Fire Research Report

Attitudes to Fire and Safety in Families with Newborn Babies

Litmus Limited

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In New Zealand, several population groups are more vulnerable to house fire fatalities and injuries, including children under the age of 5. Research undertaken for the Fire Service in 2010 recommended intervening at times of change in life-cycles to motivate fire safe behaviour in vulnerable populations.

This research explored whether the arrival of a new baby may act as a trigger to support desired behavioural change amongst vulnerable households, and how the Fire Service might capitalise on this life-stage with appropriate interventions.

While there is little evidence on the effectiveness of targeting parents/ caregivers of newborns, this research has demonstrated that the arrival of a new baby creates a life stage opportunity to promote fire safety behaviours. There is potential to capitalise on an increased sense of responsibility and anxiety that some vulnerable parents experience with the arrival of a new baby.

Particularly amongst Māori and Pacific parents/ caregivers, there is a real opportunity to target fathers – tapping into their strong desire to take on a positive 'protector' role, and contribute positively within their whānau/ family. The 'hyper-anxious' state of Pākehā parents makes them very receptive to fire safety information. Tactics for this audience could be as simple as distributing a home safety check-list via mainstream maternity service channels.

Given the lack of existing evidence, there is a need to evaluate Fire Service initiatives targeting vulnerable families with newborn babies. This will ensure that interventions represent a good return on investment, as well as creating strong foundations for communicating with vulnerable families as they enter the next lifestage – i.e. the preschool years.

Attitudes to Fire and Safety in Families with Newborn Babies

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1. Executive Summary

1.1 Background and objectives

In New Zealand, several population groups are more vulnerable to house fire fatalities and injuries: children under the age of 5, adults over 65, and people with low incomes.

Research undertaken for the Fire Service in 2010 recommended **intervening at appropriate times** to motivate fire safe behaviour in vulnerable populations: "*people's life cycles provide points where they re-evaluate attitudes and behaviours. These disruption points provide fertile ground for intervention*" (Research International, 2010).

In 2013 Litmus was selected to undertake research to explore **whether the arrival of a new baby may act as a trigger to support desired behavioural change amongst vulnerable households**, and how the Fire Service might capitalise on this life-stage with appropriate interventions. Objectives were to:

- Describe the existing effectiveness of targeting parents to elicit home safety behavioural change before or after the birth of a new baby
- Identify the motivators and barriers for parents/caregivers to make their homes safer for new babies
- Identify the factors that enable parents/caregivers to make their homes safer for new babies
- Determine the wider environmental factors that facilitate and impede action
- Identify effective mechanisms for the Fire Service to reach vulnerable families
- Elicit appropriate and effective messages to foster and sustain changes in behaviour
- Provide recommendations for targeted campaigns.

1.2 Research approach

A multi-phase research approach was adopted:

- **Phase 1 – scoping existing evidence** – A brief literature review and expert informant interviews
- **Phase 2 – exploratory research** – Exploring attitudes, knowledge, skills, and influencers on fire safety behaviour of vulnerable Māori, Pacific and Pākehā families with newborns (six focus groups)
- **Phase 3 – concept testing research** – Examining responses to a range of campaign concepts and messages targeting vulnerable Māori and Pacific families expecting/with a newborn baby (four focus groups).

The study was undertaken between July and December 2013.

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1.3   Key findings

Evidence review

There is an absence of literature-based evidence about the benefits of targeting vulnerable families with newborns regarding fire safety. There appears to be a window of opportunity for the Fire Service to commence an ongoing life stage focused dialogue with vulnerable families when they have their first baby.

Key barriers to implementing fire safety amongst vulnerable populations include: limited financial resources; lack of home ownership; high mobility; lack of power in households; limited core abilities (literacy, etc); gender roles.

Currently, the Fire Service mainly targets vulnerable families via preschool and primary school programmes. Staff note some limitations with this approach including: difficulties delivering messages across to parents/ caregivers when children are present; and the absence of fathers at preschool education sessions. These programmes may not be delivered consistently across New Zealand.

Anecdotally, community-outreach projects being led by the Fire Service in some communities are working effectively to increase the proportion of houses with working smoke alarms.

Evidence points to the need for:

- **Delivery involving**: Multiple rather than single interventions; community partnerships; culturally appropriate interventions; appropriate timing and delivery settings; face-to-face approaches where possible.
- **Messages that**: Concentrate on very simple behaviour change; feel real and relevant; avoid blame; include 'how-to' information; are branded as being from the Fire Service.

Given the lack of evidence, Fire Service initiatives targeting vulnerable families with newborn babies need to be evaluated to determine their effectiveness and return on investment.

Exploratory research

Vulnerable populations are inherently difficult to influence. With limited income and other challenges, their focus is often on immediate basic needs: finding employment, somewhere to live, paying for groceries, and so on.

There is also huge disparity amongst this group, particularly in relation to cultural and ethnic differences, and some gender differences:

- New parents/caregivers from vulnerable Māori and Pacific populations face a greater number of barriers relating to implementing fire safety behaviour than their Pākehā counterparts, and have lower knowledge of fire risks and consequences. As a result they appear to occupy a lower 'baseline' position in terms of fire safety, prior to becoming parents.
- First-time Pākehā parents are often very anxious and insecure about becoming a parent, and as a result, their fire safety behaviour may *markedly increase* during this

lifestage transition. By contrast, new Māori and Pacific parents/caregivers tend to be fairly relaxed about the prospect of becoming a parent, and being capable and competent with a new baby, and amongst many, fire safety behaviour will not change due to impending parenthood without some form of external prompting.

▪ A notable exception however, is observed among some of the Māori and Pacific <u>fathers</u>, for whom having a baby is a profound **transition from a boy to a man**. These Māori and Pacific fathers are strongly driven to protect and care for their new babies, and their fire safety behaviour increases as a result.

▪ Assumptions about gender roles in fire safety were evident across all ethnic groups – within couples, mothers tend to put the issue on the agenda, but fathers are deemed responsible for 'getting it done'.

To improve fire safety behaviour there is a need to tackle two fronts:

1. **Increasing the level of concern about fire risk by** talking to parents' heads (to increase their knowledge of the risks and consequences), and to their hearts (about protecting the life of their precious new baby, making it personal and real)

2. **Increasing efficacy**: Reaching those who are isolated and disengaged; Providing skills and know-how where it is needed; Overcoming the actual/perceived barrier of cost; Empowering people in rental/shared accommodation.

Consistent with the evidence review, the findings from parents/ caregivers point to the need for multi-layered interventions which focus on population sub-groups and/or Typologies, rather than a blanket approach.

Concept and message testing

Amongst Māori and Pacific parents/ caregivers, mothers tend to favour baby/child related channels (health providers, antenatal classes, baby shops, Bounty packs; etc). Fathers reflecting their practical role, tend to prefer events, partnerships with local businesses, and neighbourhood projects.

Advertising concepts which evoked the strongest response amongst Māori and Pacific parents/caregivers included: images of babies; putting smoke alarms on the 'baby checklist'; shocking / disturbing images and messages about babies; and true stories.

Māori and Pacific parents/ caregivers in the high-risk 'Isolated' and 'Disengaged and Disaffected' typologies face significant barriers that impede their ability to act. In this context, communication strategies about fire risk for newborns need to be supplemented with community-based interventions which involve household visits to support them to act.

1.4 Conclusions

While there is little evidence on the effectiveness of targeting parents/ caregivers of newborns, this research has demonstrated that the arrival of a new baby creates a life stage opportunity to promote fire safety behaviours. The arrival of a new baby is a time of great joy and stress. It is a time when parents/ caregivers can be inundated with many competing messages and advice which compete for their attention and limited resources.

There is potential to capitalise on an increased sense of responsibility and anxiety that some vulnerable parents experience with the arrival of a new baby:

- Amongst Māori and Pacific parents/ caregivers, there is a real opportunity to target fathers – tapping into their strong desire to take on a positive 'protector' role, and contribute positively within their whānau/ family. This could be reinforced by campaigns that challenge negative stereotypes and speak to Māori and Pacific fathers: *'know your role'* emerging as the strongest concept amongst those tested in this research.

- The 'hyper-anxious' state of Pākehā parents makes them very receptive to fire safety information. Tactics for this audience could be as simple as distributing a home safety check-list via mainstream maternity service channels.

All **new parents/caregivers respond to shocking messages about the vulnerability of newborns in fires. Messages which promote smoke alarms as part of 'baby essentials' are also highly motivating**.

In some cases, a greater opportunity may lie with parents of toddlers than parents of newborns, when fire risks become more 'obvious' and parents may become more responsive to messages / interventions. Current research shows positive feedback about existing resources for parents/tamariki amongst vulnerable Māori and Pacific parents/caregivers e.g. *Get Out, Stay Out* and *Come on Guys, Get Firewise* etc.

Community-based interventions which involve household visits are likely to be necessary to affect changes for high-risk groups including 'Isolated' and 'Disengaged and Disaffected'. In addition to wider roll-out of existing initiatives, one option for the Fire Service to investigate could be trialling the distribution of smoke alarms and fire safety information via the pepi-pod (a plastic container designed to prevent Sudden Unexpected Death of an Infant (SUDI), currently being distributed to Māori and Pacific families in some District Health Board regions via midwives and Well Child nurses).

Given the lack of existing evidence, there is a need to evaluate Fire Service initiatives targeting vulnerable families with newborn babies. This will ensure that interventions represent a good return on investment, as well as creating strong foundations for communicating with vulnerable families as they enter the next lifestage – i.e. the preschool years.

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2. Introduction

2.1 Background

Over the past decade there has been a significant decline in fatalities and injuries from fires in New Zealand. The Fire Service attributes its delivery of fire safety education as the main reason for these improvements, and there is certainly evidence to suggest that fire safety knowledge has improved among many segments of the population.

Despite these positive trends, the Fire Service has identified some particularly 'hard-to-reach' communities and population groups that are more vulnerable to house fire fatalities and injuries. These include: children under the age of 5, adults 65 years and over, and people with low incomes.

The Fire Service has commissioned a range of research studies focussing on targeting vulnerable groups. *Improving the Fire Safety Knowledge and Practices of Vulnerable Groups* (NZCER, 2000) highlighted that 'effective fire prevention and fire response education works best if it is comunity-based, continuous and uses a range of strategies'. *Vulnerability and the Translation of Safety Knowledge* (Roen, 2002) reinforced the importance of the 'translation model' in fire safety promotion – i.e. the right mixture of human and material elements, a mixture that needs to be flexibly applied across situations. It also highlighted the value of having firefighters (or other fire safety educators) reflect the diversity of the community and cultures they are working with.

A more recent study focussed on exploring opportunities when people in at-risk groups might be 'converted' to undertake positive fire safety behaviours, such as installing smoke alarms (Research International, 2010). It recommended **intervening at appropriate times** to motivate fire safe behaviour, reflecting that "*people's life cycles provide points where they reevaluate attitudes and behaviours. These disruption points provide fertile ground for intervention.*" This research led to a Fire Service campaign based around fitting smoke alarms when moving house.

The Fire Service is interested to explore other lifestage-related 'intervention points' when vulnerable audiences might be more receptive and responsive to behaviour change. In 2013 Litmus was selected to undertake research exploring **whether the <u>arrival of a new baby</u> may act as a trigger to support desired behavioural change amongst vulnerable households**. The findings of this study are presented in this report.

2.2 Research purpose and objectives

Purpose: To contribute to several of the Fire Service's Strategic Objectives and National Goals, specifically:

- Improving community fire outcomes
- Improving the fire safety knowledge and behaviour of the public
- Achieving and maintaining fire fatality rates of less than 0.5 per 100 population, and the rate of life-threatening and moderate injuries to the public from fire incidents to less than 4.5 per 100,000 population.

Objectives: To explore whether the arrival of a new baby may act as a trigger to support desired behavioural change amongst vulnerable households, and how the Fire Service might capitalise on this life-stage with appropriate interventions. Specifically, to:

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- Describe the existing effectiveness of targeting parents to elicit home safety behavioural change before or after the birth of a new baby
- Identify the motivators and barriers for parents/caregivers to make their homes safer for new babies
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2.3 Research approach

A multi-phase research approach was adopted:
- **Phase 1 – Scoping existing evidence** – A brief literature review and expert informant interviews
- **Phase 2 – Exploratory research** – Exploring attitudes, knowledge, skills, and influencers on fire safety behaviour of vulnerable Māori, Pacific and Pākehā families with newborns
- **Phase 3 – Concept testing research** – Examining responses to a range of campaign concepts and messages targeting vulnerable Māori and Pacific families expecting/with a newborn baby.

The approach for each research phase is summarised below.

Phase 1 – scoping existing evidence

Litmus undertook a **brief literature review** to identify the current national and international evidence-base relating to the effectiveness of targeting parents to elicit home safety behavioural change before or after the birth of a new baby. The literature review also sought evidence about effective strategies and mechanisms for targeting parents of new babies. Literature review references are included in the Bibliography.

Litmus **interviewed three 'expert informants'** as past of the scoping phase of this study, between September – November 2013. The purpose of these interviews was to seek expert advice on the most effective means of reaching vulnerable families with newborns, based on professional experience and expertise.
- Two interviews were conducted with Fire Service personnel involved in community-based fire risk management (from two Fire Service regions). An interview was also conducted with one of New Zealand's foremost experts in working to improve health outcomes for babies and preschool children.
- Interviews with expert informants were undertaken by telephone, by a senior Litmus qualitative researcher using a semi-structured interview guide (included in Appendix 1). Interviews lasted up to 45 minutes.

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Phase 2 – exploratory research

Six focus groups were undertaken with vulnerable families with newborn babies, between 18–26 September 2013. The process for undertaking these groups was as follows:

- Recruitment specifications and the discussion guide were developed in consultation with the Fire Service[1]
- Participants were recruited by Consumer Link (a professional recruitment company) using recruitment panels and on-the-ground networking in local communities
- Fieldwork was undertaken by senior qualitative researchers from Litmus, Kaipuke Consultants Ltd and Integrity Professionals. Māori and Pacific researchers/ participants were gender-matched.
- Focus groups comprised six participants and lasted 1.5-2 hours. They were conducted in community meeting rooms, and conference venues. Participants were welcome to bring a support person
- Participants reviewed and signed a form[2] consenting to participate in the research. Discussions were audio recorded with participants' permission
- Participants received a koha in recognition of their time and contribution to the research.

The sample was limited to **first-time parents/care-givers of newborn babies.** Litmus' experience from other qualitative research in this arena showed that first-time parents go through a significant period of change with their first child, while subsequent babies bring different and new challenges the period of change is not as intense. **All participants were from low income households**, using the *Working for Families* threshold of $70,000.

Core sample stratifications were ethnicity (Māori, Pacific, Pākehā) and gender. Groups were undertaken in a range of locations, as summarised in the table below.

PHASE 2 SAMPLE MATRIX – Exploratory focus groups			
	Ethnicity	**Gender / Role**	**Location**
1	Māori	Father/ primary male caregiver	Wainuiomata
2	Māori	Mother/ primary female caregiver	Hastings
3	Pacific	Mother/primary female caregiver/grandmother	Mangere
4	Pacific	Father/ primary male caregiver	Mangere
5	Pākehā	Mother/ primary female caregiver	Wellington
6	Pākehā	Father/ primary male caregiver	Tauranga

Phase 3 – concept testing research

Key findings of the exploratory research were presented at a workshop with the Fire Service in late September 2013. Results highlighted ethnic and gender differences to fire risk and safety behaviour, and a range of 'typologies' (discussed later in this report). On this basis, Litmus and the Fire Service agreed that Phase 3 concept and message testing would focus on **male and female Māori and Pacific parents with newborns**, **excluding those from 'Hyper-Vigilant' and 'Prepared and Vigilant' typologies.**

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[1] Included in the Appendix 2

[2] Included in the Appendix 3

Four focus groups were undertaken with Māori and Pacific vulnerable families with newborn babies, between 23–29 November 2013. The process for undertaking these groups was the same as for Phase 2, described above. As with Phase 2, the sample was limited to first-time parents/care-givers from low income households. Groups were undertaken in a range of locations, as follows:

PHASE 3 SAMPLE MATRIX – Concept testing focus groups			
	Ethnicity	**Gender / Role**	**Location**
1	Māori	Mother/ primary female caregiver	Porirua
2	Māori	Father/ primary male caregiver	Manukau
3	Pacific	Mother/primary female caregiver/grandmother	Mangere
4	Pacific	Father/ primary male caregiver	Mangere

2.4   Research caveats

Litmus is confident that this report accurately represents the views and perceptions of the participants who contributed to the research and is supported by the wider literature review. The consistency of themes across data streams (across the focus groups, literature review and stakeholder interviews) strengthens and validates the findings presented.

In considering the findings of this research, the following caveats are acknowledged.

- The literature review was brief and was not a systematic literature review. Care was taken to search for and include key New Zealand and international documents to describe the evidence base. Litmus cannot guarantee that all literature relevant to the research topic was identified and included in this report.

- Exploratory and concept testing research was qualitative, involving a purposive sample of 58 new parents/caregivers from low income households from Māori, Pākehā and Pacific families. Findings are *indicative* rather than definitive, and are not necessarily representative of the wider population of vulnerable new parents/caregivers in New Zealand.

3. Evidence Review

Litmus undertook a brief review of relevant national and international literature to inform this study. 'Expert informant' interviews were also conducted with Fire Service personnel working in vulnerable communities, and a well baby/ well child development specialist.

3.1 Fire safety and vulnerable households

Effectiveness of targeting parents of newborns in vulnerable households

The core purpose of this project was to investigate whether the <u>arrival of a new baby</u> may act as a trigger to support desired behavioural change amongst vulnerable households.

The brief review of national and international literature found no *hard* evidence to support or disprove this hypothesis – such as measurable, population-level changes in fire safety behaviour before or after the arrival of a new baby. Neither did it generate substantive evidence from comprehensive, focused qualitative studies.

Two studies undertaken on behalf of the Fire Service concluded that the birth of a new baby may be a catalyst for fire safety behavioural change, and/or increased receptivity to fire safety messages. This reflects that impending parenthood can cause a 'shift in attitude' for some people as they realise they are about to assume responsibility for someone other than themselves (Research International, 2010). It may also promote a stronger desire to create 'a safe and healthy environment for their child to come home to' (TNS, 2006).

While somewhat encouraging, these small-scale qualitative research studies did not focus on vulnerable people in this particular life-stage - nor were they intended to. They are therefore insufficient to provide an evidential basis for Fire Service strategies regarding parents of newborns.

This review found no conclusive evidence that targeting parents of newborns will result in fire safety behavioural changes. Conversely, there is no evidence to suggest that targeting will have <u>no</u> effect or a detrimental effect. Consequently, there is an opportunity for the Fire Service to trial and evaluate new strategies at this life stage which create a foundation for the pre-school fire safety initiatives.

Factors facilitating and impeding fire safety behaviour

The review of evidence identified a range of inter-related factors that can both facilitate and impede fire safety amongst vulnerable populations including:

▪ **Financial resources:** A U.S study of mother's attitudes and behaviours about home injury prevention found that the cost of installing and maintaining smoke alarms is a deterrent to low income households (Smithson et al, 2009); New Zealand research highlighted that while Māori and Pacific respondents see themselves as safety conscious, they are more likely to report that 'the cost of a smoke alarm has made them think twice about getting one' (UMR, 2011, p20).

▪ **Housing status and mobility**: There is considerable evidence that renting acts as a barrier to some parents'/caregivers' ability to minimise their risk of a fire. Landlords may

be unresponsive to tenants' requests regarding fire safety, and tenants may be afraid to implement safety equipment and childproof homes for fear of breaching rental agreements (Smithson et al, 2009; Brussoni, 2006; NZCER, 2000). Similarly, high turn-over of tenants limits effectiveness of projects to install smoke alarms (Smithson et al, 2009); and transience is an issue for educating new parents from vulnerable areas (ie Counties Manakau) (Litmus, 2011, p19)

- **Roles and power in the household**: A number of studies have highlighted a lack of decision-making autonomy within the household as a barrier to mothers implementing safety measures, including those relating to fire (Smithson et al, 2009; Litmus, 2011).
- **Gender roles / Partnerships**: There is some evidence that mothers and fathers play different roles in making a safe environment at home (UK Department of Health, 2009). "The female will typically make decisions, while it becomes the male's responsibility to implement fire safety decisions (e.g. install smoke alarms and extinguishers) (TNS, 2006).

"Emphasis seems to come from the females not males… the woman will call us, or sometimes the grandmother to ask if we install smoke alarms." (Specialist Fire Investigator, Fire Service)

3.2   Reaching the target audience

Insights from expert opinion

Litmus interviewed two Fire Service personnel to obtain a broad overview of the work currently being undertaken to reach vulnerable families, particularly those with infants and young children. In summary:

- Officers work with a range of family-focussed community groups including Whānau Ora, Well Child Tamariki Ora providers, Plunket, and the YMCA
- Fire Service officers mainly come into contact with parents of young children via preschool visits in communities. Resources for pre-schoolers and school children (and their parents) include *Get Out, Stay Out*; *Tamati and Sam*; and *Come on Guys, Get Firewise*
- Fire Service officers also visit families who have called the 0800 Home Safety number (enquiring about installing smoke alarms), and those who have been referred via social agencies
- Neither of the Fire Service officers spoken to was aware of Fire Service presentations to ante-natal classes. However, in Palmerston North the Fire Service has direct contact with vulnerable young mothers, delivering fire safety information via a YMCA programme for teenage parents. There are no Fire Service resources that specifically target new parents
- The Fire Service is leading some community-based initiatives which take a 'door-to-door' approach to check the fire safety of houses in communities, and install smoke alarms where needed. These initiatives involve local fire brigades working in partnership with local communities to raise funds, distribute leaflets in communities, and visit homes, etc.

"We respond to requests from care agencies … e.g. visiting a house of a solo Mum that seems quite unsafe…. We respond in pairs – one person will install smoke alarm(s), while the other will have a chat and watch a DVD with them." (Specialist Fire Investigator, Fire Service)

"We don't have a lot of contact with people before they have their first child … antenatal classes would be a good idea." (Specialist Fire Investigator, Fire Service)

"Local fire brigades commit to installing smoke alarms in all houses in their area within a 5 year period... They organise themselves – they have to find their own funding locally… It's a huge commitment but that is the most effective thing [to reach vulnerable families]… A lot of families don't come to the attention of social agencies." (Specialist Fire Investigator, Fire Service)

"We have a partnership with Raukawa Iwi in Levin … we've done training with kaimahi … We also work with 'The Men's Shed' – a group of retired guys who like to do things… It's ticking along, not racing along. You've got to keep going back to groups to promote things." (Fire Risk Management Officer, Fire Service)

Fire Service personnel felt there were some drawbacks to current methods of targeting families with new babies and young children. They noted:

- The lack of a specific resource for new parents
- Fathers tend not be present in many of the community settings in which they talk to families as they are working or have prioritised other activities
- Difficulties getting messages to parents when children are present / distracting them
- The need to target families via online/social media – rather than paper-based resources.

"Talking to Playcentre and preschool groups is not the right environment … the Mum is not focussed, the kids are restless … I still try, say 'here's my card, we can sort something out' … but rarely do the cards get taken."

"We're working with all sorts of community groups and organisations. In terms of people with babies, we're building relationships with Whānau Ora, Well Child, Plunket … we talk to very young mothers at a YMCA programme for young parents…" (Fire Risk Management Officer, Fire Service)

"It's easy to get to the mothers of toddlers… The Dads we don't really see. They're off working. … For the really young Mums we don't see the Dads, they're either working or doing P.D. or not in the picture…. Antenatal classes would be a good idea, we might strike some of the Dads then." (Fire Risk Management Officer, Fire Service)

"We've got plenty of paper resources … but there's probably more need to use online things like Twitter and Facebook to reach young Mums…. We do need a really good resource for young families." (Fire Risk Management Officer, Fire Service)

The extent to which these Fire Service strategies are delivered consistently across New Zealand is not known. It is suspected that their delivery may be variable based on the interest of Fire Service personnel and the needs of the community.

The well baby/ well child development specialist highlighted the **'pepi-pod'** trial in some District Health Boards, as an option for the Fire Service to investigate in community-based interventions. The pepi-pod is a plastic container with a fitted mattress designed to prevent Sudden Unexpected Death of an Infant (SUDI), which is currently being distributed to Māori and Pacific families in some District Health Board regions via midwives and Well Child nurses.

Insights from evidence review

The evidence review identified some useful insights about the challenges of reaching and motivating vulnerable populations, drawn mainly from reviews of effective community-based injury prevention. Key themes are as follows:

Multiple interventions are more effective than single interventions:

- Reviews of community-based injury prevention initiatives have highlighted the following critical success factors: Diverse types of interventions; A coordinated approach by a range of agencies, involving partnerships and collaborations between different service providers; Delivery in different settings (e.g. home, school, roads, neighbourhoods) (Smithson et al, 2009; Towner & Dowswell, 2002).

- A multiplier effect can accrue through use of a range of interventions, with a culture of safety developing over time

- Communications approaches, mediums and learning activities also need to be diverse, and relevant to specific audiences (Litmus, 2012; TNS, 2006; NZCER, 2000).

Focus on communities and build partnerships with key community organisations:

- Many studies highlight the importance of **devising interventions to suit target communities.** This includes identifying the specific needs at a **local community level**, (including local fire problems) and using **personal contact / human interactions** to bring the message (Smithson et al, 2009; Litmus, 2011; Roen & Lloyd, 2002; NZCER, 2000;Towner & Dowswell, 2002). Indeed, one study noted that '**community development skills are more important than injury prevention skills**' in community-based injury prevention programmes (e.g. experience and knowledge of appropriate cultural processes) (Nilsen, 2004).

- **Kourofsky & Cole (2010) describe the distribution of smoke alarms through a preschool**. Twelve months later 72% of home still had working smoke alarm compared with the norm of 50% for low income families. This approach had the following benefits: 1) The preschool had an existing relationship with families. It is likely that this pre-existing relationship averts issues reported by Smithson et al (2009) of families being suspicious of 'free alarms' as faulty or suspicious of 'strangers' coming to install them; 2) Educational work was undertaken through the children taking material home to work on with their parents. Follow-up showed that the parents recalled working on this material with their children, including remembering the content. Conversely, Smithson et al (2009) note that lack of communication around smoke alarm installation projects is a problem.

Take account of cultural differences, and work closely with different cultures when designing interventions:

- Studies have highlighted the **challenges for the Fire Service** in reaching different cultures in the New Zealand context (Roen & Lloyd, 2002)
- Awareness of **cultural heterogeneity and working with cultural groups to develop and design programme**s has been demonstrated to make fire safety and community injury prevention programmes more effective (Nilsen, 2004; NZCER, 2000, p10).
- Designers of interventions need to consider a **two-way understanding of and learning about cultural differences** and not necessarily assume that the dominant culture knows best. For example, **distinguishing between different (culturally-based) notions of risk versus lack of awareness** in a new context (Smithson et al, 2009)

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- **Insights for successfully targeting Māori include:**
    - Trust, community involvement, economic barriers and cultural context are important issues for consideration in planning and executing social marketing programmes. Sensitivity to language and culture is also vital (Ellis 2006)
    - Community participation and ownership - interventions chosen by whānau and iwi, addressing local iwi aspirations and involving hapu and whānau at all levels (Brewin & Coggan, 2004)
    - Providing material in Te Reo; working with and building support through local iwi; working with infrastructure that Māori low socio-economic are already accessing such as WINZ; Using Māori organisations to reach Māori (NZCER, 2000).
- **Insights for successfully targeting Pacific include:**
    - Leveraging the role of grandparents in childcare, and their influence on grandchildren; Working and building relationships with churches due to their huge influence over attitudes and behaviour; Using a bottom-up approach for interventions (Lanumata, Thomson & Wilson, 2010)
    - Face–to-face approaches; Focusing on family as a unit, recognising that children will defer to seniors; Using traditional processes to develop initiatives (collective agreement); Trial in some communities first (NZCER, 2000)
    - Campaigns which have had anecdotal success engaging and influencing Pacific audiences include: the '*No Rubba, No Hubba Hubba'* campaign, the Pacific Quit campaign, and a smokefree campaign implemented in rugby settings in Tonga (Thornley & Marsh, 2010).
- **Evidence for successfully targeting young people include:**
    - Youth-targeted campaigns versus campaigns for the general population; Campaigns that are 'by youth for youth'; Using methods and channels that are accessible and appeal to youth; Learning from, and working with, successful commercial advertisers; Use of branding; High exposure to marketing activities; Ethnic-specific approaches; Long-term duration of campaigns; Combination of national and local linkages; Partnerships with key organisations; Being well resourced/funded (Thornley & Marsh, 2010)
    - When communicating with young people, use messages that empower youth and appeal to their need for independence and rebellion. Also use strong intense emotional messages – both positive and negative (Thornley & Marsh, 2010)
    - Campaigns which have had success engaging, influencing and ultimately changing the behaviour of Māori youth include: *No Rubba, No Hubba Hubba* condom campaign; *Smoking Not Our Future*; and *It's About Whānau*. (Thornley & Marsh, 2010).

Timing of information for new parents is critical, as well as ensuring messages are linked and communicated through existing services for new parents/caregivers

- **Expectant parents feel overwhelmed** at the amount they need to know and speed they need to learn it (UK Department of Health, 2009)

- **Information given to parents at time of the birth of a child is often not retained** (Smithson et al, 2009)

- **Target family-focused services**: Medical practitioners, Plunket nurses, other intermediaries such as childcare centres, play groups, etc (NZCER, 2000); Community initiatives that support new mothers, especially ones where new mothers can meet other mothers (UK Department of Health, 2009)

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3.3   Persuading the target audience

Insights from expert opinion

The child/infant health/protection expert made a strong recommendation that the Fire Service <u>concentrate on very simple behaviour change</u>, when targeting vulnerable families.

"It is really hard to get complex behaviour change [among these vulnerable population groups] … The chance of getting people to make a fire escape pathway is likely to be very small … It is better to focus on simple behaviour change, like getting a smoke alarm." (Child/infant protection expert)

The two Fire Service staff interviewed by Litmus provided their personal view of key tactics and messages for Fire Service communication to this audience:

- <u>Face-to-face</u> is the most effective
- Use <u>powerful visual</u> images, movies etc to capture people's attention, and illustrate the devastation and speed of fire
- Make it <u>relevant</u> – i.e. images of babies, burnt baby toys, pictures of similar houses/people to target audience
- <u>Push key messages</u>: The **speed** of fire; The need to have smoke alarms in **bedrooms**; The fact that people can get **free** smoke alarms (i.e. promote the 0800 Home Safety check number). Also communicate that the cost of smoke alarms and batteries is not high – in tangible terms (e.g. two packs of cigarettes).

"The main things we emphasise with young (pregnant) Mums is the need for smoke alarms and the 0800 number they can call for a Home Safety Check. We remind them they'll be worn out so there's more chance of cooking fires … we also talk about upcoming stages for toddlers – e.g. terrible 2s, playing with matches …" (Fire Risk Management Officer, Fire Service)

"When we talk to mothers of toddlers it's about safe meeting places, having smoke alarms in bedrooms, the contact for the Home Safety Fire Check 0800 number." (Fire Risk Management Officer, Fire Service)

"The main messages I try to get across is the devastation and the speed of fire .. and the need to get smoke alarms. … Also that they need to know what they are going to do … you haven't got time to second guess when there's an actual fire, you need a plan." (Specialist Fire Investigator, Fire Service)

"The main thing we push with partners like Well Child providers is for them to ask: 'Have you got a smoke alarm?'" (Fire Risk Management Officer, Fire Service)

"Car seats, safe cots, smoke alarms – they should all be part of the same package." (Fire Risk Management Officer, Fire Service)

"I'll tell them how to get a free smoke alarm…. And if they buy one it's only the price of 2 packs of smokes and it will last 10 years." (Fire Risk Management Officer, Fire Service)

"I wonder if our resources are adequate ... to portray the effects of fire and the speed of fire… they seem to be made by people who don't really have a lot of experience with fires." (Specialist Fire Investigator, Fire Service)

Insights from evidence review

The evidence review identified some useful insights about social marketing messages (particularly in the area of injury prevention). While there was little evidence about the impact of specific campaign approaches/messages, the insights were consistent with expert opinion. Key themes are as follows:

Focus on simple, achievable steps, with clear outcomes:

- People are more likely to start to modify their behaviour if they can make a series of small changes (UK Department of Health, 2011).
- Identify what parents and caregivers can do (e.g. common sense safeguarding and supervision; constant vigilance; teaching child about safety; reducing environmental hazards (Smithson et al, 2009; NZCER, 2000).
- Describe specific actions to take rather than simply generate fear and avoid information overload (NZCER, 2000)
- People will not act if they are unsure of the outcomes (UK Department of Health, 2011)

Empower people with appropriate 'how-to' information:

- How to deal with/put out fires; How to locate, buy, install and maintain smoke alarms/extinguishers; How to make an escape plan; How (where) to have gas bottles and electric blankets checked (TNS, 2006)

Make the risks feel real and relevant:

- Tell the real stories of 'real' people who have been affected by fire; Include a human element to all communications; Show brief graphic images of human consequences; Run tragic stories in the local media; Continue usage of the timer in television commercials (TNS, 2006)
- Culturally relevant communications are important, but a fine balance needs to be struck. A review of Fire Service communication in 2006 noted "*There is a perception that communications focus on people of Pacific and Māori ethnicity. People of other ethnicities feel that this focus limits relevance of such communications to them. It is worth mentioning that some participants feel that focussing on Pacific and Māori ethnicities means they are being unfairly singled out.*"

"It's making it real … if I could take them to one incident, standing there at 2am on the road with a family that's lost everything … I'd never have to talk to them again." (Specialist Fire Investigator, Fire Service)

"It has to be face-to-face, visual, relevant … the same sort of family, the same sort of house … they have to relate to it." (Specialist Fire Investigator, Fire Service)

Make communications memorable:

- Light humour and slogans (TNS, 2006)

"I always try to hit them with a graphic DVD first – it makes them sit up in their seats." (Specialist Fire Investigator, Fire Service)

"You've got to use humour, realism – you can't pussyfoot around. Poor delivery kills it." (Fire Risk Management Officer, Fire Service)

"It needs to be visual – I'll show a video of a fire… take along a burnt teddy bear to really get their attention." (Fire Risk Management Officer, Fire Service)

Avoid blame and guilt tripping:

- People respond more strongly to positive, optimistic messages (UK Department of Health, 2011).
- Challenge idea that injuries are unavoidable while not assigning blame to mother for injury to child (Smithson et al, 2009)
- Incorporate a positive, encouraging tone (TNS, 2006)
- Focus communications on the information provided and situations described, rather than the <u>type</u> of people included or targeted (TNS, 2006)
- Ensure messages are not perceived to be 'telling' people what to do (TNS, 2006).
- Avoid communications that create a sense of guilt (e.g. not having smoke alarms and fire extinguishers), as it can lead to target groups 'shelving' the issue, as opposed to prompting positive behaviour (TNS, 2006).

Ensure messages are clearly branded as being from the Fire Service

- Ensure messages are clearly from the Fire Service (ideally from its fire fighters) (TNS, 2006).

3.4 Evidence review: key take-outs

There is an absence of literature-based evidence about the benefits of targeting vulnerable families with newborns regarding fire safety. There appears to be a window of opportunity for the Fire Service to commence an ongoing life stage focused dialogue with vulnerable families when they have their first baby.

Key barriers to implementing fire safety amongst vulnerable populations include: limited financial resources; lack of home ownership; high mobility; lack of power in households; limited core abilities (literacy, etc); gender roles.

Currently, the Fire Service mainly targets vulnerable families via preschool and primary school programmes. Staff note some limitations with this approach including: difficulties delivering messages across to parents when children are present; and the absence of fathers at preschool education sessions. These programmes may not be delivered consistently across New Zealand.

Anecdotally, community-outreach projects being led by the Fire Service in some communities are working effectively to increase the proportion of houses with working smoke alarms.

Evidence points to the need for:

- **Delivery involving**: Multiple rather than single interventions; community partnerships; culturally appropriate interventions; appropriate timing and delivery settings; face-to-face approaches where possible.
- **Messages that**: Concentrate on very simple behaviour change; feel real and relevant; avoid blame; include 'how-to' information; are branded as being from the Fire Service.

Given the lack of evidence, Fire Service initiatives targeting vulnerable families with newborn babies need to be evaluated to determine their effectiveness and return on investment.

4. Exploratory Research with Vulnerable New Parents/Caregivers

4.1 Overview

Fire safety behaviour of vulnerable new parents/caregivers is highly variable

First-time parents/caregivers from vulnerable families share many of the same challenges and experiences as they enter parenthood. The core desire that binds them is a strong desire to 'do the right thing for their baby'. However, when it comes to fire safety behaviour – and the drivers promoting or impeding this behaviour – a great deal of diversity exists.

Vulnerable new parents/caregivers have a wide variation in their <u>baseline</u> level of concern about fire safety, and their baseline level of efficacy (i.e. ability to implement fire safety), reflecting factors such as practical skills, role in household, etc.
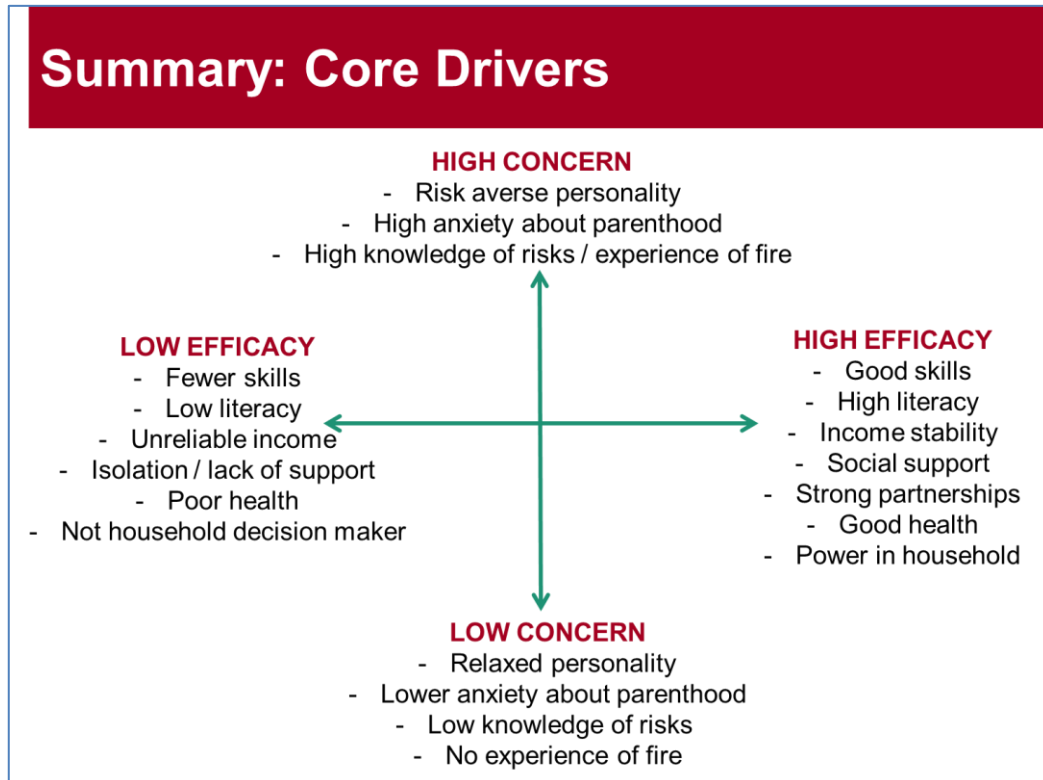
<u>Some</u> are prompted by arrival of new baby toward positive fire safety behaviour, and some are more receptive to fire safety messages and interventions at this time. Others do not show any increased signs of concern about fire safety at this time, or are not aware of the risks of fire. Put simply, improved fire safety attitudes and behaviour due to the arrival of a new baby are not universal, nor can they be taken for granted. Further, fire safety is one of many competing messages for their attention and action; at a time that is while deeply positive and rewarding, also inherently stressful and tiring.

Fire safety behaviour of vulnerable new parents/caregivers is driven by two factors

Two key dimensions underlie differences in whether a new baby's arrival prompts desired fire safety behavioural change in vulnerable families:

1) <u>Level of concern</u> about the risk of fire which reflects personality, knowledge levels and personal experience of fire

2) <u>Level of efficacy</u> to prevent and detect fires which include factors that enable parents to act.

These are summarised below and discussed in Sections 4.2 and 4.3.

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Summary: Core Drivers

HIGH CONCERN
- Risk averse personality
- High anxiety about parenthood
- High knowledge of risks / experience of fire

LOW EFFICACY
- Fewer skills
- Low literacy
- Unreliable income
- Isolation / lack of support
- Poor health
- Not household decision maker

HIGH EFFICACY
- Good skills
- High literacy
- Income stability
- Social support
- Strong partnerships
- Good health
- Power in household

LOW CONCERN
- Relaxed personality
- Lower anxiety about parenthood
- Low knowledge of risks
- No experience of fire

Ethnic and gender differences in fire safety behaviour are evident

While bearing in mind that this research was small-scale and qualitative, there were consistent ethnic and gender differences. *In general*:

- **New parents/caregivers from vulnerable Māori and Pacific populations face a greater number of barriers relating to implementing fire safety behaviour than their Pākehā counterparts**. These include language and literacy barriers, having less power within households (e.g. due to renting or sharing accommodation with whānau) and other factors.

  They also tend to have lower knowledge of fire risks and consequences, especially 'hidden' fire risks such as faulty wiring etc. This may reflect that many are young first-time parents (i.e. Māori and Pacific have a lower childbearing age for first pregnancy). Amongst older Pacific caregivers (grandmothers) low knowledge may reflect having grown up in the Pacific Islands, where fire safety practices are not widespread (e.g. use of smoke alarms).

  As a result Māori and Pacific parents/caregivers tend to have a lower 'baseline' position in terms of fire safety, before becoming parents.

- **First-time Pākehā parents are much more anxious and insecure about becoming a parent than Māori and Pacific participants**. This anxiety seems to stem from their lack of experience with babies (coming from smaller families) and being older parents that may have had some difficulties conceiving, etc. They are highly driven to seek out any safety-related information to protect their new baby, but as a result may feel overwhelmed and stressed. **As a result, many Pākehā parents' fire safety behaviour increases during this lifestage transition if they are aware of the risks.**

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- **By contrast, new Māori and Pacific parents/caregivers tend to be fairly relaxed about the prospect of becoming a parent**, and being capable and competent with a new baby. They tend to come from larger whānau and families – most have prior hands-on experience with babies, and receive more hands-on support when the baby arrived.

  A notable exception however, is observed among some of the Māori and Pacific fathers, for whom having a baby is a profound transition from a boy to a man which demands them to take greater responsibility for their new child and family. These Māori and Pacific fathers are driven to protect and care for their new babies, and their fire safety behaviour may increase as a result.

- **Assumptions about gender roles in fire safety are evident in all of the ethnic groups – within couples, mothers tend to put the issue on the agenda, but fathers are deemed responsible for 'getting it done'.** There is typically a perception that mothers are responsible for the immediate needs, care and safety of newborn babies. The mother will protect the baby from immediate fire dangers – e.g. a fireplace – but caring for a newborn is all consuming, and other concerns are her secondary priority. By comparison, installation and maintenance of smoke alarms are viewed by both men and women as the domain of fathers. Fathers consider installing smoke alarms as a positive contribution they can make to the new family.

4.2   Concern about the risk of fire

One of the two core drivers of new parents/caregivers' fire safety behaviour is the level of concern they have about the possibility of fire risks.

Vulnerable parents and caregivers of newborns have **varying 'baseline' levels of concern about the risk** of a fire in their homes. Some are inherently cautious and fearful about fire – they are predisposed towards fire safety, regardless of whether they are responsible for a new baby. For others, fire safety has *never* been a significant worry or concern.

For *some* vulnerable parents/caregivers, the arrival of a new baby increases their level of concern about fire safety, and subsequently, their motivation to ensure their homes are fire safe. **Level of concern may also fluctuate due to other factors** – for example, being exposed to Fire Service campaigns, hearing media stories about fire fatalities.

A number of factors combine to determine an individual parent or caregiver's overall level of concern about fire before and after the arrival of a new baby, as follows:

- **Personality type**: 'High-strung' people who are prone to worrying tend to be more concerned about fire than those who have a more laid-back approach to life; Those with risk-averse personalities are more concerned about fire safety than those with risk-taking tendencies

- **Level of anxiety about impending parenthood**: Most vulnerable first-time parents have a degree of concern about having a baby, with common fears including the ability to provide for the baby, possible birth defects and the risk of SUDI. However, some parents display particularly high levels of anxiety which makes them highly motivated to protect their baby from all risks, including the risk of fire. Anxiety levels tend to reflect:
  - The amount of first-hand experience they have had with babies and young children
  - Whether they are living with, or near to, extended family when the baby is born

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- Whether they experience 'information overload' from a range of sources including midwives, the internet, etc
- Age of parent at first pregnancy, and/or whether they faced difficulties becoming pregnant
- Whether they faced health concerns/complications during and after pregnancy (for mother or baby)
- **Sense of personal responsibility for household safety / 'Protector' role** – Parents and caregivers who consider household safety their 'domain' may be concerned about fire risk. Some new parents also have a strong desire to 'step-up' as a parent – they want to make a fresh start in life in their new role, and do a better job than their own parents / role-models.
- **Knowledge of fire risks and consequences**: Those with a comprehensive understanding of the causes and consequences of fire are more likely to feel concerned about the risks. Consequently, **those who have personally experienced a fire (and/or know others who have) are more likely to be concerned about risks** - particularly if the experience was devastating, and recent.

4.3   Efficacy – ability to address perceived fire risks

The other core driver of new parents/caregivers' fire safety behaviour is their ability to undertake fire safety behaviour.

Vulnerable populations, by their very nature, tend to have **lower 'baseline' efficacy than other population groups** to makes their homes fire safe. In addition to low household incomes, they may struggle with factors such as low literacy, a lack of power in the household and the community, poor health, poor housing conditions, and high mobility.

Despite the challenges that all vulnerable parents/caregivers face, **some have greater abilities and resources to draw on** than others. For example, those with higher levels of literacy, strong support networks, and predictable incomes. **Efficacy is not a constant and can fluctuate** before and after the arrival of a new baby, due to changes in employment, health, housing and relationship status.

A number of factors combine to determine efficacy as follows:
- **Housing status and mobility**: There is considerable evidence that renting acts as a barrier to some parents'/caregivers' ability to minimise their risk of a fire. Some described issues relating to getting landlords to act on their fire safety requests (e.g. for additional smoke alarms), a lack of certainty about whether smoke alarms installed by landlords were working or not, and/or the safety of the wiring in their homes.
- **Roles and power in the household**: New Pacific parents were often moving between multiple households (e.g. for example spending weekends at one house, and another during the week). The different households may have completely different approaches to fire safety, based on who is in charge (usually the older person, or home owner). The ability of some new parents to effect positive change in households may be limited if the person holding power resists these changes.
- **Core abilities**: Fire safety efficacy is closely linked to vulnerable parents' basic skills:
  - Literacy and language skills: The ability to understand key fire safety messages and follow instructions (e.g. how to install/check alarms, plan escape routes, etc). Tend to be lower amongst Māori and Pacific parents/caregivers.

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- Practical skills: The ability to design, implement and maintain safety equipment (e.g. alarms, fire guards, etc). Tend to be stronger amongst fathers.
- Health: The mental and physical strength to manage the household, including fire safety at a time when parents can be sleep deprived.
- Understanding of child development: Parents/ caregivers tend to be more aware of the need to protect toddlers from fire risks due to playing with matches or open fires. However, there was little awareness of the risks of fire for newborns.

- **Financial resources**: All vulnerable families have limited income, but beneficiaries and those with unstable incomes were particularly likely to cite cost of as a barrier to making their homes fire safe. Top priorities for spending are adequate housing (with heating a big concern in winter), car seat capsules, cots and bedding, nappies, and formula.
- **Social support and partnerships**: Those with strong, stable relationships (e.g. partner, family, friends) have higher efficacy because they have greater social capital to draw on than those who are estranged and isolated.

4.4   Typologies

The research has highlighted the existence of a range of first-time parent/caregiver Typologies. Each Typology exhibits different fire safety behaviour, based on a unique set of similar characteristics, drivers, and personal circumstances. The following chart provides an overview of where each Typology 'sits', in terms of the core dimensions of concern and efficacy. The relative size of the ovals provides a broad indication of the prevalence of each Typology within the vulnerable parent/caregiver population. In summary:

- **HIGH RISK TYPOLOGIES INCLUDE: The 'Disengaged & Disaffected' and 'Isolated'** typologies. These typologies are potentially a smaller proportion of the low income vulnerable population, but their risk profile may be highest of all the typologies. These Typologies appear more likely to include parents/caregivers from Māori and Pacific populations. Highly intensive, hands-on support and interventions are likely to be needed with these groups.

- **MEDIUM RISK TYPOLOGIES INCLUDE: The 'Tentative and Open, 'Relaxed', and 'Blinkered Controller'** typologies. They probably represent a fairly high proportion of the target population, with a bias towards those from Māori and Pacific populations. Overcoming knowledge and financial barriers will assist in improving their fire safety behaviour. Amongst these three typologies, the 'Tentative and Open' Typology (Māori and Pacific males) is most open to fire safety information and interventions linked to their growing fatherhood responsibilities.

- **LOW RISK TYPOLOLGIES include: The 'Hyper-vigilant' and 'Prepared and Vigilant' typologies** who undertake a wide range of simple and complex fire safety behaviour. They are strongly influenced by the arrival of a new baby – concern about fire safety increases significantly at this time – but it may wane as parental anxiety reduces (e.g. due to the arrival of siblings, returning to work, etc). These Typologies appear more likely to include parents/caregivers from Pākehā populations. They are least in need of intervention.

First-time Parent/caregiver Typologies
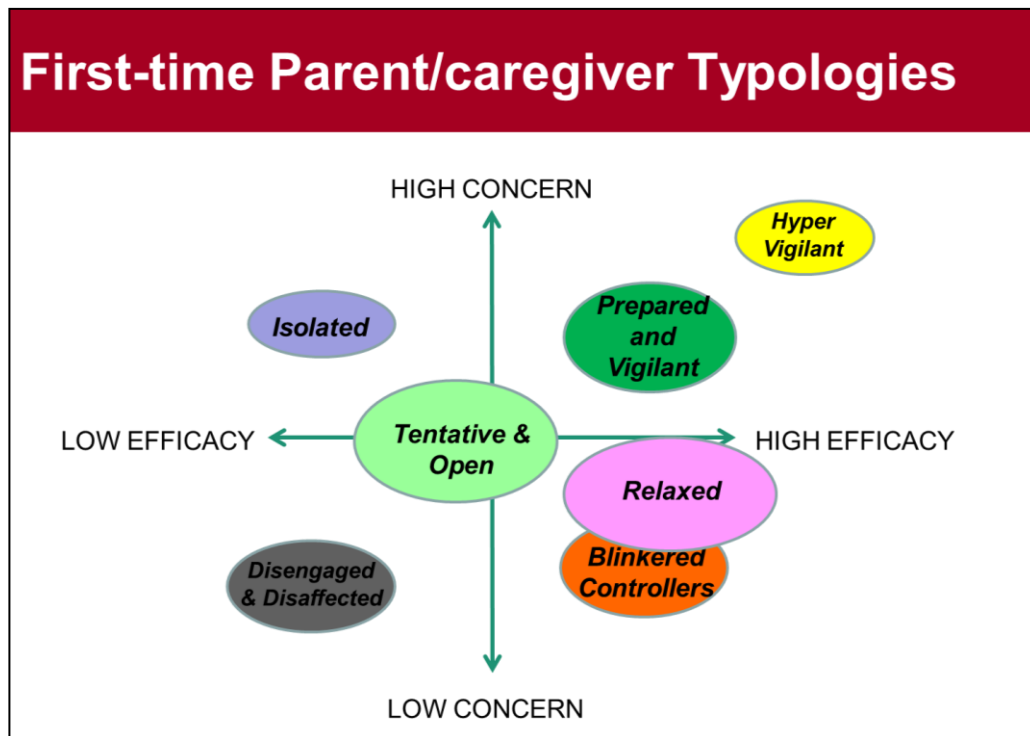
Typology descriptions

A summary of the key characteristics of each Typology is provided in the table below. Note: Typologies are based on small-scale qualitative research, so they are indicative, rather than definitive. The benefits of using typologies is it offers an understanding of drivers and barriers on which to develop communication strategies and initiatives that are likely to be effective in supporting desired behavioural change.

'Hyper-vigilant'
Concern: Very high – Deep seated emotional drivers, extensive knowledge of fire risks and consequences, **arrival of baby heightens concern / motivation** **Efficacy**: Very high – Proactive information seekers, confident, resourceful **Behaviour**: Excellent – Undertake complex and simple fire safety behaviours; Maintain vigilance; Influence may extend beyond own household (e.g. organised fire safety equipment for other family members) **Possible demographic skews**: Pākehā, older parents, females *"I would always turn off the power points. I would always make a clear path to the door. I positioned the cot so it would be easy to get to the cot and get to the door."(Pākehā mother)* *"I went through everything in the house… getting new smoke alarms, changing some of the electrics, I also built a fire guard." (Pākehā father)* *"I was really nervous and didn't know what to expect. I had never held a baby before!" (Pākehā father)*

'Prepared and Vigilant'

Concern: High – One or more emotional drivers, wide knowledge of fire risks and consequences, **arrival of baby heightens concern / motivation**

Efficacy: High – Good personal/practical skills; Social capital; Power in household; Steady housing/health/relationships; Tapped into formal networks e.g. Plunket, ante-natal classes, etc.

Behaviour: Good – Undertake complex and simple fire safety behaviours; Generally vigilant

Possible demographic skews: Pākehā, older parents, males

"We checked the batteries in the smoke alarms, got a heat pump instead of the old heater."
(Pākehā mother)

"I installed fire alarms. We had them but I put more in other sections in the house and surge proof boards." (Māori father)

"When my daughter was born more aware of appliances – like double checking heaters and over that they are off. I'm just double aware of making sure those things are turned off."
(Māori father)

'Tentative and Open'

Concern: Medium-high – Mixed knowledge of fire risks and consequences, **arrival of baby heightens concern / motivation**

Efficacy: Medium – Mixed literacy; Good practical skills; Good support networks and partnerships; May not hold power in household

Behaviour: Mixed – *If financial and family circumstances permit*, will instigate fire safety measures, and will prioritise expense/time to ensure house is fire safe; If in rented accommodation, usually prepared to take personal responsibility for household fire safety

Possible demographic skews: Pacific and Māori men

"It's the transition from being a boy to a man." (Pacific father)

"We do not have smoke alarms. It's something that I probably need to take more serious. If the smoke alarm can warn us then we need to look at it. I know that you can get them for free from the fire station but the batteries are expensive. And they don't last long." (Māori father)

"I never really felt like I was at risk because I never really played with fire. But it is something we need to think about cause you never know what could happen." (Māori father)

"There is not enough education and how are you supposed to keep you kids safe when you're not sure about what you're keeping them safe from. You just are not aware of the dangers especially if you are a teenage parent." (Māori father)

"In your home you are most responsible for you and your kids. The landlords are good if they supply the things you need but ultimately you are responsible" (Māori father)

'Relaxed'	25

Concern: Low – Fire safety not a high concern compared with other baby-related priorities (e.g. equipment, cot death, car seats etc.); Low knowledge of fire risks and consequences; **arrival of baby does not heighten concern / motivation**

Efficacy: Medium – Mixed literacy; Poor practical skills; Mixed support networks and partnerships Good support networks and partnerships

Behaviour: Limited – Only address simple/immediate risks; Very unlikely to be instigators of fire safety measures; Rely on others (e.g. landlord) to act on their behalf

Possible demographic skews: Pacific women; Māori

> *"Fire safety is the last thing on your list. You're thinking of so much other stuff." (Pacific mother)*
>
> *"The landlord and Housing NZ are responsible." (Māori mother)*

'Blinkered Controllers'

Concern: Low – Limited knowledge of fire risks and consequences - trust their 'common sense' will prevent fires; Resistant to change; **Arrival of baby does not heighten concern / motivation**

Efficacy: Medium – Mixed literacy; Good practical skills; Good support networks and partnerships Good support networks and partnerships

Behaviour: Limited – Only address simple/immediate risks; Often dominant in household, so actively argue against 'unnecessary' measures if any cost/effort involved

Possible demographic skews: Older people, particularly those in shared households; Pacific; Māori

> *"The only thing would make me [install a fire alarm] was if it was the law… My girls might come and tell me but I'm the elder, it's my decision." (Pacific grandmother)*
>
> *"I'm very safe. I'm the [fire] security. I do the cooking, I do the ironing." (Pacific grandmother)*
>
> *"I don't have fire alarms because I don't play with fire." (Māori father)*
>
> *"We just don't think about it. Smoke alarms are something I've never thought about it much at all to be honest. But you'd expect if you're doing everything right that you're ok." Māori father*

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'Isolated'	26

Concern: Medium – Reasonable knowledge of fire risks and consequences; Resistant to change; **Arrival of baby heightens concern / motivation**

Efficacy: Low – Lack skills, time and financial resources; May be isolated, unwell; In survival mode

Behaviour: Limited by lack of outside support; If renting, lack confidence to ensure landlord is taking all required measures

Possible demographic skews: Very young parents, living alone, females, Māori, Pākehā

> *"We don't have a man in the house. How are we supposed to install it?" (Pacific mother)*
>
> *"I was unemployed and unprepared. I didn't have a place for us to stay or a vehicle." (Pacific father)*

'Disengaged and Disaffected'

Concern: Low – Poor knowledge of fire risks and consequences; Distrust of agencies of the Crown; Negative attitude – resent being told what to do; Don't consider baby to be at risk of fire; **Arrival of baby does not heighten concern / motivation**

Efficacy: Low – Unstable living circumstances and residing in poor quality accommodation; Moving between houses, little stability; In contact with a range of social services (CYFS, teen pregnancy education, etc.)

Behaviour: Limited to basic/immediate precautions; Will not initiate change

Possible demographic skews: Very young parents, living alone, females, Māori

> *"I don't think I was worried at all. It has smoke alarms. It wasn't even going and it wasn't until our friend came over and said you need to get batteries and she did." (Māori mother)*
>
> *"No I'm not really worried – 'cause I don't have TV at home; we smoke outside and have our ashtrays in water." (Māori mother)*

4.5 Exploratory research: Key take-outs

Vulnerable populations are inherently difficult to influence. With limited income and other challenges, their focus is often on immediate basic needs: finding employment, somewhere to live, paying for groceries, and so on.

There is also huge disparity amongst this group, particularly in relation to cultural and ethnic differences, and some gender differences:

- New parents/caregivers from vulnerable Māori and Pacific populations face a greater number of barriers relating to implementing fire safety behaviour than their Pākehā counterparts, and have lower knowledge of fire risks and consequences. As a result they tend to occupy a lower 'baseline' position in terms of fire safety, prior to becoming parents.

- First-time Pākehā parents are often very anxious and insecure about becoming a parent, and as a result, their fire safety behaviour may *markedly increase* during this lifestage transition. By contrast, new Māori and Pacific parents/caregivers tend to be fairly relaxed about the prospect of becoming a parent, and being capable and competent with a new baby, and amongst many, fire safety behaviour will not change due to impending parenthood without some form of external prompting.

- A notable exception however, is observed among some of the Māori and Pacific <u>fathers</u>, for whom having a baby is a profound **transition from a boy to a man**. These Māori and Pacific fathers are strongly driven to protect and care for their new babies, and their fire safety behaviour increases as a result.

- Assumptions about gender roles in fire safety were evident across all ethnic groups – within couples, mothers tend to put the issue on the agenda, but fathers are deemed responsible for 'getting it done'.

To improve fire safety behaviour there is a need to tackle two fronts:

1. **Increasing the level of concern about fire risk by** talking to parents' heads (to increase their knowledge of the risks and consequences), and to their hearts (about protecting the life of their precious new baby, making it personal and real)

2. **Increasing efficacy**: Reaching those who are isolated and disengaged; Providing skills and know-how where it is needed; Overcoming the actual/perceived barrier of cost; Empowering people in rental/shared accommodation.

Consistent with the evidence review, the findings from parents/ caregivers point to the need for multi-layered interventions which focus on population sub-groups and/or Typologies, rather than a blanket approach. The following section reviews a range of potential interventions and messages, which might be applied by the Fire Service to reach vulnerable populations during this life-stage transition.

5. Concept and Message Testing amongst Vulnerable New Parents/Caregivers

Concept and message testing was undertaken amongst vulnerable new parents from Māori and Pacific whānau/ families, excluding those from 'Hyper-Vigilant' and 'Prepared and Vigilant' typologies. The emphasis on these audiences reflected insights from the exploratory research that new Māori and Pacific parents/ caregivers are *generally* more likely to face barriers to fire safety than Pākehā. It also reflected that Māori and Pacific parents in the 'Hypervigilant' and 'Prepared and Vigilant' typologies are more likely to have acted and are therefore not a high priority for intervention.

5.1 Overview

Channel and message preferences of new parents/caregivers strongly reflect the Typology to which they belong. The chart below provides a broad summary of the types of messages and interventions that the research has indicated may work most effectively for different types of parents/caregivers.
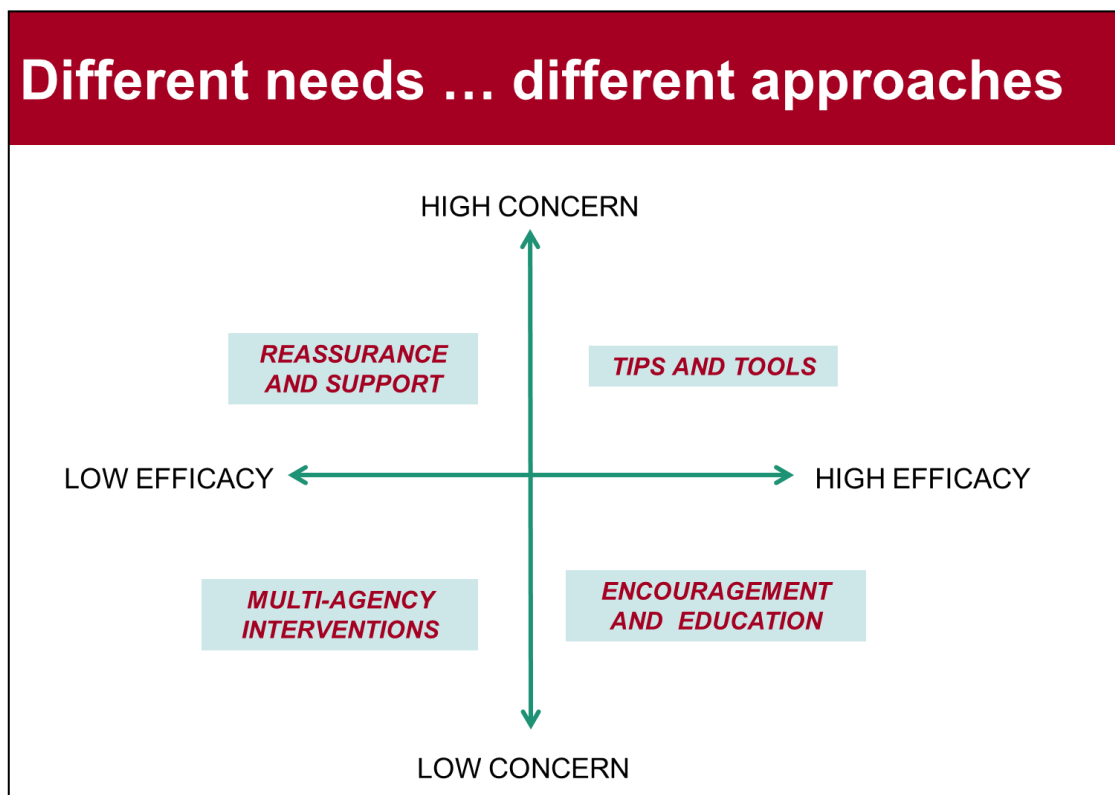
5.2   Responses to different type of interventions and communication channels

Parent/caregiver responses to a range of potential interventions and communication channels are summarised below. **It is important to stress that *all* have merit as part of a multi-layered intervention approach to reach vulnerable populations during this lifestage transition.** However, some are more appropriate for, or appealing to, different population sub-groups and Typologies.

Broadly speaking, there was a gender split in response to interventions, with women favouring baby/child related channels (health providers, antenatal classes, baby shops, Bounty packs; etc). Men tend to prefer events, partnerships with local businesses, and neighbourhood projects.

Intervention / Channel	New parent/caregiver responses
Media campaigns (TV / radio / online / social media / Adshels etc)	- **Broad appeal as a channel**. BUT success depends on campaign being highly motivating, and media placement needs to be effectively targeted - Typologies: *All*
Child health services: GP / Hospitals / Midwives / WellChild Tamariki Ora (incl. Plunket etc)	- **Particular appeal to women** – almost all are in contact with child health at some point, BUT: information that is provided needs to work/motivate … NOT wordy pamphlets; Referral by provider to Fire Service may be most appropriate in some cases - Typologies: *All*
Ante-natal classes	- **Most effective channel for those who attend these classes** … by nature, skewed towards those with medium-high efficacy. But a captive audience, able to present reasonably complex information, demonstrations etc rather than just simple messages - Typologies: *Hyper-vigilant; Prepared and Vigilant; Relaxed; Tentative and Open*
Bounty Packs / ReachMe etc	- **Strong appeal to women** – depends on information / offer, etc. - Typologies: *Hyper-vigilant; Prepared and Vigilant; Relaxed*
Baby shops	- **Considerable appeal to women who are in a position to visit these shops** – puts smoke alarms on the 'must have' list, and fire safety on the agenda - Typologies: *Hyper-vigilant; Prepared and Vigilant; Relaxed*
Neighbourhood / community project (e.g. door-to-door visits, installing smoke alarms, etc.)	- **Strong appeal as a means of reaching those with low motivation and low practical skills**; BUT depends on successful community partnerships, long term commitment - Typologies: *Tentative and Open; Blinkered Controllers; Isolated; Disengaged and Disaffected*
Events/ festivals	- **Appeals to Māori and Pacific men** – Attracted by exciting demonstrations, interactive hands-on learning, chance to interact with tamariki - Typologies: *Tentative and Open*

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Intervention / Channel	New parent/caregiver responses
Partnerships with local businesses	- **Primarily appeals to Māori and Pacific men** – A chance to receive 'how to' information, discounted/free smoke alarms - Typologies: *Hyper-vigilant; Prepared and Vigilant; Tentative and Open*
Music / song	- **Strong appeal for younger groups, particularly Pacific**. Need clear, simple message - Typologies: *Tentative and Open; Relaxed*
Information from community leaders	- **Some appeal – depends on level of influence of leaders**; Churches in Pacific communities seem to present greatest opportunity. Limited appeal for Māori participants - Typologies: *Blinkered Controllers; Tentative and Open*
Information from community organisations	- **Some appeal, mainly as a way of reaching men** (e.g. via sports clubs, gyms, etc). Those with low concern/ motivation unlikely to take up opportunities to hear talks etc. - Typologies: *Tentative and Open*
'Behind the scenes' Fire Service referrals via social services	- **Only option for some very hard-to-reach audiences** - Typologies: *Disengaged and Disaffected; Isolated*

Feedback on existing Fire Service materials

Parents/caregivers provided feedback on a range of Fire Service pamphlets and booklets that could potentially be distributed via some of the interventions/channels listed above. They also reviewed a 'home safety checklist' printed from the Fire Service website.

Key points to note are:

- **New parents/caregivers have little, or no interest in current pamphlets targeting adults**, such as *Make Your Home and Family Fire Safe*. These pamphlets are considered too long, too wordy and too generic looking – there is nothing on the front cover to create interest and capture attention. Men in particular comment that to capture their attention, printed resources need to have quite explicit imagery – such as fire, fire fighters in uniform, etc.

"Boring – for the older generation. Wouldn't pick them up" (Māori mother)

"It's just what you see in a doctor's waiting room. I wouldn't pick it up." (Pākehā father)

"If it was smaller, or on one page, I might read it." (Pākehā mother)

"Put some flames in the background that will catch people's eye. Something hard hitting; don't just put a fireman in there. Put some flames in there that would catch your eye better." (Māori father)

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- **Magazine-style booklets designed for pre-schoolers or primary school children capture the attention of Māori parents/caregivers, and some Pacific**. While the stated appeal is the potential for these resources to promote interaction with tamariki, in some instances it is clear that parents with lower literacy favoured this form of information over 'drier' heavily text-based resources.
    - *Come on Guys, Get Firewise* is especially appealing to Māori and Pacific fathers. They like the activity based format and feel that it is something that they could work through with their children (especially once they were a little older). Māori and Pacific mothers also see potential in the *Come on Guys Get Firewise* magazine, however they often react negatively to the dark colours and imagery.
    - Māori mothers find *Tamati and Sam* more appealing. They respond well to the magazine type layout and almost all mothers comment that they particularly liked that it was produced in Te Reo. Like fathers, they feel that this magazine would encourage interaction with their children when they are older.

    Pākehā parents/caregivers with young babies show little interest in reading the material targeted at children.

    "Firewise is something that I would be excited about reading. Making the escape thing into a game."
    (Māori father)

    Tamati and Sam: "Good for primary kids – I like that it's in Māori. Little plans and activities." "The layout is simple … it shows you what to do when there is a fire." "I like the DVD. It's more inviting and clearer."
    (Māori mothers)

    "I like that Get Out Stay Out has a bit of song and a rhyme and that you could do it with her every night." "I always watch kids' movies." (Māori mothers)

- **Amongst Pākehā parents/caregivers, the 1-page black and white home safety checklist has strongest appeal**. They consider it clear, simple and comprehensive. Parents/caregivers like the interactive process of completing the checklist, and envisage that they could 'stick it on the fridge' to check off different items over time.

    "That is all I would want. It's clear, easy to follow. I like that you can tick and cross – you could stick it on the fridge and make sure you had ticked it off before the baby arrived."
    (Pākehā father)

5.3   Responses to messages / advertising concepts

A broad range of messages and advertising concepts were presented to participants, including those from existing Fire Service materials (e.g *Get Out, Stay Out; Protect what you value, etc)*.

Overall, new parents/caregivers are strongly motivated by messages and images about new babies. *Any* image of a new baby will draw their attention to fire safety campaigns, and increase the perceived relevance of messages being delivered. Images which shock and scare parents are highly motivating – they may be one of the *only* tactics that will grab the attention to the potentially large number of parents sitting in the 'Relaxed' Typology.

The table below provides a summary of messages and concepts that had **strong appeal or relevance** to some, or all vulnerable new parents/caregivers.

Message / concept	New parent/caregiver responses
Images of babies *As part of any campaign*	- **Strong appeal**. Draws the attention of this audience, regardless of the message/directive; Emotional impact - Typologies: *All* *"If that ad with the Pacific Dad had him talking about his baby, I'd feel like it was talking to me." (Pākehā father)*
Shocking / disturbing images and messages about babies *Burning cots/ bassinets; Babies won't wake up in a fire; Die before you reach them; etc*	- **Strong appeal**. Increases concern and anxiety about risk of fire; Taps into parental desire to protect children; Increases knowledge of risks / vulnerability of infants (for some); Highly salient to this audience. Note: Potential risk with this approach of parental/ caregiver backlash. Recommended any campaign using this type of imagery is tested. - Typologies: *Hyper-vigilant; Prepared and Vigilant; Tentative and Open; Relaxed; Blinkered Controllers* *"Heart wrenching." "Powerful" (Māori mothers) "Babies don't wake up. It makes you feel responsible that one." (Māori father)*
Smoke alarm on the 'baby checklist' *'You've got the cot, capsule … what about the smoke alarm?'*	- **Strong appeal, strong call to action**. Puts fire safety on the agenda; Puts costs of smoke alarms in perspective (i.e. much less expensive than other 'must-haves') - Typologies: *Hyper-vigilant; Prepared and Vigilant; Tentative and Open; Relaxed; Blinkered Controllers*
True stories *e.g. 'Could you live with yourself?' campaign*	- **Good appeal. Lingers in the memory;** Taps into guilt / fear but can ultimately be positive / inspiring… Even stronger impact if people identify with protagonist (e.g. similar ethnicity, age, social background, etc) Almost all recall *'Could you live with yourself?'* – it resonates strongly with fathers in particular and some had been prompted to install smoke alarms. - Typologies: *Hyper-vigilant; Prepared and Vigilant; Tentative and Open; Relaxed; Blinkered Controllers* *"I think that is a cool ad. When he says 'sorry my baby'." (Māori father)*
Positive stories showing the father taking a lead on fire safety / helping partner *'Know your role'*	- **High relevance to fathers**; Māori and Pacific men appreciate that it shows they are caring and capable fathers and challenges negative stereotypes; Taps into gender role assumptions held by some; Empowering tone; Positive; Humorous. - Typologies: *Tentative and Open; Relaxed* *"They should put up images where it shows Dads actually care about their kids." (Māori father)*

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Message / concept	New parent/caregiver responses
'How to' information	- **Good appeal – particularly amongst men**, and those who are motivated to take action; Empowering for those with limited practical skills; Step-by-step, visual information presentation is preferred. - Typologies: *Hyper-vigilant; Prepared and Vigilant; Tentative and Open* *"Demonstrations - how to work fire extinguishers." (Māori father)*
Get Out, Stay Out!	- **Good recall; Easy to remember**; BUT generic, not a call to action in terms of *preventing* fires. - Typologies: *All* *"To the point and easy to remember." (Māori mother)*
Come on Guys, Get Firewise	- **Good recall**; Easy to remember; Taps into men's sense of responsibility/protector role; Also catchy / humorous; Non-judgmental towards those who haven't taken action yet - Typologies: *Tentative and Open* *"That's catchy. I think I've heard that before." (Pacific father)*
Make an escape plan	- **Strong appeal to highly motivated parents … but for most, too complicated**; Requires a strong commitment to home fire safety and/or child-led involvement - Typologies: *Hyper Vigilant; Prepared and Vigilant* *"It's probably something we should do but it doesn't get my attention." (Pākehā father)*

5.4 Concept and message testing: key take-outs

Interventions and communication channels need to reflect different population sub-groups and Typologies.

Amongst Māori and Pacific parents/ caregivers, mothers tend to favour baby/child related channels (health providers, antenatal classes, baby shops, Bounty packs; etc). Fathers reflecting their practical role, tend to prefer events, partnerships with local businesses, and neighbourhood projects.

Advertising concepts which evoked the strongest response amongst Māori and Pacific parents/caregivers included: images of babies; putting smoke alarms on the 'baby checklist'; shocking / disturbing images and messages about babies; and true stories. Māori and Pacific fathers also respond very positively to concepts that challenge negative stereotypes, showing them as caring and capable parents.

Māori and Pacific parents/ caregivers in the high-risk 'Isolated' and 'Disengaged and Disaffected' typologies face significant barriers that impede their ability to act. In this context, communication strategies about fire risk for newborns need to be supplemented with community-based interventions which involve household visits to support them to act.

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6. Conclusions

While there is little evidence on the effectiveness of targeting parents/ caregivers of newborns, this research has demonstrated that the arrival of a new baby creates a life stage opportunity to promote fire safety behaviours. The arrival of a new baby is a time of great joy and stress. It is a time when parents/ caregivers can be inundated with many competing messages and advice which compete for their attention and limited resources.

There is potential to capitalise on an increased sense of responsibility and anxiety that some vulnerable parents experience with the arrival of a new baby:

- Amongst Māori and Pacific parents/ caregivers, there is a real opportunity to target fathers – tapping into their strong desire to take on a positive 'protector' role, and contribute positively within their whānau. This could be reinforced by campaigns that challenge negative stereotypes and speak to Māori and Pacific fathers: *'know your role'* emerging as the strongest concept amongst those tested in this research.

- The 'hyper-anxious' state of Pākehā parents makes them very receptive to fire safety information. Tactics for this audience could be as simple as distributing a home safety check-list via mainstream maternity service channels

All **new parents/caregivers respond to shocking messages about the vulnerability of newborns in fires. Messages which promote smoke alarms as part of 'baby essentials' are also highly motivating**.

In some cases, a greater opportunity may lie with parents of toddlers than parents of newborns, when fire risks become more 'obvious' and parents may become more responsive to messages / interventions. Current research shows positive feedback about existing resources for parents/tamariki amongst vulnerable Māori and Pacific parents/caregivers e.g. *Get Out, Stay Out* and *Come on Guys, Get Firewise* etc.

Community-based interventions which involve household visits are likely to be necessary to affect changes for high-risk groups including 'Isolated' and 'Disengaged and Disaffected'. In addition to wider roll-out of existing initiatives, one option for the Fire Service to investigate could be trialling the distribution of smoke alarms and fire safety information via the **pepi-pod**. The pepi-pod is a plastic container with a fitted mattress designed to prevent SUDI, which is currently being distributed to Māori and Pacific families in some District Health Board regions via midwives and Well Child nurses.

"The pepi-pod has a functional purpose but people have toyed with the idea of using it to promote other messages and activities. … Part of the safe sleeping message could be to incorporate items like smoke alarms … The Fire Service could do a trial, piggy back on pepi-pod trials in DHB regions." (Child/infant protection expert)

Given the lack of existing evidence, there is a need to evaluate Fire Service initiatives targeting vulnerable families with newborn babies. This will ensure that interventions represent a good return on investment, as well as creating strong foundations for communicating with vulnerable families as they enter the next lifestage – i.e. the preschool years.

Bibliography

Brewin M. & Coggan C. (2004). Evaluation of the Ngāti Porou Community Injury Prevention Project. *Ethnicity & Health, 9*:1, p.5-15.

Lanumata, T., Thomson, G. & Wilson, N. Pacific solutions to reducing smoking around Pacific children in New Zealand: a qualitative study of Pacific policymaker views. *Journal of the New Zealand Medical Association, Vol 123* No 1308.

Litmus. (2012). *Review of pregnancy and parenting education services.* Wellington: Litmus.

Litmus. (2011). *Barriers to Consumer Utilisation of Primary Maternity Services in Counties Manukau District Health Board.* Wellington: Litmus.

Miller. (2003). *Human Behaviour Contributing to Unintentional Residential Fire Deaths 1997-2003.* New Zealand Fire Service Report Number 47. Retrieved from: http://www.fire.org.nz/Research/Published-Reports/Pages/Published-Reports.aspx

Kourofsky, C. & Cole, R. (2010). Young Children Can Be Key to Fire-Safe Families. *Young Children, May 2010.* Washington: National Association for the Education of Young Children.

New Zealand Council for Education Research. (2000). *Improving the Fire Safety Knowledge & Practices of Vulnerable Groups.* New Zealand Fire Service Report Number 8. Retrieved from: http://www.fire.org.nz/Research/Published-Reports/Pages/Published-Reports.aspx.

New Zealand Fire Service. (2012). *Annual Report for the Year ended 30 June 2012*

New Zealand Fire Service. (2012). *Strategic Plan 2012-2015*.

New Zealand Fire Service. *Knowledge Survey*. Noted in the NZFS Contestable Research Fund Instructions for Preparation of EOI 2012-2013

Nilsen, P. (2004). What makes community based injury prevention work? In search of evidence of effectiveness. *Injury Prevention, Vol 10* p.268-274.

Research International. (2010). *Project Kindle: Applying the Conversion Model to Changing At Risk groups Attitudes towards Fire Safety.* New Zealand Fire Service Report Number 110. Retrieved from: http://www.fire.org.nz/Research/Published-Reports/Pages/Published-Reports.aspx.

Roen, K. & Lloyd, M. (2002). *Vulnerability and the translation of safety knowledge.* New Zealand Fire Service Report Number 25. Retrieved from: http://www.fire.org.nz/Research/Published-Reports/Pages/Published-Reports.aspx.

Smithson, J., Moxham, T & Garside, R. (2009). *Preventing Unintentional Injury in Children in the Home Report 2: Barriers to, and facilitators of the prevention of unintentional injury in children in the home; a systematic review of qualitative research.* Exeter: Universities of Exeter and Plymouth.

Thornley L, & Marsh, K. (2010). *What Works in Social Marketing to Young People?* Systematic Review for the Health Research Council and the Ministry of Youth Development. Wellington: Quigley and Watts.

TNS. (2006). *Fire Knowledge Research: Qualitative Research Report.* New Zealand Fire Service Report Number 61. Retrieved from: http://www.fire.org.nz/Research/Published-Reports/Pages/Published-Reports.aspx.

Towner, E. & Dowswell, T. (2002) Community-based childhood injury prevention interventions: what works? *Health Promotion International, Vol 17,* No 3. p.273-284.

UMR. (2011). *Effectiveness of Digital Media and Social Networking for Reaching At-risk Groups.* New Zealand Fire Service Report Number 118. Retrieved from: http://www.fire.org.nz/Research/Published-Reports/Pages/Published-Reports.aspx.

United Kingdom Department of Health, (2009). *Parents' views on the maternity journey and early parenthood.* Retrieved from: http://www.dh.gov.uk/publications.

United Kingdom Department of Health, (2011). *Changing Behaviour, Improving Outcomes: A New Social Marketing Strategy for Public Health.* Retrieved from: http://www.dh.gov.uk/publications.

Zhao Z, Svanstrom L. (2002). Perspectives on the development of community safety promotion in China. In: Cho JP, Svanstrom L, eds. *Developing Safe Communities—two decades of experiences.* Suwon: Department of Emergency Medicine, Ajou University School of Medicine, p.127–146.

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Appendices

1. Interview guide for expert informants

1. Introductions
- Purpose of interview
- Informed consent
- Current/previous roles

2. Community work / initiatives
Please tell me about the work you are currently involved with to target vulnerable families in the community …
- What is the background / how do initiatives start?
- What are the aims? How do you measure success?
- What are the triggers and barriers to implementing these kids of initiatives?
- What is working well?
- What are the challenges?
- What outcomes have been achieved? What differences are you seeing?
- What are the critical success factors for this kind of work? What are the risks?

3. Insights about the target audience - vulnerable new parents
Based on your experience of working in communities/working for behaviour change amongst vulnerable families … do you have any advice for a campaign that aims to target new parents rom low income, vulnerable households?
- What are the key risks for this audience?
- What are barriers to this audience undertaking appropriate fire safety measures? How can these barriers be overcome?
- What are the key messages that need to be delivered, to foster and sustain changes in behaviour?
- How, when and where should those messages be delivered?
- What approaches work best, and why?
- What practical support and mechanisms could/should be offered?

Close with thanks

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2. Discussion guide for exploratory focus groups

1. Introductions/warm up (10 minutes)
- Thanks for coming, 2 hours
- Purpose to understand new parents' perceptions and experiences
- Informed consent
- Introductions – name, age/gender of baby, living situation, background and work experience.
- Warm-up exercise if time: "Best thing about becoming a parent for the first time"

2. Understanding the target audience - vulnerable new parents (15 minutes)
Brainstorm / warm-up exercise: ***Let's start by thinking back to when we, or our partners/daughters, were pregnant and our feelings about becoming a parent for the first time****. Let's all share three words that describe our feelings …*
Discuss as a group, making sure to focus on BEFORE baby arrived:
- What parts of being a parent did we most look forward to? Why?
- What were our fears and worries? Why?

Paired exercise: Working in pairs, ***note down all the things we thought would be good to do to prepare for your baby's arrival.*** *Then tick those actioned and cross those we didn't get round to or wanted to do but couldn't do for whatever reason.*
Discuss as a group:
- What were the things we actioned? Who lead on this, and why?
- What were the things we didn't do? How come? What made these things harder to do?
- Who/what did we turn to for information, advice and support? When and why? (Partner, family/whānau, friends, GP, midwife, Facebook, internet, others?)
- Where did safety fit? Who made the decisions about safety? Who implemented the decisions?
- DO NOT PROMPT IF NOT MENTIONED - Where does fire safety fit (if at all)?

3. Level of concern about fire safety (10 minutes)
- Overall how worried were you about the possible risk of a fire in your home? Why was that?
- Did being pregnant / becoming a parent for the first time cause you to be any more concerned about the risk of a fire in your home? Why / why not?
- Did you do anything specifically before the arrival of the new baby? What about after the baby was born? (BRIEFLY – cover in more detail below)

4. Fire safety knowledge and behaviour (30 minutes)
Whiteboard brainstorm exercise: What are the things we know of, that can help prevent fires in our homes. Please just write your ideas down rather than calling them out…
Generate list on whiteboard. Use Checklist 1 (or a copy of Fire Service checklist from pamphlet) to prompt if necessary:
- Overall, which activities are well known? Which are less well known?
- Overall, which activities are most commonly undertaken? Which are less commonly undertaken?
Discuss each of the key activities in depth:
- Are we aware of this activity? If so, how did we find out about it?
- What do we know about it?
- Have we done this? When did we do it?
- Who did it in your house?
  - o Explore perceived role/responsibilities: partners/whānau, landlords, Fire Service, case managers, social workers, midwives, Plunket, etc
- What were you reasons for undertaking this activity? What are the key trigger points? Who/what are the key influencers?
- What made it difficult, challenging or got in the way of taking these steps to make our homes more fire safe?
  - o Explore impact of: awareness/knowledge, ability, financial cost, time, perceived risk for newborn babies, other
  - o Explore impact of: living in rented accommodation; living with extended family; ability to make decisions within the family

5. Views of existing resources/messages (15-20 minutes)
Individual exercise: Brief review of existing Fire Service resources / messages (and others e.g. WellChild book):
I've got some examples of some posters, pamphlets, tools and messages that have been used to inform people about making their houses more safe from fires… let's have a look at some of these, and please let me know what your impressions are of this material to help families expecting their first baby. Note the specific things you like/dislike, messages that you respond to, etc.

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Discuss as a group to understand:
- What materials / tools resonate best / are most motivating? Why?
- What messages resonate best / are most motivating? Why?
- Is there a preference for positive / negative messages, and why?
- Top 3 words that would really, really work to motivate change?
- Is there a preference for a narrow focus on fire safety, vs safe-proofing the home?

6. Concept / message generation (30-40 minutes)

Small groups exercise: For the last part of the discussion, I'd like us to work in teams and have some fun being creative. Imagine you were in charge of trying to prevent house fires in your own community, and you were asked to come up with ideas to help parents expecting their first baby to make their safer for new babies. What are the key things that you would do?   What are the key messages you would try and tell people? What practical support would you offer? Who would be involved? How would it work?

Work in small groups using Checklist 4 as a reference. Provide crayons etc so they can put ideas and make posters. Then discuss as a group:
- When is the best time to get information/support to people who are becoming new parents?
- How and where is the best place to provide information/support?
- What type of information would be most useful? (written, online, face-to-face, other)? Why? (Refer to Checklist 3 if needed to prompt)
- Which sources of information/support do we most trust? Which do we least trust? Why? (Refer to Checklist 2 if needed to prompt)
- What practical help is needed / would be useful?

CLOSE – Koha; Fire Safety brochure

CHECKLIST 1. Fire safety measures
- Installing smoke alarms
- Installing New Zealand Fire Service recommended long-life photoelectric smoke alarms
- Testing smoke alarms regularly
- Keeping matches and lighters out of reach of babies / young children
- Not leaving cooking unattended
- Not cooking when drunk
- Don't overload power points or multi boxes
- Always turn electric blankets off before getting into bed and have them checked yearly by a qualified electrician
- Keep furniture, clothes and curtains at least one metre away from heathers and fireplaces
- Being careful with ashtrays / cigarettes
- Being careful with barbeques
- Using a fireguard for fireplaces
- Using a fireguard for heaters
- Having a plan for exiting the house in case of a fire, and practicing it regularly
- Securing candles in a candleholder with a wide base and keeping them away from anything that will burn easily (e.g. paper, curtains)
- Putting candles out before going to sleep or leaving a room
- Never using candles in bedrooms

CHECKLIST 2. Fire safety message deliverers
- Fire Service staff
- Family
- Friends
- Community workers
- Midwives
- Plunket/ Tamaraki Ora Providers
- Workplaces
- Hospitals
- GP/ Practice nurse

CHECKLIST 3: Message formats
- Written (i.e. pamphlets, posters, cards, fridge magnets etc)
- Face-to-face
- Groups – churches, marae, etc
- Internet
- Texting
- Television
- Other

CHECKLIST 4: Concept/Message generation
- What types of support and advice would you offer, to help new parents prevent fires at home?
- What are the main things you would say to try and encourage new parents prevent fires at home?
- How would you reach new parents, to tell them about these messages? (posters, pamphlets, websites, face-to-face, via community groups, etc)
- What wouldn't we do as we know it doesn't work?

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Discussion guide for message/concept testing focus groups

1. Introductions and warm up (15 mins)
- Thanks for coming, group to last approximately 2 hours.
- Confidentiality/informed consent, audio-recording, observers.
- Explain why we are here, group process, ground rules, house-keeping
- Participant introduce themselves (e.g. first name, age, where they live, who they live with, age/gender of babies). (Moderator to model introduction themselves)
- Icebreaker (Moderator to lead with own example): What does your new baby's name mean / why did you choose that name?

2. Context - Attitudes towards fire safety, impact of new baby (15 mins)
Brainstorm exercise: First let's just have some general discussion about being a parent. Can everyone think of 2-3 words that describe their overall parenting/care-giving style…. (e.g. relaxed, nervous, tired, organised, green, etc.)
Briefly discuss as a group, then probe on safety:
- Did being pregnant / becoming a parent for the first time cause you to be any more concerned about safety risks in your home? Why / why not? Which safety issues were most/least concerning?
- Did you do anything to make your home safer before the arrival of the new baby? What about after the baby was born? Was there anything you wanted to do but didn't for some reason?
If not mentioned spontaneously as a safety issue, probe on fire safety:
- Overall how worried are you about the possible risk of a fire in your home?
- Did being pregnant / becoming a parent for the first time cause you to be any more or less concerned about the risk of a fire in your home? Why / why not?
- Did you do anything to protect your family from a possible fire before the arrival of the new baby? What about after the baby was born? Was there anything you wanted to do but didn't for some reason?
Checklist exercise(if time): Please have a quick look at this checklist (CHECKLIST ONE), and put a tick by the things you have done in your own house…
Discuss as a group, probing:
- Overall, which activities are most commonly undertaken? By whom, when, where? What are key triggers/influencers?
- Which are less commonly undertaken? Why? What are the barriers?
- What drives action/lack of action? (e.g. knowledge, ability, financial cost, time, perceived risk for newborn babies, …. Living in rented accommodation; living with extended family; ability to make decisions within the family …. Perceived role/responsibilities: partners/whānau, landlords, Fire Service, case managers, social workers, midwives, Plunket, etc

3. Ideas capture - 15 minutes.
Small groups/paired exercise: Now let's take 10-15 minutes being creative! Imagine you are in charge of trying to prevent house fires in your own community, particularly for people who are expecting a new baby. What are the key things that you would say and do?
Discuss and probe:
- What are the key messages to get across? Why?
- What are the main communication channels / mechanisms? Why would these work?

4. Response to existing materials and messages - 20 minutes
We are now going to review some materials and messages that have been used to encourage and help parents/caregivers to protect their families from fires. We are going to them individually and then share our thoughts with the group. Is everyone clear? (i.e. no comments from moderator, or from group participants. Participants review individually, jot down any thoughts, then open up for discussion.) (Moderator to apply flexibility in materials tested, based on typologies participants fall into)
Probes:
- How do we feel about this brochure/message? What do we like/dislike about it? Why?
- What are the main things it is saying? Is there anything that doesn't make sense?
- Who is this brochure/message aimed at? (family type, ethnicity, new/experienced parents/caregivers)
- How would we describe the overall tone of this brochure/message?
- Is it thought provoking? Does it make us think differently?
- Do we believe the brochure/message? What don't we believe?
- Who or what organisation would be bringing us this message?
- What effect will this brochure/message have on parents/caregivers expecting a new baby? Would it make them more or less likely to do things to keep their families safe from fires? What effect would it have on us?
Overall ranking

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- Which of these brochures/messages/ ideas would most encourage or help parents/caregivers? Which of these would have the least or no effect?

TEST: C'Mon Guys, Get Firewise; Tamati and Sam *Get Firewise* (English and Te Reo versions); Get Out! Stay Out! For Parents and Caregivers; Make your home and family fire safe; Checklist from website

5. Response to new messages / concepts / campaign ideas - 40 minutes.
SHOWCARDS 1, 2, 3, 4, Concepts: Moderator to apply flexibility in materials tested, based on typologies participants fall into.
We are now going to review some ideas and messages other people have thought of to help parents/caregivers to protect their families from fires. We are going to consider these underlined individually and then share our thoughts with the group. Is everyone clear? *(i.e. no comments from moderator, or from group participants. Participants individually review then open up for discussion.)*
Probes
- How do we feel about this message / idea?
- What are the main things it is saying/doing? Is there anything that doesn't make sense?
- Who is this message/idea aimed at? (family type, ethnicity, new/experienced parents/caregivers)
- How would we describe the overall tone of this message/idea?
- Is it thought provoking? Does it make us think differently?
- Do we believe the message? What don't we believe?
- Who or what organisation would be bringing us this message/idea?
- What effect would this message/idea have on parents/caregivers expecting a new baby? Would it make them more or less likely to do things to protect the house/family from fires? What effect would it have on us?
Overall ranking
- Which of these messages/ideas would most encourage or help parents/caregivers? Which of these would have the least or no effect?

6. Wrap Up - 5-10 minutes.
- What messages/ materials / tools resonate best / are most motivating? Why?
- Is there a preference for positive / negative messages, and why?
- Top 3 words that would really, really work to motivate change?

CLOSE – Koha; Fire Safety brochure

SHOWCARD 1 – Ways to reach people
- Neighbourhood / community action: A local group in the community (e.g. sports club, church, marae, Lions, Rotary etc) makes a commitment to ensuring all houses in the local community are fire safe. The Fire Service provides advice and support. Activities could include door-to-door visits to check homes for fire safety, installing smoke alarms when needed, etc.
- Ante-natal classes: Someone from the Fire Service comes to one of the ante-natal classes to talk to everyone about what they can do to make their homes safe from fires before the baby comes
- Information from community leaders: Respected community leaders talk to their people about fire safety – e.g. pastors, kaumatua, etc
- Information from community organisations: Community organisations provide free information sessions about fire safety (e.g. sports clubs, gyms, churches, marae, etc.). Fire Service staff could come to these organisations to talk to members
- Plunket / GP / Midwives: Talk to new parents about fire safety, and provide fire safety information, in waiting rooms and during appointments consultations before and after new baby arrives.
- Bounty Packs / ReachMe / etc: Include fire safety information, coupons/discounts
- Events: Have fire safety information stands, speakers, interactive displays, movies, giveaways etc at events (e.g. Te Ra o Te Raukura / Pasifika festival)
- Partnerships with local businesses: e.g. Bunnings/Mitre 10 etc: Hold in-store workshops showing how to put up smoke alarms, and then sell at discounted price. Or buy-one, get one-free etc.
- Music / song: Record a catchy song with key fire safety messages. It could be translated into different languages. Online platforms could be used to promote the song such as Facebook, YouTube, Instagram, Twitter, Sound Cloud etc.
- Media campaigns: Images of newborn babies; Stories with positive/negative outcomes depending on actions of parents/care-givers

SHOWCARD 2 – Existing Fire safety messages
- *Get Out! Stay Out!*
- *Make an escape plan*
- *Protect what you value*
- *2-3 minutes is all it can take to lose your home and family to fire*
- *The majority of fire deaths occur in homes while people are sleeping*
- *C'Mon Guys, Get Firewise*
- *It could happen to you. House fires can happen to anyone, at any time.*
- *It's easy to make your home safe from a fire: 5 easy steps*
SHOWCARD 3 – Messages about smoke alarms
- *Smoke alarms cost less than xxx*

- *Here's how you can get free / discounted smoke alarms*
- *Working smoke alarms save lives*
- *Test your smoke alarms regularly*
- *In 80% of fires the Fire Service attends, smoke alarms are either not installed or not working*
- *We'll help you put smoke alarms up*
- *It's easy for anyone to put a smoke alarm! Here's how*
- *The New Zealand Fire Service recommends these smoke alarms. You can trust them.*

SHOWCARD 4 - Messages for people having new babies
- *Babies don't wake up in a fire*
- *It only takes xx seconds for a baby to become unconscious from breathing in smoke*
- *How will you get to your baby if there's a fire in the house?*
- *Is your house really safe for a precious new baby?*
- *You can be a hero for your baby.*
- *You've got a baby capsule. You've got a cot. Have you got a smoke alarm in the baby's room?*
- *xx babies in xxx (your local area) died last year from house fires*
- *Protecting our Mokopuna and our Aiga is our number one priority*
- *Protecting our Mokopuna and our Aiga is our responsibility*
- *New parents are more likely to cause fires because they are exhausted and distracted*
- *Even if you don't own the house you stay in, make sure it has smoke alarms for your new baby*

CONCEPT SHOWCARDS
- *1. Shock images e.g. burning cot/bassinet: "A baby will take two minutes to die in a fire. They will not wake up. They will not scream." "It doesn't matter how much you love your baby. If you don't put a smoke alarm in their room they could die. And in less than two minutes."*
- *2. A Māori/Pacific young father is playing touch then comes home and plays with his baby. Then we have an image of a door on fire and him standing helplessly in front of it.   "It doesn't matter if you're fit when there's a fire – by the time you've smelt the smoke – your baby will have died. Put a smoke alarm in your baby's room."*
- *3. Images of everyone at christening/blessing/Muslim ceremony/marae etc. Then the advertisement shows a dark house and the smoke starting and all the neighbours asleep in the middle of the night. "It takes a village AND A SMOKE ALARM to raise a child. Get one installed now."*
- *4. Go through a Coroner's report of the process of death from a house fire: smoking, suffocating, then burning. It is all over in xxx minutes.*
- *5. New Zealand Fire Service person is talking to the camera: "I sound calm now talking about a fire in front of a camera. But when you're in the middle of a real fire, you can't hear, you can't see, you can't breathe. …. People are screaming, the fire makes a huge noise. It is like tsunami of flame! And even if you are a calm person under stress – you will die as well as your baby if you go back in." The advertisement then has the noise of flames, screaming and shouting etc. Then fade with: "It only takes a newborn baby two minutes to die in a house fire. Get a smoke alarm."*
- *6. Brady Bunch nine squares of different guys from different ethnicities e.g. intellectual glasses wearing guy; suit wearing guy; staunch guy; hippy guy etc. OR could use same concept for mothers: The dreadlocked mum/uptight mum/easygoing mum/sporty mum/breastfeeding mum/kapa haka mum etc. "It doesn't matter how staunch you are, how fit you are, how bright you are, what job you have – if you haven't got a smoke alarm your baby will die. It takes two minutes for a baby to die in a fire – get a smoke alarm." "Whatever type of Dad/Mum you are, YOU are not enough. Get smoke alarms." "Whatever type of Dad/Mum you are, YOU are not enough. A baby will die in less than two minutes of smelling smoke – install a smoke alarm now."*
- *7. A story about a young Māori/Pacific couple with a new baby. The Dad is looking a bit useless while Mum breastfeeds. Then Mum looks up and says "Can you put the smoke alarm up in her room honey?" He does it, then kisses her and the baby, and goes to make a cup of tea. "Know your role. Get a smoke alarm." "Strong Dads care – get a smoke alarm". (Kind dads care/ Fun dads care / Tired dads care / Silly dads care – get a smoke alarm…..)*
- *8. True stories: e.g. Friend whose child's tutu caught on fire.   The dad said he froze and it was the child's grandfather who reached down grabbed the child and rolled her around to put it out – the granddad got burnt hands. e.g. Woman whose parents and three children died in a fire. "The next thing I remember was waking up choking and running to the nearest window and opening it to breathe. … When I opened the window to Gracie's room, the smoke hit me so hard I almost fell over. I kept trying to put my head in—I tried again and again to hold my breath—but I couldn't get in. The fire was just so intense. I think we all have this idea that we'd turn into some kind of Superwoman in situations like this—you know, we'll get in there by any means possible, no matter how hot the fire or how thick the smoke. But I couldn't breathe."*

3. Consent form

I *(insert name)*……………………………………………………… of *(insert address)*…………………… ……….…………….……………………… agree to take part in research exploring attitudes and behaviours of first time parents.

I understand that:
- I do not have to take part in the group/interview
- I can stop the discussion at any time
- The group/interview will be recorded for research purposes
- Research notes or reports written by Litmus will not identify me
- Information collected by Litmus during the research will be held securely at Litmus' office
- This signed agreement will be held securely at Litmus' office
- As a thank you for my participation I will receive $__ cash at the end of the discussion.

I have read this consent form, and have been given the opportunity to ask questions. I give my consent to participate in this research.

Participant's signature: _____

Date: _____