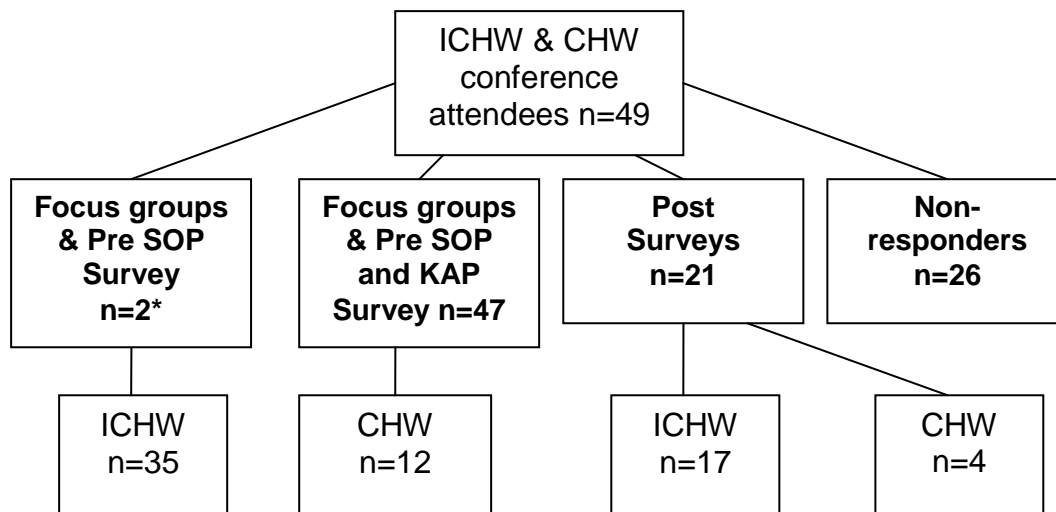


Figure 4.1 Participant population

Recruitment and Response Rates

Of the 49 participants at the Indigenous showcase, all completed the Scope of Practice section of the survey but there were two participants who did not complete the Knowledge, Attitudes and Practice section and were therefore removed from the sample overall*. Therefore, 47 participants completed both Scope of Practice and Knowledge, Attitudes and Practice sections of the survey and participated in the focus group activity, achieving a response rate of 96%. Of the 47 participants who completed the pre implementation survey, 21 respondents completed the post

implementation survey, achieving a 45% post implementation response rate (Figure 4.1).

Demographics: Pre Implementation and Post Implementation Participants

The primary cultural background identified within the pre implementation participant group was Aboriginal (31, 66%). There was a small proportion of Torres Strait Islanders represented (2, 4%). Non-Indigenous participants made up 23% (11); with the remaining participants (3, 7%) nominating a cultural background that included all three of the above. The majority of the sample was aged 41 years or older (31, 66%), and most participants were employed in a full-time capacity (38, 81%). Table 4.1 provides demographic details of both the initial sample (n=47) and the post implementation sample (n=21). The post implementation sample comprises the participants who completed both the initial and second survey. It is this paired group which is compared in terms of change in knowledge, attitudes and practice before and after the education session and implementation of the '*Baby Help*'.

Table 4.1: Summary of Demographic Variables: Pre Implementation & Post Implementation participants

<i>Demographic Variables</i>	<i>Pre implementation Group (n=47)</i>		<i>Post implementation Group (n=21)</i>	
	n	%	n	%
<i>Gender</i>				
Female	47	100%	21	100%
<i>Age (years)</i>				
18-30	7	15%	4	19%
31-40	9	19%	5	24%
41-50	16	34%	7	33%
51-60	12	26%	3	14%
>61	3	6%	2	10%
<i>Cultural Background</i>				
Aboriginal	31	66%	17	81%
Torres Strait Islander	2	4%	0	-
Australian South Sea Islander	0	-	0	-
Non-Indigenous	11	23%	4	19%
Mixed cultural background	3	7%	0	-
<i>Hours worked per week</i>				
≤20	4	9%	1	5%
24	1	2%		
32	2	4%	1	5%
36	2	4%	2	9%
38-40 (full-time)	38	81%	17	81%

Comparisons of the demographic data suggest that the pre and post implementation groups were comparative. The pre implementation group tended to be slightly older with 34% (n=16) \leq 40 years of age and 43% \leq 40 years (n=9) in the post implementation group; there were 66% (n=31) who were \geq 40 years of age in the pre implementation group and 57% (n=12) in the post implementation group. A greater proportion of respondents in the post sample were of Aboriginal descent (66% pre vs. 81% post); with the proportion of full time workers in both the samples being the same (81%).

4.3 Support for Indigenous Child Health Workers and Child Health Workers: Findings from focus group interviews and written responses.

The central purpose of thematic analysis is to identify commonalities in the responses obtained from a group who participate in a guided discussion (Minichiello, 2004). Through thematic analysis there is an organisation and structuring of the data that takes place (Newell & Burnard, 2006). The responses obtained in this particular focus group session were reflective of the diversity of work experience and environment that Indigenous Child Health Worker and Child Health Worker participants brought to the discussion.

Participants were grouped according to the conference venue seating arrangements. Each group was provided with paper and pens and one group member was allocated as the scribe for the session. Each question was introduced by the chief researcher

and elaborated on accordingly. PowerPoint representations of each question were projected onto a common screen while discussions ensued in groups. The chief researcher and session facilitators moved between groups in order to answer questions, assist the flow of discussion and maintain momentum amongst the group members in their identification of themes (See Appendix 5).

This group data in the form of written ideas and information was collected at the end of the session. At a time point within one week of the focus group session, so that events were fresh in the chief researcher's memory, the comments relating to each question were at first read and then themes and sub themes identified within the text. This method of data analysis is known as a 'template approach,' where responses to specific questions were reviewed through the asking of questions of the data (Newell & Burnard, 2006). The significant themes and related sub themes identified included:

Theme: Support for Indigenous Child Health Worker and Child Health Worker Role.

Professional support, internal and external;

Community support; and

Educational support, internal and external.

Theme: Managing Infant Illness

Confidence in relation to illness management and infant care, and confidence in clinical practice

Theme: Need for Infant Illness Assessment Tool

Client Use

Tool Design

Implementation and value to the Health Worker.

Impact on Practice.

4.3.1 Support for Indigenous Child Health Worker and Child Health Worker Role

The first question asked during the focus group session was “*In relation to your daily practice as an Indigenous Child Health Worker or Child Health Worker, do you feel supported in your role?*” Through analysis of text provided by group responses to the question of support, three underlying sub themes of *professional support, community support and educational support* were identified.

For this question, it became apparent that simply asking if the participants felt supported ‘professionally’ was not sufficient. Participants identified levels of support in their roles as coming from external bodies, for instance other agencies (government and non government). However there was also a level of support that could be identified as ‘internal’ that originated from within their own teams, including co-health workers and supervisors. Therefore the responses to this question have included sub themes of: professional support, internal and external; community support; and educational support, internal and external.

Professional support: internal and external

Internal support was identified as opportunities for collaboration with other health workers, and other Indigenous colleagues in particular. There was a desire for clear outlines of role responsibilities and the concepts of being ‘trusted’ by more senior staff and a desire to be considered equal to other team members were expressed. The existence of open lines of communication, appropriate supervision and capacity building were also identified as priorities for role support. Respondents indicated

that being co-located with other services was an important consideration that contributed to ongoing collaboration and support. The difficulty of working in isolation was clearly highlighted with the transience of casual staff in some regions contributing to the perception of a lack of support for those for whom the roles were permanent. As with other disciplines in rural locations, staffing was a key area mentioned with the Health Worker feeling overloaded, especially when performing a number of varied roles within the community they work (i.e. generalist health worker and child health worker programs). The need for cultural sensitivity amongst colleagues was mentioned as important for the support of the Indigenous Child Health Worker and Child Health Worker role. Also identified was access to transportation, with home visits being a major mode of client follow up but there was often a problem of no vehicle available to them to conduct this work.

When examining issues of external support for the Indigenous Child Health Worker and Child Health Worker role, case conferencing was seen as a very positive mode of interagency communication and collaboration for patient management. Open lines of communication between hospitals and other agencies and the health workers, especially with discharge planning and referral, and also access to other professional services were identified as important. The involvement of all agencies in community education and health promotion plans was also highlighted as being important in supporting the health worker role.

Community Support

Participants identified that there was support for their roles offered from community organisations and that they felt the Indigenous Child Health Worker and Child Health

Worker role increased the establishment of trust between community and services. Initiatives were in place in some areas where community members took active roles in liaison with health services. It was identified that the Indigenous Child Health Worker role was perceived differently by different communities. Sometimes this was established by the role predecessor and how they had fulfilled the Indigenous Child Health Worker role in the community, thereby setting expectations amongst community members. Also, participants outlined that there were inherent difficulties of working within your own community where interfamilial relationships could impede the fulfillment of the Indigenous Child Health Worker role. This was also an issue in relation to child protective services in that, community members on occasion felt threatened by health professionals, which in turn impacted on the development of therapeutic with clients. Participants felt that they could achieve better outcomes for their clients through establishing community support and this had led to the development of strong partnerships in some areas.

Educational Support: internal and external

Clinical supervision, in-service sessions and release to attend workshops and conferences were all identified as ways that the health workers felt supported in ongoing education in their work areas. Varying levels of support were identified in the group responses with more remote workers detailing difficulties in gaining release from work to attend education sessions. A very clear message was that there is a need for Indigenous components to be incorporated into existing resources and for the development of Indigenous specific resources (information books/ brochures/ posters, DVDs, websites, etc) for community use to support Indigenous Child Health Workers and Child Health Workers with their role in education. Cultural awareness

was again mentioned in relation to the educational opportunities offered. Access to basic education support resources such as stationary supplies or photocopiers were also problematic for some respondents.

4.3.2 Managing Infant Illness

To further explore respondents self evaluated confidence in dealing with infant illness, the second question asked during the focus group session was, *‘What areas of managing infant illness do you feel confident/ not so confident about?’*

Through analysis of text provided by group responses to this question, the underlying sub themes of *‘confidence in relation to illness management and infant care’* and *‘confidence in clinical practice’* were explored.

Confidence in relation to illness management and infant care

This question was again looked at in a group context with participants being quite specific in their responses. Overreaching themes that were gained from the responses to this question demonstrated that infant care practices and illness management were areas that the majority of participants felt quite confident in. It was also identified by one group of participants that they had confidence in their clients and that their clients would seek help when their infant was unwell. Infant care and illness management areas that some groups identified as not being confident about were communicable diseases, skin conditions and baby development, food and formula feeding. Some of the resources available were identified as causing some difficulty, specifically the Personal Health Record (Queensland Health, 1995) and the ‘Strong Baby’ resources (Queensland Health, 2002). While these resources were

identified, the specific difficulties that were being experienced with them were not articulated, and the 'Strong Baby' resources were identified by other respondents as having been valuable in practice.

Confidence in clinical practice

Participants identified that having confidence within their practice contributed to improved communication, both with clients and colleagues; greater ability to collaborate within your own team (i.e. advocating for clients and utilising team approaches) and between agencies (e.g. child safety; referral), aided in the identification of areas that practitioners could have the most impact and contributed to community involvement, especially the inclusion of elders, in health programs. The need for recognition of the centrality of the role of the Indigenous Child Health Worker to all interventions with clients and the idea that further and future treatment that was sought by clients was reliant on this relationship was also proposed. Through confidence in their own skills and abilities, Indigenous Child Health Workers and Child Health Workers indicated that they were able to motivate their clients in practice.

Respondents identified a number of clinical practice areas where they felt that problems with confidence arose, such as excessive referral to General Practitioners when a Indigenous Child Health Worker or Child Health Worker was lacking in confidence, as well as feeling less than confident in the skills of a Licensed Medical Officer (LMO) who was not very experienced in the area. The use of resources that were not culturally appropriate was identified as causing difficulty for participants. An aspect of respect for or consideration of, the role of the Indigenous Child Health

Worker by other members of the health care team was identified as being needed to establish confidence. This was specifically identified in relation to input in case management. One focus group identified that there was a need for greater education and qualification achievement amongst health workers in general, with it being recognised that workers who had a combination of experience, skill and education performed their roles with greater confidence.

4.3.3 Need for Infant Illness Assessment Tool and Impact on Practice

To determine participant opinions as to the need for an infant illness assessment tool in the community the following question was asked of the focus groups '*Do you feel that an education/ ready reference tool for parents to consult when their child (aged younger than 2 years) is ill has a place and would be utilised in the community?*'

Focus group responses to this question were analysed, with four sub themes identified as *Client use, Tool design, Implementation* and *Value to the Health Worker*.

Client Use

Participants identified that a tool of this nature would be used by some clients but it would need to be simple to follow and easy to understand. Issues of literacy and individual skill level were raised in regard to community uptake of the resource.

Tool Design

It was identified by participants that images would be important and should play a considerable role in a resource of this type. Through the use of images there would be avenues for stimulating conversation between the Health Worker and their client. Other themes identified included the importance of storytelling and the passage of information within the Indigenous culture and that these generational learning methods should not be overlooked in the design of a learning tool. Culturally appropriate and sensitive design was also identified as something that has been lacking in resources to date.

Implementation

A number of participants identified that they felt quite strongly that how the tool was introduced was important. Education would need to go hand in hand with the introduction of the tool for parents and carers to accept the resource. There were views expressed that the Health Worker would need to be able to talk about the tool and the information it contained as well as utilising illustrations to reinforce the information.

Value to Health Worker

Participants identified that a tool of this type would be useful in educational sessions to raise awareness in the community of common signs and symptoms and management issues for childhood illness. Responses indicated that a tool should be used as a guide only and implemented only by health care professionals. There was an opinion expressed that a tool like this would be good for the workplace, but would

only be for home use if it was supplied with education and that parents/ carers had the skills to use it.

Impact on Practice

A fourth and final question relating to the impact of a tool for infant illness assessment in individual practice was asked: *'Do you feel that a tool like this would make a difference to your practice?'*

Responses to this question were justifiably reserved because the participants had not yet had the opportunity to view the tool. Comments relating to the usefulness of resources in general were made and related to any resources being valuable in their 'tool kit' when performing their roles within the communities. Overall comments were positive and anticipatory of being able to use the tool in practice. 'Yarning', is a term used by Indigenous people to describe the passage of information in an informal or even story telling manner. This has been identified as a traditional and appropriate means of information exchange within Indigenous communities (Kovach, 2010). Respondents felt that a resource that could be implemented through this method of communication would work positively in their practice.

4.3.4 Content Analysis: Written Responses from the initial survey

There were written comments on the pre implementation surveys relating to the topic of resource use and availability that were made by participants prior to the introduction of the *'Baby Help'* tool that are grouped and presented here. These comments are generalised responses that do not specifically relate to the tool being

evaluated, but reflect participant's opinions and attitudes, and complement and support the findings from the focus groups.

Additional resources that participants accessed for parent and carer education were identified such as medical officers or other health professionals; guest speakers; elders and community health services like the 'Well Baby' Service, and the Indigenous Community Health Centre. One participant identified that they were using resources from another state in their client education. Access to internet resources such as QHEPS was identified, but was also problematic in some instances, with participants relying on personal web access for downloading of information for their clients, as indicated by the following comment;

"...can access at home and bring back in if not time critical".

Concerns raised in this section of the survey related to the fact that participants felt that clients would need to be assessed as to their ability to use the resource on an individual basis before an illness management tool could or should be implemented. It was identified that respondents felt some parents were more proactive than others and some would not benefit from a written resource as much as from face-to-face consultations.

"I find most clients do not like to read pamphlets etc. They want their questions answered in person".

Another message that respondents clearly identified through their written comments was that they did not want a resource that would override parents 'gut' instincts to seek help. It would be important to ensure users of the resource employed it as a guide only and if unsure or concerned, they needed to seek assistance.

"If child <2 years is unwell should refer to professional help not self diagnose".

"Our community mothers have always accessed the local hospital when they are concerned about their child's health. I would not want to discourage this in any way".

One respondent identified the following

"If community members are well informed before child becomes unwell they are likely to act quicker and seek treatment thus preventing complications".

The importance of any resource targeting Aboriginal and Torres Strait Islander peoples being culturally appropriate in language and design was identified strongly in written comments. One participant noted that their current resources were

"...non-Indigenous info which I then break down and rewrite...not suitable for my clients".

Additionally the theme of a paucity of culturally appropriate resources for Indigenous community use was further supported by this respondents comment

“Culturally appropriate resources are very scarce in Q Health”.

Participants identified that simple, current and evidence based information that could be introduced to clients during home visits would be beneficial to Health Worker practice.

4.3.5 Summary: Pre Implementation Qualitative Data

In summary, thematic analysis of the focus group sessions showed that role support for the Indigenous Child Health Worker and Child Health Worker was multifaceted and included being treated as an equal team member in a culturally respectful manner; identified opportunities for multidisciplinary communication and collaboration; highlighted the need for clear role responsibilities; and supported learning within roles and access to resources for role performance. Cultural appropriateness was an issue identified not only for interaction amongst colleagues but in relation to educational resources that are made available.

Participants generally felt confident in their knowledge relating to infant care and illness management and indicated that having this confidence was important for interdisciplinary and team collaboration. Recognition of, and consideration for, the centrality of the Health Worker role within communities was not only important for care provision but also for establishing confidence for the Health Workers themselves.

Responses relating to the need and potential of an infant illness assessment tool focused on the importance that the tool be culturally appropriate in appearance and language and that Indigenous ways of learning not be overlooked when it was introduced to communities. Participants strongly identified that any such resource needed to be introduced to end users by a health care professional for it to realise any level of acceptance or efficacy.

Participants reiterated in their written comments how important they felt face-to-face interaction with their clients was, and that they would not want any resource to override parents or carers instincts in regard to their child. It was suggested through comments that participants had become resourceful in their sourcing and use of educational resources because they had access to very little Indigenous specific written information.

4.4 Survey Results

4. 4.1 Scope of Practice Survey

Section one of the pre and post implementation survey (Appendix 7) required participants to respond to a series of 26 questions that related to aspects of their experience, education, practice and access to health referral resources in the area that they worked. Demographics of participants were recorded in the pre implementation survey only; therefore for comparison purposes paired responses (participants who returned both a pre implementation and a post implementation survey) have been reported alongside the overall demographic findings. In the post implementation scope of practice survey (Appendix 8), additional questions that

related directly to the ‘*Baby Help*’ tool were asked. Therefore, in this section ‘Pre Implementation Group’ refers to the data from the initial survey (n=47) and ‘Pre and Post Implementation Group’ refers to those participants who completed both surveys (n=21)

Experience

Part one of the pre implementation survey introduced questions relating to the past professional and personal experience of respondents in caring for children aged between 0-2 years. Out of all of the respondents, 21 (45%) identified they had up to two years experience as an Indigenous Child Health Worker or Child Health Worker with the remaining 55% (26) having had two years or more experience. The majority (almost 90%) of the study participants identified that they had previous experience in caring for a child aged between 0-2 years, be that a child of their own; caring for a child within their family, or treating a child as a client (Table 4.2).

Table 4.2: Experience: Pre and Post Implementation Respondents

Experience	Pre Implementation Group n =47	%	Pre and Post Implementation Group n=21	%
<i>Years of Experience</i>				
<1year	13	28%	5	24%
<2years	8	17%	3	14%
2-5 years	17	36%	11	52%
>5 years	9	19%	2	10%

Of the participants who completed both surveys 38% (n=8) had less than two years experience with 62% (n=13) greater than two years experience.

Education

The majority of the pre implementation group (33; 70%) had completed certificate or diploma level studies. This was interpreted as meaning TAFE level credentials. The remaining 30% (n=14) of the group identified education levels that could be attributed to Tertiary studies. Education levels were similar between the pre and post implementation groups (Table 4.3).

Table 4.3: Level of Education: Pre and Post Implementation Respondents

Level of Education	Pre Implementation Group n =47	%	Pre and Post Implementation Group n=21	%
Certificate	19	40%	11	52%
Diploma	14	30%	4	19%
Degree / Bachelor	13	28%	6	29%
Masters	1	2%	-	

Participation in available education was measured by identifying the number of times participants had been present at one of the quarterly MCH&SB in-service sessions during the previous year (total possible sessions; n=4). Of the 96% (n=45) of pre implementation respondents who answered this question, 34% (n=16) had not attended any in-service over that time period. Of the four available sessions, there were 18 (38%) participants who had attended one to two sessions and 11 (24%) who had been able to attend three or all four of the in-service sessions. The mean number of in-service sessions that pre implementation survey respondents had attended in the preceding year was 1.4 (SD+/- 1.06 sessions). Participants were then

asked to rate how valuable these in-service sessions were in relation to their practice. In response to this question, 70% (33) of respondents identified that they considered the in-service sessions run by MCH&SB were 'mostly to always' valuable to their practice. This response resulted in a score of 3.2 from a possible score of 4 for value of the in-service session to their practice.

Participants who completed both surveys identified that they had attended the same mean number of in-service sessions as the pre implementation group (1.4 sessions) in the time since attending the '*Baby Help*' introduction workshop, and that they placed a similar value rating on in-service sessions for their practice (3.0 out of a possible score of 4.0; indicating 'mostly to always' valuable to their practice).

Participants were asked to identify the sources of their knowledge relating to the parenting and care of a child aged between 0-2 years with multiple responses being possible for this question. Indigenous Child Health Workers and Child Health Workers attributed their knowledge levels primarily to personal experience of parenting (37, 79%); their training/ education (33, 70%) and their work experience (30, 64%). An additional source that was identified by over half of the respondents was community elders and extended family members (27, 57%). Colleagues (23, 49%) and in-service training (21, 45%) were also acknowledged as contributing by a considerable proportion of respondents.

Practice

There were several questions asked of participants in the pre implementation survey that sought to more clearly delineate their role and responsibilities. Here, when

asked what their main role was, over 68% (n=32) of the participants identified as Indigenous Health Workers who were involved directly in the care of parents and carers of children aged between 0-2 years (see description in abbreviations section of document) with 17 (36%) of that group identifying specifically as an Indigenous Child Health Worker. The group also comprised managers (6, 13%), Registered Nurses (6, 13%) and ancillary staff with varied roles (3, 6%).

When describing hours per week worked, the majority of respondents indicated that they were employed in their roles on a full time basis (38, 81%). Anecdotally, a number of respondents made written comments that suggested that they worked more hours than they were contracted to. Participants identified that they predominantly saw clients within their homes (39, 87%) and at community health clinics (39, 87%). The other primary area that was used for client visits was within the hospital environment (16, 64%) (Table 4.4). Participants completing both surveys also nominated client home, hospital and community health clinics as the most common locations for client consultations.

Table 4.4: Locations for Client Consultations

Locations	Pre Implementation n =45*	%	Pre and Post Implementation n=21	%
Community Health Clinic	39	87%	15	71%
General Practice rooms	11	24%	4	19%
Hospital	29	64%	16	76%
Client home	39	87%	19	90%
Remote clinic	9	20%	3	14%
Other	11	24%	4	19%

* Data missing from 2 respondents.

Participants were asked to identify how frequently they were required within their role to provide parent or carer education. The majority (34, 72%) identified that they provided parent education on a 'frequent to everyday' basis. Almost one quarter of the respondents (11, 24%) provided education 'sometimes' while 4% (n=2) of respondents who worked in a managerial role identified that they 'never' performed parent / carer education. Participants were also asked to estimate the amount of time that they spent with parents or carers and their children aged 0-2 years. Most (36, 77%) participants said that they spent eight hours or more per week working with families and carers of young children <2 years of age.

Access

Participants were asked to identify the size of the Indigenous community that they worked within. Just over half the respondents (25, 56%) indicated that they worked in a community with more than 2000 residents, while a considerable proportion (16, 35%) worked in a community with a population between 500-2000 residents. Four (9%) participants worked in communities with fewer than 500 residents.

When asked to identify the number of Indigenous Child Health Workers who worked within their area, most respondents (28, 60%) indicated that there were one or two Indigenous Child Health Worker roles to support their community (Table 4.5). The number of Indigenous Child Health Workers who worked in isolation was unfortunately not identifiable from survey results.

Table 4.5: Number and Proportion of Indigenous Child Health Workers in Communities

<i>Number of ICHW's in each community</i>	<i>Pre implementation *n=43</i>	<i>%</i>	<i>Pre and Post implementation €n=20</i>	<i>%</i>
0	2	5%	1	5%
1-2	28	65%	14	70%
3-4	3	8%	4	20%
5-7	6	14%	1	5%
8-10	2	4%	-	-
11-15	-	-	-	-
16 or more	2	4%	-	-

* Data missing from four respondents; € data missing from one respondent.

When applying the ARIA (AIHW, 2004) index to the postcodes that participants identified as their work location, there were a slightly higher proportion of respondents from metropolitan locations (27, 57%) than there were from more rural and remote regions (20, 43%) (Table 4.6a). This was also the case in the post implementation group where 14 (68%) respondents were from urban areas and seven (34%) were from more remote locations.

Table 4.6a: Location of Community: Pre and Post Implementation Respondents

<i>Work Location</i>	<i>Pre implementation n=47</i>	<i>%</i>	<i>Post implementation €n=21</i>	<i>%</i>
Highly accessible	18	38%	11	52%
Accessible	9	19%	3	14%
Moderately accessible	11	23%	5	24%
Remote	1	2%	-	-
Very remote	8	17%	2	10%

Participants were asked to identify how far clients needed to travel to access health services within the communities that they worked. Most of the participants identified that it would be less than 30 minutes travel time for their clients (21, 45%) (Table 4.6b). There were three (6%) of participants who identified that travel time for their clients could be up to more than eight hours to the nearest health services.

Table 4.6b: Distance Traveled by Community Residents to Closest Health Care Service: Pre Implementation Respondents

<i>Work Location</i>	<i>Pre implementation n=47</i>	<i>%</i>
<30min	21	45%
Up to 1 hour	18	38%
Between 1 to 2 hours	4	9%
Between 1 to 8 hours	1	2%
More than 8 hours	3	6%

To identify what additional services were co-located or nearby to the Indigenous Child Health Workers and Child Health Workers, participants were asked to identify where they would refer their clients if the need arose. Multiple responses were possible for this question. General Practice (32, 68%), Doctor Clinics (30, 64%) and Hospital (28, 60%) were the most common referral destinations. Nurse led clinics (22, 47%) and midwife clinics (17, 36%) were also often referred to. Indigenous Child Health Worker clinics were also identified as a referral resource by approximately one third of participants (34%, 16) with occasional referral to the Royal Flying Doctors Service (5, 11%) being noted.

Resources

In order to gain insight into the need for educational resources to support the role of the Indigenous Child Health Worker and Child Health Worker, questions relating to what resources were currently available in their practice were asked. Here participants identified if they thought there was a need in their community for additional parent and carer educational resources that focused on childhood illness management. Almost all participants (45, 96%) agreed that there was a need for additional resources. When asked to identify what resources were currently available to them in their roles, there was a broad range cited including books (30, 64%); pamphlets (42, 89%); videos/ DVD's (27, 57%) and the internet (28, 60%). Most participants (41, 87%) also identified their own knowledge and expertise as a resource. Participants were then asked to identify what resources they used in their practice. Most participants (31, 62%) identified that what resources they had, they used. There was a discrepancy between availability and use amongst participants, which identified that just because a resource was there, did not mean it was used. This ranged from a 2-15% variance, with the highest discrepancy relating to the internet (i.e. participants had access to the internet but did not use it for client education). When asked if they thought that an infant illness assessment tool would be useful within their practice, 94% (44) of respondents agreed that they would utilise a tool of that nature if an appropriate resource was available.

4.4.2 Knowledge, Attitude and Practice Survey

Section Two of the pre and post implementation survey required participants to respond to eighteen questions that related to infant illness management and were

based directly on the contents of the '*Baby Help*' tool. Responses from participants who completed both pre and post implementation surveys were collated and compared between time periods in order to determine if changes in knowledge occurred. Responses to questions were allocated points with a total possible survey score of 56. Points were given for correct answers but deducted for incorrect responses; this being taken as an inability to discern correctness of responses for the information being presented. Scores were never deducted below zero (i.e. if a participant identified three correct responses to a question but also identified two incorrect responses, their overall score would be 'one' for that question; similarly, if there were two correct responses identified but three incorrect, the overall mark for that question would be 'zero'). Pre implementation surveys were completed during the Indigenous workshop prior to the educational intervention. Post implementation surveys were mailed to participants for completion and return.

A summary of individual questions and the possible score for each is presented in Table 4.7. Questions were grouped into themes, and a theme score also calculated and presented in Table 4.8. For all survey questions see Appendix 7.

As global scores (whole of group scores for individual and themed questions) were used to display performance in the pre and post implementation knowledge surveys, a score of 75% was selected as a performance indicator in this study. While 50% is a well recognised 'pass mark', a higher threshold needed to be identified in order to ascertain the need for further education relating to the themes presented in '*Baby Help*'. The Child Health Worker role is one of education and support for parents and carers. As such it can be reasonably assumed that a substantial level of knowledge

is required in order to provide the most effective and evidence based advice and support to parents about common infant illness and conditions. It was therefore decided that a higher level of ascertainment was required when establishing benchmarks for infant illness assessment and management, especially when poor or adverse outcomes may occur if variations in a child's condition are not identified in a timely manner. Therefore a benchmark of 75% was determined to be a reasonable and justifiable expected level of achievement for responses to this survey on infant illness assessment and management.

Table 4.7: Summary of Question Topics and Scores

Question number	Total score possible	Question topic
1	4	Gastrointestinal illness & dehydration - When to refer child with vomiting for treatment
2	1	Gastrointestinal illness & dehydration - Complications of prolonged vomiting
3	1	General - Management of unwell infant
4	2	Fever - Practical fever management
5	10	Fever - Identification of need for medical management
6	1	Sleep positioning
7	6	Respiratory illness - Signs and symptoms
8	6	Knowledge of common health messages
9	5	Gastrointestinal illness & dehydration - Signs & symptoms of dehydration
10	3	Respiratory - Identification of need for medical management
11	2	Burns first aid - Acute burn management
12	2	Gastrointestinal illness & dehydration - Suitable fluids for child suffering gastrointestinal symptoms
13	1	Skin condition - Identification of rash
14	1	Fever - Cause of febrile convulsion
15	1	Ears - Identifying ear infection
16	1	Ears - Complications of ear infection
17	3	Knowledge of common health messages
18	5	Medication management

Table 4.8: Guide to Grouping of Survey Questions into Content Themes

<i>Topic</i>	<i>Corresponding Questions</i>	
	<i>Question Numbers</i>	<i>Total score possible</i>
Gastrointestinal illness & dehydration	1; 2; 9; 12	12
Fever management	4, 14	3
Respiratory illness	7, 10	9
Sleep positioning	6	1
Referral behaviour	3, 5	11
Health messages	8, 17	9
Burn First Aid	11	3
Skin conditions	13	1
Ear health	15, 16	2
Medication management	18	5
	Total score possible	56

Pre Implementation results

In this section of the document overall knowledge and practice scores for the original group of participants (n=47) is presented, followed by the comparison of the matched pre implementation and post implementation participant data (n=21). For clarity in reporting the pre implementation results will be presented according to the overall theme of the questions (Table 4.8). The results for whole of group responses to each individual question and then whole of group responses to themed question totals will be displayed.

Overall scores that were achieved for the knowledge survey were calculated for the pre implementation group (n=47). A mean score of 45.2 (SD; +/- 5.43; Median 47; *IQR* = 41 - 49) out of a potential 56 points was achieved.

Gastrointestinal Illness and Dehydration

Table 4.9 illustrates pre implementation scores for questions relating to identification and management of gastrointestinal illness and dehydration. Respondents answered questions relating to the need for referral for gastrointestinal symptoms (Q1) and what the risk factors were for prolonged gastrointestinal symptoms (Q2) in the 0-2 year old child, with the majority of respondents (>89%) achieving $\geq 75\%$ correct for both of these questions. Question nine related to the signs and symptoms of dehydration, with only 40% of respondents (n=19) achieving a score of equal to or greater than 75% for this question. Most respondents frequently identified fewer wet nappies; dry mouth and sunken soft spot but less often identified were sudden weight loss and no tears as being a concern for a child with prolonged vomiting. For Question 12, which required participants to identify the suitable fluids for a child who has been suffering from gastrointestinal complaints, only 15% of the group (n=7) achieved a score in an acceptable range (Table 4.10). On closer examination of these poorly performed questions (Question 9 and 12), it can be seen that 30% and 72% respectively of the group lost marks for including incorrect responses in their answer in addition to the correct ones. If only correct responses were considered (with marks for incorrect responses reinstated), the mean score achieved for these questions would have been 3.72 (93%) and 1.77 (89%). When looking at overall results for this theme, there were 29 (62%) respondents who achieved a score of $\geq 75\%$.

Table 4.9: Gastrointestinal illness and dehydration questions: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		≥75% correct	
				n	%	n	%
1	4	3.78 (+/-0.75)	4 (0)	5	(11%)	42	(89%)
2	1	0.94 (+/-0.25)	1 (0)	3	(6.5%)	44	(93.5%)
9	5	3.28 (+/-1.09)	3 (3-4)	28	(60%)	19	(40%)*
12	2	0.81 (+/-0.68)	1 (0-1)	40	(85%)	7	(15%)*
Theme Total	12	8.81 (+/-1.64)	9 (8-10)	18	(38%)	29	(62%)

* Fallen below level of 75% achievement

Fever Management

Respondents were asked to identify treatment measures for a child with a fever and potential factors contributing to febrile convulsions. Only 38% of participants scored $\geq 75\%$ for question four, where required to identify simple fever treatment measures. There were two answers that were correct from a list of five responses and 62% of participant's correctly selected 'wipe with a cool wet washer', and a further 38% also selected 'remove excess clothing'. When examining the responses for this question more closely, incorrect responses resulted in the deduction of points (reinstated points gave a mean score of 1.47; but still $< 75\%$ for the question). When asked to identify potential causative factors for convulsions (Q14), 87% of respondents identified fever related causes. The proportion of respondents who achieved a score of $\geq 75\%$ for the fever management theme was 68% (32) (Table 4.10).

Table 4.10: Fever Related Questions: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		≥75% correct	
				n	%	n	%
4	2	1.17 (+/-0.76)	1 (1-2)	29	(62%)	18	(38%)*
14	1	0.87 (+/-0.34)	1 (0)	6	(13%)	41	(87%)
Theme Total	3	2.04 (+/-0.81)	2 (1-3)	15	(32%)	32	(68%)

* Fallen below level of 75% achievement

Respiratory Illness

Questions under this theme related to signs and symptoms of respiratory illness and referral of a child with respiratory symptoms. The majority of respondents achieved a correct response (42, 89%) when identifying common signs and symptoms of respiratory illness or difficulty in a small child (Q7). When asked to identify when it would be necessary according to symptoms being displayed for parents/ carers of a child to seek medical attention (Q10), only 36% (n=17) of the pre implementation respondents answered correctly according to the severity of symptoms being displayed. With correct responses only being considered (i.e. points for incorrect responses reinstated), the overall number of participants who achieved a score greater than 75% would have increased to 53% (n=25). One of the choices for Question 10 identified mild symptoms but included the fact that the child's mother was worried. There were 43% (n=20) of respondents that did not select this scenario as requiring further medical attention. Looking at overall scores for the fever management theme there were 39 (83%) respondents who achieved a score of $\geq 75\%$ (Table 4.11).

Table 4.11: Respiratory Related Questions: Pre Implementation Responses
(n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		≥75% correct	
				n	%	n	%
7	6	5.38 (+/- 1.58)	6 (0)	5	(11%)	42	(89%)
10	3	2.15 (+/- 0.81)	2 (2-3)	30	(64%)	17	(36%)*
Theme Total	9	7.53 (+/- 2)	8 (7-9)	8	(17%)	39	(83%)

* Fallen below level of 75% achievement

Sleep Position

There was one question in the knowledge survey related to the recommended infant sleeping position to reduce the risk of SUDI and SIDS (Q6). Here participants had to identify one correct sleep position from a list of five choices. The majority of participants (44, 94%) identified the back to sleep position (Table 4.12).

Table 4.12: Recommended Infant Sleep Position: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		≥75% correct	
				n	%	n	%
6	1	0.94 (+/- 0.25)	1 (0)	3	(6%)	44	(94%)
Theme Total	1	0.94 (+/- 0.25)	1 (0)	3	(6%)	44	(94%)

Referral Behaviour

Identification of circumstances where an infant who was unwell and was demonstrating signs and symptoms consistent with common infant illness that would need to be assessed by a health professional were considered in two survey questions (Q3 and 5). Participants were asked to identify when referral was necessary in fixed choice questions. The proportion of participants who achieved a score of $\geq 75\%$ for these questions overall was good (34, 82%) with participants being able to identify the scenarios where immediate assistance should be sought (Table 4.13).

Table 4.13: Referral Related Question: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		$\geq 75\%$ correct	
				n	%	n	%
3	1	0.85 (+/- 0.36)	1 (0)	7	(15%)	40	(85%)
5	10	8.53 (+/- 1.41)	9 (8-10)	10	(21%)	37	(79%)
Theme Total	11	9.38 (+/- 1.53)	10 (8-11)	13	(18%)	34	(82%)

Health Promotion Messages

Common health promotion and illness prevention messages were addressed in two survey questions. Survey respondents were asked to complete statements relating to common health promotion messages (Q8) in this section of the knowledge survey. Scores for individual health messages for the whole group totaled 92% (n=43). Question 17 related to illness prevention and asked for the identification of three preventative measures for a common communicable illness (threadworm). Respondents achieved an overall score of 66% (n=31) for this question (Table 4.14). While only 66% of participants achieved $\geq 75\%$ for this question, the majority of participants did provide two or more answers (42, 89%) out of the three needed. Incorrect responses were not a consideration in the overall score for Question 17.

Table 4.14: Health Promotion Messages: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		$\geq 75\%$ correct	
				n	%	n	%
8	6	5.7 (+/- 0.62)	6 (0)	4	(8%)	43	(92%)
17	3	2.5 (+/- 0.86)	3 (2-3)	16	(34%)	31	(66%)*
Theme Total	9	8.19 (+/- 1.17)	9 (8-9)	4	(21%)	43	(79%)

* Fallen below level of 75% achievement

Burns First Aid

Participants were asked to rate the priority of actions to be taken during treatment of an acute burn injury (Q11) with there being only one correct order of response possible. One option that was included in the question was when to call for assistance (i.e. ambulance; health professional); however there was some confusion evident in responses obtained from participants and this option was removed from the scoring of the question (potential score of four was reduced to three). The proportion of participants who identified the correct sequence for treatment of a burn injury was 49% (n=23); with 51% (n=24) placing the order of treatment incorrectly (Table 4.15).

Table 4.15: Acute Burn Injury Management Related Question: Pre Implementation responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		≥75% correct	
				n	%	n	%
11	3	2 (+/- 1)	2 (1-3)	24	(51%)	23	(49%)*
Theme Total	3	2 (+/- 1)	2 (1-3)	24	(51%)	23	(49%)

* Fallen below level of 75% achievement

Skin Conditions

Participants were asked to identify a rash (scabies) from a given description and using a list of multiple choice responses (Q13). Of the 47 respondents only 16 (34%) correctly identified scabies as the rash being described, accounting for the 34% who achieved $\geq 75\%$. A total of nine marks were lost through incorrect responses for this question, however even with these marks reinstated, the overall score for this theme would not have achieved $\geq 75\%$. Interestingly this question received the greatest proportion of 'unsure' responses for the survey (9, 19%) with a considerable proportion of participants providing multiple answers when the question clearly identified that there was one correct response required (10, 21%) (Table 4.16).

Table 4.16: Skin Conditions: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		$\geq 75\%$ correct	
				n	%	n	%
13	1	0.34 (+/- 0.48)	0 (0-1)	31	(66%)	16	(34%)*
Theme Total	1	0.34 (+/- 0.48)	0 (0-1)	31	(66%)	16	(34%)

* Fallen below level of 75% achievement

Ear Health

Participants were asked a two part question where a scenario was given describing the classic features of an ear infection (Q15) and multiple choice responses were offered for identification of the problem; followed by an open ended question relating to potential outcomes for this condition if not managed appropriately (Q16). There were 94% (n=44) of respondents who achieved a score $\geq 75\%$ for both of these questions (Table 4.17).

Table 4.17: Ear Health Related Question: Pre Implementation Responses
(n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		$\geq 75\%$ correct	
				n	%	n	%
15	1	0.94 (+/- 0.25)	1 (0)	3	(6%)	44	(94%)
16	1	0.94 (+/- 0.25)	1 (0)	3	(6%)	44	(94%)
Theme Total	2	1.87 (+/- 0.34)	2 (0)	3	(6%)	44	(94%)

Medication

Participants were assessed for knowledge relating to common medication administration messages utilizing a true or false response (Question 18). Themes related to antibiotic administration; medication frequency; dose calculation; and response to medication therapy. A total of 81% (n=38) of the group achieved a score $\geq 75\%$ of the total correct responses. (Table 4.18).

Table 4.18: Medication Administration Messages: Pre Implementation Responses (n=47)

Question Number	Total Possible Score	Mean Score (+/- SD)	Median Score (IQR)	Participant level of achievement by question and theme.			
				<75% correct		$\geq 75\%$ correct	
				n	%	n	%
18	5	4.09 (+/- 0.97)	4 (4-5)	9	(19%)	38	(81%)
Theme Total	5	4.09 (+/- 0.97)	4 (4-5)	9	(19%)	38	(81%)

Themes

Four themed areas were identified where the proportion of participants who achieved less than 75% correct in the pre implementation knowledge scores fell below three quarters of the number of respondents; the identified threshold for performance in the knowledge survey. These themes were; gastrointestinal illness and dehydration; fever management, burn first aid and skin conditions (Table 4.19).

Table 4.19: Pre Implementation Group Mean Scores and Overall Percentages Achieved for each Question (n=47)

<i>Topic</i>	<i>Total Possible Score</i>	<i>Mean Achieved</i>	<i>IQR</i>	<i>Proportion of respondents who achieved ≥ 75%</i>
Gastrointestinal illness & dehydration	12	8.81 (+/-1.64)	8-10	62%*
Fever management	3	2.04 (+/-0.81)	1-3	68%*
Respiratory illness	9	7.53 (+/- 2)	7-9	83%
Sleep position	1	0.94 (+/- 0.25)	1-1	94%
Referral behaviour	11	9.38 (+/- 1.53)	8-11	82%
Health promotion messages	9	8.19 (+/- 1.17)	8-9	79%
Burn First Aid	3	2 (+/- 1)	1-3	49%*
Skin Conditions	1	0.34 (+/- 0.48)	0-1	34%*
Ear Health	2	1.87 (+/- 0.34)	2-2	94%
Medication	5	4.09 (+/- 0.97)	4-5	81%

* Fallen below level of 75% achievement

Results from participants completing both surveys

Overall scores that were achieved for the knowledge survey were calculated for the pre implementation group and a mean score of 45.2 (SD; +/- 5.43; Median 47; IQR 41-49) out of 56 points was achieved. Participants completing both initial and follow-up surveys (n=21) achieved a mean score of 46 (SD; +/- 3.91; Median 47; IQR= 42 - 124

48.5). If mean scores are calculated as proportions of the total correct score this indicates an overall mean level of achievement of 80.7% for group participants in the pre implementation period and 82% for group participants in the post implementation period. For the purposes of reporting the post implementation survey results, an overview of individual and themed question comparison between the pre and post implementation groups will be given. While results from all participants have been reported for the pre implementation knowledge survey, a determination of change in knowledge levels will be taken from the paired data obtained from participants who completed both the pre and post knowledge survey only (n=21). Table 4.20 outlines individual questions and the change in mean knowledge scores between the pre and post implementation periods. Table 4.21 outlines the mean knowledge scores for themes between pre and post implementation periods.

Table 4.20: Comparison of mean scores for individual questions between whole group (A) and pre and post paired group (B & C) responses.

No.	Total score	Question topic	A) Pre Implementation Mean (n=47)	B) Pre Implementation Mean (n=21) (+/-SD)	C) Post Implementation Mean (n=21) (+/-SD)	# Paired Test (B & C) p value
1	4	Gastrointestinal illness & dehydration	3.78	3.71 (+/- 0.71)	3.71 (+/- 0.90)	NS
2	1	Gastrointestinal illness & dehydration	0.94	0.95 (+/- 0.22)	0.95 (+/- 0.22)	NS
3	1	Referral	0.85	0.86 (+/- 0.36)	0.86 (+/- 0.36)	NS
4	2	Fever management	1.17	1.33 (+/- 0.73)	1.43 (+/- 0.68)	NS
5	10	Referral	8.53	9.1 (+/- 0.94)	8.71 (+/- 1.23)	NS
6	1	Sleep positioning	0.94	0.9 (+/- 0.3)	1 (+/- 0)	NS
7	6	Respiratory Illness	5.38	5.66 (+/- 1.54)	5.9 (+/-0.44)	NS
8	6	Health promotion messages	5.7	5.57 (+/- 0.75)	5.48 (+/- 1.29)	NS
9	5	Gastrointestinal illness & dehydration	3.28	3.33 (+/- 1.20)	3.71 (+/- 1.19)	NS
10	3	Respiratory illness	2.15	2.09 (+/- 0.77)	2.05 (+/- 0.74)	NS
11	3	Burns first aid	2.0	1.95 (+/- 1.02)	2.52 (+/- 0.93)	*0.017
12	2	Gastrointestinal illness & dehydration	0.81	0.95 (+/- 0.67)	1.24 (+/- 0.77)	NS
13	1	Skin conditions	0.34	0.38 (+/- 0.50)	0.76 (+/- 0.44)	*0.002
14	1	Fever management	0.87	0.86 (+/- 0.36)	0.86 (+/- 0.36)	NS
15	1	Ear health	0.94	0.86 (+/- 0.36)	0.95 (+/- 0.22)	NS
16	1	Ear health	0.94	0.90 (+/- 0.30)	0.90 (+/- 0.30)	NS
17	3	Health messages	2.5	2.43 (+/- 0.98)	2.76 (+/- 0.62)	NS
18	5	Medication	4.09	4.09 (+/- 0.83)	4.48 (+/- 0.81)	NS

Wilcoxon ranked comparison of Pre and Post Paired data

Table 4.21: Comparison of mean scores for themed questions between whole group (A) and pre and post paired group B & C) responses

No.	Total score	Question topic	A) Pre Implementation Mean (n=47) (+/-SD)	B) Pre Implementation Mean (n=21) (+/-SD)	C) Post Implementation Mean (n=21) (+/-SD)	# Paired Test (B & C) p value
1; 2; 9; 12	12	Gastrointestinal illness & dehydration	8.81 (+/- 1.64)	8.95 (+/- 1.47)	9.62 (+/- 1.88)	0.22
4, 14	3	Fever management	2.04 (+/- 0.81)	2.19 (+/- 0.81)	2.29 (+/- 0.78)	0.24
7, 10	9	Respiratory illness	7.53 (+/- 2)	7.76 (+/- 1.41)	7.95 (+/- 0.86)	0.36
6	1	Sleep position	0.94 (+/-0.25)	0.9 (+/- 0.3)	1 (+/- 0)	0.078
3 ,5	11	Referral behaviour	9.38 (+/- 1.53)	9.95 (+/- 1.20)	9.52 (+/- 1.25)	0.081
8, 17	9	Health promotion messages	8.19 (+/- 1.17)	8 (+/- 1.45)	8.23 (+/- 1.51)	0.26
11	3	Burn First Aid	2 (+/- 1)	1.95 (+/- 1.02)	2.52 (+/- 0.93)	*0.018
13	1	Skin conditions	0.34 (+/- 0.48)	0.38 (+/- 0.50)	0.76 (+/- 0.44)	*0.003
15, 16	2	Ear health	1.87 (+/- 0.34)	1.76 (+/- 0.44)	1.86 (+/- 0.48)	0.26
18	5	Medication	4.09 (+/- 0.97)	4.09 (+/- 0.83)	4.48 (+/- 0.81)	0.0515

Wilcoxon ranked comparison of Pre and Post Paired data

An upward trend in mean scores was observed between pre and post paired responses for nine of the ten themed areas. A significant improvement in scores between pre and post implementation were achieved in relation to burns first aid ($p=0.018$) and skin condition ($p=0.003$) questions.

4.4.3 Summary: Survey Data

Scope of practice survey responses obtained in this study identified participant demographics as being predominantly Indigenous females, aged between 40-60 years, who worked full-time within communities of greater than 2000 residents. Respondents were fairly equally distributed between urban and rural communities, where the majority worked either alone or with one other Indigenous Health Worker. Participants identified that they saw their clients within a variety of environments, with the most common sites being the client's home, in hospital, or within community health clinics; and that the majority of their clients were within one hours travel time of the nearest health care service. There was a high level of contact with the target population for the '*Baby Help*' tool identified by the majority of the sample. Levels of experience amongst participants were equally distributed along the practice continuum with mainly certificate or diploma level qualifications being demonstrated.

When identifying knowledge relating to care for children aged between 0-2 years, the main source identified was personal experience, followed by training or education, and work experience. Elders and family members were also identified by a large number of respondents. Participants rated in-service sessions conducted by MCH&SB as being valuable to their practice, however mean attendance rates were low. Study participants identified that they used whatever resources they had access

to for education and health promotion amongst their clients, but the vast majority did express that an Indigenous specific infant illness assessment tool would be valuable for the community and their practice.

Knowledge, attitudes and practice survey results displayed that participants had a high overall level of knowledge even before the educational session and introduction of the '*Baby Help*' tool. There were strong scores obtained for six of the ten themes examined with questions that scored poorly in the pre implementation survey including; identification of the signs and symptoms of dehydration; suitable fluids to give a child who has had a gastrointestinal complaint; simple fever management practices; identification that when a parent is worried about their child it is important that the child be assessed; acute burns management and identification of scabies lesions. Change in knowledge scores between pre and post implementation surveys remained static for four questions, and improved in ten of the questions examined. There was an overall trend towards improvement in nine of the ten themed areas between pre and post implementation survey results and this reached statistical significance for the questions relating to burn management and identification of scabies lesions.

4.5 Content analysis: Post Implementation Fixed Choice and Written Responses

Participants who returned the post implementation survey (n=21) completed a number of fixed choice questions that related to changes to their role description since the first survey was completed (pre implementation); and the instruction

received for, and use of, the *'Baby Help'* tool in their practice. Additionally there were a number of written comments that have been collated utilising the principles of thematic analysis (as outlined for the focus group data). Themes that were identified through the text relate to access to, and value of, the *'Baby Help'*, as well as issues of literacy and support.

Practice.

Four post implementation respondents (19%) had changed positions since consenting into the study and completing the pre implementation survey. This did alter their contact hours, and in one instance removed them from contact, with parents and carers of children aged 0-2 years. These participants had moved into roles that were supportive of those in direct contact with clients or remained working alongside Child Health Workers or in Indigenous Health teams. Because of their experience in Child Health and ongoing work within the area of Indigenous Health, it was felt that their feedback relating to the tool would still be valuable and so was included in the final data analysis.

Resources.

Of the 21 post implementation respondents, 19 (90%) identified that they had received instruction on the *'Baby Help'* tool. Only three participants (14%) identified that they had used the instruction sheet provided by MCH&SB with the release of the *'Baby Help'*; one participant (5%) had received in-service from a colleague and seven (33%) respondents identified that they had followed the content of the *'Baby Help'* information themselves.

Only three (14%) of the 21 post respondents had '*Baby Help*' posters positioned in their workplace and there were eight (38%) respondents who had not seen the '*Baby Help*' tool itself in their workplace (therefore 13, 62% had).

It was identified by eleven (52%) of the post implementation respondents that access to the '*Baby Help*' tool was problematic as they had not yet received copies (3, 14%), or only had a limited supply of copies (8, 38%) of the '*Baby Help*' for distribution within their communities.

Participants identified that they had been giving the '*Baby Help*' tool to parents and carers (15, 71%) with seven (33%) respondents nominating that they had not been distributing the tool for the primary reason that there was limited access to the resource. One participant identified that with the change in their job description, they did not have the same opportunities to implement the resource with clients.

Eleven of the fifteen (73%) post implementation respondents who identified that they were giving the tool out to clients stated that they had found the tool useful for educating parents and carers. Additionally, 95% (n=20) of participants identified that they felt the tool would be effective for educating parents and carers in their community about the signs, symptoms and management of illness in children aged 0-2 years.

Access.

Access in this instance refers to the delivery of the '*Baby Help*' tool into the centres from which distribution to the wider community could take place. The difficulties

almost half of the post implementation respondents had in accessing the tool for use in the clinical area was noted in comments such as the following

“We were disappointed as we were looking forward to using the tool”

“Our disappointment is that we have been unable to obtain more copies of the Baby Help tools- we could use 150+ per year”

Anecdotally, the principal researcher was contacted by Health Worker participants on a number of occasions following the post implementation in order to establish how and where to obtain additional copies of the ‘Baby Help’ resource.

Value of the resource.

Some respondents (7, 33%) had positive comments relating to the ‘Baby Help’ that identified that they had found the resource easy to follow with the colour coding acting to simplify the more complicated components of the tool. Clients themselves had commented to survey participants that they found the resource helpful.

“It has been a very successful in helping all mothers of children also grandparents. I know it has been helpful to carers and dads”

“Symptoms of illness in sick children and signs are easy to follow”

“I use the book a lot with my remote run mothers and they love it. It is easily understood and easy to use”

“I think it is a very handy tool for young first time mothers”

Participants identified that they had introduced or planned to introduce the tool through mother and baby groups; during visits to homes and correctional facilities and in antenatal kits for hospital distribution.

Literacy Issues.

The issue of literacy was highlighted by a considerable proportion of respondents (6, 26%) in the post implementation comments. Some participants felt that their clients would have difficulty interpreting the text, as noted in the following comments

“This tool has too many words for our mums”

“My concern is if the parents are literate to understand the book. As most Aboriginal people are oral, knowledge gets passed down by hearing and word of mouth”.

I have been giving the tool out but the majority of our mums have low literacy levels, are very mobile, have accommodation issues and live in a community with a hospital”

“...getting ATSI mothers reading this material can be advantage to those who can read and write but over the years there is a small % of mothers who are at a disadvantage because of low literacy and numeracy”

“I have found that even our more literate mums have trouble deciphering the information”

The idea that a wider use of symbols and pictures could be more appropriate for the end users of this tool was suggested by some participants

“Less words and more symbols as actions for us to take”

“We have a lot of questions asked of us to answer and not all the time parents know what we are talking about. If they see pictures with the diagram, they will get a clearer picture”

Others felt that the resource worked well through the colour coding scheme format

“I find it good as a lot of my clients can read and understand it rather than having to read a great medical book. It is confusing and the colour code is so helpful, green yellow and red. I like it and so do my clients”.

Support Issues.

When responding to the question relating to how to improve staff education to support the use of the ‘Baby Help’ tool, participants made the following comments

“Staff... (need to)...to receive in-service about use and importance of tool”

“More AHS’... [Area Health Service]...’in-service for ICHW. Funding needs to be found to allow this to happen”

One respondent had a valuable observation in relation to the importance of support for the tool amongst Health Workers in the community

“When I give it to Mums- they don’t open it willingly, I have to direct them to the pages. Inevitably the conversation turns to the signs and symptoms that the mother should respond to and immediately attend the hospital. The book does help stimulate this above conversation”.

The ‘*Baby Help*’ will be an effective tool in the community I work....”*With support from myself and the Child Health Nurses”.*

These comments demonstrate the need for the tool to be introduced to clients by a knowledgeable health provider. One participant made the following comment

“The child health nurse gives out copies to mothers when [the child health nurse] present”

This comment is open to interpretation as to why the Indigenous Child Health Worker is not distributing the tool and could indicate a knowledge deficit or poor support surrounding the tool education and use.

Tool Utilisation.

Respondents gave some insight into their application of the tool into their practice through the following comments

“We have a home visit program to carry out child health and vaccinations. The Baby Help tool was a great tool to use re: education of general illness <2 years. Clients took this well”.

“This book is a great guide for mums out west who are not close to a medical facility”

“We have planned to put the Baby Help booklet in the prenatal bags for mothers”.

Several comments from respondents were made regarding areas that they thought could be improved in the ‘Baby Help’ tool. Some suggestions were for an area that parents could record information such as temperature; last paracetamol or nappy change, to help with recalling information if assistance is sought. Appreciation for an Indigenous specific educational resource was acknowledged by many participants.

4.5.1 Summary

Post implementation responses and comments made by participants identified problems with distribution and access to the ‘Baby Help’ tool in some communities. Health Workers who had not received any tools at the time of the second survey were keen to obtain copies, but did not know who to contact regarding this. There was limited uptake of the instruction sheet and poster, with few being incorporated into clinical areas and practice. Those Health Workers who had access to copies of the tool had been issuing it with positive results; the tool facilitating conversations

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between Health Worker and client. However for one quarter of post implementation respondents, literacy issues remained a concern within their communities.

Chapter Five: Discussion.

5.1 Introduction

Health promotion initiatives are designed to address identified areas of need within the community. Targeting mothers, infants and children has the greatest potential to impact the health of an individual over the course of their lifetime by encouraging a healthy pregnancy, reducing the risk of development of chronic conditions and promoting the habits that are attributed to a healthy lifestyle (Benn, 2008). This study has evaluated the impact of an infant illness assessment tool from the perspective of the Health Workers who are in the position to introduce the tool to their clients and communities. Key findings shall be discussed here as they relate to the overall aims of the study.

Aims for this study included exploring the concept of support within Health Worker practice through the implementation of a newly developed resource; aspects of development and implementation relating specifically to the health promotion initiative were also reviewed. The knowledge, attitudes and self reported practice of participants were identified both before and after the implementation of an educational resource as a means of determining impact; and a final aim was to evaluate the effect of the health promotion tool amongst the end users; the parents and carers of children aged 0-2 years, as exemplified by the Health Workers.

5.2 Profile of the Health Worker

The response rate from the initial survey and focus group session was excellent and participant demographics demonstrated a cross section of both culture and experience. The predominance of Indigenous respondents in both the pre and post implementation groups was intended and desirable due to the nature of the study; however the inclusion of non-Indigenous Child Health Workers who work in Indigenous health and within Indigenous communities was also a valuable perspective to access. Post implementation response rates fell below 50% despite repeat mail outs and email reminders and there were only a very small number of Torres Strait Islander participants in the pre, and none in the post implementation group. A consistent proportion of Indigenous respondents were represented in both the pre and post implementation groups with the post implementation respondents displaying overall a younger, but equally experienced population.

The health workforce in Queensland comprises a 60:40 split of full time compared to part time employees across all health disciplines (Health & Community Services, 2009). In contrast, 81% of the study's respondents nominated that they were employed full-time (≥ 36 hours/week). All but 10% of respondents ($n=4$) identified that they worked in contact with parents or carers of children aged 0-2 years, and the majority indicated that they spent greater than 50% of their work hours with this population of clients. This would demonstrate the appropriateness of utilising the Health Worker role to introduce a health promotion tool targeting this group within the community.

Participants' identified sources of knowledge relating to the care of young children that originated in their professional education and from experience; both personal

and clinical. The importance of the familial passage of information was highlighted by the identification of elders and extended family as valuable resources for knowledge relating to infant care and illness management by more than half of the participants. This finding supports the literature relating to the significant role that elders and community have in learning (Trudgen, 2000; Dunn, 2001; Eckermann 1994).

Identifying where Health Workers consult with their clients contributes towards mapping practice. The primary sites for patient visits identified in this study were the client home, the community health clinic, and in hospital. All of these venues would be appropriate for introducing the '*Baby Help*' tool, and would allow for a varied format (i.e. group discussion; one-on-one; and addressing specific symptoms that a child is presenting with). Visiting clients in their home environment allows for greater individual client assessment to be performed. As identified by one participant, being able to bring the '*Baby Help*' tool to the client in this manner created opportunities for discussion about the themes identified within the tool that perhaps would not have occurred under other circumstances.

The location of information delivery or education needs to be considered when supporting the implementation of health promotion initiatives. Development of strategies for the introduction of a tool like the '*Baby Help*' within a client's home environment, where support resources such as posters or DVDs are not necessarily as useful or appropriate, would be an important consideration in the acceptance and use of the tool by families.

5.3 Evaluation of implementation strategies

Indigenous Health Workforce

In the '*Blueprint for Action*', the Federal Government identifies that to impact Indigenous Health, there is a need for educational reform and strategies for capacity building to facilitate the development and retention of an Aboriginal and Torres Strait Islander Health workforce (Commonwealth of Australia, 2008). As well as providing pathways to enable the development of health sector careers for Aboriginal and Torres Strait Islanders, the following goal is identified in this document;

...retaining and capacity building within the existing Aboriginal and Torres Strait Islander Health Workforce by addressing ongoing support and career development needs'.

(Commonwealth of Australia, pg 6).

The difficulty of staffing for remote areas is a well recognised and ongoing concern (Weymouth et al, 2007). In a recent Cochrane review, there were no studies that demonstrated approaches for remote area staffing that were adequate (Grobler et al, 2009). The World Health Organisation has put forth strategies for rural staffing, recruitment and retention to include elements of support such as local recruitment and education, providing professional development opportunities, scholarships and allowances, improved supervision, development of professional support networks, telemedicine and outreach programs (WHO, 2009). Many of the elements identified as staff 'attracting' in this World Health document were consistent with the participant responses in this study when identifying support mechanisms for their workplaces.

Role Support

Participants identified that support for their roles came from a number of sources. As with anyone in a work environment, the importance of being able to collaborate with colleagues and experience equal, trusting and culturally sensitive work relationships within that sphere were highlighted. When taking into consideration the work locations of Health Workers, they are often working in isolation or in an area where there is a high staff turnover due to remoteness.

A consistent rate of attendance and rating of importance for in-service sessions coordinated through MCH&SB was identified by participants. The relatively low attendance rate for these in-service sessions (mean of 1.4 per annum) could be an indication that even though the sessions are valued, the ability to attend was limited in some manner. During the focus group discussion participants identified that being encouraged and gaining release to attend educational opportunities was a positive component of role support that was either present or absent in their particular work situations. Aspects to improve support in this area that could be considered relate to improving access to educational opportunities through back filling positions, locating educational opportunities outside metropolitan centres, or the packaging of educational resources so that they can be utilised 'on site' for more remotely located staff, i.e. telemedicine; teleconferencing (WHO, 2009).

The importance of collaboration with other Health Workers was a key theme identified, particularly in that Indigenous Health Workers do often work in non-Indigenous teams and therefore can experience a different type of work isolation. In-

service gatherings along with offering the opportunity to advance knowledge also allows for time spent in the company of professional counterparts.

Participants appeared to use all of the resources that were available to them within their clinical practice for educational purposes, adapting resources to be more suitable for their clients where possible. Internet resources seem to translate into practice the least, but the reasons for this are unclear. Potential factors could relate to time and workload impacting the ability to access and search the internet or, as found by Davis et al (2009), a lack of confidence in navigation and use of a computer on the part of health professionals. Poor access to backup resources such as printers and web-based media was identified in focus group sessions by some respondents as being a limitation. Both during the focus group session and with written comments, participants identified the need for Indigenous specific resources. Respondents identified that to communicate information in a manner that was meaningful for Indigenous readers would enhance the learning process and also it would convey a message of recognition that was absent in the majority of health promotion materials available through Queensland Health.

Tool Development

The developers of the '*Baby Help*' tool undertook an extensive consultative process. Both during the original study (Vlack et al, 2000) and up until the time the final version went to print, attention was given to the cultural appropriateness of the '*Baby Help*' tool in language and appearance. There were only positive comments relating to this aspect of the tool design post distribution, and in this it would seem to have been very successful. While this study did not set out to identify culturally specific

learning resources that were available, the existence of 'The Indigenous Health Promotion Resources Guide', published by the Aboriginal and Islander Health Worker Journal did come to the researcher's attention. This publication is free to journal subscribers and details Australia wide resources for over 60 health conditions. It would be valuable for the '*Baby Help*' tool to be listed in this resource and also for Health Workers to be supported in having access to this reference publication and future updates.

Tool Implementation

The reality of roles within the corporate environment is that movement takes place, and this is what occurred during the roll out of the '*Baby Help*'. Due to role changes within the team, reassessment of the planned implementation of the tool took place mid implementation, and resulted in what the researcher observed to be a loss of momentum for the project. Following the initial introductory session, distribution of the tool was delayed while focus groups were conducted within a population of end users. This process was undertaken in order to determine if the tool could be understood and interpreted in its final format by parents and carers. It would have been more ideal if these considerations, along with the additional resources such as posters and instruction sheets that were developed prospectively around the tool had been developed, tested and available at the time of the original introductory session.

Additionally, after the core project was complete, there was reallocation of staff and responsibility for tool distribution was reassigned. After the second survey the chief researcher received a number of communications from participants relating to how they could go about accessing extra, or even some, of the '*Baby Help*' resource, as

they had not yet received copies. These communications were directed to MCH&SB and contact details for additional resources were communicated to Health Workers. The difficulties with tool distribution not only affected its impact in the practice environment, but significantly impacted on the findings of this study.

The cost benefit analysis of this health promotion activity can not be determined from the results obtained. The benefit of a tool that promotes early identification and treatment of illness in Indigenous infants, when morbidity and mortality outcomes for this population display an area of significant need, is simplistic. One could argue that if this tool was able to alter the health outcome of one infant for the better, then the expense has been worthwhile.

5.4 Improvement in caregiver knowledge and practice

Written Information

In a Cochrane review relating to consumer involvement at the ground level for the development of health policy and practice, there was moderate evidence that when consumers contributed to written information development, the material was more readable, understandable and relevant and improved end user knowledge (Nilsen et al, 2008). Information is considered to be of a high quality if it is a) clearly communicated; b) evidence based; and c) involves patients in its development (Moult et al, 2004). '*Baby Help*' content was derived from the original '*Baby Check*' resource, but also from a process of community consultation (Vlack et al, 2000). In the original study that informed the adaptation of the '*Baby Check*', metropolitan participants identified that, after television, written material was the second most common, and for rural and remote participants, *the* most common source of health

information they encountered (Vlack et al, 2000). Certainly in the development of this health resource, the authors of the '*Baby Help*' have targeted a priority area for health promotion and tailored a working tool to be appropriate for the population. This has been done through ensuring information was communicated in an appropriate manner; basing content on the most recent evidence and incorporating a process of consultation with key stakeholders throughout the stages of development as discussed in the methods section.

Supporting Information Transfer

DeWalt (2009) identified that the provision of written health information combined with counseling resulted in improved health knowledge. Written information that is simply distributed could be considered passive information that is reliant solely on the level of comprehension and motivation of the end user. Morley et al (1991) found that some parents who used the '*Baby Check*' when it was first distributed applied the scoring system inconsistently (Morley et al, 1991). This had the potential to impact decision making relating to illness management negatively and it was therefore acknowledged that the tool needed to be introduced by a health professional (Heaney et al, 2001).

In the roll out of the '*Baby Help*' tool, Queensland Health has made provision for consumer support; however there is no way of fully controlling the dissemination of the tool amongst individuals. There will be community members who can access the tool who are unable to interpret the information it contains, and will not have the benefit of Health Worker support. In this there is a need for the development of systems that can reinforce health promotion initiatives proven to impact

communities. For instance, the longevity and success experienced by the Victorian sun protection campaigns (i.e. 'Slip, Slop, Slap' 1981-1988 followed by 'Sunsmart' 1988-present) is attributed by Montague, Borland, & Sinclair (2001) to a commitment to research and program evaluation that works to establish program impact and ensure ongoing strategy development. Also, necessary elements for program success are consistency in organizational goals, and continuity of funding. A reliance solely on health professionals at the pointy end of practice to maintain momentum and engender community involvement in health promotion initiatives is not adequate enough to generate ongoing or long term impact.

Literacy

Participants in this current study, even before they had seen the '*Baby Help*' tool, identified that they felt a new resource would need to be introduced by the Health Worker in order to realise any level of success. Issues of literacy, comprehension and the preference for face-to-face communication were cited as barriers to the tool being embraced by the community. Post implementation, there was a number of participants who identified that they had found the tool to be easily understood by their clients. A varying literacy level can always be anticipated within a given population (Nutbeam, 2000). The importance that the participants for this survey placed on issues of literacy and the Health Care Worker being the one who should introduce the '*Baby Help*' to the consumer highlighted their awareness of this situation. Once implemented, respondents found that they were able to successfully implement the tool informally during home visits to engender conversation and interest amongst parents and carers. Practicing in this manner serves to tailor the tool to client needs and individual health worker practice, and also addresses theory

relating to written resources; all elements that are necessary to ameliorate the issues of poor literacy (Nutbeam, 2008).

An individual's educational level has been very closely linked to their health status and/ or that of their child, with the ability to read and interpret health information being important for appropriate health seeking behaviour to be exhibited (ABS, 2008). As again outlined in the '*Blueprint for Action*' (Commonwealth of Australia, 2008), there is a need for the development and introduction of strategies that will improve both educational opportunities and levels of achievement for Aboriginal and Torres Strait Islander peoples throughout the educational spectrum. Based on some of the comments made by survey participants; to address *current* issues of literacy, it would be a consideration for MCH&SB to adapt the tool to include additional complementary illustrations or images that support the written content further and thereby enhance understanding.

Indigenous ways of learning

When applying theory relating to success in past Indigenous health promotion initiatives (Herceg, 2005; Mikhailovich, Morrison, & Arabena, 2007), areas that were addressed in this study included utilising the Health Workers as cultural brokers for the introduction of the tool; provision of a culturally respectful resource that targeted women (carers) and children; and the provision of a resource to the client in their home. A level of community control was evident in the gaining of input from key stakeholders during the development of the '*Baby Help*' resource; however the Health Workers were needed to engender ownership and community involvement following the roll out of this initiative.

Trudgen (2000) identifies that within traditional Aboriginal culture there is a process for the acceptance of new information that, when broken down, is the same process employed amongst all cultural groups. These steps relate to the source of information being reliable, that is, coming from those who are considered the 'owners' of the information. Information must be delivered in a culturally correct manner. Within traditional Aboriginal groups this infers that information should be vetted by the elders of the tribe, as it is seen that information that has not been delivered to the elders first cannot be important or truthful knowledge. Also information should build on existing knowledge and not conflict with culturally accepted truths. Finally, new information must be supported by the majority (Trudgen, 2000).

The strong role that elders and family members play in the provision of care and in the transfer of knowledge in relation to caring for children has been identified by participants in this study. Attention to the processes for introduction of new information, and the enlistment of extended members of the community would be approaches for consideration for future health promotion activities within this population; especially when traditional Indigenous groups are to be targeted within health initiatives.

An area that could have been addressed in the roll out of the '*Baby Help*' tool was the involvement of non-government organisations that provide services for the target population. With expanded planning, the possibility for key stakeholders outside of

Queensland Health to learn about and further disseminate the resource amongst their clients could have been addressed.

Impact on the end user

This aim of the study has been difficult to address in that only half of the post implementation respondents (52%) identified that they had unlimited access to the tool, and not all (70%) had been giving it out in their communities. Only one third of the post implementation respondents identified they had seen parents or carers utilising the '*Baby Help*' tool. Additionally, participants were either not aware of the supportive resources that were available (poster & instruction sheet), or the resources were not appropriate to support practice. This is demonstrated by only three of the post implementation group identifying that they had a '*Baby Help*' poster displayed in their work area and had used the instruction sheet for the '*Baby Help*' tool.

Identification of movement through the levels of health literacy amongst parents and carers in response to exposure to a health promotion initiative was not possible in the time frame of this study (Nutbeam, 2000). The implications of a limited release of the tool into communities did impact the opportunity for participants to observe any changes to illness recognition or management by end users. The delay between the '*Baby Help*' introductory session and access to the tool for their clients may have diminished its impact to some extent. From the feedback that was given the tool had been well received, and was well supported by Health Workers. Additional evaluation of the health behaviour of parents and carers of children aged 0-2 years would need to be performed to gain a clear picture of the impact of the '*Baby Help*' tool.

Value of 'Baby Help' to practice

Of the participants who answered the question relating to the tools value in practice, most (71%) had found it useful, with additional written comments identifying that there had been support amongst parents and carers for the tool once it had been introduced to them by the Health Worker. Of the respondents that answered the question relating to the overall efficacy of the '*Baby Help*', all agreed it would be effective in educating parents and carers about signs, symptoms and management of illness in children aged between 0-2 years. It was hoped that reports of improved consultations between Health Workers and carers in relation to aspects of infant illness would result from an increase in health literacy bought about from the tool; however there is no evidence to display this outcome.

Indigenous Health Promotion

As outlined in the literature review, there have been commonalities identified in health promotion activities that relate to fundamental, science, civic and cultural literacy, and contribute to the overall impact on Indigenous populations (Zarcadoolas, Pleasant, Greer, 2005). Aspects of reading, writing, communicating and interpreting information have been comprehensively addressed in the adaptation of the '*Baby Check*' to the '*Baby Help*' tool. Initial opinions expressed by respondents that focus on appearance and presentation of information gave insight into how important these aspects were in order for the information in the tool to be translatable into communities. The majority of comments made were positive in relation to the ability of their clients to understand the content and navigate the colour coded action system, and certainly the focus group session that MCH&SB

facilitated amongst mothers and carers prior to the release of the tool did not identify problems with regards to comprehension. This was conducted amongst a cohort of metropolitan based Indigenous parents and carers and therefore it would need to be identified if this sample population is representative of Indigenous parents and carers throughout Queensland.

While the '*Baby Help*' delivers the most recent evidence based information on the management of illness in children aged between 0-2 years; identifies normal ranges and limits; and provides basic explanations for behaviours, signs and symptoms that could be evident in children; it does not identify the science that backs up this evidence. In the format of a ready reference tool this would make for a cumbersome addition to the content. Rather, the implementation of the tool by a health care professional could be argued to provide the information backup for consumers as necessary. In subscribing to fundamental literacy the authors of the '*Baby Help*' tool needed to provide content that was easily understood and applied and the addition of background information may have hindered this objective dramatically.

The consultative process throughout the development of the tool would have engendered engagement and a level of ownership, however this was not capitalised on during the implementation phase. The process of evaluation itself would contribute to civic literacy in that feedback is gained from the health professionals directly responsible for the implementation of the tool. An aspect of civic literacy would also be that feedback gained through this process be addressed. The '*Baby Help*' was designed to facilitate decision making for the parent or carer of a sick

infant and in meeting that aim it would be capacity building for management and early referral of infant illness. Aspects of the implementation that relate to dissemination have limited the potential for the tool to address this goal.

The consultative process led by MCH&SB that preceded the final version of the tool was extensive but related to aspects of content, presentation and language used. Cultural literacy in itself relates to the application of collective beliefs to interpret health information (Zarcadoolas, Pleasant, Greer, 2005). The utilisation of the Indigenous Child Health Worker as cultural brokers for the implementation of the tool went a way to subscribing to this principle. However, it is not going to be in every case that the end user of the '*Baby Help*' tool will be introduced to the tool in this manner. Efforts to present the booklet information in a culturally appropriate way, in a broadly understandable format, and utilising imagery and symbols that are identifiable for Indigenous peoples were successful as determined by the positive feedback obtained. It is however difficult to determine if the presentation of evidence based illness management information, in a culturally appropriate way, addresses the world views particular to the Indigenous culture.

In consideration of the '*Baby Help*' tool implementation in terms of the Australian Indigenous Health Promotion Network recommendations for health promotion activities (2006), the tool does aim to develop and improve the personal skills of Indigenous parents and carers in relation to infant illness management. Through this it would serve to strengthen community. It also aims to support Indigenous people, and Health Workers in their roles within the community by improving their knowledge

relating to Infant illness management. As identified by Bough (2004) it is important to ground health promotion initiatives in community strengths rather than the gaps and weaknesses if one is aiming to build capacity.

The potential to access a large population of Health Workers from throughout Queensland, presented an important opportunity for a new health promotion initiative. The '*Baby Help*' introductory session was comprehensive and related to current management issues for specific Indigenous childhood illnesses, but was disjoint from the '*Baby Help*' tool in that the session did not actively link tool content to the information being presented. An aspect that demonstrates this is that one third of post implementation respondents, who had attended the introductory session, nominated that they had not been given education relating to the '*Baby Help*'.

5.5 Impact on Knowledge and Practice

Experience, Practice and Evidence

It is acknowledged that in any group of health professionals individuals are positioned on a continuum in relation to clinical proficiency that ranges from novice to expert (Benner, 1984). It has become an expectation that health professionals practice in holistic and individual ways for their clients with the foundation for practice remaining grounded in evidence (Sackett, 1997; Walsh, 2010). With the target population for the '*Baby Help*' being parents and carers of infants aged 0-2 years, one important aspect for tool's success would be that the information it contains be supported through the words and actions of the health professionals who are responsible for introducing it. In this study the knowledge survey was designed to evaluate participant knowledge of general child health information taken directly from

the contents of the '*Baby Help*' tool, or, in relation to current evidence. It was not the intention to grade individual performance or position on the practice continuum; but instead to look for improvement from baseline that may have been attributable to exposure to an evidence-based health promotion tool. Examined in isolation, an average grade of between 75-84% is accepted to be a 'distinction level' at tertiary institutions (University of Queensland, 2010: Australian National University, 2010). In both the pre and post implementation findings participant's average scores were greater than 80% which is reflective of a very high overall achievement.

Themed questions

The area of gastrointestinal and dehydration was highlighted as a low performance theme for the knowledge survey. However, when looking at the individual questions, participants in the pre implementation group displayed good knowledge levels ($\geq 75\%$) relating to the need for referral, and complications of, gastrointestinal illness in children aged 0-2 years; but did poorly in identifying signs of dehydration or which fluids were unsuitable to give to a child with a gastrointestinal complaint (< 75). A positive shift in scores was seen post implementation indicating improved knowledge, but differences were not significant. As incorrect responses caused the loss of many points on each of these questions, it is clear that knowledge on this theme is not certain.

Similarly, most participants identified the potential for convulsion in response to an elevated temperature (87%) in a child, but did not succeed in identifying simple treatment measures that a parent could employ to make a febrile child more comfortable (38%), with incorrect responses again lowering overall scores. Fever is

a common response to many childhood illnesses and current evidence advocates that treatment with an anti-pyretic is only necessary if the child is distressed by the fever (Walsh, et al, 2005). It is therefore important to know some simple techniques that can serve to lower or limit a fever and make the child more comfortable.

Participants correctly identified the signs and symptoms of respiratory illness in a child for the survey and did well in identifying two out of three scenarios where referral for respiratory symptoms needed to be decided. The third scenario described a child with mild symptoms but identified that the mother was worried and for this reason should have been selected for referral. Participants made comments pre implementation that they would be concerned that a tool like the '*Baby Help*' would override a parent's or carer's instinct with regard to their child. Certainly, it is the person closest to the child who knows them best and is therefore most likely to identify concerns on a tangible or intangible level. In recognition of this, '*Baby Help*' includes the advice in its content repeatedly that if worried about your child, to seek assistance from a health professional.

There was an excellent correct response rate for the question relating to infant sleep positioning with the majority of pre implementation, and all of the post implementation respondents identifying the supine position as the recommended sleep position for a baby to reduce the risk of SUDI. However, while health workers here seem aware of the importance of safe sleep positioning, statistics identify that 34% of non-remote dwelling and 62% of remote dwelling Indigenous babies aged <1year do not sleep on their backs (Thompson, Young, & Battistutta, 2009; Young, 2008; ABS 2010b). We also know that the Indigenous population has a significantly

higher rate of infant death attributable to SUDI including SIDS and fatal sleep accidents (CCYPCG, 2008). Indigenous specific educational resources for reducing the risk of SIDS and fatal sleep accidents that were independent of the '*Baby Help*' tool have been developed in response to this identified need, and were introduced to the Health Workers at the same forum that the current study took place in (Queensland Health, 2008). The educational session accompanying this release and the tools themselves may account for the increase in knowledge between the pre and post implementation respondents (Young, 2008). Certainly, while knowledge for sleep positioning is very good, there is a need to ensure that all aspects of risk reduction are being supported within communities by health workers.

The majority of participants in both the pre and post implementation surveys identified correctly the scenarios where further medical assessment was and was not necessary, thereby supporting the information contained in the '*Baby Help*' resource. In a qualitative study of parental attitudes to the '*Baby Check*', Kai (1994) determined that it contributed to improved parental confidence with infant illness, health referral and communicating with health professionals as well as lowering anxiety levels. However the fact that health professionals were integral to the appropriate use and uptake of the tool was also identified (Thomson et al, 1999; Thornton et al, 1991). Pre implementation, participants were already identifying before they had seen the '*Baby Help*', that education surrounding the tool would be necessary. Having health professionals that can identify when a child needs further medical assessment or management is imperative, but those children need to be brought to the health professional's attention first. Therefore it is very important that this resource be supported in the community.

Identification of common health messages and medication administration information were areas of the pre implementation survey that participants performed well and trended toward improvement in the post implementation. While basic, these supportive health topics presented in the '*Baby Help*' need to be reinforced by the health workers in practice in order to capacity build amongst parents and carers and enable them to decision make in relation to their child's health and wellbeing (Barnes, Rowe & Roden, 2008)

When looking at burn injury, participants did have difficulty rating the treatment priorities in the pre implementation survey. The sequence required cold water application, removal of clothing from area if not adherent and covering the area with clean fabric. Participants could identify the need to call for medical assistance at any stage. Due to their emerging mobility and lack of fear, children aged 0-2 years are vulnerable to injuries that result from falls, poisoning, burns or drowning (CCYPCG, 2008; Maginnis & Shields, 2008). Indigenous specific statistics are not identified however burn injury accounted for 2.2 hospital admissions per 1000 children under the age of one year in Queensland for the year 2006-2007 (CCYPCG, 2008). The '*Baby Help*' content includes advice for emergency situations such as choking, poisoning, and burns in response to the prevalence of this type of injury in the age group it targets.

Burn management was one of the two areas that reached statistical significance between pre and post implementation responses but was not an area that was covered in the educational intervention at the introduction of the '*Baby Help*' tool.

Therefore the assumption that knowledge was impacted in this way would be baseless. It is possible however that the knowledge shift could be attributable to raised awareness brought about through use of the '*Baby Help*' tool or through experiences of the Health Workers.

Participants had difficulty identifying the cause of a rash described in one question but showed a significant improvement in their correct response rate post implementation. Scabies are an endemic parasitic problem in remote communities within Australia with the onset often within the first few months of life and secondary infections common (WHO, 2008). There is a significant burden of disease associated with the secondary conditions that can develop as a result of skin sepsis. Post infective complications such as rheumatic fever and heart disease and glomerulonephritis are also common (Walton & Currie, 2007, Currie & Carapetis, 2000). Early identification and management of infestations is important for prevention of these complications. The prevalence of scabies is thought to be up to 50% in children within remote communities, but certainly the ability to identify a scabies rash would not be common to all health worker practice. This was also a topic area that was not covered in the '*Baby Help*' introduction session and therefore the significant knowledge shift could potentially be secondary to experience or raised awareness following use of the '*Baby Help*' tool.

Responses to questions that related to ear infections and potential complications were performed well and consistently across the pre and post implementation responses. There has been a focus on ear health amongst the Indigenous population since the extent and burden of this problem was identified (Queensland

Government, 2009). The follow on effects of untreated otitis media in children can impact future health, education and socio-economic opportunity through hearing loss (Couzos & Murray, 2003, CCYPCG, 2008; Rothstein, Heazlewood and Fraser, 2007). Deadly Ears, the state-wide Aboriginal and Torres Strait Islander Ear Health Program, is a Queensland Health initiative aimed at providing treatment for and raising awareness of ear disease within rural and remote communities (Queensland Government, 2009). This program provides competency based training for all health professionals in relation the ear health and has been running now since 2006, with additional funding approved until 2013 (Queensland Government, 2009). Because of the success of this program and the increased profile that ear health has gained, the relatively high level of knowledge relating to this theme amongst Health Workers would be testament to the value of targeted and appropriate interventions within the Indigenous community.

5.6 Strengths and Weaknesses

There have been a number of evaluation studies conducted relating to health promotion initiatives and their impact amongst the Aboriginal and Torres Strait Islander populations, however this study is original in that it has looked at the evaluation of a health promotion initiative through the eyes of the Health Worker. Mikhailovich, Morrison, & Arabena (2007) identified guidelines for the conduct of ethical health promotion research amongst this population as needing to adhere to the key ethical principles for research as outlined in the 'Keeping Research on Track' document (NHMRC, 2005). This study has adhered to these principles as closely as possible, but acknowledges that the evaluation has always been one step away from Indigenous communities and end users of the '*Baby Help*' tool. The perspective of

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this evaluation was one of gaining insight from uniquely positioned Queensland Health employees rather than being an Aboriginal and Torres Strait Islander research project. Additionally this study has only provided information relating to short term outcomes of the '*Baby Help*' project. It would be important that the end user (the parents and carers of children aged between 0-2 years) of this infant illness assessment tool be evaluated for their understanding of the content and application of illness management principles following a period of implementation to gain a comprehensive picture of its efficacy as a health promotion initiative.

The sample size for this study is small; however, when the total numbers of Indigenous Child Health Workers that are employed by Queensland Health at this time are taken into consideration, this study achieved a 74% response rate from that specific demographic in the pre implementation, and 36% in the post implementation phase of the study. There were only a very small number of Torres Strait Islander participants in the pre implementation group and none in the post, thereby making it very difficult to generalise findings to this group. Future research that targeted Torres Strait Islander Health Worker attitudes and opinions in relation to the availability, access and efficacy of health promotion tools such as the '*Baby Help*' are necessary.

Pre implementation response rates were excellent, a result no doubt of the unique opportunity to access the widely distributed target population that the introductory session for the '*Baby Help*' tool provided. However post implementation survey response rates were less than 50% and future studies should consider incorporating a component of visitation to clinical practice areas for the purpose of improving access to and involvement of this group. It was clear to the chief researcher that

many participants would have preferred to discuss the tool face-to-face rather than complete paperwork however this was not possible in this study due to time and resource limitations.

Chapter Six: Conclusions

Health promotion programs that are implemented within communities require evaluation to see that they meet with the original intention identified and reach the end user in meaningful ways. In the current health climate, purposive engagement of funding and rationalisation of expenditure is paramount. The evaluation of the impact of programs is an important aspect of health rationalisation. However, aspects of expense should be secondary to the importance of providing Indigenous communities with culturally viable means of improving health outcomes and meeting goals of reducing the gap between Indigenous and non-Indigenous health.

The '*Baby Help*' tool that was implemented through health professionals working within the field of Indigenous Child Health, aimed at improving knowledge and management of illness in children aged between 0-2 years. Enlisting the support of the Indigenous Child Health Worker and Child Health Worker as facilitators for introducing the tool was an important step in establishing a solid foundation for its use amongst community members. Key outcomes for this study include;

The model of development and consultative design used for this health promotion tool worked. But while response has been positive, it remains unknown if the tools impact would not have been greater had elements of education, distribution, support and evaluation been fully developed, cohesive and consistent prior to its introduction. Optimising distribution through Indigenous health reference sites and publications,

and enlisting support through cross organisational collaboration are avenues that should be explored in future.

Due to their diverse and respected roles within the communities they work, Health Workers are uniquely positioned to facilitate health change. As such they require support within their roles in relation to resources; educational opportunities; collaboration with colleagues and peers and professional mentorship. Participants in this study demonstrated that they possess high levels of knowledge in relation to illness management in the child aged 0-2 years. Exposure to a health promotion tool did significantly impact on two of the themed areas of their knowledge, but perhaps more importantly, the '*Baby Help*' tool was viewed as being a resource that would support Health Worker practice with mothers and carers of children aged 0-2 years. Further research that included an evaluation on the end user of the '*Baby Help*' tool would allow for greater insight into its impact on Indigenous infant health.

Varying levels of literacy amongst end users of health educational tools needs to be a consideration during the developmental stages. The potential for resources that cater for a range of literacy levels covering the same themes needs to be explored. This would allow for health professionals to target education to suit individual client literacy needs.

Important considerations for the outcomes of this study are that the '*Baby Check*' tool was developed twenty years ago and its adaptation into the '*Baby Help*' began ten years ago. In order to realise goals of impacting Indigenous health inequities within the next ten years, policy, funding and practice need to subscribe to the

development of initiatives that access recognised strategies for successful health promotion within Indigenous populations. Elements such as community consultation and capacity building need to be inherent in program development, and evaluation an intrinsic component of the process. Additionally, the findings from project evaluations need to be published, be they negative or positive, in order to inform future practice. By adopting strategies that have demonstrated to be appropriate and effective there will be shortened time between development and implementation; the quality of programs will be enhanced and the expense of initiatives will be reduced.

Utilisation of more robust research methodologies that incorporate elements of capacity building for Indigenous Health Workers and visitation to clinical practice areas where face-to-face interaction with participants can be undertaken would significantly enhance the quality of future research findings.

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Appendices

Appendix 1



Consent to Participate in Research

Project Title: An evaluation of '*Baby Help*', an Illness Assessment tool for Indigenous Infants.

RCH Ethics Approval No: [10251]
USC Ethics Approval No: [S/08/156]

Chief Investigator: Karen Watson
Ph: 0420 305 117
Email: Karen.L.Watson@health.qld.gov.au

Project Overview

Little research has been done into the methods of information delivery and education that is most preferred by, and suited to, Aboriginal and Torres Strait Islander groups. The introduction of a health promotion initiative within this community provides an important opportunity to obtain feedback on the knowledge, attitudes and practices of Indigenous Child Health Workers (ICHW) relating to infant illness and the best ways to support ICHW in their important role.

As a health professional who works with infants and parents, the contribution you can make to this study will be extremely valuable. You will be asked to participate in two evaluation sessions; one before the introduction of the '*Baby Help*' tool, and the second 8-12 weeks after the '*Baby Help*' tool education session. The evaluation sessions will involve a survey that will take between 20-30 minutes to complete and participation in a focus group session of 30-60 minutes duration. These focus groups will be occurring as part of Area Health Service Education support for ICHW. Here, I will ask you to share your attitudes, opinions and experience of working as an ICHW within the community.

I understand that:

- I do not have to participate in this research study if I do not want to.
- I can withdraw from the study at any time and I do not have to give an reason for withdrawing.
- If I do choose to withdraw from the research study at any time, any information received from me or pertaining to me that was obtained prior to my withdrawal may be included in the analysis but my anonymity and confidentiality will be maintained at all times.
- I will not be penalised or treated less favourably or lose any benefit if I do withdraw from the study.
- I will be provided with a summary of the results of the research.

- All information obtained from me or pertaining to me will be kept strictly confidential to the research team and that there will be no means of identifying me personally as a research participant in any publication, presentation or other means arising from the research
- I will be contacted regarding the second evaluation and that I will have the opportunity to discuss the project at that time and decide if I want to participate further.
- The project will be carried out, as described on the Research Project Information Sheet, a copy of which I have kept.
- Whether or not I decide to participate is my decision and will not affect my participation in the Indigenous Child Health Worker in-service workshop or my practice as an Indigenous Child Health Worker.

I understand the contents of the Research Project Information Sheet for the research study *“An evaluation of ‘Baby Help’, an Illness Assessment tool for Indigenous Infants”* and this *Consent to Participate in Research* form. Any questions I had about this research project and my participation in it have been answered to my satisfaction.

I agree to participate in the *“An evaluation of ‘Baby Help’, an Illness Assessment tool for Indigenous Infants”* project and give my consent freely.

Participant Name: Date:.....

Signature:.....

Researcher Name:..... Date:.....

Signature:.....

I do not wish to take part in this study

Appendix 2



Research Project Information Sheet

Project Title: Evaluation of '*Baby Help*', an Illness Assessment tool for Indigenous Infants.

RCH Ethics Approval No: [10251]
USC Ethics Approval No: [S/08/156]

Chief Investigator: Karen Watson
Ph: 0420 305 117
Email: Karen_L_Watson@health.qld.gov.au

Dear Participant,

I would like to invite you to take part in an evaluation of the '*Baby Help*' infant illness assessment tool by Indigenous Child Health Workers.

About the Project

Infant mortality rates amongst Indigenous Australians are more than twice that of the non-Indigenous population, while reviews of sudden unexpected deaths in infancy (SUDI) are currently reported at a rate seven times higher. There are recognised environmental and cultural barriers that contribute to this disparity in health outcomes. In 2007 the Commission for Children and Young People & Child Guardian recommended that preventative programs targeting disadvantaged populations were needed, together with the implementation of specific health promotion activities. It is with this goal in mind that Queensland Health's Maternity, Child Health & Safety Branch and the University of Queensland, in consultation with key members of the Aboriginal and Torres Strait Islander community, have developed an infant illness assessment tool specifically designed for Indigenous families. This tool is to be introduced to the community through the Indigenous Child Health Worker (ICHW) and it is hoped that it will be used by parents and caregivers as a source of information and advice when a child is unwell.

What your participation in the Project will involve

We would like to invite you to take part in an evaluation of the implementation of the '*Baby Help*' infant illness assessment tool. Little research has been done into the methods of information delivery and education that is most preferred by, and suited to, Aboriginal and Torres Strait Islander groups. As a health professional participating in the implementation of an educational tool and who works with infants and parents, the contribution you can make to this study will be extremely valuable. You will be asked to participate in two evaluation sessions, one before the introduction of the '*Baby Help*' tool and one eight to twelve weeks after. The evaluation sessions will involve a survey that will take between 30-40 minutes to complete, together with participation in a focus group session where we would ask you to share your attitudes, opinions and experience of working as an ICHW within the community.

Benefits and Risks

The results from this research will assist in evaluating the effectiveness of a health promotion activity within the Aboriginal and Torres Strait Islander community and will also be used to inform future health initiatives. Whilst unlikely, it is possible that survey content may raise concerns or issues for some participants. Should this occur, please do not hesitate to contact either the Chief Researcher or one of the project Supervisors with any concerns you might have.

All information collected from these survey forms will remain confidential and anonymous. Coding of data will prevent individual participants being identified. Information will be kept in the strictest confidence in a locked filing cabinet accessible only to the researchers.

It is anticipated that the findings from this study will be disseminated via conference papers and published articles. No information will be published in any form that would allow for an individual or area to be recognised. Prior to publication, participants will be given feedback and opportunity to comment on the findings from the study. Your participation is voluntary and you are free to withdraw from the study at any time without comment or penalty. Not participating in the study will not affect your participation in infant illness education sessions in any way.

If you do not wish to participate in this project, simply tick the box at the bottom of the consent form and return the form in the enclosed envelope to the collection point provided.

This research is being conducted through a funding grant from the Royal Children's Hospital Foundation. The study has been approved by the Royal Children's Hospital Ethics Committee and the University of the Sunshine Coast Human Research Ethics Committee and is part of degree requirements for the Chief Investigator. If you have any concerns about the way this research project is being conducted you can raise them with the Chief Investigator or contact one of the project Supervisors (listed below). You may also contact the Ethics Officer, Royal Children's Hospital & HSD, c/ Department of Paediatrics & Child Health. Level 3, Foundation Building. Herston. Qld. 4029. Ph: 3636 9167.

Kind regards

Karen Watson R.N.
Nursing Research Unit
Practice Development & Education Centre
Level 5, Woolworths Building.
Royal Children's Hospital & HSD
Herston Rd, Herston. 4029. Qld.

Supervisors:

Adjunct Associate Professor Jeanine Young
Nursing Director - Research. RCH & HSD
Ph: 3636 1962
Jeanine_Young@health.qld.gov.au

Dr Margaret Barnes
Senior Lecturer in Nursing-School of Health & Sports
Sciences, University of the Sunshine Coast
Ph: 5459 4686
mbarnes@usc.edu.au

Appendix 3



Research Project Information Sheet- Post Intervention Survey

Project Title: Evaluation of '*Baby Help*', an Illness Assessment tool for Indigenous Infants.

RCH Ethics Approval No: [10251]
USC Ethics Approval No: [S/08/156]

Chief Investigator: Karen Watson
Ph: 0420 305 117
Email: Karen_L_Watson@health.qld.gov.au

Dear

I would like to invite you to take part in the second survey evaluating '*Baby Help*' infant illness assessment tool.

Approximately 8-12 weeks ago Maternity Child Health & Safety Branch introduced the '*Baby Help*' Infant Illness Assessment tool to your health district. The responses that you provided on the initial survey have been very helpful in gaining an overview of attitudes, beliefs, opinions and practices. Enclosed please find the second survey that you consented to complete as part of the study. We are seeking to gain your perspective of how the '*Baby Help*' tool has contributed to your daily practice, its suitability as an educational tool, and its acceptance within the wider community. As this is also an evaluation of the implementation process, even if you have not had the tool to use in practice, you can provide us with valuable feedback.

On completion please return the survey in the self addressed envelope to the researcher. Do not write your name or the area in which you work on the survey form as we do not wish any individuals to be identified by the data collected. The surveys will have a number that will allow for answers to be compared to those given before the education program. This coding will also be used to send one postal reminder if we have not received your second survey by a certain date, and then destroyed following this reminder process.

All information collected from these survey forms will remain confidential and anonymous. Coding of data will prevent individual participants being identified. Information will be kept in the strictest confidence in a locked filing cabinet accessible only to the researchers.

It is anticipated that the findings from this study will be disseminated via conference papers and published articles. No information will be published in any form that would allow for an individual or area to be recognised. Prior to publication, participants will be given feedback and opportunity to comment on the findings from the study. Your participation is voluntary and you are free to withdraw from the study at any time without comment or penalty. Not participating in the study will not affect your participation in infant illness education sessions in any way.

If you no longer wish to participate in this project, simply tick the box at the bottom of the consent form and return this form in the self addressed envelope enclosed.

This research is being conducted through a funding grant from the Royal Children's Hospital Foundation. The study has been approved by the Royal Children's Hospital Ethics Committee and the University of the Sunshine Coast Human Research Ethics Committee.

This research project is part of degree requirements for the Chief Investigator. If you have any concerns about the way this research project is being conducted you can raise them with the Chief Investigator or contact one of the project Supervisors (listed below). You may also contact the Ethics Officer, Royal Children's Hospital & HSD, c/ Department of Paediatrics & Child Health. Level 3, Foundation Building. Herston. Qld. 4029. Ph: 3636 9167.

Thanking you in anticipation

I no longer wish to participate in this study.

Karen Watson R.N.
Nursing Research Unit
Practice Development & Education Centre
Lower Ground Floor, North Tower.
Royal Children's Hospital & HSD
Herston Rd, Herston. 4019. Qld.

Supervisors:

Professor (Adj) Jeanine Young
Nursing Director - Research. RCH & HSD
Ph: 3636 1962
Jeanine_Young@health.qld.gov.au

Dr Margaret Barnes
Senior Lecturer in Nursing-School of Health & Sports
Sciences, University of the Sunshine Coast
Ph: 5459 4686
mbarnes@usc.edu.au

Appendix 4



Research Project Reminder Letter

Project Title: Evaluation of '*Baby Help*', an Illness Assessment tool for Indigenous Infants.

RCH Ethics Approval No: [10251]
USC Ethics Approval No: [S/08/156]

Chief Investigator: Karen Watson
Ph: 0420 305 117
Email: Karen.L.Watson@health.qld.gov.au

Dear ,

In May last year an educational session was conducted during the Indigenous Showcase where you were introduced to the '*Baby Help*' Infant Illness Assessment Tool. As part of that program you consented to participate in a study exploring your opinions, beliefs, attitudes and practices relating to the implementation of the '*Baby Help*' tool.

More recently you were asked to complete a second survey relating to the tool and its use in your area of work. The numerical coding used for this study shows that you have not yet returned your responses. We would appreciate it greatly if you could complete the enclosed survey and return it in the self addressed envelope provided. As a health professional working with children and parents your responses are extremely valuable to the outcome of this study. Even if you have not encountered the '*Baby Help*' in practice, this is important information to know for the purposes of feedback.

If you no longer wish to participate in this study, please tick the box below and return this letter in the self addressed envelope provided. If you do choose to withdraw from the research study at any time, any information received from you or pertaining to you that has been obtained prior to your withdrawal may be included in the analysis, but your anonymity and confidentiality will be maintained at all times.

The coded information used to contact you on this occasion will be destroyed following this reminder process. This is in accordance with the National Health and Medical Research Council ethical guidelines.

If you have any concerns about the way this research project is being conducted you can raise them with the Chief Investigator or contact one of the project Supervisors (listed below). You may also contact the Ethics Officer, Royal Children's Hospital & HSD, c/ Department of Paediatrics & Child Health. Level 3, Foundation Building. Herston. Qld. 4029. Ph: 3636 9167.

I no longer wish to participate in this study.

Karen Watson R.N.
Practice Development Unit, Nursing Research
Ground Floor, North Tower.
Royal Children's Hospital & HSD
Herston Rd, Herston. 4019. Qld.

Supervisors:

Professor (Adj) Jeanine Young
Nursing Director - Research. RCH & HSD
Ph: 3636 1962
Jeanine_Young@health.qld.gov.au

Dr Margaret Barnes
Senior Lecturer in Nursing-School of Health & Sports
Sciences, University of the Sunshine Coast
Ph: 5459 4686
mbarnes@usc.edu.au

Appendix 5



Focus Group Question Guide

Project Title: Evaluation of '*Baby Help*', an Illness Assessment tool for Indigenous Infants.

Question 1:

In relation to your daily practice as an Indigenous Child Health Worker do you feel supported in your role within Queensland Health? (Introduce different aspects of support i.e. professional/ community/ educational/ resource etc)

Question 2:

Do you feel that an education/ ready reference tool for parent's to consult when their child (aged younger than two) is ill has a place and would be utilised within the community?

Question 3:

Do you feel that a tool like this could make a difference to your practice? How so?

Scope of Practice Information

Study ID _____

These questions will help to outline the background and current work environment of Indigenous Child Health Workers (ICHW).

Experience

1. How long have you worked as an Indigenous Child Health Worker? (Circle one that applies).

1. Less than 6 months
2. 6 months to less than 1 year
3. 1 year to less than 2 years
4. 2 to 5 years
5. 5 years or more

2. How long have you worked in your current position? (Circle one that applies).

1. Less than 6 months
2. 6 months to less than 1 year
3. 1 year to less than 2 years
4. 2 to 5 years
5. 5 years or more

3. How old are you? (Circle one that applies).

1. 18 to 30 years
2. 31 to 40 years
3. 41 to 50 years
4. 51 to 60 years
5. Older than 61 years

4. Have you had experience in caring for a child younger than 2 years of your own or within your family? (Circle one that applies).

1. Yes 2. No

5. What is your cultural background? (Circle all that apply).

1. Aboriginal
2. Torres Strait Islander
3. Australian South Sea Islander
4. Non-Indigenous

Education

6. List your highest education level achieved (i.e. Junior certificate/ TAFE).

7. List your highest health qualification achieved (i.e. Certificate II/ R.N).

8. How many Area Health Service (AHS) ICHW in-service workshops have you attended in the last 12 months? (Circle one answer).

Four Three Two One None

9. How helpful do you find the AHS ICHW in-service workshops to your practice? (Circle one answer).

| | | | |
Always Mostly Sometimes Rarely Never

10. Where did most of your knowledge about caring for a child younger than 2 years come from? (Circle all that apply).

1. ICHW Training
2. Other ICHW staff
3. Parenting experience
4. Extended family members (Mum/ Gran)
5. Work experience
6. Local in-service training
7. Other

Practice

11. What is your main job?

12. What is your main job title?

13. How many hours do you work per week?

14. In your role as an ICHW, where do you see your clients? (Circle all that apply).

- 1. Community Health Clinic
- 2. General Practice rooms
- 3. Hospital
- 4. Client home
- 5. Remote clinic
- 6. Other

15. In your usual work practice, are you involved in parent education? (Circle one that applies).

Every	Frequently	Some-	Rarely	Never
Day		times		

16. How many hours of your practice time would be spent in contact with children younger than 2 years and their carers each week? (State approximate number of hours).

Access

17. What size is the Indigenous community that you work within? (Circle one that applies).

- 1. up to 100 people
- 2. 100 to 500 people
- 3. 500 to 1000 people
- 4. 1000 to 2000 people
- 5. greater than 2000 people

18. How many ICHW work in your community? (List number).

19. Would you describe your work location as being ...? (Circle one that applies).

- 1. Urban
- 2. Rural
- 3. Remote
- 4. Very Remote

20. What is the postcode of the area where you work?

21. On average, how far do most Indigenous people in your community have to travel to see the closest health care service? (ICHW/ doctor/ nurse) (Circle one that applies).

- 1. <30 min
- 2. 30 min to 1 hour
- 3. Between 1 to 2 hours
- 4. Between 2 to 4 hours
- 5. Between 4 to 8 hours
- 6. More than 8 hours
- 7. Comment

Access (continued)

22. As an ICHW, in the area where you work who do you refer your patients to if further attention is necessary?
(Circle all that apply).

- 1. General Practice
- 2. ICHW Clinic
- 3. Nurse Clinic
- 4. Midwife Clinic
- 5. Doctor clinic
- 6. Hospital
- 7. Royal Flying Doctor Service
- 8. Other

23. In the community you work do you think there is a need for more information and education for parents and carers relating to the signs, symptoms and management of illness in children aged less than 2 years?

- 1. Yes
- 2. No
- 3. Comment

24. What resources do you have access to for educating parents and carers about illness management in their child aged less than 2 years? (Circle all that apply).

- 1. Books
- 2. Pamphlets
- 3. Videos/ DVD's
- 4. Own knowledge and experience
- 5. Internet
- 6. Other

25. What resources do you use for educating parents and carers about illness management in their child aged less than 2 years? (Circle all that apply).

- 1. Books
- 2. Pamphlets
- 3. Videos/ DVD's
- 4. Own knowledge and experience
- 5. Internet
- 6. Other

26. Do you think that if there was an infant illness assessment and management tool available in your community that you would use it in your practice?
(Circle one that applies).

1. Yes 2. No 3. Unsure

Additional Comments

Please continue on to Section 2 of the survey.

Knowledge, Attitudes and Practice information

Study ID _____

Your responses to these questions will help to evaluate knowledge and practice of Indigenous Child Health Workers (ICHW) relating to infant illness assessment and management (QH; 2008[b])

1. At what point would you advise parents to seek medical attention for a baby (under 2yrs) who is vomiting? (Circle all that apply).

1. Not keeping anything down for >24 hours
2. 3 vomits in 24 hours
3. Vomiting green fluid
4. Child also has diarrhoea (belly run)
5. *All of the above*

2. What would be the main concern for a baby (under 2yrs) who has prolonged vomiting? (Circle one that best applies)

1. They would have a reduced appetite
2. They are only able to take smaller feeds
3. They should only be given milk to drink
4. *They would be at risk of dehydration*
5. Unsure

3. A baby (less than 2yrs) who has been unwell and is sleepy and not waking for feeds... (Circle one that best applies).

1. *Needs to be medically assessed*
2. Has lost their appetite
3. Needs extra rest because they are ill
4. Needs to be woken regularly for feeds
5. Unsure

4. What treatment measures can a parent use for a baby (under 2yrs) who is irritable, flushed and has a fever. (Circle all that apply)

1. *Wipe with cool wet washer*
2. Give child a warm bath
3. *Remove excess clothing*
4. Wrap child to avoid shivering
5. Unsure

5. In what instances would you advise a parent with a baby (under 2yrs) who has a fever to seek immediate medical attention?

(Circle *Yes / No or Unsure* for each case).

1. Child a bit warm for a few hours (37.5) and not distressed.
Yes / No / Unsure
2. Hot for a few hours, child flushed and irritable. Temp (37.8 °C). Feels cooler after medication.
Yes / No / Unsure
3. Child vomiting, diarrhoea (belly run) and very hot to touch (38.7 °C) for 24 hours.
Yes / No / Unsure
4. Child's feels warm to very hot (37.5-38.5 °C) for a few days and child irritable, pulling at ears.
Yes / No / Unsure
5. Child very drowsy, has purplish rash on tummy and hot to touch (38.4 °C).
Yes / No / Unsure
6. Child had immunisations earlier in the day and a little irritable and hot (37.7 °C).
Yes / No / Unsure
7. Child very hot and has been seen by parent to go stiff and start twitching.
Yes / No / Unsure
8. Child has runny nose for a few days and warm to hot at times (37.6 °C).
Yes / No / Unsure
9. Child is hot, has fast noisy breathing and will not feed.
Yes / No / Unsure
10. Child very hot and is floppy and difficult to wake up.
Yes / No / Unsure

6. To reduce the risk of SIDS the recommended sleep position for babies is:

1. Place baby on their side to sleep
2. Place baby on their back to sleep
3. Place baby on their tummy to sleep
4. Sleep position is not important
5. Unsure

7. A child (under 2yrs) who presents with chest problems could have which of the following signs and symptoms? (Circle all that apply).

1. Fever
2. Won't feed
3. Difficulty breathing
4. Wheezing
5. Short wind
6. Coughing
7. All of the above

8. Complete the following health messages...

1. Smoking is bad for babies.
2. To prevent hot water burns you should run cold water first.
3. Do not leave baby alone in the bath.
4. Immunisation helps protect your baby against disease.
5. To prevent nappy rash, keep baby's skin clean and dry.

9. Signs of dehydration in a child include...? (Circle all that apply).

- | | |
|-----------------------|-----------------------|
| 1. Blue lips | 5. Fewer wet nappies |
| 2. Sudden weight loss | 6. Dry mouth |
| 3. Rash | 7. Sensitive to light |
| 4. No Tears | 8. Sunken soft spot |

10. A mother complains that her 6 month old baby has had a cold for the last few days. At what point do you think she should seek medical attention for the child? (Circle all that apply).

1. Coughing at night but bright and alert during the day. Feeding OK.
2. Coughing at night, irritable during the day and sleeping more. Eating normally. Mum worried.
3. Coughing at night, irritable and tired during the day. Stuffy nose. Not feeding. Feels hot.
4. Coughing at night. Irritable and very tired with rapid shallow breathing. Difficulty feeding and very hot to touch.

11. A child has burnt their hands and lower arms. List in order of priority the first aid treatment for a burn injury: (Number answers in order of action)

- 3 Cover Burn with clean sheet or towel
 Call or get someone else to call for medical assistance
- 1 Apply cold water to burn area either by placing child in cold bath or under cold shower
- 2 Take clothing off but not if skin is blistered or stuck to the clothing

12. Which fluid should be avoided for a child who has vomiting or diarrhea (belly run)? (Circle all that apply).

1. Full strength juice
2. Breast milk
3. Formula
4. Cow's milk
5. Water
6. Fizzy Drinks

13. What would you suspect was the problem if a child presented with a very itchy and flaking rash with small red lumps? (Circle one that applies).

- | | |
|-----------------|---------------------|
| 1. Heat rash | 4. Nappy rash |
| 2. School sores | 5. Fungal infection |
| 3. Scabies | 6. Unsure |

14. What could cause a convulsion (fit) in a baby?

___Fever_____

15. A child has been pulling at one ear, is hot, irritable and the ear has a smelly discharge. What do you think could be the problem? (Circle one that applies).

- 1. Hay-fever
- 2. Teething
- 3. Croup
- 4. *Ear Infection*
- 5. Unsure

16. What could be the outcome if this child is not managed appropriately?

___Otitis media/ hearing loss_____

17. What precautions can a family take to prevent the spread of threadworms?

- 1. _Hygiene measures_____
- 2. _Worming tablets_(family and pet)_____
- 3. _Nails short_____

18. Answer true or false to the following questions about medication.

1. You need to keep taking a course of antibiotics just until the infection goes away.

True / False / Unsure

2. Medicine given too often can make your baby sick.

True / False / Unsure

3. Doses for babies are calculated by weight and age.

True / False / Unsure

4. You can share antibiotics with other children in the family if they have the same illness.

True / False / Unsure

5. If the child is not improving with medication, take them to the doctor.

True / False / Unsure

Comments

Thank you for your time

These questions will help evaluate the use of the 'Baby Help' Infant Illness Assessment tool in the community you work.

Practice

1. What is your main job?

(List job title)

2. What is the postcode of the area where you work?

3. Have you changed your position or job location since May 2008?

(Circle one that applies).

1. Yes (Go to question 4)
2. No (Go to question 11)

4. What is your new job title?

5. Do you currently work with Indigenous families and carers?

(Circle one that applies).

1. Yes 2. No

6. How many hours do you work per week?

7. How many hours of your practice time would be spent in contact with children younger than 2 years and their carers each week? (State approximate number of hours).

24. In your usual work practice, are you involved in parent education?

(Circle one that applies).

Every	Frequently	Some-	Rarely	Never
Day		times		

9. What size is the Indigenous community that you work within?

(Circle one that applies).

7. up to 100 people
8. 100 to 500 people
9. 500 to 1000 people
10. 1000 to 2000 people
11. greater than 2000 people

10. How many Indigenous Child Health Workers (ICHW) work in your community?

(List number).

Education

11. How many Area Health Service (AHS) ICHW in-service workshops have you attended in the last 12 months?

(Circle one answer).

Four Three Two One None

12. How helpful do you find the AHS ICHW in-service workshops to your practice? (Circle one answer).

Always	Mostly	Sometimes	Rarely	Never

Baby Help

13. Did you receive instruction on how to use the *Baby Help* tool in your practice?
(Circle one that applies).

1. Yes 2. No

Comment _____

14. What form did this instruction about *Baby Help* take? (Circle all that apply).

- 1. Introductory session (Cairns)
- 2. Instruction Sheet with examples from MCH&SB (Corporate Office)
- 3. In-service by manager
- 4. In-service from peer
- 5. Just followed it yourself
- 6. No Instruction provided

Comment _____

15. Do you have a *Baby Help* poster positioned in your work area?
(Circle one that applies).

1. Yes 2. No

Other _____

16. Have you seen the *Baby Help* Infant Illness Assessment tool in your work place? (Circle one that applies).

1. Yes 2. No

Other _____

17. Do you have access to *Baby Help* tools that you can issue to your clients?
(Circle one that applies).

- 1. Yes, easy to access
- 2. Yes, but limited copies
- 3. No, it is not available

Other _____

18. Have you been giving copies of the *Baby Help* tool out to parents and carers?
(Circle one that applies).

1. Yes 2. No

Comment _____

19. Have you seen the *Baby Help* being used by parents and carers?
(Circle one that applies).

1. Yes 2. No

Comment _____

20. When working with parents and carers with a child under 2 years have you found the *Baby Help* tool useful for explaining to parents how to manage their child's illness? (Circle one that applies).

1. Yes 2. No

Other _____

21. How do you think the *Baby Help* can be improved?

Comment _____

22. How do you think staff education to support the use of *Baby Help* tool could be improved?

Comment _____

23. In the community you work do you think that the *Baby Help* will be an effective tool for educating parents and carers about the signs, symptoms and management of illness in children aged less than 2 years?

4. Yes

5. No




Comment _____

Additional Comments -e.g. the tool, your experience with the tool or the dissemination process

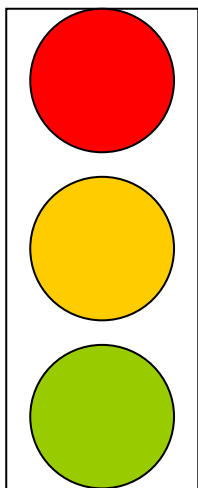
Please continue on to Section 2 of the survey.

BABY HELP INSTRUCTION SHEET

Queensland Health recommends that for each BabyHelp booklet that is distributed a health employee should give instructions to the parent or carer on how to use this resource to understand the actions and advise to effectively help a sick baby.

<p>RATIONALE</p> 	<ul style="list-style-type: none"> • The BabyHelp Booklet was taken from an English version called Baby Check and has been adapted to suit Aboriginal and Torres Strait Islander parents and carers. • BabyHelp has been developed to assist parents in recognising when their baby is not well and what actions they may need to take to help their baby get well again. • The Queensland Health Maternity Child Health & Safety Branch consulted with people from the Aboriginal and Torres Strait Island communities to ensure the resource content was culturally appropriate.
<p>DESIGN</p> 	<ul style="list-style-type: none"> • The decision was made to keep the booklet in the style and size of an A5 flip booklet with the use of coloured tabs for easy reference. • The first half of BabyHelp contains a 3 point action plan to improve general unwellness that could be related to a number of illnesses. • The 3 ‘actions’ have been colour coded and relate to traffic lights in their urgency Green - may be okay, but watch baby for problems. Yellow - there may be a problem here, so you will need to watch your baby very closely. Red – is an alert to a serious problem, you need to seek medical advice NOW. • This action message is consistent throughout the first part of BabyHelp. • The second part of BabyHelp is titled Common health problems for babies 0-2 years of age and relates to more specific problems with direct actions to take and what you can do to help your baby. • Under the Common health problems there is a subheading titled Keeping baby safe that recommends preventative tips, actions and things to do to keep baby safe.
<p>HOW TO USE IT</p> 	<p>It is recommended that any person working in health who intends distributing BabyHelp be able to instruct the parent or carer on how to use this booklet effectively.</p> <ul style="list-style-type: none"> • Go through the booklet with parents individually or in a small group. • Explain what BabyHelp is trying to achieve and that it is related to babies aged 0-2 years. • Ensure the parent or carer understands that BabyHelp is only a guide and not a substitute for medical advice or care.

BABYHELP PART 1



BABYHELP PART 2

- Start at the beginning, inside cover – advise the parent/carer that if they are at all worried about their baby they should seek medical advice.
- Ask the question - What is a sign? Then explain that it is an observable change in the baby's health.
- Reassure parent/carer that they will know their baby well and therefore they would be the best person to notice any changes in the baby.
- Read through each page with the parent/carer and discuss what they might do if they were in the same situation.
- Discuss previous practices and how research has changed the way practices are today. Discuss the differences in these practices and how previous methods may not be suitable for the baby's health.

In the first part of BabyHelp for each tab there is the green, yellow and red action table on the top page and a list of responses on the lower page.


- Address each page continuing with open discussion on the action plan to use should their baby be unwell.
- Ask the parent/carer, when they would take the baby for medical advice if it is unwell. Ask why they would take the baby then and what they would do if there was no medical assistance available.

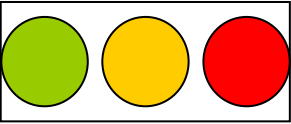

COLOUR CODES EXPLAINED:

- If your baby has not responded to any medical care or medication or has not improved at all, take your baby to a health worker, nurse or doctor immediately. This is the red action. **Red is a serious problem – stop, act immediately!**
- If your baby is getting worse and has not improved you should watch your baby carefully and take your baby to see a health worker, nurse or doctor. This is the yellow action. **Yellow may be serious – proceed with caution. Keep watching baby and seek medical advice.**
- If you have noticed that your baby is not well (either through appearance-colour change; fever-hot temperature; slack-drowsy, sleepy; a cough or a cold etc.) your baby may be okay but you should watch your baby in case they get worse. This is the green action. **Green is okay – but travel carefully. Baby may improve and be okay.**

RESPONSES EXPLAINED:

- Some responses give information on the sickness - explain to parents that not all responses have this information.

	<ul style="list-style-type: none"> • The responses are things the parent/carer can do to help their sick baby feel better. • These response actions may make the baby feel more comfortable when unwell. • Encourage parent/carer to seek medical advice if the baby is not improving. <p>-----</p> <p>-----</p> <p>This part covers prevention tips, problem/sign, actions and what you can do.</p> <p>The second part of BabyHelp has two categories:</p> <ul style="list-style-type: none"> • Common health problems for babies 0-2 years of age • Keeping baby safe <p>COMMON HEALTH PROBLEMS FOR BABIES 0-2 YEARS OF AGE EXPLAINED:</p> <ul style="list-style-type: none"> • Health issues – these are placed in alphabetical order. Each health issue begins with a short description of the sickness. • Followed by a list of symptoms or signs that may indicate the sickness. Ensure the parent/carer understands that their baby may only have some of the signs of the sickness, not always all of them. • Under each of these issues is an ‘Action’ box with advice for immediate assistance to help baby. • ‘What you can do’: is first aid advice and tips for the parent/carer to help the sick baby. Advise the parent/carer that these are only a few things they can do. If they are at all worried about the baby or any of the treatments, the parent/carer should take the baby to a health worker, nurse or doctor immediately. <p>KEEPING BABY SAFE EXPLAINED:</p> <ul style="list-style-type: none"> • Again address each page and encourage discussion with parent/carer on all health issues. • Talk to parent/carer about other symptoms/signs that may not be in BabyHelp but may relate to the illness. • Give prevention tips, problem/sign, actions and what you can do.
<p>EXAMPLE</p> 	<p>Give the parent/carer an example scenario. If you are working with a larger group you may be able to role play. Discuss the issue and what action they would take. Encourage them to look through BabyHelp for information.</p> <p>SCENARIO 1: Your 12month old baby has been cranky, dribbling, body is a bit warm, and cheeks are red, pulling at their ears and off balance.</p> <p>DISCUSSION: What could be the problem here? Teething? Yes - It could be, but baby would not be off balance. Ear infection – would cause an imbalance. Check the baby’s ears for discharge.</p> <p>ACTION: See a health worker, nurse or doctor immediately if at all worried.</p>

	<p>Keep the ear dry Give medicine if prescribed for that child.</p> <p>SCENARIO 2: Your four month old baby has been sleepy. She wakes and only drinks a little bit of formula. The next day she sleeps longer but drinks a bit more then vomits it up. She vomits several times during the day. But she is sleeping very soundly.</p> <p>DISCUSSION: Discuss what the issues may be and when or if they would take baby see a health professional. Have they been in the same situation before? The baby may not be well and may become dehydrated from vomiting; therefore baby would require immediate medical attention.</p> <p>ACTION: Take your baby to a health worker, nurse or doctor now.</p> <p>Remember the colour codes – Eg: Vomiting</p> <ul style="list-style-type: none"> • GREEN: a little vomit after feeding can be quite normal, but watch baby for any changes or increase in vomit • YELLOW: if baby is vomiting more than once they may be sick. Watch baby closely and if baby continues to vomit seek medical advice. • RED: if baby’s vomit is green, or if baby is vomiting frequently, vomiting everything or projectile vomiting take baby to health worker, nurse or doctor straight away.
<p>ASSESSING UNDERSTANDING</p>	<ul style="list-style-type: none"> • Ask parent/carer which section of BabyHelp they used. • Was the parent able to find the correct health issue according to the symptom/sign? • Did the parent use the suggested action to help the baby? • Did the parent/carer understand when they should take the baby for medical assistance? <p>Continue working with the parent/carer until you feel they understand how BabyHelp works and can help them and their baby.</p>
<p>REMEMBER</p> 	<ul style="list-style-type: none"> • Go through the booklet with parents individually or in a group • Reinforce that they know their baby well, so they will notice signs of change • Advise the parent/carer not to be afraid or shame to seek help • Explain the colour codes as they relate to traffic signals • Talk through each page – ask questions, give examples/scenarios, encourage questions and discussions • Help the parent/carer fill in the correct contact details on the back of the booklet • Encourage parent/carer to become familiar with the BabyHelp booklet to remember the suggested actions to take when their baby is not well