



An initiative of the Latrobe/Baw Baw Integrated Family Services Alliance

An outcomes and process evaluation of the
'Hey Babe'
Early Parenting Support Program

April 2014

Dr Sarah Wise and Laura David
Anglicare Victoria

About the authors

Dr Sarah Wise is a developmental researcher with many years of research, policy and service innovation experience covering a wide range of issues relating to children, parents and families. Her special interest areas are early childhood development, out-of-home care, local area responses and the development of social policy and practice with evidence. Sarah currently holds a joint appointment within the University of Melbourne's Department of Social Work and the Berry Street Childhood Institute as the inaugural Good Childhood Fellow, where she works to integrate academic research into social systems and programs designed to support vulnerable children.

Laura David joined Anglicare Victoria's Policy, Research and Innovation unit as a research officer in 2013. Upon completing a Bachelor of Arts and a Bachelor of Social Work at the University of Melbourne, Laura worked in family services before developing her research skills in the community mental health sector, with a particular focus on the role and support needs of family carers.

Acknowledgements

We thank the Queen Elizabeth Centre and Quantum Support Services for their collaboration over the course of this evaluation. In particular, we thank the *Hey Babe* Coordinator Carolyn Boland, and practitioners Brooke Pym, Natalie Rosin and Olivia Douglas for sharing their practice experiences and program knowledge, for assisting our liaison with mothers and for providing access to service data.

We extend our thanks to the Latrobe/Baw Baw IFS Alliance for their governance of the program, in particular Jane Anderson, Anglicare Victoria Regional Director, Gippsland and Tim Pedlow, Anglicare Victoria Senior Services Manager, Gippsland.

We thank Emma Dobson and the team at Child FIRST, and Lindsay Jarvis from Quantum Support Services for their particular assistance in the recruitment of participants. We thank Rachel Sore from the University of Melbourne Statistical Consulting Centre for her statistical advice and assistance.

Lastly, the authors gratefully acknowledge the parents who agreed to take part in this evaluation, in particular for welcoming us into their mothers' group and sharing their parenting experiences with us.

CONTENTS

1.	Executive Summary	4
2.	Background	6
3.	Service Implementation.....	8
4.	Evaluation Method	11
5.	Findings.....	14
6.	Conclusion and Recommendations	31
7.	References	34
8.	Appendices.....	35

EXECUTIVE SUMMARY

Background

'Hey Babe' is a 12-month early parenting program first piloted in Morwell in July 2012, governed by the Latrobe/Baw Baw Integrated Family Services Alliance. It represents a local response to a growing number of antenatal referrals received by the Latrobe/Baw Baw Child FIRST intake and assessment service over preceding years. The program was delivered collaboratively by the Queen Elizabeth Centre (QEC) and Quantum Support Services (Quantum), with an outcomes and process evaluation undertaken by Anglicare Victoria.

The *Hey Babe* model has theoretical foundations in the psychological and neurobiological science literature on early childhood development, as well as early childhood prevention and intervention. It is informed by the successful '*Nurse Family Partnership*' (NFP; Olds, 2007) and QEC '*Tummies to Toddlers*'® (Wookey, 2010) models – both advocating early parenting and infant support in the family home, delivered by skilled nurses or early childhood practitioners. The *Hey Babe* model also shares some of the service characteristics of the Victorian Government '*Cradle to Kinder*' program (C2K), and utilises components of QEC's '*Playsteps*' therapeutic playgroup program for mothers and babies.

The Hey Babe model

Hey Babe model is an intensive and flexible service model targeted antenatally and across the first year of infant life when many of the foundations of social, emotional and physical development are first established. The core aims of the program were to strengthen early parenting skills and infant-mother attachment, support infant development and safety, and improve parental wellbeing.

The model comprises three core service elements, implemented cohesively by a small group of part-time practitioners, including a highly experienced part-time program Coordinator.

1. Early parenting support and education in the home
2. Case management
3. Mothers' and babies' group

Consistent with its target, the program received nine referrals from the Child FIRST. In most cases, service provision commenced in the weeks following birth, with some referrals received late in pregnancy. Engagement with families was consistently strong, with only one client choosing not to engage with the program. The majority of referrals were associated with a high level of family stress, risk, need and complexity.

Outcomes

This report presents a number of potential program impacts for infants, parents and families targeted for the service, measured via quantitative and qualitative methods. These include:

- Some improvements in parental confidence and protective parenting practices
- Age-appropriate infant development for most families
- Consistently strong mother-baby attachment
- Low incidence of Child Protection contact
- Low incidence of self-reported maternal stress, anxiety and depression
- Low incidence of maternal alcohol and other drug use at program closure
- Improved social and peer connectedness
- Some improvement in infant and maternal safety, and household stability
- High levels of client satisfaction

Implementation

Whilst the program encountered challenges relating to program funding and initial documentation, implementation of the pilot was nonetheless successful. Key contributing factors extend to:

- The experience and expertise of staff
- The cohesive, flexible and holistic nature of the model, with the capacity to intervene at multiple levels of the family system
- The opportunity to provide extended support to families over the first year of infant life
- The capacity for antenatal intervention
- The capacity for highly intensive and targeted support at times of significant need or risk
- The opportunity for peer support and connectedness between families via the embedded group program
- The collaboration and supportive relationships between staff
- The capacity for engagement with the wider family, particularly fathers

Recommendations:

In the context of the program's positive early outcomes and initial implementation challenges, the following recommendations are presented:

1. Contingent on funding, it is recommended that the program be extended beyond the initial pilot phase to further test the efficacy and impact of the model.
2. All three integrated service components lend strength to the *Hey Babe* model. In particular, it is recommended that the mothers' group remain an embedded feature of the program, and resources made available to encourage and support family attendance and engagement.
3. The program should continue to offer up to 12 months of client support, targeted both antenatally and across the important first year of infant life.
4. The program should continue to embrace antenatal referrals, consistent with the model's early intervention approach.
5. The program should continue to engage experienced and highly skilled senior practitioners.
6. Future implementation of the program requires additional resourcing, in particular increased funding for program coordination, practitioner EFT and client brokerage.
7. Further consolidation of program documentation (i.e. guidelines, assessment frameworks and tools) is required to inform, strengthen and 'bed-down' key aspects of the model in the future.

Conclusion:

This evaluation provides early support for the *Hey Babe* program as a viable early parenting support model for vulnerable families with new babies. Strong consideration should be given to extending the program beyond the initial 12-month pilot period.

BACKGROUND

In response to an increasing number of 'unborn' referrals¹ to the Latrobe/Baw Baw Child FIRST intake and assessment team, a local early intervention and demand management strategy was initiated, involving key service partners in the region; namely the Queen Elizabeth Centre (QEC), Quantum Support Services (Quantum) and Anglicare Victoria. This collaboration culminated in the development and implementation of a pilot early parenting program called 'Hey Babe'.

The foundations of the *Hey Babe* model lie in the psychological and neurobiological science of early childhood development, as well as the literature on early childhood prevention and intervention (Karoly, Greenwood et. al, 1998). The model recognises that maternal factors during pregnancy (such as substance abuse, smoking, high levels of maternal stress and general health) have the potential to adversely impact the cognitive and emotional development of children in the long term (Richardson et al. 2006). It also recognises that high-quality early intervention programs targeted to children in the first years of life can lead to sustained positive outcomes into adulthood, and potentially mitigate the long term negative impacts of early adversity (McCormick et al. 2006; Olds, 1998; Karoly, Greenwood et. al, 1998).

The *Hey Babe* model is largely informed by Olds' (2007) evidence-based 'Nurse Family Partnership (NFP)' approach, and other similar home visiting programs, such as those in Queensland (Armstrong, 2000) and Western Australia (Quinliven, 2003). *NFP* (Olds, 2007) is a well established and evaluated, intensive home visiting program that has consistently demonstrated positive impacts across several dimensions of family life and child outcomes. Short-term program impacts have included strengthened parenting practices, child safety and childhood development, whereas in the longer-term impacts extended to engagement in education and training, reduced contact with the child protection and youth justice systems, and enhanced socio-emotional wellbeing into young-adulthood (Olds, 1998; 2007).

The *Hey Babe* model is also closely modelled on the QEC 'Tummies to Toddlers®' (Wookey, 2010) pilot program, an early-parenting model incorporating extended home visiting and group support to vulnerable families. This program was associated with increased protective parenting practices, positive mother-child attachment, and strengthened maternal wellbeing.

The *Hey Babe* service model formulated at program commencement proposed three parallel interventions:

- Early parenting outreach and home visiting (e.g. preparation for birth and development of infant care skills)
- Case management
- A group parenting program, modelled on the QEC 'Playsteps²' therapeutic play program

¹ When a report to Child Protection has been received for their unborn child, and the referrer has significant concerns about the wellbeing of the unborn child.

² *Playsteps* is a 9-week group program that builds parenting skills with an emphasis on learning and connecting through play. Refer to <http://www.qec.org.au/families/playsteps>

Program aims and objectives

The core aims of the program were to strengthen early parenting skills and infant-mother attachment, support infant development and safety, and help parents make sustainable changes in their own lives.

A number of key objectives were identified:

- Development of competent infant care skills (e.g. feeding, sleeping)
- Emotionally responsive parenting
- Parenting confidence and self-efficacy
- High maternal functioning (reduction of maternal depression, anxiety and stress and risky health behaviours such as alcohol/substance misuse)
- Maternal social and emotional support
- Positive infant cognitive and socio-emotional development
- Prevention of child maltreatment and Child Protection involvement

Hey Babe was delivered under a partnership arrangement by QEC and Quantum, and Anglicare Victoria was funded to undertake a program evaluation. Collaboration between agencies was a key component of the program's design and implementation.

SERVICE IMPLEMENTATION

Hey Babe was implemented in July 2012, during which time the Department of Human Services 'Cradle to Kinder' (C2K) program was simultaneously implemented in the region. The *Hey Babe* and C2K models each comprise a combination of antenatal support, case management, home visiting and group work, but differ in their service length, intensity, focus on the newborn and eligibility criteria.

A program logic model, including a summary of program inputs, is presented in **Appendix One**.

The Program Model

The *Hey Babe* model was broadly defined at program outset. Clients received home-based early parenting support and case management, and attended a fortnightly mothers' group. The program was resourced with two senior practitioners employed at 0.4 EFT, and one program Coordinator at 0.1 EFT. Each practitioner carried a target caseload of approximately five families. The Coordinator had responsibility for program implementation, intake and staff supervision, and provided facilitation of the Group program in collaboration with practitioners.

Referrals

Referrals were received via Child FIRST with a target of 10 expectant mothers. Referrals were accepted on a gradual basis and were finalised within the first three months. Whilst the program sought to provide support and education during pregnancy, the majority of mothers were referred into the program after, or just prior to giving birth, resulting in very little or no opportunity for practitioners to work with families antenatally. As the Coordinator remarked: '*Some mothers were pregnant when picked up but delivered shortly after*'. Consistent with presenting need, the program's inclusion criteria were also expanded to include mothers under-25 years of age who were ineligible for C2K as they were not involved with Child Protection (a condition of that service).

Due to uncertainty regarding ongoing funding, new referrals were not accepted following early client closures. Three mothers withdrew from the program prior to the close of the 12-month pilot period, and one client did not engage despite considerable efforts by the program to provide support. Early closures were the result of clients moving out of the service catchment (Clients Six and Eight), and of a child being removed from parental care (Client Seven).

Home visiting/Case management

Families were allocated an individual worker who provided early parenting support in the home and case management. Most families received fortnightly home visits, however a more intensive level of service was provided to at least four clients at different points in the program. Regular home-based activities included provision of parenting education, modelling of developmentally-appropriate play, assistance to attend Maternal Child Health Nurse appointments/vaccinations, provision of emotional support and engagement of other children. Case management activities included liaison with Child Protection, referrals to other support services, advocacy, brokerage and housing support.

Mothers' group

Group commenced approximately six months into service delivery once client engagement had been established and target numbers stabilised. Whilst this was a voluntary part of the service, attendance was strongly encouraged by practitioners, and regular travel assistance provided to enable participation. Group sessions were delivered by the Coordinator and QEC Practitioner, both of whom were experienced *Playsteps*³ facilitators. The initial eight weeks of Group largely followed the *Playsteps* approach, comprising sessions on infant cues, baby-led play, infant states, the circle of security, attachment, responsive parenting and trust.

³ <http://www.qec.org.au/families/playsteps>

The total number of services received per family is presented in Table 1.

Table 1. Service delivery per client.

Client	SERVICE DURATION:			SERVICE TOTALS:			
	<i>Commenced</i>	<i>Closed</i>	<i>Length</i>	<i>Home visits</i>	<i>Group sessions</i>	<i>Other services⁴</i>	<i>Hours</i>
Client One	4/07/2012	12/07/2013	12months	23	4	63	106
Client Two	7/08/2012	12/07/2013	11 months	11	4	36	145
Client Three	14/06/2012	5/07/2013	12months	23	11	68	209
Client Four	14/06/2012	5/07/2013	12 months	14	10	46	144
Client Five	15/06/2012	12/07/2013	12 months	24	12	32	190
Client Six	21/06/2012	25/03/2013	9 months	8	3	30	39
Client Seven	17/09/2012	1/05/2013	6.5 months	38	0	64	194
Client Eight	20/08/2012	24/10/2012	2 months	13	2	20	94
Client Nine	3/07/2012	18/10/2012	3.5 months	5	0	18	68

**Despite a number of attempted home visits, Client Nine did not engage with the program.*

A summary of client support needs and risk factors, identified at referral and during service delivery is presented in Table 2.

⁴ Includes referrals, phone calls, assessments, Child Protection liaison, administration, casenotes etc.

Table 2. Summary of client needs and potential risk factors

	Client One	Client Two	Client Three	Client Four	Client Five	Client Six	Client Seven	Client Eight	Client Nine
Birth complications	√								DK
Child development concerns or neglect	√			DK [†]			√		
Past and/or current Child Protection	√		√	√			√	√	
Homelessness/Housing stress			√	√				√	
History of trauma and/or abuse	√			DK	DK				
Family violence	√							√	
Past/current mental health issues	√		√		√		√		
Past/current Substance use	√	√	√				√		DK
Physical health Issues							√		
Intellectual Disability					√				
Significant financial hardship	√		√				√		DK
Environmental Neglect	√			√			√		
Single parent family			√						
Large family (multiple children)	√			√					
First time parent		√			√	√			
Parent <18years						√			√
Aboriginal or Torres Strait Islander									√
Relationship stress and/or difficulty	√			√					DK
Social isolation			√	√	√	√			DK
Lack of family/Peer/partner support	√		√	√	√	√	√		DK

[†] Unknown

EVALUATION METHOD

The evaluation of the *Hey Babe* program assessed mothers and babies on a range of risk and need/support factors, during pregnancy and over the first 12 months of life. The evaluation approach was developed with, and approved by the Latrobe/Baw Baw Child FIRST/IFS Alliance, and ethics approval was obtained from Anglicare Victoria's Human Research Ethics Committee, a fully constituted ethics committee under the NMHRC guidelines.

To assess the efficacy of the *Hey Babe* service model the evaluation utilised a quasi-experimental research design called the Non-Equivalent Groups Design (NEGD)⁵. Its structure is similar to a pre-test/post-test randomised experiment, but it lacks a key feature of randomised designs; that is, the researcher does not control the assignment to groups through the mechanism of random assignment. Rather, NEGD employs comparison of a 'treatment' group and a 'control' group.

The *Hey Babe* 'treatment' group comprised nine expectant mothers receiving the *Hey Babe* intervention. The treatment group was compared to a small control group of mothers (n=3) who received another form of family support or parenting service via Child FIRST in the region. Women in control group were matched as closely as possible to the treatment group on factors including maternal age, risk factors and case complexity, family structure, family size and ethnicity.

Due to evaluation and service implementation constraints, the original evaluation method was modified following commencement of the program. Namely, telephone interviews with mothers were not conducted during pregnancy or early in the program as first proposed due to a lack of antenatal referrals. Developmental observations of infants in the family home also did not take place. In lieu of this, antenatal and post-birth data was obtained via retrospective reports included in the first wave of telephone interviews with mothers. In addition, a number of direct observations of infant development and parenting capacity/attachment were undertaken during mothers' group sessions.

The revised evaluation method is presented below.

Telephone interviews

Quantitative data was collected at two points (or waves) via telephone interviews with mothers. Wave One interviews took place approximately eight months following program implementation, and Wave Two interviews took place following approximately 12 months of service. Babies were between eight and ten months old at Wave One, and were at least 12 months old at Wave Two.

A quantitative telephone interview tool was devised for the purpose of this evaluation. The tool contains measures of obstetrical health and birth outcomes, infant care practices, maternal health wellbeing, antenatal and postnatal substance use, mother-baby attachment, maternal anxiety, stress and depression, maternal social support, self-reported parenting capacity and infant development. Retrospective measures of pregnancy, birth and early parenting were also included, as were client feedback and demographic measures. Where possible, scales, questionnaires and child assessments were drawn from standardised and/or validated instruments. A summary of the measurement domains, measure name, measure description/ items, and assessment wave are presented in **Appendix B**.

Hey Babe ('Treatment') Group

All interviews were conducted over the phone by a suitably qualified researcher. Interview duration was approximately 30-45 minutes, and participants received a \$25 voucher following completion of each interview in compensation for their time. Participation was completely voluntary, and was not a condition of service provision. Clients provided verbal consent to take part in the evaluation via their *Hey Babe* practitioner, and the researcher contacted clients independently once consent had been received to provide further information and to schedule an interview time.

⁵ Web Center For Social Research Methods, 2006

Control Group

Control group participants were recruited with the assistance of Child FIRST, the centralised IFS referral service in the Latrobe/Baw Baw region. Recruitment commenced during the last two months of the *Hey Babe* program, and as such control group and treatment group interviews were not undertaken simultaneously. The Child FIRST team contacted mothers who fitted the eligibility criteria (that is, mothers who were engaged with, or had been referred to another IFS service in the region with a new baby) on behalf of the researcher, and contact details were provided to the research team if mothers chose to participate. As per the *Hey Babe* group, mothers in the control group participated in two waves of telephone interviews, utilising the same quantitative interview tool, but with questions about *Hey Babe* service satisfaction omitted. Participation was voluntary, and all interviews conducted by a qualified researcher. Participants received a \$25 voucher at the completion of each interview.

Group observations

The researcher undertook observations of infant development, parenting, mother-baby attachment, maternal functioning and parental relationships in the last two months of the program once attendance at Group was established. Group processes were also observed, including parent participation, worker-parent rapport and the relationships formed between parents and babies. Five sessions were observed.

Perinatal data collection

Perinatal data held in hospital birth record forms was voluntarily obtained from all participants in both the treatment and control groups. This included a signed 'Freedom on Information Request' form and a signed consent form instructing the relevant health service to release data directly to the researcher. The research team provided participants with all relevant forms, and to help minimise burden, assisted participants to complete them either in person (during/after Group sessions) or over the phone.

Information about obstetrical and gestational health and wellbeing was extracted from perinatal birth record data for each participant. This information was measured against two antenatal risk scales; the first screening for risk associated with antenatal maternal substance use (alcohol, tobacco, cannabis and other drugs) and mental health issues, and the second for birth and gestational factors (Apgar score, weight at birth and gestation). Risk scores were correlated with other program outcomes to identify potential relationships between the presence of elevated risk during pregnancy and later child development and/or maternal functioning. Further information about scoring of these scales is presented in the results section of this report.

Staff interviews

Individual qualitative interviews were undertaken at program conclusion with all program staff. A group reflective activity was also completed approximately six months into service delivery. Interview schedules captured information about outcomes and impacts for mother and baby, together with service processes and implementation.

The 'outcomes' aspect of the interview schedules addressed client engagement and retention, client need and complexity, the types of work undertaken, the challenges faced, and any impacts of the program on infant development, parenting and maternal wellbeing. The 'process' aspect explored issues related to referral appropriateness, recruitment, collaborative working, adequacy of resources/inputs, barriers/challenges to implementation, implementation fidelity and the strengths/weaknesses of the service model.

All interviews were digitally recorded, and significant content transcribed, analysed and presented according to major themes.

Administrative and case file data

Case file and service usage data were extracted at program conclusion for all clients receiving the *Hey Babe* service, and are presented in the Findings of this report. Data included:

- Child FIRST assessment and referral information
- Identification of, and progress towards goals
- Qualitative descriptions of service provision
- Observations of child development and parenting
- Risk assessments
- Referrals, notifications and engagement with Child Protection, including identification of significant concerns
- Referrals/contact/correspondence with other community services
- The number of home visits, parenting group sessions, case management services and services hours per client
- NCAST assessments (feeding and teaching scales, Difficult Life Circumstances scale and Community Life Skills Scale) and KANSAS scales if completed by early parenting practitioners

FINDINGS

The findings presented draw upon quantitative and qualitative data collected throughout, and at the close of service delivery. Three types of data are presented:

- Quantitative outcomes from parental self-report telephone interviews
- Qualitative outcomes drawn from thematic analyses of case notes, staff interviews and observations of group sessions
- Client feedback

QUANTITATIVE FINDINGS:

Quantitative data was collected at two points in service delivery:

- ***Wave One: Approximately eight months following program implementation***
- ***Wave Two: Approximately 12 months following program implementation***

Data were collected for all clients still engaged in the program at both interview points (n=5).

Despite the collection of control group data, control group outcomes have not been presented in this report, as the control group did not ultimately represent a sufficiently matched sample of participants. In experimental designs, matched samples are required to test for program (or 'treatment') effects. In the absence of matched groups, there is a greater potential for differences in outcomes to be impacted by extraneous factors associated with the characteristics of the sample which limits the ability to draw firm conclusions about program effects (reference required).

The decision to omit control group data was informed by the following considerations:

- A reduced level of complexity and antenatal risk was found amongst control group participants compared to those receiving the *Hey Babe* intervention.
- The control group consisted of a small number of participants (n=3), with little variance in case complexity. This was in marked contrast to the greater range of risk present across the *Hey Babe* participants.
- Control group participants were interviewed at different points in service delivery than those in the *Hey Babe* treatment group, potentially skewing outcomes.

Whilst an overall analysis of the full dataset revealed some differences between the *Hey Babe* and control groups (with greater improvement found in the control group across some measures), the rigour of these analyses is compromised by the limitations outlined above.

Demographics:

The following demographics and maternal health data are representative of mothers in the *Hey Babe* group (n=5).

Table 3. *Demographics and maternal health data characteristics*

		Number (n=5)
Sex of baby	Male	2
	Female	3
Age of baby at program commencement	Antenatal	1
	0-3 months	4
Total number of children in family	One	2
	Two	1
	Three or more	2
Mother's partnership status	Married/De-facto	4
	Single	1
Mother's highest level of educational attainment	Year 12	1
	Year 11	1
	Year 10	3
	Year 8 or below	0
Family's financial situation	Just getting by	3
	Finding it difficult	2
Overall health during pregnancy	Poor	1
	Average	3
	Very good	1
Number of obstetrical visits (or check-ups) prior to birth	7 to 9 visits	1
	10 or more visits	4
Breastfeeding	Yes	4
	No	1
Average length of breastfeeding		4 weeks

Antenatal risk:

Two antenatal risk scales were devised for this project. The first scale is an antenatal substance use and mental health risk measure (AODMH), while the second is a measure of antenatal risk associated with gestational and birth-related factors. Scores on these risk scales were combined and then correlated against 12-month program outcomes, including: *infant development, maternal mental health, attachment, social support and parenting capacity.*

Antenatal substance use and mental health

The AODMH antenatal risks scale comprises seven risk items, with a maximum possible score of '7', and a minimum score of '0'. Higher scores represent greater potential risk. Participants received a score of '1' (yes) or '0' (no) against each of the following items: *smoking (tobacco), cannabis use, alcohol use, amphetamine use, prescription drug use, non-prescription drug and diagnosed mental health issues.*

Information was obtained from perinatal data located within client birth records and from data obtained via the first wave of parent quantitative assessments. Participants' AODMH antenatal risk scores are presented below.

Figure 1. AODMH antenatal risks scores for Hey Babe participants (n=5)



Figure 1 demonstrates a range of antenatal AODMH risk across clients receiving the program, with a mean risk score of three. Three clients had moderate-to-high AODMH antenatal risk, with scores of three or above.

Further, the retrospective antenatal data collected at Wave One indicates that clients with greater cumulative risk (represented by higher AODMH risk scores) also engaged in substance use behaviours *more frequently and at higher levels* than those with lower cumulative risk (lower AODMH risk scores); suggestive of a possible compounding effect. For example:

- Participants with the highest AODMH risk scores smoked up to ten cigarettes per day, consumed alcohol at least once per week (2-3 drinks at a time), smoked cannabis on a daily basis and had diagnosed mood disorders. These mothers also continued to use substances throughout pregnancy, albeit in a reduced fashion.
- By contrast, clients with lower AODMH risk scores were occasional consumers of alcohol or cannabis (which ceased upon discovery of pregnancy), with no past experiences of mental health issues.

Birth and gestational risk

An additional antenatal risk scale was devised to capture risk associated with gestation and birth factors. This scale included three items, with a maximum score of 'three', and a minimum score of '0'. Mothers received a score of '1' (yes) or '0' (no) against each of the following items:

- Low birth weight – 2650 grams or under
- Early gestation – 36 weeks or under
- Low Apgar score at 3 minutes – score of 8 or under

Scores on this measure were consistently low with only one client scoring higher than zero on this measure (a score of one). This client had an associated AODMH risk score of four, further highlighting the cumulative nature of the risk factors measured in this evaluation.

OUTCOMES:

1. Maternal substance use

Maternal substance use was measured at Waves One (including retrospective antenatal data) and Two.

Client alcohol consumption, smoking and cannabis use are presented in Tables 4, 5 and 6 below. No clients reported actively using amphetamines at any point of covered by the evaluation design.

Table 4. Participant smoking levels across three waves (n=5)

	Number of cigarettes smoked daily		
	Antenatal	Wave Two	Wave Three
Number of clients			
2	None	None	None
2	1-10	1-10	1-10
1	11-20	None	None

Table 5. Frequency of client alcohol consumption across three waves (n=5)

	Frequency of alcohol consumption		
	Antenatal	Wave Two	Wave Three
Number of clients			
1	3 or 4 days a week	1 or 2 days a week	Almost every day
1	1 to 3 days a month	1 or 2 days a week	Never
1	1 or 2 days a week	Never	Never
2	Never	Never	Never

Table 6. Frequency of client cannabis use across three waves (n=5)

	Frequency of cannabis use		
	Antenatal	Wave Two	Wave Three
Number of clients			
1	Almost daily use	Almost daily use	Almost daily use
1	Almost daily use	1 or 2 days per week	Never
1	Almost daily use	Never	Never
2	Never	Never	Never

Tables 4-6 demonstrate that at program closure:

- Two clients actively smoked up to ten cigarettes per day - down from three clients antenatally
- One client consumed alcohol - down from three clients antenatally
- One client engaged in daily cannabis use - down from three clients antenatally

Further to this, antenatal data obtained at Wave One indicates that:

- Both clients who smoked one-to-ten cigarettes antenatally reduced their levels of smoking after finding out they were pregnant, despite not quitting completely
- Two of the three clients that consumed alcohol antenatally quit drinking after finding out they were pregnant
- All clients smoking cannabis antenatally either quit (n=2) or cut down their usage (n=1) after finding out they were pregnant.

Consistent with the Antenatal AODMH risk scale, the client with the highest risk score (Client Three) also recorded the highest level of poly-substance use at Wave Two. Client Three reported little change in her level of substance use over the course of the program; smoking both cigarettes and cannabis, and consuming alcohol on a daily basis at program closure.

2. Parenting and infant care

Self-reported parental capacity and performance was assessed on a 4-item self-report measure⁶. Each item was scored on a 10-point scale. Overall scores on this measure range from 4-40, with higher scores indicating greater perceived parenting capacity. Participants were asked to rate their parenting against the following:

- *I feel that I am very good at keeping this child amused*
- *I feel that I am very good at calming this child down when s/he is upset or crying*
- *I feel I am very good at keeping this child busy while I am doing the housework*
- *I feel I am good at routine tasks of caring for this child (feeding him/her, changing his or her nappies and giving him/her a bath)*

Table 7. Change in clients' self-reported parental capacity over two waves, with difference score indicating degree and direction of change over time (N=5).

	Wave One	Wave Two	Change Score
Client One	37	31	-6
Client Two	35	33	-2
Client Three	26	28	+2
Client Four	27	20	-7
Client Five	40	40	0
MEAN	33	30.4	-2.6

Table 7 shows that self-reported parental capacity reduced over time for three clients. For the remaining two clients, one reported no change in perceived capacity, while the other reported a small increase. A closer look at the data shows that clients who reported the greatest decrease in parental capacity were those with other young children in their care (Clients Two and Four). One of these clients was also pregnant with an additional child at the time of the Wave Two interview.

The perceived parental capacity scores reported above are consistent with the qualitative accounts provided by *Hey Babe* staff, and the observations made by the evaluator during *Hey Babe* group sessions. For example:

- Clients One and Four were referred to another parenting support service due to the ongoing complexity of their families' broader needs, and their own parenting struggles, particularly with regard to developmentally appropriate play, routines and safety. The capacity of these parents to attend to the needs of their babies was made particularly difficult by the needs of their other young children and their complex home environments.
- Whilst Client Five's parenting scores may seem unrealistically high, they are consistent with this mother's growth in parenting confidence over the duration of the program, and staff member accounts of her protective parenting.
- The relatively small degree of change in Client Three's self-reported parental capacity is inconsistent with qualitative accounts and observations, which suggests that her parenting is in fact quite strong.

3. Infant/child development

Infant development was assessed at both waves via two parent self-report measures: the Parent's Evaluation of Developmental Status, Authorised Australian Version [PEDS] (Glascoe, 2006) and the Brief Infant-Toddler Social and Emotional Assessment (BITSEA) (Briggs-Gowan & Carter, 2002). The PEDS was administered at Waves One and Two, and the BITSEA at Wave Two.

The PEDS is a screening measure to help detect and address developmental and behavioural problems in children. Five items from the 10-item scale were utilised, and scored on a scale of '1' (not concerned), '2' (a little concerned) and '3' (concerned). The highest possible summed score on this measure was '15' (indicating concern across all items), and the lowest score was '5' (indicating no concern across all items).

⁶ Items were derived from *Growing Up in Australia: The Longitudinal Study of Australian Children (AIFS)*

The BITSEA is a 42-item measure of infant and toddler social and emotional competency and problem behaviours. The *'problem behaviours'* subscale comprises 31 items, and the *'competencies'* subscale 11 items. Each item was scored on a scale of '0' to '3', with higher scores indicative of higher levels of problem behaviours and higher levels of competency respectively. For children aged between 12-36 months (relevant to this group), summed problem scores of 13 and above (for girls) and 15 and above (for boys) indicate the presence of high problems, whereas competency scores of 11 and above are indicative of high competency for both sexes (reference needed).

Table 8. Change in clients' summed scores on the adapted PEDS at wave one and wave two, with difference score indicating degree of change over time (n=5)

	Wave One	Wave One	Change Score
Client One	5	9	+4
Client Two	5	5	0
Client Three	5	5	0
Client Four	5	5	0
Client Five	12	6	-6
MEAN	6.4	6	-0.4

Table 8 shows that three clients did not report concerns about their child's development at either Wave One or Wave Two. Client Five, who reported concern for her baby's development at Wave One, had marginally reduced concern on this measure at Wave Two. Conversely, Client One reported increased concern for her baby's development over this period.

Table 9. BITSEA problem and competency scores at Wave Two (N=5)

	Baby Sex	Problems		Competencies	
		Score	High/Low	Score	High/Low
Client One	Girl	19	High	16	High
Client Two	Girl	6	Low	18	High
Client Three	Girl	13	High	15	High
Client Four	Boy	10	Low	11	Low
Client Five	Boy	21	High	8	Low

Table 9 shows that three babies had high overall problem scores on the BITSEA, and three had low competency scores, indicating the need for ongoing, follow-up assessment and support for these children upon closure of the Hey Babe program. Client Two, the mother with the least amount of complexity, also had the lowest associated problem score and the highest competency score amongst the group.

Not unexpectedly, clients who reported the highest PEDS scores at Wave Two (Clients One and Five) also reported the highest problem scores on the BITSEA. The data presented in Tables 7 and 8 are further contextualised by the following qualitative findings:

- Client One's elevated PEDS and BITSEA problems scores at Wave Two are consistent with concerns held by *Hey Babe* staff about this infant's development throughout the program, and this mother's parenting capacity. Due to these concerns, the family was referred to another family support service following program closure.
- Client Five's PEDS and BITSEA scores at Wave Two are not consistent with *Hey Babe* staff members' positive assessments of this baby's development over the course of the program. It is possible that for this client, elevated scores on these measures were associated with maternal anxiety, stress, or even post-natal depression (refer page 20). The statistically significant correlation identified between Problem Scores on the BITSEA and maternal anxiety (refer page 25) also lends some support to this hypothesis – however this correlation does not provide any insight into whether general parental anxiety leads to increased concerns about a child's development, or whether a child's developmental and behavioural problems lead to an increase in anxiety itself.

4. Maternal mental health

Anxiety and Stress:

Maternal anxiety and stress were measured via the 7-item anxiety and stress scales (part of the DASS-21 short form; reference required). Each item was scored on a scale of '0' to '3' and then summed; higher scores indicating greater levels of anxiety or stress on each item. Relevant to the range of data presented in Tables 9 and 10 below, summed scores are interpreted accordingly:

	<i>ANXIETY</i>	<i>STRESS</i>
<i>Normal</i>	0-7	0-14
<i>Mild</i>	8-9	15-18

Table 10. Change in client anxiety levels at Wave One and Wave Two, with difference score indicating degree and direction of change over time (n=5).

	Wave One	Wave Two	Change Score
Client One	3	5	+2
Client Two	0	1	+1
Client Three	1	1	0
Client Four	0	0	0
Client Five	8	6	-2
<i>MEAN</i>	2.4	2.6	+0.2

Table 11. Change in participant levels of stress at Wave One and Wave Two, with difference score indicating degree and direction of change over time (n=5).

	Wave One	Wave Two	Change Score
Client One	7	5	-2
Client Two	3	4	+1
Client Three	6	7	+1
Client Four	2	3	+1
Client Five	11	6	-5
<i>MEAN</i>	5.8	5	-0.8

The tables above show that levels of maternal anxiety and stress were in the 'normal' range for the majority of clients at both waves, despite minor mean increases for anxiety (0.2) and small mean decreases for stress (-0.8). Whilst anxiety slightly increased for Clients One and Two, and stress slightly increased for Clients Two, Three and Four, the scores nonetheless remained within an acceptable range.

Post-natal Depression:

At Waves One and Two clients were asked whether they had experienced postnatal depression at any time since the birth of their baby.

- At Wave One, one mother (Client Five) had suspected postnatal depression
- At Wave Two, two mothers (Client Five and Client One) had diagnosed postnatal depression.

These two clients also had the highest anxiety scores amongst the sample at Waves One and Two, as measured by the DASS-21, 7-item subscale.

5. Maternal attachment

Maternal attachment, conceptualised as the level of pleasure parents experienced when interacting with their babies, was measured at both waves utilising 5-items from the *Maternal Postnatal Attachment Scale* (Condon and Corkindale, 1998). Items were scored on a 4-point Likert-type scale, from '0' to '4'. The highest possible score on this subscale was '20' (suggestive of very high pleasure) and the lowest possible score was '0' (suggestive of very low pleasure).

Table 12. Participant maternal postnatal attachment scores at Wave One and Wave Two with difference score indicating degree and direction of change over time (n=4).

	Wave One	Wave Two	Change Score
Client One	17	17	0
Client Two	18	17	- 1
Client Four	15	14	- 1
Client Five	17	15	-2
MEAN	16.8	15.8	-1

Table 12 shows that attachment scores on this measure were consistently moderate-to-strong at Waves One and Two for all clients, despite the majority (n=4) experiencing small score reductions. The lowest individual scores of '14' and '15' are nonetheless representative of good attachment on this measure.

Whilst these reduced scores may represent diminished feelings of attachment over time by mothers in the program, there are other possible interpretations consistent with the qualitative data. A closer look at the data for each independent item shows that the greatest reduction in scores was associated with mothers finding it *less difficult to leave their babies in the care of others* and *thinking of their babies a little less frequently when they did so* (i.e. 'very frequently' or 'frequently' rather than 'all of the time'). For these clients, it is possible that reduced parental bond was impacted by:

- Mothers feeling less anxious and more confident in their parenting
- Mothers having access to other trustworthy caregivers (i.e. child's father, other family members)
- Babies being less dependent upon their mothers due to their stage of development

It also useful to contextualise the lowest attachment scores in the qualitative data (Client Four). As noted earlier, this client was pregnant at the time of her Wave Two interview, and a mother to two other children under four years of age. Whilst this client was observed during Group to be less actively engaged with her baby (for example less involved in play activities, happy to let staff and other parents engage with her baby), these lower attachment scores could equally be a function of the lack of time she may have to engage with her baby 'one-on-one' as a result of her other parenting responsibilities. It may also be a function of increased feelings of stress (indicated in Table 10), potentially brought on by her new pregnancy and the general complexity of her family life.

6. Maternal social support

Maternal social support was measured via the *Maternity Social Support Scale* (Webster & Linnane, 2000). The scale comprises 6-items, with scores ranging from '0' (indicating very low levels of support) to '30' (indicating very high levels of support).

Table 13. Participant access to social support measured at Wave One and Wave Two, with difference score indicating degree and direction of change over time (N=5)

	Wave One	Wave Two	Change Score
Client One	25	21	- 4
Client Two	27	24	- 3
Client Three	5	5	- 0
Client Four	26	23	- 3
Client Five	23	26	+3
MEAN	20.25	19.8	-2.6

Maternal social support decreased on this measure for three clients, largely as a result of changes in levels of social support received via their partners. For all clients, access to support was lowest with regard to friendship networks (1-item), however for Client Five who was quite socially isolated before the program and reluctant to join group, her score on this item in fact increased. This client's increased social connectedness and confidence is also supported by the qualitative data, particularly via her positive engagement with the *Hey Babe* Group. Further to this, the two participants with the highest overall scores on this measure (Clients Two and Five) were those with the most supportive partners.

Due to the number of items on this scale associated with partner relationships (4-items), Client Three's score on this measure is greatly impacted by her status as a single parent. Whilst the qualitative data supports that this client did experience a lack of social support (particularly as a result of being a single parent), *Hey Babe* staff indicated that by the close of the program this client had in fact developed stronger supportive relationships with her family – an improvement which is not captured by this measure. When Client Three's scores are removed from the data, the mean social support scores for the remaining sample are increased at both waves accordingly:

- Mean (Wave One) = 25.2
- Mean (Wave Two) = 23.5
- Change score = - 1.7

Whilst these modified scores still represent a small overall decrease, they demonstrate that self-reported levels of social support for this subset of clients remained moderate-to-high at program closure.

7. Parenting confidence at program closure and ongoing support needs

At Wave Two, clients were asked a series of six questions regarding their parenting confidence and capacity *at program closure*, and their need for ongoing support into the future. For each item, responses were scored accordingly: '1' (not true), '2' (somewhat true) and '3' (very true).

Table 14 provides a summary of responses for each item across the client sample.

Table 14. Parenting Confidence, capacity and support needs at program closure (n=5)

<i>Item</i>	<i>Response</i>	<i>Number of clients</i>
I have the support I need to raise my baby	Somewhat true	1
	Very true	4
I am worried about how I will cope without the Hey Babe program	Not true	4
	Very true	1
The people who work in community services can be trusted	Somewhat true	1
	Very true	4
I am able to take good care of my baby	Very true	5
I need more help to look after my baby	Not true	5
I know where to find help or support if I need it	Somewhat true	1
	Very true	4

The data shows that the majority of clients felt confident in their parenting at program closure, and that all knew where they could access support in the future. The one client who reported a high level of worry about her coping capacity at program closure (Client Five) also reported the highest levels of stress and anxiety at both interview waves, and the highest level of concern for her child's development at program closure. Staff qualitative accounts also suggest that this client had the lowest level of parenting confidence at program entry, possibly

associated with her being a first time mother and influenced by her mild intellectual disability. Due to this client's concerns regarding her coping capacity and confidence, program staff ensured that she was referred to a supportive playgroup for vulnerable mothers upon program closure.

Client trust in community support services was also consistently high across mothers. This finding is consistent with the high levels of worker-client engagement reported by program staff in the qualitative data.

8. Correlations between variables

A number of Spearman's correlations were calculated to measure the relationships between the primary areas of interest for this program. AODMH antenatal risk and the BITSEA problem and competency scores were independently correlated against all other outcomes.

When AODMH antenatal risk was correlated against all other outcome measures, no statistically significant correlations were found. A number of strong and moderate trends were however identified.

- A strong *positive* correlation with maternal attachment ($r=0.89$, $p=0.11$)
- A strong *positive* correlation with maternal stress ($r=0.70$, $p=0.19$)
- A strong *negative* correlation with maternal social support ($r= - 0.70$, $p=0.19$)
- A moderate *positive* correlation with infant competency at 12 months (as measured by the BITSEA) ($r=0.50$, $p=0.39$)

This pattern of correlations suggests that mothers with higher AODMH antenatal risk scores also tended to report higher levels of maternal attachment, stress, and infant competency at 12 months. In contrast, there was a trend towards women with higher AODMH antenatal risk scores to report lower perceived social support. The small sample size and non-significant pattern of correlations, however, limits any conclusions being drawn from these data.

When the BITSEA problem scale scores were correlated with all other outcome measures, the following patterns were identified:

- A statistically significant strong *positive* correlation with maternal anxiety ($r=0.82$, $p=0.09$)
- A strong *positive* correlation with the PEDS ($r=0.78$, $p=0.12$)
- A moderate *positive* correlation with maternal stress ($r=0.60$, $p=0.28$)
- A moderate *negative* correlation with maternal attachment ($r= -0.45$, $p=0.55$)

The strong, positive and statistically significant correlation between maternal anxiety and the BITSEA problem scale indicates that as generalised feelings of anxiety increased, mothers' perceptions of their child's emotional and behavioural problems also increased. As discussed previously, the 'causal' direction of this relationship is not clear. While generalised anxiety may influence perceptions of a child's problematic behaviour, it is also possible that emotional and behavioural problems *lead to* increased anxiety.

The remaining non-significant correlations indicate that as scores on the BITSEA problem scale increased there was a tendency towards concomitant increases on maternal stress and perceptions of child developmental problems. In contrast, there was a trend towards higher BITSEA problem scale scores being associated with less attachment. On the surface these patterns are intuitive. However, due to the small sample and the non-significant pattern of correlations it is not possible to draw any firm conclusions from these data.

Finally, while none of the correlations between the BITSEA competency scale and all other outcome measures reached statistical significance, there was nevertheless a strong, positive relationship with the maternal attachment score ($r=0.89$, $p=0.11$). This correlation indicates that as levels of maternal attachment increase so does perceived child competency.

QUALITATIVE FINDINGS:

The qualitative data presented expand upon the quantitative findings, and enable a broader examination of program outcomes for all clients receiving the service (n=9).

SERVICE OUTCOMES:

1. *Parenting support and education*

The *Hey Babe* model enabled workers to provide parenting support in both a peer environment (Group) and individually in the client home. Where Group had the capacity for more structured education, home visits were largely more flexible. Parenting support in the home often included:

- Discussion of SIDS and safe sleeping practices, provision of information about feeding and nutrition
- Responses to observable child risk (e.g. *poor infant hygiene, unsafe physical environments, inadequate infant supervision, poor maternal health, family violence, parental drug use*)
- Provision of information and support to promote infant social, emotional and physical development

Building on the rapport and trust developed through home visits, Group provided a broader platform for parenting education and peer support. This approach minimised the potential for Group members to feel singled-out, and provided opportunities for parents to share knowledge, and benefit from each others' experiences:

'It was good to ask questions that I wasn't sure of, to get ideas from others, there is always more to learn (Hey Babe Client).

The combination of homevisits and Group practice also enabled practitioners to support and observe infant development and parenting practices in different contexts. For example, despite limited opportunities for floor play in the family home, Client Four's baby '*displayed strong gross motor skills and good social interactions with other children in Group*' – behaviours that were not otherwise not observable in the home due to the physical environment.

2. *Maternal health and wellbeing*

The more complex referrals received by the program required particularly flexible interventions, with a direct focus on the 'infant' balanced with a broader response to the needs of the wider family system. Through the program, workers routinely provided direct emotional support to mothers, together with advocacy and assistance to help them to access specialist support services when needed, such as mental and physical health treatment, family violence services, housing services and financial assistance.

The support provided to Client Seven is a strong example of the program's impact on the safety and wellbeing of both mother and baby. Given this mother's poor engagement during visits, and her worsening, untreated physical health issues, provision of parenting education was made difficult. Over time, the focus of support increasingly became one of safety and response to risk; the program working hard to ultimately '*keep this mother alive*' and her baby cared for. By advocating for, and acting upon this client's serious health issues (which significantly diminished her ability to provide routine care for her baby), the *Hey Babe* practitioner provided the most appropriate child-focussed intervention possible. The Coordinator remarked:

'The hospital said she nearly died. How can you remember when you last fed your child if you're so thin that your cognitive functioning is diminished? And whilst her baby was ultimately removed from her care, it was nonetheless a good outcome, because the baby and (the mother) were safe, and now the mother is working with PASDS towards reunification.'

The program also provided significant support to assist Client Eight to leave her dangerous home environment, and to engage with family violence and housing support service. This was a brief, resource intensive intervention requiring considerable engagement with Child Protection due to the severity of risk associated with the pregnant mother and all children in the family.

3. Parental confidence and social connectedness

Improvements in parenting confidence were notable for a number of clients, particularly for the first-time mothers in the program (Clients Two, Five and Six), and for Client Three, who by program closure was flourishing in her new stable home environment.

Despite Client Five's reported concern about her parenting capacity (refer page 24), staff accounts and Group observations indicate that her confidence – both as a parent and socially – had in fact greatly improved by program closure. Practitioners remarked that Client Five *'absolutely refused to go to Group in the beginning', 'was very shy' and 'found it hard to come out of her shell'*, and yet by the middle of the program, she *'was attending group each and every fortnight' and '(her baby) was doing so well'*.

Even more notable is the sense of belonging Client Five developed within Group. She and her partner attended every session (*'it was something that they both really looked forward to'*) and baked a cake for Group members. Practitioners reflected that Group was a place where *'she could stop worrying what people thought of her'*, and had become her *'springboard'* into the wider community.

'Despite her resistance, Group was so important for (Client Five). She now wants to go to another group. And the great thing is that it not only benefits herself and (her partner), but it also supports the social development and connections of her son too. Given the disadvantage of this family and their isolation, this is remarkable. Having the confidence to widen her circle and try new things will support her son's development, and her own parenting in the future.'

Group also became a particularly supportive space for Client Four, one worker describing it as this mother's *'main place of support'*, and *'one of the only places where she could be with other women and out of the house'*.

4. Housing stability and safety

The support provided to Client Three who was homeless at program entry, had a significant impact on the stability and wellbeing of both mother and baby. Client Three received an intensive intervention that assisted her to secure permanent community housing. Despite ongoing financial difficulties, Client Three left the program in a far stronger place: more confident in her parenting, settled in her home and doing well.

'Her aim was to get her life back together, to create a home for herself and her baby (Hey Babe practitioner)'

'She came from a difficult background, drug use, other things, and she has just come so far. I can see with more opportunities she could achieve so much more. She is a fantastic parent, really responsive and protective. Her daughter is developing so well, and is so happy and attached to her mum (Hey Babe Practitioner)'

For Clients One and Four, environmental neglect also constituted a housing issue, impacting child safety and limiting opportunities for developmentally appropriate play. Whilst workers helped to address these issues with families, progress was largely limited, and potentially beyond the scope of the program. As one practitioner noted:

'In the end we tried so hard, tried to arrange skips, tried to help them, but in the end they needed to step up and meet us half way....I would try and encourage (the parents) to do floor play with (the baby), but the floor was pretty dirty, that well it would've been hard for them to do so.'

5. Working within the context of the 'broader family'

The program's more complex referrals necessitated a broader family approach. This made for challenging work, largely enabled by the length and flexibility of the program, and the combination of Group and home visits that provided multiple avenues for early parenting support. Despite these strengths, the ability of the program to meet the support needs of all children in larger families was in some cases limited. One practitioner remarked that *'fifteen hours per week is not enough to do all the work needed for all members of all families'*. Client Four shared the following reflection:

'I really needed some more help with my other kids, as I'm having problems with how they act and getting them to listen, to go to bed'.

The assistance provided to help some families access childcare for their older children (via the Special Childcare Benefit). Childcare proved immensely valuable, exposing children to a greater range of indoor and outdoor play activities, and providing opportunities for socialisation, routines and nutritious food. One practitioner observed clear improvements in the language, weight and general behaviour of two children in particular, offering the following reflection:

'These kids spend a lot of their day in a very small lounge room, where the whole family spends most of their time. The kids don't spend much time outside. Their sleep is also affected and well, their behaviour is then affected by this. Childcare has been really good for them'.

Access to childcare also enabled these mothers to attend Group, and provided greater opportunities for 'one-on-one' time with their babies in the home. For Client One, who was stressed and later depressed through the program (and whose baby was observed to be developmentally behind), having access to parenting respite through childcare was particularly valuable.

6. The involvement of fathers

A welcome strength of the program was its level of engagement with fathers. Whilst initially intended as a space for mothers and babies, three fathers became regular Group participants. Other attended more regularly as the program developed. For example, Client Two's partner *'learnt to step back and not be as intrusive and he now will have a bit of a joke about it. He's also really focussed now on getting a job and making their future a more positive one'* (Hey Babe Practitioner).

Further to Group, Client One's partner regularly engaged in home visits, and opened up to staff about his own personal issues and how they impacted his family. Speaking to this rapport and trust, he shared the following remark with his practitioner: *'I'm only telling you this because you are the only service that has helped our family'*.

SERVICE CONSIDERATIONS:

1. Case complexity

The program provided an intensive level of case management to five families, and less intense interventions to the remaining three. The clients who required the least complex support were all first-time parents, two of whom had supportive hands-on partners. Although the program broadened its inclusion criteria beyond antenatal referrals in response to service need, practitioners indicated that the referrals received were generally appropriate in terms of complexity – however the number of families engaged with complex needs did place stress upon the resources available to the program.

'Because our families have more than just the babies that are our clients, there are bigger problems, there are lots more things arising than just the parenting of a newborn, which has been very rewarding, but its broader than it was initially designed to be... a lot of case management' (Hey Babe Practitioner)

2. Client engagement

In the majority of cases, practitioners formed effective working relationships with families, despite the frequent need to raise difficult issues and involve Child Protection. This strong level of engagement is apparent through family receptiveness to home visits, regular attendance at Group, the involvement of fathers and the low attrition rate. As previously indicated, only one client chose not to engage in the program, and those that withdrew did so as a result of moving out of the service catchment, or as a consequence of their child being placed in statutory care.

3. Mothers' group

Group was a key part of the *Hey Babe* program. Its success can be attributed to a number of factors, including its relaxed and informal atmosphere, focus on relationships and strengths, extended length, consistent cohort of families, openness to fathers, and importantly, the collaborative approach of the workers themselves, who facilitated sessions together, provided transport for clients and truly embraced the program.

Group combined early parenting education with more informal mother/baby socialisation, infant-led play and peer support. The more structured education was delivered early in the program over eight sessions, typically involving 30 minutes of education followed by informal interaction between mothers, babies and staff. Later in the program, Group became a less-structured space where parents could come together to participate in shared activities with their children (led by staff) and derive peer support. This approach enabled parents to take greater ownership of the Group, with practitioners providing parenting education in an '*opportunistic way*' – for example '*bouncing off*' the questions asked by parents so that the distance between 'professional' and 'client' could be minimised.

In addition to co-location of practitioners, Group fostered strong collaboration between the QEC and Quantum service partners, providing frequent opportunities for staff to work together and share/reflect on their practice experiences and goals. Group also enabled practitioners to provide direct support to each other's clients – in effect broadening each family's team of support.

At program closure, both staff and clients suggested that Group could be strengthened in the future by incorporating more sessions outside of the service setting (i.e. parks, library), with the potential to impact families' ongoing engagement with their communities. The Coordinator also remarked that the babies '*easily outgrew*' the Group location, and that a larger space was needed to enable a greater range of play activities as babies become more mobile.

4. Practice challenges

Implementation

The *Hey Babe* model was broadly defined at program outset. Whilst the Coordinator and staff had an understanding of the program's staffing model, intended length, referral targets and eligibility criteria, there was little documentation to assist implementation.

'We don't have any guidelines and there is no program written for it...The 'Tummies to Toddlers®' manual was meant to come out and support the Hey Babe program but that hasn't happened yet, so we haven't had that support either (Coordinator).'

Given the model's loose parameters, a large part of the program was developed '*on the ground*'. This process was guided by the experience of staff, and strengthened by QEC's broader suite of established early parenting programs, in particular *Parenting Plus*⁷ and *Playsteps*. Whilst the lack of operational guidelines was identified as a challenge, staff nonetheless reported little negative impact upon their work with families. Practitioners remarked that the ability to work flexibly had been '*really good in some ways*', enabling them to tailor service level intensity to client need. Practitioners also felt that the underpinning practice philosophies of both QEC and Quantum had assisted them '*to run with things*'.

⁷ *Parenting Plus* is a nine-week home based early parenting program aimed at families whose youngest child is less than 4 years old. It aims to strengthen the family and prevent entry into the Child Protection system. <http://www.qec.org.au/families/parenting-plus>

'It was the experience of the workers that allowed the program to get going so well. They just got in there and did incredible work with some very complex families, without a lot of guidance, really. Having two very experienced staff, who complemented each other really well was absolutely essential (Coordinator)'.

Program documentation and methods

The need to develop structured documentation was noted by all staff, to better enable case recording, and ongoing, consistent assessments of child development, early parenting progress and risk.

'It would've been good if there was more structure, and more direction in what aspects of child development I should've been focussing on at different times. Also with case notes, what observations I should be making, what aspects of development I should be assessing. A template would've been good, I could've used that in my work and my case recording too (Practitioner)'.

As per *Tummies to Toddlers*®, video and photography were utilised during Group sessions to aid practitioner assessments of child development and parenting practices, inform case planning, and share achievements and milestones with families. Whilst video recording did not occur regularly through the program, when utilised it provided an additional means of 'observing parent and infant progress and attachment over time', and 'helped identify areas of parenting and infant development that may need to be focussed upon more'.

Photography was a regular Group activity, utilised by practitioners to capture Group process, and to record and celebrate child developmental milestones, parental attachment and group member relationships. Photos were provided to parents on a weekly basis, and represented a personal record of each child's first year of life. Photos were positively received, and were a welcome Group ritual that families could share together.

Resources

Staff indicated that the EFT allocated to the program had been insufficient to manage the complexity of the families who had been referred, or to meet the demands associated with supervision and planning/coordination. One practitioner noted that '*dependent on case complexity, up to four clients per worker would be ideal [on the basis of 0.4 EFT]*', and that '*a balanced case load was essential*'. The following EFT increase was identified by the Coordinator:

- Two early childhood practitioners employed at 0.6 EFT (increased from 0.4)
- One Coordinator at 0.6 EFT (increased from 0.1)

Staff also spoke of the lack of brokerage associated with the program, insisting that a brokerage provision for the future was essential. Without formal access to brokerage, staff had turned to other programs within QEC and Quantum (sparingly), particularly on behalf of Client Three who experienced considerable financial stress throughout the program.

Supervision and coordination

The *Hey Babe* staffing model was designed to have the Coordinator work '*half a day one week with Group and half a day to coordinate activities*'. In practice however, this EFT did not enable regular supervision was inadequate given the amount of program coordination required for a new program.

'I catch-up with (the practitioners) periodically to talk about clients, but it's really on the hop (or) over the phone when needed, or after group sessions when we sometimes get a chance to sit down and informally debrief together (Coordinator)'.

In addition to her role within Group, the Coordinator also attended all first home visits, and participated in a number of others when necessary due to risk. The Coordinator's support also extended to participation in meetings with other professionals – including frequent consultation with Community-Based Child Protection, and in the case of Client Seven, attendance at medical care plan meetings.

Despite these limitations, practitioners nonetheless indicated that they had felt highly supported by the Coordinator, noting that *'she was always available for us'* and *'would back us up whenever needed, particularly when working with complex clients'*. Staff also reflected that they had been *'able to support each other through difficult times with families'*, speaking to the rapport and collaboration developed within the small team.

The Coordinator emphasised that given program staff were *'skilled and autonomous senior practitioners'* with *'a mix of complementary experience'*, they had not been reliant upon her in their everyday practice activities. In the absence of such senior practitioners, a greater need for practice development, training and direct support from the Coordinator would have been necessary, yet impracticable given the program's resources.

CLIENT SATISFACTION:

Client service satisfaction was measured via the Client Satisfaction Questionnaire (CSQ-8) (Larsen et al, 1979). The CSQ-8 is an 8-item scale, scored by summing individual item scores to create a total score with a range of '8 to 32'; higher scores indicating higher satisfaction.

Table 15 shows high levels of satisfaction across the client group (n=5), consistent with the positive feedback provided directly to the program via implementation of the KANSAS scale, and via face-to-face comments shared directly with staff.

Table 15. Client Satisfaction measured at Wave One and Wave Two, with difference score indicating degree and direction of change over time (n=5).

	Wave One	Wave Two	Change Score
Client One	32	31	- 1
Client Two	29	30	+ 1
Client Three	30	31	+ 1
Client Four	23	25	+ 2
Client Five	28	29	+ 1
MEAN	28.4	29.2	+ 0.8

A closer examination of the data also shows that:

- Client satisfaction increased for 80% of clients (n=4) over the two waves. Whilst Client One's level of satisfaction diminished over this time, it nonetheless remained very high at program closure with a score of 31.
- At both interview points 80% of clients (n=4) reported that they had *'definitely'* received the kind of service they had wanted. The remaining client reported that they had *'generally'* done so.
- All clients (n=5) reported that the program had met *'all of (their) needs'* at program closure, and that they would *'definitely'* recommend the program to others.

The following is a selection of client open feedback:

'(My Worker) went beyond my expectations. She helped with all of the kids and has done wonders. My other kids now get to school and day care, and I have free time for myself now. Workers were down to earth, caring. Improved the whole house'.

'(My baby) loves interacting with other kids; it's good to meet other mums'.

'(My worker) helped me get support, to see my doctor for my depression. We focussed not just on the kids, but looked at my needs and my past. Helping me to look at my own needs is another way of helping me to be a better parent'.

'Meeting other mums was good, I received good support for (my baby), great for him to be with other babies. Group was very good - I will miss it a lot'.

'My confidence as a parent has improved. Getting housing has been important. The regular contact with (my worker) - having her services and help. (My Worker) has been amazing - always there, she's done a lot to help me'.

'They've helped me to understand my baby's needs - information about solids, sleep and telling me that I'm not doing a bad job. (The workers) are not judgemental. My confidence as a mum is much better now.'

The following feedback about how the program could be improved was also provided:

'Group should have a day trip once a month – maybe going to the park or something more social which is low cost for Anglicare. Crafts with children, a range of things'.

'Having group every week would be good'.

CONCLUSIONS AND RECOMMENDATIONS

This evaluation provides early support for the pilot *Hey Babe* program, with tangible benefits identified for mothers, families and babies targeted for the service. It demonstrates *Hey Babe* as a viable early-intervention model, with the capacity for intensive and flexible service delivery.

Whilst this evaluation cannot identify which aspects of the program had the greatest impact for families, a number of key factors are likely contributors to the program's efficacy. These include: *the experience and expertise of staff; the long-term and flexible nature of the support provided; the capacity for early intervention and antenatal support; and importantly, the combination of home visits, case management and embedded group activities as core components of the service model.*

These factors serve to differentiate *Hey Babe* from other early parenting and family support services available in the Latrobe/Baw Baw IFS region, and are central drivers of the program's innovation as an alternative service model for minimum families.

Summary of outcomes

The outcomes identified in this report offer encouraging early evidence for the program's potential impacts for babies and families. These include:

- Development of parental confidence, protective parenting practices and improved parental capacity in some families
- Age-appropriate infant development across most families
- Consistently strong mother-baby attachment
- The majority of children remaining in parental care, with minimal or no need for engagement with Child Protection for most families
- Low incidence of self-reported maternal stress, anxiety and depression at program closure
- Social and peer connectedness between mothers
- Increased infant and maternal safety for some families
- Improved family stability for some families
- Low incidence of maternal alcohol and other drug use at program closure
- Positive engagement with fathers
- Consistently high levels of client satisfaction

Recommendations

The following recommendations and service considerations are presented.

Recommendation One:

This report provides early endorsement of the *Hey Babe* as a viable early parenting support model for vulnerable families with new babies. Contingent on funding, it is recommended that the program be extended beyond the initial pilot phase to gain a deeper understanding of the intervention's impacts for families, and to further bed-down the program's documentation, processes and practice framework.

Hey Babe is an integrated service model capable of working at multiple levels of the family system. The model recognises that engagement with families can take time, and that holistic and flexible interventions with broad scope and capacity can be particularly effective. The model also recognises the importance of engaging skilled practitioners to support complex interventions. The model enabled practitioners to provide early parenting support (home and group-based) together with general support and case management to address the wider needs of families, that may in turn impact parenting capacity and the safety and wellbeing of children. Cohesion across home and group-based aspects of the program was fostered by involving practitioners in all aspects of service delivery, making for mutually informing, robust interventions.

Recommendation Two:

The mothers' group component of the *Hey Babe* program is a particularly valuable part of the model, differentiating it from other family and parenting support programs in the region. It is recommended that future applications of the program ensure that the group component continues as an embedded feature of the model, and that resources are made available to encourage and support family attendance and engagement.

The combination of home visits and group work enabled early parenting education to be delivered dynamically, with individual support balanced with peer-based education, each modality informing and strengthening the other. By embedding a group component into the program, access to a regular space for peer support was facilitated: a group setting that families might otherwise hesitate, struggle or lack the confidence to take part in. Group served multiple roles. It strengthened the social connectedness and confidence of parents, provided a platform for more structured early parenting education, and increased babies' (and by extension families') engagement in rich, socially and developmentally-appropriate play. Resourcing the program to provide regular client transport to Group was critical to engagement, as was arranging childcare for older children and commencing Group a few months into the program to allow for client-worker rapport to be developed before peer-based support was commenced.

Recommendation Three:

The 12-month length of the program is an important and differentiating feature of the model. It is recommended that future implementation should continue to provide at least 12 months of service, targeted both antenatally and across the developmentally critical first year of infant life. It is also recommended that the program be open to new referrals on a continual basis, in recognition that some families may choose to withdraw from the program prior to receiving 12 months of service.

The 12-month length of the program enabled practitioners to support families in a flexible and gradual fashion over time, consistent with client need and capacity, presenting risk and the particular stage of infant development. By supporting families over 12 months, parents had greater opportunity to embed and establish positive parenting practices, and practitioners were given increased scope to intervene 'early' in response to changing levels of risk. The extended length also enabled families to receive *consistent* early parenting support at a critical point of their babies' development. Given that transitioning between time-limited programs has the potential to fragment service delivery and undermine families' readiness to engage in continued support, the ability to provide consistent support over time to vulnerable families was a key aspect of the program's efficacy.

Recommendation Four:

Given the complexity of the program model, and the high level of need associated with the families typically referred to the program, it is important that the program continue to engage experienced and highly skilled practitioners if implemented in the future.

A key strength of the program was the ability of practitioners to deliver all aspects of the model in an integrated fashion. As such, it was important that practitioners had the capacity, experience and skill to facilitate structured group work (consistent with the *Playsteps* model), deliver early parenting support in the home, and provide complex case management with vulnerable families.

Recommendation Five:

Future implementation of the program should continue to encourage both antenatal referrals and antenatal service delivery, consistent with the early-intervention approach.

Despite the lack of antenatal support provided to mothers by the program, referrals received during pregnancy enabled practitioners to engage with families soon after birth, which was incredibly valuable. As such, families had to access to basic infant care support as soon as possible, together with assistance to attend maternal child health appointments, emotional support, and help to address broader needs and risk factors that have the potential to undermine parenting capacity and infant development in the long term. Antenatal referrals also increased the capacity of practitioners to observe, monitor and respond to potential infant risk early – benefiting both infants and families, and potentially minimising future engagement with the Child Protection system.

Recommendation Six:

Increased resources are required to support future implementation of the program. This extends to an increased coordination component, a brokerage allocation and practitioner EFT consistent with the number of families targeted for support. Continued funding of pool cars to assist families to attend Group is also strongly recommended.

The overall EFT allocated to the program was insufficient to manage the complexity of the work, or the demands associated with supervision, intake, planning and coordination. Whilst some of these challenges were countered by the experience and dedication of program staff and the additional support provided by QEC and Quantum, the limited resourcing for program coordination (0.1 EFT per week) and client brokerage remained ongoing barriers. Impacts included infrequent access to supervision and support for practitioners, considerable pressure on the Coordinator in both her coordination and Group facilitator roles, and minimal ability to support clients with basic material or financial support when needed. Despite these shortfalls, funding for pool cars to support regular attendance at Group was well-considered, particularly given that a number of families had no alternative access to transport and lived outside of Morwell in other townships.

Recommendation Seven:

Further consolidation of program documentation is required to enrich, guide and inform future implementation of the model. This extends to practice resources and guidelines, assessment frameworks and data collection tools.

Given that *Hey Babe* was not fully documented at service commencement, staff established much of the program 'on the ground'. Staff were largely guided by the *Parenting Plus* and *Playsteps* programs, together with the broader family support and case management services associated with the QEC and Quantum services. The program also utilised Anglicare Victoria case note formats and family action plans, together with structured assessments such as KANSAS and NCAST scales routinely utilised by QEC. Whilst this approach enabled flexibility, greater documentation may have further supported practice, and provided a more structured and routine means of embedding developmental and parenting assessments (i.e. outcomes) through service delivery.

Concluding Statement

This evaluation provides early support for the *Hey Babe* model. Further implementation of the program has the potential to yield a richer picture of the program's impacts for future families and children, supported by increased program coordination, strengthened processes and embedded assessment and outcomes measures. Given the positive early impacts identified in this report, there is value in continued implementation of the program over an extended pilot period.

REFERENCES

Armstrong, K.L., et al. (2000) Promoting secure attachment, maternal mood and health in a vulnerable population: a randomised controlled trial. *Journal of Paediatrics and Child Health*, 36: 555-62.

Briggs-Gowan, M. J., & Carter, A. S. (2002). *The Brief Infant-Toddler Social and Emotional Assessment*. PsychCorp: Harcourt Assessment, San Antonio, TX.

Condon, J.T., & Corkindale, C.J. (1998). The assessment of parent-to-infant attachment: Development of a self-report questionnaire instrument. *Journal of Reproductive and Infant Psychology* 16(1): 57-76.

Parent's Evaluation of Developmental Status (PEDS), the Australian Version. Centre for Community Child Health, Royal Children's Hospital, Melbourne 2005. Adapted with permission from Frances Page Glascoe, Ellsworth and Vandermeer Press Ltd.

Australian Institute of Family Studies. *Growing Up in Australia: The Longitudinal Study of Australian Children*. Commonwealth Government of Australia.

Karoly, L.A., Greenwood, P.W., Everingham, S.S., Hoube, J., Kilburn M.R., Rydell, C.P., Sanders, M., Chiesa, J. (1998). *Investing in our children: What we know and we don't know about the costs and benefits of early childhood interventions*, RAND Corporation, Santa Monica, CA.

McCormick, M.C., Brooks-Gunn, J., Buka, S.L., et al. (2006). Early intervention in low birth weight premature infants: Results at 18 years of age for the Infant Health and Development Program. *Paediatrics*, 117: 771-80.

Olds, D. et al. (1998). Long term effects of nurse home visitation on children's criminal and antisocial behaviour. *JAMA*: 1238-44.

Olds, D. et al. (2007). Effects of nurse home-visiting on maternal and child functioning: Age 9 follow-up of a randomized trial. *Pediatrics*, 120(4): 832-845.

Richardson, H.N., Zorrilla, E.P., Mandyam, C.D., Rivier, C.L. (2006). Exposure to repetitive versus varied stress during prenatal development generates two distinct anxio-genic and neuroendocrine profiles in adulthood. *Endocrinology*, 147: 2506-17.

Quinliven, J. (2003). Postnatal home visits in teenage mothers: a randomised controlled trial. *The Lancet*, 361.

Web Center for Social Research Methods. (2006). *The Non-Equivalent Group Design*. Retrieved from: <http://www.socialresearchmethods.net/kb/quasnegd.php>

Webster, J., Linnane, J.W., Dibley, L.M., Hinson, J.K., Starrenburg, S.E., Roberts, J.A. (2000). Measuring social support in pregnancy: Can it be simple and meaningful?. *Birth*, 27(2): 97-101.

Wookey, (2010). *Tummies to Toddlers Program Evaluation*. The Queen Elizabeth Centre, Victoria, Australia.

APPENDIX A
Program Logic Model

Key Inputs	Activities	Outcomes	Impacts
0.4 EFT – QEC Early Child Practitioner	1. Early parenting support in the home 2. Case management 3. Group	1. Improved readiness for birth and early parenting 2. Improved infant care practices 3. Reduction in maternal and family risk factors 4. Improved social connectedness	1. Reduction in Child Protection involvement and maltreatment 2. Improved child physical, cognitive social and emotional development
0.4 EFT – Quantum Family Practitioner (Youth background) Quantum			
0.1 EFT- QEC Program coordinator	1. Coordination 2. Staff supervision 3. Group	1. Program implementation 2. Practitioner support and practice development 3. Improved outcomes for vulnerable clients and mitigation of risk	
Co-located office infrastructure		1. Enhanced peer support 2. Strengthened collaborative practice	
Brokerage <i>(informally provided by QEC and Quantum – no direct provision via Hey Babe)</i>	Purchase of essential items	1. Enhanced engagement in community services 2. Increased child/family safety, stability and wellbeing	
Fleet vehicles Car seats	Client transport to Group and other activities	1. Strengthened infant health and development 2. Improved social connectedness 3. Family health and wellbeing	
Governance Group (Latrobe/Baw Baw IFS Alliance)			
Professional development	Access to organisational training and reflective practice		
Evaluation support	Outcomes and process evaluation	1. Evidence of early of program impacts	

APPENDIX B
Description of Measures

Measurement domain	Measure	Description	Assessment wave
Obstetrical health and birth outcomes			
	Antenatal data held in <i>Victorian Birth Record Form</i>	Obstetric conditions, procedures and outcomes, gestation, birth-weight, neonatal morbidity, birth defects, maternal health and wellbeing.	Client hospital records.
	Obstetrical health (general)	Was baby born late, on time or early? <i>Late birth (42 weeks or more), on time (37-41 weeks), somewhat early (33-36 weeks), very early (32 weeks or less).</i> <ul style="list-style-type: none"> • How would you rate your general health during pregnancy? <i>Poor, average, good, very good, excellent.</i> 	Telephone interview: W1 (via retrospective reports).
	Medication exposure, smoking, drug and alcohol use	Measured by: <i>period of use, level and frequency of use, and change in use during pregnancy and after birth.</i> Substance use by type: <i>prescription medicines, smoking, alcohol and consumption of other illicit or unprescribed drugs (such as cannabis, inhalants, pain killers, sleeping pills, heroin, cocaine, amphetamines, natural hallucinogens, LSD and ecstasy/designer drugs)</i>	Telephone interview: W1, W2
Infant development			
	<i>Parent's Evaluation of Developmental Status, Authorised Australian Version [PEDS] (Glascoe, 2006)</i>	5-items from 10-item scale: <ul style="list-style-type: none"> • Do you have any concerns about [baby's] development, learning and behaviour? <i>No, Yes, A little.</i> • Do you have any concerns about how child talks and makes speech sounds? <i>No, Yes, a little.</i> • Do you have any concerns about how child understands what you say? <i>No, Yes, a little.</i> • Do you have any concerns about how child uses his/her hands and fingers to do things? <i>No, Yes, a little.</i> • Do you have any concerns about how child uses his/her arms and legs? <i>No, Yes, a little.</i> 	Telephone interview: W1, W2
	<i>Brief Infant-Toddler Social and Emotional Assessment</i>	All items from 42-item scale	Telephone interview: W2

Measurement domain	Measure	Description	Assessment wave
	(BITSEA) (Briggs-Gowan & Carter, 2002).		
Infant care/parenting practices			
	Parenting <i>The Growing Up in Australia: The Longitudinal Study of Australian Children (AIFS).</i>	5-items: Overall as a parent do you think you are: <i>Not very good at being a parent, a person who has trouble being a parent.</i> Response scale from 1 (very untrue) to 10 (very true): <ul style="list-style-type: none"> • I feel that I am very good at keeping this child amused • I feel that I am very good at calming this child down when s/he is upset or crying • I feel I am very good at keeping this child busy while I am doing the housework • I feel I am good at routine tasks of caring for this child (feeding him/her, changing his or her nappies and giving him/her a bath) 	Telephone interview: W1, W2
	Problems with infant <i>Victorian Adolescent Health Cohort Study (Murdoch Children's Research Institute 1992)</i>	3-items: <ul style="list-style-type: none"> • Was baby ever breastfed? <i>Yes, no</i> • Are you having problems with your baby sleeping? <i>Yes, no, specify</i> • Is your infant experiencing any health problems? <i>Yes, no, specify</i> 	Telephone interview: W1, W2
	Feeding	<ul style="list-style-type: none"> • Is baby still being breastfed? <i>Yes, no</i> • How old was baby when you stopped breast feeding? <i>X months</i> • Are you having problems with your baby feeding? <i>Not at all, a little, moderately, somewhat.</i> • Are you having problems with your baby feeding? <i>Yes, no</i> • What is the problem? <i>Breastfeeding, weaning, starting solids, other.</i> 	Telephone interview: W1, W2
	Sleeping patterns <i>Growing Up in Australia: The Longitudinal Study of Australian Children (AIFS).</i>	2-items: <ul style="list-style-type: none"> • How often does your child wake or call out for you during the night? <i>Never wakes, 1-2 nights, 3-14 nights, 5-6 nights, every night.</i> • How much are his/her sleeping habits a problem for you? <i>A large</i> 	Telephone interview: W1

Measurement domain	Measure	Description	Assessment wave
		<i>problem, problem, a small problem, no problem at all.</i>	
	Parental self-efficacy LSAC (2002)	Overall, as a parent do you think that you are: <i>Not very good at being a parent, a person who has some trouble being a parent, an average parent, a better than average parent, a very good parent.</i>	Telephone interview: W1
	Safety	Since birth how many times has baby been hurt, injured or had an accident that needed medical attention from a doctor or hospital? <i>None, x number of times</i>	Telephone interview: W1, W2
Antenatal foetal attachment/Parent-infant relationship			
	<i>Maternal Post-Partum Attachment Scale (Condon and Corkindale, 1998)</i>	5-items from 19-item scale: <ul style="list-style-type: none"> • I try to involve myself as much as I possibly can PLAYING with the baby: <i>this is true, this is untrue</i> • When I have to leave the baby: <i>I usually feel rather sad or it's hard to leave, I often feel rather sad, I have mixed feelings of both sadness and relief, I often feel rather sad or it's easy to leave, not applicable.</i> • When I am not with the baby I find myself thinking about him/her: <i>almost all of the time, very frequently, frequently, occasionally, not at all.</i> • When I am with baby: <i>I usually try and prolong the time I spend with him/her, I usually try to shorten the time I spend with him/her</i> • When I have been away from the baby for a while and I am about to be with him/her again, I usually feel: <i>Intense pleasure at the idea, moderate pleasure at the idea, mild pleasure at the idea, no feelings at all about the idea, negative feelings about the idea.</i> 	Telephone interview: W1, W2
Maternal wellbeing			
	Anxiety and Stress DASS-21	7-item anxiety subscale 7-item stress subscale.	Telephone interview: W1, W2
	Maternal postnatal depression	<ul style="list-style-type: none"> • Did you ever experience post-natal depression after the birth of your baby? <i>Yes, no, suspected – no diagnosis</i> • Did you receive treatment for it? <i>Yes, no</i> • Who treated you for your depression? <i>GP, psychiatrist, psychologist, MCHN, other.</i> • Did you experience a brief period of tearfulness and mood swings during the first week after your pregnancy? <i>Yes, no</i> 	Telephone interview: W1, W2

Measurement domain	Measure	Description	Assessment wave
Social support			
	<i>Maternity Social Support Scale (Webster & Linnane, 2000).</i>	Full 5-item scale. Response: <i>always, most of the time, some of the time, rarely, never</i> <ul style="list-style-type: none"> I have good friends who support me. My family is always there for me my husband/partner helps me a lot There is conflict with my husband/partner? I feel controlled by my husband/partner? I feel loved by my husband/partner? 	Telephone interview: W1, W2
Demographics			
	Household composition <i>Growing Up in Australia: The Longitudinal Study of Australian Children (AIFS).</i>	2-items: <ul style="list-style-type: none"> Does baby's other parent live with you? <i>Yes, no</i> Who else lives with you? <i>No person, your new partner, biological children, stepchildren, sibling, parent, other relative, housemate, unrelated adult, unrelated child.</i> How many homes has the baby lived in since she was born? <i>One, two, three or more.</i> 	Telephone interview: W1
	<i>Maternal age</i> <i>Country of origin</i>	<ul style="list-style-type: none"> How old were you at your last birthday? In which country were you born? 	Telephone interview: W1
	Employment, education and financial status <i>Growing Up in Australia: The Longitudinal Study of Australian Children (AIFS)</i>	3-items: <ul style="list-style-type: none"> Can you describe your current work situation? <i>Paid job full time, paid job part time, unemployed, doing voluntary work, stay at home mum, other.</i> Which of the following best describes your financial situation? <i>Living comfortably, doing alright, just getting by, finding it quite difficult, finding it very difficult, don't know</i> What is the highest level of primary or secondary school you have completed? <i>Year 12, year 11, year 10, year 9, year 8 or below, never attended school, still at school.</i> 	Telephone interview: W1
Program participation			
	IRIS data/worker report	Number of scheduled home visits completed, number of parenting group sessions attended, number of hours of casework	Administrative case file extraction
Referrals to community services and child protection			
	IRIS data/ worker report		Administrative case file extraction
Client Satisfaction and program feedback			

Measurement domain	Measure	Description	Assessment wave
	Client Satisfaction Questionnaire (CSQ-8) (Larsen et al, 1979)	<p>8-item scale.</p> <ul style="list-style-type: none"> • How would you rate the quality of service you have received? <i>Excellent, Good Fair, Poor</i> • Did you get the kind of service you wanted? <i>No, definitely No, not really Yes, generally Yes, definitely</i> • To what extent has our program met your needs? <i>Almost all of my needs have been met, Most of my needs have been met, Only a few of my needs have been met, None of my needs, have been met</i> • If a friend were in need of similar help, would you recommend our program to him or her? <i>No, definitely not No, I don't think so Yes, I think so, Yes, definitely</i> • How satisfied are you with the amount of help you have received? <i>Quite dissatisfied, Indifferent or mildly dissatisfied, Mostly satisfied Very satisfied</i> • Have the services you received helped you to deal more effectively with your problems? <i>Yes, they helped a great deal, Yes, they helped, No, they really didn't help, No, they seemed to make things worse</i> • In an overall, general sense how satisfied are you with the service you have received? <i>Very satisfied, Mostly satisfied, Indifferent or mildly dissatisfied, Quite dissatisfied</i> • If you were to seek help again, would you come back to our program? <i>No, definitely not, No, I don't think so, Yes, I think so, Yes definitely</i> 	Telephone interview: W1, W2
	Future needs	<ul style="list-style-type: none"> • I have the support I need in raising baby: <i>Not true, Somewhat true, Very true.</i> • I am worried about how I will cope without the Hay Babe program: <i>Not true, Somewhat true, Very true.</i> • The people who work in community services can be trusted: <i>Not true, Somewhat true, Very true.</i> • I am able to take good care of baby: <i>Not true, Somewhat true, Very true</i> • I need more help to look after baby: <i>Not true, Somewhat true, Very true</i> • I know where to find help or support if I need it: <i>Not true, Somewhat true, Very true</i> 	Telephone interview: W2

