

THE PĒPI-POD® PROGRAMME

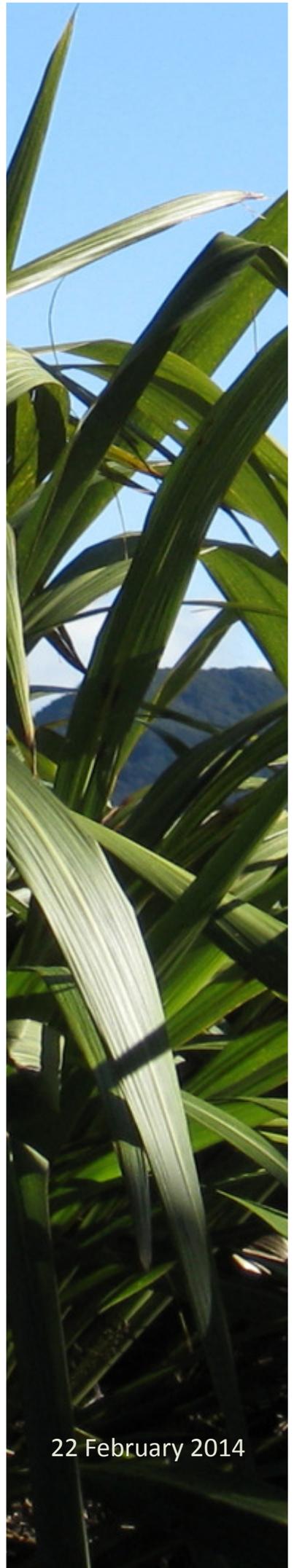
2013 Report

Reporting the distribution and use of portable spaces for
promoting safe sleep for more vulnerable babies

Prepared by Stephanie Cowan
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22 February 2014



The Pēpi-Pod® Programme: 2013 Report

Reporting the distribution and use of portable spaces for promoting safe sleep for more vulnerable babies

This report is dedicated to all those who act as champions of infant protection within their spheres of influence.

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"I can't begin to tell you how much I love our Pēpi-Pods! I couldn't have coped without them. Having them has lessened stress, made life a million times easier and kept me sane!

My twins are always in the same room with me day and night, I can move them round while they are sleeping without waking them. If they are unsettled at night we can safely bring them into bed with us. The list goes on.

I have told anyone who'll listen how amazing they are and I can't believe what a fantastic resource they are, and given with the bedding is fabulous."

Parent of 12 week old premature twins

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EXECUTIVE SUMMARY

Overview: New Zealand made 'safe infant sleep' a political priority in 2013. In June 2012, a joint letter from the Health Quality and Safety Commission and Child and Youth Mortality Review Committee¹, urged health leaders to prioritise the prevention of sudden unexpected death in infancy (SUDI). The letter called for action across policy, professional education and interventions with families, with the vision of 'every sleep a safe sleep' for babies. The focus during 2013 has been the development of DHB-wide safe sleep policies.

A population approach to promoting safe infant sleep calls for consistency of message that aligns with evidence. However, knowing is not always enough to support safe action. Also needed, are strategies to personalise education for those at increased risk; strategies that are based on an understanding of barriers to uptake. The **Pēpi-Pod**[®] programme (hereafter called the *programme*) embraces such strategies.

The programme: The *programme* promotes key principles of infant protection through the targeted supply of portable sleep spaces (PSS), plus personalised education, to families of more vulnerable babies. What began as an emergency response to the Christchurch earthquakes in 2011, is now an integral part of infant health and safety activity in many parts of New Zealand.

This report describes the application of the *programme* in 8 regions of New Zealand during 2013. It reports the data collected by 44 agencies for the issue of **1373** PSSs to more vulnerable babies; follow-up information for **1075** on acceptability of the PSS and spread of safe sleep awareness within recipient networks; and feedback from a survey of **300** about their experiences as participants in the *programme*.

Main Findings: All but four PSSs were issued to eligible babies, along with the standard safety briefing (97%). PSSs were acceptable to recipient families, most of whom were Māori (76%). Recipients (84%) helped spread safe sleep awareness to a mean 5.8 others, engaging a recorded 5188 whānau in conversations about safe sleep for babies. Most families (92%) wanted to keep their PPS after an initial period of use.

Feedback from a sample of surveyed recipients about their experiences using PSSs, identified that most received their PSSs before their babies were 2 weeks (66%) and more than half were still using them at 12 weeks (54%). Same-bed co-sleeping at some stage was common (71%) with babies 'always or usually' also in a PSS (72%).

Overall, families rated the PSS highly (7-9/9) (97%), valuing specifically its support with safety (92%), convenience (89%), and settling babies (76%). Survey babies were breastfed 'yesterday' (75%), and placed for sleep on their backs (89%), with 88% sleeping in a baby bed, and 89% in the same room as a parent, 'last night'. Most babies (86%) were, or were expected to be, sleeping in cots when too big for the PSS. Use was more intensive and appropriate for smoke-exposed babies ($p < 0.005$). There were no reported accidents.

Conclusion: In 2013, the **Pēpi-Pod**[®] programme was applied consistently and appropriately by distributors, as it was in 2012. The *programme* was acceptable to, and valued by, recipient families, and safety advice was reflected in infant care. PSSs enhanced sleep safety for these more vulnerable babies, and supported their parents.

"It was a sad day when I had to admit that he was just too big for his pod."

Recommendations

The programme was delivered to a high standard in 2013. We make the following recommendations for emphasis in 2014, based on the findings of this report:

1. That agencies:
 - ▶ continue to **systematise the early issue** of PSSs (issued by two weeks of age unless born pre-term) and reduce issue to older babies.
 - ▶ **tighten eligibility criteria**, where there is under-resourcing, so that 80% of PSSs issued, are to babies exposed to smoking in pregnancy.
 - ▶ **systematise referral** to smoking cessation support for recipients of PSSs, and their whānau, who smoke.
 - ▶ **promote an expectation** that more vulnerable babies need to live and breathe in smokefree households.
 - ▶ **participate in quality assurance processes** for the registration of distributors, and the assessment of programme fidelity by agencies.
2. That referrers and distributors:
 - ▶ continue to be **vigilant about safe positioning** of babies within the PSS (always and only flat, level and on the back).
 - ▶ where there is resistance or ambivalence, in an effort to foster confidence in safe sleep advice, focus explanations on **‘protecting breathing’**.
 - ▶ promote the PSS as a **tool to support breastfeeding** as well as settling and safety.
 - ▶ promote the essential need to **assign a competent and sober carer**, where drug use and drinking are likely.
 - ▶ build an expectation that **‘the pod goes with the baby’** when visiting and travelling.
3. That a **new role of whānau champion** be considered, to project urgency into the need for babies to develop smokefree.
4. That the expectation to help spread safe sleep awareness to others be promoted as a mechanism for **empowering communities** and achieving **lasting change**.

INTRODUCTION

This is our third report describing the application of the **Pēpi-Pod**[®] programme in New Zealand. The first² described the programme as a crisis intervention in the aftermath of the 2011 earthquakes in Christchurch, the next³, its emergence during 2012 as an ‘ordinary time’ response to sudden infant death, and the current report describes the integration of the *programme* into policy and practice, in participating regions.

The programme involves the supply of portable sleep spaces (PSS) plus infant health and safety education, to families of babies more vulnerable to sudden infant death. Reported here, is information on the 2013 distribution of PSSs in New Zealand, using data entered into a central database by participating agencies. This document is primarily a progress report to these agencies.

The report also serves to inform conversations, within New Zealand and beyond, about the acceptability and safety of PSSs and their place within a public health approach to promoting resilience, and reducing sudden unexpected death, in a vulnerable population of infants.

This report examines only the 2013 distribution and user feedback records held on the *programme* database. It aims to answer the following questions for study babies:

- ▶ Did PSSs reach priority babies?
- ▶ Were PSSs acceptable to Māori recipients?
- ▶ Did PSSs support families to increase infant safety?
- ▶ Did recipient parents follow health and safety recommendations?
- ▶ Did safe sleep awareness spread from PSS recipients to others in their networks?
- ▶ Were infant health priorities promoted as an integral part of the programme?

LITERATURE REVIEW

New Zealand has high rates of sudden infant death compared to other developed countries⁴, although there is evidence that these may be reducing in recent times⁵. At rates of 1.1 deaths per 1000 live births (2006-2010), and more than twice these rates for Māori, about sixty babies have died each year in this way. Currently, most sudden infant deaths are considered preventable, whatever term is used (cot death, SIDS, SUDI, SUID, unascertained, sleep accidents); most are expected because known risk factors are involved, and many are also explained with accidental suffocation on the rise as a clear cause of death⁶.

The international evidence behind current safe sleep recommendations is well summarised in the position paper of Mitchell et al. (2012)⁷. Identified risk factors for sudden infant death that are relevant to the current report include: babies exposed to any smoking, positioned on their sides or fronts, getting covered faces, sleeping in rooms distant from carers, sharing beds (especially if also smoke-exposed), in unsafe sleeping environments (beds and bedding), and premature or low birth weight babies.

Local studies give added context for New Zealand babies. A study⁸ of 221 sudden infant deaths in Auckland from 2000-2009 found that 83% were of Māori or Pacific babies, 64% of babies sharing a bed, and 57% of babies not placed on the back. Most (92%) of the 25 babies who died aged less than one month, were sharing a bed at the time. While no data on smoking was available, the study group has previously established smoking rates in the region of 52% for Māori and 29% for Pacific mothers, so it can be assumed that many babies who died were exposed to both smoking and bed-sharing.

In another study of South Auckland parents, low rates of diffusion of safe sleep knowledge and practice amongst Māori were found⁹. More than half of Māori mothers smoked while pregnant and up to 65% had their babies sleeping in their beds for at least some of the night. A third had soft items other than bedding in the sleep environment, and 21% who also smoked, were sharing their beds with their babies. Authors concluded that appropriate approaches to improving safe sleep awareness and practice need to be developed for the high risk infant, especially for Māori.

Wahakura projects are a sleep space approach that has been acceptable and effective in Maori communities¹⁰ since 2006, and PSSs have developed to complement wahakura and help achieve scale. It has been previously reported¹¹ that PSSs were widely and appropriately used, enhanced closeness and safety and were rated highly by parents. In 2012³, same bed co-sleeping with a PSS was common (68%), safe sleep recommendations were widely applied (83% back sleeping 'yesterday', 88% in same room as sleeping parent 'last night'), and safe sleep awareness was spread to an average 5.4 others.

This is a report on the current application of the PSS *programme* in different regions of New Zealand and its continuing development beyond the emergency time and early spread, to a strengthened position, during 2013, within public health policy and practice. While there is growing support¹², and from across society, there is also caution in some quarters. This report is feedback to participating agencies, as well as information for a wider audience with an interest in this issue.

"It has meant that she has somewhere safe to sleep no matter where we are."

METHODS

Previous reports^{2,3} have described in detail the methodology and all materials and methods relating to the *programme* such as: referral criteria, distributor training, recipient education, participation agreements and consent, web-based support, and the collection, entry and reporting of data. These will not be repeated here.

To summarise, a lead agency developed the *programme*, which includes the supply of education plus portable infant sleeping spaces (PSS) on a 'cost recovery' basis. Participating agencies entered into a participation agreement with the lead agency to clarify roles, responsibilities and expectations for providing regional services, and to ensure adherence to *programme* protocols and standards. Start-up training was provided by the lead agency, supported with web-based video clips, e-forms for data entry, monthly progress reports by region, e-communiqué, and downloadable materials.

Partner agencies were responsible for developing local systems related to promotion and referral, issue of goods, management of stock, tracking of supply, and monitoring of quality processes. They were also responsible for supporting local distributors as required, including orientation for new providers or staff, and any further training. A generic poster was designed and made available during 2013 to assist with promotion, a competency assessment process was initiated as support for distributors, and a safety briefing card was introduced to act as a prompt for distributors and a standard for the *programme*.

Modifications: During 2013, the *programme* was more formally aligned with infant health plans and DHB reporting requirements. While promotion of infant resilience ('strong baby') as well as 'safe sleep' has always been part of the *programme*, data forms were modified in July 2013 to capture this aspect of the distribution process.

Data were collected in the forms of: a) a summary checklist of eight topics promoted as part of the safety briefing, b) questions relating to uptake of recommended practices by follow-up, and c) indication of whether or not a brief intervention had occurred, where non-recommended practices were happening. Four topics were related to 'safe sleep' practices (on the back, face clear, own space, carer near), and four to infant resilience or 'strong baby' (breastfed, smokefree, immunised, handled gently). Orientation to the new forms was supported by means of a 12 minute video uploaded to the *programme* website. Waikato DHB also supported a regional training day in August.

Data Analysis: Distribution and survey data entered by 31st January 2014, for PSSs distributed during 2013, were analysed by frequencies distribution. Where there were missing data, percentages are of the total respondent group, unless stated. Results were grouped by Midland DHBs versus 'others', 'smoking in pregnancy' versus 'no smoking in pregnancy', and Māori versus non-Māori. Survey data for infant care practices 'yesterday' and 'last night' were analysed for babies younger and older than, or equal to, 16 weeks. A thematic analysis of text responses was made using the 'find' feature of MSWord to highlight key words associated with themes. Where a chi-square test of independence was performed, results were considered significant for $p < 0.05$.

"It's been good to have at tangi and when at the marae, because baby always has his own place to sleep."

RESULTS

In total, 5500 PSSs have been requested to date for supply to vulnerable babies (excluding the earthquake response of 2011), with 2812 requested during 2013. Forty-four agencies across 8 district health board regions provided data on PSS distribution (**1373**), follow-up **1075** (78.3%), and user feedback (**300**) (21.9%). These data form the basis of this report. There were records for 45 sets of twins and one set of triplets. Repeat entries were excluded (101) with 83 double entries, 3 triple and 4 records entered four times each.

Agencies joined the programme at different times during the year. While Waikato distributed the most PSSs (33.7.0%), and the Midland region a collective 62.8%, as a proportion of their Maori births Hawkes Bay had the largest service (32.0%). This was followed by Tairāwhiti (23.4%), Waikato (23.3%), Lakes (13.7%) and Bay of Plenty (11.0%), and for all other regions the proportion of PSSs to Maori births was less than 10%.

Not known, are total numbers issued to families, but not, or not yet, recorded on the database; PSSs held in stock or issued to distributors, but not yet to families; attempts to follow-up recipients or invite to give feedback; nor PSSs reused within the community.

Distribution

PSSs are intended for use by new-borns more vulnerable to SUDI, and as yet unable to roll to the front. Their purpose is to help build safe sleep habits from the start, when babies wake and feed often, and bed sharing is more likely and more dangerous.

Results show that the *programme* was provided to appropriate babies at an appropriate time in most cases (see Table 1). All but 4 PSSs went to babies with identified SUDI risks, and 66.4% to babies less than 2 weeks of age at the time of issue (10.6% were unborn). Most recipients were also Māori (75.5%), 12.8% were Pacific and 15.7% neither Māori nor Pacific. Risk factors excluded ethnicity for 98.5% of infants.

Infant vulnerability factors that were identified included: smoking, (in pregnancy or households) (76.3%), premature birth (<37 weeks) or low birth weight (<2500 g) (26.3%), social factors such as young maternal age (48.7% < 25 years with 15.4% < 20 years), low income (68.9% used a community services card), and having no other baby bed (26.8%). Many babies were also their mother's first child (41.1%).

Follow-up

PSSs were also intended to be *offered* to families for a period, for them to assess if PSSs would be useful. Follow-up was expected to occur after about two weeks of getting PSSs, to assess acceptability in terms of parents wanting to keep them, and to assess parents' participation in spreading safe sleep information to others. Follow-up information is presented in Table 2.a.

Most families (78.3%) were contacted after an initial period with the PSS, to ask if they wanted to keep or return it. The programme goal of 'follow-up after two weeks' was met for two-thirds (66.0%), and 68.2% of babies were less than 8 weeks at that time. Most

had slept in their PSSs (96.6%), and most parents wanted to keep them (91.7%). Of the 89 who did not, 70 babies already had a baby bed, and a further 11 were smokefree and full-term. The 8 remaining babies were of potential concern due to smoking in pregnancy (8) and being younger than 8 weeks (6).

In exchange for the *programme*, recipients were invited to help spread safe sleep awareness to whānau and friends, by sharing what they had learned in the safety briefing. Of the 1075 recipients followed-up, 84.0% participated in this work reaching 5182 others (mean 5.8 per PSS recipient) and engaging them in conversations about safe infant sleep. While 89 families did not want to keep their PSS, an encouraging 60 of them did participate in sharing safe sleep information to a collective 306 others (mean 5.1).

Infant health topics

For 1105 (80.1%) PSSs distributed from July 2013, there were high levels of recorded discussions on all topics, from 93.7% for 'on the back to sleep' to 78.0% for 'immunisations'. A snapshot of infant health practices, in place at follow-up, was taken against the eight topics promoted at the safety briefing, as well as whether or not further intervention had occurred if needed. For 827 (76.9%) families followed up from July 2013, there was missing data for 107 ('on the back') to 123 ('immunised') due to a transition to new forms. Results are presented as a proportion of maximum responses (n=720) and summarised on Table 2.b.

- ▶ There was high uptake of promoted '**safe sleep**' practices across all 4 topics from 'always or usually on the back' (95.0%) to 'always or usually in a baby bed' (84.6%).
- ▶ Uptake of '**safe baby**' practices varied from 90.3% for immunised (started, booked or intending to), 82.5% for gentle handling (demonstrated to others), 75.3% for breastfeeding (exclusive or full (442), or partial (129)), and 75.6% for being smokefree (144) or receiving support to become so (316). Most (84.3%) were also enrolled with a Primary Health Organisation, doctor or general practice.

For reasons of comparison, breastfeeding at follow-up was analysed for babies older than six (n=176) and thirteen weeks (n=82). The frequency of 'some' breastfeeding at both age points was similar (75.6%, 76.8%), with a fall off of exclusive or full breastfeeding from 55.9% to 47.7% beyond thirteen weeks.

- ▶ Where infant health and safety practices were not as recommended, a brief intervention was expected to be performed, to provide further support as appropriate. There were low levels of recorded follow-up interventions, although modest levels for smokefree support. Discussion was recorded for 44 of the 316 recipients currently smoking and not receiving smoking cessation support.

In summary, follow-up results show high rates of contact of PSS recipients by distributors, acceptability of the programme to Māori and other families, promotion and uptake of recommended practices, and spread of safe sleep awareness by the study group.

Feedback

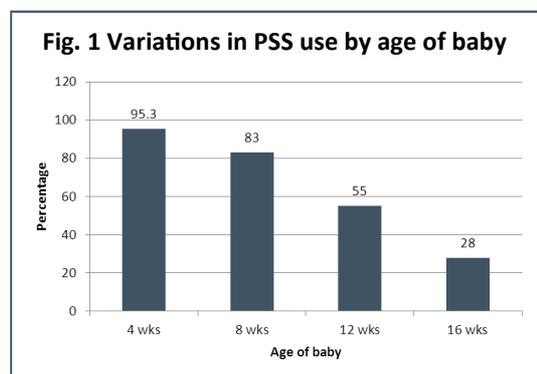
Service providers were expected to collect user feedback data when babies were 8-10 weeks old, from a minimum one in five recipients. This standard was achieved overall with a three-fold increase in the number from Midland in the survey group (28.8% vs. 10.2%) compared to from other DHBs.

Feedback surveys were completed for **300** (21.9%) PSS users and data were entered online, mostly by distributors, although directly by respondents in some cases. Where PSS recipients had provided an email address at distribution (15.1%), they were sent the internet link and invited to complete the survey online. Responses are presented by DHB regions on Tables 3a. (pick-up), 3b. (usage), 4. (infant care for 'yesterday' and 'last night') and 5. (household characteristics).

Pick-up: Most people got their PSSs from a health or whānau worker (94.7%) when their babies were less than one month old (81.0%), and 44.7% received the *programme* during pregnancy. There was consistency in the distribution experience for: showing how to make up the PSS (93.7%), explaining the 'rules of protection' (96.7%) and being asked to help spread what they were told to others (95.3%).

Frequency of use: About half of respondents (163) were current users of PSSs, at the time of the survey. Their babies used PSSs for 'all or most' (46.6%) and 'some' sleeps (53.4%). This question was not asked if babies were no longer using PSSs.

Length of use: Considering current (163) and completed (137) use together to ascertain a minimum, use reduced from 95.3% at age 4 weeks, to 83.0%, 55.0% and 28.0% at ages 8, 12 and 16 weeks respectively. For those no longer using their PSSs at the time of completing the survey (45.7%), the main reason was that babies had outgrown them (69.3%). Other reasons included: babies settling well in cots or bassinets (22), babies or parents not liking the PSS (15), or mitigating circumstances (5).



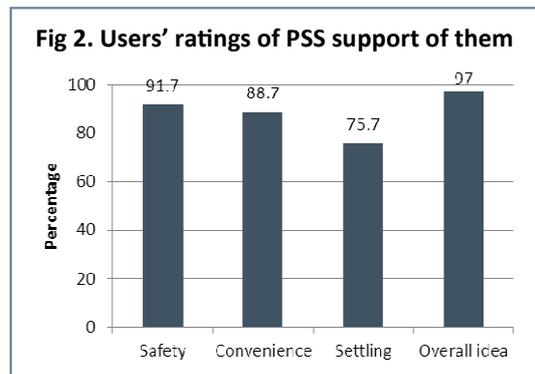
Same bed co-sleeping: It was common for babies to have slept in the same bed as parents at some time since getting their PSSs (71.3%) and in most cases babies were 'always' (112), or 'usually' (39), in PSSs (70.6%).

Of those 'sometimes' (15), or 'never' (47), in PSSs when same-bed co-sleeping, 66.1% were 12 or more weeks old at the time of completing the survey. Age was not known for three babies. For the 18 babies known to be younger than 12 weeks, 8 were exposed to smoking in pregnancy, and two of these were also babies born

prematurely. However, when sleeping ‘last night’, all eight babies were in the same room as a parent, 7 were in some type of baby bed, 7 slept on their backs, and 6 were breastfed, ‘yesterday’.

Next bed: Most respondents were using, or planned to use, cots after stopping using the PSS (85.7%). Other arrangements included, with an adult in their bed (20), makeshift settings involving single beds and couches (16), and unknown (7).

Value: Respondents were asked to rate the PSS on a scale of 1 (low) to 9 (high) in terms of the overall idea and its support of them. Most gave high ratings (7-9/9) for the overall idea (97.0%), and for its support of them with safety (91.7%), convenience (88.7%), and settling their babies (75.7%). Bedding items that came with the PSS were also commonly used;



90.0% used the wrap around sheet and 92.3% used the merino blanket.

Half (52.7%) of survey respondents named ‘other’ ways in which PSSs had supported them. Most comments related to convenience due to the features of ‘portability’ (86), expressed as having a bed (and bath) for baby when away from home, and ‘proximity’ (61), expressed as being able to move baby easily about the house. Comments are listed by theme in Appendix 1. with examples given below.

“It’s been good to have at tangi and when we’ve been at the marae because baby always has his own place to sleep.”

“Wiremu knew it was time for moe (sleep) when he went into his Pēpi-Pod. Helped settle him quickly for sleep. He would always look over to see that Mama was in bed, too. I think that helped to settle him, too.”

“I got a good sleep while she was in it.”

“Easy to get baby out of the Pēpi-Pod for breastfeeding when she is sleeping in it between her parents at night.”

“We have the Pēpi-Pods at my parents’ house now so the twins have their own sleeping space when we stay over there. They are fantastic and I’m so happy I got given them.”

Infant care for ‘yesterday’: Most babies (74.6%) were breastfed (fully or partially) ‘yesterday’; 64.1% of younger (<16 weeks) and 35.9% older (≥16 weeks) babies. Half of younger (50.6%), and many study babies overall (41.3%) were fully breastfed ‘yesterday’.

While most babies (89.2%) were placed for sleep on their backs ‘yesterday’, a concerning 32 were not. They were placed instead, on their sides (19), fronts (5) or

“She loves sleeping in it, so when we go away it is not a different bed for her to get used to.”

in no usual position (8). Of these, 17 were younger babies (aged <16 weeks) who were also exposed to smoking in pregnancy (9), prematurity (4) or both risks (2). All 17 babies slept in the same room as a parent 'last night', 15 in some type of baby bed and just 2 directly in the adult bed. At greatest statistical risk was a 9 week old baby, positioned prone 'yesterday', smoke-exposed during pregnancy and born prematurely. These risks were potentially mitigated somewhat by the baby being fully breastfed and in a PSS when same-bed co-sleeping 'last night'.

Infant care for 'last night': Most babies were sleeping in a baby bed 'last night' (88.1%), most in the same room as a parent (85.3%), with 76.5% protected in both these ways. There were 26 babies in the same bed as an adult, and not in a baby bed. Eleven were babies younger than 16 weeks some of whom were also exposed to smoking in pregnancy (3), prematurity (2) or both (1). Protective practices for these babies 'yesterday' included back sleeping (9), and full (8) or partial (2) breastfeeding. The baby exposed to both smoking in pregnancy and prematurity was 13 weeks, fully breastfed and placed to sleep on the back 'yesterday'.

Accidents and incidents: There were no reported accidents. One parent reported a crack in the PSS, although continued to use it, but not to carry it with baby in it. Another parent got a fright on one occasion when her baby slipped down under the covers. One young sibling liked to try to tip the PSS, and one parent was concerned about tipping when the PSS was used on a soft, uneven bed surface. There were a few comments that revealed breakages or other issues, but none that related to risk to babies.

Household characteristics: Smoking was common; smoking by the baby's mother before (62.3%) and during (56.3%) pregnancy, and by household members (67.7%). Reported ethnicity of babies included Māori (79.7%), Pacific (20.0%), Māori and Pacific (84.3%) and neither Māori nor Pacific (13.7%).

Comparison of distribution versus feedback groups: Where data allowed, characteristics of the distribution (N=1373) and feedback (N=300) groups were compared to identify any variations. Three times more Midland, compared to other recipients, provided feedback on using PSSs (28.8% vs. 10.2%). There were also more Māori (79.7% vs. 75.5%) and premature or low birth weight (28.3% vs. 26.4%) babies represented in the feedback group, but fewer babies exposed to smoking in pregnancy (56.3% vs. 65.2%).

General comments: When asked "*What else would you like to share about your experience using a PSS?*" 213 (71.0%) respondents provided comments. Many related to convenience features of 'portability' and 'proximity' as previously reported, and also to general appreciation, ease of settling, sleep quality, reassurance, safety, bonding and being a talking point. Comments are listed by theme in Appendix 2. with examples of each given below.

Convenience: *"It is such an awesome idea. Easily transportable, convenient and safe."*

Transportability: *"It's good to take anywhere you're going, day or night."*

Proximity: *"I pick it up and take it with me to whatever area I'm in so I can always hear baby."*

Settling: *"I was a little doubtful when given our Pēpi-Pod that it would help her with settling, but now I wouldn't look back and highly recommend it to all mothers."*

Talking point: *"I am still talking to others about safe sleeping and the Pēpi-Pod."*

Sleep quality: *"You get a good night's sleep having baby sleep close to you."*

Bonding: *"Gives him security, too, knowing that we are there and he feels safe."*

Use by others: *"I've got plenty of people who want it when I've finished with it."*

Reduced stress: *"Our baby really likes sleeping in it and that's taken a lot of stress off my partner and me."*

General: *"The Pēpi-Pod is awesome. Everyone should have one."*

Acceptability by Māori : An objective of the study was to assess acceptability of PSSs, and uptake of recommended practices, by Māori. Results of this analysis are presented on Table 6. Māori recipients were as likely as non-Māori to want to keep their PSS (93.1% vs. 90.3%), to sleep their baby in a baby bed and in the parents room 'last night', (89.2% vs. 86.4%), to place baby on the back to sleep 'yesterday' (88.7% vs. 87.3%) and to rate the PSS highly (96.7% vs. 100.0%).

There were some variations, largely due to the bias of the eligibility criteria. Māori babies were more likely than non-Māori to have a baby bed at distribution (76.7% vs. 62.8%), and, in the survey group, were more likely to be breastfed 'yesterday' (77.3% vs. 65.5%) and less likely to be premature or low birth weight (25.6% vs. 40.0%). However, significantly fewer Māori than non-Māori babies in the survey group, lived in smokefree households (24.7% vs. 65.5%).

Comparisons: A chi-square test was performed to examine the relationship between high value ratings for 'settling' and intensity of PSS use. The relationship was significant ($\chi^2 = 6.14$, $df=1$, $p<0.02$). There were higher ratings for 'support with settling' where PSSs were used for 'all' or 'most' compared to 'some' infant sleeps.

A Chi-square test was also performed to examine the relationship between PSS usage and smoking in pregnancy. Again this relationship was significant. Compared to smokefree babies, those exposed to smoking in pregnancy were more likely to use PSSs for 'all or most' rather than 'some' sleeps ($\chi^2 = 14.330$, $df=1$, $p<0.005$), and to be 'always' or 'usually' rather than 'sometimes' or 'never' in a PSS when same-bed co-sleeping with parents ($\chi^2 = 7.929$, $df=1$, $p<0.005$).

Competency assessments: Thirty-five distribution sessions were observed for assessment of competence of distributors, all from Hawkes Bay, and all observees were considered competent.

"Many others have been able to see it through using it on the marae."

DISCUSSION

The **Pēpi-Pod**[®] sleep space programme strengthened during 2013. Compared to 2012, more PSSs were distributed, more regions involved, more babies got their PSS before they were two weeks old (66% vs 57%), and more babies were Māori (76% vs. 68%).

The programme was also strengthened by the 'whole of region' approach of the five Midland DHBs, the contribution of data from an equally strong Hawkes Bay programme, and the emphasis given to promoting 'strong baby' as well as 'safe sleep', that is reflected in data collected from July.

There were improvements, too, to the uptake of protective practices; back sleeping rates for 'yesterday' increased from 83% to 89% during 2013, and there were small improvements to breastfeeding 'yesterday', and to room sharing and using PPSs when bed sharing 'last night'. Value ratings for PSSs also increased during 2013, especially for parents' perceptions of support with settling babies (from 60% to 76%), and from 92% to 97.0% for the overall idea of PSSs.

As well as improvements to the scope and practice of the *programme*, high standards were maintained by distributors for the issue of PSSs to appropriate babies, delivery of education components, entry of programme data, and achievement of follow-up and feedback contacts.

As with previous reports, caution is needed in interpreting results. Findings are meaningful only within the context and limitations of the study and should not be generalised more widely. Real world conditions lack the control that is possible in more formal studies, and convenience sampling brings inevitable bias.

However, for the data available, differences between distribution and survey families were minor, and despite the lack of evidence for representation, all but four babies described, carried a statistically increased risk for sudden infant death. The report describes what was possible for this group of families and is feedback to distributors on their collective effort.

The report set out to answer these questions:

- ▶ **Did PSSs reach priority babies?** The answer is 'yes' for study babies, although access relates to PSSs availability within a region. It is likely that many priority babies missed out. Most regions have temporary provision for PSSs and supply to less than 20% of their populations of vulnerable infants. Exceptions are Waikato and Hawkes Bay where a DHB-wide approach has been taken.

Evidence from scientific studies describe vulnerability in terms of infant age, infant care, and social factors. Excluding premature infants, 22% of babies received their PSS were older than two weeks. Where resources are limited, there is diminishing return in issuing to older babies at the expense of younger ones, as the period of

"My baby was hard to settle and now she is amazingly easy to settle thanks to the Pēpi-Pod."

SUDI risk lessens with development. Also, babies and parents accommodate to the sleep conditions in place, and may not adapt as easily to a PSS, if receiving it later. This is indicated in results.

Smoke-exposure in pregnancy is currently the leading risk for SUDI in New Zealand, which is amplified when smoking is associated with bed sharing and non-supine sleep positions; similarly for prematurity or low birth weight. Yet 24% of babies were not exposed to either risk, although they were to social factors such as young maternal age and low income. Further opportunity for targeting, perhaps.

While the preferred outcome is improved access to PSSs, vulnerability criteria could be tightened, in regions with a limited PSS resource, to only babies less than 2 weeks old and also exposed to smoking in pregnancy. This recommendation is supported by the finding that there was more intensive and appropriate use of PSSs with infants exposed, compared to not exposed, to smoking in pregnancy.

- ▶ **Were PSSs acceptable to Māori recipients?** PSSs were highly acceptable to Māori recipients, and text comments are rich in detail about why. Comments also suggest PSSs were acceptable to whānau, that they supported a mobile lifestyle of frequent visiting, travelling and movement about the house, and were shared with others along with the safe sleep information. Much of the value of the PSS was expressed as convenience; enabling safe sleep for baby while supporting cultural norms.

One alarming difference between Māori and non-Māori infants was the low number from smokefree households; 25% vs. 66% for survey babies and 48% vs. 61% for the study group as a whole. While the PSS may support cultural norms, it cannot be part of supporting smoking. Promoting smokefree whenua and whānau, as protection for babies, needs to be raised as a priority of this *programme*.

- ▶ **Did PSSs support families to increase infant safety?** Results describe most infants in safe sleep conditions at the time of follow-up, and, for survey babies, when sleeping 'yesterday' and 'last night'. That PSS usage was more intensive and appropriate for babies exposed to smoking in pregnancy, suggests parents were aware of their babies' increased vulnerability and took appropriate steps to improve safety.

Of concern, are the few babies exposed to unsafe practices despite a personalised safety briefing and the enabling device, although in all cases there is evidence of risks being mitigated to some extent. What may be useful to support belief in safe sleep recommendations, where there is a mismatch between these and actual practice, is to revisit 'breathing' as the underlying function at risk, and to involve whānau in the explanation for why. As one parent humbly commented "*sometimes we have a 'she'll be right' attitude when it comes to sleeping*".

- ▶ **Did recipient parents follow health and safety recommendations?** There were high levels of uptake of 'safe sleep' recommendations and encouraging levels of

'strong baby' practices in the study group. More than half (56%) of those smoking at the time of follow-up were also receiving cessation support. Ninety percent of recipients had either started, booked or intended to book their babies' immunisations. Promotion of 'gentle handling' as a strategy to help reduce injury and death of infants from violence, was reported by 83% and took the form of showing others how to handle their baby gently. In all these ways, families were active in helping to boost the resilience and protection of their babies.

The prevalence of breastfeeding was also encouraging given that Māori and Pacific peoples, low-income families and young mothers have lower breastfeeding rates than other groups¹³. Some comments indicated that the PSS facilitated breastfeeding, especially in the night and distributors were particularly vigilant about supporting breastfeeding. However, with 56% of study babies exclusively or fully breastfed from 6 weeks, and 24% with no breastfeeding, there is some way to go to reach current population targets set by the Ministry of Health for 74% at six weeks and 63% at three months. Promotion of specific ways that the PSS can support breastfeeding, and measuring parent's perceptions of how well this is achieved, could be introduced, as this has been useful for support with settling.

- ▶ **Did safe sleep awareness spread from PSS recipients to others in their networks?**
Evidence for the diffusion of safe sleep awareness within the social networks of PSS recipients is contained within the number 5188 of others reached, and also in respondents' comments. It would seem that the PSS drew attention to itself and, together with the expectation that recipients participate in spreading awareness, and their positive experience using one, created an opportunity for conversations to flow easily from there.

This aspect of the *programme* is the mechanism for leverage from a limited resource; for achieving scale, reach and penetration into the social systems of more vulnerable groups. It is at the heart of the programme's effectiveness and the hope of sustainable change.

- ▶ **Were infant health priorities promoted as an integral part of the programme?**
From July 2013, we have measured action, by distributors and families, on infant health priorities related to SUDI, summarised as 'strong baby' principles. This change was suggested by Waikato DHB who saw an opportunity for the *programme* to support the broader accountabilities of regional health plans, and in a measured way.

It was not that there were new intervention expectations of distributors, but there were additional data collection demands which were kept to a meaningful minimum. There is a tendency to 'value what we measure', so we decided to 'measure what we value'. Answers to questions introduced at the follow-up contact, take a data snapshot for regions, that gives value to the previously invisible work of the programme. The 2013 results are a baseline against which to measure

"Moved baby and pod into our bed when he woke for his first night feed and kept him close to us."

improvements in subsequent years.

Intervention fidelity

The effectiveness of this *programme* is dependent on the quality of the safety briefing provided at the time a PSS is issued. Great care has been taken by the lead agency, in the design of the *programme*, and by local coordinators in its implementation, to support a standard here in terms of training, timing and content. It is likely that this care has influenced the effective replication of the programme across a range of distributors, providers, settings and regions.

Results reflect intervention fidelity^{14,15} (conformity to standards) in how and when PSSs were supplied, the components included in the safety briefing, and completion of data records. As well, for Hawkes Bay DHB, there was strong use of the 'competency checklist' system for confirming the competence of PSS distributors.

Programmes often fail if they are not implemented as designed, and in the matter of a safe infant sleep programme, the stakes are high from reduced effectiveness. Yet fidelity needs to be balanced with adaptation to local settings. In this *programme*, process evaluation measures tracked the inclusion of core elements and were built into data records. These measures were further supported with two quality assurance tools introduced during 2013: a 'competency checklist' for observing the quality of the distribution process, mentioned previously, and a 'programme fidelity' tool for assessing the competence of an agency or service in providing the programme. All partner agencies will be encouraged to use these tools to assess competence and fidelity in 2014.

Voices of parents

This report projects the voices of participating families by presenting all text comments as provided. Where there is repetition of similar ideas, the impact of the individual comment is strengthened. Comments give colour, context and confirmation to the numbers, and tell a collective story of parents managing the day to day realities of life as they pursue protection for their babies, within the context of their cultural norms.

CONCLUSION

Safe sleep for babies is a human rights issue. The right of a child to survival and development is a foundation principle of the United Nations Convention on the Rights of the Child (UNCRC)¹⁶, ratified by New Zealand in 1993. There is, therefore, an obligation on us, as individuals and a nation, to safeguard survival through promoting and enabling safe sleep for every baby, every sleep.

There is a strong basis in evidence⁷ for this, and other safe sleep interventions, so it can be logically assumed that the combination of public and targeted promotion, if sufficiently scaled, will result in reducing sudden infant deaths, should recommended practices be applied by families. This report is evidence that in most cases safety advice was upheld for the more vulnerable babies of this study.

In conclusion, participating agencies effectively replicated the **Pēpi-Pod**[®] safe sleep programme across eight regions of New Zealand and supported *programme* families to provide safer sleeping conditions for their more vulnerable babies. As well, providers delivered infant health education in a personalised and culturally appropriate way, and engaged *programme* families as willing partners in the ongoing protection effort. The *programme* could be considered as an acceptable and sustainable approach to protecting more vulnerable babies from sudden infant death, with a ripple of other benefits likely, too.

Postscript

As this report went to press on 19 February 2014, *Statistics New Zealand* released population information for 2013¹⁷. Total infant mortality rates (all causes) increased slightly during 2013 from the record low of 2012 (4.2 to 4.4 deaths per 1,000 live births). While a similar slight increase was seen in deaths of Māori infants (123, 82, 84 for 2011, 2012 and 2013 respectively), the extraordinary fall in Maori deaths in 2012 has effectively been sustained. This strengthens the possibility that the fall is the start of a trend rather than a fluctuation.

Of interest to providers of this *programme* are the regional variations in infant deaths summarised in the table below. During 2013, Midland was the only region where numbers of infant deaths continued to fall. This is encouraging given that Midland has a high proportion of Maori births (43%) compared to Northern (23.4%), Central (32.8%) and Southern (18.9%) regions. Infant mortality is now similar across all regions.

Table: Regional variations in infant deaths between 2012-2013 (all causes) (Statistics NZ, 2014)

Region	Numbers of infant deaths (all causes)			IMR/1000 live births	% Maori births
	Neonatal	Post-neonatal	Total		
Northern	69-68	37-38	106-106	4.4	23.4
Midland	38-33	23-18	61-51	4.4	43.3
Central	20-27	22-23	42-50	4.5	32.8
Southern	28-27	16-21	44-48	4.0	18.9

“Taught me safe sleeping whereas before I was sleeping with my baby.”

Table 1. Distribution of PSSs by region, agency and characteristics of babies and parents (N=1373)

	DHB REGION		TOTAL	
	Midland N	Others N	N	%
DHB REGION				
Waikato	462			33.6
Bay of Plenty	138			10.1
Tairāwhiti	111			8.1
Lakes	108			7.9
Taranaki	43			3.1
Midland DHBs Total	862			62.8
Hawkes Bay		320		23.3
Counties Manukau		112		8.2
Northland		66		4.8
Other		13		0.9
TOTAL	862	511	1373	100.0
AGENCY				
Distribution numbers by quarter				
Jan-Mar	130	18	148	10.8
Apr-Jun	224	136	360	26.2
Jul-Sep	306	215	521	37.9
Oct-Dec	202	142	344	25.1
BABY CHARACTERISTICS				
Risk factors for sudden infant death				
smoking in pregnancy	579	316	895	65.2
household smoking, drug or alcohol use	485	181	666	48.5
premature or low birth weight	215	147	362	26.4
Baby's ethnicity				
includes Māori	718	319	1037	75.5
includes Pacific	73	102	175	12.7
does not include Māori or Pacific	108	108	216	15.7
Has a baby bed				
yes	683	323	1006	73.3
Age of baby when PSS received (in days)				
not yet born	64	81	145	10.6
0-15 days	537	229	766	55.8
15-28 days	81	67	148	10.8
>28 days	170	119	289	21.0
PARENT CHARACTERISTICS				
Age of mother (in years)				
<20	122	78	200	14.6
20-25	313	200	513	37.4
>25	369	212	581	42.3
Age of father (in years) (N=752)				
<20	52	31	83	11.0
20-25	161	80	241	32.0
>25	296	132	428	56.9
Known to hold a Community Services Card				
mother	626	320	946	68.9
father	236	81	317	23.1
Mother's first baby				
yes	356	210	566	41.2
Email address provided				
yes	199	20	219	16.0

"I am still talking to others about safe sleeping and the Pēpi-Pod."

Table 2.a. Follow-up information on age of baby, timing of follow-up, PSS acceptability, and safe sleep awareness diffusion rates, for recipients of a PSS (N=1075).

	DHB REGION		TOTAL	
	Midland N	Others N	N	%
Recipients followed up				
Number	649	426	1075	78.3
Timing of follow-up				
within 14 days	113	110	223	20.7
15-28 days	249	136	385	35.8
>28 days	283	177	460	42.8
missing data	4	3	7	
Age of baby at follow-up				
<4 weeks	214	150	364	33.9
4-8 weeks	231	126	357	33.2
> 8 weeks	195	129	324	30.1
missing data	9	21	30	
Acceptability of PSS at follow-up				
baby had slept in pod	628	410	1038	96.6
parents wanted to keep it	607	379	986	91.7
Diffusion of safe sleep awareness				
no. who spoke with others	588	314	902	83.9
no. of 'others' reached by recipients	3860	1328	5188	
diffusion rates (people /recipient)	6.6	4.2	5.8	

"It is such an awesome idea. Easily transportable, convenient and safe."

Table 2.b. Promotion (N=1030) and uptake (N=720) of recommended 'safe sleep' and 'strong baby' practices.

	DHB REGION		TOTAL	
	Midland N	Others N	N	%
TOPICS DISCUSSED AT DISTRIBUTION (n=1105)				
'Safe Sleep'				
On the back	632	398	1030	93.2
Face clear	631	396	1027	92.9
Own space	628	368	996	90.1
Carer near	619	347	966	87.4
'Strong Baby'				
Breastfeeding	613	349	962	87.1
Smokefree	623	381	1004	90.9
Immunisations	547	315	862	78.0
Gentle handling	583	352	935	84.6
UPTAKE OF RECOMMENDED PRACTICES AT FOLLOW-UP (N=720)				
'Safe Sleep'				
a) On the back: always/usually	395	289	684	95.0
b) Firmly tucked (or in sleep bag): always/usually	386	282	668	92.8
c) Same room as carer at night: always/usually	370	279	649	90.1
d) In PSS if not in baby bed: always/usually	355	254	609	84.6
'Strong Baby'				
a) Breastfed: exclusively/fully	231	191	422	58.6
partially	80	40	120	16.7
not at all	77	55	132	18.3
b) Smokefree support for main carer: yes	165	151	316	55.6
no	165	87	252	44.4
N/A (main carer smokefree)	82	62	144	20.0
c) Immunisations: started	142	111	253	35.1
not yet, but booked	46	44	90	12.5
not yet, but intend to	185	122	307	42.6
do not intend to	10	5	15	2.1
d) Gentle handling of baby shown to others				
yes	347	247	594	82.5
Enrolled with a PHO/Doctor/Medical Practice				
yes	347	260	607	84.3
INTERVENTION PROVIDED				
Smoking cessation discussion: yes	42	12	54	5.2
All other topics: yes	<24	<14	<40	<3.4

"People are really interested in it, including the nannies at the marae."

Table 3.a. Feedback from recipients on getting their PSS, by region (n=300).

	DHB REGIONS		TOTAL	
	Midland N	Others N	N	%
Feedback surveys completed	248	52	300	100.0
PSS Distributor				
health or whānau worker	238	46	284	94.7
Age of baby when got pēpi-pod				
unborn or <1 wk	116	18	134	44.7
1-4 wks	88	21	109	36.3
5 or more wks	44	13	57	19.0
Distribution process				
shown how to make up pod	233	48	281	93.7
‘rules of protection’ explained	239	51	290	96.7
asked to help spread awareness	236	50	286	95.3
Age of baby when survey completed (N=116)				
< 16 wks	91	26	117	39.0
≥ 16 wks	153	25	178	59.3
Premature or low birth weight	71	14	85	28.3

“It stops me worrying about where and how we sleep.”

Table 3.b. Feedback from recipients on using their PSSs, by smoking status in pregnancy (n=300).

	Smoking in Pregnancy		TOTAL	
	Yes N	No N	N	%
Number of respondents	161	139	300	100.0
Still using PSS at time of survey				
all or most sleeps	61	15	76	25.3
some sleeps	44	43	87	29.0
no, stopped using it	64	73	137	45.7
Reason for stopping (N=137)				
baby too big / starting to roll	43	52	95	69.3
settling in cot / bassinet	9	13	22	16.1
baby or parent didn't like it	10	5	15	10.9
moved or passed to others	3	2	5	4.4
Age of baby at stopping (N=137)				
≥8wks	41	57	98	71.5
≥12wks	30	47	77	56.2
Age of baby for current users (N=163)				
≥8wks	95	52	147	90.2
≥12 weeks	54	30	84	51.5
Minimum length of use (combining current and completed users)				
≥ age 4wks	156	126	282	94.0
≥ age 8wks	136	109	245	81.7
≥ age 12wks	84	77	161	53.7
≥ age 16wks	37	41	78	26.0
Any same bed co-sleeping				
Yes	127	87	214	71.3
baby always/usually in a PSS	99	52	151	70.6
sometimes/never in PSS	27	35	62	20.7
Used bedding provided with PSS				
wrap-around sheet	152	118	270	90.0
merino blanket	158	119	277	92.3
Ratings of high support (7-9/9) for				
settling	134	93	227	75.7
convenience	155	111	266	88.7
safety	160	115	275	91.7
overall idea	164	127	291	97.0
Place of sleep after PSS				
cot or other baby bed	147	110	257	85.7
in adult bed with adult	11	9	20	6.7
makeshift sleep space	6	10	16	5.3
Any accidents, incidents or safety concerns with baby in PPS				
accidents, incidents or safety concerns	2	2	4	1.3

“The wrap sheet was awesome. My baby felt snuggled and settled well.”

Table 4. A comparison of younger (<16 weeks) and older (≥16 weeks) babies by infant care practices of parents applied ‘yesterday’ and ‘last night’ (N=295).

	AGE OF BABY		TOTAL	
	<16 wks N	≥ 16 wks N	N	%
AGE OF BABY	178	117	295	100.0
INFANT CARE PRACTICES OF ‘YESTERDAY’				
Breastfeeding				
exclusive / full	90	32	122	41.4
partial	51	47	98	33.2
no breastfeeding	37	37	74	25.1
Position placed for sleep				
back	161	102	263	89.2
front or side	13	11	24	8.1
no usual position	4	4	8	2.7
INFANT CARE PRACTICES OF ‘LAST NIGHT’				
Slept in baby bed				
yes, in PSS	66	16	82	27.8
yes, in another type of baby bed	96	82	178	60.3
no	14	16	30	10.2
Slept in same room as parent				
yes, but not in same bed	125	77	202	68.5
yes, and in same bed and in PSS	27	6	33	11.2
yes, and in same bed but <u>not</u> in PSS	11	15	26	8.8
some other place	15	18	33	11.2

Table 5. Household characteristics of survey respondents, by DHB regions (N=300).

	DHB REGIONS		TOTAL	
	Midland N	Other N	N	%
Region of nearest town/city				
number	248	52	300	100.0
Ethnicity of baby				
includes Māori	209	30	239	79.7
includes Pacific	46	14	60	20.0
includes Māori and Pacific	218	35	253	84.3
does not include Māori or Pacific	26	15	41	13.7
Maternal Smoking				
of mother before pregnancy	160	27	187	62.3
of mother during pregnancy	144	25	169	56.3
Household smoking				
by 1 person	89	18	107	35.7
by 2 people	53	10	63	21.0
by 3 or more people	27	6	33	11.0
total number of households	169	34	203	67.7

“I’ve got plenty of people who want it when I’ve finished with it, and I’ll pass it on.”

Table 6. A comparison of Māori and non Māori recipients on acceptability measures and uptake of recommended practices (N=294).

	MĀORI		TOTAL	
	yes N (%)	no N (%)	N	%
HAVE A BABY BED AT DISTRIBUTION(N=1373)				
yes	795 (76.7)	211 (62.8)	1006	73.3
no	242	125	367	
	(χ ² =24.209, df = 1, p<0.0001)			
WANT TO KEEP PSS AT FOLLOW-UP(N=1068)				
yes	726 (93.1)	260 (90.3)	986	92.3
no	54	28	82	
CHARACTERISTICS AT FEEDBACK (N=289)				
Baby aged < 12 weeks				
yes	79 (33.8)	19 (34.6)	98	33.9
no	155	36	191	
Premature or low birth weight				
yes	60 (25.6)	22 (40.0)	82	28.4
no	174	33	207	
	(χ ² = 3.839, df = 1, p<0.05)			
Smokefree household (N=294)				
yes	59 (24.7)	36 (65.5)	95	32.3
no	180	19	199	
	(χ ² = 32.138, df = 1, p<0.0001)			
Any breastfeeding 'yesterday' (N=293)				
yes	184 (77.3)	36 (65.5)	220	74.8
no	54	19	73	
	(χ ² =2.753, df= 1, p<0.01)			
Back sleeping 'yesterday' (N=294)				
yes	212 (88.7)	48 (87.3)	260	88.4
no	27	7	34	
Slept in a baby bed and same room as parent 'last night'				
yes	190 (89.2)	38 (86.4)	228	88.7
no	23	6	29	
High rating (7-9/9) for PSS idea (N=294)				
yes	231 (96.7)	55 (100.0)	286	97.3
no	8	0	8	

"The Pēpi-Pod is awesome, everyone should have one."

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APPENDICES

Appendix 1.

Examples of comments from survey participants on 'other' ways PSSs supported parents, grouped by theme.

Transportability (away from home)

- ▶ Easier to transport if we weren't at home e.g. marae.
- ▶ Easy to take places.
- ▶ Easy to take visiting.
- ▶ Easy to take with us.
- ▶ Easy to use when away from home.
- ▶ Every other weekend we go to Whakatane and it's so easy to take the Pēpi-Pod with me for baby.
- ▶ Fantastic for when away from home. Can double as a bath when not at home.
- ▶ For baths, visiting, excellent security.
- ▶ Going to mum's we used it- cool idea. Not many of our whānau knew about them.
- ▶ Good for baby when taking trips.
- ▶ Good for going out - portable bed.
- ▶ Good for travelling.
- ▶ Good for travelling - it has been good to use when we've been at tangi.
- ▶ Good for when staying with whānau, or when visiting friends, so he doesn't have to sleep in a car seat or in my arms.
- ▶ Great to have to go travelling.
- ▶ Great to take when away from home.
- ▶ Great when away from home- use at family homes, too.
- ▶ Great when staying at other homes and when travelling.
- ▶ Great when we go away or go to the park and have a picnic we put baby in it.
- ▶ Handy to use when away from home.
- ▶ Helped when going to family elsewhere- also carrying around the house to different rooms.
- ▶ Helpful when going to other people's houses.
- ▶ Holidays, whānau functions, talked about the pēpi pod with whānau.
- ▶ I can take it to the marae and other whānau when we visit.
- ▶ I used it when visiting and staying at uncles.
- ▶ I used the pēpi pods for both my twins when we visit my family and friends. Used it as a bath.
- ▶ It came in handy when we travelled.
- ▶ It was very good for travelling; it wasn't too bulky to take away with us.
- ▶ It's so easy to take when I'm travelling, and when we get there, baby has a bed to sleep in.
- ▶ It was great for travelling and also great for moving between rooms - lounge in the daytime and bedroom at night time
- ▶ It's so portable and easy to take with us when we're travelling.
- ▶ I've used the plastic base as a baby bath when we've been travelling around. It's awesome, I take it everywhere when we go away for weekends, and it's been good to have at tangi and when we've been at the marae because baby always has his own place to sleep.
- ▶ Staying on the marae and at marae functions- we have taken it- it has been great- many others have been able to see it through using it on the marae.

- ▶ Take it out when we go to stay with whānau.
- ▶ Taken baby and the pēpi-pod to my place of employment - Te Kuiti Kohanga reo.
- ▶ Taken it to whānau when she stayed overnight.
- ▶ Taken to overnight stays at whānau.
- ▶ The Pēpi-Pod has helped me in every way possible. I've had 3 tangi to go to and I've used the Pēpi-Pod at the marae. I always take it to Kohanga Reo when I take my older son there. My Pēpi-Pod has got a few kms on the clock - I've taken it away with me to Christchurch and Hamilton and this week it'll go to Auckland too. Even though I have a portacot, the Pēpi-Pod is so much easier to take with me for my baby.
- ▶ The Pēpi-Pod is easier to use than a bassinette - it's transportable.
- ▶ To take when travelling and visiting.
- ▶ Transportable so helps with settling and putting baby to sleep anywhere, not just at home.
- ▶ Travel - take it anywhere - and using currently to store clothes in and will use for next baby.
- ▶ Travelling away.
- ▶ Travelling to other places, however it can't be folded up.
- ▶ Used for visits with other people.
- ▶ Used it when travelling and on the marae. Used it as a bath when we were staying on the marae.
- ▶ Used it when travelling to whānau homes.
- ▶ Was good to take away.
- ▶ We were able to use it when we went out of town, instead of bringing a portacot.
- ▶ Went away to places, easier enough for her to there.
- ▶ When going to my mums.
- ▶ When going to stay with whānau overnights, we took pēpi-pod.
- ▶ When I'm away from home.
- ▶ When visiting it helps, great to travel with.
- ▶ When we go away to family and friends we take and use the pēpi-pod.
- ▶ Yes traveling to stay with friends and family. Pēpi-pod allows me and baby to go other places without having to cart the bassinet around.
- ▶ Yes we took it to the marae when we stayed down there. It was fantastic.
- ▶ Yes when I am at the teen parent unit I don't have to carry her around.
- ▶ Yes when I go to teen unit I don't have to carry here around.
- ▶ Yes, when I received it I was due for a trip down to Wellington. When I left, I took the pēpi-pod with me 'cause I knew she needed a bed for when we got there!! It came in handy and worked its magic.

Convenience

- ▶ Able to leave baby in it and move it around the house with me and not have to disturb him all the time. (Upstairs and down stairs home.)
- ▶ Bathing baby was fun it has an all-round use.
- ▶ In day time, sleeps downstairs.
- ▶ Extra bed out in lounge. Kept baby close.
- ▶ Bath time.
- ▶ Bathing and travelling.
- ▶ Convenient as I can see baby when I am in the kitchen.
- ▶ Convenient to take it anywhere.
- ▶ Good size, safe and transportable.

- ▶ Great for when travelling. I can put all of baby's stuff in the pod so I know where it all is if I need it in a hurry. It's light and she loves sleeping in it so when we go away it is not a different bed for her to get used to.
- ▶ Had a C-section and was difficult when lifting up or down. It's easier than using the cot and this is important. The merino blanket is great.
- ▶ I find it easy having my baby sleeping in the Pēpi-Pod at night.
- ▶ I find it really easy to use. It doesn't take up much room. I've been offered a portacot but we don't really have the room for one. It's sturdy - I have a 2 year old and if he leans on it, it doesn't give way because the sides aren't soft. Friends ask me about it and I tell them about it.
- ▶ I found it great to use when visiting my mother, and also for use in areas of the house other than my bedroom. We also used it as an emergency bath while out visiting when she messed through all her clothes, then we dried it out, and used it for sleeping again....it was great.
- ▶ I liked that I could wrap her and put her in the Pēpi-Pod which was a confined space.
- ▶ I take it with me when I can so that he has a bed to sleep in when we go visiting, like on the couch. We don't have a car but if I go somewhere with someone who does, and there's room for the Pēpi-Pod, I take it with me, otherwise he sleeps in the pram. I'm a smoker so when I snuggled up close to my baby in bed when he was in the Pēpi-Pod, it was saving him from getting exposed to my smoking breath.
- ▶ I used it as a bath once, it was really good.
- ▶ It helped me move her from place to place without waking her, its portable as well.
- ▶ It is really convenient, I take it with me. I had complications after the birth so it was easy for me to have baby close to me in the Pēpi-Pod.
- ▶ It is really convenient.
- ▶ It is so convenient.
- ▶ It is great to take to other family members houses, easy to transport and safe for baby. It's portable.
- ▶ It's so handy, easy to use. I take it in the car so I have a bed all ready for my baby, and I don't have to put up or take down anything like a portacot. Whoever came up with the idea is b____y on to it.
- ▶ It's easier to keep clean rather than a bassinet.
- ▶ It's really handy.
- ▶ It's very good when going to families' homes. No more taking big cots with us.
- ▶ Multi-purpose. Used as a bath when travelling on holiday.
- ▶ Now she's not sleeping in it, I use it to hold her blankets.
- ▶ Simple and quick to use.
- ▶ The best thing is the convenience - I have a safe bed to take with me when I go away, and I have it with me when he's sleeping in it in the lounge etc.
- ▶ The Pēpi-Pod is so easy to take with me, it just goes in the car. I don't have to collapse it and when baby gets out of the car, he's usually asleep and goes straight back into the Pēpi-Pod.
- ▶ Use it to bath baby in.
- ▶ Used as a bath.
- ▶ Used as a bath tub, can take it on visits.
- ▶ Used as a bath when away from home.
- ▶ Used it as a bath.

- ▶ Very convenient being able to take it with me.
- ▶ Very convenient - easy to get baby out of the Pēpi-Pod for breastfeeding when she is sleeping in it between the parents at night. I dropped my baby and my older child off at my friends when I had to go to work one day and baby slept well in the Pēpi-Pod. I like the merino blanket very much - it is light and flexible.
- ▶ Very helpful as I can keep baby with me.
- ▶ We have a 19 month old- so it helps to place baby in it during the day in the lounge up higher so our toddler can't touch baby- also travelling away to family- we intend to hand it on to another family member with all the safe sleep messages and the merino blanket.
- ▶ We have the pēpi pods at my parents' house now so the twins have their own sleeping space when we stay over there. They are fantastic and I'm so happy I got given them.
- ▶ We spend a lot of time with family. The Pēpi-Pod was so easy for us to take with us and set up, better than having to take a portacot.
- ▶ We would put baby in pod after swaddling and put pod in cot.

Closeness and safety

- ▶ Baby did not want to sleep in the big cot. The Pēpi-Pod was good to have close by so I could touch him.
- ▶ Being able to move rooms with it.
- ▶ Being able to have them in another room whenever.
- ▶ Being busy around the house with housework, I just lay him in the pēpi pod and carry him around till he's happy and settled.
- ▶ Being able to have my twins in any room I'm in during the day, easily moving them at night if needed, assurance that they are safe.
- ▶ Because of the size of the Pēpi-Pod I was able to carry my baby in it and place her where she was going to sleep.
- ▶ Due to the size of the pēpi-pod we have been able to lay it down on the couch in lounge area. This means we can interact with baby and she can see us without the risk of her rolling off the couch as we go about household duties.
- ▶ Easy to use, its safe so it's reassuring.
- ▶ Feels safe.
- ▶ Good on the couch when other children were sitting on their made it safe.
- ▶ Great invention to protect babies.
- ▶ Great to know baby is safe.
- ▶ Helped in the early weeks when I was exhausted, I have 3 other children so was peace of mind knowing where baby was and that he was safe. It has been great when we have travelled - we travel a lot and baby has always been settled when in the Pēpi-Pod.
- ▶ Helped me maintain closeness with baby when she was little, this was really important to me. Definitely raised awareness, helped transition baby to the cot. The merino blanket is fantastic. Has trained baby to sleep really well and by herself.
- ▶ Helps when the kids are on the couch and we can place the pēpi pod on the couch, too, and it will be safe.
- ▶ I put baby in the Pēpi-Pod when he's on the couch or on the floor.
- ▶ I have shared it with my sister and friends when they have come to stay or visit with their babies.
- ▶ I put my baby in it when I'm busy doing something.
- ▶ It has allowed me to be closer to baby safely.
- ▶ It has meant that she has somewhere safe to sleep no matter where we are (e.g. staying

away from our own home)

- ▶ It has given me peace of mind. It's portable.
- ▶ It was very portable.
- ▶ It's portable - I can take it anywhere. I have it in the lounge for baby to sleep in during the day. I've arranged to pass it on to someone else who is pregnant when I've finished with it - she asked about it and I told her all about it.
- ▶ It's portable and not too big. I take it to the park with me. It's easy to clean out and air.
- ▶ Kept them safe.
- ▶ Mobility ... able to shift to other rooms or travel with it ... awesome.
- ▶ My baby was hard to settle and now she is amazingly easy to settle thanks to pēpi-pod.
- ▶ Peace of mind knowing my baby is safe when sleeping.
- ▶ Put baby in the lounge - moved around - has own space.
- ▶ Safety especially when in my bed.
- ▶ Safety for baby.
- ▶ Storage for clothes.
- ▶ Storage now.
- ▶ Still sleep with him. Sides low enough to still see baby. Taught me safe sleeping whereas before I was sleeping with my baby.
- ▶ Talking point with whānau.
- ▶ Teaching our baby to sleep by himself.
- ▶ To relax the baby, playing in it whilst I was doing my work.
- ▶ Very light to carry as I have to take it to work.
- ▶ Wiremu knew it was time for moe (sleep) when he went into his pēpi pod. It helped settle him quickly for sleep. Also helped to keep him on his back. When he was a little baby I knew he was safe if I put him down in his pēpi pod. (I am a solo mum.) When I put him in his pod, he would always look over to see that Mama was in bed, too. I think that helped to settle him for sleep, too.
- ▶ Yes being able to sleep in other rooms being able to take it anywhere, visiting marae setting, mattresses are a bit musty.
- ▶ Yes - I got a good sleep while she was in it.

General

- ▶ If I could rate it a 10 I would.
- ▶ It has been great
- ▶ Really good experience with the Pēpi-Pod. Loved the merino blanket.

Appendix 2.

General comments from survey participants on their experience using PSSs, grouped by theme.

General appreciation

- ▶ Absolutely brilliant.
- ▶ All good, I think it's a b____y good idea.
- ▶ Awesome.
- ▶ Awesome to have.
- ▶ Awesome, easy, small but quite small enough now to fit in my bed. (sad face)
- ▶ Both my husband and I loved the Pēpi-Pods for our twins.
- ▶ Enjoyed using the Pēpi-Pod a lot.
- ▶ Fantastic - it's been so good having a Pēpi-Pod.
- ▶ Fantastic. Needed more blankets than the merino one provided during winter months.
- ▶ Found it economical and handy as well.
- ▶ Good idea. Thanks.
- ▶ Great idea for small babies.
- ▶ I found it really good.
- ▶ I like the Pēpi-Pod. (x2)
- ▶ I love it, really good for children.
- ▶ I loved my experience and recommend to everyone.
- ▶ I really like it.
- ▶ I think every parent who does not have money for a baby bed should have a Pēpi-Pod instead of sleeping with the baby. It was a really good experience having the Pēpi-Pod.
- ▶ I want to hold onto it and save it for the next baby.
- ▶ Ideal, great idea, very useful.
- ▶ I'm a first time mum and it was a good experience having the Pēpi-Pod, I might pass it on to someone else now.
- ▶ It has been great.
- ▶ It has been great. Would give it a 10.
- ▶ It has been wonderful.
- ▶ It is an awesome idea and would help out so much if the parents could not afford a cot and bedding.
- ▶ It is an excellent resource and should be available to mums who need it.
- ▶ It is fantastic. It would be great if there was a stand for it too. As we only have a double bed, so Pēpi-Pod sits on two dining room chairs next to the bed. Kahaungunu executive in Wairoa have been fantastic helping with the pod and knowledge. Nga mihi nui.
- ▶ It is very good to have and I would recommend it to family members and friends.
- ▶ It should be made available to everyone.
- ▶ It's a good idea especially for premature babies.
- ▶ It's a good idea.
- ▶ It's a great thing to have. A good investment.
- ▶ It's been amazing for my twins...great idea.
- ▶ It's been helpful.
- ▶ It's been really helpful for me.
- ▶ It's cool, useful because it's wide and breathable.

- ▶ It's easy to carry around.
- ▶ It's easy to clean.
- ▶ It's fantastic and easy to use.
- ▶ It's good for the baby.
- ▶ It's good.
- ▶ It's quite good.
- ▶ Love it.
- ▶ I am now smoke free and have found the Pēpi-Pod to be great.
- ▶ Nice and safe and versatile.
- ▶ No concerns, very satisfied. Will definitely use for future children. Thank you.
- ▶ Very very happy with it.
- ▶ Pēpi-Pods are awesome. I would highly recommend them to everyone.
- ▶ Really happy with it. (x2)
- ▶ Really love it.
- ▶ Recommended.
- ▶ So pleased to get one at this most stressful time. It has been a great help with our prem baby.
- ▶ Thank you - a wonderful idea.
- ▶ Thank you for having this resource available.
- ▶ Thank you. Was helpful.
- ▶ Pēpi-Pods are a good idea.
- ▶ The Pēpi-Pod is really good for a first bed. I'd recommend them to any mother.
- ▶ The Pēpi-Pod has been great and I would recommend it to everyone else.
- ▶ The Pēpi-Pod is a great little thing. I hope I can get one again when I have my next baby.
- ▶ The Pēpi-Pod is awesome, everyone should have one. I tell everyone about it and I'm going to pass it onto my cousin for when she has her baby in February 2014. My Mum and Dad really like it, too.
- ▶ The science behind bed sharing with babies is a fundamental reason why I chose to bed share with my baby. I was not aware of the programme until I saw it advertised in the Special Care Unit of Tauranga Hospital when my baby was in there for two weeks. I think that more people would be open to bed sharing if they knew of the significant benefits to their baby through bed sharing (especially the reduction of likelihood of SIDS) and that the programme existed. I understand that there is a particular target audience that this programme is aimed at but I believe that it should be offered and made available to more people.
- ▶ They would be great for new young mothers.
- ▶ Useful and easy to carry around with me.
- ▶ Useful and good.
- ▶ Very helpful. Wish I'd had one before.
- ▶ Very supported.
- ▶ Was awesome - would like others to be able to use one.
- ▶ Was very handy.
- ▶ We really appreciated having the pods as could not have afforded two Moses baskets and they twins were too small for big cots.
- ▶ What great idea, thanks to those who thought of it.
- ▶ Wonderful thing, there needs to be more advertisement re Pēpi-Pods -posters, TV,

pamphlets etc. Lots of Wahakura information, then when we get handed over the Pēpi-Pod we feel disappointed that it's all we have. I am very lucky that a family member gave me a Wahakura and so I have experience of both. I felt they became very flimsy and hard to grab, they stretch, and are not very strong. You have to watch how you grab it. So it is easier to carry the Pēpi-Pod than the Wahakura.

- ▶ Would love to be able to use a pod again if I have another baby.
- ▶ Would recommend to others.

Convenience

- ▶ Convenient for travel - can be used for bathing too.
- ▶ Convenient, easy to travel with.
- ▶ Easy, convenient, free, stress free, hassle free.
- ▶ Easy to move Pēpi-Pod from place to place, we placed Pēpi-Pod in cot beside our bed initially, and then moved baby and the pod into our bed when he woke for his first night feed and kept him close to us.
- ▶ Excellent to use - handy for bathing, too.
- ▶ Great to use when on the marae and when away from home. Very light and portable.
- ▶ I found it really useful to take with me when I was visiting people or watching my other daughter at gymnastics, and I could just put baby to sleep in the Pēpi-Pod while we were there. It was also fantastic in the early days for putting her to sleep in when she was out in the lounge so that the kids didn't accidentally jump on her.
- ▶ I moved to Auckland when baby was 2 weeks old and the Pēpi-Pod was great during the moving in stage and settling in to a new house.
- ▶ It has been positive; easy to use and keep clean, light-weight, so easy to take in the car when staying away from home or take into the office. Just great!
- ▶ It is such an awesome idea. Easily transportable, convenient and safe. I have had friends that have lost their babies from SIDS and wish this neat idea of Pēpi-Pods or Wahakura were available to them.
- ▶ It was really convenient - I used it when I went to stay at my sister's place at the farm because she didn't have a cot, and I used it when I went to the marae.
- ▶ It was simple, easy to use. Bedding was easy to wash.
- ▶ It's awesome. I like it. It's handy. I can take it anywhere.
- ▶ It's really, really handy.
- ▶ Multi-use.
- ▶ My twins are always in the same room with me day and night, I can move them round while they are sleeping without waking them, if they are unsettled at night we can safely bring them into bed with us. The list goes on.
- ▶ The Pēpi-Pod is really handy because baby can sleep in it safely on the couch, it's portable, and can go anywhere so long as it's on a flat, stable surface.
- ▶ Pēpi-Pod was convenient and transportable. Great, thanks.
- ▶ Really good and handy for mum. Liked that it was portable.
- ▶ Smaller and easier to use than a bassinet.
- ▶ The Pēpi-Pod was a great asset, especially when we didn't really have anything for baby at first. It was very versatile. It was sturdy and stable and I put her in it on the couch and on the floor.
- ▶ The Pēpi-Pod should be available for all babies. It is safe and really helpful when travelling around.
- ▶ Used it for a bath. Linen is cool, especially the merino blanket.

- ▶ Very handy when visiting other whānau.
- ▶ When my twins were born we were offered the Pēpi-Pods at hospital for them. I was so excited as I thought they were too small to put in a cot. These pods have been amazing!! We stayed at my parents' house for 3 weeks so that my mum and dad were able to help us with the boys and also with our 20 month old little girl. Having these pods meant we could travel anywhere with the twins and still have a safe sleeping space for them. Only very occasionally did we ever have the boys in bed with us, when we were unable to settle them, as they suffer from colic and reflux. Also having the pods meant we could move them from room to room so that my husband and I could sleep and my mum or someone else could take care of the boys. I was expressing and bottle-feeding the boys from 8 days old as they are both tongue tied and gave me badly cracked nipples. They are now fully formula fed as I dried up. But I am so grateful for these Pēpi-Pods. They have made having twins that little bit easier.

Portability

- ▶ Baby stays with her dad sometimes, he knows about safe sleeping for babies too. The Pēpi-Pod goes, too.
- ▶ Fantastic- awesome device- love it- use it all the time- usually baby sleeps in the Pēpi-Pod on a sturdy chair by my single bed. I love that its portable. I am so happy I was offered it. Thank you. I have shown many of our whānau it.
- ▶ Good alternative, can save money on bassinet, easy to transport.
- ▶ Good bed for baby, its safe and good for travelling.
- ▶ I found it really useful to take with me when I was visiting people.
- ▶ It was great to have especially when we stayed away from home. Not too much hassle. Love it.
- ▶ It was very handy to use,. Was awesome to take away until baby got too big for it.
- ▶ It's a good idea for people who don't have a bed for baby. It's easy to move around the house and I know that my baby is always close to me.
- ▶ It's good if you want to have them near you while you are out of the bedroom.
- ▶ It's good to take anywhere you're going, day or night.
- ▶ It's handy and I liked it that I could put baby in it when we were all in the lounge.
- ▶ On holiday at the moment and there wasn't enough room in the car to take the portacot so baby has been sleeping with me, but in the pod.
- ▶ Pēpi-Pod is a good idea for travelling.
- ▶ The Pēpi-Pod was really convenient, several family members also had Pēpi-Pods and when we were all together, the babies were all in their Pēpi-Pods.
- ▶ We take it everywhere, when visiting family, to the beach and to the marae.

Reassurance

- ▶ I can't begin to tell you how much I love our Pēpi-Pods! I couldn't have coped without them. Having them has lessened stress, made life a million times easier and kept me sane!
- ▶ I found it a great help, especially in the first month when baby was small, and I was tired, it really gave me peace of mind. I recommended it to my family and they got one for their baby as well, which is great because they smoke, and sometimes drink alcohol, so it made their baby much safer, too.
- ▶ I really felt at ease knowing that when my baby was sleeping in the pod she could breathe easy, she looked comfortable and happy and it was so easy to move around the house.

- ▶ It gives us security knowing that he can be beside us, still in bed, and he's alright in the Pēpi -Pod.
- ▶ It is peace of mind knowing that she is safe, especially because my last baby died of SUDI.
- ▶ The Pēpi-Pod has helped reassure a mum like me who has lost a baby before and had other babies suffer from apnoea, and other health issues, to being born so premature. My latest baby may be my healthiest, but she is growing and developing well in the Pēpi-Pod. We love it.
- ▶ The Pēpi-Pod has helped me a lot. I am thankful to the person who invented it. I am happy that I can have my baby with me and feel that he is safe sleeping in the Pēpi-Pod. *Footnote, mother said she lost her first baby at 8 months old, she has been very cautious with caring for this baby.*
- ▶ The Pēpi-Pod is a good thing to have. It stops me worrying about where and how we sleep. I really like it.
- ▶ Thank you,. We really appreciate having the Pēpi-Pod. Our baby really likes sleeping in it and that's taken a lot of stress off my partner and me. Every tamariki should have one. Some of my friends are having babies soon. They live out of town, so I'll tell them to ask their midwives about getting a Pēpi-Pod, too.

Safety

- ▶ A great idea, much safer having baby in a Pēpi-Pod than just in bed where he could get rolled on. We smoke outside and use smoking jackets.
- ▶ Awesome option to have for babies, and the safety aspects, when bed sharing.
- ▶ Congratulations to this group for continuing on improving the safety of our children.
- ▶ Have passed Pēpi-Pod on to someone else.
- ▶ I am a bit paranoid about co-sleeping and with my previous babies often used to fall asleep while feeding them in bed. With my 3rd baby, I woke one night to find him with his face in my armpit as he had rolled. It totally freaked me out.
- ▶ I think the Pēpi-Pod is an amazing idea. My son's father refused to listen to me about it not being safe sleeping in bed with him as he did that with his other children and because I was a new mum he didn't think I knew what I was talking about. So I was extremely grateful when the midwife offered us the Pēpi-Pod and explained the dangers to him.
- ▶ It has helped me and my partner really well and one of the most important things I have experienced about it was the safety of our baby.
- ▶ It is a good idea with full protection of baby whilst sleeping.
- ▶ It is great and safe.
- ▶ It is safer. Nothing will happen to baby if I use the Pēpi-Pod. The information on infant death has stuck in my mind. I'd rather keep my baby safe.
- ▶ It was also fantastic in the early days for putting her to sleep in, when she was out in the lounge, so that the kids didn't accidentally jump on her.
- ▶ It's safe and comfortable for baby.
- ▶ It's a safe tool to use around older siblings.
- ▶ It's been wonderful to know that baby is safe and cannot roll off the bed or get suffocated by blankets.
- ▶ It's really handy, I had it right next to me in the bed and I had no worries about rolling on my baby or that he would suffocate.
- ▶ Just a little something I'd like to share with you is that I think this is a fantastic product and really comes in handy, especially when trying to keep babies alive. Keep up the good work.

- ▶ The messages that we were given when we got the Pēpi-Pod were a great reminder for safe sleeping, being our 4th baby we sort of forgot about safety when baby sleeps, sometimes we have a 'she'll be right' attitude when it comes to sleeping.
- ▶ Very thankful for the Pēpi-Pod as it is easy to carry, very portable and safe for my baby!

Sleep and settling

- ▶ A life saver when he is unsettled or over tired. Such an awesome solution. Thank you :)
- ▶ Fantastic idea. My son's sleeping is so much better after starting with the pod. Makes it so much easier having 3 older kids.
- ▶ The Pēpi-Pod has been wonderful to use. It has also made travelling easier as he knows his bed.
- ▶ My baby found it hard to sleep in the cot, constantly waking. He sleeps heaps better in the pod and I love that it's portable.
- ▶ Really useful, easy to settle. Have passed it on to a friend who also enjoys using it.
- ▶ Thank you for giving me the opportunity to have a Pēpi-Pod. It was such a good help and excellent for my baby. The wrap sheet was awesome, my baby felt snuggled and settled well.
- ▶ Was amazing for when we went away. She was easily settled.
- ▶ We are heavy sleepers, we have lost babies from suffocation in our family, the Pēpi-Pod was really good, I give it top marks.

Spread of awareness

- ▶ Every female, mother should try it, especially if you're a heavy sleeper, or for travelling. Splashes the information on Facebook. Cousin has it now, given everything to them.
- ▶ Happy with the Pēpi-Pod - when people saw the baby in the Pēpi-Pod they asked me about it.
- ▶ Have passed it on to my sister.
- ▶ I have friends having babies in May and June 2014 and they are interested in having a Pēpi-Pod too.
- ▶ I just recommend it.
- ▶ I like it. I've told others who are pregnant about the Pēpi-Pod.
- ▶ I liked that the Pēpi-Pod came with all the bedding that was needed. I have passed my Pēpi-Pod onto my cousin to use for her baby but I have asked to have it back when she has finished using it for when I have my next baby.
- ▶ I loved it. I have passed the pod on to my sister in law and I told her how to use it safely.
- ▶ I recommend it. It's great.
- ▶ I was shown how to air the mattress when the Pēpi-Pod was given to me. I am still talking to others about safe sleeping and the Pēpi-Pod.
- ▶ I will pass the Pēpi-Pod onto my friend when she has her baby so she can protect her baby also.
- ▶ I would like all the mums to have a Pēpi-Pod. I'm going to pass mine onto my cousin who's having a baby in April, I've already told her and heaps of others about the Pēpi-Pod and safe sleeping and they all think it's a good idea.
- ▶ I'm glad I was approached and given the option of having a Pēpi-Pod. It's a really good idea. I've given it away now to someone who's having her baby in a couple of months and told her all about it, she was a bit hesitant at first but I told her 'trust me, you will want this, it's helped me and I know it will help you too.' I kept the merino blanket but told her to use a woollen blanket. I've spoken to lots of young mothers and they love the Pēpi-Pod, too.

- ▶ I'm telling everyone about it, because *everyone* should know about it, not just those who need it, everyone. :) Then maybe it might be made available to everyone as well.
- ▶ It has been great - considering passing it on to a Māori friend who is trying to get pregnant and sleeps with her babies.
- ▶ It's been a big help and I'm really grateful. I didn't know anything about it before and I was just about ready for discharge from hospital when a nurse spoke to me about the Pēpi-Pod and I thought, 'I can do that.' I've got plenty of people who want it when I've finished with it and I'll pass it on.
- ▶ My niece in Auckland has just had a baby so I sent the Pēpi-Pod up to her and told her on the phone all about how to use it.
- ▶ My sister is having a baby and she wants the Pēpi-Pod.
- ▶ Have passed Pēpi-Pod on to someone else.
- ▶ Really useful, easy to settle. Has passed it on to a friend who also enjoys using it.
- ▶ Spoke to everyone that came for a visit.
- ▶ Spoken to whānau and used at homes of whānau during visits.
- ▶ Taken to Kohanga where I am a kaiako.
- ▶ The Pēpi-Pod is amazing; it works and it saves lives. We need to get the message out there. I live in Fairfield, in the Bronx, and you guys need to drop fliers for our young girls so they can get them free. Also, my two sisters and cousins I have referred onto you guys. They have them also. I feel we need to get this on national TV and sign a petition if Pakeha /Government think it's 'HORI' and not safe, get onto the Māori party and tell them to advocate this for us. Very willing to go on TV and be interviewed and tell my story. Very grateful for the Pēpi-Pod.
- ▶ The Pēpi-Pod is a great initiative, it would be good to offer it to more people as not everyone who is not eligible to have a Pēpi-Pod is aware of safe sleeping for babies, just thinking of my antenatal group. We shouldn't assume that they all know about it.
- ▶ Think it's a really good idea. Interested to see what the stats are, since the Pēpi-Pod has been out. Get the update through Plunket or newsletters to pass it on. My sister-in-law, thinks she's out of the region. Does have a little crack, by the handle. Uncertain with its condition. Asked her to ensure it is safe enough or enquire from her midwife in her region.
- ▶ Twin baby - mother happy with the Pēpi-Pod. When people saw her using it, they asked her about it.
- ▶ Will pass pod on to my sister-in-law in Auckland, 20 weeks pregnant, who has also exposed baby to smoking.

Issues

- ▶ Baby tends to end up at the top of the pod against the end of the pod. Have just taken her out of the pod at 4415gms, felt that the mattress was a little thin as the baby got bigger.
- ▶ Baby was born very early and had respiratory problems. Was not discharged home until 17 weeks old, but was still small and having health issues. During the survey it came up that baby was sleeping on the couch so it was suggested that baby should be sleeping in the pod on the couch as was discussed at the time of distribution. So even though the mum had not used it maybe now she would see the need to use it more.
- ▶ Found pod narrow and would start baby sleeping in the pod, but once up to feed at night would settle baby in adult bed between wall and mum.
- ▶ Glad I tried, but baby didn't like it.
- ▶ Hard to use at first, but happy, too, I had worked on it. Very happy with it.

- ▶ He didn't really sweat when he slept in the Pēpi-Pod. He got hot when he slept with us, but he liked sleeping with us.
- ▶ I found it a bit hard making up the Pēpi-Pod with baby in it, especially tucking everything in under the mattress, because the green cover kept slipping and would get crumpled up. Also, I assumed that the bedding that came with the Pēpi-Pod would be warm enough for baby but I found that I needed extra blankets in the cooler weather, now that it's hot though it's OK.
- ▶ I sleep baby on the front because he tends to roll over to his side or front- however I only sleep him in this position when I am awake and watching him. The Pēpi-Pod is brilliant and helped me lots. Thank you
- ▶ I didn't like that my baby's hands would hit the sides of the Pēpi-Pod and hurt her hands, but she is quite a big baby and she doesn't like being wrapped. I was told to let her hands out when she's breastfeeding and that's the way she prefers to be.
- ▶ I only used the Pēpi-Pod for 2-3 weeks. I'm from Auckland and my waters broke when we were in Tauranga visiting family and I didn't have a bed for her after she was born. It was a tricky situation. Once we got back to Auckland 2-3 weeks later, she started sleeping in her Moses basket.
- ▶ I really do not like the look and design. It is really off-putting knowing that my baby is sleeping in a plastic container, although I have to say the concept and idea of the Pēpi-Pod is fantastic for baby's safety.
- ▶ I surround my pod with pillows because my son's arms would hit the side and I was scared he might get hurt. Maybe if soft padding was put in the sides and headboard it would be more ideal.
- ▶ I think I got the pod too late as baby did not really take to it.
- ▶ I was originally looking for a traditional wahakura and asked the midwife. She then went to great lengths to get me a Pēpi-Pod. Initially I was a little put off by the shape, and got some hassles from whānau about it. But I didn't have anything else so I used it as soon as he was born. I didn't put it in bed with me initially because I was a bit nervous, but eventually I got used to having it in my bed. Wiremu settled as soon as I put him in it, it was great. It was a sad day when I had to admit that he was just too big for his pod, I had trialed him out of the pod a couple of times but his sleep would be broken and I would always end up getting up in the middle of the night and putting him in the pod, but when his feet touched the bottom and his head touched the top I realised the day had arrived!
- ▶ I was put off using the Pēpi-Pod a bit because the fabric was so dark - it was nice but I would have preferred a softer colour.
- ▶ If they came in different sizes it would be good, as they get bigger. Good to sleep baby in the Pēpi-Pod, then place the Pēpi-Pod in the cot, for baby to get used to the cot.
- ▶ It was good having the Pēpi-Pod in the first few weeks as my baby didn't like going into the big cot to sleep. I like the merino blanket. Now that baby isn't wrapped, his hands hit the side of the Pēpi-Pod and wake him up.
- ▶ Passed onto brother. Make them longer. Air holes vents to the side. Height – higher. Needs to be more solid, too flexible.
- ▶ RECOMMENDATION - Please can the Pēpi-Pods be a little wider, the length is perfect but it is a little bit narrow and I find that my baby hits the sides of the Pēpi-Pod sometimes when he is not wrapped. I am going to pass my Pēpi-Pod on to my cousin who is due to have a baby in June. Thank you.
- ▶ The mattress provided is a wee bit big for the pod itself, hence not fitted perfectly, let alone when we use a mattress protector/sheet. But overall, Pēpi-Pods are great for babies.
- ▶ The Pēpi-Pod broke when baby was about 4 weeks old, I don't know how it broke. Most

of the time baby sleeps in his bassinet close to me, but after I feed him, he goes back to sleep with me in my bed.

- ▶ The Pēpi-Pod is not a very strong bed for a baby at all - safety wise I would not recommend it at all as ours was lightly squashed in storage by a suitcase and cracked and shattered. Cheap materials and babies do not mix and I was very surprised that it is being marketed to keep the baby safe when clearly it is not. Also if the baby was to grab the black cover that over hangs the bed it could be a suffocating risk for the baby. Not a very well thought out idea.
- ▶ We chose not to wrap baby and found the pod was not wide enough as she would knock the sides and wake herself. Felt the pod did not give her enough room to move.
- ▶ We only have a double bed so there isn't much room in the bed for us and the Pēpi-Pod. I've taken the bassinet off its stand and put the Pēpi-Pod on that next to our bed so I can see my child sleeping.
- ▶ When my baby was unwrapped in the Pēpi-Pod his arms would hit the sides so we moved him into his cot, perhaps the top edges could be padded to prevent baby hurting himself.
- ▶ Would have liked to have a variety of colours to choose from, and for the pod to be bigger.

Competing interests: None known. Neither Stephanie Cowan nor Change for our Children Limited benefit financially from the distribution of *pēpi-pod* sleep spaces. The components of the sleep spaces are assembled by Change for our Children Limited from goods provided, some at subsidised prices, from a range of New Zealand companies. The *programme* is provided to health services on a 'cost recovery' basis.

Acting on professional advice, and given the life-protecting purpose of the *programme*, the *pēpi-pod* mark has been registered with the Intellectual Property Office of New Zealand to protect the quality and integrity of the complete programme (education plus sleep space) and assure the public of a consistent standard of goods, services and care.

Current provider: In October 2013, the programme was repositioned to sit under the umbrella of Tender Shoot Limited, a social enterprise with charitable status with the New Zealand Department of Internal Affairs (CC38187), and a separate legal entity from Change for our Children Limited. This move was to separate the commercial and professional aspects of delivery, safeguard viability and enable a sustainable future as a self-funded, cause-driven programme.

Author information: Stephanie Cowan is director of Change for our Children Limited, Christchurch, a social innovations company seeking fresh solutions to infant health concerns that are more resistant to change from traditional approaches.

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Participating agencies have raised funds locally for the *programme* and have integrated education and documentation requirements into existing staff allocations in most cases. Reliance on the commitment and drive of regional champions has led the continuing development of the **Pēpi-Pod**[®] programme, and participating families have once again, powered the spread of safe sleep awareness within their networks.

In Midland, Te Puna Oranga (Māori Health Unit) of the Waikato DHB has led the initiative in Waikato, and, in conjunction with the Midland Maternity Advisory Group, has worked with partners in the other Midland DHBs for the regional work.

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