

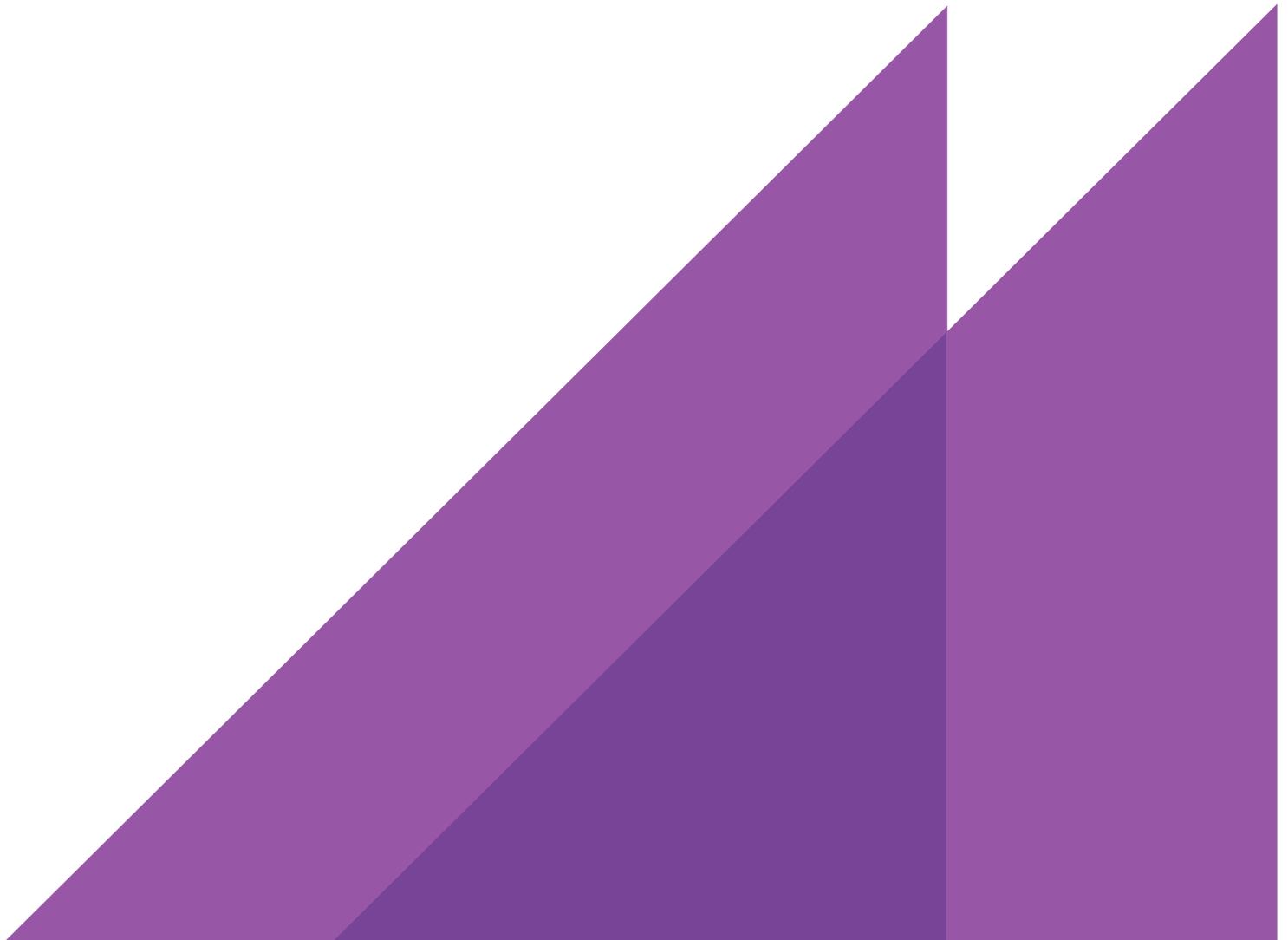
DEPARTMENT OF SOCIAL SERVICES

27 MARCH 2018

EVALUATION OF THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS



FINAL REPORT





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EXECUTIVE SUMMARY

ACIL Allen Consulting (ACIL Allen) was engaged by the Department of Social Services (DSS or the Department) to independently evaluate the Home Interaction Program for Parents and Youngsters (HIPPY).

Program overview

HIPPY is an international program, first established in Israel in 1969 as a small pilot study. It has subsequently been adapted and operates in Argentina, Australia, Austria, Canada, Germany, Israel, Italy, New Zealand, South Africa and the United States of America (USA).

HIPPY in Australia is a two year home-based early childhood enrichment program that supports and empowers parents¹ in their role as their child's first teacher. The program focuses on building the confidence and skills of parents of children aged between four and five years old, from disadvantaged communities, to create a positive learning environment at home and assist their child in preparing for school. The program also offers some parents a supported pathway to employment and further education, as well as fostering local community networks and leadership.

HIPPY is delivered according to five essential features:

- a two year, home-based program of activities
- role play as a learning tool
- parents as home tutors
- home visits and parent groups
- everywhere learning – looking for opportunities in everyday settings.

The Australian Government has funded a network of HIPPY sites across Australia. This includes the establishment of an initial 50 sites between 2008 and 2011 (phase 1). A further 50 Indigenous² focussed HIPPY sites were established (phase 2) in two stages: the first stage of phase 2 implementation included 25 Indigenous focused communities established by 2014 (phase 2, first 25 sites); and a further 25 Indigenous focused HIPPY communities

¹ The term 'parents' is used throughout the document and is inclusive of parents and carers.

² The term 'Indigenous' refers to peoples who identify as Aboriginal and/or Torres Strait Islander.

were operational at April 2016 (phase 2, second 25 sites). HIPPY currently provides services to around 4,000 children aged four and five years old each year.

HIPPY aims and governance

The objectives of HIPPY are to [Department of Social Services (DSS), n.d]:

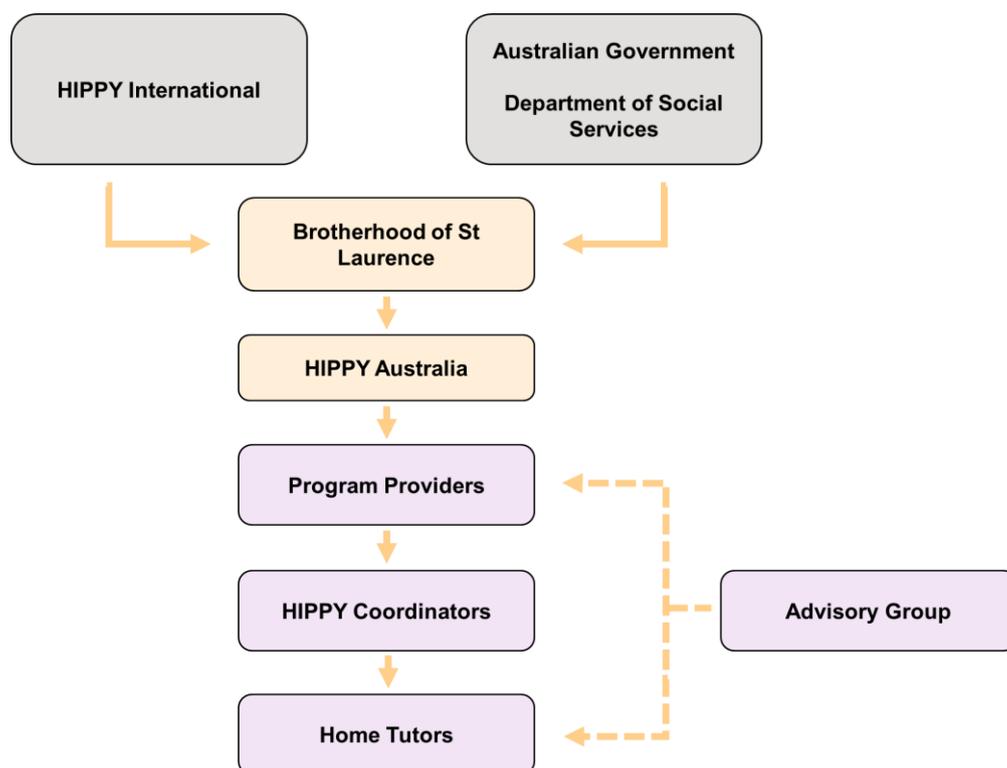
- provide children with a structured education-focused program that engages parents in their child's early learning in the home and everyday settings
- improve children's preparedness for school and strengthen school participation
- build the confidence and skills of parents to create a positive home learning environment
- support employment and community leadership opportunities for HIPPY coordinators, home tutors and parents
- strengthen communities.

HIPPY is delivered through a tiered governance arrangement in which the Brotherhood of St Laurence (BSL) has an exclusive licence from HIPPY International to administer the program in Australia. BSL established the program in Australia in 1998.

BSL is accountable to the Australian Government as the funding provider and HIPPY International as the program licence holder. Since 2008-09 the Australian Government has allocated more than \$130 million to BSL to administer the program. This includes \$105 million for the period 2014-15 to 2019-20, to continue to deliver the program in 100 communities across Australia.

The national office for HIPPY within BSL is 'HIPPY Australia' which, among other functions, provides program and organisational support and training. Through HIPPY Australia, BSL sub-licences 64 not-for-profit community organisations (program providers), including 15 Aboriginal Community Controlled Organisations (ACCOs), to tailor and deliver HIPPY locally in selected disadvantaged communities. HIPPY Australia is ultimately responsible for the program operation in the 100 sites. HIPPY Australia works collaboratively with HIPPY sites to support and ensure high-quality program delivery. This collaboration is facilitated through an assigned HIPPY Australia consultant for each site, who provides site advice and support in program delivery, training, materials and compliance.

An outline of the organisational structure of HIPPY in Australia is shown in Figure ES 1.

FIGURE ES 1 ORGANISATIONAL STRUCTURE OF HIPPY IN AUSTRALIA

SOURCE: ACIL ALLEN CONSULTING 2018, ORIGINALLY FROM HIPPY AUSTRALIA, COORDINATOR HANDBOOK.

To support the activities of the program, each site appoints a line manager and a HIPPY coordinator. The line manager is responsible for managing HIPPY in their site catchment and provides support to the HIPPY coordinator, who has various roles and responsibilities on the ground. The coordinator actively engages with the local community to recruit families and provides training to the home tutors. In addition, each site has an advisory group to guide the growth and development of the program and support its ongoing service to the community.

The HIPPY coordinator recruits home tutors who are employed to deliver HIPPY to parents. Home tutors are usually parents who have participated in the program, and are recruited from the local community to work with parents during the child's transition to full-time school. HIPPY uses structured materials and activities designed to be integrated into the daily life of the family. There are 45 activities delivered over the two year program, with 30 activities delivered in the first year and 15 activities in the second year.

Purpose of the evaluation

The overall objective of the evaluation was to independently assess the appropriateness, effectiveness, and efficiency of HIPPY in Australia. This included assessing whether the program is achieving its intended outcomes and whether there are more appropriate and efficient ways of achieving these outcomes. Additionally, evaluation readiness materials were prepared to support program delivery and development.

Evaluation methodology

A mixed methods approach was used to meet the requirements of the evaluation, drawing from qualitative and quantitative data. The evaluation was conducted from mid to late 2017.

The initial stage of the evaluation involved discussions with key departmental stakeholders to gain relevant information about the program and shape evaluation planning. A program logic and theory of change workshop was also undertaken to establish the basis for the evaluation readiness materials.

The following core evaluation activities were then undertaken in parallel:

- *A comprehensive literature review* – this included three components:
 - 1. an environmental scan consisting of analysis of similar early learning models operating in Australia and internationally, to analyse best practice and explore whether there are other effective models of delivering programs to improve school readiness
 - 2. analysis of the implementation of HIPPY in Australia, including issues that have been encountered to date with a particular focus on implementation in Indigenous focused sites and delivery to Indigenous participants
 - 3. synthesis of Australian and international data, detailing the effectiveness of HIPPY for different client groups, and under what circumstances.

A systematic search was conducted across three electronic databases. The search identified peer-reviewed original studies and systematic reviews. An exclusion criteria restricted the results according to publication date (1998-2017). Additional sources of evidence included evaluation reports available from HIPPY Australia, BSL, and other relevant international organisations. Following the search and refinement of results, the literature was categorised according to relevance and quality primarily considering the study design. The design of individual studies was reviewed based on their methodological approach including experimental and non-experimental designs³. Few studies used a randomised controlled trial design in which participants are randomly allocated to an experimental group. Quasi-experimental studies (involving a control group but without random participant assignment) and 'pre-test and post-test' evaluations without a control group were more common.

- *Examination of program data held by HIPPY Australia* – this included requesting, curating and analysing administrative data, limited to existing reporting capabilities within HIPPY Australia's *Efforts to Outcomes* business system.
- *Stakeholder consultations* – this involved consultations about the implementation of HIPPY in Australia with 20 program provider organisations. These occurred with HIPPY coordinators at all sites, and occasionally with both the HIPPY coordinator and line manager. The consultations sought to understand commonalities and differences across sites. Fifteen of 20 interviews were from phase 2 sites (first and second 25 sites), which were the Indigenous community focused sites established since 2014. The sample purposefully targeted organisations controlled or governed by Indigenous communities and represented seven of 20 interviews.

Preparation of evaluation readiness materials, including a program logic and theory of change, was also undertaken to align with Australian Government and departmental objectives.

³ Experimental designed studies involve the allocation of participants to different groups to test the effect of the service or intervention. There may be a number of groups, but often experimental designs have an experimental group which receives the intervention and a control group that does not receive the intervention. The use of different groups provides greater confidence that changes are being caused by the intervention or assist in ruling out other influences that cause differences in participant's outcomes.

Limitations of the evaluation

There were a number of limitations in undertaking the evaluation:

- *The emerging evidence base for prevention and early intervention programs* – in some cases the effectiveness of other relevant programs may have been established internationally but is still emerging in an Australian context and importantly in Indigenous communities. A focus of the evaluation was to identify evidence gaps and contribute to the ongoing development of the evidence base for HIPPY in the Australian context.
- *Recognition that some HIPPY sites are mature while other sites have only recently been fully implemented* – more recently established sites may have lower levels of participation and limited previous evaluation or administrative data available. Nonetheless, the extent to which different sites become established more quickly and/or those sites with changes in participation levels over time has provided useful insights for the evaluation.
- *Limitations of available program data* – current data and information for the program provides only a partial picture to assess whether HIPPY meets its objectives and outcomes. While attribution of outcomes is often difficult in social service delivery, both quantitative and qualitative data have been used to undertake the evaluation while acknowledging limitations or when further inquiry is required. The evaluation identifies data gaps and examines potential data enhancements for HIPPY.

These limitations shaped the analysis and ultimately informed the evaluation response particularly the gaps and limitations in evidence and data, and options to address these gaps.

Findings of the evaluation

Key findings of the evaluation are discussed below.

HIPPY implementation

There has been significant growth in the number of HIPPY sites in Australia since 2014-15. In the consultations, HIPPY coordinators considered that sites are generally well supported through formal and informal support systems to deliver HIPPY, including through the HIPPY program provider, HIPPY Australia, community networks and service providers, for example local pre-schools and community health providers.

There is general adherence to the five essential features of HIPPY which make up the core elements of the HIPPY model. Responding to the diverse demographic needs of the families and communities involved, there are however differences across sites in the delivery of HIPPY (including ongoing enrolment, delivery of the program to families including group meetings, and home tutor training). Additionally, consultations identified that coordinators do not have a shared understanding of the extent of flexibility and adaptation in delivery permitted by BSL under the licenced model. BSL has a process for approving adaptations to the model, however the information was not accessible for this evaluation. The literature examined has provided insight into the rationale for the program's five essential features, though the link between individual elements of the essential features to outcomes is still emerging.

The flexibility and approach of HIPPY supports culturally appropriate engagement of diverse communities. However, consultations conducted for the evaluation indicated challenges with delivery in very remote communities where there are very high levels of Indigenous family participation. Examples of challenges include that the two year model was difficult to complete particularly being at the same time as starting school, having a focus on one

person working with the child was not always possible, the location of delivery needs to be flexible to family circumstances, and the need for flexibility in the delivery during community shut down times. The literature review identified limited evidence related to the design and provision of HIPPY for Indigenous families. Note that this project did not speak directly to Indigenous community members (or other recipients of HIPPY) about their experiences.

In terms of site establishment, the HIPPY phase 2 sites have been established using the same method and support model including additional supports when required. Consultations suggested that establishment of HIPPY sites can take between two and four years. Recruitment of the right coordinator and support from the HIPPY line manager, HIPPY consultant and advisory group are seen as key to successful establishment. These supports can provide program expertise, familiarity with the local community, assist with recruitment and retention of families and home tutors, and facilitate access to hard-to-reach families. During establishment, many sites found it difficult to recruit sufficient numbers of appropriate home tutors which affected the quality and timing of delivery in some sites.

Across HIPPY in Australia, most sites are able to recruit and retain enough families to meet the expected number of enrolments. However, it is difficult to assess the extent to which the program is reaching those most in-need. Stakeholders reported that some sites may focus on meeting the expected number of enrolments (and gaining momentum) in the first year rather than focusing on the more difficult to reach groups. Some challenges in effectively engaging families and delivering the program were also identified for sites with diverse communities.

Lower program uptake and completion was evident in very remote Indigenous communities. In these communities, consultations indicated that flexible strategies, such as expanding the service area for the site, were sometimes required to maintain optimum enrolment numbers. While advisory groups and line managers can facilitate access to these communities, some coordinators observed that networking opportunities and support from experienced coordinators facing similar challenges would be beneficial.

Key findings

- **Finding 1.** [chapter 2] Overall, HIPPY sites appear to have been established according to the staged process prescribed by HIPPY Australia and supported by HIPPY tools, resources and HIPPY consultants and staff.
- **Finding 2.** [chapter 2] There is general adherence to the five essential features of HIPPY. Where variations occurred, sites were not always clear on program flexibility (i.e. the extent to which local changes facilitate delivery of the model) versus model adaptation (i.e. changing core elements of the model).
- **Finding 3.** [chapter 2] Overall, the flexibility and approach of HIPPY appears to support culturally appropriate engagement of diverse communities. However, interviews conducted for the evaluation identified challenges for delivery in very remote communities, and there is limited evidence related to the design and provision of HIPPY for Indigenous families.
- **Finding 4.** [chapter 2] HIPPY sites generally recruit disadvantaged families, however, it is not possible to ascertain that those most in need are being reached within sites.
- **Finding 5.** [chapter 2] Approximately 30 to 40 per cent of children and families disengage and exit HIPPY early. The *Recruiting and Retaining Families in HIPPY* study (Roost et al., 2014) identified actions to adjust practice, however it is not apparent that use and effectiveness of identified practices has been examined. Early exit rates for Indigenous children are highest in very remote sites.

Outcomes achieved

HIPPY is generally effective in achieving its intended outcomes. In examining HIPPY outcomes the evaluation has drawn on data collected by HIPPY Australia from graduating parents, available literature and consultations with 20 HIPPY coordinators.

In relation to children's outcomes from completing HIPPY, the data examined identifies that a large majority of children who graduated from HIPPY (among 2013-2015 cohorts) have increased enjoyment in learning and increased confidence in starting school (91 per cent overall, total n = 1,266⁴). Program data also identifies an improvement in children's social skills (83 per cent overall, total n = 1,266).

The literature also identified that HIPPY contributes to children's school readiness. However, the literature review did not reveal clear findings in relation to the medium term benefits in Australia (such as, academic outcomes at grade 3) of completing HIPPY. In the consultations, HIPPY coordinators expressed that HIPPY improves children's early literacy and numeracy.

Program data collected by HIPPY sites identifies a number of benefits for parents. Parents report that they had improved their understanding of how children learn and grow, increased time spent with their children, and also acquired parenting skills that they are able to use outside of HIPPY activities and with other children. Findings from the data aligned with findings from the literature and outcomes described during the consultations.

For children and families from culturally and linguistically diverse (CALD) backgrounds, parents report higher rates of child and parent/ family outcomes. The literature review supported the findings that HIPPY achieves improved outcomes for children from CALD backgrounds.

Based on data collected for 2014 and 2015 cohorts across 75 HIPPY sites, the experiences of Indigenous children and families engaged in the program were positive and similar to the overall population of families graduating from HIPPY, though marginally lower in some areas. For example, the proportion of Indigenous parents who reported their child was 'excited' or 'reasonably happy' about going to school was 77 per cent, compared to 81 per cent for the general population of graduating HIPPY families. While these are promising results, the literature review did not identify experimental studies that would provide a greater level of confidence about the role of HIPPY in delivering improved outcomes for Indigenous children.

The self-reported data from participants relating to engagement with community and improved pathways to training were also positive. The available data showed that in general, families became more aware of mainstream and community-based services in their area, and that they were more confident in engaging with others, such as staff and teachers at their child's school. While these data were positive, there was limited literature to confirm the benefits of parents/ carers for future study and employment outcomes.

Key findings

- **Finding 6.** [chapter 3] Overall, the available evidence indicates that HIPPY is effective in achieving its focus of helping children to improve their learning outcomes and helping them to become more ready for school.

⁴ The total number of survey respondents was available. The number of respondents to individual questions was not available.

- **Finding 7.** [chapter 3] Due to insufficient studies in an Australian context, there were not clear findings in relation to the medium term benefits of completing HIPYPY in Australia and the impact of the program on parent study or employment outcomes.
- **Finding 8.** [chapter 3] Children from CALD backgrounds are reported as having slightly higher rates of achievement relative to children across the HIPYPY population.
- **Finding 9.** [chapter 3] Outcomes for Indigenous children appear to be comparable to the overall group over the 2014 and 2015 cohorts. However, the experience of the 2016 cohort particularly being more concentrated in remote communities, was not available and warrants continuing analysis of these outcomes. Moreover, the literature in relation to the achievement of cognitive⁵ outcomes for Indigenous children is underdeveloped.

Economic analysis

Analysis of financial data for calendar years 2014 and 2015 showed that delivery of HIPYPY costs less per child at mature sites as compared to newly established sites. Newly established sites typically had lower enrolments and thus the fixed costs were spread over fewer enrolments. New sites will operate more efficiently if these fixed costs stay the same but with more enrolments as is the case with mature sites.

Newly established sites showed relatively rapid growth in expenses related to program delivery over the two years, particularly employment expenses as more activities were delivered. These sites also experienced high travel and motor vehicle expenses, due to their relatively greater remoteness as compared to mature sites. Phase 2 sites can be expected to have lower costs per enrolment over time as enrolments increase, however benchmarks were not evident in relation to program efficiency.

Cost benefit analysis based indicates that HIPYPY is expected to result in positive net benefits, i.e. lower cost of program delivery compared to the savings to society, the government and the individual. This analysis draws on evidence from international studies, including studies relating to the outcomes from HIPYPY and the benefits achieved by other early childhood interventions in the medium and longer term. These benefits are expected to be derived on the basis that HIPYPY is implemented effectively and achieves the benefits identified in the literature. While there will be variability in which benefits are achieved, the best available evidence was used for the analysis.

When compared to early childhood intervention programs that operate over a comparable period of time, HIPYPY appears to show similar if not better value. Value is estimated as the returns for individuals, society and government compared with the running costs of the program to government. However, care needs to be taken when considering comparator programs as these were not implemented in Australia, and medium and long term benefits have been measured with different levels of precision. Care also needs to be taken given the limitations of available data on outcomes from HIPYPY in Australia.

Key findings

- **Finding 10.** [chapter 4] HIPYPY delivery is more efficient (lower cost per child) in mature sites because the same fixed costs are allocated over a higher number of children. Phase 2 sites would become more efficient over time if enrolments increase as expected and fixed costs stay the same.
- **Finding 11.** [chapter 4] Based on the analysis, HIPYPY is expected to provide a positive return on investment; that is, benefits for individuals, society and government exceed the

⁵ Pre-academic skills, such as language, vocabulary, literacy, numeracy and general knowledge (Downer and Pianta 2006).

government program operational costs. HIPPY also appears to show similar if not better value against a selection of comparable programs with available cost benefit data.

Environmental scan

Australian and international early childhood interventions and associated evaluations were examined to understand how HIPPY compares with other early learning programs.

In terms of effectiveness, there is promising evidence that HIPPY in Australia improves children's cognitive skills and school readiness. Of the early childhood interventions examined in Australia, only centre-based early learning programs have more developed evidence than HIPPY in regard to improving children's cognitive outcomes.

The examination revealed the importance of both formal early learning and home-based learning environments for children's cognitive development, with the best outcomes likely to be achieved where home-visiting programs, such as HIPPY, work closely with and complement formal early learning services (i.e. kindergarten, pre-school and school).

The main directly comparable programs in terms of achieving a school readiness outcome had a similar level of evidence and were assessed as having similar cost levels. Programs for younger children (particularly group-based programs, such as playgroups) can be lower cost and may provide an opportunity for earlier exposure to learning programs prior to HIPPY. Such programs are complementary to HIPPY rather than an alternative.

Key findings

- **Finding 12.** [chapter 5] There is strong evidence of effectiveness for programs that combine children's engagement in early learning with a home-visiting program.
- **Finding 13.** [chapter 5] For many of the 37 early childhood interventions examined, there is a reliance on studies which are qualitative or non-experimental in design. HIPPY is supported by several higher quality studies in key areas, such as the achievement of school readiness.
- **Finding 14.** [chapter 5] Governments across Australia continue to invest significant funding in prevention and early intervention programs. While there are many programs, the evaluative efforts often differ markedly which constrains comparative analysis.

HIPPY evaluation readiness

The policy and service delivery contexts for initiatives to improve the social and economic outcomes for Australia's vulnerable families and their children has changed over time.

A HIPPY program logic has been developed alongside this evaluation to align the program with government and departmental policy objectives. A theory of change has also been developed to support interpretation of the program logic. The theory of change establishes the need for the program, discusses the influence and complexity of the environment in which the program is being conducted, the assumptions that support the model, and the connections between the program logic components. In implementing the program logic there is an opportunity to develop the information and data available informing program development and accountability.

Assessment of evidence

The evaluation has identified a number of evidence gaps that will be important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.

Considering evaluation readiness, opportunities were identified for collection of data, primarily through DSS Data Exchange (DEX), that would enable better understanding of HIPPY's impact on areas such as improved child learning outcomes, HIPPY's accessibility, and contribution to improved economic participation for parents/ home tutors. It was further identified that additional data are required to better understand the contribution of the program to sustained change that benefits vulnerable children, families and communities. These opportunities were reported throughout the report. Overall, it would be desirable for HIPPY to take up the supports for capacity building available through the Department, as appropriate, to enable participation in the DEX partnership dataset.

Furthermore, there are evidence gaps that are assessed as a priority for development. High priority evidence gaps to be addressed are:

- *Linking essential features of HIPPY and program outcomes* – the contribution of individual elements of the program's essential features to outcomes is not well developed in the literature and was generally a gap in the data. Addressing this gap has a high degree of importance for program development, particularly related to consideration of design changes (e.g. varying the length of the model).
- *Cultural appropriateness of HIPPY* – there was very limited evidence arising from the literature review related to the appropriateness of the HIPPY program for Indigenous families. The prioritisation of this evidence gap is important given the limited literature and the prioritisation of recent HIPPY sites to Indigenous communities.
- *Effective recruitment and retention strategies – the Recruiting and Retaining Families in HIPPY study* (Roost et al., 2014) identified actions to improve recruitment and graduation rates across HIPPY. It is not apparent however, that the use and effectiveness of identified practices have been examined, particularly the extent to which program responses have been put in place and are successful in supporting Indigenous families. Addressing this evidence gap has a high degree of importance for program sustainability and confidence that effective strategies can be implemented when needed.
- *Continuing benefits for children after participation in HIPPY* – the benefits of HIPPY in the medium term (e.g. through to grade three of school) and beyond require further examination in Australian contexts to ascertain the continuing benefits of HIPPY as have been seen in international studies. Addressing this gap further defines the achievement and benefits of the program, and is a priority given the rationale for HIPPY in improving children's early learning outcomes.
- *Outcomes for Indigenous children* – the literature review did not identify experimental studies giving a greater level of confidence that HIPPY delivers improved outcomes for Indigenous children. The prioritisation of this evidence gap is important given the limited literature research in relation to the experience for Indigenous families.
- *Data at HIPPY enrolment and after HIPPY completion* – while much of the data analysis suggests graduating children and families undertaking HIPPY are developing positively, these changes are generally not able to be tracked from a baseline at enrolment and beyond the HIPPY program. Addressing this gap will be important given the rationale for HIPPY in improving children's early learning outcomes.
- *Benchmarked costs and efficiencies of HIPPY* – there is limited current information about the costs of establishing sites, including additional supports needed for establishment, and at what stage a site can be expected to operate efficiently. This is a priority area of focus to provide confidence that the program is efficient or to identify where there are high support needs for particular sites.

Progressing the development of the evidence base requires a partnership across the main HIPPY program stakeholders. The Department may have a direct role in research through commissioning research, or a facilitating role for example – priority setting by government

across programs, using incentives for particular studies or evaluations, and/ or a commitment to commission programs that are evidence-based.

Key findings

- **Finding 15.** [chapter 6] Measurement of how well HIPPY translates in practice in complex circumstances and diverse communities is important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.
- **Finding 16.** [chapter 6] There are key areas for development of the HIPPY evidence base, and a pathway to progress these should consider a range of opportunities including: full utilisation of DEX (Data Exchange), accessing broader data-sets (such as school data), thematic program reporting as part of the annual Service Stocktake report, commissioning primary research (such as an experimental design study), and / or opportunities for longitudinal research.

Recommendations

The following recommendations are made in line with the findings outlined above (Table ES 1). For each recommendation, consideration has been given as to whether the Department or BSL is most appropriate to lead a response.

TABLE ES 1 RECOMMENDATIONS AND ALIGNMENT TO EVALUATION FINDINGS

Finding	Recommendation	Lead responsibility
<p>Finding 1. [chapter 2] Overall, HIPPY sites appear to have been established according to the staged process prescribed by HIPPY Australia and supported by HIPPY tools, resources and HIPPY consultants and staff.</p>	<p>No recommendation</p>	
<p>Finding 2. [chapter 2] There is general adherence to the five essential features of HIPPY. Where variations occurred, sites were not always clear on program flexibility (i.e. the extent to which local changes facilitate delivery of the model) versus model adaptation (i.e. changing core elements of the model).</p>	<p>Recommendation 1. That further guidance be provided to HIPPY sites about available program flexibility and adaptations, and when HIPPY Australia approval is required to make program changes.</p>	<p>BSL</p>
<p>Finding 3. [chapter 2] Overall, the flexibility and approach of HIPPY appears to support culturally appropriate engagement of diverse communities. However, interviews conducted for the evaluation identified challenges for delivery in very remote communities, and there is limited evidence related to the design and provision of HIPPY for Indigenous families.</p>	<p>Recommendation 2. That a review of the extent and nature of adaptations and program flexibility be undertaken to inform future policy and program development, and to support sites in their advocacy to parents about the benefits of the program model. This review could include consideration of the appropriateness of the model for diverse communities, particularly very remote communities, and parameters arising through the licensing requirements with HIPPY International. Separate methodologies may need to be developed for the review in the context of very remote communities.</p>	<p>BSL</p>
<p>Finding 4. [chapter 2] HIPPY sites generally recruit disadvantaged families, however, it is not possible to ascertain that those most in need are being reached within sites.</p>	<p>Recommendation 3. That a method to monitor engagement of the most in need families in HIPPY is established and implemented as part of future program arrangements.</p>	<p>DSS</p>

Finding	Recommendation	Lead responsibility
<p>Finding 5. [chapter 2] Approximately 30 to 40 per cent of children and families disengage and exit HIPPY early. The <i>Recruiting and Retaining Families in HIPPY</i> study (Roost et al., 2014) identified actions to adjust practice, however it is not apparent that use and effectiveness of identified practices has been examined. Early exit rates for Indigenous children are highest in very remote sites.</p>	<p>Recommendation 4. That actions and outcomes arising from the <i>Recruiting and Retaining Families in HIPPY</i> study (Roost et al., 2014) be followed up to identify which practices have been successful and what further action needs to be taken.</p>	BSL
<p>Finding 6. [chapter 3] Overall, the available evidence indicates that HIPPY is effective in achieving its focus of helping children to improve their learning outcomes and helping them to become more ready for school.</p>	No recommendation	
<p>Finding 7. [chapter 3] Due to insufficient studies in an Australian context, there were not clear findings in relation to the medium term benefits of completing HIPPY in Australia and the impact of the program on parent study or employment outcomes.</p>	See Recommendations 6-11	
<p>Finding 8. [chapter 3] Children from CALD backgrounds are reported as having slightly higher rates of achievement relative to children across the HIPPY population.</p>	No recommendation	
<p>Finding 9. [chapter 3] Outcomes for Indigenous children appear to be comparable to the overall group over the 2014 and 2015 cohorts. However, the experience of the 2016 cohort particularly being more concentrated in remote communities, was not available and warrants continuing analysis of these outcomes. Moreover, the literature in relation to the achievement of cognitive⁶ outcomes for Indigenous children is underdeveloped.</p>	See Recommendations 6-11	
<p>Finding 10. [chapter 4] HIPPY delivery is more efficient (lower cost per child) in mature sites because the same fixed costs are allocated over a higher number of children. Phase 2 sites would become more efficient over time if enrolments increase as expected and fixed costs stay the same.</p>	<p>Recommendation 5. That phase 2 sites are monitored to ensure increased enrolments occur which will support efficiency gains.</p>	DSS

⁶ Pre-academic skills, such as language, vocabulary, literacy, numeracy and general knowledge (Downer and Pianta 2006).

Finding	Recommendation	Lead responsibility
<p>Finding 11. [chapter 4] Based on the analysis, HIPPY is expected to provide a positive return on investment; that is, benefits for individuals, society and government exceed the government program operational costs. HIPPY also appears to show similar if not better value against a selection of comparable programs with available cost benefit data.</p>	No recommendation	
<p>Finding 12. [chapter 5] There is strong evidence of effectiveness for programs that combine children’s engagement in early learning with a home-visiting program.</p>	No recommendation	
<p>Finding 13. [chapter 5] For many of the 37 early childhood interventions examined, there is a reliance on studies which are qualitative or non-experimental in design. HIPPY is supported by several higher quality studies in key areas, such as the achievement of school readiness.</p>	No recommendation	
<p>Finding 14. [chapter 5] Governments across Australia continue to invest significant funding in prevention and early intervention programs. While there are many programs, the evaluative efforts often differ markedly which constrains comparative analysis.</p>	See Recommendations 6-11	
<p>Finding 15. [chapter 7] Measurement of how well HIPPY translates in practice in complex circumstances and diverse communities is important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.</p>	<p>Recommendation 6. That a way forward be actively pursued to improve capacity to measure the success of HIPPY by expanding reporting through DEX.</p>	DSS in conjunction with BSL
	<p>Recommendation 7. That annual reporting to DSS by BSL incorporate an agreed rolling program of topics for thematic papers providing analysis of the success of key HIPPY strategies.</p>	DSS in conjunction with BSL

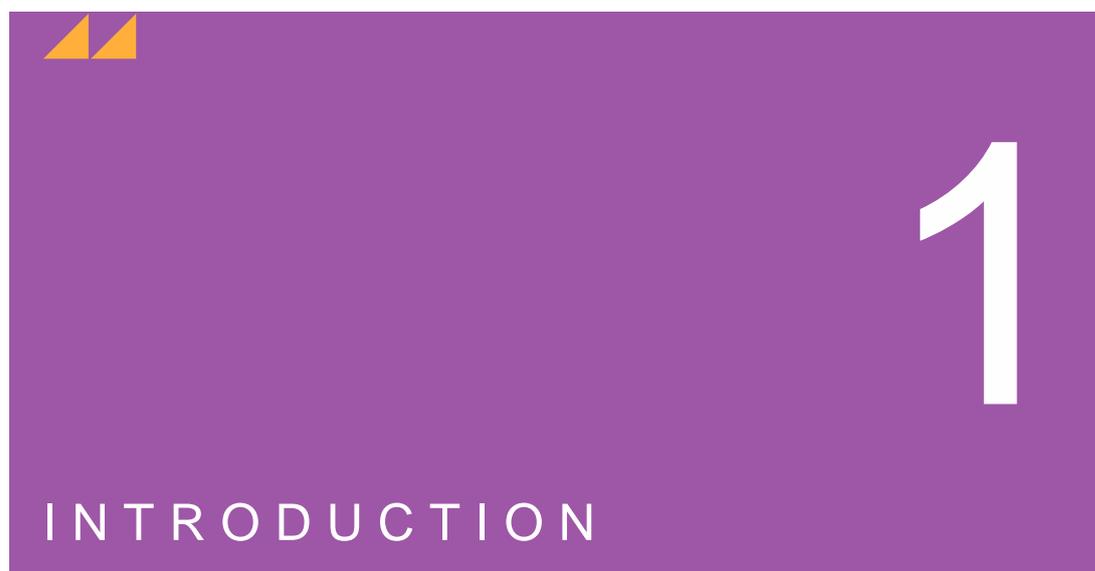
Finding	Recommendation	Lead responsibility
<p>Finding 16. [chapter 7] There are key areas for development of the HIPPY evidence base, and a pathway to progress these should consider a range of opportunities including: full utilisation of DEX (Data Exchange), accessing broader data-sets (such as school data), thematic program reporting as part of the annual Service Stocktake report, commissioning primary research (such as an experimental design study), and / or opportunities for longitudinal research.</p>	<p>Recommendation 8. That the current HIPPY program data collection be developed, particularly to investigate collection of baseline data for HIPPY participants and reporting of point-in-time data for the full program cohort rather than retrospective data for graduating families.</p>	BSL
	<p>Recommendation 9. That collection of HIPPY program data, including outcomes data, is consistently disaggregated for Indigenous children and CALD children.</p>	BSL
	<p>Recommendation 10. That opportunities be examined to broaden the early childhood intervention evidence base to track the cost effectiveness of HIPPY and similar programs, to enable consideration of their relative value for money in an Australian context.</p>	BSL
	<p>Recommendation 11. That opportunities be examined to develop the HIPPY evidence base. This may include an active role for the Department including the commissioning of future evaluations, in primary research, and maximising existing evaluations and studies, such as a future wave of the Longitudinal Study of Australian Children. Priority areas for development of the HIPPY evidence base are to examine:</p> <ul style="list-style-type: none"> – the contribution of individual elements of the HIPPY essential features to outcomes (this also links to Recommendation 2 regarding potential program adaptations) – the continuing benefits for children after participation in HIPPY (e.g. through to grade three of school) in the Australian context as have been seen in international studies – the cultural appropriateness and outcomes for Indigenous children and families recognising the focus on Indigenous communities as part of phase 2 sites. 	DSS in conjunction with BSL

SOURCE: ACIL ALLEN CONSULTING 2018



GLOSSARY OF TERMS

ABS	Australian Bureau of Statistics
ACCO	Aboriginal Community Controlled Organisations
ACIL Allen	ACIL Allen Consulting
AEDC	Australian Early Development Census
APQ	Assessment of program quality
BES	Best Evidence Synthesis
BSL	Brotherhood of St Laurence
CALD	Culturally and linguistically diverse
CBA	Cost benefit analysis
DEEWR	Department of Education, Employment and Workplace Relations
DEX	Data Exchange
DSS/ Department	Department of Social Services
HIPPY	Home Interaction program for Parents and Youngsters
Indigenous	Indigenous Australians, including people from Aboriginal and/or Torres Strait Islander descent
LSAC	Longitudinal Study of Australian Children
LSIC	Longitudinal Study of Indigenous Children
NAIDOC	National Aborigines and Islanders Day Observance Committee
NATSEM	National Centre for Social And Economic Modelling
OECD	Organisation for Economic Co-operation and Development
OOHC	Out of Home Care
PPVT	Peabody Picture Vocabulary Test
ROGS	Report on Government Services



ACIL Allen Consulting (ACIL Allen) was engaged by the Department of Social Services (DSS or the Department) to conduct an evaluation of the Home Interaction Program for Parents and Youngsters (HIPPY).

The overall objective of the evaluation was to assess the appropriateness, effectiveness, and efficiency of HIPPY, aligned to key evaluation questions. This includes whether the program has achieved its intended outcomes. The evaluation involved a review of the literature, consideration of evidence gaps and options to address these gaps. The evaluation has also included the preparation of evaluation readiness materials for ongoing program deliver and development. This final report reflects considerations, findings and recommendations arising through the evaluation.

1.1 Prevention and early intervention programs

Recent and emerging advances across science and economics are demonstrating the importance of the first years of life (Centre on the Developing Child at Harvard University, 2016).

A strong start in life delivers benefits for many aspects of child development and is particularly important for children to benefit from school (Goldfield, 2012). From an economic perspective, there is evidence to show that investing in early childhood in a way that improves educational outcomes not only helps each individual but is a key driver of economic growth, productivity and progress (Schweinhart et al., 2005; Ludwig et al., 2007). However, not all children have the same opportunities and many start school behind their peers. For children from disadvantaged backgrounds who start school behind their peers, there is a risk that these early experiences continue throughout their education (Australian Government, 2014a).

A large number of high quality studies show that the home learning environment plays an important role in increasing a child's intellectual, behavioural and social development (Sylva, 2004; Britto & Limlingan, 2012; Hilferty et al., 2009). A supportive and enriching home learning environment has been shown to have a more significant impact than parental education, income or occupation (Goldfield, 2012). Such findings have led to a high level of interest in programs to actively support parents to provide an improved home learning environment (Allen, 2011).

Well-designed and carefully implemented prevention and early intervention programs can lead to measurable benefits for children and families (Fox, 2015). Effective programs are based on frameworks and methodologies that articulate clearly how the services achieve the desired outcomes. It is important to recognise that 'how a program is delivered' can be as important as what is delivered (Moore, 2016). Effective programs are typically relationship-based, involve partnerships between professionals and parents, and work towards goals that parents see as important. Additionally, it is important to recognise the context in which it is delivered. The conditions under which families are raising young children require holistic consideration and clarity about the role of the program in the family and community context.

The importance of local context and tailoring in program delivery has been highlighted and reported as important in Indigenous⁷ communities (Australian Government, 2017). In particular, programs with higher participation rates in early learning programs have:

- increased accessibility through delivery in culturally safe environments
- recognised and supported Indigenous identities and unique skills
- provided more attractive and accessible programs by incorporating Indigenous ways of knowing
- promoted community partnerships that involve Indigenous leadership and community input
- provided workforce quality, training and support for Indigenous peoples and non-Indigenous staff
- involved Indigenous staff members in the program delivery (Harrison, 2012; Higgins & Morley, 2014, Kitson, 2010).

An identified challenge across early intervention programs is the balance of structural consistency and fidelity with local context and identified needs (Liddell et al., 2011). While program fidelity is integral to program success, incorporating flexibility and context-specificity is also important to allow for programs that are tailored to the particular needs of children and their parents (Liddell et al., 2011; Hutchings, 2007).

1.2 Government objectives and funding

HIPPY is funded under the DSS *Families and Children Activity* which aims to provide integrated local services to support strengthening family and community functioning, children's wellbeing, community participation, and avoiding the associated costs of family breakdown (Australian Government, 2014b).

In turn, the *Families and Children Activity* sits under the *DSS Families and Communities program*. Key indicators for the *Families and Communities program* are identified in the DSS Corporate Plan and outlined in Table 1.1 (Australian Government, 2015).

TABLE 1.1 DSS FAMILIES AND COMMUNITIES OUTCOME – KEY INDICATORS

How much did we do?	How well did we do?	What did we achieve?
– Delivery measures	– Extent of contribution to implementing national initiatives – Extent to which payment and service provision meets program objective	– Extent to which assisted individuals and families have improved individual and family functioning

SOURCE: DEPARTMENT OF SOCIAL SERVICES, CORPORATE PLAN 2016-17.

⁷ The term 'Indigenous' refers to peoples who identify as Aboriginal and/or Torres Strait Islander.

The *Families and Children Activity* is informed by preventative, early-intervention and place-based approaches and attentive to the needs of vulnerable and disadvantaged clients. In particular, it recognises the importance of identifying issues pre-emptively and that home-visiting and parenting courses, like HIPPY, can provide positive and pre-emptive child and parenting support (Australian Government, 2015). Such activities are consistent with an investment approach to the role of government.

In this context, the objectives of HIPPY are to (DSS, n.d.):

- provide children with a structured education-focused program that engages parents in their child's early learning in the home and everyday settings
- improve children's preparedness for school and strengthen school participation
- build the confidence and skills of parents to create a positive home learning environment
- support employment and community leadership opportunities for HIPPY coordinators, home tutors and parents (see section 1.3 for description)
- strengthen communities.

DSS provides funding to support HIPPY delivery in 100 communities (see section 1.3 for overview of HIPPY including program governance). Australian Government funding has progressively increased over time, reflecting growth in the delivery of HIPPY to additional communities. In 2008-09, funding was provided to roll out the program to 50 communities nationally. Additional funding supported the establishment of HIPPY in 25 Indigenous focused communities in 2014 and a further 25 Indigenous focused communities which have become fully operational as of April 2016. HIPPY currently provides services to around 4,000 children aged four and five years old each year. The implementation of these sites is referred to as (DSS, n.d.):

- *phase 1* (first 50 communities) – selected between 2009 and 2011
- *phase 2* (additional 50 Aboriginal and Torres Strait Islander focused communities):
 - first 25 sites – selected in 2013 and implemented in 2014
 - second 25 sites – selected in 2014 and implemented in 2015.

As identified in the *HIPPY Guidelines* (DSS, n.d.), key areas of activity since 2014 have been:

- continued program delivery in the first 50 locations
- expansion of the program to an additional 50 locations, with a focus on Indigenous communities
- review and delivery of a revised curriculum, material and resources
- development and implementation of a new Brotherhood of St Laurence (BSL) *Efforts to Outcomes* database and performance management system
- development and implementation of an on-line portal and a stand-alone website (DSS, n.d.).

As outlined in the *eHIPPY Strategic Development Plan* (Pettit, 2014), in August 2013 the Australian Government provided BSL with funding to roll out a digital solution for HIPPY delivery – eHIPPY. The key outcome of eHIPPY is to provide a unified digital platform and framework across the expanding HIPPY network and provide a common solution for communications, program administration, training and professional development.

1.3 HIPPY overview

HIPPY is a two year, government-funded, home-based parenting and early childhood learning program that empowers parents⁸ to be their child's first teacher. The program seeks to build the confidence and skills of parents to create a positive learning environment to promote school readiness in children aged between four and five years old. The program also offers some parents a supported pathway to employment and fosters local community leadership. This pathway to employment includes two years of employment as a home tutor and support to undertake further education and training.

HIPPY has four outcome areas:

1. *Children*: children develop a love of learning early that is maintained throughout their lives
2. *Families*: families are empowered and engaged in their children's learning
3. *Communities*: families are engaged and invested in their local community
4. *Training and employment*: HIPPY parents and tutors are engaged in training and employment.

HIPPY is delivered over two years with a combination of individual in-home tutoring (home visits) and group learning sessions (group meetings). The program consists of:

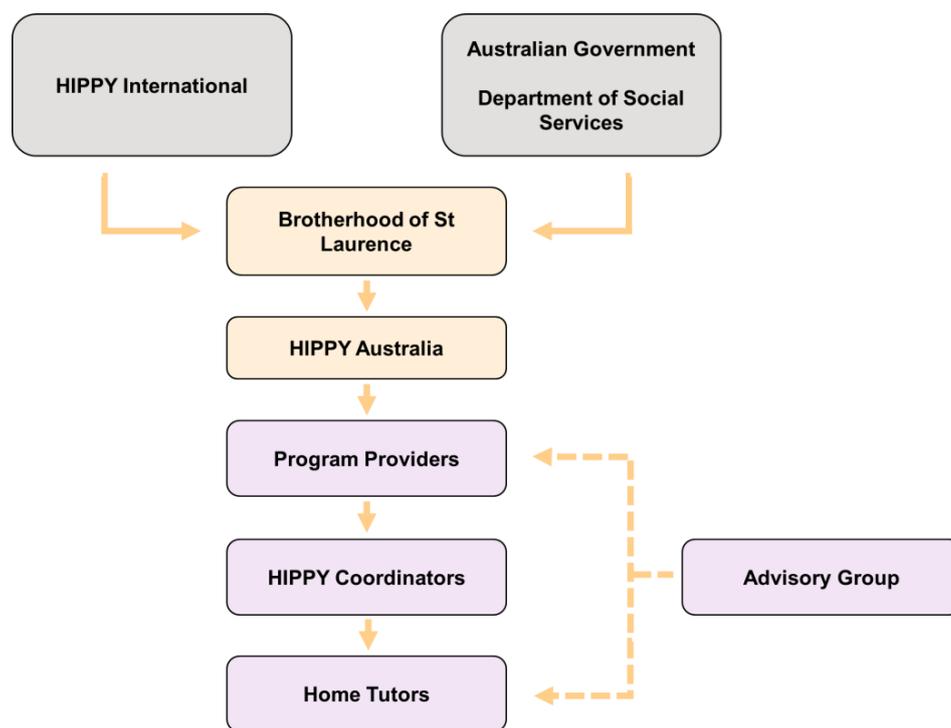
- The first year (age four) program supports literacy and numeracy skills and is delivered for 30 weeks through weekly home visits for the first four to six weeks followed by the addition of group meetings at week five to seven (incorporating role play). Home visits and group meetings alternate for the remainder of the year.
- The second year (age five) extends these literacy and numeracy activities and provides parents with additional information about their children's learning and development. It is delivered for 15 weeks, through fortnightly home visits (including HIPPY activities and parent packs) and regular group meetings with role play activities.
- Graduation occurs two years from commencement of the program.

1.3.1 Program governance

In Australia, HIPPY is delivered under a tiered governance arrangement (see Figure 1.1). BSL is licenced by HIPPY International to deliver the program nationally, with funding provided by the Australian Government.

The terms of the international licence are not known, however, typically, licenced programs use common quality assurance mechanisms, including standard setting and monitoring.

⁸ The term 'parents' is used throughout the document and is inclusive of parents and carers.

FIGURE 1.1 ORGANISATIONAL STRUCTURE OF HIPPY IN AUSTRALIA

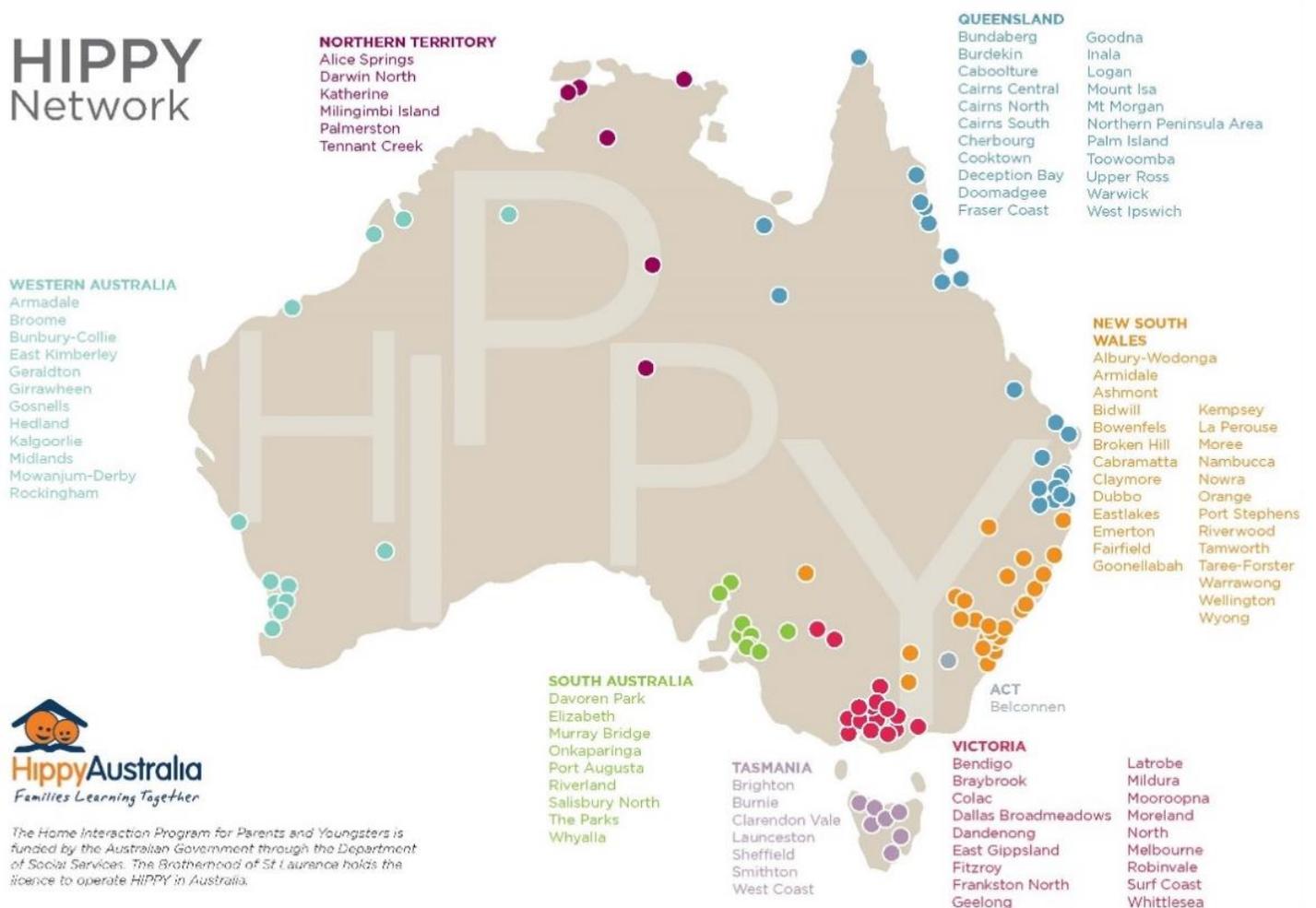
SOURCE: ACIL ALLEN CONSULTING 2018, ORIGINALLY FROM HIPPY AUSTRALIA, COORDINATOR HANDBOOK.

The national office within BSL is 'HIPPY Australia', which provides program and organisational support, materials, training, and networking opportunities for HIPPY sites. HIPPY Australia enables consistent adoption of policies and processes and supports program providers on the recruitment of HIPPY coordinators and HIPPY home tutors, pre-service training, quality improvement cycle, curriculum and resource review and development, financial administration and compliance (O'Flynn, et al., 2014).

Figure 1.2 shows the full suite of 100 current HIPPY sites, including 50 Indigenous focused communities. BSL has overseen the coordination and delivery of HIPPY as the exclusive holder of the HIPPY International licence in Australia. Through HIPPY Australia, BSL licences 64 not-for-profit program provider organisations, including 15 Aboriginal Community Controlled Organisations (ACCO), to tailor and deliver HIPPY locally in selected disadvantaged communities.

HIPPY Australia works collaboratively with HIPPY sites to support and ensure high-quality program delivery. This collaboration is facilitated through an assigned HIPPY Australia consultant for each site. HIPPY Australia consultants provide site advice and support in program delivery, training, materials and compliance.

FIGURE 1.2 HIPPY SITES ACROSS AUSTRALIA



SOURCE: HIPPY AUSTRALIA

To support the activities of the program, each site has a line manager and a HIPPY coordinator. The line manager is responsible for managing HIPPY in their site and provides support to the coordinator, who has various roles and responsibilities on the ground. The coordinator actively engages with the local community to recruit families and provides training to the home tutors. In addition, each site has an advisory group to guide the growth and development of the program and support its ongoing service to the community. The HIPPY advisory group generally consists of the coordinator, line manager, service providers, home tutors, parents enrolled in the program, and community stakeholders.

The coordinator recruits home tutors to deliver HIPPY to parents. Home tutors are usually parents who have participated in the program, and are recruited from the local community to work with parents during the child's transition to full-time school.

1.4 Previous evaluations of HIPPY

HIPPY has developed over time, and its current arrangements and focus have been informed by a comprehensive evaluation undertaken in 2011 by Monash University and BSL, which focused on program appropriateness, effectiveness, efficiency and governance

arrangements. An additional examination of individual sites, focused on program performance, suitability and fidelity, was undertaken in 2013 by Urbis Pty Ltd.

The 2011 evaluation, *Investing in our Future: An evaluation of the national rollout of the Home Interaction program for Parents and Youngsters (HIPPY)*, found that the literacy and numeracy skills performance gap between HIPPY children and Australian norm data measured at the start of the program had closed at completion of the two years. Additionally, self-report data showed that parents experienced increased confidence in their parenting roles (Liddell et al., 2011).

The 2011 evaluation included an exploration of the appropriateness and acceptability of HIPPY with the introduction of the program to five locations where the population includes a high percentage of Indigenous families. The evaluation findings highlight the importance of maintaining engagement with Indigenous parents and children, which requires flexible modes of delivery, and indicate that the program appeared to be most successful where the local community was closely involved and the right resources and supports were in place.

However, the evaluation cautions that positive results are not necessarily generalisable to communities with different characteristics. Additionally, although the program holds significant promise as an appropriate and acceptable program with Indigenous families (Liddell et al., 2011), there was found to be a general lack of knowledge of the appropriateness and acceptability of HIPPY with Indigenous communities, particularly in regional or relatively remote locations.

In 2013, Urbis Pty Ltd was engaged to undertake an independent review of the implementation of the first 50 HIPPY sites. The results consistently showed community support for the program across each of the sites. At the local level, the evaluation identified the importance of flexibility with program delivery to cater to individual community needs. Across the 50 sites, communities with higher numbers of Indigenous and culturally and linguistically diverse (CALD) populations required additional inputs, including time and resources, to deliver the program effectively.

1.5 Evaluation method and conduct

The overall objective of this evaluation is to independently assess the appropriateness, effectiveness, and efficiency of HIPPY aligned to several key questions, including whether the program has achieved its intended outcomes. The evaluation also seeks to provide a framework for any future evaluation activities. The evaluation builds on the finding of the 2011 evaluation of the national rollout of HIPPY (Liddell et al., 2011) and the 2013 review of the first 50 sites (Urbis).

The report structure, key evaluation questions guiding the evaluation, evaluation method and considerations in evaluating HIPPY are discussed in the following sections. An expanded method is provided at Appendix A.

1.5.1 Report structure

The remainder of this report is structured as follows:

- *Chapter 2: Implementation.* This chapter examines the program fidelity of HIPPY across sites, whether HIPPY is designed and implemented in a culturally appropriate way, and what is required to meet the needs of different target groups.
- *Chapter 3: Outcomes achieved.* This chapter outlines the intended outcomes, and examines the extent to which program outcomes are achieved, including in international and

Australian contexts. Indigenous-focused sites and delivery to Indigenous participants in an Australian context are examined.

- *Chapter 4: Economic analysis.* This chapter provides insights into the costs and outputs at the site level to examine the economic efficiency of HIPPY in comparison with similar early learning programs.
- *Chapter 5: Environmental scan.* This chapter provides background insight to other early development programs and their evidence base to support the overall objective of the evaluation to assess the appropriateness, effectiveness and efficiency of HIPPY.
- *Chapter 6: HIPPY evaluation readiness.* This chapter describes the program logic, evaluation readiness materials, and gaps/ limitations in HIPPY data and findings and options to address gaps.
- *Chapter 7: Assessment of the evidence.* This chapter summarises the current evidence gaps as discussed through the report and options for addressing these gaps.
- *Chapter 8: Recommendations.* This chapter presents the overall recommendations linked to the findings.
- Appendices include:
 - Evaluation method (Appendix A)
 - Consultation locations and materials (Appendix B)
 - Economic analysis technical information (Appendix C)
 - Overview of HIPPY comparator programs (Appendix D)
 - Evaluation readiness materials (Appendix E).

1.5.2 Key evaluation questions

The key questions that the evaluation sought to answer were aligned with its objectives (see Table 1.2). These questions underpinned the conduct of the evaluation, providing a focus for the evaluation and driving decisions on data collection and analysis.

TABLE 1.2 KEY EVALUATION QUESTIONS CORRESPONDING TO REPORT CHAPTERS

Key evaluation question	Chapter
Question 1. What current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally?	2, 3, 4, 5 and 7
Question 2. What outcomes has the program achieved for different cohorts, and under what circumstances, with a particular focus on Indigenous focused sites and delivery to Indigenous participants?	3
Question 3. What issues have been encountered in implementing the program in Australia, and have any such issues been different for different cohorts and/or locations?	2
Question 4. What other programs for improving pre-academic skills and school readiness of vulnerable children in Australia are being delivered and how do they compare to HIPPY in regard to being effective, efficient and appropriate?	5
Question 5. To what degree, does HIPPY provide value-for-money?	4
Question 6. How can HIPPY's evaluation-readiness be improved and better aligned to Government and Departmental policy objectives?	6

SOURCE: DEPARTMENT OF SOCIAL SERVICES 2017

1.5.3 Evaluation method

A mixed methods approach was used to meet the requirements of the evaluation, drawing from qualitative and quantitative data. The evaluation was conducted from mid to late 2017.

The initial stage of the evaluation involved discussions with key departmental stakeholders to gain relevant information about the program and shape evaluation planning. A program logic and theory of change workshop was also undertaken to establish the basis for the evaluation readiness materials.

The following core evaluation activities were then undertaken in parallel:

- *A comprehensive literature review* – this included three components:
 - 1. an environmental scan consisting of analysis of similar early learning models operating in Australia and internationally, to analyse best practice and explore whether there are other effective models of delivering programs to improve school readiness
 - 2. analysis of the implementation of HIPPY in Australia, including issues that have been encountered to date with a particular focus on implementation in Indigenous focused sites and delivery to Indigenous participants
 - 3. synthesis of Australian and international data, detailing the effectiveness of HIPPY for different client groups, and under what circumstances.

A systematic search was conducted across three electronic databases. The search identified peer-reviewed original studies and systematic reviews. An exclusion criteria restricted the results according to publication date (1998-2017). Additional sources of evidence included evaluation reports available from HIPPY Australia, BSL, and other relevant international organisations. Following the search and refinement of results, the literature was categorised according to relevance and quality primarily considering the study design. The design of individual studies was reviewed based on their methodological approach including experimental and non-experimental designs⁹. Few studies used a randomised controlled trial design in which participants are randomly allocated to an experimental group. Quasi-experimental studies (involving a control group but without random participant assignment) and 'pre-test and post-test' evaluations without a control group were more common.

- *Examination of program data held by HIPPY Australia* – this included requesting, curating and analysing administrative data, limited to existing reporting capabilities within HIPPY Australia's *Efforts to Outcomes* business system.
- *Stakeholder consultations* – this involved consultations about the implementation of HIPPY in Australia with 20 program provider organisations. These occurred with HIPPY coordinators at all sites, and occasionally with both the HIPPY coordinator and line manager. The consultations sought to understand commonalities and differences across sites. Fifteen of 20 interviews were from phase 2 sites (first and second 25 sites), which were the Indigenous community focused sites established since 2014. The sample purposefully targeted organisations controlled or governed by Indigenous communities and represented seven of 20 interviews.

An overview of the consulted organisations is provided in Table 1.3. Further information on the organisations consulted and the consultation questions is provided at Appendix B.

⁹ Experimental designed studies involve the allocation of participants to different groups to test the effect of the service or intervention. There may be a number of groups, but often experimental designs have an experimental group which receives the intervention and a control group that does not receive the intervention. The use of different groups provides greater confidence that changes are being caused by the intervention or assist in ruling out other influences that cause differences in participant's outcomes.

TABLE 1.3 OVERVIEW OF 20 PROGRAM PROVIDER ORGANISATION INTERVIEWS

Organisation type	Location			Total interviews
	Metropolitan	Inner and outer regional	Remote and very remote	
Non-ACCO	6 interviews	4 interviews	3 interviews	13 interviews
ACCO	2 interviews	3 interviews	2 interviews	7 interviews

Note: In total, 20 interviews were conducted. This table provides a breakdown of the categories to which each site belongs, for example, location and organisation type. Sites were grouped according to two categories and thus the total count surpasses 20.

SOURCE: ACIL ALLEN CONSULTING 2018

The collection of information for the evaluation was followed by analysis and reporting. Qualitative analysis was undertaken using the NVivo qualitative analysis software program.

Preparation of the evaluation readiness materials, including the development of a program logic and theory of change, was also undertaken to align with Australian Government and departmental objectives.

1.5.4 Evaluation governance

The project was governed through a two-tiered approach. The first tier consisted of a Steering Committee with representation from DSS and the Department of the Prime Minister and Cabinet. This group had strategic oversight role and responsibility for ensuring project objectives and outcomes are achieved.

The second tier of governance was an advisory role for BSL to provide expert content knowledge about HIPPY to the evaluation. The National Manager of HIPPY Australia was the nominated advisor and liaised with BSL's Research and Policy Centre to ensure the evaluation complemented a concurrent longitudinal study of HIPPY.

1.5.5 Limitations and considerations in evaluating HIPPY

There were a number of limitations in undertaking the evaluation:

- *The emerging evidence base for prevention and early intervention programs* – in some cases the effectiveness of other relevant programs may have been established internationally but is still emerging in an Australian context and importantly in Indigenous communities. A focus of the evaluation was to identify evidence gaps and contribute to the ongoing development of the evidence base for HIPPY in the Australian context.
- *Recognition that some HIPPY sites are mature while other sites have only recently been fully implemented* – more recently established sites may have lower levels of participation and limited previous evaluation or administrative data available. Nonetheless, the extent to which different sites become established more quickly and/or those sites with changes in participation levels over time has provided useful insights for the evaluation.
- *Limitations of available program data* – current data and information for the program provides only a partial picture to assess whether HIPPY meets its objectives and outcomes. While attribution of outcomes is often difficult in social service delivery, both quantitative and qualitative data have been used to undertake the evaluation while acknowledging limitations or when further inquiry is required. The evaluation identifies data gaps and potential data enhancements.

These limitations shaped the analysis and ultimately informed the evaluation response particularly the gaps and limitations in evidence and data, and options to address these gaps.



2

HIPPY IMPLEMENTATION

This chapter examines how HIPPY has been established in Australia and summarises the findings of the evaluation. The focus of the chapter is key evaluation question three: *What issues have been encountered in implementing the program in Australia, and have any such issues been different for different cohorts and/or locations?* The chapter also contributes to key evaluation question one, in discussing current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally.

2.1 Analysing the implementation of HIPPY

This analysis of the implementation of HIPPY in Australia, includes ‘what has’ and ‘what has not’ worked, and issues that have been encountered to date, with a particular focus on implementation in Indigenous focused sites and delivery to Indigenous participants. The following sub-questions related to key evaluation question three:

- *Has HIPPY been implemented in a consistent manner across sites – is there program fidelity?*
- *Is the program designed and implemented in a culturally appropriate way?*
- *What is required to meet the needs of different target groups? In answering this question, the analysis also examines the targeting, delivery and experiences of the 50 Indigenous focused sites, and whether the program is targeted and delivered to those most in need in the communities HIPPY is delivered.*

This chapter addresses these questions by drawing on available evidence including:

- findings from component 2 of the literature review, and other components where appropriate
- administrative data, including enrolment data (child and family demographics), financial data and family survey data
- feedback from consultations with HIPPY coordinators (20) and line managers (four), including questions 2-8 of the consultation discussion guide (see Appendix B)¹⁰
- Fourth Quarter Community Progress Reports 2015 and 2016 (HIPPY Australia).

¹⁰ The consultations were undertaken using a semi-structured interview approach and interviewees were provided with further context and information regarding their experiences rather than strictly guided by the interview questions. As such, the resulting data presented in this chapter does not always provide responses from all 20 coordinators.

HIPPY administrative data is held by HIPPY Australia. HIPPY program providers implement various surveys, including the Family Journey survey, Early Exit survey, Staff Training and Employment survey, and report collected data to HIPPY Australia.

The number of survey responses for data examined in this chapter are at Table 2.1. Where available, the number of respondents has been identified in the analysis in addition to the proportion of respondents, although the training and employment survey data and the outcomes data provided by HIPPY Australia consisted of the proportion of respondents only.

TABLE 2.1 NUMBER OF SURVEY RESPONSES ACROSS PROGRAM TIME POINTS FROM 2013-15

HIPPY survey	HIPPY population	2013	2014	2015
HIPPY journey survey	Enrolment	3	2,070	2,230
	Week 5 (age 4)	2	1,215	1,488
	Week 30 (age 4)	16	1,036	1,286
	Graduation (age 5)	909	1,111	1,270
	Total cohort	1,702	2,188	2,357
Early exit survey		576	695	802

Note: Number of participants in the staff training and employment survey and the child and family demographics has not been provided by HIPPY Australia and cannot be inferred as multiple responses are allowed.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

The analysis is limited to data relating to the first 75 HIPPY sites. Data for the most recent 25 HIPPY sites (those that commenced in 2016) was limited to a snapshot in key areas for selection of the consultation sites. Other data for the 2016 cohort was not available as data is generally for graduating families – sites that commenced in 2016 will have graduates at the end of 2017, however this was outside of the evaluation period. This limits the interpretation of the data analysis to the first 75 sites, which may not reflect the same outcomes in the most recently implemented 25 sites. In particular, as five of the six very remote HIPPY sites are in these most recently implemented sites, the outcomes data is limited in its application to very remote sites.

HIPPY Australia data was available for three graduating cohorts where possible – the 2013 cohort, 2014 cohort and 2015 cohort. For most of the indicators, descriptive data was provided at four points in time: enrolment; week 5 of participation in the program; week 30 of participation (end of year one); and at graduation which is two years from commencement. There was limited outcome related data at enrolment and some data is only collected at graduation or early exit.

Due to very low numbers of survey completion for the 2013 cohort for enrolment, week 5 and week 30, analysis is based on responses at graduation, unless otherwise stated. Furthermore, percentage data has been rounded to the nearest whole number for simplicity.

HIPPY Australia data on Indigenous or CALD identification is presented as the proportion of children/ parents at each site. As such, the number of individual respondents is not available. This includes child/ parent identifying as Indigenous, child with a non-English language as their main language and child/ parent born overseas.

2.2 Consistency of HIPPY implementation across sites

This section examines the consistency of HIPPY implementation across sites. It considers program fidelity and the structures and processes that support HIPPY implementation.

Fidelity is defined here as the degree to which a program was implemented as planned. Measuring fidelity assists in assessing whether a program is implemented effectively and provides insight into the acceptability and appropriateness of the program for the target population.

Effective programs are evidence-based and specifically designed and structured to maximise consistent achievement of intended outcomes. HIPPY is based around five essential features: the two year program model; home visits and group meetings; role play as a learning tool; parents as home tutors; and everywhere learning. These are the basis for this examination of program fidelity.

In undertaking the analysis it is recognised that programs benefit from being flexible. This flexibility can enable tailoring to suit the needs of different communities, cultural groups, and family's needs and abilities, including tailoring location, dose and method or content of delivery. Effective tailoring ensures programs always have the capacity to be delivered in a manner that is appropriate, acceptable and effective (Liddell et al. 2011). However, if a program is too flexible, it can lack fidelity and the program may no longer align with its evidence base, and thus not consistently achieve the desired or 'proven' outcomes. Data on flexible changes is not currently captured by BSL.

The structures and processes that support HIPPY fidelity are overviewed at section 2.2.6 and the cultural appropriateness of these program features is discussed in section 2.3.

2.2.1 HIPPY essential feature: Two year program model

A key feature of the HIPPY Australia model is the two year program structure. HIPPY Australia provides children and parents with two years of early learning activities in their year before school and during their transition to school. The first year is when the child is aged four (the year before formal schooling starts) and the second year is age five (the year the child begins school). The two year program runs for 30 weeks a year, in line with the school year, with breaks for school holidays. Across the two years, it is expected that each child undertakes 45 activity packs to promote school readiness through parental involvement (HIPPY Australia, 2014).

There is emerging evidence in the HIPPY literature to support the importance of undertaking a two year program rather than a shorter-duration program. An evaluation of 216 children by Liddell et al. (2011) showed that HIPPY children scored below the Australian norm (using the LSAC) on pre-literacy and numeracy skills at the beginning of the program and that the performance gap had closed after two years, showing a statistically significant improvement from baseline tests (according to evaluation of 131 children at the end of HIPPY). An earlier evaluation of 63 children conducted in 2009 found the same baseline difference and statistically significant improvement in the performance gap from baseline to the end of year one. This gap had narrowed but not closed at the end of the first year (Liddell et al., 2009). This is consistent with previous Australian studies. For example, Gilley (2003) found that among the 33 children evaluated for this study, HIPPY children in a CALD cohort who completed two years of the program performed better on assessments of literacy and numeracy skills than those who completed one year of the program, however a statistical comparison between children completing 1 and children completing 2 years of HIPPY was not undertaken.

There is some international variation in program structure. For example, HIPPY was originally established in Israel as a three year program for children yet to enter formal schooling. In addition, HIPPY in the USA is a three-year program but can be utilised as a two year program.

By way of context, Table 2.2 below shows the number of children graduating from HIPPY in Australia by geographic location across the 2014 cohort and the 2015 cohort – the most recent graduation data available to the evaluation. The graduation rates are used as an indicator of the number of families that complete the two year program model. It indicates that the number of graduations has been relatively stable across all geographic locations, with a small decrease in graduations in inner regional areas and small increases in all other locations. As expected, the number of graduations has grown considerably since 2013, due to the establishment of 25 new HIPPY sites (there were 50 sites in operation in 2013, compared with 75 sites in 2014-15).

TABLE 2.2 CHANGE IN GRADUATIONS BY LOCATION

Location	2013 cohort graduations	2014 cohort graduations	2015 cohort graduations	Change in number of graduations from 2014-15
Major city	648	689	713	24
Inner regional	262	408	364	-44
Outer regional	164	268	313	45
Remote	41	60	73	13
Very remote	N/A	1	2	1
Total	1,115	1,426	1,465	39

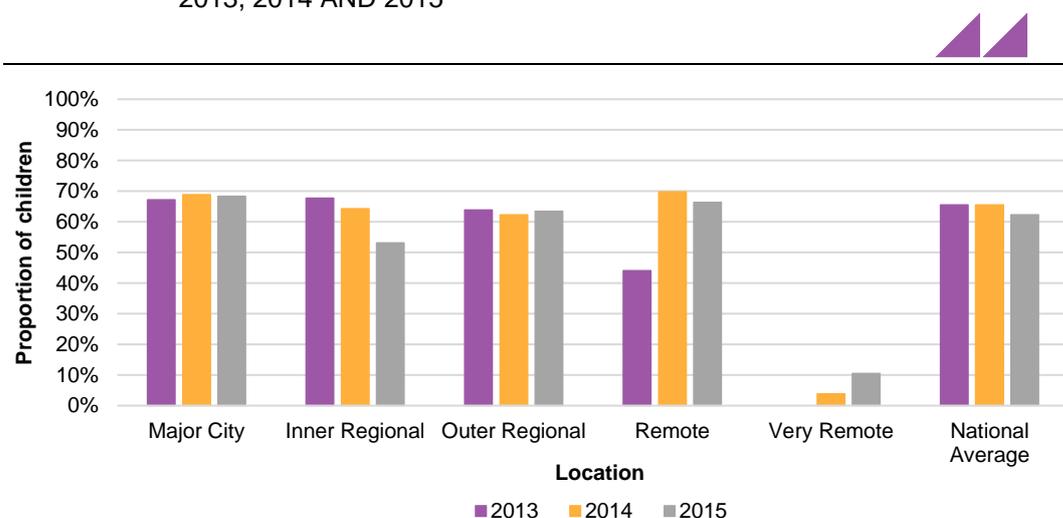
Note: N/A indicates no very remote sites were in operation in 2013.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Figure 2.1 shows the proportion of children graduating by location over time. Overall, the data show:

- a slight decrease in the national average completion rate from 2013 to 2015
- an increase in the average program completions for remote locations from 2013 to 2015
- a reduction in inner regional areas over time
- low graduation rates in very remote communities though noting there are few very remote sites and there is an improvement (that would be expected given the site has become more established) in 2015.

FIGURE 2.1 PROPORTION OF CHILDREN COMPLETING HIPPY BY LOCATION IN 2013, 2014 AND 2015



Note: The number of children graduating from HIPPY has been divided by the number of children enrolling in the program two years previously. Data is comprised of children across all phase 1 sites in 2013 and all phase 1 and first 25 phase 2 sites in 2014-15.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Further analysis of this data has looked at the program completion rates by implementation phase. This analysis suggests that the program completion rates have been steady in the original 50 sites, at 65 per cent (1,115 of 1,701) for the 2013 cohort, 68 per cent (1,150 of 1,676) for the 2014 cohort, and 66 per cent (1,134 of 1,715) for the 2015 cohort.

Program completion rates have reduced marginally for the first 25 sites implemented in 2014 as part of phase 2, at 55 per cent (276 of 501) for the 2014 cohort, and 52 per cent (331 of 635) in 2015 cohort. However, the ability to draw conclusions from this data is limited given that there are only two time points.

Overall, the data indicates that families at the phase 2 sites are not completing the program to the same extent as the original sites. There was no data for the 2016 cohort, which is due to graduate at the end of 2017 (after the evaluation). The 2016 cohort is the first cohort of the most recently implemented phase 2, second 25 sites. This is discussed further in section 2.4.

2.2.2 HIPPY essential feature: Home visits and group meetings

The home visits and groups meetings are core methods through which parents/ carers learn about the HIPPY materials and delivery to their child. In the home visits, home tutors provide peer support to the family in their home or other familiar environment where the family feels comfortable. In group meetings, usually at a community venue, parents share their experiences of HIPPY, participate in HIPPY activities in small groups, build relationships and engage in broader enrichment activities. The model is split for families in the first or second years.

As outlined in the *HIPPY Coordinator Handbook* (HIPPY Australia, 2014):

- In the first year, activity packs are a focus in both home and group meetings. Weekly home visits happen in the first 4-6 weeks, with group meetings starting between weeks 5-7 and alternating with home visits until the end of the First Year. A total of 30 activity packs are provided.
- In the second year, HIPPY activities are delivered fortnightly at home visits, and group meetings are held regularly, usually 2-3 per term. Group meetings in the second year are more broadly focused. A total of 15 activity packs are provided.

Throughout the literature, there is some variation reported in the intended use of home and group visits.

In the Australian context, some studies report that parents received weekly home visits from the home tutor (Roost et al., 2014) (total n = 90 parents) while other studies report that home visits were conducted on a fortnightly basis that is less frequent than the current model (Liddell et al., 2011; Liddell et al., 2009; Gilley, 2003) (total n = 106, 63 and 33 parents, respectively). In terms of delivery, Liddell et al. (2011) reported that most sites are conducting more frequent or longer visits than anticipated, and under-delivering group meetings. Parental preferences are a further consideration. Liddell et al. (2009) reports that 61 per cent of parents felt that fortnightly home visits were sufficient (total n = 73 parents). During a previous evaluation of HIPPY, feedback from several parents indicated that weekly visits were too intensive for busy families (Roost et al., 2014). Overall, while home visits are an important part of the program there is limited HIPPY literature to determine the most effective frequency of home visits to support child and/or parent outcomes.

Similarly the literature suggests variation in the expected frequency of group meetings. Some studies report fortnightly meetings (Liddell et al., 2009; Gilley, 2003) whereas other studies report that group meetings were held at least six times per year (Liddell et al., 2011).

Parent feedback from the Liddell et al. (2009) evaluation suggests that new connections were formed through group meetings. Attendance at group meetings appears variable. Based on their finding that most sites were performing longer or more home visits and fewer group meetings than the prescribed program structure, Liddell et al. (2011) proposed that home visits were being used as a substitute for low levels of attendance at group meetings. Furthermore, the authors considered that this pattern may have been linked to the larger effect on parent outcomes, such as increased confidence and engagement in literacy activities at home, and the relatively weaker effect on parents' sense of community.

Completion of HIPPY activities

The extent to which families receive HIPPY home visits and group meetings is used as an indicator of progress through the program and is one measure of program fidelity.

Table 2.3 provides the average number of weeks that HIPPY is delivered to children in each cohort and reported to BSL through the annual Fourth Quarter Community Progress Report (HIPPY Australia, 2015b; HIPPY Australia, 2016). From this data, four year old children were at week 27 or 26 of 30 weeks (2015 and 2016 respectively), and five year old children were at week 14 or 15 of 15 weeks (2014 and 2015 respectively). This suggests that the children participating in the program at this time were relatively well progressed compared to the expected progress standard at the time. BSL note that this is an average and participating children in each cohort were at varying stages of their HIPPY journey.

TABLE 2.3 AVERAGE WEEK OF DELIVERY FOR CHILDREN IN EACH COHORT

Cohort	Age 4	Age 5
2014 cohort	n/a	Week 14 of 15
2015 cohort	Week 27 of 30	Week 15 of 15
2016 cohort	Week 26 of 30	n/a

SOURCE: HIPPY AUSTRALIA, FOURTH QUARTER COMMUNITY PROGRESS REPORTS, OCT-DEC 2015 & OCT-DEC 2016

Home visits

Qualitative feedback from HIPPY coordinators interviewed for this evaluation supported evidence in the literature around the importance of home visits and the sequential use of learning activities. However, coordinators noted that families had different capabilities and recognise the need to work with and be flexible to the abilities of families, including considering other events or circumstances that may affect families' lives.

Home visits were also seen as important for building close and trusted relationships between home tutors and parents, with coordinators suggesting that the relationship could not be fostered through centre-based delivery only. Furthermore, families are often physically isolated through distance and lack of effective transport, and home-visiting removes these barriers.

A small number of coordinators (three of 20) indicated that home delivery may not always be appropriate for families at their site, due to the suitability of the home environment for learning or family preferences. In these circumstances, coordinators took a flexible approach, conducting home visits for some families and using other approaches, such as meeting at a local café or park or with a small group of parents, to engage with families who do not wish to participate in home visits.

Group meetings

Administrative data shows that the number of group meetings decreased slightly between 2014 and 2015, from 796 to 789 meetings respectively, but grew substantially in 2016, to 984. This likely reflects the growth in enrolments through new sites.

Data from the HIPPY Family Journey Survey shows that graduating families who attended group meetings most frequently enjoyed 'meeting other families' and 'hearing from other professionals'. Attendance at group meetings may be an emerging issue, as the proportion of graduating parents who report that they 'always' or 'sometimes' attend group meetings has decreased from 66 per cent in the 2013 cohort to 60 per cent and 59 per cent in the 2014 and 2015 cohorts respectively. However, given this data relates to graduating parents and is not disaggregated by site, it is difficult to draw further conclusions.

As outlined in Table 2.4, the main reasons parents reported for not attending group meetings were 'family issues', 'time pressures' or that they 'needed to work or study'. At graduation, these three factors each accounted for between 30 and 55 per cent of responses where parents were able to choose more than one response. In 2015, these responses were selected by parents 35, 55 and 36 per cent of the time respectively.

TABLE 2.4 COMMON REASONS FOR NOT ATTENDING GROUP MEETINGS

Reason	Frequency		
	2013	2014	2015
Family issues	29% (173 of 593)	35% (250 of 724)	35% (312 of 880)
Time pressures	47% (278 of 593)	50% (363 of 724)	55% (484 of 880)
You needed to work or study	43% (255 of 593)	37% (267 of 724)	36% (315 of 880)

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA FAMILY JOURNEY SURVEY 2013-15 DATA

Consultations with coordinators identified that group meetings provide parents with an opportunity to network, share information and gain skills and capacity (through enrichment topics). However, four coordinators reported that group meetings were often poorly attended and that parents appeared to be disengaged. This was particularly observed with migrant and Indigenous parents, where language difficulties meant that they were often too shy to engage. In two cases it was necessary to hold multiple group meetings because there were diverse language and cultural groups in the HIPPY cohort. This is further discussed in section 2.3.

Coordinators reported that they adopt strategies advised by HIPPY Australia to maximise attendance, and also that they may make program changes to accommodate parents' schedules, such as reducing the frequency of group meetings.

2.2.3 HIPPY essential feature: role play as a learning tool

The next feature of the HIPPY Australia model is the use of role play. The role play approach is used by the home tutor to teach the parent/carer the learning activities so that the parent can subsequently deliver the activities to their child. The home tutor alternates playing the role of the parent and the child, which offers an opportunity for the parent to discuss and reflect on the goals of the activities.

The main evidence regarding the use of role play comes from qualitative studies and child development and learning theory. Lombard (1994) identifies that the use of role play in parent training is grounded in experiential learning theory and evidence to support increased retention of concepts and skills, and that role play is particularly appropriate in instructing disadvantaged groups how to teach their children. Grady (2002) reported that role play

made the materials easy to understand and repeat with parents and children where there were difficulties with English.

The evidence across several Australian studies suggests varied experiences with role play based on parent feedback. An evaluation conducted by Liddell et al. (2009) involved interviews with HIPPY parents. From the sample (n = 73), 85 per cent of parents reported they felt either comfortable or very comfortable doing role play, although some parents reported feeling silly or embarrassed (Liddell et al., 2009). Recent Australian research by Roost and colleagues (2014) found some parents consider that the role play method increased their confidence and understanding of the activities (the sample size was not available). Conversely, some parents described the process as patronising and not suited to their learning style (Roost et al., 2014). Overall, role play as a training method appears to be accepted by most parents.

The main way in which fidelity regarding role play is examined for this evaluation is through improving home tutor capacity to apply role play, the extent to which families are supported to use role play through home and group meetings, and through reporting of focus areas of home tutor delivery to families at home visits and group meetings.

The data provided shows that the majority of group meetings involved role play over the 2014 and 2015 cohorts (78 and 74 per cent respectively), noting that data was not available for the 2013 cohort. This is expected for the first year of each cohort where activity packs are a focus in both home and group meetings. In the second year, group meetings are not intended to focus specifically on HIPPY activities so this may be a high result.

In terms of home tutor capacity, tutors generally showed an improvement related to the use of role play. In particular, 2014-16 data from the Training and Employment survey shows that tutors report improvements in response to the following comments:

- 'I role play activity packs each time I visit my families': 60 per cent of home tutors report improvement from enrolment to graduation
- 'I feel confident role playing with my families': 68 per cent of home tutors report improvement from enrolment to graduation
- 'I discuss the 3Cs¹¹ and demonstrate these during role play': 57 per cent home tutors report improvement from enrolment to graduation.

There is limited data available regarding families' use of role play. One data point is parents' response at graduation when they are asked what they enjoyed about the program. In this context, as reported in the Fourth Quarter report (HIPPY Australia, 2016), approximately 38 per cent of families identified that role playing the activities was an aspect of the program that parents enjoyed. Though this data does not contraindicate the importance of role play, it aligns with the literature in suggesting that some parents are challenged by the role playing component of HIPPY.

Coordinators interviewed for this evaluation also identified benefits and challenges regarding the use of role play. Four of the seven coordinators who commented on the use of role play agreed that through role play families engaged more with HIPPY, their home tutors and their children. Role play was seen by multiple coordinators as a tool to empower parents with low literacy, numeracy and English skills to be able to teach their children. In contrast, three coordinators reported that it could be difficult to engage parents in role play, and it was seen by some as demeaning and laborious, particularly in the second year of the program when parents had already participated in one year of activities. One coordinator believed there should be reduced reliance on role play in the program.

¹¹ As outlined in the HIPPY Coordinator Handbook (HIPPY Australia, 2014) the 3Cs stand for the three ways HIPPY teaches parents to respond to their child: Confirm, Complete, Correct.

The HIPPY training and employment survey indicates that home tutors conducted role play of curriculum at 78 and 74 per cent of group meetings in 2014-15. However, given the mixed experiences with role play, and noting that no data was available regarding how often parents engaged in role play, further insight into the importance of role play and fidelity in implementation may be warranted. Information regarding how often role play is used could be collected from parents through the HIPPY journey survey. Evidence from such analysis may have the additional benefit of supporting home tutors in their advocacy of role play as an instructional and interactional method between parents and their child. These findings are further discussed in chapter 7.

2.2.4 HIPPY essential feature: Parents as home tutors

The role of home tutor is a core element of HIPPY in Australia and internationally. Throughout the literature and across international contexts, the role of the home tutor has been variably described, with terms including home visitor and paraprofessional appearing to be used to describe the same role. In the Australian program, a home tutor is a parent who has been recently involved in HIPPY (either currently or in the past 12 months) and is employed by the HIPPY program provider for two years to provide peer support and deliver HIPPY activities to families through role play. Home tutors are considered likely to share similar backgrounds and be better able to deliver materials in a way that is sensitive to the cultural and life experiences of participating families.

Drawing from prior studies, Lombard (1994) reports that the use of former and current HIPPY parents as home tutors enables meaningful and effective communication with the families. Lombard (1994) also identifies that this peer-to-peer approach is effective in creating a comfortable learning environment and enables a culturally sensitive program delivery method.

In Australian research, home tutors were reported to provide parents with a source of support and to enhance effectiveness of the program (Roost et al., 2014). Further drawing on qualitative evidence, home tutors were reported to have provided support to parents facing personal challenges, demonstrating the value of shared experiences and cultural background.

Recruiting home tutors from current and past program participants is another characteristic of HIPPY. The flexibility of HIPPY employment is reported to provide parents who experience multiple employment barriers with a unique opportunity to develop valuable skills (Deuel, 2000) (total n= 31 tutors). However, tutor turnover has also been reported as a factor that negatively impacts parents' experiences with the program (Roost et al., 2014).

Program fidelity in this context is considered to be the extent to which home tutors are drawn from the current or former HIPPY parents.

In 2015 and 2016, HIPPY Australia reported that more than three quarters of home tutors were HIPPY parents, with the remaining home tutors employed from the broader community. The use of home tutors from the broader community was considered to have assisted in building capability and commitment within the site, including providing expertise to address more complex program issues. HIPPY Australia further observes that it has 'noticed that the proportion of home tutors who are parents has increased. Factors that have supported an increase in parents as tutors include: HIPPY becoming embedded in the community; parents having an increased understanding of the program; and an increased understanding of the training and support that is provided to them to in the role of the tutor' (HIPPY Australia 2016).

In terms of a parent's experience in working with home tutors, data from graduating families indicates that parents find working with their tutor to be a positive and satisfying experience.

HIPPY parents 'agreed' or 'strongly agreed' with a number of statements about working with their particular tutor, including that the tutor was:

- flexible in scheduling home visits and taking into account times that were convenient for the family (95 per cent)
- respectful of the family and their cultural background (96 per cent)
- on time and well prepared (96 per cent).

In terms of home tutors' development in the provision of HIPPY, the majority of home tutors improved in areas that were not identified as an initial strength, including:

- 'I discuss generalisation / everywhere learning ideas with my families' (63 per cent)
- 'I review the previous week's activities with my families' (60 per cent)
- 'I support the HIPPY family to identify what the HIPPY child can learn from the activities' (64 per cent)
- 'Being organised and on time for their home visits' (59 per cent).

Coordinators generally agreed that home tutors should be parents undertaking or having been through HIPPY. A small number of coordinators suggested that there may be benefit in having specific skills (e.g. social work) that would enable assessment and linkage of parents to other services. Some coordinators also raised concerns about the capability of home tutors to be effective and safe, particularly with families with complex needs and circumstances.

The need for external candidates was also raised in the context of new sites and the lack of previous parents to employ as home tutors. Five of the coordinators consulted noted that it was often difficult to recruit home tutors in the establishment phase. Sites generally aimed to recruit home tutors that were representative of the entire community in order to facilitate access to families from all areas of the community and ensure the program is delivered in a culturally appropriate manner (which impacts on recruiting and retaining families). Two coordinators indicated that they overcame this by delivering the program themselves before appropriate home tutors could be recruited.

As discussed in chapter 1, home tutors are generally employed for only two years. Several coordinators observed that this cycle presents challenges for HIPPY, as it leads to relatively high turnover; that is, once a home tutor has been appropriately trained and has gained experience they leave the program.

Overall, there is emerging evidence that there has been program fidelity regarding the use of parents as home tutors. However, it is noted that recently established sites are not likely to have parents available to employ as home tutors, which can be a limitation. Moreover, the data available to the evaluation was not disaggregated and patterns could not be examined by location. The development and reporting of data is further discussed in chapter 7.

2.2.5 HIPPY essential feature: everywhere learning

Everywhere learning is a further feature of HIPPY and refers to the process by which program concepts and activities are adapted to everyday situations or in places other than the home (HIPPY Australia, 2015a). Home tutors first learn about everywhere learning in pre-service home tutor training. Coordinators can help home tutors to come up with ideas to generalise HIPPY activities, share these ideas with parents, and foster and support parents' decision making.

The main evidence regarding the concept of everywhere learning comes from child development and learning theory. In their analysis of generalisation learning techniques across early childhood programs, Baine and Starr (1991) identified that 'generalisation of

learning [everywhere learning] does not occur automatically and that special techniques are frequently required to promote skill generalisation’.

Everywhere learning is not evident as a formalised core concept of the program in past Australian evaluations or as an identified feature in the HIPPY USA model. Specific evidence regarding the use of everywhere learning in HIPPY was not apparent through the literature review.

However, the most recent Fourth Quarter Community Progress Report (2016) indicated that 98 per cent of HIPPY families were using HIPPY concepts in everyday activities at the end of the two year program (number of families not reported). This high level of engagement in everywhere learning is promising and represents a direction for future qualitative research to explore the impact on families. This is discussed further in chapter 7.

Coordinators interviewed for this study highly valued everywhere learning, and indicated that it enabled parents to extend their child’s learning outside the HIPPY activity books and could be tailored to suit children’s interests and keep families engaged. One coordinator noted that the longer families were enrolled in HIPPY, the more they used everywhere learning.

In terms of home tutor development, 63 per cent of tutors identified improvement in discussing ‘generalisation/ everywhere learning ideas with my families’ where it was not identified as an initial strength.

This is supported by evidence from the consultations, which described the skills that were taught, however were less clear about changes over time and the capacity development of home tutors in this regard.

Overall, there is emerging evidence of fidelity with the use of everywhere learning as a key element of the program to improve a parent’s use of learning activities.

2.2.6 Structures and processes that support HIPPY fidelity

As discussed in chapter 1, the Australian Government has funded a network of 100 HIPPY sites across Australia.

Organisational arrangements

HIPPY sites are supported by the organisational arrangements outlined in Figure 1.1. The national office within BSL, HIPPY Australia, is ultimately responsible for program operation and provides program and organisational support, materials, training, and networking opportunities for the community organisations sub-licensed by BSL to run local HIPPY sites.

HIPPY Australia supports consistent delivery of HIPPY across the country, from recruitment and training to quality management (O’Flynn et al., 2014). HIPPY Australia, the HIPPY program providers and the local advisory groups support delivery of HIPPY on the ground. HIPPY coordinators are encouraged to participate in the national HIPPY network through regular communication with HIPPY Australia and through participation in national and regional meetings.

Continuous improvement processes

HIPPY Australia provides a range of tools, resources and visits to support the quality delivery of the program. Within program providers, line managers and coordinators are responsible for program planning and implementation.

As outlined in the *HIPPY Australia Quality Assurance Process: Assessment of program quality guidelines for HIPPY providers* (2017b), newly commencing sites undertake an early development visit (held during year 1), an assessment of program quality (APQ) (held years 2, 4, 6 etc.) and a development visit (held years 3, 5, 7 etc.).

New HIPPY sites are required to generate a development plan, which documents the goals HIPPY program providers will work on to maximise outcomes for program participants and deliver the program according to the *Sub-licencee and Funding Agreement*. The plan is reviewed on an ongoing basis at the early development visit and subsequent development visits.

Established HIPPY sites receive at least one visit from a HIPPY Australia consultant each year, either an APQ or a development visit (this is further discussed in section 2.3.1). Site reviews are conducted in accordance with a compliance checklist to monitor program fidelity.

HIPPY Australia uses a business system, *Efforts to Outcomes*, both to measure the impact that HIPPY has on families and communities and to provide an evidence base for future service delivery improvements and funding requests.

Most coordinators interviewed consider HIPPY Australia consultants to be effective and responsive. Coordinators agreed HIPPY Australia was important for providing ongoing training and financial support for delivering a high quality program. Some coordinators suggested more support was required for ongoing reporting to HIPPY Australia (such as program outcomes reporting) and technical reporting (such as budgeting advice and financial support).

Program adaptations and flexibility

As overviewed in the *HIPPY Coordinator Handbook* (HIPPY Australia, 2014), HIPPY Australia recognises the need for sites to make changes, or 'adaptations', to certain elements of the HIPPY model in order to tailor the program to local needs. Adaptations to staffing, catchment area or the program delivery model may be considered. However, consideration must first be given to how an adaptation will impact on the key features of the HIPPY model and outcomes for parents and children.

Through the formal process for making adaptations, sites are required to seek approval from HIPPY Australia prior to making changes, and additionally should:

- consider the implications of the adaptation
- discuss the proposal with the HIPPY program provider line manager
- talk with their HIPPY Australia consultant
- fill out the HIPPY Australia Adaptations form
- forward the form for approval to HIPPY Australia.

Requests are considered by HIPPY Australia in consultation with the HIPPY site and are approved at the discretion of HIPPY Australia.

HIPPY sites are afforded flexibility within the program where HIPPY Australia approval is not required. Families and home tutors may need to change program delivery when:

- the child does not like doing a particular activity
- the family is struggling with the pace of the program
- the parent decides to not do all the activities

- parents are missing home visits and group meetings.

Section 2.3.1. further discusses adaptations and flexibility for cultural appropriateness purposes.

Staff recruitment and training

A key ongoing driver of program fidelity is staff selection and training. In this context, consultations identified that the recruitment of the right coordinator, and support from the HIPPY consultant, line manager and the advisory group were essential to success. The coordinator's level of experience and familiarity with the local community was critical through establishment to drive recruitment and retention of families and home tutors and facilitate access to hard-to-reach families.

More than half of the coordinators interviewed for this evaluation were existing community members who had experience living and working with the local community. This was seen to help program establishment significantly as it enabled a strong understanding of the demographics and dynamics shaping the community, ease of networking and an appreciation of how best to target those most at need.

As indicated in section 2.2.4, home tutors are normally recruited from parents currently doing HIPPY with their children, or from parents who completed the program the previous year. Recruiting home tutors in the first year could be difficult due to a combination of lack of interest and attracting parents with the right skills. Consultations indicated this could affect the quality and timing of delivery in some sites and has the potential to undermine the success of the program in the community.

Networks across HIPPY sites

About half of the coordinators interviewed have informal networks with other HIPPY sites, often in the same region or managed by the same HIPPY program provider, and/or have relationships that were established during HIPPY training or conferences. However, nine of the 20 HIPPY coordinators noted that a lack of networking and support between coordinators and home tutors at different sites is a challenge to implementation and ongoing delivery of HIPPY. These coordinators suggested increased networking opportunities and information sharing among sites could improve service delivery.

Coordinators also considered that cross-coordinator networking would be useful for help with day-to-day problems that may be encountered, particularly for sites experiencing ongoing delivery problems (for example, low recruitment and retention rates for families and home tutors) or for addressing the needs of particular communities. This was particularly evident among regional and remote sites where it is not easy to connect with neighbouring sites. One coordinator commented that the challenges faced by their site were vastly different from sites in larger cities. The coordinators' conference was generally found to be valuable but was not considered to be frequent enough, and limited funds and time were commonly cited reasons for lack of networking.

HIPPY works in combination with other services and interventions

HIPPY is not intended to be a stand-alone intervention, but rather to work in tandem with other types of interventions or educational opportunities, including centre-based preschools.

The Council of Community Paediatrics (2009) reviewed policy statements for medical practitioners about how to work in partnership with home-visiting programs, including HIPPY. It stresses the importance of home-visiting in conjunction with health care, which is described as an added-on effect, however cautions that home-visiting is not a fix-all

approach as each program has distinct goals (for example, reducing child abuse, providing school readiness, assisting mothers).

Similarly, in their recommendations for medical practitioners Beck et al. (2016) outline the benefits of home-visiting, including HIPPY and other interventions, such as care coordination programs that integrate physicians, social workers, and health care professionals. They emphasise the importance of collaboration between different interventions, as well as policy initiatives that create more resources for providing interventions to impoverished families.

Few studies look at an actual combination of interventions, but those that do highlight the added-on effect. One reason that studies of multiple interventions are so rare is that it becomes very difficult to isolate the effects of each treatment and amount of exposure, and to ensure that one has random samples for comparison.

Sawhill and Karpilow (2015) highlighted this point when they conducted simulations to estimate the theoretical impact of multiple interventions. Their interest was modelling how many more children would succeed if interventions were provided for more low income children at each stage of life, with HIPPY examined as an example of an early childhood intervention. Their paper recommended multiple interventions throughout adolescence and adulthood.

Brown and Lee (2015) discovered that a group that participated in combined Head Start and HIPPY scored 'developed' on all sections of the Texas Primary Reading Inventory, while the Head Start-only group did not achieve unanimous 'developed' scores (n = 10 and 12 respectively). The results provided a framework for promoting collaboration between the two programs specifically, and make the case for the effectiveness of a combined centre- and home-based approach for disadvantaged families.

Coordinators interviewed for this evaluation noted that the communities in which they operate are often crowded with similar children's programs that may operate transiently. As such, there can be caution within the community and with other services providers about the longevity of HIPPY in the community and whether it was worth investing in. Site stability, consistency and constancy were identified as essential to gaining community trust.

Additionally, two coordinators commented on the negative impacts of competition within a community, with existing service providers concerned about competition for the same clients. This was seen to have an impact on the extent to which other services promoted HIPPY and referred families to the program, affecting the recruitment of both families and home tutors. In one instance, a coordinator noted that during the HIPPY program provider selection phase, multiple service providers 'bid' for the licence to operate HIPPY in the local area. When other service providers were not successful, they did not want to network with the successful provider.

Many HIPPY coordinators interviewed had already established effective partnerships with other service providers. These partnerships were useful for organising joint community events, developing referral pathways (some service providers offered recruitment assistance through pre-existing databases) and providing support for establishing and integrating HIPPY (including auditing and financial advice). Sites that lacked effective networks had difficulty recruiting families and home tutors and were often unable to access certain groups within the community (for example Indigenous families).

Access to other services

Consultations with coordinators identified that establishing networks with health and community services can enable families to have better access to a range of services,

including child specialists (such as speech pathologists and behavioural specialists), and domestic and family violence and health services. Some coordinators considered that HIPPY can provide a soft entry point into otherwise hard-to-reach families. This was a strong theme from sites where the HIPPY program provider delivers a range of health and community services. One coordinator noted the importance of this broader support system for keeping families engaged in HIPPY, and this is supported by findings of other early learning programs which shows programs that provide health, wellbeing and educational services achieve a broader range of outcomes for families (WDCTED, 1999).

2.3 Cultural appropriateness of HIPPY implementation

Effective programs are evidence-based and specifically designed to maximise achievement of intended outcomes. However, programs also benefit from being responsive to suit the needs of different communities, cultural groups, families and needs and abilities. Tailoring ensures programs have greater capacity to be delivered in a manner that is appropriate, acceptable and effective (Liddell et al., 2011), although balance is required because too much flexibility in delivery may mean the program no longer aligns with its evidence base and does not achieve the desired outcomes.

This section examines the cultural appropriateness of the implementation of HIPPY with particular consideration of three issues – the appropriateness of existing processes for responding to cultural appropriateness, cultural appropriateness of the essential features of HIPPY, and cultural appropriateness of implementation processes. The section is predominately based on the literature review analysis and extended through incorporation of input from consultation and administrative data where available.

2.3.1 Appropriateness of existing processes

HIPPY reviews in Australia have highlighted the importance of balancing program engagement and outcomes with program fidelity (Gilley, 2003; Roost, 2014).

Roost et al. (2014) identified the diverse needs and challenges within HIPPY communities, and HIPPY coordinators reiterated such challenges in consultations (11 coordinators interviewed). Challenges include:

- Many families have been disconnected from education for generations and children have often not been enrolled in child care or preschool for various reasons, including cultural safety concerns or practical difficulties, such as filling out forms or the lack of a birth certificate for enrolment.
- Families towards whom HIPPY is targeted often face the multiple challenges including low socioeconomic status, unemployment, poor health or nutrition and reduced levels of parental education (including literacy and numeracy).
- Some families are socially or physically isolated due to language and cultural barriers or distance (families may lack personal and public transport and have limited access to local services). HIPPY communities often comprise migrants, fly in fly out workers and transient Indigenous families for whom regular engagement in a program such as HIPPY is difficult.
- Families may come from CALD and Indigenous communities. These families are far more likely to require additional support services such as interpreting.

As outlined in the *HIPPY Operations Guide for Providers and line managers* (HIPPY Australia, 2015a), HIPPY Australia seeks to enhance program engagement and outcomes through effective partnerships with local communities to contextualise the program. While the five essential features of HIPPY are fixed, how these are communicated and applied can be adapted to reflect the strengths of communities and their local cultures. In particular,

embedding cultural competence within the program, resources used and staff capacity can help this to take place appropriately.

To enable responses to these challenges, the HIPPY model allows for program flexibility and program adaptations (as outlined in section 2.2.6). HIPPY sites are afforded flexibility within the program where HIPPY Australia approval is not required. Overall quality assurance is monitored by HIPPY Australia to ensure the consistent delivery of HIPPY across the network. As indicated earlier, BSL does not capture data on flexible changes, however the most frequent examples of flexible practice identified through consultations were:

- Adaptation of curriculum content to improve families' interest in the material, support low literacy families (for example, by using picture reading), select more culturally appropriate activities or reduce the number of activities to ensure completion during home visits.
- Changes to location of home tutor sessions with family. As discussed in section 2.2.2, some families may not wish tutoring to be delivered in the home. Many coordinators adapted to this and delivered sessions in other safe locations, such as their own office, schools or coffee shops.
- Changes to group meetings (as earlier identified in section 2.2.2). Many families did not attend group meetings, mostly due to difficult personal schedules, work requirements, language difficulties or cultural commitments (such as Sorry Business). Multiple coordinators reduced the frequency of group meetings (for example, every 3-4 weeks instead of every fortnight) or operated multiple meetings in various languages, which improved attendance. One site organised family activity days in place of group meetings.

Alternatively, there may be a need for HIPPY sites to make changes, or 'adaptations', to certain elements of the HIPPY model to tailor the program to respond to local needs. HIPPY Australia records data on adaptation requests and approvals, however data was not accessible for this report. The most frequent adaptations identified through the consultations were:

- Employment requirements for sites experiencing instability or difficulty establishing HIPPY, or those unable to acquire new home tutors. In response, HIPPY consultants had approved adaptations to retain home tutors for more than two years. One coordinator was interested in extending home tutors' contracts during the year so that families had more time to complete the program (that is, 35 weeks instead of 30).
- Family circumstances, as many families are transient and move out of the HIPPY catchment area. Two coordinators reported that they retained these children if they could not be transferred to another HIPPY site. Other coordinators provide safe spaces and storage for HIPPY materials for families who have transient homes where materials are being lost or stolen, or for families who need a quiet place to have dedicated time with one child.

Each coordinator interviewed for this evaluation recognised the importance of tailoring HIPPY to suit diverse community needs, for example, cultural diversity, transient families and families with learning difficulties or behavioural problems. This occurred at the content level and also in program delivery and site operation. They all considered that this flexibility is key to retaining families.

However, there were inconsistent views from coordinators about how much adaptation or flexibility is allowed and while many coordinators discussed adaptations with HIPPY consultants for approval, others considered tailoring to be their responsibility in running the site. As one coordinator stated:

We tailor activities a little bit for families who are struggling to get through the work – HIPPY Australia helps us choose the core activities that need to be delivered to help the families get coverage of the concepts without the full delivery.

The consultations identified possible inconsistencies in understanding the difference between flexible practice and adaptations. For example, one coordinator indicated that the best way to work with the local Indigenous community was to deliver the program at the local school, however, they did not make the change as they understood the requirement for HIPPY was as a home-based program only. In contrast, most other coordinators adapted delivery to suit families and the community, including finding alternative locations to deliver HIPPY when in the best interests of the family.

The tension between fidelity and flexibility was particularly significant for coordinators when adaptation was required to suit the needs of families as an alternative to early exit from the program. Most coordinators placed a priority on retaining families. To this end, some coordinators adopted strategies whereby some families only completed a small portion of HIPPY, which coordinators thought was more important than receiving no instruction at all (as there are no requirements for graduation). While HIPPY Australia consultants were generally considered very helpful when tailoring program content, several coordinators noted a disconnection from consultants who wanted families to complete the full program. One coordinator observed that this was not realistic for many families, and two other coordinators prioritised retaining families in the program over completing the activities. Three coordinators commented that:

The main important thing is to get tutors through the door – even if parents haven't completed all the activities for the week, it is important to have the tutor come and be involved.

At the start the program was very rigid, families had to complete all parts of all the books to graduate. HIPPY has become more flexible so that the tutors go through the whole book with the parent, and ask the parents to choose which bits the child should do.

If parents don't have capacity to complete all the activities we are flexible and prioritise keeping families engaged (even if we don't strictly following the program).

Four of the 20 coordinators considered more flexibility is required to deliver HIPPY in their community: they said that while a minority of parents were able to tailor the program content to suit their needs (for example, reading fewer books and relying more on using everywhere learning), most parents wanted the home tutors and coordinator to tailor the program for them.

2.3.2 Cultural appropriateness of the design of HIPPY

In section 2.2 above, the five essential features of the HIPPY model were examined in relation to program fidelity. It is also important to balance this analysis with examination of cultural appropriateness. The evidence base for cultural adaptation of the five essential features of HIPPY is relatively underdeveloped. In this light, the discussion below looks at two broad matters – the cultural appropriateness of what is being delivered (program length and content) and the cultural appropriateness of how it is being delivered (home visits and group meetings, parents as home tutors, role play, and everywhere learning).

Cultural appropriateness of what is being delivered

As discussed in section 2.2.1, there was emerging evidence that children who attend longer-duration early childhood programs achieve better outcomes. This is also true for HIPPY, with evidence indicating that the two year program model is associated with improved child outcomes compared to one year (Gilley et al., 2003) (n=33 children¹²). However, around 30-40 per cent of children do not complete the two year HIPPY in Australia (as discussed in section 2.4.3).

¹² However, statistical comparison between one and two year program completion was not conducted.

Roost et al. (2014) identified the two year program length can have an adverse impact on recruitment and retention. While they found that parents from CALD communities reported that two years of the program was ‘about the right length’, responses from Indigenous parents indicate that two years was too long. The authors suggested making the two year program more achievable for Indigenous families through greater flexibility. Greater flexibility to respond to Indigenous parents may take different forms, for example:

- *Sustaining engagement through program breaks* – recognising that families may not be able to engage consistently over the two year period, sites at Pioneer, Katherine, and Alice Springs, adopted a flexible approach to actively seek re-engagement with families throughout the year (Urbis 2013). Through the active efforts of the site coordinator, children have the opportunity to continue their participation in the program and complete the prescribed activity packs which support sustained educational skills.
- *Starting HIPPY at three years of age* – BSL received philanthropic funding to develop a HIPPY for Indigenous parents and children starting at three years of age, designed to encourage the sustained engagement of families in the HIPPY age four and five program (Mallet et al., 2017). The pilot program was launched in 2015 in Inala. While the participant sample of the pilot program is small, the retention rates were significantly higher than average retention rates (85 per cent in the first year and 93 per cent in the second year; n = 15 HIPPY parents). The results of the pilot program provide promising evidence to suggest that initiating the intervention at an earlier age can attract and maintain engagement, however additional studies conducted on a larger scale are required before any strong conclusions can be reached. These findings are further discussed in chapter 7. It is noted that the HIPPY age three pilot was not part of the agreed budget provided for under the funding agreement between the Department and BSL and there is no current agreement for the Department to expand or provide funding for HIPPY age three.

A further consideration was the appropriateness of HIPPY materials in the Australian context. While the original materials were from the USA, learning materials have been progressively revised from 2014 in an effort to adapt the program to Australian communities. This revision occurred following findings from Roost et al. (2014) which showed that:

- material in the second year was more relevant than the first year
- some families found the material too easy or too difficult in the second year
- some HIPPY activity packs were ‘repetitive and boring’ (Roost, 2014; number of responses not reported).

Coordinators interviewed for this evaluation indicated that most parents and children enjoy doing HIPPY activities. Some coordinators thought the HIPPY books needed to be more visually appealing, play-based (to accommodate a wider range of needs) and relatable (use less complex language, for example, ‘socioemotional development’ was noted to be a difficult concept for some families to understand). A few coordinators highlighted the need for more support for CALD and low literacy families (in particular, more activities based on visual questions and program tailoring).

Cultural appropriateness of how it is being delivered

The way a program is delivered can be important to meet the needs of diverse communities.

Home visits and group meetings

In Canada, the cultural acceptability of locating visits in the home was examined by Beatch and LeMare (2007) through interviews with five Indigenous HIPPY home tutors engaged with on-reserve families at five HIPPY sites. Based on the qualitative evidence gathered in the study, home visits were viewed positively as a feature that helped HIPPY stand out from alternative early childhood programs.

However, this may not be generalisable to the Australian context. For example, Urbis (2013) identified that at some remote sites, including Pioneer and Alice Springs, many Indigenous families experience complex social and living conditions that make it impractical or unsafe to conduct HIPPY activities in the home. Under these circumstances, local level flexibility and cultural understanding were essential to appropriately delivering the program to these families accessing HIPPY. The sites addressed these cultural barriers associated with home visits and offered families the choice of centre-based program delivery. Liddell et al. (2011) also noted that this flexibility was important, making a positive difference for remote Indigenous communities.

The consultations undertaken for this evaluation also noted the importance of considering cultural appropriateness in delivery. One coordinator identified specific issues related to their CALD site – due to language barriers, the home tutors often required longer home visits in order to complete the activities. Similarly, Roost et al. (2014) who concluded that home visits were sometimes too short to cover all the program material required, especially for families with several children and that longer home visits (rather than more frequent home visits) would enable home tutors and families to cover more packs or materials in a single visit (number of responses not reported, total n = 90 parents, 40 home tutors).

Roost et al. (2014) also identified group meetings as challenging for certain communities. Adaptations included flexible participation options for group meetings, such as less frequent and smaller group meetings, providing food and cultural activities, and inviting parents to suggest enrichment topics for group meetings. However, the report found the effects on participation were variable, with low attendance reported at numerous sites.

As overviewed in 2.2.2, coordinators interviewed for this project indicated that parents, including those from migrant and Indigenous communities, can be disengaged in group meetings. Strategies identified to maintain engagement included making meetings fun, relevant and interesting and by providing food, language services, transport and childcare. Ten coordinators organised group meeting enrichment topics based on the interests of their families. One coordinator provided incentives (for example, additional books and materials) for parents who attended multiple meetings.

Additionally, coordinators identified other strategies to maintain engagement in the program, particularly over the summer break. These are further discussed in section 2.4.4.

Parents as home tutors

Using parents as home tutors is intended to place a high value of shared experiences and cultural background between the tutor and parent. However, flexibility in the approach has been noted in the literature. Internationally, HIPPY Canada (n.d.) reports that parents are often recruited who share a similar background to the families accessing the program, including language and culture. In the USA, there is emerging evidence that this positive effect is generalisable across CALD cohorts such as Latino families (Nievar et al., 2011).

At Indigenous-focused sites in Australia, Liddell et al. (2011) reported feedback that sites placed effort into recruiting home tutors who identified as Indigenous or had strong relationships with Indigenous communities. In 2016, HIPPY Australia reported employment of 236 new home tutors with around 32 per cent identifying as Indigenous. The evidence from the Urbis evaluation (2013) indicates that non-Indigenous home tutors can be effective providing the home tutor engages with the families respectfully and establishes trust (Urbis, 2013). Trust can be enhanced through employing HIPPY parents and other strategies such as working closely with Elders in the community. The need for trust is explored further in section 2.3.3.

In support of the literature above, one coordinator interviewed noted the importance of retaining home tutors for longer than two years. This was suggested to be critical in Indigenous communities, where it takes a long time to develop trust in a community. The coordinator retained home tutors at the site to support stability in the community and improve trust.

Coordinators interviewed for this evaluation also indicated that they employed bilingual home tutors and interpreters to ease communication during enrolment and group meetings, and organised cultural activities. One coordinator identified the challenge in recruiting home tutors who were fluent in the first language for newly arriving communities. This is reflected in the demographic data described above, which shows that in 2015, 8 per cent of mothers (181 of 2,138, the most common person conducting HIPPY with their child) are 'not fluent' in speaking English and 11 per cent are 'not fluent' in reading and writing English (226 of 2,133). To optimise outcomes, coordinators reported matching families and home tutors based on language use, community groups and whether they have children of a similar age and gender. The *Early days, much promise* report (Gilley, 2003) also noted the importance of using bilingual home tutors. For this study of HIPPY implementation, home tutors were given the responsibility to decide how much of the program is taught in English and how much in the parents' first language. This was well received by families in the study.

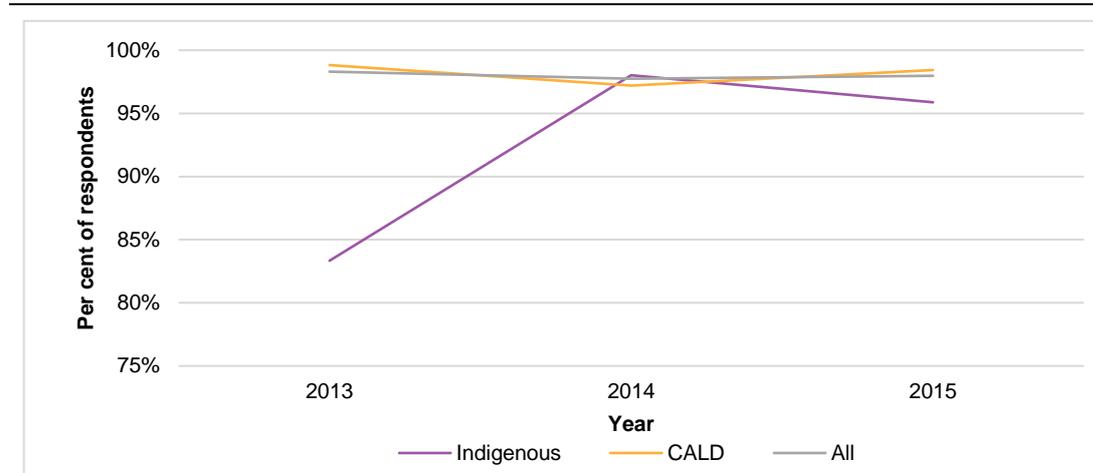
Role play

As discussed in section 2.2.3, program data and qualitative consultation data regarding role play identified that for some parents it can be a challenge. Greater understanding of the appropriateness of role play and other learning tools, particularly in different cultural contexts, would be of benefit in future research. This is discussed further in chapter 7.

Everywhere learning

The review of literature did not reveal studies related to the cultural appropriateness of everywhere learning (see section 2.2.5). However, everywhere learning has very strong support from HIPPY families across different communities as well as the coordinators interviewed for this evaluation, as reflected in the *HIPPY Family Journey Survey 2013-15*.

Figure 2.2 shows that from 2013-15, on average, more than 96 per cent of families practice ideas they have learnt from HIPPY when not doing HIPPY activities. In 2015, this most commonly consisted of everywhere learning (89 per cent of respondents from 2013-15: 786, 938 and 1,171 respondents), followed by specific praise (57 per cent, 674 of 1,187) and the three C's (46 per cent, 548 of 1,187). Notably, Indigenous families on average were less likely than non-Indigenous participants to practice HIPPY ideas in 2013. However, the proportion of Indigenous families practicing HIPPY ideas improved to 98 and 96 per cent in 2014 and 2015 respectively. This suggests that the concept is culturally appropriate within Australia. The increased use of HIPPY ideas by Indigenous families from 2013 to 2014 is likely to reflect the increased number of Indigenous families in the program.

FIGURE 2.2 PROPORTION OF SURVEY RESPONDENTS WHO PRACTICE EVERYWHERE LEARNING

Note: Respondents were asked: 'When not doing HIPPY activities, do you still use the ideas you have learnt?' and the figure shows the percentage of respondents who said 'yes'. The majority of people reported using everywhere learning (89 per cent, 1,053 of 1,187), compared to specific praise (57 per cent, 674 of 1,187) and the three C's (46 per cent, 548 of 1,187), in 2015.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA FAMILY JOURNEY SURVEY 2013-15 DATA

2.3.3 Cultural appropriateness of implementation

Without effective adaptation, previous studies have shown that programs are not appropriate, acceptable or effective for diverse communities, and they face low enrolment and retention rates (Liddell et al., 2011; Grace & Trudgett, 2012; Mason-White, 2014; Kellard & Paddon, 2016; Gerlach et al., 2017).

While the HIPPY model has international origins, many changes have occurred over the last four decades as HIPPY has been implemented around the world. The starting point for HIPPY implementation has been to view implementation as a community project. According to Lombard (1994), 'HIPPY is only available to parents within the framework of a community project'. In other words, in its standard form, HIPPY is both adopted and developed within a context of interaction with the local community.

Box 2.1 outlines key ways identified in early childhood literature by which trust is developed in Indigenous communities.

HIPPY sites adapt to the local community and establish trust through local relationships, such as community Elders, and with local service providers. Various program elements also contribute to HIPPY's adaptation and adoption by the community, including parents as home tutors and delivery by a local community organisation.

BOX 2.1 ESTABLISHING TRUST AND ENGAGEMENT IN INDIGENOUS COMMUNITIES

Supporting implementation:

- community ownership and control over decision-making
- conduct projects with, not for, Indigenous people
- include Indigenous people in the design and delivery of services
- respect language and culture, use Indigenous languages where possible and incorporate Indigenous artwork and traditional stories, and adapt delivery to incorporate story-telling
- programs need to be integrated into the community
- programs need to actively welcome families
- engage and respect families and build ongoing trusted and positive relationships
- incorporate flexibility to suit the needs of specific communities and families
- attract and retain community Indigenous staff members or develop cultural awareness among non-Indigenous staff
- provide appropriate training and support
- good corporate governance
- flexibility in implementation timelines
- locate the program in safe community spaces.

Barriers to access and lack of appropriate targeting include:

- transport difficulties (particularly in regional and remote locations)
- family embarrassment or 'shame' at needing to access the services
- generational cycles of distrust and anxiety regarding engaging with schools
- concerns of transitioning to a school where the dominant culture may differ to that of the family and community
- fears of child protection referrals
- misrepresentation of program costs.

SOURCE: MASON-WHITE, 2014; SOCIAL RESEARCH CENTRE, 2016; GRACE, & TRUDGETT, 2012; MILDON & POLIMENI, 2012; FOX & EMERSON, 2013; BOWES, & GRACE, 2014 AND MORLEY, 2015.

Establishing trust

Viewing implementation as a 'community project' aligns well with more recent analysis conducted by Mason-White (2014), which consisted of literature review combined with consultations with 12 early childhood services, family support services and schools. Mason-White (2014) found that community consultation and acceptance is critical to program success. Box 2.1 summarises issues identified in the literature in regard to establishing the trust and engagement of Indigenous communities.

As discussed earlier in this chapter, more than half of the coordinators interviewed for this evaluation were existing community members who had experience living and working with the local community. The few coordinators without existing relationships in the community noted the importance of establishing relationships and trust in the community. This was fostered by communicating with parents, community members, teachers, schools, TAFE, the local newspaper, media centres and school readiness workers. Many coordinators highlighted the need for HIPPY coordinators and home tutors to be consistently engaged in the community for a long period of time to build trust.

Nine coordinators who had recently established a site noted that time was required to integrate the program into the community. It can take a few years (two to four years was most commonly identified) for the broader community to observe the benefits of HIPPY, appreciate its importance and begin to refer families to HIPPY.

As outlined in Box 2.1, building trust and engagement in Indigenous communities may need to overcome barriers to accessing mainstream services due to feelings of embarrassment,

previous negative experiences and lack of cultural appropriateness. HIPPY coordinators reported using several strategies to overcome distrust and integrate into the community. These include involving local Elders, Indigenous organisations and community members at an early stage, and throughout the establishment process. Engaging and building trust within the Indigenous community was identified as difficult for 10 of the sites interviewed.

Building networks

Networking with cultural groups in the community was seen as particularly important for those sites with a high proportion of CALD families and sites with an Indigenous focus. Coordinators with ongoing support from local Elders and Indigenous community members were able to continually reflect on HIPPY delivery and tailor this to suit the needs of individual families. These sites were also able to recruit Indigenous home tutors and better access the community.

All HIPPY coordinators interviewed for this project indicated that program establishment and ongoing delivery could not occur without establishing trust and developing networks throughout the community. This occurred through advisory groups, relationships with other programs and service providers and engaging directly with the community. This was identified as particularly important in Indigenous communities.

As part of establishing a HIPPY site, line managers form an advisory group to support successful delivery of HIPPY in the community. Advisory groups comprise several members, and can include local Indigenous community liaison workers, Indigenous employment program workers, school staff and members of other local services (for example, Centrelink and the Department of Health).

There was no quantitative program data available on the use of advisory groups. However, in consultations, a few coordinators discussed their experiences with advisory groups. Two coordinators commented that their advisory group was particularly useful for facilitating access to the Indigenous community, helping to promote HIPPY within the community and providing links to other training and services. In contrast, one coordinator highlighted the difficulties they faced in finding appropriate members who will add value.

Furthermore, a few coordinators with an established reputation and a strong network were able to recruit a full intake of children through 'word of mouth' and referral alone. This significantly reduced the hours they needed to actively promote the program, and enabled focus on other aspects of delivery.

Support from HIPPY program provider

The majority of coordinators interviewed for this project considered that their HIPPY program provider was supportive and essential to running HIPPY. Providers offered assistance recruiting families (for example, databases or pre-existing networks), accessing local Indigenous communities and offered valuable ongoing advice on how to engage with evolving communities with changing demographics. Additionally, HIPPY program providers often offer multiple services in the community. These services can provide useful information on the broader community and referral pathways for families both to, and from, HIPPY. Multiple coordinators agreed that HIPPY program providers offered good networking opportunities, including that they enable referral to other community services.

2.4 Meeting the needs of different target groups

HIPPY is delivered in communities with high levels of disadvantaged and vulnerable families across Australia; from diverse cultural backgrounds and locations varying from urban centres to very remote communities.

Roost et al. (2014) identified that HIPPY generally recruits families experiencing vulnerability, with 60 per cent of families described as disadvantaged according to criteria such as employment, health care card status or single parent status.

This is supported by our analysis of HIPPY data, which shows that of the families enrolled in HIPPY:

- More than 60 per cent of all HIPPY families entering the program hold a health care card: 63 per cent in 2014 (1,365 of 2,172) and 60 per cent in 2015 (1,405 of 2,332).
- Approximately half of parents have achieved lower than or equivalent to year 12 as their highest level of education: 52 per cent of mothers (743 of 1,440) and 45 per cent of fathers (512 of 1,135) in 2013, 51 per cent of mothers (683 of 1,498) and 46 per cent of fathers (996 of 1,952) in 2014 and 47 per cent of mothers (1,010 of 2,128) and 42 per cent of fathers (656 of 1,563) in 2015. In 2015, fathers had a trade qualification (20 per cent, 317 of 1563) or 'Degree or higher' (19 per cent, 302 of 1563) and mothers had a 'Degree or higher' (21 per cent, 455 of 2128) or 'Certificate I to IV' (19 per cent, 398 of 2128).
- The proportion of children participating in HIPPY who identify as Indigenous has increased from 13 per cent in phase 1 to 50 per cent in phase 2 (first 25 sites) and 69 per cent in phase 2 (second 25 sites). This demonstrates that phase 2 has been successful in enrolling Indigenous children in the program as intended.¹³
- Children are most likely to have a language other than English as their main language in major cities (37 per cent) and very remote sites (43 per cent).¹⁴
- Most HIPPY parents are 'very fluent' in speaking English upon enrolment: 73 per cent (2,003 of 2,745) in 2013, 78 per cent (2,615 of 3,348) in 2014 and 76 per cent (2,495 of 3,290) in 2015; however fewer parents identify as 'very fluent' in reading and writing English: 67 per cent (1,819 of 2,712) in 2013, 71 per cent (2,375 of 3,323) in 2014 and 69 per cent (2,282 of 3,284) in 2015.
- Common medical and behavioural diagnoses among HIPPY children include communication difficulties and medical conditions (including asthma, epilepsy, allergies), both affecting 7 per cent of children in 2015 (162 and 174 children of 2,333 total, respectively).

2.4.1 Reaching those most at need

Although the data shows that HIPPY is enrolling disadvantaged families, it is not possible to ascertain from current data whether, within sites, the program is reaching those most in need within that community. Two coordinators interviewed for this evaluation noted that their recruitment during site establishment focused on meeting expected enrolment numbers, whereas once the site was established they began actively recruiting the families most in need in the community. Further analysis regarding change in recruitment focus over time was not possible as data was not disaggregated based on the number of years a site has been in operation.

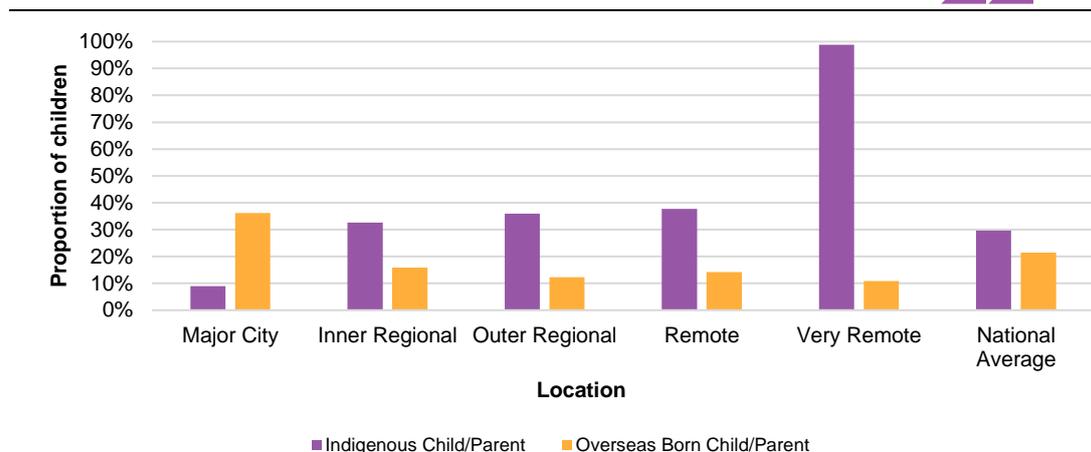
Using administrative data from HIPPY Australia, Figure 2.3 identifies cultural demographics of HIPPY sites across locations. It shows that as sites become increasingly more remote, they are more likely to provide services to Indigenous families (child and/ or parent) (9 per cent of the HIPPY population in major cities compared to 99 per cent in very remote areas), and less likely to provide services to families (children and/ or parents) who were born overseas (the proportion of children born overseas decreases from 36 per cent in major cities to 11 per cent in very remote locations).¹⁵

¹³ HIPPY Australia data consisted of the per cent of children at each site identifying as Indigenous or non-English as main language. Number of individual respondents not available.

¹⁴ *ibid.*

¹⁵ *ibid.*

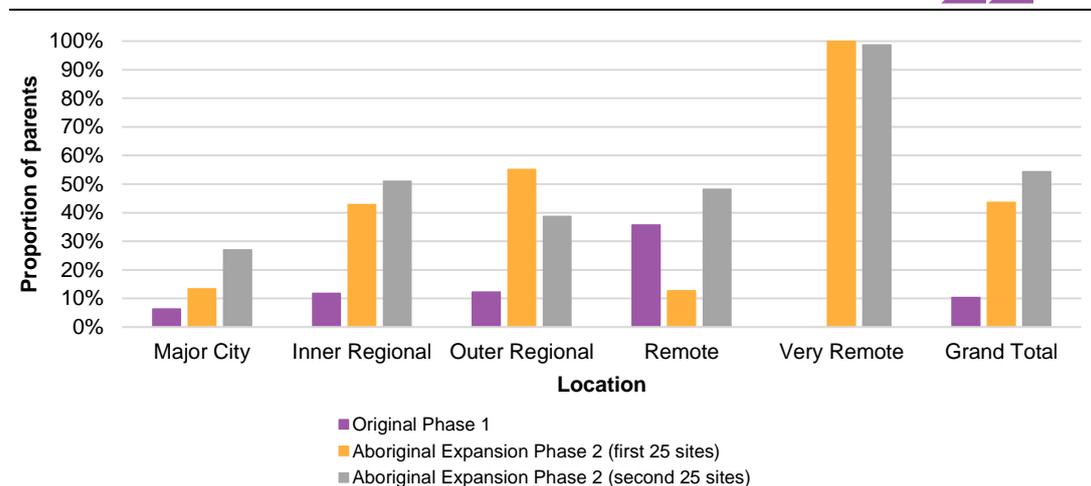
FIGURE 2.3 CULTURAL DEMOGRAPHICS OF CHILDREN ENROLLED IN HIPPY BY LOCATION



Note: This data is HIPPY current participants sourced at a 'snapshot in time' in June 2017.
 SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

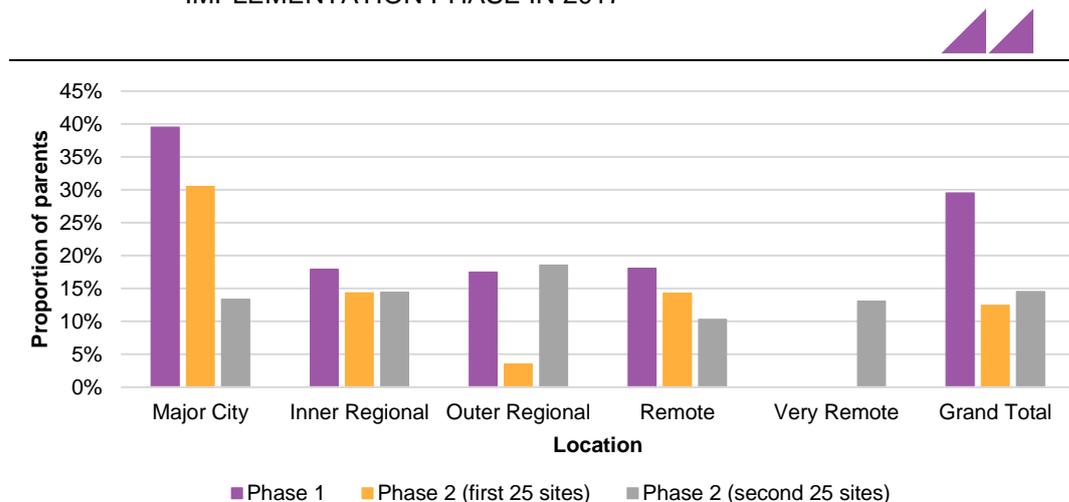
The phase 2 implementation of HIPPY in an additional 50 sites is intended to focus on delivery to Indigenous children and families. Progress in this goal is supported by program data (see Figure 2.4), which shows the proportion of parents identifying as Indigenous increases from phase 1 to phase 2 (first 25 sites) and phase 2 (second 25 sites). New sites were established in very remote locations during phase 2 that almost exclusively service Indigenous communities (100 and 99 per cent in the first and second 25 sites respectively).

FIGURE 2.4 PROPORTION OF ENROLMENTS WITH PARENTS IDENTIFYING AS INDIGENOUS BY IMPLEMENTATION PHASE IN 2017



SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

The increase in families identifying as Indigenous corresponds with a decrease in the proportion of parents identifying as overseas born over time from the phase 1 to phase 2 first and second 25 sites. As shown in Figure 2.5, this decrease is most apparent in major cities (from 40 per cent to 30 per cent to 13 per cent in the phase 1 and phase 2 first and second 25 sites respectively). In very remote sites, 13 per cent of phase 2 (second 25 sites) families identified as born overseas, however this location contains 99 per cent Indigenous families, reflecting a small number of sites.

FIGURE 2.5 PROPORTION OF PARENTS IDENTIFYING AS OVERSEAS BORN BY IMPLEMENTATION PHASE IN 2017

Note: The over-represented figure for very remote sites is an artefact of the location containing a small number of sites (6). One site had 64 per cent of children (22 of 35 children) with parents born overseas. Of the other sites, three had 0 per cent and one site had 2 per cent of children with parents born overseas.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

2.4.2 Recruitment and retention of HIPPY families

There is emerging, but currently limited, evidence on the recruitment and retention of HIPPY families in Australia.

A mixed methods examination of recruitment and retention in HIPPY (Roost et al., 2014) found that HIPPY sites generally recruit disadvantaged families, primarily through networking with other services and word-of-mouth. Recruitment is influenced by parents' desire for their children to be school-ready, their positive perceptions about HIPPY and that HIPPY is cost-free. In contrast, factors including family commitments, parents' negative school experiences, stigma, language or literacy issues and perceptions that teaching is not their role or responsibility were found to discourage parents from enrolling in HIPPY.

Roost et al. (2014) also identify factors contributing to low retention rates in HIPPY in Australia, including challenging family circumstances (for example, illness, lack of secure employment, or changes in housing) and the length and intensity of the program, curriculum content and group meeting formats. As discussed in section 2.2, cultural appropriateness was identified as a nuanced issue, with CALD communities reporting that two years of the program was 'about the right length', while Indigenous parents reported that two years was too long.

Two coordinators interviewed for this evaluation provided examples where the diversity of cultures in a site required the development of different approaches to establish HIPPY and target and retain families. This included the use of interpreters and recruitment of bilingual home tutors who represent the target community to overcome language barriers and issues of trust. These strategies were employed in addition to providing cultural activities and developing community engagement strategy.

Twelve coordinators indicated that they had been involved in consulting with the local community prior to establishing the HIPPY site and that this had eased the transition period and facilitated access to hard-to-reach groups in the community, including Indigenous peoples. Examples include five coordinators who consulted with local Elders and community members to learn about the most effective and culturally appropriate ways to access and

engage families. One site involved the local Indigenous community by conducting a smoking ceremony to commemorate the new HIPPY site and pay respect to the land. Consultations revealed that established sites tend to rely on 'word of mouth' advertising and referrals from home tutors and other service providers (for example, playgroups, preschools and schools) for ongoing recruitment. This is supported by the findings in the *Recruiting and Retaining Families in HIPPY* study (Roost et al., 2014).

In the consultations, three coordinators also identified a shift in recruitment focus following initial establishment of HIPPY. For one coordinator, this emerged from an assessment of how HIPPY has filled the needs of the community, and the generation of new site priorities. For two other coordinators, broad recruitment strategies were used during establishment in the attempt to reach the expected enrolment numbers. This proved effective at recruiting large numbers of families seeking assistance for their children, though not necessarily those children most in need.

However, once HIPPY gained a broader reputation for being effective in the community, these sites altered their recruitment strategies to engage more hard-to-reach families. Such families are often not participating in mainstream services and require greater outreach and engagement effort. Two coordinators also commented that they delay some recruitment with the hope of reaching particular vulnerable families, however, there are risks that in waiting too long they will miss out on recruiting people who could benefit from the program or would start too late in the year.

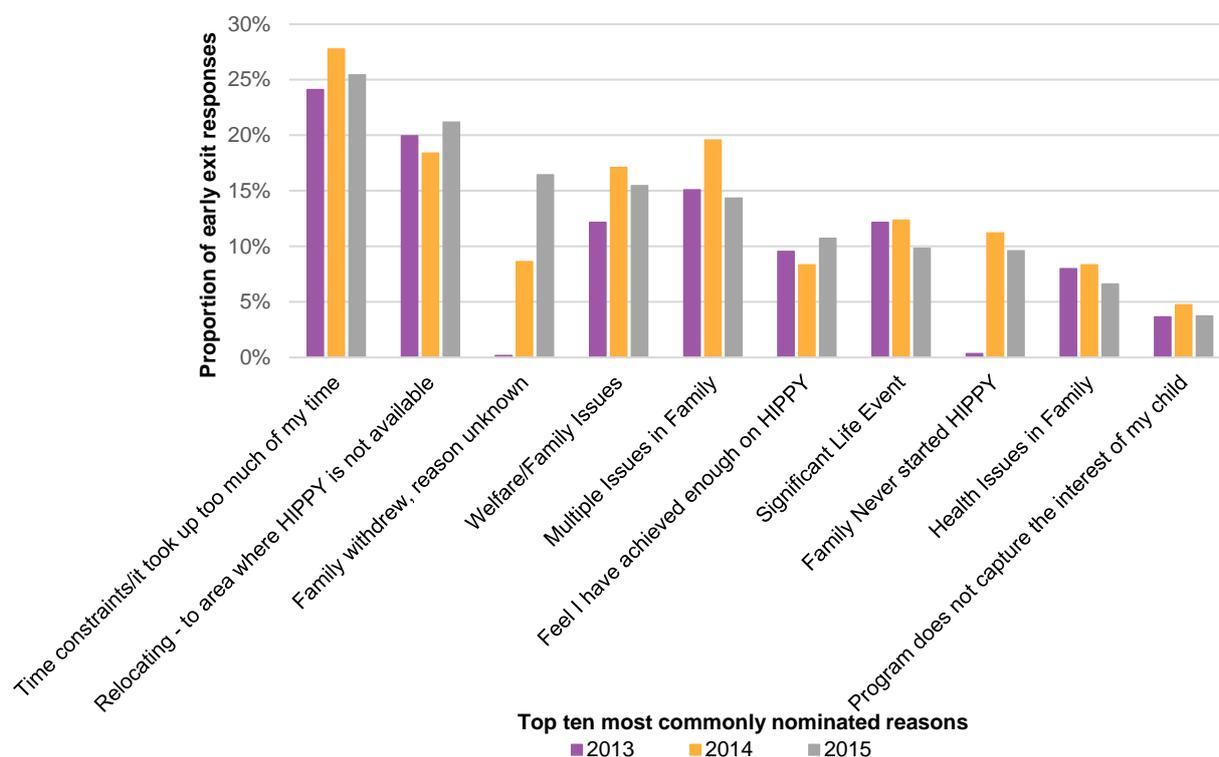
2.4.3 Why do families exit the program?

For this evaluation, engagement and retention of children and families in HIPPY was measured by the number of children who are on hold or who have exited the program early. A family may choose to go on hold from HIPPY for a short period of time if there are other events happening in their lives that may mean they are unable to dedicate time to HIPPY. In other cases, a family may not be contactable for a time and the coordinator may place the family on hold while they try to re-engage them. Early exits occur when children leave before the end of the two year program.

Approximately 30 to 40 per cent of children and families disengage and exit the program early. When families exit HIPPY early, they complete the HIPPY Family Early Exit Form. Analysis of these results from 2013-15 is provided in Figure 2.6. The most commonly nominated reasons for early exit from HIPPY across all three years are:

- 'Time constraints/it took up too much of my time': 24 per cent in 2013 (139 of 576), 28 per cent in 2014 (193 of 695) and 25 per cent in 2015 (204 of 802)
- 'Relocating - to area where HIPPY is not available': 18 per cent in 2013 (115 of 576), 20 per cent in 2014 (136 of 695) and 21 per cent in 2015 (170 of 802)
- 'Multiple issues in family' was the second most common reason for disengagement or early exit identified in 2014 (20 per cent, 136 of 695).

In 2015, approximately 10 per cent of families that enrolled in HIPPY never started.

FIGURE 2.6 TEN MOST COMMON REASONS FOR EARLY EXIT

Note: Number of exits for each year: 2013 (576), 2014 (695), 2015 (802).

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA FAMILY EARLY EXIT FORM DATA

Coordinators interviewed for this project indicated that disengagement was often caused by:

- challenging family circumstances: families are often experiencing illness, lack of secure employment, or changes in housing
- length and intensity of the program and lack of culturally appropriate curriculum content
- families moving out of areas including to attend better schools or for parents' employment.

Five coordinators also indicated that families often disconnect from HIPPY when children enter formal schooling (during the second year of the program). The difficulty of the transition from four to five years is recognised by HIPPY Australia.

As discussed in section 2.2.3, the HIPPY model attempts to sustain families' engagement with HIPPY to ensure they complete the program through adaptations for individual families, the delivery of enrichment topics at parent groups, program enhancements and other supports offered to parents. One coordinator highlighted the importance of keeping parents engaged in the program as home tutors are recruited from this group and parents promote HIPPY through 'word-of-mouth' advertising:

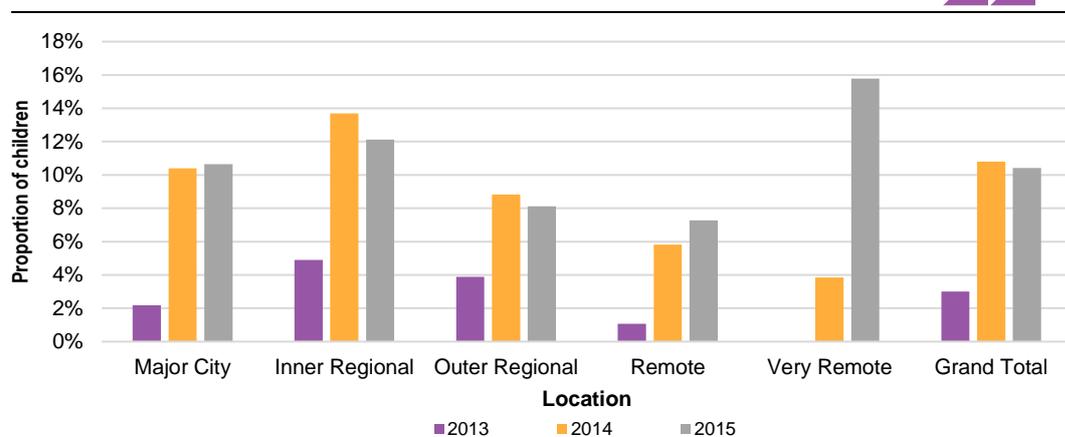
The sustainability of program is the parents that you cater for – they end up becoming part of the program.

Impact of location

Program data from HIPPY Australia presented in Figure 2.7 shows the impact of location on program retention measured by on hold rates for 2013-15 (for 50 phase 1 and phase 2 first 25 sites). On hold rates increased across all sites from 2013 to 2015. This may indicate a

move by sites to prevent children from exiting the program early, by placing them on hold and trying to re-engage the family.

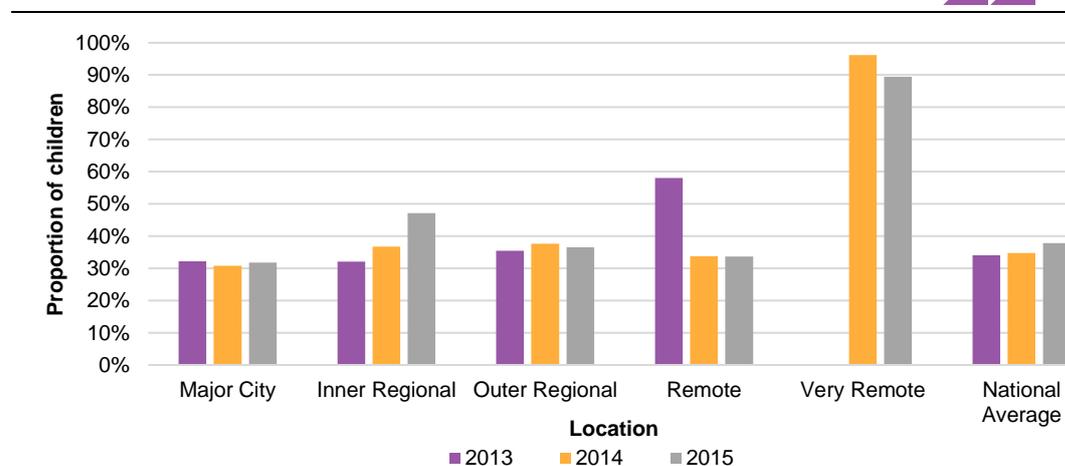
FIGURE 2.7 PROPORTION OF ON HOLDS FOR 2013-15 BY LOCATION



Note: The number of children graduating from HIPPY has been divided by the number of children enrolling in the program two years previously. Data comprised of children across all phase 1 sites in 2013 and all phase 1 and first 25 phase 2 sites in 2014-15.
 SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Program data from HIPPY Australia presented in Figure 2.8 shows the impact of location on program retention measured by on early exit rates for 2013-15 (for 50 phase 1 and phase 2 first 25 sites).

FIGURE 2.8 PROPORTION OF EARLY EXITS FOR 2013-15 BY LOCATION



Note: The number of children graduating from HIPPY has been divided by the number of children enrolling in the program two years previously. Data comprised of children across all phase 1 sites in 2013 and all phase 1 and first 25 phase 2 sites in 2014-15.
 SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Early exit rates show some variation but have generally been lowest in major city locations and, for 2014-15, were highest in very remote locations. These early exit rates, largely reflect the graduation rates¹⁶ obtained from HIPPY Australia program data. Graduation rates are generally between 60 and 70 per cent across all sites. The short time series (2013-15) limits the trends that can be observed, yet this falls below the target retention rate of 76 per cent established by HIPPY Australia (DSS, n.d.).

¹⁶ The specific requirements for children to graduate from HIPPY could not be identified in the available program materials.

Indigenous families

Early exit rates at HIPPY sites with high and low proportion of indigenous children were examined. Table 2.5 sets out early exit rates for the upper and lower quintiles of the proportion of Indigenous children enrolled in a site.

Inner regional sites where greater than 80 per cent of children are Indigenous had high early exit rates in 2015, increasing from the 2014 result.

Very remote sites, where greater than 80 per cent of children are Indigenous, had high early exit rates for 2014 and 2015. For very remote sites, the high early exit results are a significant challenge to provision of HIPPY. To support program sustainability, attention is needed to the recruitment and retention strategies in these sites, including implementation of program flexibility or adaptations that are effective.

TABLE 2.5 EARLY EXIT RATES AT SITES WITH HIGH AND LOW PROPORTION OF INDIGENOUS CHILDREN

Quintile	Location	Early exit rates (per cent of enrolled children)		
		2013	2014	2015
1 (sites where fewer than 20% of children are Indigenous)	Major city	33	30	32
	Inner regional	35	40	43
	Outer regional	37	43	38
	Remote	---	36	27
	Very remote	---	---	---
5 (sites where greater than 80% of children are Indigenous)	Major city	---	---	---
	Inner regional	---	37	63
	Outer regional	---	25	30
	Remote	---	---	---
	Very remote	---	96	89

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

CALD families

As described in Figure 2.3, in 2017, HIPPY was most likely to be attended by CALD children (children whose parents were born overseas) in major cities (36 per cent), with the likelihood decreasing with remoteness (11 per cent attendance at very remote sites).

Table 2.6 shows a similar breakdown to that described for Indigenous children above. HIPPY sites have been grouped into five quintiles according to the percentage of children with parents born overseas, with quintile 1 indicating sites with fewer than 20 per cent of children with parents born overseas, and quintile 5 with more than 80 per cent of children with parents born overseas. For quintile 1, across all location types, early exit rates for CALD children are highest at very remote sites (89 per cent in 2015). Conversely, major cities have the lowest early exit rates at 34 per cent in 2015, indicating that these sites may be more suited to retaining CALD families. Early exit rates have increased across major cities, and inner and outer regional areas from 2013-15, with major cities for example increasing from 29, 30 to 34 per cent. Remote and very remote sites have shown a decrease in the proportion of children exiting early, with remote sites showing a decrease from 55, 40 to 37 per cent from 2013-15.

Only major cities contain quintile 5 sites. From 2013-15 fewer children have exited early from these sites (from 49, 40 to 35 per cent), potentially indicating an improvement in the appropriateness of HIPPY sites.

TABLE 2.6 EARLY EXIT RATES AT SITES WITH HIGH AND LOW PROPORTIONS OF CHILDREN WITH PARENTS BORN OVERSEAS

Quintile	Location	Early exit rates (per cent of enrolled children)		
		2013	2014	2015
1 (fewer than 20 % of children with parents born overseas)	Major city	29	30	34
	Inner regional	35	39	51
	Outer regional	34	36	37
	Remote	55	40	37
	Very remote	---	96	89
5 (greater than 80% of children with parents born overseas)	Major city	49	40	35
	Inner regional	---	---	---
	Outer regional	---	---	---
	Remote	---	---	---
	Very remote	---	---	---

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

2.4.4 Strategies used to retain families

Through their study, Roost et al. (2014) identified the following strategies employed by HIPPY home tutors to retain HIPPY children and families:

- starting the program at age three to reduce the overlap between the second year of HIPPY and the child's first year of school
- delivering a shorter program that finishes earlier in the second year
- reducing the content to fewer than 30 packs and increasing the visual appeal
- increasing the length of home visits (rather than more frequent home visits), to enable tutors and families to cover more packs or materials in a single visit
- offering flexible participation options for group meetings such as having tutors meet with several families together to deliver activity packs, either in a home or off-site
- reducing the frequency of group meetings; providing food and cultural activities; and inviting guest speakers based on the needs and interests of the parents
- improving the consistency of quality and consistency of tutor training.

Coordinators interviewed for this evaluation identified a range of strategies for maintaining families' engagement in HIPPY, including:

- Focusing on developing a strong, non-judgemental relationship between home tutors and parents. This peer-to-peer delivery was identified by all coordinators as one of the primary factors for retaining families. Tutors recognise parents as their child's first teacher, and delivering HIPPY in a place and time that suits parents is critical for engaging families. Coordinators reported increased parental engagement when they were asked to assist in tailoring the program for their child and the importance of tutors working with parents rather than instructing them.
- Accessing additional programs. Three coordinators encouraged families to access additional programs to further their child's learning and development. Examples provided by coordinators include Mother Goose, Let's Read, Brighter Futures, Tuning Into Kids, Bush Kids, Launch Into Learning and Families First.

- Encouraging attendance at group meetings by making meetings fun, relevant and interesting and by providing food, language services, transport and childcare. For example, ten coordinators organised group meeting enrichment topics based on the interests of their families. One coordinator provided incentives (for example, additional books and materials) for parents who attended multiple meetings. According to the consultations, enrichment topics covered at group meetings were generally selected by parents according to their needs and interests. Topics frequently covered include first aid, dental care, meditation and parenting advice. The HIPPY Family Journey Survey data indicates that approximately 16 per cent of group meetings in 2015 covered the topics 'creative activities for the family/school holiday ideas' or everywhere learning.
- Identifying patterns of disengagement and targeting families before this time to maintain their commitment to the program. One coordinator identified weeks 12 and 20 as critical disengagement times and three coordinators noted disengagement was likely over the summer break period. To combat this, coordinators provided take-home activities and organised and participated in community-wide events (for example, multiple coordinators reported participating in NAIDOC week and other events such as Christmas parades). Three coordinators had developed an online presence through email lists and websites such as Facebook. This was seen to help families feel less isolated and promoted information sharing and problem solving and created community.
- Delivering a culturally appropriate program by engaging culturally appropriate staff (including CALD or Indigenous peoples) and developing cultural competence by engaging with local Elders. While many coordinators interviewed for this project identified difficulties in engaging effectively with Indigenous families, some coordinators had quickly established effective networks, particularly when they had strong existing links to community. The importance of time to develop needed relationships was emphasised.

These strategies are consistent with the guidance provided in the *HIPPY Coordinators Handbook* to retain families. Continuing effort to build an evidence base of effective strategies in different contexts is important and is discussed further in Chapter 7.

2.4.5 Implementation of the phase 2 sites

As discussed in 2.3.3 above, evidence shows that Indigenous communities in particular are less likely to access mainstream services due to possible embarrassment or stigma, previous negative experiences and lack of cultural appropriateness, and as such need to be supported to engage with HIPPY (Hilferty, 2009, Britto, 2012). In the 2011 HIPPY evaluation, Liddell et al. (2011) examined the implementation of five Indigenous HIPPY sites and noted that engaging Indigenous communities takes time.

Trust needs to develop and communities need to feel involved in the implementation and ongoing delivery of HIPPY:

A focus on relationship building rather than merely achieving a target quota of participants is more likely to produce results. Giving less priority to quotas and allocating staff with extra time will not only allow the staff to provide more information on how the program works or the time and level of commitment it requires, but also help to better assess families' readiness and suitability for the program.

Liddell et al. (2011)

Liddell et al. (2011) found that all five HIPPY Indigenous sites recorded a substantial increase in enrolment from year 1-2 (for example, 62 per cent increase in Alice Springs; 30 per cent in Inala). The author attributed this to an increased awareness of the program and a higher success rate of engaging with Indigenous communities over time. HIPPY was found to be most successful when the local Indigenous community and community leaders were closely involved (as in Alice Springs), and where strong relationships existed between

the local partner agency delivering HIPPY and other child and family services for Indigenous Australians (as in Pioneer/Mt Isa).

A recent review of culturally adapted interventions for children and parents identified significant barriers for targeting Indigenous Australians (Barrera, 2006). The review identified the critical importance of seeking advice from knowledgeable stakeholders who can improve the acceptability of an intervention and it highlighted situations in which adaptations are justified, including:

- ineffective engagement, such as poor recruitment, retention, program attendance, or participation in intervention activities
- unique risk or resilience factors underlying the intervention target (e.g. discrimination experiences) or that function differently across cultural groups
- poor intervention efficacy for a particular subcultural group.

HIPPY sites that commenced in 2014 and 2016 focus on targeting Indigenous families, noting the program is open to all local children aged four and five. Of these 50 sites, 13 are operated by Indigenous governed organisations.

As indicated earlier, many coordinators interviewed for this evaluation reported difficulty engaging Indigenous families. Some of the challenges identified at six sites include:

- accessing the community
- low-level of trust of government services, particularly those involving children
- engaging and retaining transient families
- communicating the importance of HIPPY in communities where multiple generations have disengaged from education.

Coordinators identified that it could be difficult to deliver the program in the home environment due to fears of judgement, discrimination and child protection issues (three sites). The program's flexibility was noted by most coordinators interviewed to be critical to engaging and retaining these families in a culturally safe and appropriate manner. In contrast, two coordinators identified that they considered HIPPY was too structured and not flexible enough to meet the needs of Indigenous communities. Some coordinators found the program lacked culturally appropriate content for Indigenous communities during the first few weeks of the program.

Meeting program enrolment targets

The priorities for each site include target enrolment and retention numbers. Target enrolment numbers are determined by the length of time HIPPY has been established at the site and whether the site focuses on targeting Indigenous families.¹⁷ Under *HIPPY Guidelines 2015-18* (DSS, n.d.):

- the first 50 locations aim to recruit an average of 30 four year old children and retain an average of 23 five year old children per site each year
- the additional 50 locations focused on Indigenous communities (25 in 2014 and 25 in 2015) aim to recruit an average of 17 four year old children and retaining an average of 13 five year old children per site each year.

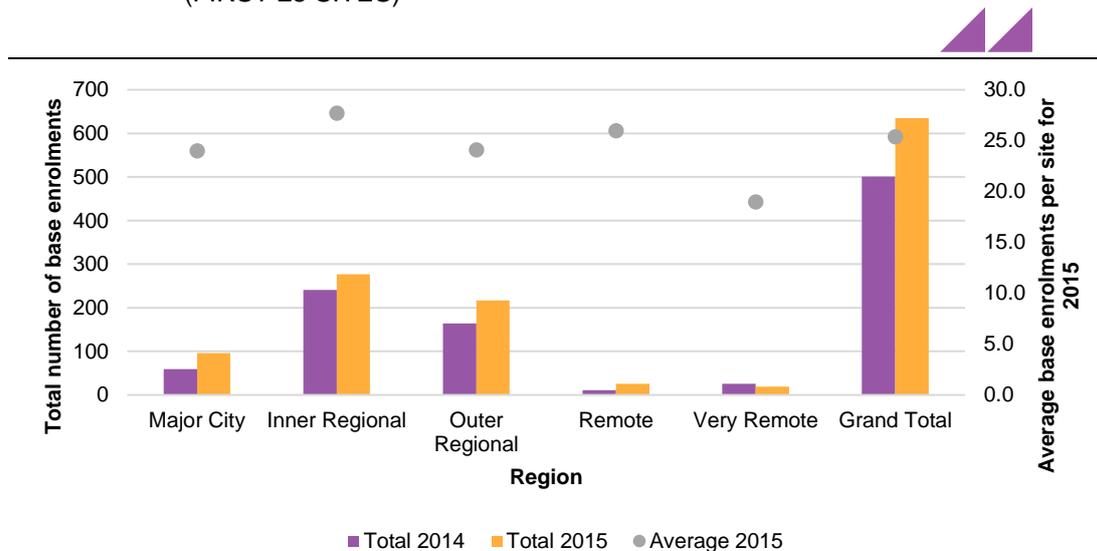
Figure 2.9 below shows the average number of children enrolling in HIPPY per site during phase 2 (first 25 sites) for 2014-15. This is the first (2014) and second (2015) year HIPPY has been established at these sites. The average recruitment increases across all sites from

¹⁷ The recruitment targets are specified in the Funding Agreement. Clause A.2.3 specifies conditions of project implementation and delivery.

2014-15, indicating better establishment of the site during the second year of operation: from an average of 20 children per site across the 25 sites in 2014, to an average of 25.4 children in 2015. The number of children being recruited per site is equivalent for HIPPY sites operated by ACCO (21.2 children per site) and non-ACCOs (19.7 children per site).

HIPPY administrative enrolment data for phase 2 (first 25 sites) that commenced operation in 2014 has been used as a measure of assessing the overall effectiveness of HIPPY sites. This data for original sites was not made available by BSL. Of the 25 sites, eight did not meet their enrolment targets and a further eight sites did not meet their graduation targets. The remaining nine sites met both target enrolment and graduation targets.

FIGURE 2.9 TOTAL AND AVERAGE NUMBER OF BASE ENROLMENTS FOR PHASE 2 (FIRST 25 SITES)

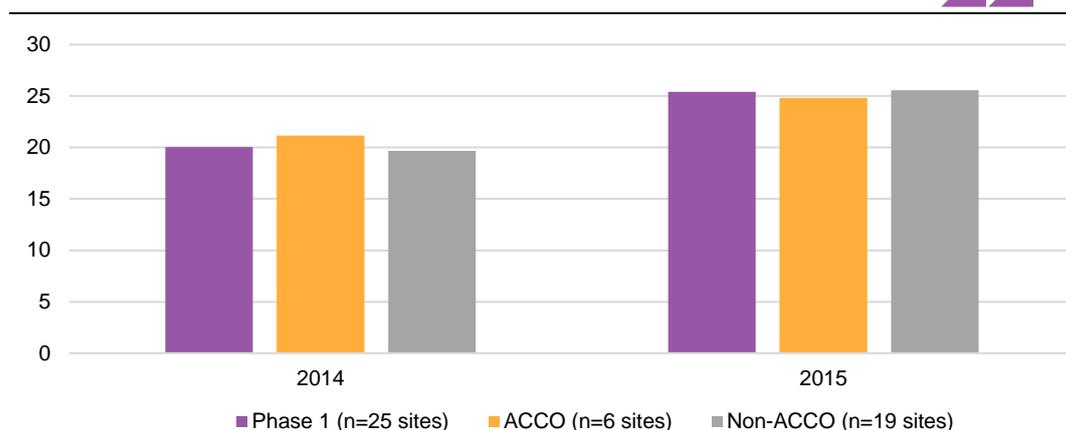


Note: Total number of base enrolments for 2014 and 2015 for all HIPPY sites in each region. Average base enrolments represents the average number of children enrolled per site in each region.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Figure 2.10 below shows the average number of children enrolling at each site during the first and second years of operation, 2014 and 2015 respectively. Across all sites (except those in very remote areas), total base enrolments increased from 2014-15. This increase is built into the program and reflects the feedback from the coordinators interviewed for this project, who generally identified improved recruitment levels in the second year of operation through, better networking and referral pathways.

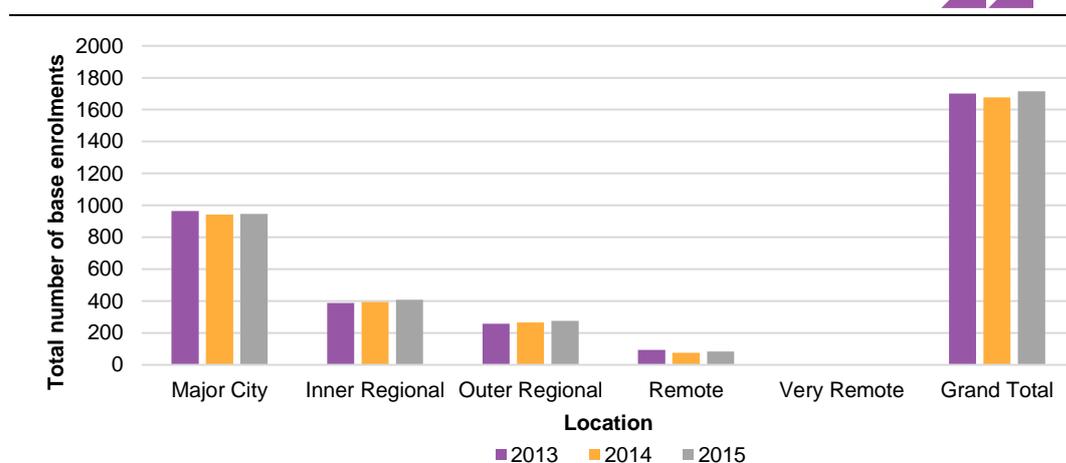
FIGURE 2.10 AVERAGE NUMBER OF CHILDREN ENROLLING IN HIPPY DURING PHASE 2 (FIRST 25 SITES) FOR 2014-15



SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Once established, sites generally have stable enrolments over time. This is evident in descriptive program data for base enrolments for phase 1 sites, detailed in Figure 2.11.

FIGURE 2.11 AVERAGE NUMBER OF CHILDREN ENROLLING IN HIPPY DURING PHASE 1 FOR 2013-15



Note: No HIPPY sites were located in very remote locations in phase 1.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM DATA

Most of these sites were established in 2009-11, and had been operating for two to four years by 2013. The number of children enrolling in HIPPY is stable over the 2013-15 period across all locations (grand total of base enrolments for 2013-15: 1,701, 1,676 and 1,715 respectively). While the phase 2 sites are different from phase 1 sites (phase 2 site being focussed on Indigenous communities), this data holds promise that, when established for a sufficient period, site enrolments can be stable over time. However, as raised in sections above, attention is needed to the use of recruitment and retention strategies in these sites, and consideration being given to program adaptations to ensure sustainable provision.

2.5 Findings

The key findings from this chapter primarily relate to key evaluation question three and are structured around the sub questions outlined at the beginning of this chapter. Findings also contribute to examination of key evaluation question one.

Consistency of HIPPY implementation across sites – program fidelity

The potential for a program to be effective depends on the quality of the program being implemented and the quality of the implementation process.

Overall, HIPPY sites have been established according to the staged process prescribed by HIPPY Australia and supported by HIPPY tools, resources and HIPPY Australia consultants and staff. However, HIPPY is delivered across very diverse communities internationally and within Australia. The literature indicates that a balance between flexibility and fidelity is crucial and that programs should be based on core, evidence-based elements with flexibility to respond to diverse communities. Without flexibility, CALD and Indigenous communities, in particular, will not engage in early learning programs.

The capacity to make changes to HIPPY was found to have been incorporated into implementation processes to support the program in meeting individual family and community needs. This is reflected through the consultations which indicate that a range of changes have been made to the program locally to best meet the needs of the family and community.

However, the data available for this evaluation does not allow for a full assessment of the impact of adaptations and flexible practice on the five essential features of HIPPY. This is particularly the case in regards to home visits, role play as a learning tool and the use of parents as home tutors. However, issues identified through the evaluation include the number of families not completing the two year program (discussed in later findings), mixed experiences with role play and group meetings, and emerging evidence of program fidelity regarding the use of parents as home tutors. There is also emerging evidence of program fidelity with the use of everywhere learning.

The evaluation identified opportunities to ensure:

- consistent understanding and application of program adaptations and flexibility
- sharing of best practice among HIPPY sites.

BOX 2.2 FINDINGS: KEY EVALUATION QUESTION 3

Finding 1. Overall, HIPPY sites appear to have been established according to the staged process prescribed by HIPPY Australia and supported by HIPPY tools, resources and HIPPY consultants and staff.

Finding 2. There is general adherence to the five essential features of HIPPY. Where variations occurred, sites were not always clear on program flexibility (i.e. the extent to which local changes facilitate delivery of the model) versus model adaptation (i.e. changing core elements of the model).

SOURCE: ACIL ALLEN CONSULTING 2018

Cultural appropriateness of HIPPY

The flexibility and approach of HIPPY generally supports culturally appropriate engagement of diverse communities.

Culturally appropriate provision has been supported in a number of ways including site selection that is inclusive of the local community, adaptation of program materials, a strong program focus on community development and networking and flexibility within the program to meet particular community need. Coordinators indicated that they work in different ways to ensure that HIPPY is implemented in a culturally appropriate manner. This could include identifying and working with community Elders to incorporate local culture in the delivery of the program and ensuring that home tutors have the local community language as their first language.

However, consultations also indicated challenges with delivery in very remote communities where there is very high levels of Indigenous family participation. Examples of challenges include, that the two year model was difficult to complete particularly being at the same time as starting school, having a focus on one person working with the child was not always possible, the location of delivery needs to be flexible to family circumstances, and the need for flexibility in the delivery during community shut down times. The literature review identified limited evidence related to the design and provision of HIPPY for Indigenous families. This project did not speak directly to Indigenous community members (or other recipients of HIPPY) about their experiences.

The evidence base for the cultural adaptation of the five essential features of HIPPY is relatively underdeveloped and current data does not allow an assessment of the impact of changes made in HIPPY sites in regard to both program fidelity and effectiveness in appropriately engaging diverse communities. Data indicates that everywhere learning is culturally appropriate within Australia. However, issues identified through the evaluation include the two year program length having an adverse impact on recruitment and retention, not having staff with the right characteristics and competencies, having various different language groups in a site, and materials not being culturally appropriate. These challenges were evident among very remote communities, where greater flexibility is required.

BOX 2.3 FINDINGS: KEY EVALUATION QUESTIONS 1 AND 3

Finding 3. Overall, the flexibility and approach of HIPPY appears to support culturally appropriate engagement of diverse communities. However, interviews conducted for the evaluation identified challenges for delivery in very remote communities, and there is limited evidence related to the design and provision of HIPPY for Indigenous families.

SOURCE: ACIL ALLEN CONSULTING 2018

Meeting the needs of different groups

HIPPY in Australia works to engage those most in need, with phase 2 sites focused on engaging with Indigenous communities. Analysis indicates HIPPY sites generally recruit disadvantaged families, however, it is not possible to ascertain that those most in need are being reached within sites.

The literature on the recruitment and retention of HIPPY families in Australia and consultations undertaken show that families most in need are less likely to seek assistance and are more difficult to access, necessitating a long lead time to engage.

Different approaches were taken across sites to respond to the characteristics of local communities and service systems, for example, strategies in connecting with communities and retaining children and families in the program. In this context, consultations identified that the recruitment of the right coordinator, support from the HIPPY consultant, line manager and the advisory group were essential to success. The coordinator's level of

experience and familiarity with the local community, having the right home tutors, and program flexibility were critical to accessing hard-to-reach families.

HIPPY in Australia covers children aged four and five, and program data indicates that most of the HIPPY sites are able to recruit and retain families to meet ongoing targets. However, approximately 30 to 40 per cent of children and families disengage and exit the program early. The main reason for families exiting the program was because of time constraints, that is, 'it took up too much of my time' and consultations indicated that families found it difficult to meet HIPPY requirements when their child had started school. Generally, it was found that sites may require a greater level of flexibility to ensure they recruit and retain the families most at need. While the completion rate may be consistent with other similar programs, further examination of factors contributing to successful completion, including whether the program should be preschool and shorter for some families, and sharing of best practice approaches is warranted.

Program data shows that CALD families are most likely to attend HIPPY sites in major cities. Major cities have the lowest early exit rates, and as such, may deliver HIPPY in a manner appropriate to most CALD families.

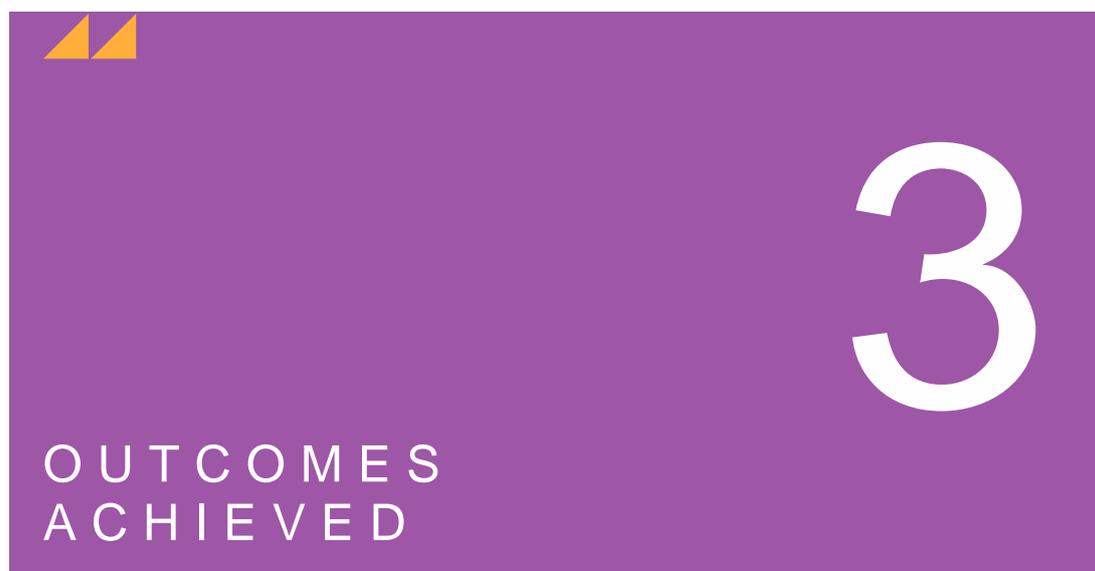
Program data shows that the success of delivering HIPPY to Indigenous families through phase 2 is variable and early exit rates are high in very remote sites where there is a large proportion of Indigenous families. This suggests that attention is needed to the use of recruitment and retention strategies in these sites, and consideration being given to program adaptations to ensure sustainable provision.

BOX 2.4 FINDINGS: KEY EVALUATION QUESTIONS 1 AND 3

Finding 4. HIPPY sites generally recruit disadvantaged families, however, it is not possible to ascertain that those most in need are being reached within sites.

Finding 5. Approximately 30 to 40 per cent of children and families disengage and exit HIPPY early. The *Recruiting and Retaining Families in HIPPY* study (Roost et al., 2014) identified actions to adjust practice, however it is not apparent that use and effectiveness of identified practices has been examined. Early exit rates for Indigenous children are highest in very remote sites.

SOURCE: ACIL ALLEN CONSULTING 2018



This chapter outlines the intended outcomes, and examines the extent to which program outcomes are achieved, including in Australian and international contexts. The focus of the chapter is key evaluation question two: *What outcomes has the program achieved for different cohorts, and under what circumstances, with a particular focus on Indigenous focused sites and delivery to Indigenous participants?* The chapter also provides insights to key evaluation question one, discussing current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally.

The literature review provided an examination of Australian and international data detailing the effectiveness of HIPPY for different client groups, and under what circumstances. The focus of the literature review provides a foundation for the structure of the chapter. In particular, consideration of the effectiveness of HIPPY in the following areas:

- child outcomes across the HIPPY population, and for Indigenous and CALD cohorts
- parent/ family outcomes across the HIPPY population, and for Indigenous and CALD cohorts
- community outcomes across the HIPPY population and for Indigenous and CALD cohorts
- training and employment outcomes.

As part of the literature review, consideration of evidence by relevance and quality has informed the organisation and structure of evidence for each outcome. In the context of being an Australian evaluation, the review gives greater weight to high quality Australian studies and evaluations. International research published in the last twenty years provides further support for Australian research. In distinguishing between Australian and international studies it is relevant that HIPPY in Australia and New Zealand is delivered over two years primarily at ages four and five (age five being the first year of school), while the majority of other countries, particularly in the USA from where much research arises, HIPPY is often provided from age three to school entry, at age six.

As part of answering this evaluation question, it is also noteworthy that Goldstein (2017) has conducted a preliminary global meta-analysis and review to examine the effect of HIPPY on child and parent outcomes. This was conducted for HIPPY International, and sponsored by BSL. The purpose of the preliminary global meta-analysis is to support HIPPYs around the world and assist in sharing the positive outcomes of HIPPY for a range of interested parties. The preliminary global meta-analysis incorporates effect sizes from 26 studies about HIPPY from seven countries across child and parenting outcomes. These studies included

quantitative information including the mean, number, and standard deviation for a comparison and program group. The preliminary meta-analysis includes studies by graduate students, institute reports that were not peer-reviewed, and studies from peer-reviewed journals. A limitation of the literature review for this evaluation was that not all studies used in the meta-analysis were accessible. HIPPY International is creating an online database which will facilitate future access to reference studies. The preliminary meta-analysis at this stage does not appear to have been peer-reviewed. Nonetheless, the meta-analysis represents the most comprehensive evidence available to evaluate the effectiveness of the program. Thus, the effect sizes from the meta-analysis are examined to assess consistencies with the conclusions of effectiveness determined by the review process of synthesising and weighting findings from the Australian and international context.

Alongside the literature review, the chapter incorporates analysis of HIPPY administrative data. As indicated in chapter 2, this data is held by HIPPY Australia as part of BSL. HIPPY program providers implement the surveys and report this to HIPPY Australia. The majority of outcomes data is self-reported by parents undertaking HIPPY.

As also identified in chapter 2, analysis is limited to data relating to the first 75 HIPPY sites, from three graduating cohorts – the 2013 cohort, 2014 cohort and 2015 cohort. No outcomes data was available regarding the most recent 25 HIPPY sites (those that commenced in 2016), which contains five of the six very remote HIPPY sites. As such, outcomes data is limited in its application to very remote sites. Furthermore, data was predominately for two cohorts (2014 and 2015) for Indigenous children and families, due to very low numbers of survey completion for the 2013 cohort.

For most of the indicators, data was provided at three points in time: week 5 of participation in the program, week 30 of participation (end of year one) and at graduation, which is two years from commencement. However, no outcomes baseline is available for parents before they commence HIPPY, and some of the indicators have only been collected at graduation. Furthermore, in regards to the HIPPY Australia outcome data, only the total number of survey responses at each time point was available; the number of respondents for individual questions was not available.

Table 3.1 summarises the total number of responses across the different program time points.

TABLE 3.1 NUMBER OF SURVEY RESPONSES FOR HIPPY POPULATIONS ACROSS PROGRAM TIME POINTS FROM 2013-17

HIPPY population	Week 5 (Age 4)	Week 30 (Age 4)	Graduation (Age 5)
All families	2,050	1,957	3,295
Indigenous families*	391	350	478
CALD families	510	502	900

Note: * Survey response numbers relate to Indigenous Family outcomes. Survey responses for Indigenous Child outcomes were 420 (at week 5), 379 (at week 30), and 509 (at graduation). Survey responses for All Families and CALD Families were the same for Child and Family outcomes.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

Table 3.2 summarises the number of enrolments, graduations, survey response rates and proportion of Indigenous and CALD families for these cohorts. Throughout the analysis, data is based on responses at graduation, unless otherwise stated.

TABLE 3.2 COHORT CHARACTERISTICS AND SURVEY RESPONSE RATES AT GRADUATION ONLY

Cohort characteristics	2013	2014	2015	2016/17
Number of participating HIPPY sites	50	75	75	n/a
Number of base enrolments (families)	1,701	2,178	2,350	n/a
Number of graduations (families)	1,115	1,426	1,465	n/a
Number of survey responses (all families)	907	1,105	1,266	17
– Number of survey responses – Indigenous families*	6	214	257	1
– Number of survey responses – CALD families	260	296	333	11
Estimated survey response rate	81%	78%	86%	n/a

Note: * Survey response numbers relate to Indigenous Family outcomes. Survey responses for Indigenous Child outcomes were 6 (in 2013), 226 (in 2014), 276 (in 2015) and 1 in (2016). Survey responses for All Families and CALD Families were the same for Child and Family outcomes.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

This chapter also incorporates findings from the targeted consultations with 20 HIPPY sites, primarily based on reflection by consultees on the benefits of HIPPY.

3.1 Child outcomes across the HIPPY population, and for Indigenous and CALD cohorts

This section firstly presents the main literature reviewed relating to child outcomes and discusses the analysis of administrative data relating to child outcomes across the HIPPY population. The main literature and administrative data relating to child outcomes for HIPPY for Indigenous and CALD cohorts is then discussed.

The HIPPY literature (Australian and international) is discussed below relating to the achievement of child outcomes considering early cognitive skills and socio-emotional development. The dimensions are addressed in turn, however, it is recognised that the dimensions are interconnected. Literature relating to the presence of child outcomes in the medium term post participation in the program is also discussed.

3.1.1 Child outcomes across the HIPPY population

The 2011 evaluation of the national rollout of HIPPY undertaken by Monash University and BSL (Liddell, et al., 2011) provides the most recent, relevant, and quality evidence on child outcomes arising from HIPPY in Australia. HIPPY data was charted against a matched comparison group obtained from the Longitudinal Survey of Australian Children. The assessment, using the 'Who Am I' test, indicated that HIPPY children scored, on average, eight points below the norm at baseline¹⁸. The findings at completion of the two year-program showed that the performance gap between HIPPY children and the Australian norm data had closed.

The 2009 evaluation of HIPPY in Australia prepared for the Victorian Department of Education, with input from BSL (Liddell, et al., 2009), included program sites at one urban and one rural location in Tasmania (Burnie and Smithton) and four locations in Victoria (Moonee Valley, Fawkner, Fitzroy, and Geelong). Children were assessed at entry into the program and at end of the first year of the program. On average, children starting HIPPY

¹⁸ The statistical significance of this result was not reported.

scored below the Australian norm on school readiness as measured by the development of pre-literacy and numeracy skills (no statistical tests conducted). At the end of the first year, this gap had narrowed, indicating improvement from one program year, though not fully closed. Based on the state-specific focus of the evaluation, the generalisability of findings to rural and remote Indigenous communities may be limited. Liddell et al. (2009) assert that the site characteristics and demographics are diverse including Vietnamese, Sudanese, and Somali families. Thus, evidence on program outcomes will be highly relevant to CALD families.

The evaluation published by BSL in 2003 found that HIPPY children scored statistically significantly higher on measures of school readiness than children who had not participated in the program (Gilley, 2003). The findings are consistent with more recent Australian studies above, and suggests that the positive effect of program participation on early literacy and numeracy outcomes may well extend to CALD cohorts. However, it was also noted that the rate of program attrition within the sample was high – 20 of 33 HIPPY children being assessed did not complete the full two year program. These findings should be considered with caution due to the low number of study participants.

In the international context, the preliminary global meta-analysis (Goldstein, 2017) identified a moderate positive effect size ($d = 0.48$)¹⁹ of HIPPY on children's early literacy and numeracy skills. The global meta-analysis indicates a larger impact on language than mathematical ability in the years after the intervention.

Of the international studies in the preliminary meta-analysis, four studies were Australian, and one was from New Zealand which also offers a two year HIPPY. In New Zealand, Barhava-Monteith, Harré and Field (1999) investigated the impact of participation in HIPPY on child educational outcomes. Families involved in the study were of Maori, New Zealand European or Pacific Islander descent. HIPPY children were found to show consistently better performance on all of the measures used and the differences reached statistical significance on three of the six sub-tests of the Reading Diagnostic Survey, a well-regarded tool used to assess student reading ability in five areas: phonemic awareness, phonics, vocabulary development, reading fluency and reading comprehension.

In the USA, the effects of HIPPY on child school readiness and academic performance have previously been examined. A two-cohort randomised experimental study in New York and a two-cohort quasi-experimental study in Arkansas (Baker, Piotrkowski & Brooks-Gunnand, 1999) revealed variable results across the two cohorts and within cohorts. This study showed that HIPPY children outperformed control/ comparison groups on measures of cognitive skills, classroom adaptation, and standardised reading, and more children were promoted to first grade. However, HIPPY children performed poorer than control group children on school readiness and standardised achievement in the Arkansas study. This was the only statistically significant negative child outcome identified as part of the preliminary meta-analysis. The researchers did not have sufficient data to conclude whether the results were due to variations at the individual level, such as engagement with the program, or variations in program fidelity (such as parents being more likely to participate in home visits than group meetings).

Since this time, there have been a number of further studies using a quasi-experimental design from the USA. An overview of these studies is provided in Table 3.3. There was limited other quality research studies internationally. One study in the Netherlands, Van Tuijl and Leseman (2004) found gains from pre-test to post-test for maths outcomes, but found

¹⁹ Effect size is typically measured by Cohen's d , which indicates the standardised difference between two means. Within a meta-analysis, effect size is used to estimate the size of the overall effect of the program across different studies.

the comparison group had vastly different scores on the pre-survey limiting the ability to draw firm broader conclusions.

TABLE 3.3 STUDIES OF COGNITIVE CHILD OUTCOMES ARISING FROM HIPPY IN THE USA

Authors	Overview of study method and findings
Bradley & Gilkey (2002)	<p>A quasi-experimental study in the USA examining the impact of HIPPY on school performance in 3rd and 6th Grades. HIPPY showed modest positive impact on school suspensions, grades, classroom behaviour, and achievement test scores at both 3rd and 6th grade levels.</p> <p>The study examined 516 HIPPY students compared to 516 control students. A post hoc matching strategy was used which may create issues with multiple testing.</p>
Necoechea (2007)	<p>A randomised control trial, as part of graduate student work, showed positive treatment effects for children's expressive language skills and parent involvement at home. No treatment effects were observed for receptive language or emergent literacy performance. Treatment intensity (the number of sessions) and fidelity was significantly related to children's performance on receptive language skills. Parent participation in group meetings also increased children's expressive language outcomes.</p> <p>The study examined 52 students. HIPPY families were compared to families who did not receive HIPPY services, but were given priority to receive services in the following year.</p>
Vazsonyi (2008)	<p>A program evaluation concluded that children made substantial gains in vocabulary and language skills throughout the program. Pre-test and post-test Peabody Picture Vocabulary Test (PPVT) scores indicate children made statistically significant gains in vocabulary and language skills. Pre-test and post-test three- and four-year-old kindergarten readiness tests indicate gains in colour and relationship knowledge, math skills, fine motor skills, and directionality. Parents provided positive feedback about HIPPY.</p> <p>The study compared 295-370 students (depending on test type) using a pre/post-test design, with no control group. As such, it evaluates the impact of HIPPY over time, yet does not consider the impact of increasing age alone on these measures (i.e. children who do not receive HIPPY instruction are likely to improve against the measures tested as a result of other external influences).</p>
Brown & Lee (2015)	<p>A quasi-experimental study found children who participated in HIPPY and the Head Start early childhood education program scored statistically significantly higher in language proficiency than children who participated in Head Start only.</p> <p>The study had a small sample size: 22 students, 10 in the Head Start/HIPPY group and 12 in the Head Start only group. Due to the small number of participants, results must be taken with caution as small changes in number of students can result in large proportional changes.</p>

SOURCE: ACIL ALLEN CONSULTING 2018, REVIEW OF HIPPY LITERATURE

A number of international studies have evaluated child outcomes in the medium term, post participation in the program. These are discussed further below.

While Australian longitudinal data is not available to assess the long term effectiveness of HIPPY, Goldstein's (2017) preliminary meta-analysis identifies that the effect of HIPPY on three categories of skills (behaviour, language, and maths) decreases slightly in the years following but remains at a positive moderate level ($d = 0.44$). Two quality studies from the USA, outlined in Table 3.4 below, provide supporting evidence for the sustained effect of the program on child outcomes.

TABLE 3.4 STUDIES OF LONG TERM COGNITIVE CHILD OUTCOMES ARISING FROM HIPPY IN THE USA

Authors	Overview of study method and findings
Brown & Lee (2014)	<p>A quasi-experimental design study to examine the effect of HIPPY on long term school performance in a large, urban school district in the southwest USA. The study examined 516 students (from the following grades: 3rd = 197; 5th = 130; 7th = 75; 9th = 114) compared to 516 control students.</p> <p>The cross-sectional study showed that students who participated in HIPPY scored statistically significantly higher than comparison children on the standardised achievement test for reading at the third, fifth, seventh, and ninth grade level. The standardised achievement test results for maths showed that former HIPPY students scored significantly higher than comparison children at the fifth, seventh and ninth grade level.</p>
Bradley & Gilkey (2002)	<p>A quasi-experimental design study to investigate the impact of HIPPY on school performance in the third and sixth grades. The sample included 516 HIPPY children and 516 children across 21 HIPPY sites in Arkansas. HIPPY participation had a small to moderate effect on reducing school suspensions and promoting higher standardised achievement test scores. At both the third and sixth grade level, former HIPPY students scored higher than students with other preschool experience and without preschool experience on the reading achievement test and higher than students with other preschool experience on the maths achievement test results.</p>

SOURCE: ACIL ALLEN CONSULTING 2018, REVIEW OF HIPPY LITERATURE

The literature review has also considered the evidence for HIPPY on social and emotional competencies, such as peer relations. The currently available literature on the effectiveness of HIPPY on children's social and emotional development is varied in Australia. An overview of key studies is provided in Table 3.5. These results may be explained by methodological inconsistencies between the studies. It is possible that improvements in social and emotional development may not be observed until the completion of the program. The findings are inconsistent and additional examination is warranted in the Australian context. This is further addressed in chapter 7.

Goldstein's (2017) preliminary meta-analysis identified a total effect of HIPPY on behaviours (e.g. attention and peer relations) was moderate to large ($d = 0.62$). However, it notes that tests of behaviour were far fewer in number and that results on completion compared with this in the medium term are often not directly comparable and results were not always clear. Identification of quality quasi-experimental evidence as part of the literature review included Barhava-Monteith, Harré & Field's (1999) New Zealand study in which HIPPY children were rated by their teachers as having statistically significantly higher academic self-esteem than other children in their class. In addition, in Canada, Le Mare & Audet (2003) found a positive pattern of results supporting socio-emotional development in HIPPY children and yet there were no statistically significant differences found between the HIPPY children and the preschool control group. This is likely due to small numbers (14 HIPPY children and 13 preschool children).

Giving account to Goldstein's (2017) analysis and broader literature reviewed, it appears that participation in HIPPY can have an overall positive influence on social and emotional competencies though results in Australia have not demonstrated this consistently.

TABLE 3.5 STUDIES OF SOCIAL AND EMOTIONAL CHILD OUTCOMES ARISING FROM HIPPY IN AUSTRALIA

Authors	Overview of study method and findings
Liddell, Barnett, Roost & McEachran (2011)	<p>A longitudinal quasi-experimental design study found that at the end of the program, HIPPY children had statistically significantly fewer problems with their peers than the LSAC comparison group. Furthermore, the pre and post results showed significant improvements with HIPPY children experiencing fewer conduct problems, reduced hyperactivity, and peer problems. This study recommended further rigorous randomised control trials, noting that the statistical methods used to obtain a comparison group for this study (propensity score matching), while useful and powerful, do not replace the value of, and need for, a randomised controlled trial.</p> <p>The study examined parent–child pairs over time (pre and post HIPPY instruction). From the 446 families enrolled in HIPPY during 2009 across the 14 HIPPY sites, 216 were interviewed at baseline and 131 at the end of age 5.</p>
Liddell, Barnett, Hughes & Roost (2009)	<p>A longitudinal quasi-experimental design study found that HIPPY children had higher socio-emotional development than the Australian norm at the end of the first year of the program. This study had complete data (pre and post-test) for 63 children, and was compared to LSAC.</p>
Gilley (2003)	<p>A program evaluation, using teacher ratings, assessed 33 children across two Victorian sites (Fitzroy and North Melbourne). The study found that HIPPY children scored below comparison children in terms of academic self-esteem when assessed halfway through the second year of the program (not statistically significant). At six months after program completion, HIPPY children scored higher than comparison children. However, the results were not statistically significant.</p>

SOURCE: ACIL ALLEN CONSULTING 2018, REVIEW OF HIPPY LITERATURE

Administrative data was made available to the evaluation to examine children’s cognitive and social and emotional outcomes through HIPPY. This data arises from the reflections of graduating parents through surveys conducted by HIPPY program providers.

The administrative data reveals that families graduating from HIPPY identify modest improvements in a number of ‘child outcome’ areas. These include:

- *School readiness* – parents report that almost all children (91 per cent, n = 1,266 journey survey responses) were settling in well at school at graduation from HIPPY and almost all families (97 per cent) felt that their child was more ready for school because of HIPPY. When asked “what do you think is the most important change that your child made this year because of his/her involvement with HIPPY”, 43 per cent of respondents indicated that their child ‘enjoyed learning more’ or are ‘more ready for school’.
- *Development of skills and knowledge* – almost all graduating parents indicated that by doing HIPPY that they felt that their child had made gains in the language/cognitive skills domain (89 per cent of responses) and made gains in the communication skills/general knowledge domain (89 per cent of responses). A large proportion of respondents indicated that their child had made gains in the social competence domain (83 per cent) and in the emotional maturity domain (68 per cent). The *most important gains* through participation in HIPPY were identified as language/cognitive skills (23 per cent). Gains in the social competence domain (14 per cent) were identified as the next most important, followed by the emotional maturity domain (10 per cent) and the communication skills/ general knowledge domain (10 per cent) at graduation.

For all children, over the three cohorts (2013, 2014, 2015), there were few changes (within +/- 5 percentage points), in response to the question, “what has your child achieved by

doing HIPPY?”. The exceptions are improvement in the emotional maturity domain and social competence domain.

Between week 5 and graduation, parents/ carers reported positive change in a number of child domains. Much of this improvement was observed at week 30 and the improvement more likely to be sustained overall with some increase or decrease between week 30 and graduation. Table 3.6 provides an example of results changing positively between week 5 and week 30, and then being sustained, or moderately increasing or decreasing. These changes are positive, showing improvement against relatively high week 5 results across most survey responses. Data at enrolment is not available through the administrative data.

TABLE 3.6 ANALYSIS OF RESPONSES TO THE QUESTION ‘WHAT HAS YOUR CHILD ACHIEVED BY DOING HIPPY?’ IN 2015

Response	Enrolment	Response rate (%)			Trend
		Week 5 (n = 1,096)	Week 30 (n = 1,051)	Graduation (n = 1,266)	
Children 'enjoy learning more' or are 'more ready for school'	---	84%	90%	91%	Overall increase between week 5 and graduation. Increase seen between week 5 and week 30 and no change to graduation.
Made gains in the communication skills/general knowledge domain	---	93%	93%	89%	No change between week 5 and week 30 and a decrease by graduation.
Made gains in the emotional maturity domain	---	56%	66%	68%	Overall increase between Week 5 and graduation.
Made gains in the language/cognitive skills domain	---	88%	87%	89%	No change between week 5 and graduation.
Made gains in the social competence domain	---	74%	80%	83%	Overall increase between week 5 and graduation.

Note: Survey response numbers relate to total number undertaking the survey at each time point. The number of respondents for individual questions is not available. Trend analysis is presented according to proportion of total population and therefore accounts for fluctuating population numbers.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

Through the consultations, a clear theme expressed was that children who have undertaken HIPPY are considered to be more ready for school, such as better being able to deal with a more structured environment and general school participation and engagement relative to non-HIPPY peers. In the consultations, the majority of HIPPY coordinators reported (based on their observations) that children who had undertaken HIPPY were more likely to be ready for school.

Also, through the consultations, around half of interviewees highlighted improvements in children’s cognitive and social development as a benefit of the program. This included improved literacy and numeracy skills, greater communication skills, enhanced self-esteem and confidence, or improved social skills – both positive skills (e.g. making friends) and reduced negative behaviours (e.g. classroom disruptions). A small number of consultees also identified the benefits for children with developmental challenges, such as autism or speech and language delays.

3.1.2 Outcomes for Indigenous and CALD children

The literature review did not identify experimental studies giving a greater level of confidence that HIPPY delivers improved outcomes for Indigenous children, and this is further addressed in chapter 7.

However, there are findings from Australian studies where a large proportion of participating children are from CALD communities and these findings may be relevant to participants from CALD backgrounds more generally.

Internationally, the main evidence from quality studies related to children's cognitive outcomes across cultural groups arises in the USA. Two quasi-experimental studies examined cognitive outcomes over the medium and longer term, particularly relating to Latino families. These were:

- *Johnson, Martinez-Cantu, Jacobson & Weir (2012)* – Standardised achievement scores for third-grade children (using a state-mandated maths achievement test) indicated a small but statistically significant effect of HIPPY in the maths domain. However, results for reading achievement showed that former HIPPY students (85 per cent Latino) performed worse than matched comparison children.
- *Nievar, Jacobson, Chen, Johnson & Dier (2011)* – A follow-up study conducted on third grade children of low income, Latino families who participated in HIPPY showed statistically significantly higher maths achievement compared to the control group. There was no effect on standardised achievement for reading.

Across these two studies, there is promising evidence to support the sustained impact of HIPPY on children's mathematical skills in the years after the intervention for Latino families. Nievar and colleagues (2011) suggest that the comparison group was more likely to have contained second-generation families with higher levels of English proficiency based on the broader demographics of the school district, and as a result, there is uncertain findings for reading.

The literature review provides emerging support of a positive impact on children's cognitive and social development across cultures. While it is plausible that these results are generalisable across CALD families in Australia, there is a gap in the evidence for Indigenous children. Future HIPPY Australia research should look to collect outcome data separately for Indigenous, CALD, and non-Indigenous cohorts. This is discussed further in chapter 7.

Administrative data was made available to the evaluation to examine children's cognitive and social and emotional outcomes through HIPPY for Indigenous and CALD families. As with the analysis above, this data arises from the reflections of graduating families through surveys conducted by HIPPY program providers.

The sub-group data analysis (n = 509 for the Indigenous cohort, n = 900 for the CALD cohort) revealed similar moderate positive improvements in outcomes though slightly differing experiences for Indigenous children and CALD children.

Overall responses from graduating Indigenous families showed high levels of positive responses, though some results at graduation were lower for Indigenous families than for the overall population – for example, parent reports of children 'enjoying learning' or being 'ready for school' (90 per cent Indigenous families compared to 95 per cent overall HIPPY families) and feeling that children made gains in the language/cognitive skills domain (84 per cent Indigenous families compared to 88 per cent overall HIPPY families). Over the two Indigenous cohorts (2014, 2015), there was no change, with some improvement in response to the question 'What has your child achieved by doing HIPPY?' seen in the communication skills/general knowledge, emotional maturity, and language/cognitive skills domains. As for the overall population of HIPPY families, the positive change typically occurred between week 5 and week 30, and these changes being sustained, or moderately increasing or decreasing. Similarly these changes are positive, showing improvement against relatively high week 5 results across most survey responses.

Responses from graduating CALD families showed high levels of positive responses. Results at both week 5 and graduation were higher for CALD families than the overall population across most areas related to child achievement. The high level of these positive results reduced marginally between the 2013 and 2015 cohorts but still exceeded the overall population of graduating HIPYPY families. Over the three CALD cohorts (2013, 2014, 2015), there was no change, though there was some decline in response to the question 'What has your child achieved by doing HIPYPY?' seen in the communication skills/general knowledge, emotional maturity, and language/cognitive skills domains. The trend between week 5 and 30 for CALD families was either no change or showing some improvement against relatively high week 5 results across most survey responses.

While the administrative data suggests positive results in a number of areas, it is important to note the limitations of the analysis. As specified earlier, the data relates to graduating families and the outcomes for non-graduating families are not available. In addition, the data is for the first 75 sites and the sub-group analysis for Indigenous children included only two graduating cohorts of data. There were many consistencies in the results for the two Indigenous child cohorts which was promising, but the addition of the most recent 25 sites (since 2016) warrants future analysis to build a more robust assessment.

3.2 Parent and family outcomes across the HIPYPY population, and for Indigenous and CALD cohorts

This section firstly presents the main literature reviewed relating to parent and family outcomes and discusses the analysis of administrative data relating to the broader HIPYPY population. The main literature and administrative data relating to parent and family outcomes for HIPYPY for Indigenous and CALD cohorts is then examined.

3.2.1 Parent and family outcomes across the HIPYPY population

In Australia, the literature review identified emerging evidence of improved parent and family outcomes through HIPYPY participation in two studies. Liddell et al. (2011) identified that HIPYPY parents scored statistically significantly higher than the comparison group for in-home activities and out-of-home activities after participating in the two year program. Furthermore, HIPYPY parents engaged in longer, positive reading experiences with their child. Liddell et al. (2009) found that at the end of the first year of the program, HIPYPY parents reported a positive impact on their parent-child relationship including an improvement in communication and understanding their child's developmental needs.

More broadly, Goldstein's (2017) preliminary global meta-analysis estimates the average effect of HIPYPY participation on parent outcomes using twelve studies. The results indicate HIPYPY has a moderate impact on parent outcomes ($d = 0.49$) (for example: parent's sense of belonging to their local community; parent's confidence to request parent-teacher meetings and parental involvement, efficacy and self-esteem). The meta-analysis provides quality evidence to support the impact on parent outcomes. However, as the author notes, sampling conditions and outcome categories varied considerably between the studies (Goldstein, 2017).

Beyond Goldstein's (2017) preliminary global meta-analysis, the literature review highlighted a number of other studies with findings relating to parent engagement in home learning activities. An overview is provided in Table 3.7.

TABLE 3.7 INTERNATIONAL STUDIES RELATING TO PARENT ENGAGEMENT IN HOME LEARNING ACTIVITIES

Authors	Overview of study method and findings
Nievar, Jacobson, Chen, Johnson & Dier (2011)	A quasi-experimental study conducted with 54 low-income Spanish speaking families in the USA found HIPPY mothers report statistically significantly higher levels of parenting self-efficacy (i.e. a person's self-belief in their ability to succeed or accomplish a task) than comparison to mothers after six months participation in the program. It also showed HIPPY children had greater access to learning materials in the home and were offered a greater variety of learning experiences than comparison children (54 children on a waiting list).
Johnson, Martinez-Cantu, Jacobson & Weir (2012)	A quasi-experimental study of 92 HIPPY families showed at the end of the first program year, HIPPY mothers statistically significantly increased educational activities with their child which suggests an increased awareness of their role as their first teacher. It also showed HIPPY mothers, predominantly from Spanish speaking families, significantly increased participation in literacy activities with their child between the start of the program and the end of the first year. There was no specific comparison group for this analysis, instead kindergarten teachers who were unaware of families' involvement in HIPPY were asked to evaluate HIPPY children compared to other children in the class.
Brown & Johnson (2014)	A program evaluation using pre and post test results indicated that HIPPY parents (n = 2146 and 619 teachers) showed a statistically significant increase in the amount of time they spent engaging in home-based literacy activities during the first year of the program.
Lopez & Bernstein (2016)	An annual evaluation using pre and post test results from HIPPY sites across Colorado showed a statistically significant increase in HIPPY parenting self-confidence between the start of the program year and the end of the program year. This indicated a statistically significant increase in parenting self-confidence between the start of the program year and the end of the program year. The pre and post test results showed a statistically significant decrease in HIPPY parents using spanking as a disciplinary technique. The study consisted of survey data from 676 families participating in HIPPY, with 367 families completing a pre- and post-test survey.
Beatch & LeMare (2007)	Using a qualitative method, home visitors delivering HIPPY to five on-reserve First Nations communities in Canada reported that the program had enhanced parent-child relationships by encouraging parents to spend more time with their child. This version of HIPPY, termed Aboriginal HIPPY revealed a necessary process of adaptation driven by local Aboriginal women. This "taking ownership" included three sub-processes: changes in the women's views regarding the strengths of the program; their self-identity; and the identification of the program as Aboriginal. However this came at a loss of fidelity, as the women were no longer content to deliver HIPPY strictly as it was described in the program manuals. Instead the women demonstrated the importance of sharing cultural knowledge in the context of the program.

SOURCE: ACIL ALLEN CONSULTING 2018, REVIEW OF HIPPY LITERATURE

The review of literature on parent and family outcomes provides promising evidence that HIPPY increases parental engagement in early educational activities at home. The effect of the program has been supported in Australia and the international context. In Australia, HIPPY parents scored higher for in-home activities than the comparison group. In the international context, there is promising pre-post evidence to support increased parental participation in home-based literacy activities.

Administrative data was made available to the evaluation to examine parental and family outcomes through HIPPY. This data arises from the reflections of graduating parents through surveys conducted by HIPPY program providers.

The analysis of HIPPY Australia administrative data indicates that families graduating from HIPPY report many positive 'parent/ family outcome' results from participation in HIPPY. Almost all graduating parents report high levels of learning about how their child learns and grows and how to be their child's first teacher. In relation to guiding their child's educational activities, a very high level of graduating parents (97 per cent) agreed or strongly agreed that HIPPY taught them more about how their child learns and grows, and learning more about how to be their child's first teacher (80 per cent). This result increased from 75 per cent at week 5. Of respondents learning more about how to be their child's first teacher, almost all (93 per cent) reported a 'better understanding of child's skills', 'more ideas to encourage child' or 'better understanding of how child learns'.

As with the child outcomes data, many of the responses were increased modestly from week 5 to graduation with improvement generally observed at week 30 and the improvement more likely to be sustained overall with some increase or decrease between week 30 and graduation. An example of this pattern is seen in Table 3.8.

TABLE 3.8 RESPONSES TO SELECTED QUESTIONS FOR PARENTS' OUTCOMES IN 2015

Response	Enrolment	Response rate (%)			Trend
		Week 5 (n = 1,096)	Week 30 (n = 1,051)	Graduation (n = 1,266)	
% of responses that indicated parents had learned more about being their child's first teacher	---	75%	80%	80%	Moderate-high result at week 5. Increase seen between week 5 and week 30 and no change up to graduation.
% of parents that indicated HIPPY has taught them more about how their child learns and grows	---	96%	96%	97%	High result at week 5 and steady to graduation.
% of parents that indicated they use HIPPY ideas when not doing HIPPY activities	---	96%	98%	98%	High result at week 5 and steady to graduation.

Note: Survey response numbers relate to total number undertaking the survey at each time point. The number of respondents for individual questions is not available.
SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

Over the three cohorts (2013, 2014, 2015), the results were steady. Most respondents identified that they had spent more time with their child by doing HIPPY and this was consistent over time (78 per cent). When asked what they like most about HIPPY, respondents indicated that they liked spending time with or teaching their child (86 per cent).

Through the consultations with HIPPY sites, around half of consultees identified enhanced parent-child interactions as a particular outcome of the program. Consultees identified that this relationship was now stronger between parents and children, parents were more confident in their role as their child's first teacher, and parents had greater capacity and skills to manage parenting and engage their child in learning activities, including 'everywhere learning'. There was also a strong theme that parents had greater ability to talk to teachers and greater confidence in interacting with the school.

3.2.2 Outcomes for Indigenous and CALD parents and families

The review of literature on parent outcomes provides promising evidence that HIPPY increases parental engagement in early educational activities at home. The effect of the program has been supported across different cohorts, particularly Spanish speaking families

in the USA. Further studies are required to establish the strength and direction of relationship between HIPPY participation and parent involvement in their child's education for Indigenous families. Cultural differences, such as variation in family structures, may moderate the delivery and effect of the program on the quality of interaction between the parent/ carer and their child.

Administrative data was made available to the evaluation to examine parent and family outcomes through HIPPY for Indigenous and CALD families. As with the analysis above, this data arises from the reflections of graduating parents through surveys conducted by HIPPY program providers.

The administrative data sub-group analysis revealed similar positive results though slightly differing experiences for Indigenous families and CALD families.

Graduating Indigenous families showed overall high levels of positive responses, with some results at graduation lower for Indigenous families than for the total HIPPY population. All graduating Indigenous parents (100 per cent) agreed or strongly agreed they enjoyed doing the HIPPY activities with their child. This was also consistently high from week 5 through to graduation. A very high level of parents (97 per cent) also agreed or strongly agreed that HIPPY taught them more about how their child learns and grows. A high proportion of respondents reported learning more about how to be their child's first teacher (78 per cent) though this is lower relative to the overall population of graduating HIPPY families. Of these respondents, almost all (91 per cent) reported a 'better understanding of child's skills', 'more ideas to encourage child' or better understanding of how child learns'. An example of this pattern is seen in Table 3.9.

TABLE 3.9 RESPONSES TO SELECTED QUESTIONS FOR INDIGENOUS PARENTS' OUTCOMES IN 2015

Response	Enrolment	Response rate (%)			Trend
		Week 5 (n = 210)	Week 30 (n = 181)	Graduation (n = 257)	
% of parents that agreed or strongly agreed they enjoyed doing the HIPPY activities with their child	---	97%	97%	100%	High result at week 5 and steady to graduation.
% of parents that agreed or strongly agreed that HIPPY taught them more about how their child learns and grows	---	97%	96%	97%	High result at week 5 and steady to graduation.
% of responses that said they had learned more about becoming their child's first teacher	---	77%	78%	78%	Moderate-high result at week 5 and steady to graduation.

Note: Survey response numbers relate to total number undertaking the survey at each time point. The number of respondents for individual questions is not available.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

A very high proportion of Indigenous families indicated that their relationship/ interactions with their child improved since joining HIPPY. At week 5, 97 per cent indicated that this was the case either 'most of the time' or 'sometimes' and not 'I don't know'. This was sustained at week 30 (99 per cent) and at graduation (98 per cent). Most respondents identified that they had spent more time with their child by doing HIPPY and this was consistent over time (92 per cent). When asked what they like most about HIPPY, respondents indicated that they liked spending time with their child (71 per cent) though this was lower than the overall population result (79 per cent).

The experience of graduating CALD families was similar with very high levels of positive responses. Results at both week 5 and graduation were similar for CALD families relative to the overall population across most areas. The high level of these positive results reduced

marginally between the 2013 and 2015 cohorts but still exceeded the overall population of graduating HIPPY families.

A very high level of parents (97 per cent) agreed or strongly agreed they enjoy doing the HIPPY activities with their child and this was consistent from week 5 through to graduation. A very high level of parents (98 per cent) also agreed or strongly agreed that HIPPY taught them more about how their child learns and grows. A high level of parents reported learning more about how to be their child's first teacher (88 per cent). This result was 8 percentage points above the overall population of graduating HIPPY families. Of these respondents, almost all (93 per cent) reported a 'better understanding of child's skills', 'more ideas to encourage child' or better understanding of how child learns'. Between week 5 and graduation, parents/ carers reported that they were more likely to use the ideas learnt when not doing HIPPY – rising from 94 per cent to 98 per cent during this time. An example of this pattern is seen in Table 3.10.

TABLE 3.10 RESPONSES TO SELECTED QUESTIONS FOR CALD PARENTS' OUTCOMES IN 2015

Response	Enrolment	Response rate (%)			Trend
		Week 5 (n = 267)	Week 30 (n = 270)	Graduation (n = 333)	
% of parents that agreed or strongly agreed they enjoyed doing the HIPPY activities with their child	---	97%	95%	97%	High result at week 5 and steady to graduation.
% of parents that agreed or strongly agreed that HIPPY taught them more about how their child learns and grows	---	97%	94%	98%	High result at week 5 and steady to graduation.
% of responses that said they had learned more about becoming their child's first teacher	---	87%	88%	88%	Moderate-high result at week 5 and steady to graduation.
% of parents that use the ideas learnt when not doing HIPPY	---	94%	96%	98%	High result at week 5 and steady, small increase to graduation.

Note: Survey response numbers relate to total number undertaking the survey at each time point. The number of respondents for individual questions is not available.
SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

A very high proportion of CALD families indicated that their relationship/interactions with their child improved since joining HIPPY. At week 5, 98 per cent indicated that this was the case either 'most of the time' or 'sometimes' and not 'I don't know'. This was sustained at week 30 (100 per cent) and at graduation (99 per cent). Most (94 per cent) respondents identified that they had spent more time with their child by doing HIPPY and this was consistent over time. When asked what they like most about HIPPY, respondents indicated that they liked spending time with their child (78 per cent), with 84 per cent indicating that they liked spending time with or teaching their child – these results were consistent with the overall population.

Overall, while there are many positive results, the analysis for Indigenous and CALD parent and family outcomes was limited in ways similar to the Child outcomes analysis. As specified in section 3.1, the data relates to graduating families and the outcomes for non-graduating families are not available, and the data is for the first 75 sites.

3.3 Parent engagement in their child's school and the community

This section examines outcomes relating to the engagement of parents in their child's school education and engagement with the local community including social activities and access to services. Consistent data was provided for the total HIPPY population rather than for specific sub-groups and, as a result, the analysis is presented as a whole, while reflecting the outcomes for sub-groups where available in the literature.

The literature review examined HIPPY's role in improving parent involvement in their child's formal education. In Australia, Liddell et al. (2011) found that HIPPY parents had greater contact with the school than comparison group parents as reported by their teacher. The program had a statistically significant impact on parental confidence in taking an active role in their child's education. Liddell et al. (2009) found that all parents reported feeling positively involved in their child's education after their first year of participation in HIPPY compared to three-quarters of parents at the beginning of the program.

Internationally, two main studies have examined HIPPY's role in improving parent involvement in their child's school education:

- *Johnson, Martinez-Cantu, Jacobson & Weir (2012)* – A quasi-experimental study conducted with predominantly Spanish speaking families found that 54 per cent of teachers report that HIPPY mothers were more involved in their child's education compared to other parents in the class. However, HIPPY mothers did not self-report an increase in their contact with teachers or school involvement.
- *Brown & Johnson (2014)* – The program evaluation using pre and post results showed that 60 per cent of HIPPY parents increased their frequency of contact with school personnel between the start of the program and the end of the first year.

The literature review also examined connection in local communities, though found a narrow literature of quality studies.

The most recent evaluation of HIPPY Australia observed no significant differences between the HIPPY and the comparison group in the frequency of contact with family, friends or neighbours at baseline and completion of the program (Liddell et al., 2011). This is consistent with findings from an earlier evaluation (Liddell et al., 2009). There is however evidence from the Liddell et al. (2009) evaluation that parents have established new connections through HIPPY. From the sample, 70 per cent of parents reported that they had met new parents through HIPPY and a similar proportion reported that they had found support this way. In addition, promising evidence supports that parents participating in HIPPY improve their access to local services (Liddell et al., 2011, Liddell et al., 2009).

In Australia, Barnett et al. (2012) reported improved neighbourhood belonging, though this study also showed that parents who participated in the program considered their neighbourhood less safe after participation. The authors indicated this result may arise from greater recognition of the need for a safe environment. In these Australian studies, HIPPY parents reported an increased awareness and access to local services, but inconsistent evidence for promoting a sense of belonging.

The literature review identified one international study that used a quasi-experimental technique examining parental engagement with the community. The 2015 study by Prairie Research Associates in Canada identifies improved parental sense of belonging to their local community and greater parent requests to meet with their child's teacher during the year the child was in first grade of school.

From the literature review, there is emerging evidence that participation in HIPPY improves access to local services, however the results for other dimensions of community engagement (such as involvement in the local community, and a sense of neighbourhood belonging) are mixed. There is limited evidence of the generalisability of community outcomes across different HIPPY sites serving different cohorts in Australia.

Administrative data was made available to the evaluation to examine outcomes through HIPPY relating to parent engagement in their child's school and the community. As with the analysis above, this data arises from the reflections of graduating parents through surveys conducted by HIPPY program providers.

The analysis of HIPPY Australia administrative data indicates that HIPPY has had modest positive impact in terms of parent engagement with their child's school and to the community.

Positive results are achieved for school engagement, with 99 per cent of families expressed that they were 'somewhat confident' or 'very confident' in communicating with teachers and staff of their child's school, though this is evident at week 5 and steady to graduation. Available data did not differentiate between parents who were 'somewhat confident' with those who were 'very confident'. Around half of graduating parents reported 'increased confidence to speak with teachers at the school' through HIPPY. There was an overall increase of 10 percentage points in this result from week 5 to graduation with much of the gain evident at week 30 and the result being largely steady to graduation.

HIPPY also supports parents to form social and community connections, particularly through interactions in group meetings and events, as well as by providing information on community-based organisations to parents.

As identified in Table 3.11, during week 5 and 30, around half of parents responded positively that they had made social connections by doing HIPPY. This decreased to 21 per cent of parents at graduation. In relation to connections to the community, a larger proportion of graduating parents respond positively to the question 'has HIPPY taught you about other useful groups or organisations in your community?' At graduation, 87 per cent of parents 'agreed' or 'strongly agreed' with this statement, indicating a consistent level of achievement across cohorts. Further, this appears to be achieved fairly early in HIPPY, with an average of 80 per cent of parents responding positively to this question by week 5.

TABLE 3.11 RESPONSES TO SELECTED QUESTIONS FOR OUTCOMES RELATING TO PARENT ENGAGEMENT IN THEIR CHILD'S SCHOOL AND THE COMMUNITY IN 2015

Response	Enrolment	Response rate (%)			Trend
		Week 5 (n = 1,096)	Week 30 (n = 1,051)	Graduation (n = 1,266)	
% of responses that indicated parents were confident or very confident in speaking to staff and teachers at school	---	---	---	99%	High result at graduation.
% of responses that indicate parents made social connections	---	46%	56%	21%	Increase between week 5 and week 30 with a decrease to graduation.
% of parents that indicated HIPPY taught them about other useful groups and organisations in the community	---	80%	89%	87%	Overall increase between week 5 and graduation. Increase seen between week 5 and week 30 and steady to graduation.

Response	Enrolment	Response rate (%)			Trend
		Week 5 (n = 1,096)	Week 30 (n = 1,051)	Graduation (n = 1,266)	
% of parents that indicated HIPPY has helped them to connect with their community	---	82%	87%	85%	Fairly stable throughout the program.

Note: Survey response numbers relate to total number undertaking the survey at each time point. The number of respondents for individual questions is not available.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA DATA

Across this data, there appear two distinct types of connectedness. The first being benefitting from the social aspect of the program by participating in group meetings and making social connections with a more moderate result. The second aspect of connectedness appears to relate more to the awareness and knowledge of other community-based organisations. There is a higher result in this area.

Evidence from the consultations corroborates the finding that some parents are more involved in the community as a result of participating in HIPPY. This can be through connections with others involved in the program, or through participation in other community-based programs, such as both women's and child health, parenting and cultural programs.

3.4 Parent and home tutor study and employment outcomes

HIPPY aims to increase parents' confidence and capability to engage in employment or study, and to improve parents' future employment prospects through the home tutor role. In particular, through HIPPY, parents are provided with an opportunity to become home tutors and to develop skills and experience and pursue or continue with employment and study. This section examines the literature and data relating to these outcomes, however data was only available across the HIPPY population rather than for specific sub-groups. As a result the analysis is presented as a whole.

There was limited quality evidence arising through the literature review relating to the employment or study outcomes for parents or home tutors. Much of the literature provides reports by parents, but is limited by the lack of a pre-post or control group design.

In Australia, Liddell et al. (2011) did not find any significant differences between the HIPPY parents and the control group in relation to employment or study outcomes.

Regarding the role of parents as home tutor, Liddell et al. (2009) found that 41 per cent of home tutors reported in qualitative interviews that they had enrolled in education or training because of HIPPY and 47 per cent reported that they were thinking about enrolling. Liddell et al. (2011) report that home tutor employability measures declined over time. The authors suggest that the declines, however, can be explained by the fact that those people who were successful in being recruited to a position of home tutor felt confident at the time of the baseline assessment that they could do the job, so they initially rated their employability skills as high, and over time, were challenged by the role rated themselves less highly as a result. Twenty-six qualitative interviews were conducted with tutors. The tutors reported that HIPPY had increased their confidence levels, communication, teamwork, and organisational skills (noting there was variability among the extent of the increase).

Internationally, Deuel (2000) reported that home tutors identified detailed record-keeping and organisation as highly valuable skills developed through tutor training. Results included that 42 per cent of home tutors had participated in other job training since becoming tutor and 48 per cent had enrolled in school or taken classes for personal/professional

development or towards a certificate or diploma. Analysis of administrative report data from HIPPY Canada (n.d.) reported that for many immigrant mothers, acting as a home tutor is often their first job in Canada. Furthermore, the high level of flexibility was seen as an important feature for parents who experience multiple employment barriers (HIPPY Canada, n.d., Deuel, 2000). For example, in other administrative data, home tutor employment outcomes are reported as a combined measure, that is employment gained “during or at the end of the program year” (HIPPY Canada, n.d.).

From the literature review, it is apparent that few studies have used a quality research design to examine HIPPY parent uptake of further education or training, or the benefits of parents taking up the role of HIPPY home tutor. Of the available literature, there appears evidence to suggest that the tutor role can contribute to skill development but may also lead to reduced confidence at least in undertaking the role initially. There is a need for development of the evidence-base in relation to this outcome. Future research should collect follow up data to accurately evaluate sustained training and employment outcomes following exit. This is further examined in chapter 7.

Administrative data was made available to the evaluation to examine parent and home tutor training and employment outcomes. This data arises from the reflections of graduating parents through surveys conducted by HIPPY program providers.

From the administrative data analysis,²⁰ overall, 35 per cent of parents commence and participate in some form of educational or training activity, with approximately half of these (19 per cent) completing a qualification, during the period of involvement with HIPPY. The extent to which this constitutes a successful outcome is difficult to conclude, given that there is no data to indicate whether or not parents need, or want to, participate in education activities. Nonetheless, given the more vulnerable characteristics of HIPPY families overall, this result is positive.

For those commencing an educational activity during HIPPY, 76 per cent ‘agreed’ or ‘strongly agreed’ that being involved in HIPPY gave them confidence to start or continue with further study. There was a significant increase in the proportion of positive responses between cohorts, rising from 71 per cent in 2013 cohort to 84 per cent for the 2015 cohort. It is unclear whether there were any specific changes for the program that precipitated this improvement, or if this is related to the different characteristics of parents from the 2015 cohort.

The consultations indicated that parents receive support from the program to participate in education and other training activities, such as Certificates in Foundation Skills and Education. This includes referrals to courses and programs for parents, as well as funding and placement opportunities for home tutors. The evidence indicates that, among those who make use of these opportunities, these initiatives are well-received. As a result, HIPPY was seen by HIPPY coordinators as an important pathway for increasing education opportunities.

The administrative data provides emerging support for the role of HIPPY in supporting parents/ carers to engage in employment. Approximately half of parents/ carers (48 per cent) reported that they had started employment while their child was in HIPPY. However, the extent to which positive employment outcomes can be attributed to HIPPY is unclear, as some positive employment outcomes may have resulted even without participation in HIPPY.

²⁰ Number of respondents for each question is not available. Total number of respondents for training and employment survey: 907, 1,105 and 1,266 in 2013-15 respectively.

A high majority (78 per cent) of parents responded positively (agreed or strongly agreed) that HIPPY give them confidence to find or continue with employment. Overall, this appears to have increased over the three cohorts, dipping slightly from 76 per cent to 74 per cent between 2013 and 2014, then rising to 86 per cent in 2015.

At the end of their child's involvement in HIPPY, 47 per cent of parents/ carers reported 'being more confident to pursue future employment opportunities' or had 'learned about useful services in the community' in response to the question 'what have you achieved by doing HIPPY?'. Over the period of the program, this indicator increased between week 5 (42 per cent) and week 30 (49 per cent), and was then steady (47 per cent) to graduation.

The consultations with HIPPY coordinators also highlighted the role of HIPPY in promoting some parents to go on to become home tutors, and home tutors to gain employment in other educational or child welfare organisations. Consultees provided examples of home tutors and parents being significantly upskilled, as well as examples of home tutors and parents going on to attain significant positive employment outcomes. These employment outcomes are not confined to the early childhood education sector, but involve a range of community and health organisations, suggesting that the skills developed among home tutors are not restricted to early childhood education.

3.5 Findings

The key findings of this chapter are structured around key evaluation question two as outlined at the beginning of the chapter. Findings also contribute to examination of key evaluation question one.

Outcomes across HIPPY population

Overall, evidence from the HIPPY Australia and HIPPY international literature, parent-reported outcomes and consultation feedback indicates that HIPPY is effective in achieving its main outcomes of helping children enjoy learning more and helping them become more ready for school. The promising evidence identified in the review of literature was supported by the outcomes data from the HIPPY journey surveys. The HIPPY journey survey is a large data set consisting of 1,266 survey responses at graduation, inclusive of 257 Indigenous and 333 CALD responses. A limitation of the analysis was that there was no outcomes information from the families that had exited early.

Among those who graduate from the program, there are consistent trends in the data that indicate these outcomes have been rated highly among families of children who graduate from the program. Similarly, the available evidence indicates that HIPPY is effective in helping parents understand how to engage with their child in learning activities, as well as provide greater understanding of how children learn. HIPPY also appears to be effective in connecting parents to their child's school.

While there was data and feedback that HIPPY provided information about local services and that parents agreed that they knew more about other useful groups or organisations, there was less evidence that families had actively engaged more with these services, groups or organisations. The literature review did not reveal that HIPPY participants were further advantaged than a control group in this area. Such limitations were also evident in relation to parent engagement in study or employment. While the data identifies the take up of study or employment opportunities during HIPPY there is less clarity about the role of HIPPY in achieving these results or whether the benefits continue beyond the completion of HIPPY. By-and-large the HIPPY coordinators consulted supported the role of HIPPY in these areas.

Across the outcome areas improvements were generally moderate positive increases between week 5 and graduation. Much of this gain is achieved between week 5 and week 30 and then sustained through to graduation. This result is likely to arise from the program design in which there is half as many program activities in the second year of the program when children are in their first year of school.

BOX 3.1 FINDINGS: KEY EVALUATION QUESTIONS 1 AND 2

Finding 6. Overall, the available evidence indicates that HIPYPY is effective in achieving its focus of helping children to improve their learning outcomes and helping them to become more ready for school.

Finding 7. Due to insufficient studies in an Australian context, there were not clear findings in relation to the medium term benefits of completing HIPYPY in Australia and the impact of the program on parent study or employment outcomes.

SOURCE: ACIL ALLEN CONSULTING 2018

Outcomes for CALD and Indigenous HIPYPY participants

Through the review of literature there appears to be a number of studies with relevance for participants from CALD backgrounds. In Australia, many of the first 50 HIPYPY sites were based around CALD communities and the evidence from evaluations and studies in these sites is likely to be generalisable to current participants in CALD communities. Internationally, the majority of quality HIPYPY studies arise from the USA. Findings relating to outcomes for Latino or Spanish-speaking families have some relevance in the Australian context as they address the needs of CALD communities. However these results need to be cautiously applied given the program model in the USA is over three years. The review of literature however, revealed very few studies which are specifically relevant for Indigenous families in Australia, and little evidence to the experiences of Indigenous families living in very remote communities.

In the administrative data, the key outcomes for families appear to be relatively consistent between the broader HIPYPY population and the Indigenous and CALD populations, with some minor differences in the extent to which specific outcomes have been achieved. Children from CALD backgrounds that graduate from HIPYPY are reported by their parents as having slightly higher rates of achievement relative to Indigenous children and children across the HIPYPY population. This is present early in the program (week 5) and is sustained to graduation. While results for CALD families are higher than those for Indigenous children, a number of outcomes for CALD families appeared to decline slightly, particularly between the first and second year (week 30 to graduation). Despite this decline CALD children still have higher rates of achievement than Indigenous children.

The outcomes for graduating Indigenous participants for HIPYPY appear to be comparable to the overall group over the 2014 and 2015 cohorts, which suggests that, on the whole, Indigenous families are responding as well to the program as other mainstream parents. The impact of introducing HIPYPY for the first group of Indigenous focused sites is preliminary given that it relates to data over two cohorts and is not disaggregated to the specific expansion sites. The experience of the 2016 cohort, particularly being more concentrated in very remote communities, warrants future analysis of these outcomes.

BOX 3.2 FINDINGS: KEY EVALUATION QUESTIONS 1 AND 2

Finding 8. Children from CALD backgrounds are reported as having slightly higher rates of achievement relative to children across the HIPPY population.

Finding 9. Outcomes for Indigenous children appear to be comparable to the overall group over the 2014 and 2015 cohorts. However, the experience of the 2016 cohort particularly being more concentrated in remote communities, was not available and warrants continuing analysis of these outcomes. Moreover the literature in relation to the achievement of cognitive outcomes for Indigenous children is underdeveloped.

SOURCE: ACIL ALLEN CONSULTING 2018



This chapter examines the costs and benefits of HIPPY using existing data and records, and drawing on the literature of comparator programs. The focus of the chapter is key evaluation question five: *To what degree, does HIPPY provide value for money?* The chapter also provides insights to key evaluation question one, discussing current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally.

The analysis has been undertaken using available financial and descriptive data for the 2014 cohort across phase 1 and 2 sites. Phase 1 refers to sites 1 to 50, phase 2 refers to the first 25 sites established as part of the Indigenous expansion (sites 51 to 75). As the program is delivered over two years, this analysis uses audited financial data for calendar years 2014 and 2015. The following sections summarise analysis completed relating to:

- program funding and expenses
- costs per child
- net present value of program costs and benefits.

A more detailed discussion of this analysis, including methodological and technical notes and disaggregation of figures shown in tables, is available in Appendix C.

4.1 Program funding and expenses

This section discusses HIPPY funding and expenses, and considers administrative expenses as a proportion of total expenses. Consideration of administrative expenses as a proportion of total expenses can provide insights into whether the program has become increasingly efficient over time.

4.1.1 Funding

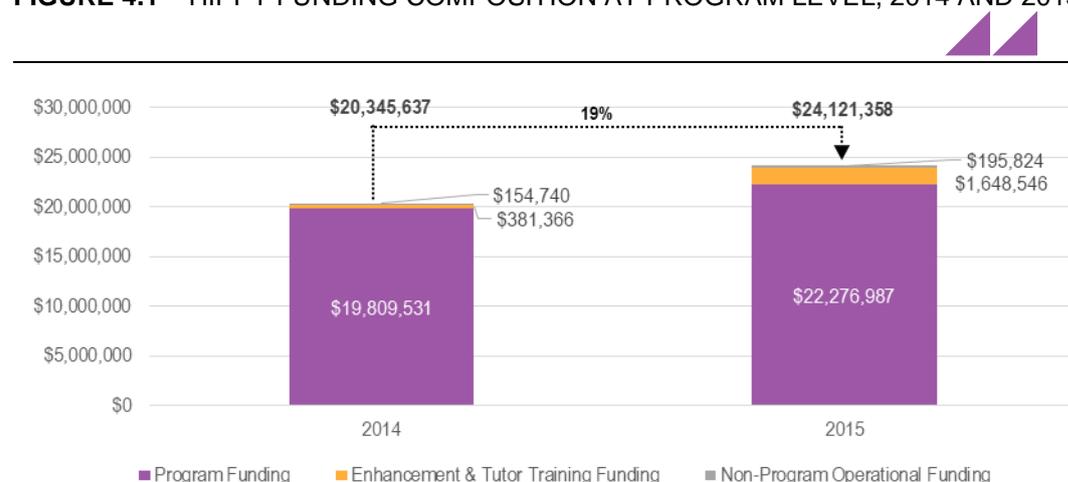
DSS funding received by BSL is split into site and national office funding. However, HIPPY reports funding on an aggregated basis. Aggregated funding received by HIPPY sites may be split into the following categories:

1. Program funding, received by all sites. This funding is intended for implementation of the program.

2. Enhancement and home tutor training funding, which sites must apply for. Enhancement funds are intended to improve program delivery, while home tutor training funding is used by sites to assist with future employment (for example, by funding traineeships and professional development).
3. Non-program operational funding, which represents a minority of total funding. It includes funding for performance payments, donations, and fundraising. These funds are used by the sites that raise it at their own discretion.

As shown in Figure 4.1 HIPPY funding increased by 19 per cent at a program level between 2014 and 2015 from \$20.3 million to \$24.1 million. This increase was primarily driven by increasing program funding, due to increased activity at phase 2 sites. Donations and fundraising represented a very small contribution, less than one per cent of total funding over both years.

FIGURE 4.1 HIPPY FUNDING COMPOSITION AT PROGRAM LEVEL, 2014 AND 2015



Note: All figures are in nominal terms

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM LEVEL FINANCIAL DATA, 2014-15

Notably, enhancement and home tutor training funding more than tripled over the period. According to the *HIPPY Operational Guide*, sites may apply for enhancement funding for a range of purposes including but not limited to staffing, travel, accommodation, family engagement, and investment in improving program outcomes. Therefore, the increase in funding in this area may reflect the increasing degree to which sites are tailoring HIPPY to suit their communities. It may also reflect increasing spending on home tutor training as the first batch of home tutors in phase 2 move through the program. Finally, all coordinators were funded to attend a two day seminar in Melbourne in 2015, which further added to costs.

Analysis of site level financial data showed that phase 2 sites experienced much higher growth in average funding between 2014 and 2015 as compared to phase 1 sites (Table 4.1). This is indicative of increased service provision at these sites – 2015 represents the first year that phase 2 sites delivered HIPPY to two cohorts of children simultaneously.

TABLE 4.1 AVERAGE FUNDING PER SITE - 2014 AND 2015

	2014	2015	Per cent increase in average funding per site
Average funding (per site)	\$157,676	\$194,714	23%
Phase 1 (sites 1-50)	\$180,958	\$194,010	7%
Phase 2 (sites 51-75)	\$112,043	\$196,123	75%

Note: audited financial data for calendar year 2014 was not provided for Belconnen. All figures are in nominal terms
 SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

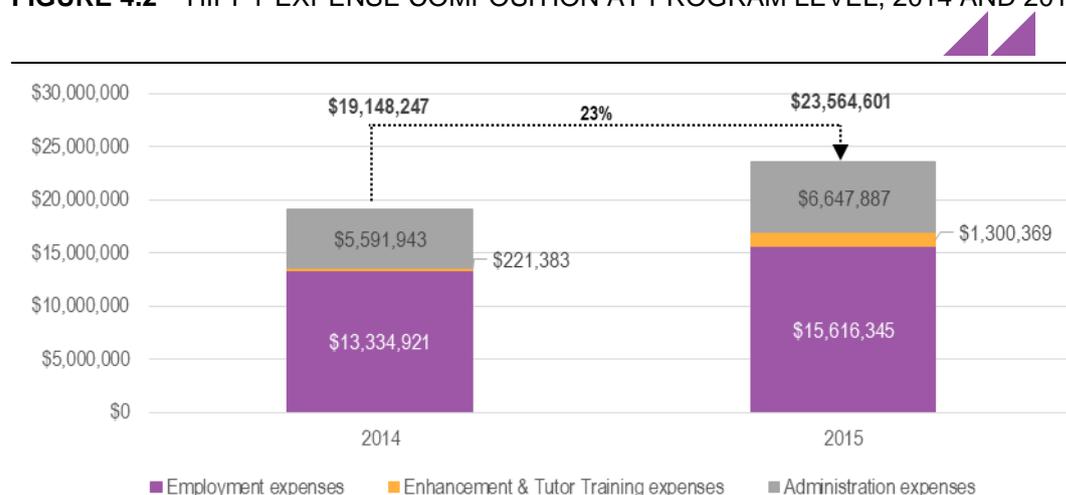
4.1.2 Expenses

HIPPY Australia categorises its program expenses under three broad headings, namely:

1. Employment expenses, which are used to pay for expenses such as coordinator salary and tutor hire
2. Enhancement and home tutor training expenses, which sites must apply for. These expenses refer to payments used to improve program delivery and purchase additional training or professional development for home tutors
3. Administrative expenses, which include any other expenses do not fall into the above two categories. Examples of administrative expenses includes organisational support, office equipment, and site accommodation.

Figure 4.2 shows program level expenses for HIPPY over calendar years 2014 and 2015.

FIGURE 4.2 HIPPY EXPENSE COMPOSITION AT PROGRAM LEVEL, 2014 AND 2015



Note: All figures are in nominal terms.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA PROGRAM LEVEL FINANCIAL DATA, 2014-15

Between 2014 and 2015, program level expenses increased by 23 per cent from \$19.1 million to \$23.6 million. Most of this is due to increased spending on employment expenses, which rose by 27 per cent from \$13.3 million in 2014 to \$15.6 million in 2015. This increase in spending is aligned with the increased activity resulting from growth in student numbers at phase 2 sites.

At a site level, average employment expenses per site increased by 23 per cent between 2014 and 2015. When disaggregated by site type, it can be seen that this overall increase in average expenses is primarily attributable to phase 2 sites. Average employment expenses at phase 2 sites grew by 79 per cent between 2014 and 2015. This is expected given that 2015 is the first year in which phase 2 sites delivered HIPPY to two cohorts simultaneously. Further details are available in Appendix C.

The difference in growth rates in employment expenses seen at program and site level may be due to growth in spending at national office level. National office figures were not provided to this review in a disaggregated manner.

Average expenses by site type are shown in Table 4.2. Across 2014 and 2015, expenses at phase 1 sites were, on average, higher than those at phase 2 sites.

TABLE 4.2 AVERAGE EXPENSES BY SITE TYPE, 2014 AND 2015

Site Type	Average expenses, per site		Per cent increase in average expenses, per site
	2014	2015	
Average expense (per site)	\$150,106	\$195,760	30%
Phase 1 sites	\$175,342	\$198,296	13%
Phase 2 sites	\$100,644	\$190,689	89%

Note: Audited financial data for calendar year 2014 was not provided for Belconnen. All figures are in nominal terms.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

Expenses at phase 2 sites were relatively small in 2014, though they grew by 89 per cent to more than \$190,000 in 2015. Expenses at phase 2 sites run by ACCOs grew more quickly over the period than at phase 2 sites run by non-ACCO organisations.

Ratio of administrative expenses to program expenses

The ratio of total administration expenses to total expenses at a program level did not change considerably between 2014 and 2015. In 2014, administration expenses represented 29 per cent of total expenses. This figure fell marginally to 28 per cent of total expenses in 2015. However, analysis of site level information showed that sites were not able to reduce the ratio of overhead administrative costs to their total expenses over time. Therefore, the slight decrease in this ratio at program level may be due to direct national office spending rather than resulting from increased administrative efficiency at a site level.

4.2 Costs per child

This section summarises analysis undertaken as part of this review to determine how much it costs to deliver HIPPY on average, to a child in any given site. Consideration of the cost of delivery per child provides insight into whether the program is efficient as compared to other similar programs. A detailed description of the methodology used to calculate cost per child is found in Appendix C.3.

4.2.1 HIPPY costs per child

Table 4.3 shows the cost of delivering HIPPY to a single 'active child'. When considered across all sites, the average cost of delivering HIPPY for two years per child is \$11,113. This refers to the cost of delivery of HIPPY through HIPPY Australia, and does not consider any costs borne by DSS associated with coordination and management of the program.

The concept of 'active child' refers to the number of children who are actively engaged in a site during the first and second year of HIPPY delivery.²¹ Further information relating to how figures for the number of 'active children' at each site are derived is found in Appendix C.3.1.

²¹ The concept of 'active child' was used because data is only available for the number of base enrolments, or children who enrol at the start of the program, and the number who complete the program at the end of two years. The number of 'active children' refers to the number who are receiving services and actively engaged at the site during each year. This number is estimated to be between the number who enrol and the number who complete the program.

TABLE 4.3 AVERAGE TWO YEAR COST PER 'ACTIVE CHILD' FOR THE 2014 COHORT BY SITE TYPE, 2017 DOLLARS

Site type	Cost per 'active child', 2014 cohort (2017 dollars)
All sites	\$11,113
Phase 1 ¹	\$8,455
Phase 2	\$16,322

Note: 1 Excludes Belconnen as audited financial data for 2014 was not provided for this site.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017)

As shown in Table 4.3, the average cost per 'active child' at phase 1 sites is almost half the cost per 'active child' for phase 2 sites. Given that sites often experience difficulties recruiting children in the early years of operation, and that a minimum level of investment is required to start up the program at any site, this result may be expected. In addition, as will be discussed, cost per child increases with site remoteness.

The number of base enrolments was generally lower in phase 2 sites as compared to phase 1 sites. This dynamic is expected to have pushed cost per child up in phase 2 sites, as fixed costs and national expenses for each site are distributed across a smaller number of children. Further analysis linking site size to cost per child is available in Appendix C.

Furthermore, cost per child was found to be positively related with remoteness of the site, as shown in Figure 4.3. A higher proportion of phase 2 sites are located outside major cities, therefore need for increased staff travel and other high costs associated with remoteness may have resulted in the increased cost per child seen at phase 2 sites.

However, using existing data, it is not possible to determine whether the high cost per child is due to the remoteness of these sites or the fact that they are newly established.

FIGURE 4.3 COST PER 'ACTIVE CHILD' FOR THE 2014 COHORT BY REMOTENESS, 2017 DOLLARS

Note: Excludes Belconnen as audited financial data for 2014 was not provided for this site.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017)

On the basis of the factors outlined above, this review considers the value of cost per child for phase 1 to be the most accurate reflection of expected cost per child for the program in

future. While they are expected to decrease as sites mature, this review has been unable to determine how cost per child in phase 2 sites will change over time in a definitive manner, given the impact of site remoteness and implementation issues discussed in earlier chapters.

4.2.2 Costs per child in comparator programs

Comparator programs

As part of this economic analysis, HIPPY has been compared to a selection of other early childhood interventions to determine its relative value for money. The comparator programs chosen are outlined in Table 4.4. HIPPY is also listed in this table for ease of comparison.

TABLE 4.4 SUMMARY OF COMPARATOR PROGRAMS

Program	Mechanism	Target group
HIPPY	<ul style="list-style-type: none"> – Delivered through home visits by home tutors (para professionals). – Parents are taught to deliver activity packs to their children, and take part in regular meetings. – Home tutors are provided with formal training to improve their future employment prospects. – Program is for 2 years, for 30 weeks per year. 	<ul style="list-style-type: none"> – Children aged 4 and 5 years old in disadvantaged communities.
Chicago Child-Parent Centre program	<ul style="list-style-type: none"> – Delivered primarily at centres by a collaborative team that includes a head teacher, parent resource teacher and the school community representative. – Parents participate in the program at least half a day per week and staff conduct home visits and refer families to social service agencies as needed. – Preschool and kindergarten program is half-day (2 hours) for 40 weeks plus an 8-week summer program. 	<ul style="list-style-type: none"> – Children from 3 to 9 years, from high needs communities (high-poverty, low-income neighbourhoods). – This study considers the preschool/ kindergarten variant of the Chicago Child-Parent Centre program.
Families and Schools Together (FAST)	<ul style="list-style-type: none"> – Delivered through school and home-based methods by trained 4-8 person teams of parents, teachers, school representatives, and community-based professionals. Each team is trained by an accredited National trainer. – The program contains three stages: face-to-face home visits, an 8-week (2.5 hour/ week) school-based meeting with multiple families and a two year follow-up program, FASTWORKS, which consists of monthly multi-family meetings run by parents with the support of the FAST team. 	<ul style="list-style-type: none"> – Children aged 0-17 years experiencing disruptive behaviours who are at risk of education failure, and their parents or primary caregivers.
Head Start	<ul style="list-style-type: none"> – Early learning preschool or home-based services, delivered by qualified educators, who work closely with parents to support their children and meet family goals. – Focus on comprehensive early childhood education, health, nutrition, and parent involvement services. – Runs for up to two years. 	<ul style="list-style-type: none"> – Children aged 3-5 years from families at or below the poverty line or receiving public assistance. – Programs are also required to have at least 10 per cent of their places reserved for children with disabilities.

Program	Mechanism	Target group
Parents as First Teachers (PAFT)	<ul style="list-style-type: none"> The frequency and duration of PAFT visits is determined by each family's needs. The program is delivered by one qualified practitioner through home visits or through children's centres, typically for 1 hour on a weekly, fortnightly, or monthly basis depending on need. 	<ul style="list-style-type: none"> Children aged 3 or under, typically living in a disadvantaged community. Limited services are available to age 5.

SOURCE: ACIL ALLEN CONSULTING 2018

The studies used in the cost per child and cost benefit analysis were conducted on these comparator programs that were completed in the USA and during different time periods.

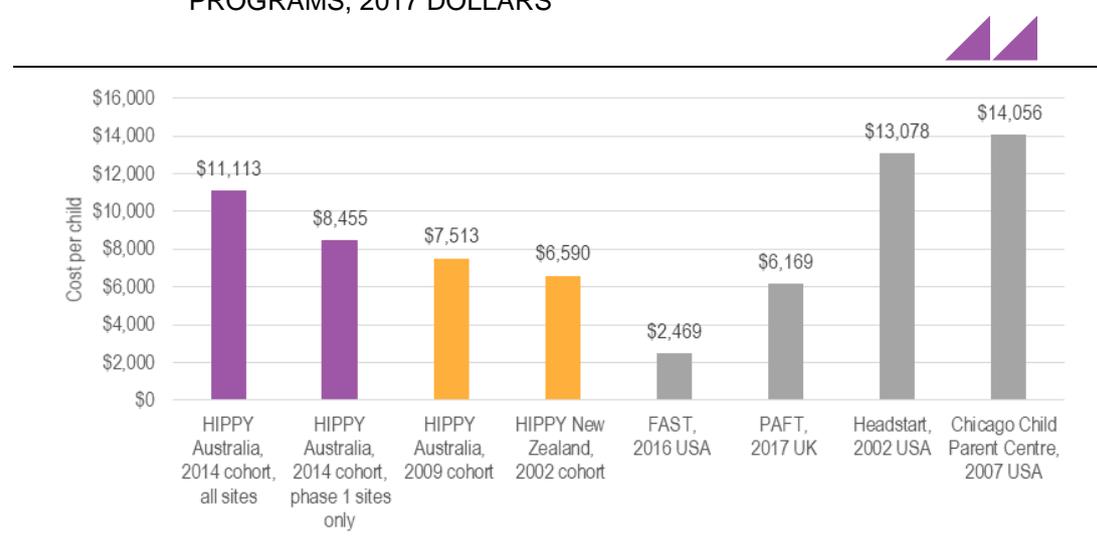
Even so, it is expected that the medium and long term outcomes attributed to these programs may be transferred, as the short term outcomes of these programs are similar to those established for HIPPY. Therefore, as short term outcomes of these programs are similar, the programs outlined in Table 4.4 have been used as comparators in the following cost per child and cost benefit analyses.

Cost per child in HIPPY and comparator programs

Figure 4.4 summarises the estimated cost per 'active child' for HIPPY based on the 2014 cohort, as compared to the cost per child for HIPPY as delivered in other time periods/locations, and comparator programs.

The purple columns in the figure refer to findings from this review, gold columns refer to findings from other reviews of HIPPY historically and internationally. Grey columns refer to findings from comparator programs considered similar to HIPPY.

FIGURE 4.4 COMPARISON OF COST PER CHILD, HIPPY AND COMPARATOR PROGRAMS, 2017 DOLLARS



Note: Figures have been converted to 2017 dollars using an annual inflation rate of 2.5 per cent. Exchange rates were based on rates on 9 October 2017. Exchange rates were as follows: 1 USD: 1.29 AUD; 1 GBP: 1.69 AUD, 1 NZD: 0.91 AUD.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017).

As shown in Figure 4.4, the average cost per child for HIPPY has increased since 2009 from \$7,513 to \$11,113 (2017 dollars). This is likely due to the inclusion of phase 2 sites in the figure derived for the 2014 cohort. As discussed, costs per child are much higher for phase 2 sites as compared to phase 1 sites. This difference in cost per child is much smaller when only phase 1 sites for the 2014 cohort are considered. Phase 1 sites represent a more likely

estimate of future expected costs per child for HIPPY. Furthermore, it is more reasonable to compare the findings from the 2011 review of HIPPY and findings for phase 1 sites, as in both cases, mature sites are the subject of analysis. Remaining differences in cost per child between these two estimates may represent:

- increased costs of delivery due to the circumstances of sites, such as increased rates of application for enhancement and home tutor training funds
- increased fixed costs due to additional work undertaken at a national level, such as curriculum development
- differences in calculation methodology.

In relation to comparator programs, a number of observations are made:

- FAST is lower cost than HIPPY, in Australia and internationally. This is expected given that FAST is a multi-family program and that the FAST program does not focus on employment pathways for staff, which is a key component of HIPPY. The degree of effectiveness and targeting of the program also differs, as outlined in Appendix C.1.2.
- PAFT is also lower cost than HIPPY, on a per-child basis. PAFT operates similarly to HIPPY, with delivery of program material occurring directly to parents in the home or through children's centres. The difference in cost per child may also be attributable to the fact that HIPPY considers employment pathways for home tutors, while PAFT does not. PAFT is also targeted at younger children, aged three years old and below.
- Headstart and Chicago Child Parent Centre programs are greater cost than HIPPY. Both programs are delivered in services and homes, and make use of qualified staff members to conduct delivery. Headstart is generally delivered by qualified early childhood educators. The Chicago Child Parent Centre program is delivered by a collaborative team that includes a teacher, a parent resource teacher, and a school community representative. HIPPY is primarily delivered by paraprofessionals - namely home tutors drawn from families that take part in the program. It is expected that it is lower cost to employ paraprofessionals than qualified staff members.

4.3 Cost benefit analysis

This section summarises the results of the cost benefit analysis performed for this review. Comparison of the results of this analysis to comparator programs speaks directly to whether HIPPY represents good value for money in comparison to similar models of early childhood intervention.

This section proceeds by briefly describing the benefits of HIPPY, and indicating which of these have been included in the analysis and why. Then, these benefits are combined with the costs per 'active child' calculated in section 4.2.1 to derive a net present value and benefit cost ratio per child. The concept of a 'typical' child is used here – this refers to consideration of any particular child who has a set of probabilities of achieving different outcomes as a result of the program.

Finally, these results are compared to findings for comparator programs.

A detailed description of the methodology used in the cost benefit analysis is found in Appendix C.5.

4.3.1 Benefits of HIPPY

The primary short, medium, and long term benefits that are expected to be derived by HIPPY participants are described in this section. This analysis draws on evidence from

international studies, including studies relating to the outcomes from HIPPY and the benefits achieved by other early childhood interventions in the medium and longer term. These benefits are expected to be derived on the basis that HIPPY is implemented effectively and achieves the benefits identified in the literature. While there will be variability in which benefits are achieved, the best available evidence is used for the analysis. It is also important to note that some benefits are observed in the literature, while some benefits are extrapolated on the basis of observed benefits. The evidence base for these benefits is outlined at Appendix C.

The benefits described in this section occur at different stages over time: short term benefits refer to benefits that occur during the program; medium term benefits refer to benefits that occur over the next 10 years, while the child is still in secondary school; and long term benefits refer to lifetime benefits. Medium term benefits, long term benefits for HIPPY have been derived through consideration of comparator programs.

These benefits are discussed in turn below.

Short term benefits refer to benefits that occur during the program. These include:

- improved academic achievement and participation among children who participate in HIPPY, as a result of improved school readiness
- improved parenting among families that take part in HIPPY, as a result of the development of parenting skills over the course of HIPPY delivery, through working with home tutors
- improved social connectedness of the family, as a result of taking part in HIPPY activities such as group meetings.

In addition, over the short term, HIPPY home tutors are able to increase their skills by taking part in HIPPY training, and achievement of formal qualifications (supported by HIPPY).

HIPPY parents also increase their skills including through attendance at group meetings, resulting in increased rates of achievement of formal qualifications and employment. However, this benefit has not been monetised in this analysis as there is no clear way to quantify the size of HIPPY's impact.

Medium term benefits refer to benefits that occur over the next 10 years, while the child is still in secondary school. These benefits include:

- improved year 12 retention
- reduced grade repetition throughout school
- avoided out of home care (OOHC) costs, due to reduced child maltreatment rates.

The evidence base for these medium term benefits is derived through consideration of comparator programs. This is because, as yet, there are no longitudinal studies for HIPPY Australia that track these benefits for children who have completed the program. However, it is reasonable to assume that these benefits are present for children who complete HIPPY, given that the short term benefits from HIPPY are similar to the short term benefits seen for comparator programs.

Long term benefits refer to lifetime benefits. Like medium term benefits, long term benefits for HIPPY have been derived through consideration of comparator programs. These benefits are expected to include:

- improved child employment outcomes
- improved child health outcomes, through the mechanism of improved socioeconomic status

- reduced child criminality, also through the mechanism of improved socioeconomic status.

This analysis has also included improved home tutor employment outcomes as a long term benefit. This is expected to result directly from upskilling home tutors while they take part in the program.

Not all the benefits mentioned in this section have been monetised.

The decision to include a particular benefit in the cost benefit analysis was taken based on the strength of the evidence base supporting this benefit. In brief:

- short term benefits have not been monetised in this analysis as this may result in double counting of medium term benefits
- the long term benefit relating to improved child health outcomes has not been monetised as there is no defined information relating to the magnitude of the impact.

Even so, improved child health outcomes have been included as a benefit in the results of this analysis from a qualitative perspective as the theoretical evidence base for its inclusion is comprehensive. This is discussed further in Appendix C.4.3.

Additionally, these benefits represent an operationalisation of the outcomes and outcome areas identified in the program logic (discussed at chapter 6). For example, improved child employment outcomes is expected to result from improved long term academic success, and a lifelong love of learning. Similarly, reduced criminality is expected to result from improved socioeconomic status, which is in turn linked to improved academic success throughout childhood. The benefits of programs are often considered over a longer time frame to understand if outcomes are sustained, increase or decay, and the implications of this for the economic analysis. Measuring benefits would typically use outcomes measured at multiple points in time. It is preferred to have two time-dimensioned effect sizes to enable the analysis. It is common however, that many programs do not have enough research to conduct a program-specific meta-analysis to obtain a second effect size. In this instance, consideration is given to information from a broader group of research studies in a research area, however the approach is therefore limited and the evidence is preferably improved over time. The gap in longer term evidence for HIPPY is further discussed at chapter 7.

A thorough discussion of all listed benefits of HIPPY may be found in Appendix C.4.

4.3.2 Cost benefit analysis framework

A cost benefit analysis refers to comparison of the present value of the cost of HIPPY for a 'typical' child and the benefits expected for that child. Therefore, the benefits take into consideration the increased probability that a child who participates in HIPPY will be more likely to experience positive outcomes as compared to a similar child from the same community who does not participate in HIPPY. This is used to derive a net present value, defined as the difference between the present value of the costs and benefits associated with the program. A benefit cost ratio is also calculated, which refers to the value achieved in benefits for every dollar invested in the program per child.

Table 4.5 summarises the cost benefit analysis framework used in this review.

TABLE 4.5 COST BENEFIT ANALYSIS FRAMEWORK

Cost per child		Benefit per child	
Negative values	Positive values		
– Dollars spent to put one child through HIPPY		– Value of increased year 12 retention	
		– Savings from decreased grade repetition	
		– Savings from avoided out-of-home care utilisation	
		– Value of improved child employment prospects, following completion of education	
		– Value of improved tutor employment prospects	
		– Savings from reduced criminality during adulthood	
Net present value per child = benefit per child – cost per child			
Benefit cost ratio = benefit per child ÷ cost per child			
SOURCE: ACIL ALLEN CONSULTING 2018			

This analysis is conducted on the assumption that HIPPY continues into the future. The costs and benefits are compared in net present value terms using a seven per cent discount rate. A standard rate of 2.5 per cent has been used to inflate historical monetary values.

4.3.3 Cost benefit analysis results

As shown in Table 4.6 the net present value of HIPPY per child is expected to be \$13,375. This corresponds to a benefit: cost ratio of 2.58 times. This table shows the societal costs and benefits that are expected for a ‘typical child’.

TABLE 4.6 ESTIMATED NET PRESENT VALUE AND BENEFIT COST RATIO FOR HIPPY ‘PER AVERAGE CHILD’

Cost or Benefit	Value (2017 dollars)
Costs	
Cost per child	-\$8,455
Benefits (estimated)	
Medium term	\$1,539
Retention to grade 12	-\$1,610
Reduced grade repetition	\$362
Reduced utilisation of out of home care	\$2,787
Improved employment outcomes among parents	Positive
Long Term Outcomes	\$20,291
Increased employment for children	\$12,767
Increased employment for tutors	\$4,640
Reduced criminal justice expenditure	\$2,697
Improved health outcomes	Positive
Estimated net present value (2017 dollars)	\$13,188
Estimated benefit / cost ratio	2.56
SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA FINANCIAL DATA AND DESCRIPTIVE DATA	

The cost per child used in this cost benefit analysis is \$8,455, which refers to the average cost of delivering HIPPY to a child in any given phase 1 site. This cost has been used as it is expected to represent a more accurate estimate of the cost of delivery as compared to

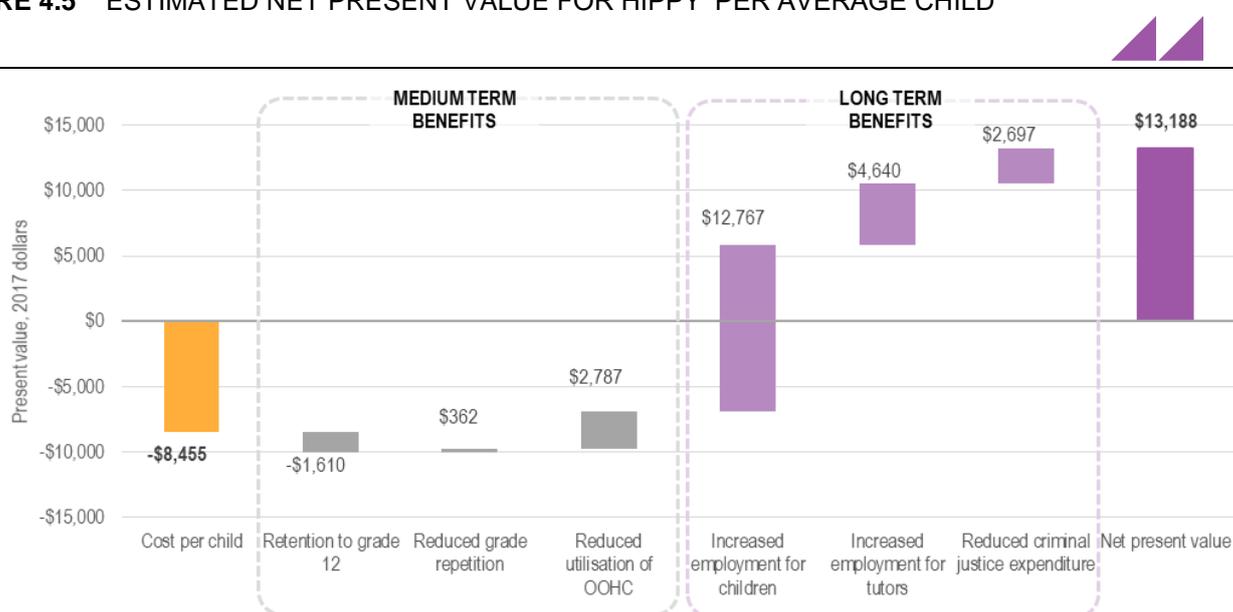
use of the figure based on all sites. This is because the cost based on all sites, \$11,113, includes newly established sites which have yet to achieve any operating efficiencies.

Medium and long term benefits of HIPPY discussed in section 4.3.1 are estimated to result in positive present values, apart from retention to grade 12. This represents an additional societal cost, as increased retention results in a need for increased educational funding. However, improved retention also has positive effects (e.g. improved employment) across the 'typical' child's lifetime.

Improved health outcomes have been included as a long term benefit, though are not monetised due to the broader nature of the evidence, as it is likely that an intervention that positively impacts socioeconomic status will also have a positive impact on long term health.

Figure 4.5 provides the same information found in Table 4.6 in the form of a chart. As in Table 4.6, medium term benefits have been shaded grey and long term benefits have been shaded lilac.

FIGURE 4.5 ESTIMATED NET PRESENT VALUE FOR HIPPY 'PER AVERAGE CHILD'



SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA FINANCIAL DATA AND DESCRIPTIVE DATA

As shown in Figure 4.5, the estimated value of medium term benefits is relatively low. This is partly because HIPPY is expected to increase retention to grade 12, which represents an additional societal cost.

The value of avoided OOHC care is also relatively modest. HIPPY is assumed to impact OOHC rates by improving parenting and the home environment, thereby reducing rates of maltreatment. However, many factors influence the decision to place a child in OOHC outside the actions of parents at home.

Improved lifetime employment outcomes for children who participate in HIPPY comprise 58 per cent of the estimated total benefits of the program. These benefits ensue from improved year 12 retention rates among the HIPPY cohort. Following graduation from year 12, HIPPY is not assumed to have a direct impact on the child – instead, the increased value of lifetime income results from the assumption that if a child completes year 12, they are more likely to work full time and potentially complete tertiary education at rates comparable to the general

population. Savings resulting from reduced reliance on welfare and the value of increased taxes paid are excluded as these represent transfers of wealth.

Improved lifetime employment outcomes for home tutors who deliver the program make up a considerable proportion of estimated long term benefits. The value of this benefit is expected to be relatively stable, as HIPPY data indicates that overall 19 per cent of home tutors and parents report completing a qualification during HIPPY. The value of this benefit is also stable when the analysis considers 40 per cent of home tutors go on to complete an additional qualification. This is because home tutor lifetime earnings calculated for this analysis uses figures relating to the proportion of home tutors who report working part- or full time, as reported through HIPPY's quarterly reports.

Reduced criminal justice expenditure has the smallest expected impact on net present value of all long term effects. However, this value includes only saved incarceration expenses and does not consider other forms of criminality or avoided victimisation. Therefore, the true value of this component may be larger than stated.

To test the robustness of the findings of the cost benefit analysis, a sensitivity analysis was undertaken using Monte Carlo simulations. This analysis relies on the assumptions underpinning the broader analysis but allows for some variation in the extent to which these occur. The sensitivity analysis added confidence for a positive net present value, though future analysis as evidence improves remains important.

A full discussion of the underlying estimates of the impact of HIPPY resulting in these findings, and calculation of benefit size, can be found in Appendix C.5.2. Appendix C.5.1 includes a discussion of the discount rate used in this analysis. HIPPY's benefit cost ratio per child is estimated to remain positive at discount rates of three and ten per cent.

4.3.4 Comparison to previous studies

A summary of the results of the cost benefit analysis, as compared to HIPPY implemented in different settings and other similar early childhood interventions is presented in Table 4.7.

TABLE 4.7 COMPARISON OF COST BENEFIT ANALYSIS, HIPPY AND COMPARATOR PROGRAMS

Program	Net present value per child 2017 Australian dollars	Benefit cost ratio
HIPPY cost benefit analyses		
HIPPY Australia, 2014 cohort, all sites	\$13,188	2.56
HIPPY Australia, 2009 cohort (Liddell et al., 2011) ^A	<i>Not provided per child</i>	1.42
HIPPY New Zealand, 2002 cohort (Shulruf & Wang, 2011)	<i>Not provided per child</i>	4.28
Cost benefit analyses of other programs		
FAST 2016 USA (Washington State Institute for Public Policy, 2017) ^B	\$580	1.23
PAFT, 2012 USA (Washington State Institute for Public Policy, 2012) ^B	\$1,117	1.18
Chicago Child Parent Centre, 2007 USA (Reynolds, 2011) ^B	\$138,228	10.83

Program	Net present value per child 2017 Australian dollars	Benefit cost ratio
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Note: Figures have been converted to 2017 dollars using an annual inflation rate of 2.5 per cent. Exchange rates were based on rates on 9 October 2017. Exchange rates were as follows: 1 USD: 1.29 AUD, 1 NZD: 0.91 AUD.

A Based on a discount rate of 7 per cent, with half of long term benefits produced after 15 years and the rest after 30 years.

B Uses a discount rate of 3 per cent.

SOURCE: ACIL ALLEN CONSULTING 2018, ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017).

The estimated benefit cost ratio for HIPPY Australia as calculated for this evaluation is higher than that found in the 2011 review (Liddell, et al, 2011), despite higher per-child costs as outlined in section 4.2. This may be because in the current review, values for increased tutor employment, reduced OOHc utilisation, and reduced incarceration during adulthood are included. These benefits are excluded from the 2011 HIPPY review.

On the other hand, the benefit cost ratio for HIPPY New Zealand is 66 per cent higher than that found for HIPPY Australia in this review. The New Zealand calculation only considered benefits from crime reduction resulting from HIPPY. However, the scale of these benefits was assumed to be larger in the New Zealand study, which estimated that HIPPY would result in a 10 per cent reduction in crime if implemented on a large scale across families with low socioeconomic status. It considered the savings to society resulting from reduced utilisation of correction facilities, direct costs of crime more broadly, and societal costs of crime. Although this may be a more realistic way to estimate the cost of crime, given the long term nature of this benefit, this review chose to estimate savings due to reduced criminality by considering only reduced costs of incarceration. This results in a much more conservative value for savings.

The net present value and benefit cost ratios for FAST and PAFT are lower than that shown for HIPPY in this evaluation. Both these programs have a lower cost as compared to HIPPY. The differences between these programs and HIPPY are further described in Appendix C.

Of all the programs considered, the Chicago Child Parent Centre shows the highest net present value and benefit cost ratio. This program is the most heavily studied of all those considered, and has been subject to a 20 year longitudinal study. Consequently, cost benefit analysis of the program was able to consider relatively complete evidence of its long term impact on socioeconomic outcomes over time. This cost benefit analysis was calculated using a three per cent discount rate, but the net present value and benefit cost ratio and remain high even when this is taken into consideration.

A separate cost benefit analysis was not performed for phase 2 sites, which focussed on Indigenous communities, for two main reasons. Firstly, that costs per child are relatively high for the 2014 cohort at phase 2 sites. This is due to a range of factors, in particular high fixed costs which are allocated across relatively few children in the first year of site operations, as described in Appendix C. Secondly, there is not sufficient evidence to indicate that the benefits of HIPPY among Indigenous children is significantly different from the rest of the cohort.

4.3.5 Limitations of cost-benefit analysis

The value of the cost-benefit analysis is necessarily limited by the evidence available to the evaluation. While, care has been taken to source and use sound evidence, the method requires extrapolation of such evidence across contexts and programs. The assumptions used in the analysis have been included to ensure transparency of such limitations. In addition, sensitivity analysis has been conducted to assess the likelihood of achieving the modelled cost-benefit outcomes.

4.4 Findings

The key findings of this chapter are structured around key evaluation question five as outlined at the beginning of the chapter. Findings also contribute to examination of key evaluation question one.

This chapter provides economic analysis based on the findings of the literature review, program administrative data, and research.

At a program level, administrative expenses as a proportion of total expenses have decreased marginally. Examination of average cost per child by site type shows that cost, on average, almost double to deliver HIPPY to a child in phase 2 sites as compared to a phase 1 site. This reflects difficulties with recruitment in the early years of site operations, with enrolments being lower but many costs being fixed to operate the program. These findings support the view that, as sites mature and grow in size, it costs less per child to deliver HIPPY. If these fixed costs stay the same but with more enrolments, as is the case with mature sites, then the new sites will operate more efficiently (i.e. a lower cost per child).

BOX 4.1 FINDING: KEY EVALUATION QUESTION 5

Finding 10. HIPPY delivery is more efficient (lower cost per child) in mature sites because the same fixed costs are allocated over a higher number of children. Phase 2 sites would become more efficient over time if enrolments increase as expected and fixed costs stay the same.

SOURCE: ACIL ALLEN CONSULTING 2018

Cost benefit analysis based on the available data indicates that HIPPY is expected to result in positive net benefits, i.e. lower cost of program delivery compared to the savings to society, the government and the individual. This analysis draws on evidence from international studies, including studies relating to the outcomes from HIPPY and the benefits achieved by other early childhood interventions in the medium and longer term. These benefits are expected to be derived on the basis that HIPPY is implemented effectively and achieves the benefits identified in the literature. While there will be variability in which benefits are achieved, the best available evidence was used for the analysis. Sensitivity analysis added confidence for a positive net present value, though future analysis remains important as evidence improves.

When compared to early childhood intervention programs that operate over a comparable period of time, HIPPY appears to show similar if not better value; that is, HIPPY provides value for the individual, society and government compared with the running costs of the program to government at a lower cost than other programs. However, care needs to be taken when considering comparator programs as these were not implemented in Australia, and medium and long term benefits have been measured with different levels of precision. Care also needs to be taken given the limitations of available data on outcomes from HIPPY in Australia.

All comparator programs used in this cost benefit analysis have been implemented outside Australia. This could mean that the value of the benefits and costs of these programs is not accurate should they be implemented in an Australian context. Furthermore, the way costs and benefits have been calculated is likely to differ across comparator programs.

DSS has visibility into the outcomes and costs of a range of early childhood interventions currently implemented in an Australian context, which would be more appropriate comparators to HIPPY. It is recommended that further of analysis of these Australian

programs be undertaken to provide a more accurate representation of the relative value for money of HIPPY as compared to other locally implemented programs.

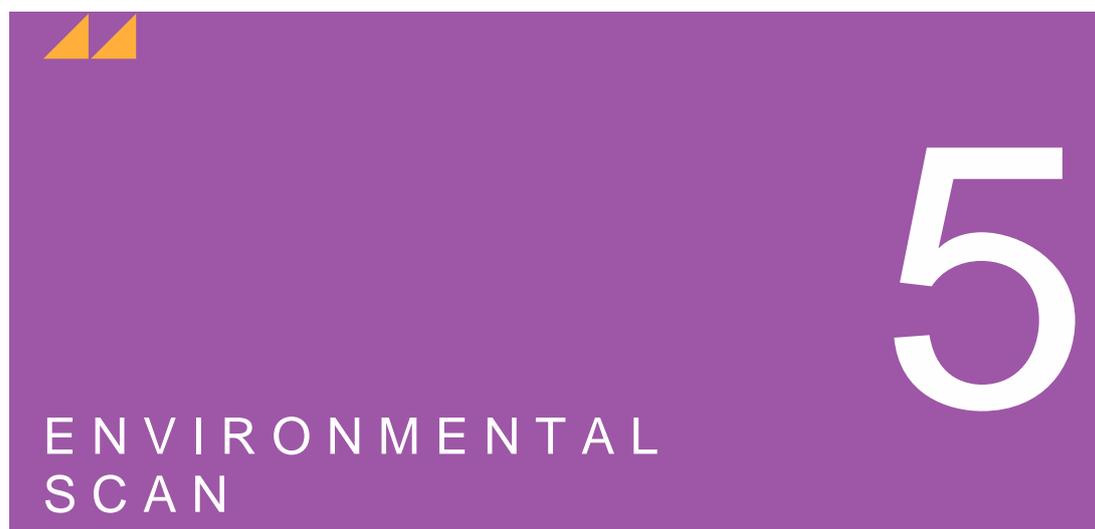
Overall, and as further discussed in chapter 7, a more accurate estimate of the cost per child, net present value per child, and benefit cost ratio could be calculated if:

- Site level expenses were disaggregated by cohort, to allow for an accurate allocation of expenses between children age four and five at each site. This analysis estimates the allocation of expenses between children age four and five, as shown in Appendix C.3.1.
- National office expenses were provided, to ensure that estimates of these are accurate rather than implied based on other data sources. This analysis uses the national budget described in the *Deed of Variation No.1 Relating to Funding for the Home Interaction Program for Parents and Youngsters (HIPPY) (2017)* as the basis for national expenses cost, as discussed in Appendix C.3.1.
- Data was provided describing the number of children actively engaged at each site, aged four and five years. This analysis estimates the number of actively engaged children by assuming that attrition occurs on a straight line basis between enrolment at age four and graduation at age five, as shown in Appendix C.3.1.
- Effects of the program were accurately tracked over the medium and long term. This analysis uses a benefit transfer method using findings relating to effect magnitude in similar programs, as discussed in Appendix C.4.

BOX 4.2 FINDING: KEY EVALUATION QUESTION 5

Finding 11. Based on the analysis, HIPPY is expected to provide a positive return on investment; that is, benefits for individuals, society and government exceed the government program operational costs. HIPPY also appears to show similar if not better value against a selection of comparable programs with available cost benefit data.

SOURCE: ACIL ALLEN CONSULTING 2018



The chapter explores Australian and international early development programs and their evidence base to examine how HIPPY compares with other programs. This section supports analysis of key evaluation question four: *What other programs for improving pre-academic skills and school readiness of vulnerable children in Australia are being delivered and how do they compare to HIPPY in regard to being effective, efficient and appropriate?* The chapter also provides insights to key evaluation question one, discussing current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally.

The examination in this chapter is primarily based on a desk-top literature review. This review considered similar Australian and international early learning programs, including: programs contributing to a child's pre-academic skills, school readiness and engagement; programs contributing to parent engagement in educational activities; efficient programs; and appropriate programs.

The steps undertaken to identify and examine programs comparable to HIPPY were:

1. To identify relevant programs for evaluation, we first consulted departmental, national, and international resources on children's early learning programs. A first-pass assessment enabled removal of programs due to: duplication resulting from using multiple sources for identification, and programs targeting groups of people that fall outside the scope of this project.
2. To further refine the list, programs were assessed against the criteria summarised below to determine their relevance to HIPPY: early learning/ school transition, parent capacity building, employment pathways, Indigenous and CALD communities.

As a result, 37 programs in addition to HIPPY (total 38), were shortlisted to inform the analysis. An overview of these programs is provided at Table 5.1 below. The characteristics of these programs as used for the analysis in this chapter is provided at Appendix D.

In Table 5.1 below, the outcome focus is the main goal or objective of the program in terms of child development, noting that many programs will seek to influence child and/ or parent outcomes across a number of areas. A deeper review of the literature was conducted to further assess the relevance of each of these programs to HIPPY and to identify their quality and efficacy.

The assessment of the evidence for a program is based on a meaningful improvement to a child or parent outcome from evaluations of different levels of rigour. Programs are allocated to one of the following categories:

- *demonstrated* – evidence is established through multiple randomised-controlled trials or a randomised-controlled trial and longitudinal studies
- *promising* – evidence is established through at least a quasi-experimental study design involving a pre-post design and control group
- *mixed* – significant variation in the evidence-base for the program, but generally there is at least one study that indicates a positive outcome using a pre-post design and control group
- *formative* – evidence is established through pre-post observational studies or post-intervention analysis with no control group
- *emerging* – the program is based on a proven method, but evidence is not yet available.

TABLE 5.1 OVERVIEW OF SHORTLISTED PROGRAMS

Program Name	Program aim	Outcome focus	Target age (best evidence)
Home Interaction program for Parents and Youngsters (HIPPY)	The program aims to engage parents in their child's early learning, build parental capacity and capability to create a positive home learning environment, provide a child with a structured education-focused program that improves children's school readiness and strengthens school participation, support employment and community leadership and strengthen communities.	Cognitive	3-5 years; school
1-2-3 Magic and Emotion Coaching	The program is delivered to parents to develop behavioural management strategies in families experiencing difficult child behaviour. It includes strategies for identifying different types of behaviour, establishing patterns of negative reinforcement, and implementing flexible parenting responses.	Behavioural/ Developmental	3-5 years; school
Abecedarian Approach Australia (US model)	The program aims to develop children's cognitive skills, emotional competence, and communication. The core program is delivered through an early learning service and includes learning games, conversational reading, language priority, and enriched care-giving.	Cognitive	0-3 years; 3-5 years
Brookline Early Education Project	The program aims to ensure that children enter school healthy and ready to learn. The core program includes early learning services and focuses on four main steps for parents - observation, individual goal setting, implementing strategies, and evaluation.	Cognitive	0-3 years; 3-5 years
Chicago Child-Parent Centre program	CPC delivers early intervention to children to foster cognitive development and promote parents as active participants in their children's education. The program is delivered through an early learning service and schools.	Cognitive	3-5 years; school
Early Childhood Education and Assistance program	The program aims to ensure school readiness and help families build capacity to support their child's success. Health and financial assistance are an additional focus with families given free access to services. Parenting support is offered in the early learning service or home.	Cognitive	3-5 years
Early Years Education program	The primary aim of the program is to reduce behavioural issues and enable children to engage with learning. The evidence-based program delivers intensive support with high staff to child ratios.	Cognitive	0-3 years; 3-5 years
Empowering Parents, Empowering Communities	The program is delivered to parents and aims to support families and strengthen communities. This is based on a peer-to-peer approach that trains parents to deliver the program.	Behavioural/ Developmental	3-5 years
Even Start	The program aims to improve the literacy and education experience for children by giving families access to training and support. Early learning is provided and parents attend adult education.	Cognitive	0-3 years; 3-5 years
Families and Schools Together/ FAST (US model)	FAST is an early intervention family strengthening program that aims to improve autonomy and school readiness in children. The program includes school-based meetings and home-based support.	Cognitive	School
Families as First Teachers/ FaFT	The program aims to improve early engagement in learning. The core components are quality early learning experiences, facilitated adult-child interactions, and linking families with support services and agencies.	Cognitive	0-3 years

Program Name	Program aim	Outcome focus	Target age (best evidence)
Family Wellbeing program	An intensive social and emotional wellbeing program delivered through a group process focused on empowerment and personal development.	Behavioural/ Developmental	3-5 years; school
Getting Ready	Getting Ready is a home-visiting program to enhance school achievement and encourage and develop parental involvement in children's early learning.	Cognitive	3-5 years
Head Start	The program aims to support children's school readiness, stable family relationships, and parent involvement services. The program is delivered through early learning services with parenting supports.	Cognitive	3-5 years
High Scope Perry Preschool program	The program aims to support children's school readiness and improve the home environment for learning. The program is delivered through early learning services and weekly home-visiting services.	Cognitive	3-5 years
Incredible Years Preschool	The aim of the program is to reduce problem behaviours such as aggression and disruptive behaviour. The program is delivered in a group-based social learning setting and supports parents to develop their parenting capacity.	Behavioural/ Developmental	3-5 years
It Takes Two to Talk/ Hanen	The program consists of group training sessions and individual visits with a trained language pathologist. It aims to develop the relationship between parent and child through language development and communication.	Behavioural/ Developmental	0-3 years; 3-5 years
Kids in Transition to School/ KITS	KITS is an evidence-based, short term, intensive program to improve self-regulation and social skills during the transition to school. Children attend two sessions per week for eight weeks before they start school and one session per week for eight weeks after school starts.	Behavioural/ Developmental	3-5 years; school
Learning In Families Together/ LIFT	LIFT is designed to enhance family culture, school and community communication, and engagement with children. The program identifies families and communities as central to supporting children's learning, specifically literacy and numeracy. The program is delivered through events and activities that support family engagement.	Cognitive	3-5 years; school
Learning Together program/ PEEP	This program aims to value and extend learning opportunities in everyday life and improve the quality of the home learning environment. The program delivers group-based support from Sure Start centres.	Cognitive	3-5 years
Let's Start	A multi-group (parent and child group, parent only group and child only group) early intervention program to support the social and emotional needs of children as they begin the transition to school.	Behavioural/ Developmental	3-5 years
Let's Play in Tandem	Let's Play in Tandem aims to improve school readiness through targeting children's cognitive development and self-regulation. A project worker delivers the program to families at home.	Cognitive	3-5 years
Lidcombe program	This behavioural feedback program focuses on reducing behavioural stuttering in children and encouraging the development of fluent speech. The core program components include child and parental capacity building.	Behavioural/ Developmental	3-5 years

Program Name	Program aim	Outcome focus	Target age (best evidence)
Parent Child Home program	The program aims to strengthen parent-child interactions to enhance children's cognitive and social-emotional development. The core program component is home visits.	Cognitive	3-5 years
Parent-Child Mother Goose	The program aims to support families, parents and children to develop parent-child attachment, promote speech development and enhance family community inclusion. The core component is a group format, incorporating storytelling, and emphasising the parent-child interaction in all activities.	Cognitive	0-3 years
ParentCorps	The program aims to strengthen positive behaviour support and behaviour management at school and at home in order to enhance children's self-regulation and learning.	Behavioural/ Developmental	3-5 years; school
Parents and Learning/ PaL	A home-based parent engagement program that supports parents to participate in their young child's early literacy learning by providing resources and training.	Cognitive	3-5 years
Parents as First Teachers/ PAFT	The aim is to support parents as their child's first teacher and facilitate the parent-child interaction through age-appropriate talk, play and reading activities. The core program component is home visits.	Cognitive	0-3 years
Parents Building Solutions	An intensive program delivered across six weeks in a group setting to strengthen parent-child relationships and increase parents' skills, confidence and capacity to respond to their children's behaviour.	Behavioural/ Developmental	0-3 years; 3-5 years; school
Raising Early Achievement in Literacy (REAL)	REAL aims to improve children's early literacy by supporting parents to provide their children with learning and development opportunities. It includes home visits and centre-based group activities.	Cognitive	3-5 years
Ravenswood Early Learning Centre-Family Based program	The program helps teachers and parents identify developmental delays and behavioural issues in at-risk children in order to provide interventions prior to formal schooling. The program is pre-school based.	Cognitive	0-3 years; 3-5 years
Reach Out and Read	A paediatric literacy intervention program that incorporates books into paediatric care and encourages families to read aloud together.	Cognitive	0-3 years; 3-5 years
Schoolchildren and their Families (aka Parents as Partners)	The program aims to improve parental relationships. It is delivered to couples in a group setting at community centres. Parents learn how their relationship impacts their parenting ability and child's behaviour.	Behavioural/ Developmental	3-5 years; school
Second Step: Early Learning and Kindergarten	The program aims to enhance children's social, emotional and problem solving skills. The program is delivered using group discussions, role playing, and physical activities designed to promote children's executive functioning.	Behavioural/ Developmental	3-5 years
Sing&Grow	Music-based activities to build parenting skills and capacity to support children's early development, delivered in a community setting.	Cognitive	0-3 years
Smalltalk	An intensive playgroup model to stimulate the quality and quantity of parent-child communication and interaction. Smalltalk is delivered through a playgroup setting.	Cognitive	0-3 years

Program Name	Program aim	Outcome focus	Target age (best evidence)
Sure Start	Sure Start centres include parent-child relationship building activities, support for good quality play, learning and childcare experiences for children.	Cognitive	0-3 years; 3-5 years
Triple P Positive Parenting program (L3-5)	Triple P supports parents with the aim of building strong, healthy relationships, and enabling parents to confidently manage their children's behaviour and prevent problems developing. The program has five levels designed to reach families with different needs.	Behavioural/ Developmental	0-3 years; 3-5 years; school

Note: n = 38 including HIPPY.

SOURCE: ACIL ALLEN CONSULTING 2018

5.1 Programs contributing to a child's pre-academic skills, school readiness and engagement

5.1.1 Introduction

Pre-academic skills, such as language, vocabulary, literacy, numeracy and general knowledge, are formed as part of a child's early cognitive development (Downer and Pianta 2006). Children's pre-academic skills have been associated with later academic and social outcomes as they make the transition from preschool to school (Miles and Stipek 2006). Children who enter kindergarten with poor language and literacy skills tend to show poor reading achievement during the early grades, and this relatively poor reading performance tends to be maintained into early and late adolescence (Cunningham and Stanovich 1997). In contrast, children who begin formal schooling with strong emergent literacy skills learn to read earlier and develop better reading skills, thus providing a foundation for later academic competence (Princiotta, Flanagan, and Germino-Hausken 2006).

The concept of school readiness originally centred on child readiness: the development of skills and competencies that enable children to participate in formal schooling, excel in educational and social wellbeing outcomes, form positive relationships and be included and belong (Kamerman, 2008). This concept has since evolved to incorporate the readiness of families and schools to interact with one another and with children to foster a child's eagerness to learn (UNICEF, 2012).

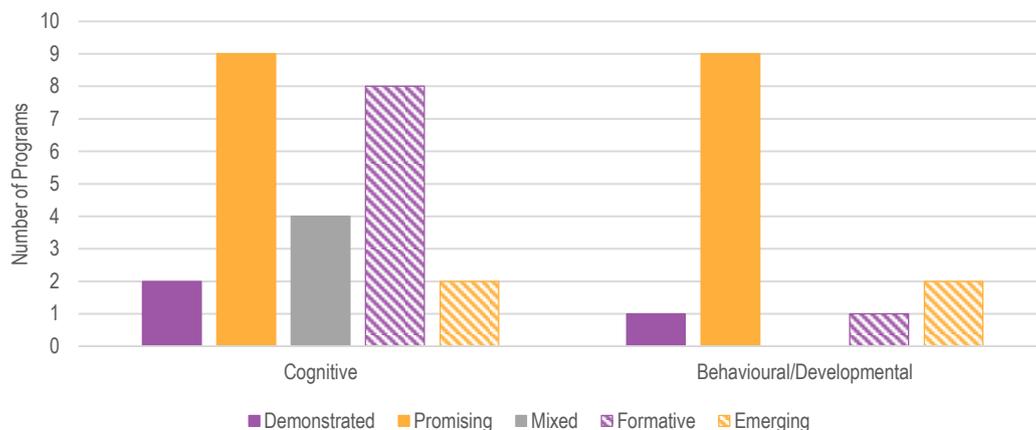
The transition to school can have a major bearing on school engagement and attendance. The Organisation for Economic Co-operation and Development (OECD) defines school engagement as the *"extent to which students identify with and value schooling outcomes, and participate in academic and non-academic school activities"* (Willms, 2003). Children who are engaged in their learning environment attend school more (Chang, 2008), stay in school longer, place a higher value on their learning and achievement (Fullarton, 2002) and benefit from better relationships and long term health and well-being (John-Akinola, 2014).

5.1.2 Analysis of programs

The programs shortlisted for this review aim to develop a child's pre-academic skills and/ or school readiness in relation to cognitive outcomes or broader developmental outcomes, including behavioural interventions.

Figure 5.1 organises the shortlisted programs according to the level of evidence supporting the effectiveness of the program achieving child outcomes. Overall, there was a small number of programs with demonstrated evidence to support child outcomes across the cognitive and behavioural/developmental domains. Of the 25 programs targeting cognitive outcomes, nine programs were supported by promising evidence and eight programs had evidence at the formative level. The remaining programs had mixed or emerging evidence. Of the 13 programs targeting behavioural and developmental outcomes, there was a high proportion with promising evidence. The remaining programs were supported by evidence at the formative level or emerging evidence and there was one program with demonstrated evidence.

FIGURE 5.1 SHORTLISTED PROGRAMS ORGANISED ACCORDING TO THE LEVEL OF EVIDENCE SUPPORTING THE EFFECTIVENESS OF THE PROGRAM ON CHILD OUTCOMES



Note: Analysis of shortlisted programs (n = 38 including HIPPO).
 SOURCE: ACIL ALLEN CONSULTING (2017)

The programs demonstrating gains in children's cognitive skills and with the strongest evidence base were from the USA. For example, findings from both the Perry Preschool and Abecedarian projects in the USA observed gains in children's IQ and academic skills immediately upon program completion, followed by improvements in their health and employment that lasted into middle adulthood. The evidence for lower rates on grade retention and additional school interventions was also significant. The Chicago Child-Parent Centre program similarly enabled improved cognitive skills, social-emotional development, school readiness, and reading and math skills. These programs are some of the few that have longitudinal evidence. These programs typically combine high-quality centre-based (being provided from a preschool, playgroup, school or child care centre) early childhood education using qualified teachers and smaller child-teacher ratios, and include a parenting component.

A number of other programs internationally, including HIPPO, have demonstrated positive outcomes with promising evidence characterised by one high quality experimental or quasi-experimental study. The evidence for these programs mainly relates to pre-academic and school readiness outcomes. Reporting of school engagement and attendance outcomes was infrequent. Parenting was the main focus for half of the programs, particularly those related to home-visiting, and was a component of other programs which were typically centre-based. These programs are structured around pre-academic or school readiness activities rather than more diffuse goals (e.g. general parenting, or child behaviour). While structured on pre-academic or school readiness activities, the focus is the parent-child interaction, particularly using active listening, role play, and parent-child practice of materials. These programs are most likely to be at least a year in length and include at least one parenting session per month (and often more frequent). It is likely that this duration is required to produce effects on child skill acquisition in a meaningful way.

Studies of larger scale interventions, such as Head Start in the USA and Sure Start in the UK, have produced mixed results. This is suggested to be a result of differing qualities of the program when implemented on larger scale and challenges in identifying the particular impacts of these multi-dimensional interventions.

In Australia, a number of programs similarly focus on the achievement of positive pre-academic and school readiness outcomes. Often these have drawn on evidence based programs internationally (e.g. HIPPY, Abecedarian Approach Australia, Families as First Teachers, Learning Together program). Some programs (e.g. Ravenswood, Families as First Teachers) show positive outcomes through independent evaluation though the evaluations were one-off and non-experimental. HIPPY has been evaluated using a quasi-experimental design and shown some positive outcomes (e.g. higher levels of prosocial behaviour) related to school readiness. One program (Smalltalk) has been the subject of a rigorous evaluation, though the program itself focuses more broadly on parenting and communication than specific pre-academic or school readiness outcomes. The research-base for some programs (e.g. *Abecedarian Approach Australia*, *Early Years Education program*), is not currently evident. As these programs are based on these international programs, they have potential to show positive contributions to the identified outcomes, but have not demonstrated this in quality studies at this stage.

Finally, some programs have been shown to achieve positive school readiness outcomes that stem from addressing behavioural changes or disabilities. This contrasts programs that focus on pre-academic outcomes. These included: 1-2-3 Magic and Emotion Coaching, Empowering Parents, Empowering Children, Incredible Years, It Takes Two to Talk, Kids in Transition to School, Let's Start, Lidcombe program, ParentCorps, Schoolchildren and their Families, Second Step: Early Learning and Kindergarten, and Triple P. These programs generally target child and or parent issues that may be preventing participation in a school program, rather than enhancing pre- or early-academic skills focus. Several programs have been shown to be effective in relation to school readiness, through addressing parenting and behavioural issues (e.g. Triple P, the Incredible Years) or developmental issues such as stuttering (e.g. Lidcombe program). These programs are more likely to be under 12 months in duration and generally followed a structured program.

Overall, evidence for the programs identified through the evaluation is generally limited to cognitive or pre-academic and school readiness outcomes, rather than school engagement and attendance. The best evidenced programs to improve pre-academic skills and school readiness are the well-known USA programs such as Abecedarian, Perry Preschool and the Chicago Child-Parent Centre program that have been evaluated over long periods. A number of international programs also had promising evidence, reporting positive outcomes contributing to pre-academic skills and school readiness. Programs targeted to younger children were more likely to show age-appropriate outcomes in aspects of development, such as greater communication or fine motor skills but were limited in demonstrating longitudinal evidence related to school readiness.

In the Australia, there is promising evidence that HIPPY improves children's cognitive skills and school readiness. The HIPPY USA program has shown pre-academic and school readiness outcomes up to grade three. The HIPPY USA program aligns with other promising programs showing positive outcomes related to pre-academic skills and school readiness in providing a structure purposeful program, delivered for greater than a year. It differs from the main demonstrated programs – Perry Preschool, Chicago Child-Parent Centre program – in not having a centre-based component in which children are routinely exposed to a learning program. These well demonstrated programs do not disaggregate the effects of the centre-based child learning experience from the parenting components, however it is likely that the participation in centre-based child learning experience is contributing to the educational outcome.

5.2 Programs contributing to parents engagement in educational activities

5.2.1 Introduction

Parents are their child's first teacher, and parental engagement at critical points in a child's life can alter their life-long educational achievement and inspire a disposition for learning and achieving, both academically and socially (Ockenden, 2014). Parental engagement entails "parental behaviour with, or on behalf of children, at home or at school, as well as the expectations that parents hold for children's future education" (Berthelsen, 2008).

Before they reach school, children rely on their parents to provide essential opportunities for development. By engaging in verbal communication, storytelling, active play and reading, parents stimulate their child's physical, motor, language and cognitive skill development. Children also begin to develop their social and emotional skills by experiencing physical affection and supportive and responsive relationships (UNICEF, 2012).

Parental engagement can be observed and studied through participation in early learning programs, health programs (such as antenatal visits), social programs (such as mothers groups) and through actions including breastfeeding. However, the creation of a positive home learning environment extends beyond these activities. It involves establishing a value for learning and setting expectations for high achievement.

Beyond stimulation of and support for learning activities in the home, parents engage in their children's early learning and development in the community. These practices may include participation in early learning services (e.g., classroom volunteering), communication with teaching personnel (e.g., parent-teacher conferences), and broader early learning service networks (e.g., parent social networks).

The nature and level of parental engagement varies between families and between communities, and differences in language and culture affect perceptions of engagement (Halgunseth, 2009). Western cultures typically assign parents and immediate family members with the responsibility of educating children. Conversely, many Indigenous peoples develop close relationships within whole communities and many community members play a role in raising and educating children (Emerson, 2012). Programs targeted toward Indigenous families need to be culturally informed, easily accessible and need to promote networks with other support services that are more frequently required by Indigenous families.

Adverse circumstances for child development are often influenced by parental limitations such as adult health and well-being issues (e.g. substance misuse), confidence and capability to engage with services in the community, and/ or economic hardship. This has given rise to approaches that combines an integrated set of family education, employment, workforce training, and related social service supports for adults and their children. Such approaches are often referred to as a two-generation approaches – referencing improved child and adult level outcomes.

5.2.2 Analysis of programs

The programs varied in their extent of focus on the role of parents but the majority incorporated a parenting element that was a structured part of the program model.

Parent's engagement in educational activities in the home

Evidence within studies was sometimes mixed but overall it suggests that targeted early intervention programs can be used to improve parents' involvement in and support of their children's learning.

Programs that were centre-based (being provided from a preschool, playgroup, school or child care centre), offered over multiple years and had a focus on enriched parent child activities (e.g. Abecedarian, Chicago Child Parent Centres) showed evidence of improved parental engagement in their child's educational outcomes and skills in home educational activities. Extensive evidence indicates that the Chicago Child-Parent Centres program improved outcomes for children, both through direct work with the children and by enhancing parenting, as well as by furthering the well-being of the parents.

Programs such as Head Start and Even Start were more likely to show engagement with other services, particularly where these directly targeted such efforts. For example, the Even Start program enrolled parents in adult literacy and there were enhanced outcomes in this area. Activities in these programs were predominately delivered from the service, including through engagement in the classroom with their children and/or through parental programs running at the service.

A number of programs incorporate a major home-visiting component (High Scope Perry Preschool program, HIPPI, Raising Early Achievement in Literacy) in conjunction with other activities, such as a learning program for children or group based activities for parents. There was evidence of positive effects on parenting activities in the home, such as gaining knowledge of child development, reading to children, enhancing parent child interactions. These programs were typically at least a year in length.

Among the shortlisted programs, there were also group-based programs in which parents and children would interact together (e.g. Sing&Grow, Smalltalk, Parent Child Mother Goose). These programs centred on parent child interactions and showed positive outcomes but it is yet to be demonstrated that this routinely translates into the home context. These programs were often shorter by way of direct intervention and were typically embedded in a centre-based platform (e.g. preschool, playgroup, school or child care centre). An important dimension of such programs is the ability to practice the interaction and receive coaching and feedback, as distinct from a workshop style format.

Programs in which the parenting program was flexible were less likely to show engagement in activities and demonstrate outcomes. For example, national longitudinal data on the impact of Head Start, which has an expectation, but limited structure, for parenting engagement provides little evidence that the program's parent components have a positive impact on the use of parenting practices to support cognitive development.

Two-generation approaches

Two-generation approaches intentionally link education, job training, and career-building services for low-income parents simultaneously with early education for their young children. The Early Childhood Education and Assistance program, Even Start, Raising Early Achievement in Literacy, and Family Wellbeing program were examples which provided evidence of delivering a two-generation approach. The results for two-generation programs were mixed.

Extensive evidence indicates that the Chicago Child-Parent Centres program improved outcomes for children, both through direct work with the children and by enhancing parenting, as well as by furthering the well-being of the parents. Programs such as Head Start and Even Start were more likely to show engagement with other services, particularly

where these directly targeted such efforts. For example, the Even Start program enrolled adults in adult literacy and so there was enhanced outcomes in this area. Also, the provision of assistance under the Early Childhood Education and Assistance program had the effect of lifting families out of poverty.

However, evidence of parent's engagement in educational activities in the home were not consistently demonstrated. The Raising Early Achievement in Literacy program is a two generation approach incorporating adult education opportunities for parents however no information regarding impact was available.

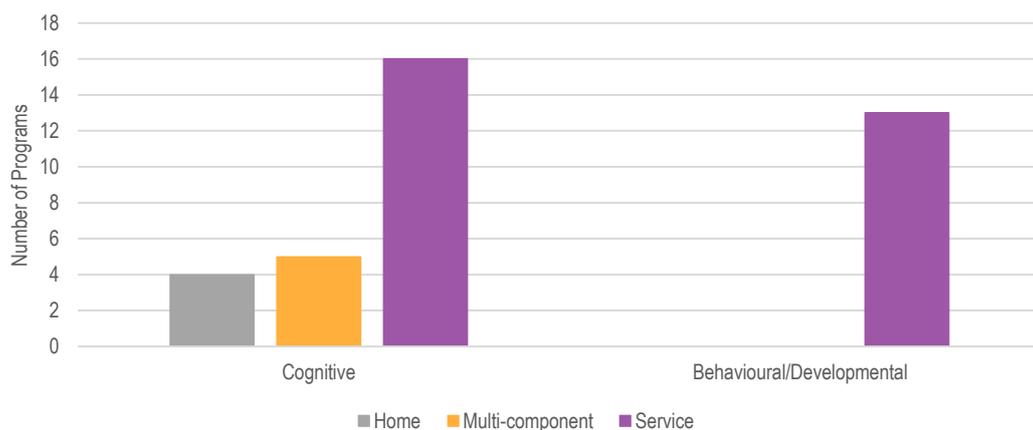
Overall, evidence for the programs identified through the evaluation supports the ability of targeted interventions to make a difference in improving educational activities in the home. Based upon the available evidence, programs that focus on demonstrating and practicing specific behaviours linked closely with their children's academic progress appear more consistent in promoting gains in educational activities in the home. Programs that were mostly focused on a developmental area other than cognitive outcomes (e.g. behavioural, developmental) were less likely to report (and probably less likely to measure), increased engagement in educational activities in the home. A number of two-generation programs were examined. Programs have had success in connecting parents with other services or providing targeted financial assistance, but improvement in parent's provision of educational activities in the home was not consistently demonstrated.

A moderate to large effect of HIPPY on parental engagement in home-based learning activities is supported in the international literature. Recent evidence in the Australian context, found that HIPPY parents scored significantly higher for in-home activities than the comparison group. In addition, HIPPY reports of parental surveys (graduating parents only) showed that nearly all HIPPY parents (96 per cent in 2015) felt that the program had taught them how children learn and equipped them with strategies to engage in educational activities with their child. At this point, there is a limited number of high quality studies in Australia that have investigated this use of educational activities in the home.

5.3 Efficient programs

The way in which services are delivered (e.g. home visiting, service setting), and the length and intensity of the program will vary the program cost. Short-listed programs were examined to understand different approaches to program delivery and their efficiency.

Across the shortlisted programs, a high proportion were delivered through services in the community (e.g. preschool, playgroup, school or child care centre). Of the 25 programs targeting cognitive outcomes, 16 programs were provided from service settings. The remaining programs included four home-based and five multi-component programs (combining home and service-based elements, including HIPPY). Of the 13 programs targeting behavioural and developmental outcomes, all programs were service-based. Figure 5.2 organises the shortlisted programs according to the mode of service delivery.

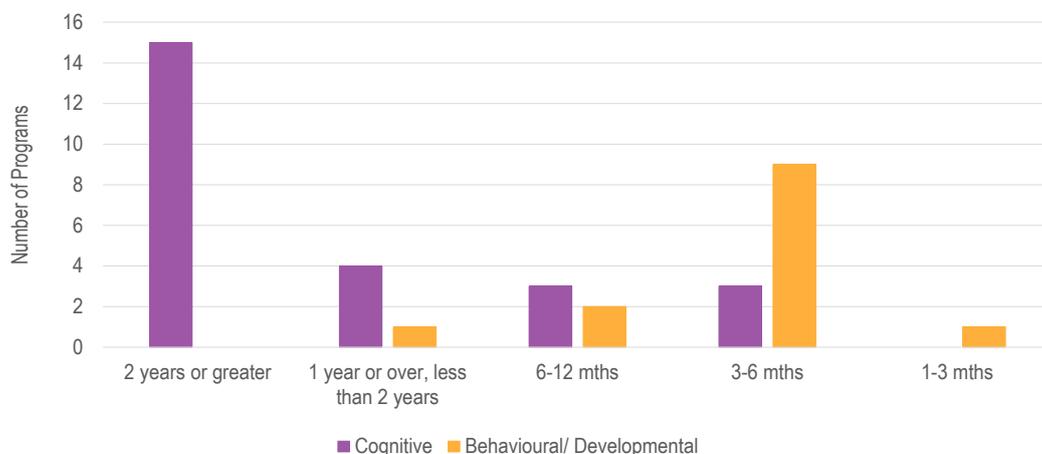
FIGURE 5.2 MODE OF SERVICE DELIVERY OF SHORTLISTED PROGRAMS

Note: Analysis of shortlisted programs (n = 38 including HIPPY).

SOURCE: ACIL ALLEN CONSULTING (2017)

The intensity of service delivery for different programs was examined. This combined the frequency of service delivery (measured as a service being provided more or less commonly than once a month) and the duration of the program (measured in months). Thirty-four of the shortlisted programs were delivered at least once a month. All Behavioural/ Developmental programs were delivered at least once a month, and only four cognitive programs were offered less frequently than once a month. These four programs (Getting Ready, Learning In Families Together, Families as First Teachers, and Reach Out and Read) were however, all greater than one year in duration.

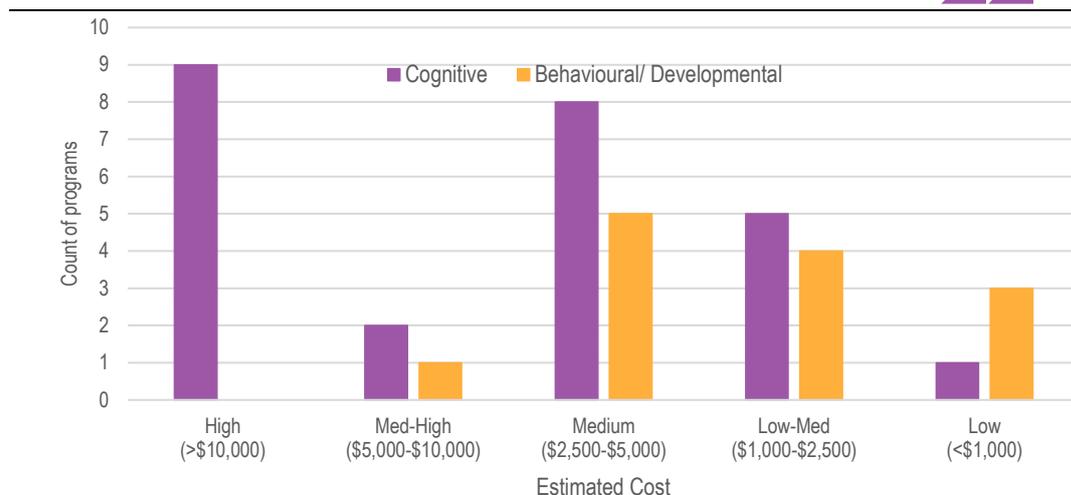
Figure 5.3 organises the shortlisted programs sorted according to program duration. Of the 25 programs targeting cognitive outcomes, 19 programs were administered to families over the course of one year period or longer. There were a small number of program that were 6-12 months or 3-6 months. However, there were no programs targeting cognitive outcomes categorised as 1-3 months duration. In contrast, the majority of programs targeting behavioural and developmental outcomes were 3-6 months in duration.

FIGURE 5.3 COMPARING THE DURATION OF SHORTLISTED COGNITIVE AND BEHAVIOURAL/DEVELOPMENTAL PROGRAMS

Note: Analysis of shortlisted programs targeting cognitive outcomes (n = 25) and those targeting behavioural and developmental outcomes (n = 13).

SOURCE: ACIL ALLEN CONSULTING (2017)

The costs of different programs were examined where available through public sources. Additionally, estimates of cost ranges were developed using a composite of the main service elements (home visiting, child service provision, parent service provision) and the intensity of the program (duration and frequency of service provision). Costs are for service delivery only and do not attempt to incorporate central office activities, such as program coordination and development. All costs should be considered estimates only to inform comparison. Figure 5.4 outlines the estimated costs of shortlisted cognitive and behavioural/developmental programs. Of the shortlist programs, those focused on cognitive outcomes were typically higher cost and those focused on Behavioural/ Developmental were lower cost. HIPPY is a medium-high cost program, noting that this does not incorporate central office costs. The reasons for this relate to the program duration and frequency of activities.

FIGURE 5.4 COMPARING THE ESTIMATED COSTS OF SHORTLISTED COGNITIVE AND BEHAVIOURAL/DEVELOPMENTAL PROGRAMS

Note: costs are ACIL Allen estimates based on public sources where possible or our own estimates. Costs are for service delivery only and do not consider service central office related activities such as program coordination and development.

SOURCE: ACIL ALLEN CONSULTING 2018

Overall, programs targeting cognitive outcomes were more likely (15 of 25 programs) to be provided from service settings with five being based on home-visiting only and five being multi-component programs. Cognitive based programs were more likely to be administered to families over the course of one year period or longer. The behavioural/ developmental programs were more likely to be shorter in duration. Programs were most commonly offered at least once a month.

HIPPY is a multi-component program offering both home-visiting services and group-based activities. In Australia, it is provided over two years and intensively. In terms of cost, and relative to other programs focused on cognitive outcomes, HIPPY is lower than programs offering parent support activities with a centre-based early learning service for children (e.g. High Scope Perry Pre-school).

Other services that are lower cost typically offer a reduced level of program provision, such as:

- *Multi-component programs that are less intensive* – for example, the Raising Early Achievement in Literacy program from the UK provides five group sessions and ten home-visits over 12-18 months
- *Home-based only programs* – for example, the Parent Child Home program offers home visits twice a week for 30 minutes each visit for a total of 46 visits over two years
- *Group-based programs* – for example, and particularly for younger children such as Sing&Grow and Parent-Child Mother Goose, group-based programs do not incur the costs associated with one-to-one service delivery that HIPPY requires.

There is not a standout program in terms of efficiency as distinct from lower cost.

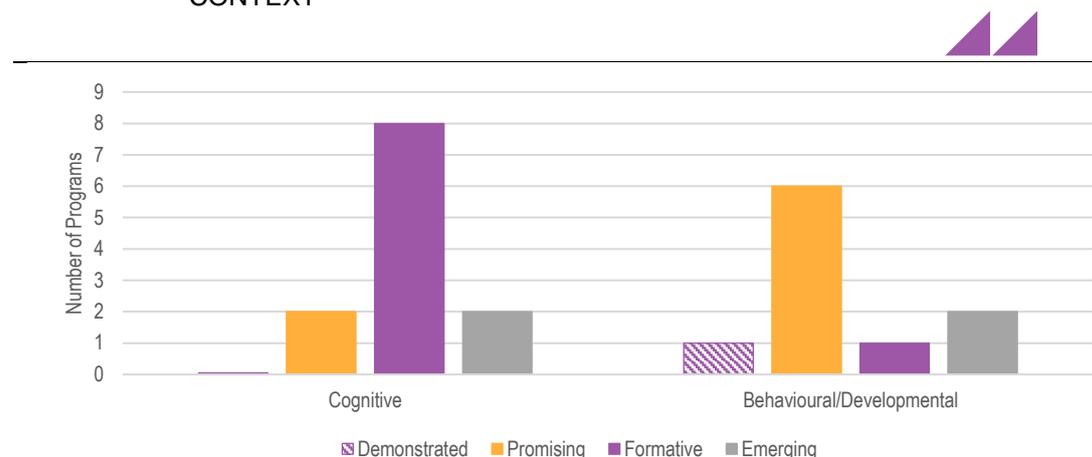
5.4 Appropriate programs

The review examined the appropriateness of programs for an Australian context. This is done firstly considering the evidence of programs being delivered in Australia as well as

evidence for all the shortlisted programs in being provided in cross-cultural contexts, such as to Hispanic groups in the USA.

The evidence of programs being delivered in an Australian context is important. Twenty-two shortlisted programs are being delivered in Australia. Of the 12 shortlisted programs based in Australia and targeting cognitive outcomes, two programs (HIPPY and Smalltalk) were found to have promising evidence. Eight programs were supported by evidence at the formative level, and two programs were at an emerging evidence level. Of the 10 shortlisted programs targeting behavioural and developmental outcomes with a presence in Australia, one (Incredible Years) had demonstrated evidence and six programs had promising evidence.

FIGURE 5.5 EVIDENCE OF PROGRAMS BEING DELIVERED IN AN AUSTRALIAN CONTEXT



Note: Analysis of shortlisted Australian programs only (n = 22)

SOURCE: ACIL ALLEN CONSULTING 2018

Cultural factors play an important role in program design and the way programs are delivered. The review of literature indicates that acceptance and the effectiveness of a program can be enhanced by through integrating factors such as language, cultural beliefs and culturally-sensitive explanatory models into a program. In addition, successful program characteristics that enable effective engagement and retention of Indigenous families are: incorporation of local community knowledge and perspectives to deliver the program in a culturally safe and respectful environment, training of non-Indigenous staff in cultural competence and the provision of curriculum containing Indigenous peoples language and culture (Harrison, 2012). However, there is a lack of evidence to guide practitioners on how best to culturally adapt specific programs and the influence of the adaptations on program effectiveness.

Among shortlisted programs, there were examples of internationally-developed and Australian-developed programs that have undertaken program adaptation for Indigenous peoples specifically. This includes:

- *Abecedarian Approach Australia* – This program targets Indigenous communities. In adapting the program to the Australian setting, the learning games were redeveloped in consultation with Indigenous communities through an adaptation and trialling process led by the Northern Territory Department of Education. The program acknowledges the value of multilingualism as integral to the success of the approach.
- *FaFT* – This program targets Indigenous communities. FaFT is flexible which enables sites to respond to the specific needs of each community. During implementation, cultural awareness training is conducted and extensive consultation occurs to establish trusted, healthy relationships. Abecedarian Australia materials are incorporated into the program.

- *FAST* – This program targets Indigenous communities. Up to 60 per cent of *FAST* programing is adaptable to suit the needs and priorities of the local community. The teams that run the program are representative (in terms of gender, ethnicity and culture) of the local population and contain local community members, health workers and community partners.
- *PaL* – program material includes multicultural material targeted towards Indigenous peoples. The material is approved by the local community to ensure effective targeting.
- *Triple P* – Triple P has elements that are targeted towards both CALD and Indigenous families. Triple P adaptations have been successfully used with Indigenous families in Australia and Canada (Turner, 2007).

Further insight into the nuance required in adapting programs is seen from the *Let's Start* program in the Northern Territory. *Let's Start* focuses on improving children's early social-emotional learning and assisting school transition. While the program was designed specifically for Indigenous families, is respectful of kinship and culture, and has proved effective for the families that complete the program, the program had difficulties in attracting and retaining Indigenous families, particularly those from urban communities (Robinson, 2012). Robinson et al. (2012) highlighted that "systematic attention to cultural 'fit' of the intervention logic and cultural competence in engagement of disadvantaged families with multiple problems are fundamental to sustainability".

Overall, a number of evidence-based programs operate in Australia, with several having a particular focus on development within and alongside Indigenous communities.

The evidence from shortlisted programs in Australia was stronger for achieving behavioural and developmental outcomes with a higher proportion having promising-level evidence or better. Of the programs focused on cognitive outcomes, HIPPY and Smalltalk were identified as also having this level of evidence.

Many of the programs present in Indigenous communities have been formally developed with, or specifically adapted to, these communities and additionally allow for local flexibility. This includes the Abecedarian Approach Australia (in use across Australia), FaFT (in use across Queensland and the Northern Territory), Family Wellbeing program (in use across South Australia and Queensland), *FAST* (in use in communities across Australia), *Let's Start* (in use in communities in Australia), *PaL* (in use across Queensland, New South Wales, Victoria and Western Australia), *Sing&Grow* (in use across Australia) and *Triple P* (in use across Australia). HIPPY allows for local flexibility, however the literature review did not identify evaluations of particular adaptations for Indigenous communities.

5.5 Findings

The key findings of this chapter are structured around key evaluation question four as outlined at the beginning of the chapter. Findings also contribute to examination of key evaluation question one.

In terms of effectiveness, there is promising evidence that HIPPY in Australia improves children's cognitive skills and school readiness. Internationally, the HIPPY USA program has shown pre-academic and school readiness outcomes up to grade three. The best evidenced programs to improve cognitive development are the well-known USA programs such as Abecedarian and Perry Preschool that typically combine high-quality centre-based early childhood education using qualified teachers and smaller child-teacher ratios, and included a parenting component. Given the significant focus of formal early learning in these programs it would not be surprising for them to demonstrate significant child level pre-academic and school readiness outcomes. HIPPY is predominately focused on educational

activities in the home. This is important as the home learning environment is known to be one of the strongest predictors of child development outcomes and is central for effective learning and development. Given the importance of both formal early learning and home-based learning environments for children's cognitive development the best outcomes are likely to be achieved where home-visiting programs, such as HIPPY, work closely with and complement formal early learning services.

Another theme is the significance of early and sustained child and parent engagement in learning. Particularly for cognitive outcomes, it appears to be important that children are engaged for at least a year, and preferably multiple years, to overcome accumulated disadvantages and secure longer-term pre-academic and school readiness outcomes. A number of programs commence for children at around 1-3 years of age, which is younger than HIPPY participants in Australia. Cognitive based early intervention programs at early ages can build parental capacity to engage with and practice early learning activities, though the evidence did not outweigh programs at other age points. It is important that programs are aligned to a cognitive outcome for children that is appropriate to a child's developmental stage. HIPPY has a strong focus on school readiness. In the younger years, the focus of programs is communication, play and parent-child attachment. Programs such as Sing&Grow, Smalltalk, Parent-Child Mother Goose have been shown through formative evidence to improve these early aspects of child and parental engagement in learning.

In terms of efficiency, different approaches to delivery were examined across programs. HIPPY is a multi-component program offering both home-visiting services and group-based activities. Programs for younger children (particularly group-based programs) can be lower cost and provide an opportunity for earlier exposure to early learning. Such programs are complementary to HIPPY.

Of the 38 programs (including HIPPY) examined, most are used in Australia. Some were specifically developed for Australian communities (for example Indigenous peoples), and others were adapted from successful international programs. At this stage, evidence for the appropriateness of HIPPY for Indigenous families, including in a remote context, is not established.

As discussed in chapter 2, high-fidelity yet flexible program delivery is important for ensuring program adaptability and success. HIPPY has been designed to maximise outcomes, and it is essential that the program is implemented as intended to achieve these outcomes. However, by incorporating flexibility, programs can often engage more effectively with hard-to-reach groups, such as children with special needs, or those from CALD and Indigenous families. HIPPY allows flexibility in its delivery and has been shown as effective with CALD communities.

BOX 5.1 FINDINGS: KEY EVALUATION QUESTION 4

Finding 12. There is strong evidence of effectiveness for programs that combine children's engagement in early learning with a home-visiting program.

Finding 13. For many of the 37 early childhood interventions examined, there is a reliance on studies which are qualitative or non-experimental in design. HIPY is supported by several higher quality studies in key areas, such as the achievement of school readiness.

Finding 14. Governments across Australia continue to invest significant funding in prevention and early intervention programs. While there are many programs, the evaluative efforts often differ markedly which constrains comparative analysis.

SOURCE: ACIL ALLEN CONSULTING 2018



This chapter describes the underpinning theory and program logic model for HIPPY in Australia. It examines the key evaluation question: *How can HIPPY's evaluation-readiness be improved and better aligned to Government and Departmental policy objectives?*

6.1 Alignment of HIPPY program objectives

The objectives of HIPPY are considered in the context of contributing to Government policy priorities relating to child, family and community functioning, with a focus on vulnerable people. For the purposes of summarising the policy environment for HIPPY, the program logic adapted for future evaluation activity (see Appendix E.1) has drawn on the Department's strategic documents around its *Families and Children Activity* and *Families and Communities program*. These set out the overall policy objective to which HIPPY contributes:

To provide support to families to improve the wellbeing of children and young people to enhance family functioning, as well as increasing the participation of vulnerable people in community life.

DSS, 2016

The specific objectives of HIPPY can be seen in the outcomes set out in this program logic, that seek to improve outcomes in the longer term for children, families and communities by contributing to the following change:

- children achieve improved long term academic success
- reduced poor outcomes against two or more vulnerability indicators for children in communities delivering HIPPY
- primary and secondary school attendance is improved for students in communities delivering HIPPY
- stronger families
- parents/carers are actively involved in their child's education and there is a positive change to the parent/child relationship
- more resilient communities
- employment and community leadership opportunities
- increased economic participation.

An additional specific program outcome relates to equitable access to HIPPY for vulnerable families, requiring that increasingly within community:

- HIPPY is accessible, culturally appropriate and safe.

6.2 Program logic and theory of change

HIPPY Australia has its own program logic and theory of change that provides detailed information about the inputs and outcomes at a program level. The challenge in constructing similar documentation that serves the wider purposes of positioning HIPPY in the context of government policy is to balance the level of information appropriate to capturing the contribution of HIPPY to longer term outcomes for children, families and communities. It is important to be able to clearly envision the way in which the investment of government in HIPPY can leverage from the existing infrastructure, networks and knowledge of organisations, communities and individuals, to deliver on the expected outcomes of the program, which will align with the longer term benefits sought by government.

A further challenge is to recognise the current two year cycle of HIPPY for family participants and the way in which the ongoing implementation of the program and consolidation of improvements will be reflected in an accumulated benefit to communities. The adapted program logic at Appendix E.1 depicts this accumulated and extended benefit as long term outcomes in year three and beyond.

It is important that this program logic is refreshed from time to time to account for program enhancements that will occur in the normal cycle of review. HIPPY Australia has a number of strategic priorities underway or planned that could potentially influence, for example, the HIPPY program cycle, curriculum based on a strengthened evidence base, and the introduction of effective and efficient ways of providing quality learning options.

6.2.1 Program logic

The program logic provided at Appendix E.1 has been developed to provide a high level summary of the key elements of HIPPY embedded within the context of the need for intervention and government policy. The program logic is also supported by brief reference to the assumptions that underpin the HIPPY model and those factors (influences/ risks) that may negatively impact expected outputs and outcomes if they are not present, or exist in a limited or inconsistent way.

The program logic provides the platform for program evaluation, illustrating the shared view about expected outcomes of effective implementation that can be used to frame or guide the development of research questions, performance indicators and measures. While ultimately the aim of HIPPY is to ensure school readiness of children, the program places the child within the home/family, and the family within the wider community of families and service supports. Together with its secondary benefit of improving pathways to employment, HIPPY represents an ambitious, multi-themed program to improve opportunities for change for vulnerable families. This is in part reflected in the attribution of outcomes across children, families and communities.

The steps that make up the HIPPY service delivery model are highlighted in the program logic identifying the key resources available to the program, the diversity of activities to implement the program and the expected outputs over the two year program cycle. These elements are important to informing program review of whether the program was implemented as intended and as informed by the evidence of what works, optimising the likelihood of achieving expected outcomes. The short and medium term outcomes are

described as achievable over the cycle of HIPPY, but also include results for communities that may be strengthened with continuing implementation of HIPPY in community.

6.2.2 Theory of change

The theory of change is designed to systematically demonstrate the link between actions, outputs and outcomes that are summarised in the program logic. These elements in the logic map are presented with little explanation of the way in which the expected changes will be influenced by, for example, the sequence of inputs, activities and outputs. The following section provides a brief narrative to support the expected changes depicted in the program logic and addresses the need for the program, the influence of the environment in which the program is being conducted, the assumptions underpinning the program review, and the connections between different components of the program logic. Appendix E.2 provides a high level summary of the theory of change relevant to HIPPY.

The need for the program

The Australian Early Development Census (AEDC), a national measure conducted every three years of children's development as they enter the first year of full-time school (average age of 5 years and 7 months), found that over the period 2009 to 2015:

- the gap across five AEDC domains linked to child health, education and social outcomes, had widened between the proportion of developmentally vulnerable children in the most disadvantaged areas, relative to the least disadvantaged; by 2015, children in the most disadvantaged areas were 4.1 times more likely to be developmentally vulnerable, an increase from 2.9 times in 2009
- a widening gap exists for children in very remote Australia relative to those in major cities
- the results on the language and cognitive skills showed that in 2015, Indigenous children were nearly four times more likely to be developmentally vulnerable than non-Indigenous children (20.2 per cent and 5.7 per cent respectively) although the gap between Indigenous and non-Indigenous children was starting to close for some measures (Australian Government, 2016).

The report of the AEDC results also notes that early childhood development is a key predictor of future outcomes for children, and that the AEDC domains are a predictor of a child's later outcomes in health, wellbeing and the academic sector.

As overviewed in chapter 1, recent reviews have presented a strong case for the importance of the early years (Silburn et al., 2011; Barnett et al., 2012). This includes the influence of a child's early experiences of responsive caring and stimulation on brain growth and skill development (Silburn et al., 2011), and the link between early childhood development and future poor life outcomes, including poor literacy, aggressive and anti-social behaviour, mental health problems, family violence, welfare dependency, crime, obesity and substance abuse (Barnett et al., 2012).

The benefit to society of investment in early years programs that target developmentally vulnerable children and their parents has been estimated to be as much as \$4 for every \$1 spent (Barnett et al., 2012).

Environment in which the program is being conducted

HIPPY is targeted toward disadvantaged families residing in communities where there are high levels of disadvantage. These communities are complex and present significant challenges that go beyond economic factors and involve concepts of social capital (social norms and networks), social inclusion (opportunities to participate in society through

employment and access to services), individual capabilities (ability to choose meaningful engagement; having control over their circumstances), and the influence of historical events and culture (need to engage communities in program design and delivery) (Price-Robertson, 2011).

Achieving change within disadvantaged communities is a multi-dimensional task highlighting the importance of program flexibility, community capacity building and development of individual capabilities. The concept of 'flexibility' is especially challenging for HIPPY under international licence arrangements that require fidelity to the HIPPY service model. The ability to distinguish between flexibility in delivery and fidelity to the model will be important to successful adaptation to local circumstances and target populations. It will also be important to an accurate understanding of program effectiveness, where attribution of outcomes to HIPPY is possible and valid.

Assumptions underpinning the program

The principles and assumptions guiding HIPPY largely reflect the evidence for change to ensure children are given a 'good start' in life (HIPPY International, n.d.):

- all children want to learn, and can learn under the right circumstances
- learning and development is multidimensional and interrelated
- parents:
 - want the best for their children
 - are their children's first and most important teachers
 - can learn how to teach their children school readiness skills and knowledge
 - can be supported and taught by other parents
- parents' knowledge and understanding of children's growth and development can enhance their children's learning
- parents' lifelong and ongoing process of supporting their children's education begins when they are active in their children's early learning
- respect and acknowledgement of diversity enhance children's and parent's sense of belonging
- programs that are integrated into a community context will better serve the families of that community.

These assumptions also point to the importance of the delivery of HIPPY in communities effectively addressing and realising these core strengths in order to benefit children and families. Success through this approach has the potential to deliver significant returns with parenting style and the home learning environment considered to account for around half the effect of disadvantage on a child's learning and development (Barnett et al., 2012).

In breaking the cycle of intergenerational disadvantage, higher levels of education are associated with benefits including increased employment opportunities and higher incomes leading to better health, stronger civic engagement and overall improved life outcomes (Hampshire, 2015).

Connections between different components of the program logic

The research on early childhood development and the evidence about the strategies for change in disadvantaged communities informs the pre-conditions required for successful transition from appropriate design and resourcing of interventions, through to effective implementation of the intervention.

The program logic at Appendix E.1 encapsulates the elements of HIPPY that assumes the inputs as described are sufficient to enable delivery of the program activities, which are expected to result in specific outputs that will realise the expected outcomes that meet the objectives of the program. The inputs include: sufficient funding to resource activities; central program support arrangements including training, program materials, quality assurance; governance arrangements; and local capacity building and networks. The activities deliver on the program model incorporating the core elements that engage children, families and the wider community through local leadership, expertise, and coordination with clear lines of responsibility for driving the HIPPY presence within community. As indicated earlier in the evidence for change and the alignment with the assumptions supporting the HIPPY model, successful implementation of the HIPPY model (as described in the program logic) should provide the steps needed to bring about the desired change, which in turn will lead to a measurable effect and wider benefits (outputs and outcomes), and the contribution to the long term benefits sought by funders and service providers of:

- children supported to get a good start in life
- stronger families
- improved community resilience.

6.3 HIPPY data and evaluation readiness

A key source of data about HIPPY available to the Department is the Department's reporting system, the Data Exchange (DEX). Participation in this system for funded organisations involves a mandatory set of core client activity data, and the opportunity to opt-in to reporting an extended or partnership dataset. The partnership dataset has the potential to ensure outcomes-focused data collection and analysis, as well as the opportunity for data linkage that, for example, enhances information about aspects of program participants and their wider use of service supports.

HIPPY Australia has recently commenced use of DEX and is currently providing core data. There is considerable value, both to HIPPY Australia and the Department, in building a robust evidence base for HIPPY in Australia and demonstrating the value of the Department's investment in terms of achieving better outcomes for children and their families, as set out in the program logic model at Appendix E.1. It would be desirable for HIPPY to take up the supports for capacity building available through the Department, as appropriate, to enable participation in the DEX partnership dataset.

HIPPY has multiple clients and objectives. For the purposes of future evaluation, the extent to which DEX can sufficiently enable monitoring of activity and outcomes related, for example, to the program infrastructure (such as advisory groups), breadth of activity (including community contribution to and impact of group meetings), and outcomes that relate to child, parent/carer and home tutors will be clearer when DEX reporting is fully implemented for HIPPY. Based on the protocols for DEX, and assuming that HIPPY administrative data may not be accessible to future evaluations, a number of data gaps exist in supporting measurement of change towards expected program outcomes. These gaps are highlighted in Table 6.1 and also include reference to research with the potential to gather new evidence about program success in the short to longer term. Discussion about the HIPPY administrative data is also included in Chapter 7 of this report.

TABLE 6.1 DATA COLLECTION SOURCES AND POTENTIAL GAPS

Data collection source	Existing/new	Rationale for new collection
DEX core/priority dataset	Existing	
DEX extended/partnership dataset	Existing: provides outcomes data for at least 50% of community HIPPY program provider clients	
DEX client survey	New: to be introduced by DSS – will include core questions and capacity for service provider to introduce program related data Propose that ‘client’ refer to parent/carer and home tutor	Pending identification of core questions, inclusion of program related questions from time to time would enable a snapshot of parent/carer and home tutor feedback on matters such as impediments to full participation in activities/program; improved community connections and engagement, especially with education system; participation in group meetings and benefit etc.
Service provider feedback	New: associated with independent evaluation	Provide qualitative evaluation through survey and targeted interview of community HIPPY program provider on such matters as recruitment strategies (community reach); fidelity to program activities; program flexibility; community service network; evidence of parent/carer connection to school; employment outcomes post HIPPY; enablers and barriers; community participation in advisory groups and their contribution etc.
Home tutor feedback	New: associated with independent evaluation	Provide qualitative evaluation through targeted interview/focus groups on such matters as evidence of parent/carer improved understanding of child's learning and development etc.
Consultant feedback	New: associated with independent feedback	Qualitative feedback on program participation enablers and barriers for target cohorts.
BSL reports to DSS against the Activity Work Plan agreed annually with DSS	New: expanded annual Service Stocktake report to include reporting on: – new BSL home tutor outcomes survey – proportion of home tutors recruited from past HIPPY parents – early identification of child learning impairments and access to specialist supports – frequency, nature, participation in, and value of group meetings – referral to other services.	Improve understanding of employment outcomes for home tutors, pathway for parents to employment opportunities, HIPPY as a stimulus for early diagnosis of child learning impediments, value add of group meetings. Potential to better understand opportunities for referral of families to other services.
Other stakeholder feedback – Advisory group members – Indigenous organisations – Other service providers – Education sector – HIPPY Australia – HIPPY families (also see longitudinal survey)	New: capacity to gauge community awareness and support for HIPPY, as well as HIPPY role in increasing parent/carer connections to community services, and engagement of Indigenous families in HIPPY	Better understand the way in which HIPPY engagement can provide a catalyst for the broader needs of family to be met, including ensuring culturally appropriate HIPPY responses and successful engagement of Indigenous families.

Data collection source	Existing/new	Rationale for new collection
Building the evidence base	New: update literature review periodically or as part of independent evaluation to confirm/review strength of evidence for key components of HIPPY	To ensure HIPPY continues to be informed by good practice.
Longitudinal survey	New (excluding HIPPY Australia internal research): capturing experiences and views of child and parent/carer. Panel to be established at entry to program, and participants followed during program and for up to three years following completion of program. Five year longitudinal study would have a baseline and subsequent annual wave of data collection commencing at end HIPPY year one, and going through to end grade 3 (age 8).	More reliable information would be available about the sustained impact of HIPPY. The survey could be conducted by Longitudinal Study of Indigenous Children/ Longitudinal Study of Australian Children (LSIC/LSAC) researchers and a 'control' group potentially derived from a matched cohort within existing LSIC/LSAC panels. Investigating this option should also have regard for concurrent HIPPY Australia longitudinal research.

SOURCE: ACIL ALLEN CONSULTING 2018

The program logic model and theory of change developed for HIPPY provide a blueprint for delivery of a program that will provide improved social and economic outcomes for vulnerable families and their children. Measurement of how well the program translates in practice in complex circumstances and diverse communities is important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.

As described in Table 6.1, future improved capacity to measure the success of HIPPY would include:

- HIPPY Australia augmented reporting through DEX to include the extended/partnership data on outcomes, and use of the DEX client survey tool, when finalised
- inclusion of priority themes for analysis in reporting under the HIPPY funding/service agreement
- inclusion in any independent future evaluations commissioned by the Department of:
 - an ability to analyse the DEX datasets to optimise the value of the data in informing program achievements against outcomes
 - collection and analysis of supplementary qualitative information from key stakeholders
 - investigation of schools data for insights into developmental and academic outcomes in communities offering HIPPY
 - potential to incorporate longitudinal research involving a sample of families recruited to HIPPY and capturing their experiences, behavioural changes and improved family outcomes over a period of five years.

Potential gaps in evaluation readiness are further discussed in the following chapter in the wider context of evidence gaps and options.



7

EVIDENCE GAPS AND OPTIONS TO ADDRESS

This chapter consolidates data and findings gaps as discussed through the report, and options to address these gaps. The chapter responds to the key evaluation question: *What current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally?*

The chapter firstly examines data gaps related to HIPPY. It then discusses gaps in addressing the evaluation questions (appropriateness, effectiveness, efficiency, comparability across early childhood interventions) and options to address these gaps.

7.1 Data gaps related to HIPPY

This section focuses in two areas. Firstly, the opportunities to improve capacity to measure the achievements of HIPPY (as identified in chapter 6), and secondly, opportunities to enhance the way in which HIPPY Australia data is commonly reported that will enable greater insight in key areas.

7.1.1 Gaps in available HIPPY data

Chapter 6 of this report identifies HIPPY Australia's recent commencement in the use of DEX, and the desirability of full reporting including core activity data, outcomes data as part of the extended dataset, and client perspectives through occasional surveys. These developments seek to strengthen the Department's access to data and enable more robust findings about the effectiveness of the HIPPY program and its return on investment.

In addition, chapter 6 highlights a number of potential data gaps in supporting evaluation readiness to measure change towards expected program outcomes. These gaps and the potential to gather new evidence about program success in the short to longer term are highlighted in Table 6.1 (chapter 6), and are further discussed in the analysis of options at section 7.3 of this chapter.

7.1.2 Reporting of HIPPY Australia data

Across the report, particularly chapters 2, 3 and 6, a number of limitations and opportunities are identified to improve reporting of HIPPY Australia's data. While the current data available through DEX will support a basic level of understanding about program activity and reach, there is likely to be a continuing desire by the Department to use HIPPY Australia

data for specific reporting purposes, such as thematic analysis of program achievements in priority areas.

Against this backdrop, directions for development of HIPPY Australia data reporting are:

- *Reporting data for all participants*: analysis of the outcomes using HIPPY Australia data was restricted to only those who graduated from the program with the evaluation able to provide very little insight about the outcomes for families that did not complete the program, such as the progress of all families at a specific transition point (e.g. end of year one) or progress for families that exit the program prior to graduation.
- *Greater disaggregation of data*: improved access to disaggregated data (such as by site or client groups) would facilitate future analysis of outcomes and the enablers and barriers to the achievement of outcomes. This will also require that the availability of numbers of responses are provided, rather than percentages of responses that cannot be aggregated or disaggregated. The availability of such information through DEX in the near term is unclear.
- *Site-based response rates*: the majority of outcomes data is self-reported by parents and collected by HIPPY program providers. The processes for data collection are likely to vary from site to site, and it is desirable to know how this affects reporting, particularly the extent to which the data represents the HIPPY participant population at a site level, and the ability to identify the need for (and progress towards) improved site reporting.

7.2 Gaps in addressing the evaluation questions

7.2.1 Appropriateness of HIPPY

The evaluation has examined evidence relating to appropriateness of the HIPPY program, primarily discussed at chapter 2 of the report. This section consolidates the gaps identified in relation to the appropriateness of HIPPY in achieving its intended objectives.

Evidence and data gaps were apparent in the following areas:

- *The link between the specific essential features of HIPPY and program outcomes*: the contribution of individual elements of the program's essential features to outcomes is not well developed in the literature and was a general gap in the data. Focus areas for development are:
 - *Role play* – the literature review revealed mixed experiences of parents in being able to implement role play, and no data were available in this evaluation in regard to how often parents did role play. Further insight into the importance of role play and its fidelity, could support home tutors in their advocacy of role play as an instructional and interactional method between parents and their child.
 - *Home visits* – while home visits are an important part of the program there is limited HIPPY program literature to determine the most effective frequency of home visits to support child and/or parent outcomes, and the evaluation did not have data related to the number of home visits completed.
 - *Everywhere learning* – specific evidence regarding the use of everywhere learning in the HIPPY program was not apparent through the literature review. However, most HIPPY Australia progress reporting indicated that a high proportion of HIPPY families were using HIPPY concepts in everyday activities at the end of the two year program. This high level engagement in everywhere learning is promising and represents a direction for future qualitative research to explore the impact on families.
 - *A two year model starting at age four* – the evidence provided some support that a two year program in Australia had better outcomes than for one year, though there is differences in approaches across countries and variability in graduation rates across studies. A trial examining the impacts of providing HIPPY over three years, and starting at

three years of age, is underway in one HIPPY site. While the results of the pilot program provide promising evidence to suggest that initiating the intervention at an earlier age can attract and maintain engagement, the study is not yet complete limiting further conclusions at this time.

- *Cultural appropriateness of HIPPY for Indigenous families:* there was very limited evidence arising from the literature review related to the appropriateness and outcomes of the HIPPY program for Indigenous families. Further, while outcomes data for Indigenous families are promising, data for the 2016 cohort of families (which has a larger percentage of families in very remote communities) were not yet available. Given the priority of Indigenous families as part of the model, particularly in the expansion sites, a focus for future research is likely to be the appropriateness of the five essential features of the program model and the supports required to ensure program sustainability and effectiveness in Indigenous communities, particularly in very remote areas. This would examine the challenges experienced by Indigenous families across locations and current responses including program adaptations being made in these locations.
- *Effective recruitment and retention strategies* – The 2014 *Recruiting and Retaining Families in HIPPY* study (Roost et al., 2014) identified actions to improve recruitment and graduation rates across HIPPY, however it is not apparent that the use and effectiveness of identified practices has been examined, particularly the extent to which program responses have been activated and successful in supporting Indigenous families.

7.2.2 Effectiveness of HIPPY

The evaluation has examined evidence relating to the effectiveness of the HIPPY program, primarily discussed at chapter 3 of the report. This section consolidates the gaps identified in relation to the effectiveness of HIPPY in achieving its intended objectives.

Evidence and data gaps were apparent in the following areas:

- *Continuing benefits for children after participation in HIPPY* – the Australian evidence base provides the most promising evidence for HIPPY outcomes for child and parent engagement in learning activities at the time of completing the program and shortly after. The benefits of HIPPY in the medium term (e.g. through to grade three of school) and beyond require further examination to ascertain the continuing benefits of HIPPY as has been seen in international studies. The current BSL led HIPPY longitudinal study will provide insights to these medium term outcomes, however that study is limited to the first 75 HIPPY program sites and will therefore not incorporate a higher proportion of the very remote sites.
- *Children's social and emotional development* – the literature review considered the evidence for HIPPY on social and emotional competencies, such as peer relations. The currently available literature on the effectiveness of HIPPY on children's social and emotional development is varied in Australia. The data available from HIPPY Australia showed positive results in key areas (e.g. parent reports that their child had made gains in emotional maturity and social competence domains through HIPPY). While it appears that participation in HIPPY has an overall positive influence on social and emotional competencies, further confirmation in Australia is desirable.
- *Outcomes for Indigenous children* – the literature review did not identify experimental studies giving a greater level of confidence that HIPPY delivers improved outcomes for Indigenous children. Data available through HIPPY Australia indicates comparable outcomes for Indigenous children relative to the overall HIPPY group for the 2014 and 2015 cohorts. However, the experience of the 2016 cohort particularly being more concentrated in remote communities was not available and warrants continuing analysis of these outcomes.
- *Community outcomes* – while there were data and feedback that HIPPY provided information about local services and that parents and carers agreed that they knew more about other useful groups or organisations, there was less evidence that families had

actively engaged more with these services, groups or organisations. The literature review did not reveal that HIPPY participants were further advantaged than a control group in this area. Such limitations were also evident in relation to parent engagement in study or employment.

- *Benefits of HIPPY in relation to parent engagement in study or employment* – the role of parents as home tutors and the engagement of parents as a child’s first teacher are key components of the HIPPY program model. However, there was very limited evidence as to the benefits of these aspects of the programs relative to non-participating parents and in the short-medium term following completion of the program. From the literature review, it is apparent that few studies have used a quality research design to examine HIPPY parent uptake of further education or training, or the benefits of parents taking up the role of HIPPY home tutor. Of the available literature, there appears to be evidence to suggest that the tutor role can contribute to skill development but may also lead to reduced confidence at least in undertaking the role initially. There is a need for development of the evidence-base in relation to this outcome.
- *Data at HIPPY enrolment and after HIPPY completion* – while much of the data analysis suggests graduating children and families undertaking HIPPY are developing positively, these changes are generally not able to be tracked from a baseline at enrolment. This issue is prominent as very high results at week 5 of the program (a significant majority of participants often already agreeing that the outcomes had been achieved by week 5) may be limiting insight to progress gains achieved by HIPPY. In addition, it is desirable that outcomes are identified beyond HIPPY, such as attendance or academic results in the early years of school post HIPPY completion, to indicate the continuing impact of the program.

7.2.3 Efficiency of HIPPY

The evaluation has examined evidence relating to the efficiency of the HIPPY program, primarily discussed at chapter 4 of the report. This section consolidates the gaps identified in relation to the efficiency of HIPPY in achieving its intended objectives.

Evidence and data gaps were apparent in the following areas:

- *Benchmarked costs and efficiencies of HIPPY* – there is limited current information about the costs of establishing sites, including additional supports needed for establishment, and how soon a site is expected to take to operate at an efficient level as indicated by operations and enrolment levels of more mature sites.
- *Australian evidence in examining the economic benefits of HIPPY and comparable programs* – there is a reliance on international evidence (particularly evidence from the USA) in examining the benefits of the HIPPY program, and the HIPPY program relative to other comparable programs. The conclusion of the analysis was the need to continue to develop the comparative evidence-base of prevention and early intervention programs in Australia. In relation to efficiency, such research is likely to provide greater insight to the different program costs and outputs of programs, though care would need to be taken to develop a methodology that reliably enables such comparisons.

7.2.4 Comparability across early childhood interventions

In chapter 5, the evaluation examined HIPPY program evidence relative to a broad suite of 37 early childhood intervention programs.

In undertaking the analysis, it was evident that the evaluative efforts across programs often differ markedly, and these differences constrain comparative analysis.

These constraints are apparent in relation to the methods used, measurement tools to assess outcomes, and the level of information that is reported. Guidance, or promotion of standards in such areas (such as those used in Campbell Collaboration forums), could facilitate comparability across evaluative efforts.

7.3 Options to address evidence gaps

7.3.1 Approaches to address evidence gaps and improve evaluation readiness

There are a number of approaches to address evidence gaps and improve evaluation readiness. These options include:

- *Full utilisation of DEX* – this includes the DEX core data collections, extended/partnership data on outcomes, and the DEX client survey tool (when finalised) to optimise the value of the data in informing program achievements against outcomes.
- *Accessing broader data-sets* – non-program data sets such as school data on attendance, social/ emotional development, and academic achievement.
- *Program reporting* – under the service agreement, DSS receives an annual service stocktake report in which opportunities for priority thematic analysis may be agreed in the future.
- *Whole of program evaluation* – for example, a future independent evaluation would provide the opportunity to undertake a cross-sectional examination including quantitative data and a fuller suite of qualitative research among the range of HIPPY stakeholders.
- *Commissioning primary or secondary research in targeted areas* – this may include updating the literature review as new studies emerge in Australia and internationally, and specific research using an appropriate technique to further develop the HIPPY evidence base.
- *Commissioning longitudinal outcomes research* – including consideration of the current longitudinal study by BSL for the first 75 HIPPY sites, and independent research commissioned or facilitated through the Department, such as inclusion in LSAC or other evaluation activities. Incorporation into broader longitudinal research would involve a sample of families recruited to the HIPPY program and capturing their experiences, behavioural changes and improved family outcomes over a period of five years. Should the children participate in research beyond their HIPPY participation, additional information would be available about outcomes in later school years and into adulthood.

7.3.2 Addressing and prioritising the evidence gaps

Table 7.1 identifies approaches to address the gaps in evidence about HIPPY and how these might be prioritised. Consideration is given to the need for data and/ or research, and the importance of addressing the gap for sustainability and development of the program. An overall assessment is made in terms of prioritisation for addressing the evidence gaps, with the following results:

- **High priority** – seven high priority evidence gaps are identified where stronger evidence is needed and the gap is important to supporting program sustainability. These are: linking essential features of HIPPY and program outcomes; cultural appropriateness of HIPPY for Indigenous families; effective recruitment and retention strategies; continuing benefits for children after participation in HIPPY; outcomes for Indigenous children; data at HIPPY enrolment and after HIPPY completion; and benchmarked costs and efficiencies of HIPPY.

- **Medium priority** – three gaps are identified where stronger evidence is needed but the gap is not essential to supporting program sustainability. These are: benefits of HIPPY in relation to parent engagement in study or employment; Australian evidence in examining the economic benefits of HIPPY and comparable programs; and lack of comparability across programs
- **Lower priority** – two gaps are identified where the focus is deepening evidence. These are: children’s social and emotional development; and community outcomes.

Utilisation of DEX capability is a priority across each area, particularly considering the extended use of DEX capabilities beyond data to included parent, home tutor and other stakeholder feedback. More detailed discussion on data enhancements through DEX capabilities is provided in chapter 6 of this report.

TABLE 7.1 ADDRESSING THE EVIDENCE GAPS

Gap	Options to address gap					Prioritisation and comments
	Utilisation of DEX capability	Accessing broader data-sets	Thematic program reporting	Targeted primary or secondary research	Longitudinal research	
Appropriateness						
<i>Linking essential features of HIPPY and program outcomes</i>	✓	✓	✓	✓	✓	<p>Assessment: High priority</p> <p>Data enhancements and key targeted primary research activities are a priority focus, including consideration of longitudinal research. Addressing this gap has a high degree of importance for program development, particularly related to consideration of design changes (e.g. varying the length of the model). Thematic program reporting In the first instance may provide guidance as to particular research questions for investigation.</p>
<i>Cultural appropriateness of HIPPY for Indigenous families</i>	✓	✓	✓	✓	–	<p>Assessment: High priority</p> <p>Data enhancements and key research activities are required to address the evidence gap and ensure the appropriateness of HIPPY for Indigenous children and families. Addressing this gap has a high degree of importance for program sustainability, particularly demonstrating the appropriateness of HIPPY in contributing to understanding outcomes for Indigenous children and families. The prioritisation of this evidence gap is important given the limited literature research in relation to the experience for Indigenous families.</p>
<i>Effective recruitment and retention strategies</i>	✓	–	✓	✓	–	<p>Assessment: High priority</p> <p>Data enhancements and key research activities can show progress in reducing early exit rates in more recently established sites. Addressing this evidence gap has a high degree of importance for program sustainability and confidence that effective strategies can be implemented when needed.</p>
Effectiveness						
<i>Continuing benefits for children after participation in HIPPY</i>	✓	✓	✓	✓	✓	<p>Assessment: High priority</p> <p>A range of data enhancements and research activities may be warranted in addressing this gap. Addressing this gap further defines the achievement and benefits of the program, and is a priority given the rationale for HIPPY in improving children's early learning outcomes.</p>

Gap	Options to address gap					Prioritisation and comments
	Utilisation of DEX capability	Accessing broader data-sets	Thematic program reporting	Targeted primary or secondary research	Longitudinal research	
<i>Children's social and emotional development</i>	✓	–	✓	–	–	Assessment: Lower priority Data enhancements and thematic program reporting are a focus. Addressing this gap should be considered as part of a research agenda recognising that the evidence base in Australia requires further development.
<i>Outcomes for Indigenous children</i>	✓	✓	✓	✓	✓	Assessment: High priority As with the focus on cultural appropriateness discussed above, addressing this gap has a high degree of importance for program sustainability, particularly demonstrating achievement of outcomes for Indigenous children and families. The prioritisation of this evidence gap is important given the limited literature research in relation to the experience for Indigenous families.
<i>Community outcomes</i>	✓	–	✓	–	–	Assessment: Lower priority Data enhancements and thematic program reporting are a focus in addressing this gap. Though not a high priority, this gap should be considered as part of a research agenda recognising that the evidence base in Australia requires further development.
<i>Benefits of HIPPY in relation to parent engagement in study or employment</i>	✓	–	✓	✓	–	Assessment: Medium priority A range of data enhancements and research activities may be warranted in addressing this gap. Addressing this gap further defines the achievement and benefits of the program, and is a priority given the limited literature research in this area.
<i>Data at HIPPY enrolment and after HIPPY completion</i>	✓	✓	–	–	–	Assessment: High priority Data enhancements are a focus to contribute to understanding the achievement and benefits of the program. This will be important given the rationale for HIPPY in improving children's early learning outcomes.
Efficiency						
<i>Benchmarked costs and efficiencies of HIPPY</i>	✓	–	✓	–	–	Assessment: High priority Addressing this evidence gap has a high degree of importance for program sustainability and confidence that the program is efficient or where there are high support needs for particular sites.

Gap	Options to address gap					Prioritisation and comments
	Utilisation of DEX capability	Accessing broader data-sets	Thematic program reporting	Targeted primary or secondary research	Longitudinal research	
<i>Australian evidence in examining the economic benefits of HIPPY and comparable programs</i>	–	✓	–	✓	✓	<p>Assessment: Medium priority</p> <p>Targeted research for HIPPY and a broader suite of early intervention programs is required. The relative economic benefits of HIPPY over the medium term also requires consideration of longitudinal research. This will be important for understanding the allocation of resources to HIPPY relative to other priorities for the Department.</p>
Comparability across early childhood interventions						
<i>Lack of comparability across programs</i>	–	✓	–	✓	–	<p>Assessment: Medium priority</p> <p>Targeted research for HIPPY and a broader suite of early intervention programs is required. This will be important for understanding the benefits of HIPPY and areas for development that are evident in other early childhood interventions. Addressing this gap can also contribute to the quality of the early childhood evidence base in Australia.</p>

SOURCE: ACIL ALLEN CONSULTING 2018

7.3.3 Further considerations in addressing evidence gaps

In addressing evidence gaps, three further considerations warrant attention:

- *Further prioritisation* – further prioritisation is likely to consider the availability of expertise and how available resources can be best allocated.
- *Specific research methodology applied* – there are a number of methods for progressing such research, ultimately linked to the research direction and desirable robustness of findings. Where possible, research activities should be established with the anticipation of peer-review. This will have the benefit of creating research credibility, thereby continuing to build the HIPPY evidence base.
- *International collaboration* – a partnership approach involving HIPPY International as program licence holders is likely to achieve the most sustainable impact from research, particularly where the program model may need to be varied or adapted. In terms of international engagement and coordination, the HIPPY program also operates over two years in New Zealand and may provide a potential area for collaboration through which research efficiencies can be gained.

7.4 Findings

This chapter has consolidated the evidence gaps raised in preceding chapters of the report that will be important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.

Overall, it would be desirable for HIPPY to take up the supports for capacity building available through the Department, as appropriate, to enable participation in the DEX partnership dataset.

Furthermore, there are evidence gaps that are assessed as a priority for development. High priority evidence gaps to be addressed are:

- *Linking essential features of HIPPY and program outcomes* – the contribution of individual elements of the program's essential features to outcomes is not well developed in the literature and was generally a gap in the data. Addressing this gap has a high degree of importance for program development, particularly related to consideration of design changes (e.g. varying the length of the model).
- *Cultural appropriateness of HIPPY* – there was very limited evidence arising from the literature review related to the appropriateness and outcomes of the HIPPY program for Indigenous families. The prioritisation of this evidence gap is important given the limited literature and the prioritisation of recent HIPPY sites to Indigenous communities.
- *Effective recruitment and retention strategies* – the *Recruiting and Retaining Families in HIPPY* study (Roost et al., 2014) identified actions to improve recruitment and graduation rates across HIPPY, however it is not apparent that use and effectiveness of identified practices has been examined, particularly the extent to which program responses have been activated and successful in supporting Indigenous families. Addressing this evidence gap has a high degree of importance for program sustainability and confidence that effective strategies can be implemented when needed.
- *Continuing benefits for children after participation in HIPPY* – the benefits of HIPPY in the medium term (e.g. through to grade three of school) and beyond require further examination in the Australian context to ascertain the continuing benefits of HIPPY as have been seen in international studies. Addressing this gap further defines the achievement and benefits of the program, and is a priority given the rationale for HIPPY in improving children's early learning outcomes.

- *Outcomes for Indigenous children* – the literature review did not identify experimental studies providing a greater level of confidence that HIPPY delivers improved outcomes for Indigenous children. The prioritisation of this evidence gap is important given the limited literature research in relation to the experience for Indigenous families.
- *Data at HIPPY enrolment and after HIPPY completion* – while much of the data analysis suggests graduating children and families undertaking HIPPY are developing positively, these changes are generally not able to be tracked from a baseline at enrolment and beyond the HIPPY program. Addressing this gap will be important given the rationale for HIPPY in improving children’s early learning outcomes.
- *Benchmarked costs and efficiencies of HIPPY* – there is limited current information about the costs of establishing sites, including additional supports needed for establishment, and how soon a site is expected to take to operate at an efficient level. This is a priority area of focus to provide confidence that the program is efficient or to identify where there are high support needs for particular sites.

Progressing the development of the evidence base requires a partnership across the main HIPPY program stakeholders. The Department may have a direct role in research through commissioning research, or a facilitating role for example – priority setting by government across programs, using incentives for particular studies or evaluations, and/ or a commitment to commission programs that are evidence-based.

BOX 7.1 FINDINGS: KEY EVALUATION QUESTION 1

Finding 15. Measurement of how well HIPPY translates in practice in complex circumstances and diverse communities is important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.

Finding 16. There are key areas for development of the HIPPY evidence base, and a pathway to progress these should consider a range of opportunities including: full utilisation of DEX (Data Exchange), accessing broader data-sets (such as school data), thematic program reporting as part of the annual Service Stocktake report, commissioning primary research (such as an experimental design study), and / or opportunities for longitudinal research.

SOURCE: ACIL ALLEN CONSULTING 2018



8

RECOMMENDATIONS

This chapter presents the overall recommendations linked to evaluation findings.

8.1 Findings and recommendations

The following recommendations are aligned to evaluation findings, with expected responsibility for leading the recommendation identified for the Department or BSL.

TABLE 8.1 RECOMMENDATIONS ALIGNED TO EVALUATION FINDINGS

Finding	Recommendation	Lead responsibility
<p>Finding 1. [chapter 2] Overall, HIPPY sites appear to have been established according to the staged process prescribed by HIPPY Australia and supported by HIPPY tools, resources and HIPPY consultants and staff.</p>	<p>No recommendation</p>	
<p>Finding 2. [chapter 2] There is general adherence to the five essential features of HIPPY. Where variations occurred, sites were not always clear on program flexibility (i.e. the extent to which local changes facilitate delivery of the model) versus model adaptation (i.e. changing core elements of the model).</p>	<p>Recommendation 1. That further guidance be provided to HIPPY sites about available program flexibility and adaptations, and when HIPPY Australia approval is required to make program changes.</p>	<p>BSL</p>
<p>Finding 3. [chapter 2] Overall, the flexibility and approach of HIPPY appears to support culturally appropriate engagement of diverse communities. However, interviews conducted for the evaluation identified challenges for delivery in very remote communities, and there is limited evidence related to the design and provision of HIPPY for Indigenous families.</p>	<p>Recommendation 2. That a review of the extent and nature of adaptations and program flexibility be undertaken to inform future policy and program development, and to support sites in their advocacy to parents about the benefits of the program model. This review could include consideration of the appropriateness of the model for diverse communities, particularly very remote communities, and parameters arising through the licensing requirements with HIPPY International. Separate methodologies may need to be developed for the review in the context of very remote communities.</p>	<p>BSL</p>

Finding	Recommendation	Lead responsibility
Finding 4. [chapter 2] HIPPY sites generally recruit disadvantaged families, however, it is not possible to ascertain that those most in need are being reached within sites.	Recommendation 3. That a method to monitor engagement of the most in need families in HIPPY is established and implemented as part of future program arrangements.	DSS
Finding 5. [chapter 2] Approximately 30 to 40 per cent of children and families disengage and exit HIPPY early. The <i>Recruiting and Retaining Families in HIPPY</i> study (Roost et al., 2014) identified actions to adjust practice, however it is not apparent that use and effectiveness of identified practices has been examined. Early exit rates for Indigenous children are highest in very remote sites.	Recommendation 4. That actions and outcomes arising from the <i>Recruiting and Retaining Families in HIPPY</i> study (Roost et al., 2014) be followed up to identify which practices have been successful and what further action needs to be taken.	BSL
Finding 6. [chapter 3] Overall, the available evidence indicates that HIPPY is effective in achieving its focus of helping children to improve their learning outcomes and helping them to become more ready for school.	No recommendation	
Finding 7. [chapter 3] Due to insufficient studies in an Australian context, there were not clear findings in relation to the medium term benefits of completing HIPPY in Australia and the impact of the program on parent study or employment outcomes.	See Recommendations 6-11	
Finding 8. [chapter 3] Children from CALD backgrounds are reported as having slightly higher rates of achievement relative to children across the HIPPY population.	No recommendation	
Finding 9. [chapter 3] Outcomes for Indigenous children appear to be comparable to the overall group over the 2014 and 2015 cohorts. However, the experience of the 2016 cohort particularly being more concentrated in remote communities, was not available and warrants continuing analysis of these outcomes. Moreover the literature in relation to the achievement of cognitive ²² outcomes for Indigenous children is underdeveloped.	See Recommendations 6-11	
Finding 10. [chapter 4] HIPPY delivery is more efficient (lower cost per child) in mature sites because the same fixed costs are allocated over a higher number of children. Phase 2 sites would become more efficient over time if enrolments increase as expected and fixed costs stay the same.	Recommendation 5. That phase 2 sites are monitored to ensure increased enrolments occur which will support efficiency gains.	DSS
Finding 11. [chapter 4] Based on the analysis, HIPPY is expected to provide a positive return on investment; that is, benefits for individuals, society and government exceed the government program operational costs. HIPPY also appears to show similar if not better value against a selection of comparable programs with available cost benefit data.	No recommendation	
Finding 12. [chapter 5] There is strong evidence of effectiveness for programs that combine children's engagement in early learning with a home-visiting program.	No recommendation	

²² Pre-academic skills, such as language, vocabulary, literacy, numeracy and general knowledge (Downer and Pianta 2006).

Finding	Recommendation	Lead responsibility
<p>Finding 13. [chapter 5] For many of the 37 early childhood interventions examined, there is a reliance on studies which are qualitative or non-experimental in design. HIPPY is supported by several higher quality studies in key areas, such as the achievement of school readiness.</p>	No recommendation	
<p>Finding 14. [chapter 5] Governments across Australia continue to invest significant funding in prevention and early intervention programs. While there are many programs, the evaluative efforts often differ markedly which constrains comparative analysis.</p>	See Recommendations 6-11	
<p>Finding 15. [chapter 7] Measurement of how well HIPPY translates in practice in complex circumstances and diverse communities is important to establishing the ongoing investment in the program and the benefit for communities and families that commit to supporting the program.</p>	<p>Recommendation 6. That a way forward be actively pursued to improve capacity to measure the success of HIPPY by expanding reporting through the DSS Data Exchange.</p>	DSS in conjunction with BSL
	<p>Recommendation 7. That annual reporting to DSS by BSL incorporate an agreed rolling program of topics for thematic papers providing analysis of the success of key HIPPY strategies.</p>	DSS in conjunction with BSL
<p>Finding 16. [chapter 7] There are key areas for development of the HIPPY evidence base, and a pathway to progress these should consider a range of opportunities including: full utilisation of DEX (Data Exchange), accessing broader data-sets (such as school data), thematic program reporting as part of the annual Service Stocktake report, commissioning primary research (such as an experimental design study), and / or opportunities for longitudinal research.</p>	<p>Recommendation 8. That the current HIPPY program data collection be developed, particularly to investigate collection of baseline data for HIPPY participants and reporting of point-in-time data for the full program cohort rather than retrospective data for graduating families.</p>	BSL
	<p>Recommendation 9. That collection of HIPPY program data, including outcomes data, is consistently disaggregated for Indigenous children and CALD children.</p>	BSL
	<p>Recommendation 10. That opportunities be examined to broaden the early childhood intervention evidence base to track the cost effectiveness of HIPPY and similar programs, to enable consideration of their relative value for money in an Australian context.</p>	BSL

Finding	Recommendation	Lead responsibility
	<p>Recommendation 11. That opportunities be examined to develop the HIPPY evidence base. This may include an active role for the Department including the commissioning of future evaluations, in primary research, and maximising existing evaluations and studies, such as a future wave of the Longitudinal Study of Australian Children. Priority areas for development of the HIPPY evidence base are to examine:</p> <ul style="list-style-type: none"> – the contribution of individual elements of the HIPPY essential features to outcomes (this also links to Recommendation 2 regarding potential program adaptations) – the continuing benefits for children after participation in HIPPY (e.g. through to grade three of school) in the Australian context as have been seen in international studies – the cultural appropriateness and outcomes for Indigenous children and families recognising the focus on Indigenous communities as part of phase 2 sites. 	DSS in conjunction with BSL

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This appendix outlines the method used for the evaluation. The appendix is structured as follows:

- section A.1 provides an overview of the evaluation
- *section A.2* outlines the evaluation's governance and reporting framework
- section A.3 sets out the key evaluation activities
- *section A.4* details the data sources and analysis undertaken through the evaluation
- *section A.5* describes the methodology and outcomes from the literature undertaken to support the evaluation.

A.1 Evaluation overview

The overall objective of this evaluation is to assess the appropriateness, effectiveness, and efficiency of the Home Interaction program for Parents and Youngsters (HIPPY) aligned to key evaluation questions, including whether the program has achieved its intended outcomes. The evaluation also seeks to provide a framework for future evaluation activities. The evaluation builds on the findings of the 2011 evaluation of the national rollout of HIPPY (Liddell et al., 2011) and the 2013 review of the first 50 sites (Urbis).

The key evaluation questions, aligned with the evaluation objectives, were:

Question 1. What current evidence is available regarding the effectiveness, appropriateness and efficiency of HIPPY in Australia and internationally?

Question 2. What outcomes has the program achieved for different cohorts, and under what circumstances, with a particular focus on Indigenous focused sites and delivery to Indigenous participants?

Question 3. What issues have been encountered in implementing the program in Australia, and have any such issues been different for different cohorts and/or locations?

Question 4. What other programs for improving pre-academic skills and school readiness of vulnerable children in Australia are being delivered and how do they compare to HIPPY in regard to being effective, efficient and appropriate?

Question 5. To what degree, does HIPPY provide value-for-money?

Question 6. How can HIPPY's evaluation-readiness be improved and better aligned to Government and Departmental policy objectives?

A.2 Governance and reporting

The project had a two-tiered governance approach. The first tier consisted of a Steering Committee with representation from the Department of Social Services (DSS) and the Department of the Prime Minister and Cabinet. This group had a strategic oversight role and responsibility for ensuring the project objectives and outcomes were achieved.

The second tier of governance was an advisory role for the Brotherhood of St Laurence (BSL) to provide expert content knowledge about HIPPY to the evaluation. The National Manager of HIPPY Australia was the nominated advisor and liaised with BSL's Research and Policy Centre to ensure the evaluation could complement a concurrent longitudinal study of HIPPY.

HIPPY Australia attended a theory of change and program logic workshop held on 28 June 2017 to develop and refine the first draft of the theory of change and program logic model. This workshop incorporated discussion and feedback from DSS representatives and other stakeholders identified by DSS. HIPPY Australia was also invited by DSS to provide feedback at key points.

A.3 Key evaluation activities

A mixed methods approach was used to meet the requirements of the evaluation, drawing from qualitative and quantitative data. The evaluation was conducted from mid to late 2017.

The following activities were undertaken in parallel:

- *A comprehensive literature review* – this was guided by the literature review outline²³ and included three components:
 - 1. An analysis of similar early learning models operating in Australia and internationally to analyse best practice and to explore the evidence base for delivering programs to improve school readiness.
 - 2. An analysis of the implementation of HIPPY in Australia, including issues that have been encountered to date with a particular focus on implementation in Indigenous focused sites and delivery to Indigenous participants.
 - 3. A synthesis of Australian and international data detailing the effectiveness of HIPPY for different client groups, and under what circumstances.
- *Cost-benefit analysis* – this economic analysis assessed whether the model offers value for money or if the program could be delivered in a more effective way.
- *Examination of administrative data held by HIPPY Australia* – this included requesting, curating and analysing administrative data, limited to existing reporting capabilities within HIPPY Australia's *Efforts to Outcomes* business system.
- *Stakeholder consultations* – this involved consultations with HIPPY coordinators and line managers about the implementation of HIPPY in Australia.

The data collections and analysis to inform these activities are discussed below.

²³ ACIL Allen. (2017). Evaluation of the Home Interaction program for Parents and Youngsters Literature Review Outline.

A.4 Data sources and analysis

Data was obtained from the following sources:

- stakeholder engagement
- document review
- HIPPY administrative data review
- literature review.

These data sources are overviewed below.

A.4.1 Stakeholder engagement

Key informant interviews

Consultations were conducted with four key informants within the Australian Government to gain a detailed understanding of the context and issues around the evaluation and insights into important program linkages. These interviews also included discussion relating to stakeholder expectations, political context, and sensitivities to inform the finalisation of the project plan.

HIPPY program provider (sub-licencee) interviews

Consultations were conducted with a sample of up to 20 sub-licencee organisations, primarily through the HIPPY coordinators. The consultations sought to understand commonalities and differences across sites. Fifteen of 20 interviews were from the most recent 50 established sites, being the Indigenous community focussed sites established since 2014. The sample also purposefully targeted organisations that were controlled or governed Indigenous organisations, representing seven of the 20 interviews. Qualitative analysis of data gathered through the consultations was undertaken using the NVivo qualitative analysis software program.

The list of consultation sites and materials is provided at Appendix B.

A.4.2 Document review

ACIL Allen Consulting (ACIL Allen) conducted a stocktake of the available program inputs for HIPPY, including policy and program documentation. This included consideration of the background data provided by DSS and program materials provided by HIPPY Australia. This existing documentation and data supplemented consultation across all areas of the project and reduced the burden placed on stakeholders to provide information.

A.4.3 HIPPY administrative data

Administrative data was provided to ACIL Allen by BSL/ HIPPY Australia under a confidentiality agreement. Data was provided in three main areas:

- *descriptive data* – this included data for the 2013, 2014, 2015 cohorts related to the following areas: child and family demographics; enrolments, exits, and graduations; early exit information; and tutor training data
- *outcomes data* – this included the 2013, 2014, 2015 cohorts related to the following areas: Child outcomes, Family outcomes, Community outcomes, Parent and tutor study and employment outcomes

- *financial data* – this included 2014 and 2015 audited HIPPY site-based data, and overall HIPPY Australia program expenditures.

As set out in the report there were limitations and challenges in analysing and interpreting the data. Where possible, data was combined with literature review evidence to support the evaluation analysis.

A.5 Literature review methodology and outcomes

A.5.1 Method

The literature review was used to gather, evaluate and synthesise literature to support the evaluation. A systematic approach was taken to searching, analysing and weighting evidence to ensure the results of the synthesis are rigorous and transparent. These strategies included:

- search for evidence
- evidence management
- evidence analysis framework.

The specific search strategies, including search terms are detailed in sections below according to each literature review component, detailed below. Search terms were combined, and refined where necessary, to locate relevant papers. An iterative approach was used with additional search terms used where necessary.

The sources of literature included:

- peer-reviewed journal articles in academic databases (Education Resources Information Center (ERIC), PsycInfo, Social SciSearch® - ProQuest)
- systematic reviews in the Cochrane and Campbell Collaboration databases
- literature available on the websites of reputable and relevant organisations, research institutes, and national and international evidence databases, including:
 - Australian Institute of Family Studies: Child Family Community Australia / Closing the Gap Clearinghouse
 - Australian Research Alliance for Children and Youth
 - Australian Institute of Health and Welfare
 - BSL Research & Policy Centre
 - Centre for Community Child Health (including Australian Early Development Index/ Census specific literature)
 - Telethon Kids Institute (including AEDC specific literature)
 - other Australian Early Development Index/ Census-specific literature
 - Centre of Excellence for Early Child Development (Canada)
 - HIPPY International
 - UNICEF Innocenti Research Centre
 - University College London Institute of Education (United Kingdom)
- literature held by DSS or BSL and available to the evaluation.

The results were limited to exclude the following: book reviews, reviews relating to specific groups (e.g. military families), publication before 1997 (studies prior to 1997 typically had

more recently published papers that were included), and papers not published in the English language.

Following the search and refinement of results, the categorisation process considered the relevance (high, medium, low) and quality (high-quality, well-supported, supported, promising, insufficient evidence) of each result. In relation to evidence quality, the assessment of the evidence for a program is based on a meaningful improvement to a child or parent outcome from evaluations of different levels of rigour. Programs were allocated to one of the following categories:

- *demonstrated* – evidence is established through multiple randomised-controlled trials or a randomised-controlled trial and longitudinal studies
- *promising* – evidence is established through at least a quasi-experimental study design involving a pre-post design and control group
- *mixed* – significant variation in the evidence-base for the program, but generally there is at least one study that indicates a positive outcome using a pre-post design and control group
- *formative* – evidence is established through pre-post observational studies or post-intervention analysis with no control group
- *emerging* – the program is based on a proven method, but evidence is not yet available.

A.5.2 Literature review component 1 outcomes

Research questions guiding literature review component 1

Component 1 is an analysis of similar early learning models operating in Australia and internationally to analyse best practice and to explore the evidence base for delivering programs to improve school readiness. This was examined through consideration of the following literature review sub-questions:

- To what degree have these programs been shown to contribute to: a child's school readiness and engagement with school; improve participation at school; and improve their pre-academic skills?
- To what degree have these programs been shown to improve a parent's engagement (including skills and confidence) in educational activities in the home and community?
- What is the most effective service delivery model, and why (i.e. what elements in a successful program work for whom, and in which circumstances)? What 'dose' is most effective?
- How do these programs compare to HIPPY in an Australian context?
- What is the impact of the different programs on different target group/s i.e. Indigenous peoples and culturally and linguistically diverse backgrounds (CALD)? (Assessment of the extent that programs target, retain and are appropriate for target groups, and any differences between target groups who participate in the program)
- Does the program offer the best approach to addressing the problem or are there more effective and appropriate approaches/programs available?

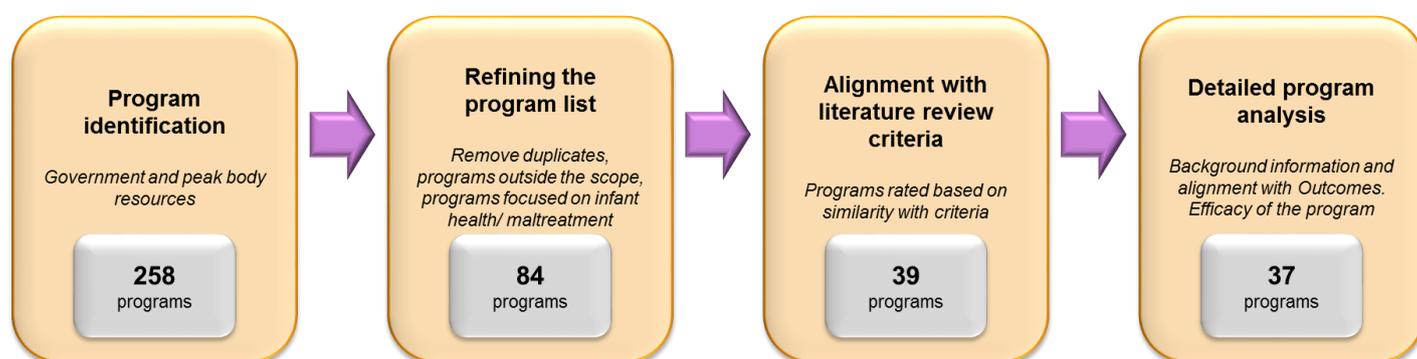
Methodology for identifying comparative early learning programs

In undertaking the literature review for this component, there was a need both to identify programs for comparison purposes and to assess the evidence base for these programs. This required some variance to the literature review method as described at A.5.1 above. In particular, the method for this component involved assessment of relevance and quality of

results in relation to specific comparator programs identified. For components 2 and 3 of the literature review the focus was more specifically on HIPPY.

The method used to identify and evaluate early learning programs is summarised in Figure A.1.

FIGURE A.1 METHODOLOGY FOR SELECTION AND ANALYSIS OF SIMILAR EARLY LEARNING PROGRAMS



SOURCE: ACIL ALLEN CONSULTING 2018

Program identification

To identify relevant programs for evaluation, departmental, national and international resources were examined. These resources include reports from government and peak bodies. The details of the resources consulted and the number of programs identified are provided below:

- programs identified by the Department: **12 programs**
- national reports and websites
 - Kids Matter programs Guide²⁴: **23 programs**
 - Australian Institute of Family Studies: The Efficacy of Early Childhood Interventions²⁵: **30 programs**
 - Australian Institute of Family Studies: Closing the Gap: Early learning programs that promote children’s developmental and educational outcomes²⁶: **3 programs**
 - Australian Institute of Family Studies: Communities for Children Facilitating Partners Evidence-based program profiles²⁷: **31 programs**
 - The Centre for Community Child Health: Supporting the Roadmap for Reform: Evidence-Informed Practice²⁸: **26 programs**
 - Lowitja Institute: Good Beginnings: Getting it right in the early years²⁹: **14 programs**

²⁴ Kids Matter, Australian Early Childhood Mental Health Initiative (n.d.). KidsMatter Primary programs. Retrieved from <<https://www.kidsmatter.edu.au/primary/resources-for-schools/other-resources/programs-guide/programs>>.

²⁵ Wise, S., da Silva, L., Webster, E., & Sanson, A. (2005). *The efficacy of early childhood interventions*. Melbourne, Victoria: Australian Institute of Family Studies.

²⁶ Harrison, L. H., Goldfeld, S., Metcalfe, E., & Moore, T. (2012). *Early learning programs that promote children’s developmental and educational outcomes*. Resource sheet no. 15. Produced for the Closing the Gap Clearinghouse. Canberra: Australian Institute of Health and Welfare & Melbourne: Australian Institute of Family Studies.

²⁷ Australian Institute of Family Studies. (2016). *Communities for Children Facilitating Partners evidence-based program profiles*. Retrieved from <<https://apps.aifs.gov.au/cfca/guidebook/programs>>.

²⁸ Moore, T., Beatson, R., Rushton, S., Powers, R., Deery, A., Arefadib, N., & West, S. (2016). *Supporting the Roadmap for Reform: Evidence-informed practice*. Prepared for the Department of Health and Human Services. Victoria: Centre for Community Child Health.

²⁹ Emerson, L., Fox, S. & Smith, C. (2015). *Good Beginnings: Getting it right in the early years*. Carlton South: Victoria: The Lowitja Institute. Retrieved from <<https://www.lowitja.org.au/sites/default/files/docs/Early-Childhood-web.pdf>>.

- Charles Sturt University and Children’s Protection Society: Qualitative Study of the Early Years Education program (EYEP:Q)³⁰: **14 programs**
- Australian Research Alliance for Children and Youth, The Nest, What works for kids³¹: **9 programs**
- international reports and websites
 - United Kingdom: Early Intervention Foundation (EIF) Guidebook: the EIF library of intervention programs³²: **20 programs**
 - United Kingdom: The Second Independent Report to Her Majesty’s Government: Early Intervention: Smart Investment, Massive Savings³³: **19 programs**
 - USA: Washington State Institute for Public Policy: Return on Investment: Evidence-Based Options to Improve State-wide Outcomes³⁴: **24 programs**
 - Canada: Centre of Excellence for Early Child Development³⁵: **3 programs.**

A total of 258 programs were identified using this method.

Refining the program list

A first-pass assessment enabled removal of programs due to:

- duplication resulting from using multiple sources for identification
- programs targeting groups of people that fall outside the scope of this project, specifically:
 - prenatal or antenatal programs
 - programs targeting children older than six years (e.g. middle school programs, teenage interventions)
 - teacher-focused programs
- programs focusing on infant health and/ or maltreatment rather than on early learning.

A total of 84 programs remained following this process. Programs that were delivered predominantly in a preschool setting were included if they had a focus on early learning and/ or school transition.

Alignment with literature review criteria

To further refine the list, programs were assessed against the criteria summarised below³⁶ to determine their relevance to HIPPY:

- early learning/ school transition
- parent capacity building
- employment pathways
- Indigenous peoples

³⁰ Fordham, L. (2015). *Qualitative Study of the Early Years Education program (EYEP:Q)*. Melbourne, Victoria: Children’s Protection Society.

³¹ Australian Research Alliance for Children and Youth. (n.d.). *What works for kids*. Retrieved from <whatworksforkids.org.au/programs>.

³² Early Intervention Foundation. (n.d.). *Early Intervention Foundation guidebook*. Retrieved from <guidebook.eif.org.uk/>.

³³ Allen, G. (2011). *Early Intervention: Smart investment, massive savings. The Second Independent Report to Her Majesty’s Government*. London: HM Government. Retrieved from <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61012/earlyintervention-smartinvestment.pdf>.

³⁴ Lee, S., Aos, S., Drake, E., Pennucci, A., Miller, M., & Anderson, L. (2012). *Return on investment: Evidence-based options to improve statewide outcomes*. Olympia: Washington State Institute for Public Policy.

³⁵ Barnett, S. (2008). *Benefits of preschool education*. Centre of Excellence for Early Childhood Development. Retrieved from <http://www.excellence-earlychildhood.ca/documents/Steven%20Barnett%20-%20Address.pdf>.

³⁶ ACIL Allen. (2017). Evaluation of the Home Interaction program for Parents and Youngsters Literature Review Outline, p. 5. Table 2.1 Relevance Categorisation Criteria.

— CALD.

Programs were rated using a score in terms of the number of criteria met. Programs scoring two or fewer criteria in total across the five criteria were classified as having a low relevance to HIPPY and were removed from further analysis (total of 47 programs). Programs with three or four criteria were rated as having medium relevance (total of 32 programs) and programs with five criteria were rated as having high relevance to HIPPY (total of seven programs).

Detailed program analysis

To further assess the relevance of each of these programs to HIPPY and to identify their quality and efficacy, a deeper review of the literature was conducted. This focused on program websites and government or NGO reviews, which were useful for obtaining basic program information (such as target population, delivery mode, core program components and duration). Additional resources were incorporated, including peer-reviewed journal articles which provided information on program outcomes, effectiveness and costs. Program analysis was combined with wider evidence-gathering to address the component 1 questions. Evidence was collected using the Best Evidence Synthesis (BES) method.

Information was collected for the following fields:

- program name
- originator/organisation
- aims and conceptual base
- alignment with Outcome 1: ‘early learning’, ‘school readiness’, ‘academic’, ‘cognitive’, ‘development’
- alignment with Outcome 2: ‘parent/s/al engagement’, ‘parent/s/al/ing skills’, ‘parent/s/al/ing confidence’
- alignment with Outcome 3: ‘community engagement’, ‘employ/ed/ment’, ‘path/way’
- target population / eligibility
- delivery mode
- core program components and duration
- outcomes and evidence of effectiveness, for which populations
- use in Australia
- potential for adaptation to local requirements
- targeting, retention and appropriateness of programs for CALD and Indigenous peoples
- understanding of cost areas and amounts (costs to deliver the program)
- references.

Using the information collected, programs were filtered based on quality (high-quality, well-supported, supported, promising, insufficient evidence³⁷). Two programs were removed from further consideration due to insufficient evidence demonstrating efficacy. A total of 37 programs remained for comparison purposes. An overview of these programs is provided at Appendix D.

³⁷ ACIL Allen. (2017). Evaluation of the Home Interaction program for Parents and Youngsters Literature Review Outline, p. 5. Table 2.2 Quality Categorisation Criteria.

A.5.3 Literature review component 2 outcomes

The focus of this component of the literature review was an analysis of the implementation of HIPPY in Australia, including ‘what has’ and ‘what has not’ worked, and issues that have been encountered to date, with a particular focus on implementation in Indigenous focused sites and delivery to Indigenous participants.

This component supports analysis of the following literature review sub-questions:

- Has HIPPY been implemented in a consistent manner across sites – is there program fidelity?
- Is the program designed and implemented in a culturally appropriate way?
- What is required to meet the needs of different target groups i.e. Indigenous and CALD? (Assessment of the extent that programs target, retain and are appropriate for target groups, and any differences between target groups who participate in the program)
- In the 50 Indigenous focused sites, is the program targeted and delivered appropriately and received well by Indigenous community members?
- Is the program targeted and delivered to those most in need in the communities in which HIPPY is delivered?

Literature review methodology

To support analysis of the early learning programs listed above, an additional round of literature searching was undertaken using the BES method. A list of key search terms guided the search for evidence and research.

Search strategy and results

Key terms were used to search the literature review method as described at A.5.1 above. This search was limited to the HIPPY operation in Australia.

The search results were very limited, with only two results from the main journal databases searched (Education Resources Information Centre (ERIC) and PsycInfo). Through the broader search approach, another six studies were identified and explored through the analysis. This included program evaluations and graduate dissertations which involved original research though were not published in peer-reviewed journals.

Given this very limited result, the evaluation also drew on secondary literature (e.g. *Closing the Gap* research papers) relating to program implementation and operation in Australia.

A.5.4 Literature review component 3 outcomes

The focus of this component of the literature review was a synthesis of Australian and international data detailing the effectiveness of HIPPY for different client groups, and under what circumstances. It recognises that HIPPY centres on supporting vulnerable families in disadvantaged communities.

This component supports analysis of the following literature review sub-questions:

- Have the goals, objectives, and outcomes of HIPPY been achieved and for which cohorts, including Indigenous and CALD families?
- Are there any sustained improvements in children’s educational skills for those who attended HIPPY?
- What features of the program made a difference to children, parents, and home tutors?

- What features of the program made a difference for each cohort, including Indigenous and CALD families?

Search strategy and results

A systematic search was conducted across three electronic databases (Education Resources Information Center (ERIC), PsycInfo, Social SciSearch® - ProQuest). The search was performed over multiple waves in August 2017. The key search terms for each database are provided in Table A.1.

TABLE A.1 COMPONENT 3 SEARCH TERMS AND RESULTS

ERIC	PsycInfo	Social SciSearch® - ProQuest
#1 HIPPY	#1 HIPPY	#1 HIPPY
#2 program	#2 program	#2 Australia
#3 early learning	#3 home-based	#3 program
#4 education	#4 preschool	#4 preschool
#5 Australia	#5 intervention	#5 #1 AND (#2 OR #3 or #4)
#6 Home Interaction program for Parents and Youngsters	#6 Home Interaction program for Parents and Youngsters	#6 Home Interaction program for Parents and Youngsters
#7 Home Instruction program for Parents and Youngsters	#7 Home Instruction program for Parents and Youngsters	#7 Home Instruction program for Parents and Youngsters
#8 #1 AND (#2 OR #3 or #4)	#8 #1 AND #2	
#9 Indigenous	#9 #3 AND #4 AND (#2 OR #5)	
#10 Aboriginal		
#11 Torres Strait		
#12 #1 AND (#8 OR #9 OR #10)		
Total: 12 results	Total: 9 results	Total: 8 results

SOURCE: ACIL ALLEN CONSULTING (2018)

The preferred sources identified in the search were peer-reviewed original studies (quasi-experimental and qualitative) and systematic reviews. The search excluded results published before 1998 and studies relating to military families (AmeriCorps). The search included evaluation reports available from HIPPY Australia, BSL, Australian Government Department of Education, Employment and Workplace Relations (DEEWR), HIPPY International, and other relevant organisations. Additionally, the search strategy included manually searching reference lists of the primary literature for additional studies meeting the inclusion criteria.

The search strategy generated 29 results. Duplicates and multiple reports from the same study with the same outcomes were excluded which reduced the search results. The next step in the review involved a systematic search of reference lists in relevant articles for studies that met the eligibility criteria. The extended search including evaluation reports from additional sources yielded a total of 26 key studies.

Based on the search, there is a limited amount of research that has been conducted to evaluate the effectiveness of HIPPY in Australia. The current literature review has addressed this issue by synthesising the available literature from Australia and the international context (being studies from the USA, Canada, New Zealand, and the Netherlands). The inclusion of international research in the review provides supplementary evidence to evaluate the effectiveness of HIPPY. Furthermore, variations in the local and

international structure of HIPPY were examined to determine the most effective approach to delivering the program in the Australia.

It is also noteworthy that Goldstein (2017) conducted a preliminary global meta-analysis to measure the effect of HIPPY on child and parent outcomes across 26 studies and seven countries around the world. The meta-analysis, though preliminary and not peer-reviewed, represents the most comprehensive collection of evidence available to evaluate the effectiveness of the program. Thus, the effect sizes from the meta-analysis were considered to assess consistencies with the conclusions of effectiveness determined by the review process for this evaluation.

Categorisation of evidence by relevance and quality

To address the key research questions for the literature review, studies reporting on the effectiveness of HIPPY in Australia were considered highly relevant and international studies were classified as moderately relevant.

The process of categorising the quality of studies yielded few high quality results, such as randomised controlled trials, in the recent Australian context. This is reasonable given the time-sensitive nature of the outcomes and the possible ethical implications of random assignment. HIPPY is intended to prepare children for school and therefore post-experimental administration of the intervention to control group children would not be feasible. Thus, the most methodologically appropriate approach used to assess the impact of the program has been quasi-experimental designs and this provides the highest quality evidence available.

In addition, there has been a large number of pre-post design studies which provide promising evidence to include in the review. Finally, recent publications from the last five years were accorded greater weight to assess program outcomes for children, families, and communities. The inclusion of older studies was determined on the basis of methodological quality.



CONSULTATION SITES AND MATERIALS

B

This appendix provides an overview of consultation sites and materials. It is structured as follows:

- *section B.1* describes the characteristics of each HIPPY site consulted
- *section B.2* provides the background material given to each consultation participant.

B.1 Consultation sites

TABLE B.1 OVERVIEW OF HIPPY SITE CONSULTATION LOCATIONS

State / Territory	Site geography	ACCO	Indigenous focused	Year commenced	No. months coordinator employed	No. children (age 4 active)	No. children (age 5 active)	Risk assessment HIPPY Australia Internal
Indigenous organisations providing HIPPY								
QLD	Remote	Y	Y	2014	24	24	21	High
QLD	Remote	Y	Y	2016	18	23	22	High
NSW	Outer regional	Y	Y	2014	32	35	19	Medium
NSW	Outer regional	Y	Y	2016	18	26	18	High
NSW	Outer regional	Y	Y	2014	40	28	27	Medium
QLD	Major city	Y	N	2009	92	28	34	Low
WA	Major city	Y	Y	2009	89	33	32	Low
Organisations servicing a broader population								
WA	Very remote	N	Y	2016	15	24	12	Medium
WA	Remote	N	Y	2016	8	23	21	Low
NT	Remote	N	N	2010	40	20	5	High
NT	Outer regional	N	Y	2014	24	22	14	Medium
QLD	Inner regional	N	Y	2014	41	22	15	High
TAS	Inner regional	N	Y	2016	18	21	23	Low
VIC	Outer regional	N	Y	2014	41	21	22	Medium

State / Territory	Site geography	ACCO	Indigenous focused	Year commenced	No. months coordinator employed	No. children (age 4 active)	No. children (age 5 active)	Risk assessment HIPPY Australia Internal
SA	Major city	N	Y	2014	21	31	19	Low
NSW	Major city	N	Y	2014	37	30	31	Medium
WA	Major city	N	Y	2014	12	25	16	Low
NSW	Major city	N	Y	2016	17	29	18	Low
SA	Major city	N	N	2011	77	33	25	Medium
VIC	Major city	N	N	2011	79	29	25	Low

SOURCE: ACIL ALLEN CONSULTING 2018

B.2 Site consultation materials

Consultation participants were provided with a consultation discussion guide. This provided information regarding HIPPY, the evaluation, their role in the evaluation and details for further enquiries. The material is provided below.



Background

The Home Interaction program for Parents and Youngsters (HIPPY) is a two year, home-based parenting and early childhood learning program that empowers parents and carers to be their child's first teacher.

The objectives of HIPPY are to build the confidence and skills of parents and carers to create a positive learning environment to prepare their child for school. HIPPY also offers some parents and carers a supported pathway to employment and fosters local community leadership.

HIPPY operates in 100 communities across Australia, having been progressively implemented with Australian Government support since 2008. Building on continued program delivery in 50 locations, HIPPY was implemented in an additional 50 locations with an Indigenous community focus. This has occurred in two phases – the first 25 sites commencing in 2014 and a further 25 sites being fully operational since April 2016.

The Brotherhood of St Laurence (through HIPPY Australia) oversees the coordination and delivery of HIPPY and sub-contracts to providers, who can tailor and deliver programs locally.

Evaluation of HIPPY

ACIL Allen Consulting has been engaged by the Department of Social Services to undertake an independent evaluation of HIPPY. The evaluation will be looking at a number

of elements including how HIPPY has achieved its aims and objectives, and its implementation across Australia. The evaluation is being conducted from mid to late 2017.

The evaluation includes an opportunity to speak with a small number of HIPPY program providers about how the program works in their community.

The information gathered through the consultations will be considered alongside information through a literature review and analysis of program data.

Targeted consultation with HIPPY program service agencies

You are invited to participate in the targeted consultations to explore your organisation's experiences with the provision of HIPPY. Areas for discussion are included below to assist in guiding consultation. Consultations will be undertaken by phone and will be approximately 45-60 minutes in length. Consultations are expected to be undertaken in late August 2017.

Enquiries

Should you have any queries about the consultation or the wider project, please contact Tom Peachey, ACIL Allen project manager at t.peachey@acilallen.com.au.

Discussion questions

Introduction

1. Please tell us briefly about your role and experience with HIPPY, and how HIPPY addresses the needs of your community.

Establishing HIPPY

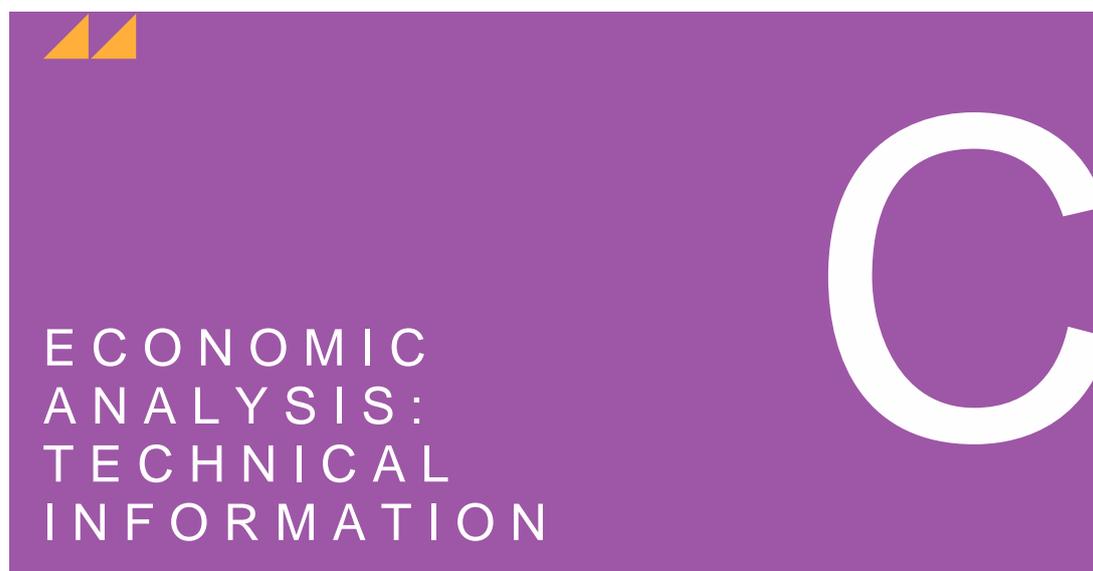
2. What have been the main steps for your organisation to establish and sustain HIPPY in the site?
3. What aspects of implementing HIPPY have worked well? Why might this be the case?
4. What have been the main challenges in implementing HIPPY?

Providing HIPPY

5. What are the main ways in which you recruit families for HIPPY and support their engagement?
6. In what ways has your organisation tailored program provision for your community? How well have these approaches worked?
7. How do you recruit HIPPY tutors? To what extent has the HIPPY tutor role been an employment opportunity for parents or other community members?
8. What have been the benefits of HIPPY in practice?
9. Why do you think HIPPY works? How do you think it could be improved?

Other

Do you have any other comments you would like to make about HIPPY?



This appendix supports the economic analysis presented in Chapter 4. The appendix is structured as follows:

- *section C.1* provides a summary of the state of HIPPY Australia in 2014 and 2015, and its comparator programs
- *section C.2* describes HIPPY revenues and expenses over 2014 and 2015
- *section C.3* delivers a cost per child analysis for the 2014 HIPPY cohort
- *section C.4* describes the short, medium, and long term effects of HIPPY
- *section C.5* presents the cost benefit analysis.

Analysis conducted in this appendix uses information relating to the 2014 cohort, and an inflation rate of 2.5 per cent in all cases.

C.1 HIPPY and its comparator programs

This section provides a summary of:

- delivery and implementation of HIPPY in Australia – in section C.1.1
- programs used as comparators in the cost per child and cost benefit analysis – in section C.1.2.

C.1.1 HIPPY Australia

Delivery of HIPPY in Australia

HIPPY is a two year program delivered through home visits to children aged four and five years old. At the end of two years, children graduate from the program. The specific requirements for children to graduate from HIPPY could not be identified in the available program materials. The program intends to support school readiness in children through development of literacy and numeracy skills. Intensity of service provision is higher for four year olds as compared to five year olds.

In addition to supporting children's development, HIPPY intends to improve parental confidence, parenting skills, and social connectedness. This occurs through home visits and group meetings in which parents may receive training or education sessions and be supported to access services in the community.

The program is delivered by home tutors drawn from the families taking part in the program. Tutors are hired by HIPPY to deliver the program for two years. Where possible, tutors are funded to undertake certification in the second year of their contracts, with the aim of improving their employability on contract completion.

Implementation of HIPPY Australia, 2014-2015

A detailed analysis of the descriptive data relating to HIPPY has been provided in chapter 2 of the main report. This section provides a summary of that analysis as it relates to calendar years 2014 and 2015.

In 2014-15, HIPPY was delivered at 75 sites:

- 50 phase 1 sites (phase 1)
- 25 phase 2 sites (phase 2) that focus on targeting Indigenous families.

Phase 1 sites began operating between 1998 and 2011. They had all been running for at least three years by 2014, and are considered relatively mature.

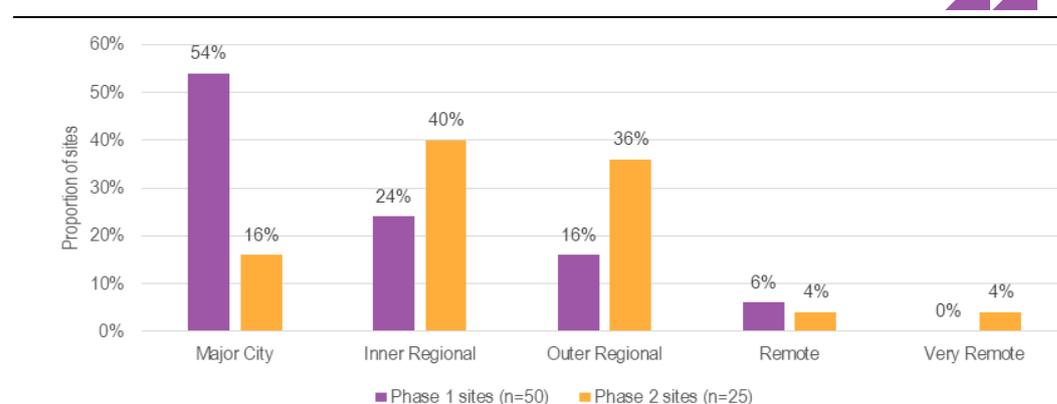
Phase 2 sites started operating in 2014. They received their first cohort of enrolments in 2014, and their second cohort of enrolments in 2015, so:

- in 2014, phase 2 sites administered HIPPY to 18 'active children'³⁸ on average, all of whom were four years old (2014 cohort)
- in 2015, phase 2 sites administered HIPPY to 36 'active children' on average. In 2015, children in the:
 - 2014 cohort were five years old
 - 2015 cohort were four years old.

Taking a second cohort of children for the first time in 2015 means that phase 2 sites experienced rapid growth.

Figure C.1 shows that phase 2 sites are more likely than phase 1 sites to be located outside major cities. This has implications for their funding and expenses.

FIGURE C.1 REMOTENESS OF PHASE 1 AND 2



SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA DESCRIPTIVE DATA

³⁸ Active children refers to the projected number of students expected to be actively participating in HIPPY in each site, each year. This calculation is based on a constant rate of decay in the number of active students over time, using the number of base enrolments at each site and the number of students in the cohort who graduate at the end of two years.

C.1.2 Comparator programs

A selection of comparator programs were identified as comparable to HIPPY in an Australian context. They were identified on the basis of the following criteria:

- a focus on school readiness and early childhood learning and development
- a balance between play based and academic learning, according to the child's developmental stage
- an emphasis on parents as key to the child's learning and development
- a focus on broader social outcomes including connectedness to community, reducing social isolation among parents, and improving access to community services
- a similar dose, in that all programs begin relatively early in the child's life and are intensive (run for one year or longer)
- provide options for flexible program delivery while retaining program fidelity.

A comparison of the mechanism and target group for each program is described in Table C.1. This table describes a subset of the comparable programs which cost benefit analyses are available. HIPPY is also listed in this table for ease of comparison.

TABLE C.1 SUMMARY OF COMPARATOR PROGRAMS

Program	Mechanism	Target group
HIPPY	<ul style="list-style-type: none"> – Delivered through home visits by home tutors (para professionals). – Parents are taught to deliver activity packs to their children, and take part in regular meetings. – Home tutors are provided with formal training to improve their future employment prospects. – Program is 2 years long, for 30 weeks per year. 	<ul style="list-style-type: none"> – Children aged 4 and 5 years old in disadvantaged communities.
Chicago Child-Parent Centre program	<ul style="list-style-type: none"> – Delivered primarily at centres by a collaborative team that includes a head teacher, parent resource teacher and the school community representative. – Parents participate in the program at least half a day per week and staff conduct home visits and refer families to social service agencies as needed. – Preschool and kindergarten program is half-day (2 hours) for 40 weeks plus an 8-week summer program. 	<ul style="list-style-type: none"> – Children from 3 to 9 years, from high needs communities (high-poverty, low-income neighbourhoods). – This study considers the preschool/ kindergarten variant of the Chicago Child-Parent Centre program.
Families and Schools Together (FAST)	<ul style="list-style-type: none"> – Delivered through school and home-based methods by trained 4-8 person teams of parents, teachers, school representatives, and community-based professionals. Each team is trained by an accredited National trainer. – The program contains three stages: face-to-face home visits; an 8-week (2.5 hour/ week) school-based meeting with multiple families and a two year follow-up program: FASTWORKS, which consists of monthly multi-family meetings run by parents with the support of the FAST team. 	<ul style="list-style-type: none"> – Children aged 0-17 years experiencing disruptive behaviours who are at risk of education failure, and their parents or primary caregivers.

Program	Mechanism	Target group
Head Start	<ul style="list-style-type: none"> – Early learning preschool or home-based services, delivered by qualified educators, who work closely with parents to support their children and meet family goals. – Focus on comprehensive early childhood education, health, nutrition, and parent involvement services. – Runs for up to two years. 	<ul style="list-style-type: none"> – Children aged 3-5 years from families at or below the poverty line or receiving public assistance. – Programs are also required to have at least 10 per cent of their places reserved for children with disabilities.
Parents as First Teachers (PAFT)	<ul style="list-style-type: none"> – The frequency and duration of PAFT visits is determined by each family's needs. The program is delivered by one qualified practitioner through home visits or through children's centres, typically for 1 hour on a weekly, fortnightly, or monthly basis depending on need. 	<ul style="list-style-type: none"> – Children aged 3 or under, typically living in a disadvantaged community. Limited services are available to age 5.

SOURCE: ACIL ALLEN CONSULTING 2018

The studies used in the cost per child and cost benefit analysis conducted on these comparator programs were completed in the USA and during different time periods.

Even so, it is expected that the medium and long term outcomes attributed to these programs may be transferred, as the short term outcomes of these programs are similar to those established for HIPPY. Therefore, as short term outcomes of these programs are similar, the programs outlined in Table C.1 have been used as comparators in the following cost per child and cost benefit analyses.

C.2 Funding and expenses

This section provides:

- a summary of the data that were provided relating to HIPPY's funding – in Section E2.1
- a summary of the data that were provided relating to HIPPY's expenses – in Section E2.2
- an analysis of this data is provided in Section E2.3.

All data has been presented on a calendar year basis. Totals for program level data will not tie with those provided at a site level, because not all sites provided audited financial data as an input to this review and potentially due to an issue with national office funding, discussed below.³⁹

C.2.1 Funding

HIPPY Australia administers HIPPY on behalf of BSL. BSL is the licence holder of HIPPY, and is funded by DSS to administer the program. Service delivery occurs through local service providers.

DSS funding received by BSL is split into site and national office funding. However, HIPPY reports funding on an aggregated basis. Aggregated funding received by HIPPY may be split into the following categories:

1. program funding, received by all sites. This funding is intended for implementation of the program.
2. enhancement and tutor training funding, for which sites must apply. Enhancement funds are intended to improve program delivery, while tutor training funding is used by sites to assist with future employment.

³⁹ Belconnen did not provide audited financial data for 2014 and was excluded from analysis in this year.

3. non-program operational funding, which represents a minority of total funding. It includes funding for performance payments, government, donations, and fundraising. These funds are used by the sites that raise it at their own discretion.

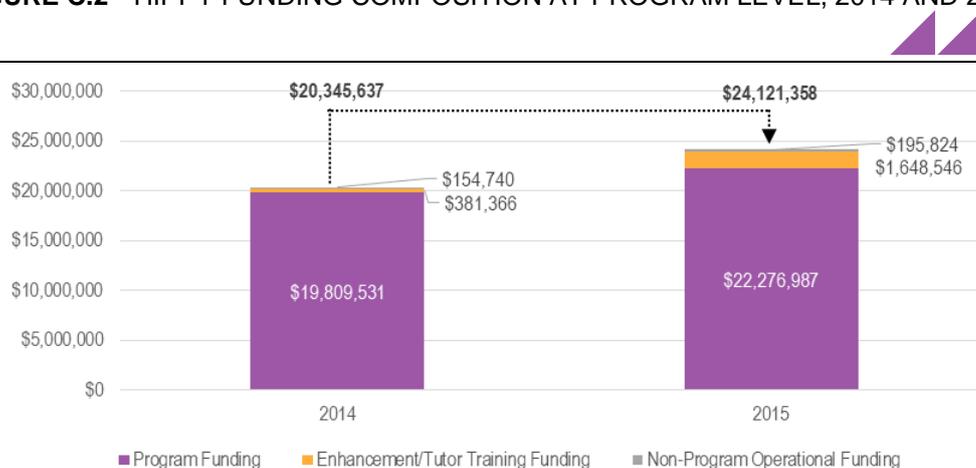
Funding – program level

Figure C.2 shows HIPPY's funding in calendar years 2014 and 2015. Over this period, total funding increased from \$20.3 million to \$24.1 million – a 19 per cent increase.

The figure shows that:

- program funding was 92 per cent of total funding in 2015 and 97 per cent in 2014 – an increase of \$2.5 million or 12 per cent
- funding for enhancements and tutor training represented approximately 2 per cent of total funding in 2014, more than tripling (332 per cent) to nearly 7 per cent in 2015 – an increase of \$1.3 million
- funding from other sources was small by comparison and remained relatively stable.

FIGURE C.2 HIPPY FUNDING COMPOSITION AT PROGRAM LEVEL, 2014 AND 2015



SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA PROGRAM LEVEL FINANCIAL DATA, 2014-15

Funding – site level

HIPPY's site level funding is split into four categories:

- program funding
- enhancement / tutor training funding
- performance funding
- other funding.

Program, enhancement, and tutor training funding are defined in section C.2.1.

Performance payments refer to retrospective payments made to sites at the time of cohort graduation, and related to whether the site met recruitment, retention, and reporting targets.

Table C.2 provides the average funding by site type for program, enhancement / tutor training, and performance funding. Other funding is reported in Table C.3.

TABLE C.2 AVERAGE FUNDING PER SITE BY FUNDING CATEGORY – 2014 AND 2015

Funding category	Average funding provided, \$ per site		Per cent increase in average funding, per site
	2014	2015	
All sites			
Program funding	\$153,792	\$180,757	18%
Enhancement and tutor training funding	\$2,774	\$12,444	349%
Performance payments	\$0	\$867	n.a.
Phase 1 sites			
Program funding	\$176,474	\$178,794	1%
Enhancement / tutor training funding	\$3,292	\$13,357	306%
Performance payments	\$0	\$1,300	n.a.
Phase 2 sites			
Program funding	\$109,333	\$184,683	69%
Enhancement / tutor training funding	\$1,760	\$10,618	503%
Performance payments	\$0	\$0	n.a.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

Between the two years considered, program funding at phase 1 sites remained roughly constant. Program funding at phase 2 sites rose by 69 per cent between 2014 and 2015.

Across 2014 and 2015, phase 1 sites received more funding for enhancement and tutor training as compared to phase 2 sites. Growth in funding was greater between 2014 and 2015 for the phase 2 sites.

In 2015, phase 1 sites received, on average, \$13,357 of enhancement and tutor training funding per site. On the other hand, phase 2 sites received \$10,618. Performance payments were provided only to phase 1 sites, and only in 2015.

In 2014 and 2015, only 18 sites were able to raise funds through donations and other fundraising activities as shown in Table C.3. The amount raised on average by each site was relatively low, only \$1,110 in 2014 and \$327 in 2015. Two sites proved to be exceptions to this in 2014, namely the Mount Isa site, which raised \$21,778, and the Palm Island site, which raised \$23,174.

TABLE C.3 DONATIONS, FUNDRAISING, AND OTHER FUNDING AT SITE LEVEL, 2014 AND 2015

	2014	2015
Number of sites that were able to raise funds	18	18
Average amount of funds raised per site	\$1,110	\$327

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

Site level funding data are summarised in Table C.4.

TABLE C.4 AVERAGE FUNDING PER SITE - 2014 AND 2015

	2014	2015
Average funding (per site)	\$157,676	\$194,714
Phase 1	\$180,958	\$194,010
Phase 2	\$112,043	\$196,123
Number of sites	74	75
Phase 1	49*	50
Phase 2	25	25

Note: * Audited financial data for calendar year 2014 was not provided for Belconnen.
 SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

These data show that average funding per site increased by 25 per cent between 2014 and 2015. Funding for phase 1 sites was relatively constant between 2014 and 2015. In contrast, funding for phase 2 sites grew by 75 per cent in 2015. This suggests that the growth in funding per site is largely due to the 'maturation' of the expansion sites which required more funding as they took on 'second year' participants for the first time.

Table C.5 shows a breakdown of the average funding per sites by site location as classified by HIPPY Australia.

TABLE C.5 AVERAGE FUNDING FOR EVERY SITE, 2014 AND 2015

Site type	Average of total funding provided, \$ per site		Percentage increase in average total funding, per site
	2014	2015	
Phase 1 sites	\$180,958	\$194,010	7%
Major city	\$183,042	\$194,286	6%
Inner regional	\$177,565	\$191,860	8%
Outer regional	\$176,347	\$191,598	9%
Remote	\$188,766	\$206,552	9%
Phase 2 sites	\$112,043	\$196,123	75%
Major city	\$127,400	\$187,591	47%
Inner regional	\$106,015	\$207,491	96%
Outer regional	\$108,150	\$187,444	73%
Remote	\$140,574	\$196,621	40%
Very remote	\$117,400	\$194,198	65%

Note: Audited financial data for calendar year 2014 was not provided for Belconnen.
 SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

The data show that funding varies between sites based on location, but that the pattern differs between phase 1 and phase 2 sites.

Phase 1 sites in remote areas received, on average, \$188,766 per site in 2014, more than any other sites. This rose to \$206,552 in 2015.

Insofar as phase 2 sites are concerned, those in remote locations received more than others in 2014. However, in 2015, the phase 2 sites that received the most funding, on average, were those in inner regional locations.

This pattern is driven by the Toowoomba and La Trobe sites. These sites received \$250,421 and \$244,902 respectively in 2015, substantially more than others. They also appear to service a particularly large proportion of Indigenous children – 83 and 91 per cent of children respectively based on 2017 data. Typically, only 50 per cent of children at phase 2 sites were from Indigenous backgrounds, based on 2017 data.

Funding – national office

National office funding was not apportioned to individual sites in the data provided to the evaluation. Values for national office funding were calculated by deducting the total site funding for 2014 and 2015 from overall program funding. Estimated values for total site funding and national office funding are provided in Table C.6.

TABLE C.6 ESTIMATED NATIONAL OFFICE FUNDING, 2014 AND 2015

	2014	2015	2015-16 (FY)
Program funding	\$20,345,637	\$24,121,358	
Estimated total site funding ¹	\$11,825,695	\$14,603,564	
Implied national office funding (historical)	\$8,519,942	\$9,517,794	
National office budget (forward)			\$4,015,734

Note:

¹ Estimated total site funding is calculated by totalling the audited total revenue for all sites in that calendar year. In 2014, only 74 sites provided audited financial statements. Therefore, in 2014, estimated total site funding has been calculated by increasing total site funding by 1.35 per cent, to account for the missing site (1/75th).

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND PROGRAM LEVEL DATA, 2014-15

The value of estimated national office funding in Table C.6 is significantly higher than the value of the national office budget described in the *Deed of Variation No. 1 Relating to Funding for the Home Interaction program for Parents and Youngsters (HIPPY) (2017) (the Deed)*. The *Deed* provides an indicative national office budget of \$4,015,734 for financial year 2015-16. Going forward it is understood that this figure is more indicative of future funding per annum.

C.2.2 Expenses

HIPPY has three main categories of expense:

- *employment expenses*, which are used to pay for expenses such as coordinator salary and tutor hire
- *enhancement / tutor training expenses*, which are used to pay for improvements to program delivery and additional training or professional development for home tutors
- *administrative expenses*, which include any other expenses that do not fall into the above two categories.

This section provides a summary of HIPPY's expenses in 2014 and 2015. The discussion at the program level is followed by a discussion at the site level.

Expenses – program level

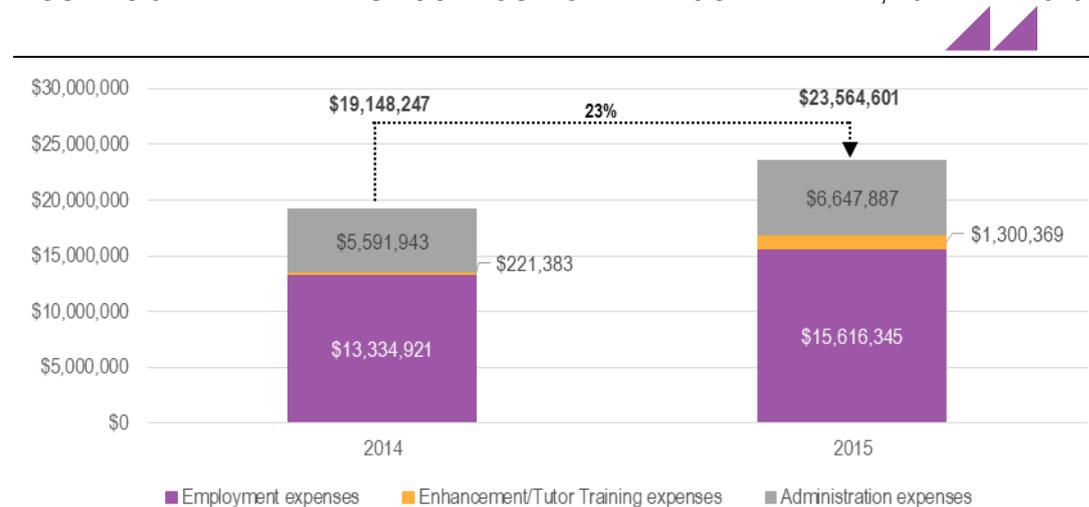
Between 2014 and 2015, total HIPPY expenses increased by 23 per cent from \$19.1 million to \$23.6 million, as shown in Figure C.3.

The largest expense category is employment expenses, which accounted for approximately \$13.3 million in 2014 and increased by approximately 27 per cent (\$2.3 million) to \$15.6 million in 2015.

The next largest expense category was administration, which increased by 19 per cent from \$5.6 million in 2014 to \$6.6 million in 2015.

The smallest expense category was enhancement and tutor training, which increased by approximately \$1 million, from approximately \$0.2 million in 2014 to \$1.3 million in 2015.

FIGURE C.3 HIPPY EXPENSE COMPOSITION AT PROGRAM LEVEL, 2014 AND 2015



SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA PROGRAM LEVEL FINANCIAL DATA, 2014-15

Expenses – site level

Table C.7 reports HIPPY site level expense categories referring to important aspects of program delivery, where:

- *employment expenses* refers to spending at the site level on salaries for coordinators, tutors, and other staff
- *enhancement / training expenses* refers to spending on improvements to program delivery and tutor training activities
- *travel and motor vehicle expenses* includes vehicles used by the provider, and travel associated with home visits and training.

TABLE C.7 AVERAGE EXPENSES PER SITE FOR SELECTED EXPENSE CATEGORIES, 2014 AND 2015

Expense category	Average expenses, \$ per site		Percentage increase in average expenses, per site
	2014	2015	
All sites			
Employment	\$102,686	\$126,230	23%
Enhancement / training	\$1,675	\$10,497	527%
Travel and motor vehicle	\$4,790	\$6,667	39%
Phase 1 sites			
Employment	\$120,651	\$128,943	7%
Enhancement / training	\$1,710	\$10,408	509%
Travel and motor vehicle	\$5,123	\$5,937	16%
Phase 2 sites			
Employment	\$67,476	\$120,805	79%

Expense category	Average expenses, \$ per site		Percentage increase in average expenses, per site
	2014	2015	
Enhancement / training	\$1,605	\$10,676	565%
Travel and motor vehicle	\$4,137	\$8,127	96%

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

As shown in Table C.7, average employment costs per site were highest in phase 1 sites (\$120,651 in 2014 and \$129,943 in 2015). Among phase 2 sites, average employment costs were only \$67,476 in 2014, growing by 79 per cent to \$120,805 in 2015. This is approximately aligned with the growth in child numbers in these sites over the two years.

Training and enhancement costs increased by at least five-fold between 2014 and 2015 at both phase 1 and 2 sites.

The sum of travel and motor car costs was, on average, higher for phase 2 sites than phase 1 sites. The average phase 2 site spent \$2,190 more on travel and motor care expenses than phase 1 sites in 2015.

Total site level expenditure data were provided for each site and are summarised in Table C.8.

TABLE C.8 AVERAGE EXPENSES BY SITE TYPE, 2014 AND 2015

Site Type	Average expenses, \$ per site		Percentage increase in average expenses, per site
	2014	2015	
All sites	\$150,106	\$195,760	30%
Phase 1 sites	\$175,342	\$198,296	13%
Phase 2 sites	\$100,644	\$190,689	89%
Phase 2 sites (run by ACCOs)	\$89,728	\$192,076	114%
Phase 2 sites (run by non-ACCOs)	\$104,091	\$190,251	83%

Note: Audited financial data for calendar year 2014 was not provided for Belconnen. It is assumed that total site expenses includes an apportionment of any expenses by National Headquarters that are used for the purposes of that site.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

The data shows that average expenses increased by 30 per cent between 2014 and 2015, outpacing the growth in average revenue.

Phase 1 sites had the greatest expenses in 2014 and 2015, as shown in Table C.8. Expenses at phase 2 sites were relatively small in 2014, though they grew by 89 per cent to more than \$190,000 in 2015. Expenses at phase 2 sites run by ACCOs grew more quickly between 2014 and 2015 than at phase 2 sites run by non-ACCOs organisations.

Expenses – national office

National office expenses were not disaggregated in the data provided to this evaluation. Values for national office expenses were calculated by deducting the total of site expenses for 2014 and 2015 from overall program expenses. Estimated values for total site expenses, and national office expenses, are provided in the following table.

TABLE C.9 ESTIMATED NATIONAL OFFICE EXPENSES, CY 2014 AND 2015

	2014	2015	2015-16 (FY)
Program expenses	\$19,148,247	\$23,564,601	
Estimated total site expenses ¹	\$11,257,970	\$14,682,024	
Implied national office expenses	\$7,890,277	\$8,882,577	
National office budget (forward)			\$4,015,734

Note:

¹ Estimated total site expenses are calculated by totalling the audited total expenses for all sites in that calendar year. In 2014, only 74 sites provided audited financial statements. Therefore, in 2014, estimated total site expenses have been calculated by increasing total site expenses by 1.35 per cent, to account for the missing site (1/75th).

SOURCE: ACIL ALLEN ANALYSIS OF HIPPI AUSTRALIA SITE LEVEL FINANCIAL DATA AND PROGRAM LEVEL DATA, 2014-15

As seen with estimated national office funding, the value of estimated national office expenses in Table C.9 is significantly higher than the value of the national office budget described in the *Deed*. The *Deed* provides an indicative national office budget of \$4,015,734 for financial year 2015-16. It is understood that this discrepancy may be due to timing, as data used in this analysis is provided on a calendar year basis. Alternatively, this differential may represent differences in expected national office activities in the forward period, or reflect establishment costs for new sites.

C.2.3 Data summary and analysis

Funding

At a site level, the funding data show an increase in funding per site from 2014 to 2015. This was driven by phase 2 sites, which was to be expected, given the increased number of children at these sites in 2015.

Funding for program delivery at phase 1 sites remained roughly constant between 2014 and 2015.

In contrast phase 2 sites experienced a 69 per cent increase in program funding for the same period. This is smaller than the increase in the number of children per site, which is likely due to fixed costs such as organisational support.

In 2015 phase 2 sites received 21 per cent less funding for enhancement and tutor training than phase 1 sites. This discrepancy may be due to lower rates of application and / or application success among phase 2 sites.

In 2014 and 2015 phase 1 sites were the only sites to receive performance payments. As performance payments are allocated to sites based on their ability to hit recruitment and retention milestones, this may reflect difficulties in recruitment and retention experienced by phase 2 sites.

The remaining sources of funding are small at the program level, representing less than one per cent of total funding. Table C.10 shows that the amount of 'other' funding generated was substantially less (76 per cent) in 2015 than in 2014.

TABLE C.10 DONATIONS, FUNDRAISING, AND OTHER FUNDING AT PROGRAM LEVEL, 2014 AND 2015

	2014	2015
Donations, fundraising and other (funding)	\$154,740	\$37,824
Contribution of donations, fundraising and other (funding) to total funding	0.8%	0.2%

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

Expenses

As with funding, site level expenses increased substantially between calendar years 2014 and 2015. This is attributable to the growth in student numbers at phase 2 sites in 2015. Phase 2 sites run by ACCOs experienced the highest growth.

The high rate of growth in average enhancement and training expenses for both phase 1 and 2 sites may be due to the fact that there was a national conference held in 2015, and coordinators from all sites attended. It may also reflect increased tailoring occurring at sites to improve delivery.

Phase 2 sites spent 37 per cent more on travel and motor car expenses in 2015 than phase 1 sites. This may reflect the fact that phase 2 sites are more likely to be outside major cities than phase 1 sites.

The ratio of administration expenses to total program expenses did not change considerably between 2014 and 2015. In 2014, administration expenses represented 29 per cent of total expenses. This figure fell marginally to 28 per cent of total expenses in 2015.

TABLE C.11 ADMINISTRATIVE EXPENSES AS COMPARED TO TOTAL SITE EXPENSES, BY SITE TYPE, 2014 AND 2015

Site type	Administrative expenses as a percentage of total expenses (average)	
	2014	2015
Phase 1	31%	35%
Phase 2	32%	36%
Sites run by ACCOs	26%	33%
Sites run by non-ACCOs	32%	36%

Note: Administrative costs as a per cent of total expenses are calculated by dividing total administration costs by total expenses. Belconnen was excluded from this analysis in 2015 as no audited financial data was provided for the site in this year.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA, 2014-15

Analysis at a site level showed that phase 1 and 2 sites were not able to reduce the ratio of overhead administrative costs to their total expenses over time (Table C.11). This may reflect increasing average expenditure on organisational support costs and travel and motor car expenses between 2014 and 2015.

Across both 2014 and 2015, administrative costs as a percentage of total site expenses were, on average, lower for ACCOs than non-ACCOs (Table C.11). This figure was skewed negatively in both years by the Inala site, which recorded administrative costs as only 8 per cent of total expenses in 2014 and 16 per cent of total expenses in 2015. Palm Island also recorded relatively low administrative costs in 2014, at only 6 per cent of total expenses.

C.3 Cost per child analysis

This section analyses the cost effectiveness of HIPPY with regards to the 2014 cohort of children.

The analysis distinguishes between phase 1 and 2 sites. As only two calendar years of financial site level data were provided, this analysis considered only the 2014 cohort, which actively participated in HIPPY over calendar years 2014 and 2015.

This section includes:

- the methodology used to analyse the cost of providing HIPPY on a per child basis.
- the results of the cost per child analysis.

C.3.1 Methodology

Conceptually, the 'per child' cost of providing HIPPY could be calculated using equation (1):

$$\text{Cost per child}_{\text{cohort}} = \frac{\text{Total expenses}_{\text{cohort}}}{\text{Number of children}_{\text{cohort}}} \quad (1)$$

However the reality is more complex than this because:

- there is 'attrition' in the number of children participating in HIPPY so the number of active children in the cohort changes during the course of the two year program
- the cost of providing HIPPY to four year old children differs from the cost of providing it to five year old children
- costs vary from site to site and over time.

Therefore, a more accurate reflection of the average cost of providing HIPPY for the 2014 cohort is reflected in equation (2):

$$\text{Cost per child}_{2014 \text{ cohort}} = \frac{\text{Total expenses}_{2014 \text{ cohort}}}{\text{Number of 'active children' at site}_{2014 \text{ cohort}}} \quad (2)$$

The data described in section C.2 does not allow equation (2) to be estimated directly. In particular it provides:

- the number of enrolments and graduations, but not the number of children who are 'active' in HIPPY over the year
- the cost of operating each HIPPY site each year as they relate to *both* cohorts at a given site at a given time.

Therefore, the following activities were required:

- to derive the number of 'active children' at HIPPY in the 2014 cohort in both 2014 and 2015
- to apportion the site level costs to children in the 2014 cohort.

The approach taken to these activities is described below.

Derivation of the 'active child' count per site

The available data relating to the number of children in the 2014 cohort is illustrated in Figure C.4. The figure shows, with yellow points, that data was provided relating to the number of children who:

- enrolled in the 2014 cohort at the beginning of 2014
- graduated from the 2014 cohort at the end of 2015.

The data for this particular site (Albury-Wodonga) shows that of the 33 who enrolled at the beginning of 2014, 14 'graduated at the end of 2015.

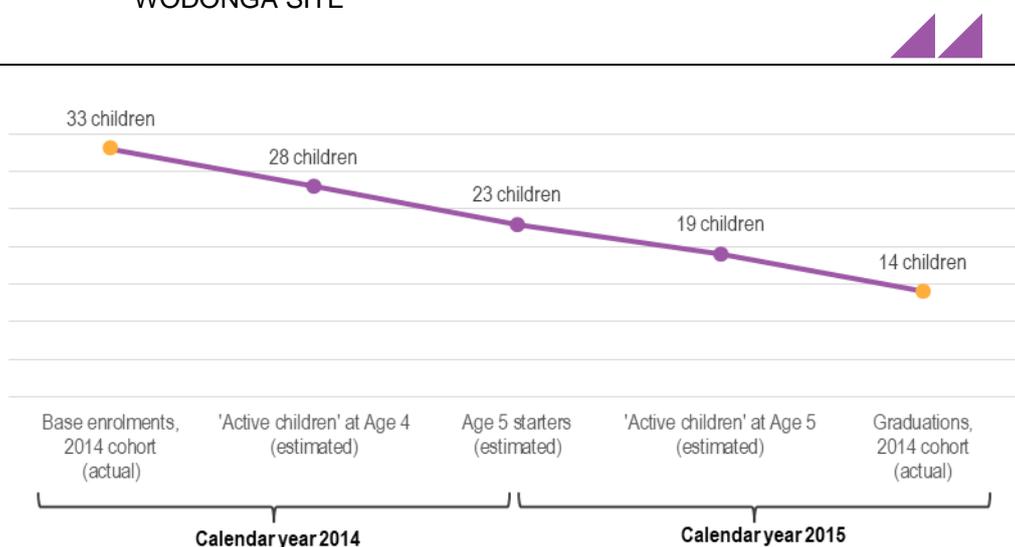
Therefore, 19 of the children who enrolled in the 2014 cohort at this site left during the two years of the program. However, there is no data concerning the rate at which these children left HIPPY and data relating to transfers between sites are incomplete.

Therefore it was assumed that 'attrition' occurred constantly over time. This yielded the purple data points in the chart and implies that the number of 'active children' at this site declined approximately by four children every six months.⁴⁰

The appropriate number of children for the analysis conducted here is neither the number who commenced at the beginning of the year nor the number who finished. Rather, it is the average number enrolled over the course of the year. Given the assumption of linearity, this is also the 'midpoint'. Therefore, the number of 'active children' in the 2014 at this site was estimated at:

- 28 in 2014
- 19 in 2015.

FIGURE C.4 'ACTIVE CHILDREN' PER YEAR FOR THE 2014 COHORT, ALBURY-WODONGA SITE



Note: Data markers in gold refer to data which was provided by HIPPY Australia. Data markers in purple were estimated by ACIL Allen on the basis of a straight line decay between enrolment and graduation, rounding up to the nearest whole child.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA

Similar analysis was conducted for the 2013 and 2015 cohorts to determine the average number of 'active children' of each age group at each site in each year.

⁴⁰ There is some variation due to rounding.

This results in equation (3), which applies these assumptions to equation (2). Equation (3) shows the cost per child for the 2014 cohort, for any particular site (x).

$$\text{Cost per child}_{2014 \text{ cohort, site } x} = \frac{\text{Total expenses}_{2014 \text{ cohort, site } x}}{\left(\frac{b+(b-g)}{2}\right) + \left(\frac{(b-g)+g}{2}\right)} \quad (3)$$

Where:

- b: base enrolments at site x, 2014 cohort
- g: graduations at site x, 2014 cohort.

Derivation of expenses attributable to the 2014 cohort per site

For any given site, total expenses for the 2014 cohort may be calculated as outlined in equation (4).

$$\text{Total expenses}_{2014 \text{ cohort, site } x} = p + s \quad (4)$$

Where:

- p: pro-rated national office expenses attributable to site x, 2014 cohort
- s: site level expenses at site x, 2014 cohort.

As shown in Table C.9 above, future national office expenses are understood to be approximately \$4 million per annum, though they appear to have been higher in recent years. It is considered that the expected future level of expenses provides a more useful input to this analysis as it allows a forward looking assessment of the likely costs (and thus benefits) of HIPPY.

Therefore, national office expenses were estimated at \$4,000,000 per annum for 2014 and 2015, consistent with 2015-16 budget found in the *Deed*.⁴¹

Pro-rated national expenses

Assuming that national expenses at a site level are equally pro-rated across every active child in the site, pro-rated national expenses for the 2014 cohort, in site x can be estimated using equation (5).

$$p = P_{2014} \cdot \frac{\text{'active children' aged } 4_{2014, 2014 \text{ cohort, site } x}}{\text{all 'active children' }_{2014, \text{site } x}} + P_{2015} \cdot \frac{\text{'active children' aged } 5_{2015, 2014 \text{ cohort, site } x}}{\text{all 'active children' }_{2015, \text{site } x}} \quad (5)$$

Where:

- p: pro-rated national office expenses attributable to site x, 2014 cohort
- P: total national expenses at site x, in the indicated year.

This may be expanded to equation (6), which includes reference to the calculation of the number of 'active children' in each cohort/year/site combination.

⁴¹ National office budget for 2015-16 through to 2019-20 varies between \$4.016 million and \$2.281 million according to the *Deed of Variation No. 1 Relating to Funding for the Home Interaction program for Parents and Youngsters (HIPPY) (2017)*. The average annual budget over this figure stands at approximately \$3.8 million (2017 dollars).

$$p = P_{2014} \cdot \frac{\#4y.o.s_{2014,2014 \text{ cohort}}}{\#5y.o.s_{2014,2013 \text{ cohort}} + \#4y.o.s_{2014,2014 \text{ cohort}}} + P_{2015} \cdot \frac{\#5y.o.s_{2015,2014 \text{ cohort}}}{\#5y.o.s_{2015,2014 \text{ cohort}} + \#4y.o.s_{2015,2015 \text{ cohort}}} \quad (6)$$

Where:

- p: pro-rated national office expenses attributable to site x, 2014 cohort
- P: total national expenses at site x, in the indicated year
- #4y.o.s: number of 'active children' aged 4 at site x for the indicated cohort, in the indicated year
- #5y.o.s: number of 'active children' aged 5 at site x for the indicated cohort, in the indicated year.

Site level expenses

Equation (7) describes the link between total site expenses in a year, and site level expenses for each cohort of children at the site in that year.

$$S_{2014} = \text{cost4y.o.}_{2014} \cdot \#4y.o.s_{2014,2014 \text{ cohort}} + \text{cost5.y.o.}_{2014} \cdot \#5y.o.s_{2014,2013 \text{ cohort}} \quad (7)$$

Where:

- S: site level expenses for site x in a given year
- cost4y.o.: cost of delivering HIPPIY to a four year old
- cost5y.o.: cost of delivering HIPPIY to a five year old
- #4y.o.s: number of 'active children' aged 4 at site x for the indicated cohort, in the indicated year
- #5y.o.s: number of 'active children' aged 5 at site x for the indicated cohort, in the indicated year.

It was assumed that the cost of delivering HIPPIY to four-year-old children differs from the cost of delivering HIPPIY to five-year-old children, given differences in intensity of service provision over the two year program. It was also assumed that the expense ratio for delivering HIPPIY to four- and five-year-old children is constant across all years and sites.

In light of this, equation (8) holds.

$$r = \frac{\text{cost4.y.o.}}{\text{cost5.y.o.}} \quad (8)$$

Where:

- r: underlying expense ratio linking the cost of delivering HIPPIY to children aged four and five
- cost4y.o.: cost of delivering HIPPIY to a four year old
- cost5y.o.: cost of delivering HIPPIY to a five year old.

Table C.12 describes the estimation process for expense ratio *r*.

Equations (7) and (8) were then combined to derive equations (9) and (10). These equations show the total site cost for any given site over the years 2014 and 2015.

$$S_{2014} = \text{cost4y.o.}_{2014} \cdot \#4y.o.s_{2014,2014 \text{ cohort}} + \frac{\text{cost4y.o.}_{2014}}{r} \cdot \#5y.o.s_{2014,2013 \text{ cohort}} \quad (9)$$

$$S_{2015} = cost4y.o._{2015} \cdot \#4y.o. S_{2015,2015 cohort} + \frac{cost4y.o._{2015}}{r} \cdot \#5y.o. S_{2015,2014 cohort} \quad (10)$$

Where:

- S: site level expenses for site x in a given year
- r: underlying expense ratio linking the cost of delivering HIPPY to children aged four and five
- cost4y.o.: cost of delivering HIPPY to a four year old
- #4y.o.s: number of ‘active children’ aged 4 at site x for the indicated cohort, in the indicated year
- #5y.o.s: number of ‘active children’ aged 5 at site x for the indicated cohort, in the indicated year.

The value of site level expenses for site x in a given year was known, and the number of ‘active children’ aged four and five years old for each cohort at each site previously estimated. Therefore, equations (9) and (10) allow calculation of the cost of delivering HIPPY to a four year old at that site, in that year.

This value can be used to calculate the cost of delivering HIPPY to a five year old at that site in the same year using equation (8).

Therefore, equation (11) describes the cost for the 2014 cohort.

$$s = cost4y.o._{2014} \cdot \#4y.o. S_{2014,2014 cohort} + cost5y.o._{2015} \cdot \#5y.o. S_{2015,2014 cohort} \quad (11)$$

Where:

- s: site level expenses for site x, 2014 cohort
- cost4y.o.: cost of delivering HIPPY to a four year old
- cost5y.o.: cost of delivering HIPPY to a five year old
- #4y.o.s: number of ‘active children’ aged 4 at site x for the indicated cohort, in the indicated year
- #5y.o.s: number of ‘active children’ aged 5 at site x for the indicated cohort, in the indicated year.

Ratio of resource allocation between children aged four and five years old

Broadly the costs were apportioned using an understanding of the intensity of service provision and tutor activities in each year of HIPPY. The result, and a more detailed description of the approach used for different categories of expenditure, are provided in Table C.12.

TABLE C.12 RATIO OF RESOURCE ALLOCATION BETWEEN COHORTS

Expense category	Ratio of costs Age 4 : age 5	Rationale
Coordinator expenses	1.87	Based on the following assumptions: <ul style="list-style-type: none"> – Each 4 year old receives visits for 1.2 hours per week for weeks 1-6, and 1.2 hours per fortnight for weeks 7-30. For weeks 7-30, 3 hours per fortnight are spent on group meetings. – Each 5 year old receives visits for 1.5 hours per fortnight for weeks 1-30. For weeks 1-30, 3 hours per month are spent on group meetings.
Tutor training, including tutors on traineeships	1.37	Uses the same basis as coordinator expenses, with additional expenses for each tutor as follows: <ul style="list-style-type: none"> – Expenses for tutor of a 4 year old includes 3 hours of training and 1 hour of administration work per week, with an additional 2 days of professional development annually. – Expenses for tutor of a 5 year old includes 3 hours of training per fortnight and 1 hour of administration work per week, with additional training for Crossing Bridges and other employment skills.
Tutors not on traineeships	1.78	Uses the same basis as coordinator expenses, with additional expenses for each tutor as follows: <ul style="list-style-type: none"> – Expenses for tutor of a 4 year old includes 3 hours of training and 1 hour of administration work per week. – Expenses for tutor of a 5 year old includes 3 hours of training per fortnight and 1 hour of administration work per week.
Childcare	1.60	Based on meetings for 3 hours per fortnight for weeks 7-30 among age 4 children, and 3 hours per month for weeks 1-30 among age 5 children.
Enhancements	1.00	Enhancements are assumed to be equally allocated across children aged 4 and 5.
HIPPY materials, including HIPPY Activities (books, activities), and other materials	1.20	Based on the number of packs allocated to each age group: <ul style="list-style-type: none"> – For children aged 4, weekly packs between weeks 1-6 and fortnightly packs for weeks 7-30 – For children aged 5, fortnightly packs for weeks 1-30.
Meetings	1.60	Uses the same basis as childcare.
Motor vehicles and travel	1.20	Uses the same basis as HIPPY materials.
All other costs	1.00	All other costs are assumed to be equally allocated across children aged 4 and 5.

Note: Costs are based on the assumption of 12 children aged 4 and 12 children aged 5 per tutor.

Other costs include other employment, accommodation, audit fees, licence fee to HIPPY Australia, office equipment, organisational support, printing and stationary, telephone, fax, and internet, utilities, government, and other costs:

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA DOCUMENTATION

These category level ratios were weighted by the value of each expense category in each site, in each year, to calculate a yearly site level expense ratio. This provided the value of r for each site, used in equations (9) and (10).

Calculation of cost per child

Once the above calculations were completed, the following figures could be estimated:

- the number of 'active children' at each site, from each cohort, in each year
- pro-rated national and site level expenses for each cohort, for each site, for each year.

The cost per child per site was then estimated using equation (12).

$$Cost\ per\ child_{2014\ cohort,site\ x} = \frac{p+s}{\left[\frac{(b+\frac{(b-g)}{2})}{2} + \frac{(\frac{(b-g)}{2}+g)}{2}\right]} \quad (12)$$

Where:

- p: pro-rated national expenses for site x, 2014 cohort
- s: site level expenses for site x, 2014 cohort
- b: base enrolments at site x, 2014 cohort
- g: graduations at site x, 2014 cohort

Finally, to calculate the average cost per child for the cohort, the average cost per child at each site for the 74 sites that reported financial information for 2014 and 2015 was used, as shown in equation (13).

$$Average\ cost\ per\ child_{2014\ cohort} = \frac{1}{74} \sum_{i=1}^{74} Cost\ per\ child_{2014\ cohort,site\ i} \quad (13)$$

The use of equation (13) implies that sites are equal-weighted in the analysis. This methodology was used to prevent large sites, which are generally able to operate at a lower cost per child, from being overweighted.

C.3.2 Results – costs per child

Based on the methodology described above, it is estimated that the average cost of administering HIPYPY for the 2014 cohort, was \$11,113 per 'active child'. This includes the cost of both years of HIPYPY for each child.⁴²

TABLE C.13 AVERAGE TWO YEAR COST PER 'ACTIVE CHILD' FOR THE 2014 COHORT BY SITE TYPE, 2017 DOLLARS

Site type	Cost per 'active child', 2014 cohort (2017 dollars)
All sites	\$11,113
Phase 1 ¹	\$8,455
Phase 2	\$16,322

Note:

1 Excludes Belconnen as audited financial data for 2014 was not provided for this site.

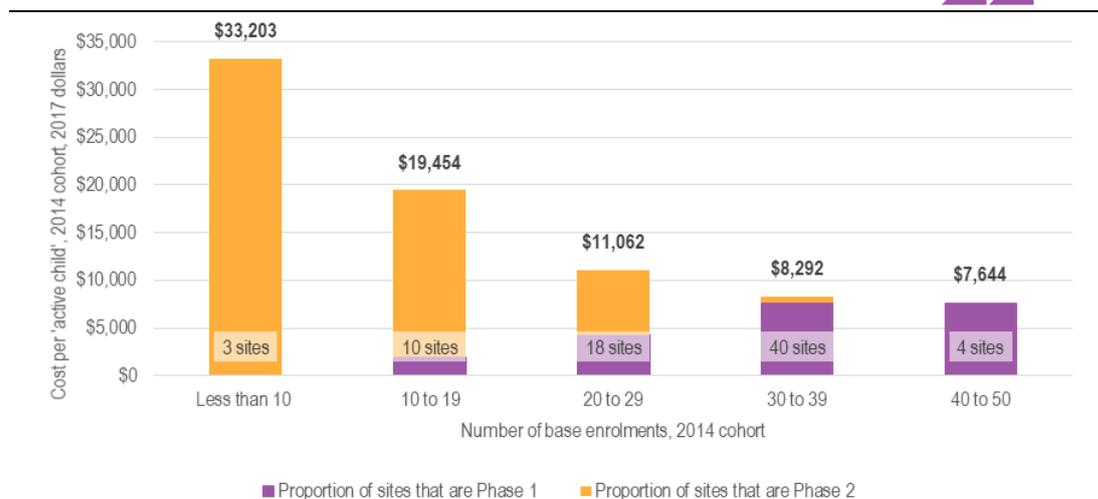
SOURCE: ACIL ALLEN ANALYSIS OF HIPYPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPYPY) (2017)

As shown in Table C.13, the average cost per 'active child' at phase 1 sites is almost half the cost per 'active child' for phase 2 sites. Given that sites often experience difficulties recruiting children in the early years of operation, and that a minimum level of investment is required to start up the program at any site, this result may be expected.

Furthermore, pro-rated national expenses are fixed costs, and these were distributed equally across all 'active children' at a site in a given year. This makes delivery especially costly at smaller phase 2 sites during their start-up period. Figure C.5 describes this dynamic.

⁴² In 2017 dollars.

FIGURE C.5 COST PER 'ACTIVE CHILD' FOR THE 2014 COHORT BY SITE SIZE, 2017 DOLLARS



Note: Excludes Belconnen as audited financial data for 2014 was not provided for this site. The size of the bar refers to the cost per 'active child' for the 2014 cohort. The colour of the bar refers to the proportion of sites, of this type, that are phase 1 or 2 sites.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017)

Therefore, the cost per 'active child' for phase 1 sites is considered to be the most accurate reflection of the expected cost of delivering HIPPY to a child in the future.

Figure C.6 shows that cost per 'active child' increases as remoteness of the site in which HIPPY is implemented increases. This is consistent with the observation above that the cost is higher for phase 2 as a higher proportion of phase 2 sites are located outside major cities.

FIGURE C.6 COST PER 'ACTIVE CHILD' FOR THE 2014 COHORT BY REMOTENESS, 2017 DOLLARS



Note: Excludes Belconnen as audited financial data for 2014 was not provided for this site.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017)

Costs per child using implied national office costs

Table C.14 shows the calculated cost per child using three different metrics for total expenses for the 2014 cohort, namely:

- site level expenses only
- the sum of site level expenses and pro-rated national expenses using the value of the 2015-16 national budget found in the *Deed*
- the sum of site level expenses and implied pro-rated national expenses described in Table C.9.

TABLE C.14 COST PER CHILD USING IMPLIED NATIONAL OFFICE COSTS

Site type	(1) Site level expenses only	(2) Site level expenses and pro-rated national expenses ²	(3) Site level expenses and implied pro-rated national expenses ³
All sites	\$8,771	\$11,113	\$15,664
Phase 1	\$7,001	\$8,455	\$11,321
Phase 2	\$12,241	\$16,322	\$24,178

Note:

1 Excludes Belconnen as audited financial data for 2014 was not provided for this site.

2 Based on the value of the 2015-16 national budget found in the Deed of Variation No.1 Relating to Funding for the Home Interaction program for Parents and Youngsters (HIPPY) (2017)

3 As described in Table C.9.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017)

Average costs per child for all sites are 41 per cent higher using implied pro-rated national expenses than when pro-rated national expenses from the *Deed* are used. These findings support the view that the cost per 'active child' at phase 1 sites, using pro-rated national expenses from the *Deed*, should be used a comparator when considering the cost of HIPPY against other similar programs.

C.3.3 Costs per child in comparator programs

Table C.15 and Figure C.7 compare the cost of providing HIPPY with the comparator programs. It is worth noting that these costs per child may not be directly comparable, due to differences in methodology.

TABLE C.15 COMPARISON OF COST PER CHILD, HIPPY AND COMPARATOR PROGRAMS

Program	Cost per child 2017 Australian dollars
HIPPY costs per child	
HIPPY Australia, 2014 cohort, all sites	\$11,113
HIPPY Australia, 2014 cohort, phase 1 sites only	\$8,455
HIPPY Australia, 2009 cohort ⁴³	\$7,513
HIPPY New Zealand, 2002 cohort ⁴⁴	\$6,590
Cost per child of other programs	

⁴³ Liddell, M., Barnett, T., Roost, F. D., & McEachran, J. (2011). *Investing in our Future: An evaluation of the national rollout of the Home Interaction program for Parents and Youngsters (HIPPY)*. Final report to the Department of Education, Employment and Workplace Relations. Melbourne: Monash University. Retrieved from <https://www.mychild.gov.au/sites/mychild/files/documents/04-2015/hippy_evaluation.pdf>.

⁴⁴ Shulruf, B., & Wang, G. (2011). *Parent influence on outcomes for children: HIPPY as a cost effective option*. Alexandru Ioan University, Lumen Publishing House. Retrieved from <http://rcis.ro/images/documente/rcis34_01.pdf>.

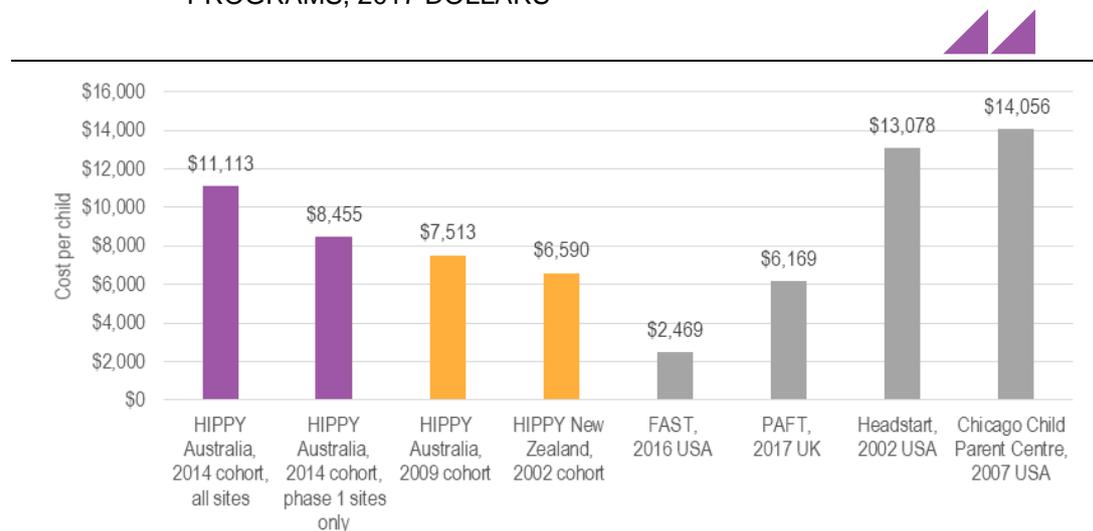
Program	Cost per child 2017 Australian dollars
FAST 2016 USA ⁴⁵	\$2,469
PAFT, 2012 USA ⁴⁶	\$6,169
Head Start, 2002 USA ⁴⁷	\$13,078
Chicago Child Parent Centre, 2007 USA ⁴⁸	\$14,056

Note: Figures have been converted to 2017 dollars using an annual inflation rate of 2.5 per cent. Exchange rates were based on rates on 9 October 2017. Exchange rates were as follows: 1 USD: 1.29 AUD; 1 NZD: 0.91 AUD.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017).

In Figure C.7, purple columns refer to values for the average cost per 'active child' calculated as part of this review. Gold columns refer to cost per child calculated for HIPPY at different time points, or in different locations. Grey columns refer to the cost per child for comparator programs.

FIGURE C.7 COMPARISON OF COST PER CHILD, HIPPY AND COMPARATOR PROGRAMS, 2017 DOLLARS



Note: Figures have been converted to 2017 dollars using an annual inflation rate of 2.5 per cent. Exchange rates were based on rates on 9 October 2017. Exchange rates were as follows: 1 USD: 1.29 AUD; 1 GBP: 1.69 AUD; 1 NZD: 0.91 AUD.

SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017).

The analysis presented here indicates that HIPPY Australia has a higher average cost than in 2009. This may be due to the implementation of phase 2, which occurred after the earlier analysis.

To allow more of a 'like for like' comparison between this analysis and that done previously requires that the phase 2 sites are omitted, which yields an estimate of \$8,455 per child.

⁴⁵ Washington State Institute for Public Policy. (2017). *Families and Schools Together (FAST); Children's mental health: Disruptive behaviour benefit cost results*. Retrieved from <<http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/150/Families-and-Schools-Together-FAST>>.

⁴⁶ Washington State Institute for Public Policy. (2012). *Parents as Teachers benefit cost results*. Retrieved from <<http://www.wsipp.wa.gov/ReportFile/1489>>.

⁴⁷ Puma, M., Bell, S., Cook, R., Heid, C., Lopez, M. (2005). *Head Start impact study: First year findings*. Westat. Prepared for the USA Department of Health and Human Services.

⁴⁸ Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379-404. doi:10.1111/j.1467-8624.2010.01563.x

This represents an increase in costs per child between 2009 and 2017 of 13 per cent. The increase in costs may be due to range of factors including:

- increased costs of delivery due to the circumstances of sites, such as increased rates of application for enhancement and tutor training funds
- increased fixed costs due to additional work undertaken at a national level, such as curriculum development
- differences in calculation methodology.

The cost of HIPPY implementation per child according to a New Zealand study conducted for the 2002 cohort is relatively low as compared to 2017 costs for HIPPY Australia. The cost difference in this instance may be due to differences in cost of implementation in different countries, among other factors.

In relation to comparator programs, a number of observations are made:

- The FAST program is lower cost than HIPPY on a cost per child basis. This is expected given that the FAST is a multi-family program and it does not focus on employment pathways for staff, which is a key component of HIPPY. The intensity of program delivery also differs, as outlined in section C.1.2.
- The cost of the PAFT program is also lower than the cost of HIPPY as estimated for phase 1 sites only. PAFT operates similarly to HIPPY with delivery of program material occurring directly to parents in the home or through children's centres. The difference in cost per child may be attributable to the fact that HIPPY considers employment pathways for tutors, while PAFT does not. PAFT is also targeted at younger children, aged three years old and below.
- Headstart and Chicago Child Parent Centre programs are greater cost than HIPPY. Both programs are delivered in services and homes, and make use of qualified staff members to conduct delivery. Headstart is generally delivered by qualified early childhood educators. The Chicago Child Parent Centre program is delivered by a collaborative team that includes a teacher, a parent resource teacher, and a school community representative. HIPPY is primarily delivered by paraprofessionals - namely home tutors drawn from families that take part in the program. It is expected that it is lower cost to employ paraprofessionals than qualified staff members.

C.4 Benefits of HIPPY

The final section in this appendix is to compare the costs of HIPPY, discussed above, with the benefits it provides. The costs are discussed in Section C.3.

The benefits described in this section occur at different stages over time: short term benefits refer to benefits that occur during the program; medium term benefits refer to benefits that occur over the next 10 years, while the child is still in secondary school; and long term benefits refer to lifetime benefits⁴⁹. Medium term benefits, long term benefits for HIPPY have been derived through consideration of comparator programs.

This section describes the benefits:

- short term benefits are discussed in Section C.4.1

⁴⁹ The benefits of programs are often considered over a longer time frame to understand if outcomes are sustained, increase or decay, and the implications of this for the economic analysis. Measuring benefits would typically use outcomes measured at multiple points in time. It is preferred to have two time-dimensioned effect sizes to enable the analysis. It is common however, that many programs do not have enough research to conduct a program-specific meta-analysis to obtain a second effect size. In this instance, consideration can be given to information from a broader group of research studies in a research area, however the approach is therefore limited and the evidence is preferably improved over time.

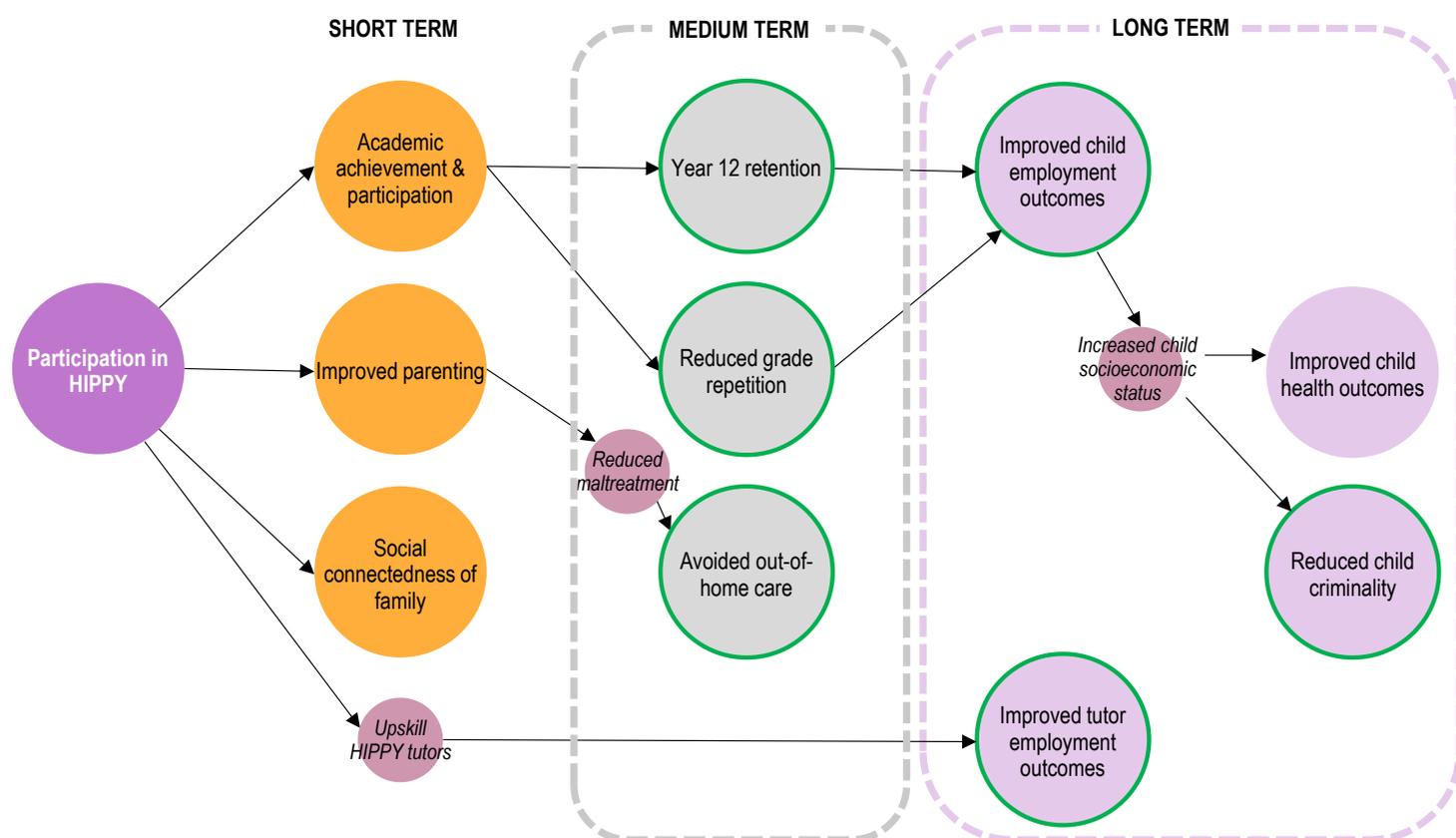
- medium term benefits are discussed in Section C.4.2
- long term benefits are discussed in Section C.4.3.

The terms benefits and outcomes are used interchangeably.

As discussed in the main report, HIPPY is broadly a program designed to improve people's educational, and therefore lifetime, outcomes by helping them 'get off to a good start' in early childhood.

Conceptually, HIPPY is capable of providing many benefits. The key benefits are summarised in Figure C.8. The figure focuses on benefits that are relatively direct, have been discussed in other studies of HIPPY and/ or comparator programs, and are, or might be, capable of quantification and inclusion in a cost benefit analysis. Benefits are shown as three groups – short, medium and long term.

FIGURE C.8 OVERVIEW OF POTENTIAL BENEFITS ASSOCIATED WITH HIPPY IN AUSTRALIA



SOURCE: ACIL ALLEN CONSULTING 2018

The figure highlights the challenge in conducting a cost benefit analysis of a program such as HIPPY, namely that while the costs are concrete, the benefits not always as clear and other factors can occur that affect the achievement of the benefits. The more direct, short term benefits are more readily observed and linked to HIPPY.

In this analysis the focus is on the benefits that can be quantified. To enable comparison between the cost of operating HIPPY and the benefits it achieves, the focus is particularly on benefits that can also be valued or monetised.

Quantification and valuation of these outcomes was conducted using the benefit transfer method. In simple terms, the necessary estimates were drawn from the literature review conducted for this evaluation and then applied to a cost benefit analysis framework.

Relevant outcomes of the literature review are summarised in Table C.16.

The table categorises outcomes as either short, medium, or long term and provides an assessment of our confidence in:

- the outcome's suitability for valuation
- the link between HIPPY and the outcome.

The table shows that most of the outcomes are experienced by the child participating in HIPPY but that there are also benefits to the home tutors.

The same information is conveyed in Figure C.8 above. Where there are green rings around each of the dots, this denotes that the benefit in question has been monetised and is included in the cost benefit analysis.

TABLE C.16 EXAMINING POTENTIAL BENEFITS ASSOCIATED WITH HIPPY IN AUSTRALIA

Outcome	Suitability for estimation	Link to HIPPY program
Short term outcomes	<i>Low/medium/high</i>	<i>Weak/medium/strong</i>
Academic achievement and participation	Low. May result in double counting of medium term outcomes.	Strong. Magnitude of outcomes is available as part of this review.
Improved parenting		
Social connectedness of family		
Medium term outcomes		
Retention to year 12	High. Outcome magnitude and value can be quantified.	Strong. Evidence is available for HIPPY in an international setting, and comparator programs.
Reduced grade repetition	High. Outcome magnitude and value can be quantified.	Strong. Evidence is available for HIPPY in an international setting and comparator programs.
Reduced incidence of out-of-home care	High. Outcome magnitude and value can be quantified.	Medium. Evidence is available for only comparator programs.
Long term outcomes		
Improved employment outcomes among children	High. Outcome magnitude and value can be quantified.	Strong. Evidence is available for only comparator programs but theoretically well supported.
Improved employment outcomes among home tutors	High. Outcome magnitude and value can be quantified.	Strong. Magnitude of outcomes is available as part of this review.
Improved health outcomes – reduced childhood stress	Low. Outcome magnitude or value is not available.	Medium-weak. Primarily theoretical evidence.
Improved health outcomes – early identification of developmental delays	Low. Outcome magnitude or value is not available.	Medium-weak. Primarily theoretical evidence.
Improved health outcomes – reduced rates of teenage pregnancy	Medium. Outcome magnitude is not available but not value.	Medium. Evidence is available for only comparator programs operating under different policy circumstances.
Improved health outcomes – reduced rates of smoking and substance misuse	Medium. Outcome magnitude is not available but not value.	Medium. Evidence is available for only comparator programs operating under different policy circumstances.
Reduced criminality	High. Outcome magnitude and value can be quantified.	Medium. Evidence is available for only comparator programs.

Outcome

Suitability for estimation

Link to HIPPY program

SOURCE: ACIL ALLEN CONSULTING 2018

The evidence base used to derive the size of HIPPY's medium and long term impacts primarily refers to studies completed in the USA within the last 15 years on the comparator programs is summarised in Table C.1.

Despite differences in the way comparator programs have been implemented, short term outcomes from these programs are relatively similar to those seen in the HIPPY cohort (gold dots in Figure C.8). It is assumed that the medium and long term outcomes for HIPPY will be similar to those found for comparator programs, which have been studied over a longer time period.

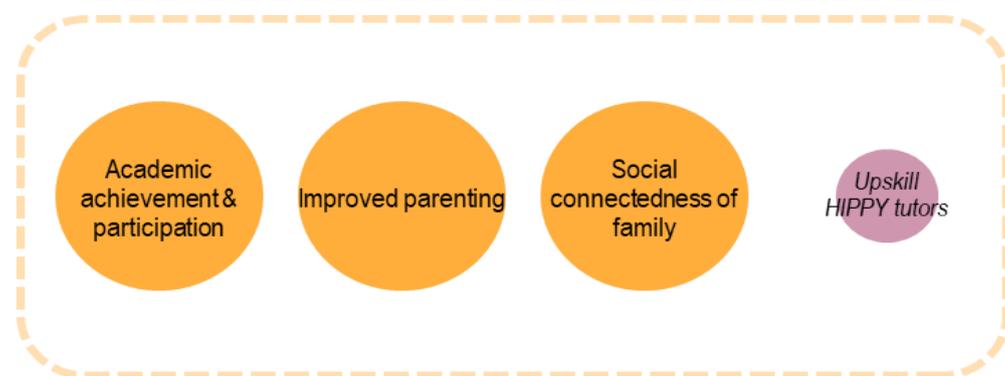
C.4.1 Short term benefits

As shown in Figure C.9, the short term benefits HIPPY provides relate to:

- academic achievement and participation
- improved parenting
- social connectedness of the (HIPPY participant's) family.

These outcomes are discussed in turn below except the benefit to home tutors, which is discussed with the long term outcomes in section C.4.3.

FIGURE C.9 SHORT TERM BENEFITS EXAMINED



SOURCE: ACIL ALLEN CONSULTING 2018

Improved academic performance and participation

Improved academic achievement, through enhanced school readiness and engagement, is a primary outcome of early childhood interventions.

The international and Australian evidence base for the impact of early childhood interventions on academic achievement and participation is comprehensive. Programs such as HIPPY have been shown to:

- expose children to classroom learning, foster self-confidence and a perceived ability to learn and accomplish, as well as enhance cognitive, social and emotional and physical development
- improve children's engagement with school as a result of improved personal relationships with peers, due to their improved social and emotional development

- enhance children’s pre-academic skills including language, vocabulary, literacy, numeracy, and general knowledge through formal or informal learning opportunities.

These short term outcomes have been measured through the use of longitudinal studies, or exit surveys of participants. However, as discussed below, the benefits appear to be ‘captured’ in the long term benefits discussed below. Therefore, to avoid double counting, the benefit of improved academic performance and participation is not included separately in the cost benefit analysis.

Improved parenting

Parents are their child’s first teacher, and parental engagement at critical points in a child’s life can alter their life-long educational achievement and inspire a love for learning and achieving, both academically and socially.⁵⁰ Increased parental engagement, and consequently the development of a positive home learning environment, is critical to a child’s early learning and development and feeds into their improved academic achievement and participation at school.⁵¹

Similarly to the impact of academic achievement and participation, it is expected that the impact of improved parenting will be captured through medium term outcomes such as retention to year 12, reduced grade repetition, and reduced likelihood of the child entering Out-of-Home Care (OOHC) due to maltreatment or poor parenting.

Increased social connectedness of family

Increased social connectedness of family to community is associated with improved long term outcomes, including increased community resilience, social inclusion, and investment in early learning and development. This occurs through improving access to local community services, connections to early learning providers and schools.

There is promising evidence that participation in HIPPY increases access to local services.⁵² However, evidence on sense of community belonging is varied. Further research in the local or international context is required to evaluate the consistency of these findings.

Upskill home tutors

This benefit is discussed under section C.4.3.

C.4.2 Medium term benefits

As shown in Figure C.10, the medium term benefits HIPPY provides relate to:

- year 12 retention
- reduced grade repetition
- avoided out of home care due to avoided maltreatment of the child (in turn due to the short term outcome – improved parenting).

⁵⁰ Ockenden, L. (2014). *Positive learning environments for Indigenous children and young people*. Canberra: Closing the Gap Clearinghouse, Australian Institute of Health and Welfare.

Zubrick, S., & Silburn, S. (2006). *Western Australian Aboriginal Child Health Survey: Improving the educational experiences of Aboriginal children and young people*. Perth: Telethon Institute for Child Health Research and Curtin University of Technology.

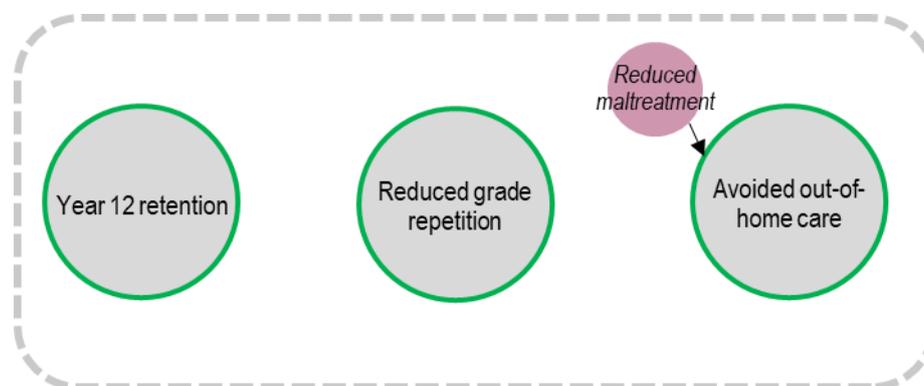
⁵¹ Desforges, C., & Abouchar, A. (2003). *The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review*. Nottingham: DfES publications, Vol 433.

Lau, E.Y.H., Li, H., & Rao, N. (2011). Parental involvement and children’s readiness for school in China. *Educational Research*. 53(1), 95-113.

⁵² Liddell, M., Barnett, T., Roost, F. D., & McEachran, J. (2011). *Investing in our Future: An evaluation of the national rollout of the Home Interaction program for Parents and Youngsters (HIPPY)*. Final report to the Department of Education, Employment and Workplace Relations. Melbourne: Monash University. Retrieved from <https://www.mychild.gov.au/sites/mychild/files/documents/04-2015/hippy_evaluation.pdf>.

These outcomes are discussed in turn below. Generally speaking, the literature provides estimates of the value of improved academic outcomes in secondary school. Further, while the direct link between HIPPY and these outcomes is not well known, the link between early childhood interventions generally and secondary school performance has been observed.

FIGURE C.10 MEDIUM TERM BENEFITS EXAMINED



SOURCE: ACIL ALLEN CONSULTING 2018

Estimates of the value of these benefits are summarised in Table C.17.

TABLE C.17 BENEFIT ESTIMATES - MEDIUM TERM OUTCOMES

Metric	National average	HIPPY community estimates		Rationale
		HIPPY child	Non-HIPPY child	
Year 12 retention				
Average cost of a year of school (primary and secondary), 2017 dollars.	\$17,731 ¹ (Report on Government Services) (ROGS)	\$17,731	\$17,731	The average cost of a year of school is the same for all children irrespective of their HIPPY completion status.
Retention rate for primary school students (years 1-6)	98%	98%	98%	Assumes almost all students complete compulsory primary school.
Retention rate for secondary school students (years 6-12)	81.8% ² (ROGS)	81.8%	76.8% (-5 percentage points)	Based on collected evidence, comparator groups performed between 6 and 16 percentage points worse than intervention groups with respect to academic outcomes (on average, 9 percentage points worse). Therefore it is conservatively estimated that the non-HIPPY cohort will perform 5 percentage points worse.
Grade repetition				
Average cost of a year of school (primary and secondary), 2017 dollars.	\$17,731 ³ (ROGS)	\$17,731	\$17,731	The average cost of a year of school is the same for all children irrespective of their HIPPY completion status.

Metric	National average	HIPPY community estimates		Rationale
		HIPPY child	Non-HIPPY child	
<i>Probability of repetition of any single grade in years 1-12</i>	8.4% ⁴ (OECD)	8.4%	10.9% (+3 percentage points)	Based on collected evidence, comparator groups were between 3 and 31 percentage points more likely to repeat a grade as compared to intervention groups (on average, 16 per cent more likely). Therefore, it is conservatively estimated that the non-HIPPY cohort is 3 percentage points more likely to repeat a grade. In absence of other information, it is assumed that the impact of HIPPY on grade repetition and baseline rates of grade repetition are the same for Indigenous children as compared to all children.
Avoided out of home care				
<i>Weighted average cost of a year of OOHC, 2017 dollars.</i>	\$58,616 ⁵ (ROGS)	\$58,616	\$58,616	The average cost of a year of school is the same for all children irrespective of their HIPPY completion status. This figure uses the cost of all OOHC services in each state per child, weighted based on the proportion of children enrolled in HIPPY in each state (2014 cohort). ⁶
<i>Weighted likelihood of utilisation of OOHC services among all children</i>	0.89% ⁷ (ROGS)	0.89%	1.89% (+1 percentage points)	The national average uses the cost of all OOHC services in each state per child, weighted based on the proportion of children enrolled in HIPPY in each state (2014 cohort). ⁶ Based on collected evidence, comparator groups performed between 31 and 76 per cent worse than intervention groups with respect to maltreatment outcomes (on average, 57 per cent worse). Therefore it is conservatively estimated that the non-HIPPY cohort will be 10 per cent more likely to experience maltreatment and thereby require OOHC services.

Notes:

1 Based on the sum of Australian Government specific purpose payments (excluding capital grants) and State and Territory government recurrent expenditure per FTE government school student, in 2014-15. Figures were converted to 2017 dollars using a 2.5 per cent inflation rate.

2 Figure refers to the retention rate for all secondary school students in government schools, from year 7/8 to year 12.

3 Based on the sum of Australian Government specific purpose payments (excluding capital grants) and State and Territory government recurrent expenditure per FTE government school student, in 2014-15. Figures were converted to 2017 dollars using a 2.5 per cent inflation rate.

4 Average rate of grade repetition among Australian students, 2013

5 Based on the sum of Australian Government specific purpose payments (excluding capital grants) and State and Territory government recurrent expenditure per FTE government school student, in 2014-15. Figures were converted to 2017 dollars using a 2.5 per cent inflation rate. As no breakdown by Indigenous status was provided for the 2014 cohort, the same weighting by state has been applied to derive a weighted cost per year of OOHC services among Indigenous children as all children. This cost per year may be understated, as the per-child per-year cost of OOHC is substantially higher in NT (\$108,154 in 2016) than in other states (average of \$59,736 in 2016).

6 2014 cohort numbers are used as costs used for cost benefit and effectiveness analysis refer to the 2014 cohort.

7 Based on the rate of children in OOHC per 1,000 of the relevant population, between the ages of 0-17 years, 2015-16, by state.

SOURCE: ACIL ALLEN ANALYSIS OF ROGS 2017 TABLE 4A.11, ROGS 2017 TABLE 4A.42, ROGS 2017 TABLE 4A.11, OECD 2013 EDUCATION POLICY OUTLOOK: AUSTRALIA, ROGS 2017 TABLE 16A.3 & TABLE 16A.17, HIPPY AUSTRALIA DATA (2014 COHORT)

Retention to year 12

Secondary school performance and retention is recognised as having a significant impact on young people's ability to enter tertiary education and employment later in life. This has a very direct link to their lifetime income and socioeconomic status.⁵³

As discussed below, the literature in this area attributes a variety of outcomes to early childhood interventions, including increased secondary school attendance, increases in the number of grades a student completes and an increased likelihood that a student will remain at secondary school until year 12 (secondary school retention). For example, the High/

⁵³ Australian Bureau of Statistics (ABS). (2011). 4102.0 - Australian Social Trends. Retrieved from <<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features40Mar+2011>>.

Scope Perry Preschool Study found higher mean grade point averages and test scores from ages 7 to 14 and more frequent high school graduation rates.

Based on that literature, it is anticipated that HIPPY participants will experience improvements in all three of these areas.

HIPPY evidence base

There have been few studies that track the performance of students who complete HIPPY over a lengthy period of time. The only study that tracked the secondary school outcomes of children who had completed HIPPY is described as follows:

- a cross sectional study of children who took part in HIPPY (USA) found that children who received the intervention had attendance rates of 94 per cent by the age of 14-15 years old, as compared to 88 per cent for the comparator group⁵⁴
- furthermore, a meta-analysis of conducted in 2017 found that the impact of HIPPY on child educational outcomes is expected to be sustained over time.⁵⁵

Comparator program evidence base

A selection of international studies of the impact of early childhood interventions addressed their ability to affect secondary school performance and retention. The following is a selection of the measured findings evidenced by these studies, where they related to programs considered comparable to HIPPY.

- A longitudinal study of children receiving a preschool Chicago Child-Parent Centre program showed that by the age of 25 years: ⁵⁶
 - 79.7 per cent of children who received the intervention had completed secondary school, as compared to 72.9 per cent of a comparator group of children
 - The highest number of grades completed was 12.08 on average for children who received the intervention, as compared to 11.8 grades for a comparator group of children.
- A further study of the same cohort who received a preschool Chicago Child-Parent Centre program showed that by the age of 28 years, 44.3 per cent of children who received the intervention had graduated on time, as compared to 36.6 per cent of a comparator group.⁵⁷
- A randomised control study with a longitudinal follow up period of children receiving the Abecedarian Approach showed that by age 21, 67 per cent of children who received the intervention had graduated from secondary school, as compared to 51 per cent of a comparator group of children.⁵⁸
- A meta-analysis and cost benefit analysis conducted for the FAST program showed that participation in the program resulted in increased expenditure on higher education per

⁵⁴ Brown, A., & Lee, J. (2014). School performance in elementary, middle, and high school: A comparison of children based on HIPPY participation during the preschool years. *School Community Journal*, 24(2), 83-106.

⁵⁵ Goldstein, K. (2017). *Five decades of HIPPY research: A preliminary global meta-analysis and review of significant outcomes*. Mount Scopus, Jerusalem: HIPPY International.

⁵⁶ Intervention and comparator group participants in the study were from low income families in the USA. Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

⁵⁷ Reynolds, A. J., Temple, J. A., Ou, S. R., Arteaga, I. A., & White, B. A. B. (2011). School-based early childhood education and age-28 well-being: Effects by timing, dosage, and subgroups. *Science*. 333(6040), 360-364. doi: 10.1126/science.1203618.

⁵⁸ Study was conducted in the USA. Barnett W. S., & Masse, L. N. (2007). Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26(1), 113–25. Wise, S., da Silva, L., Webster, E., & Sanson, A. (2005). The efficacy of early childhood interventions. *Australian Institute of Family Studies*.

participant who received the intervention, which may be indicative of improved secondary school performance.⁵⁹

Reduced grade repetition

In addition to improved retention and attendance, participation in early childhood interventions has been associated with reduced rates of grade repetition. Grade repetition has been associated with reduced positivity in student attitudes towards school, and represents a potentially unnecessary cost to the government.

HIPPY evidence base

A quasi-experimental study of children who took part in HIPPY (USA) found that 3 per cent of children who received the intervention had to repeat their first year at school, as compared to 6 per cent of a demographically matched comparator group.⁶⁰

None of the evidence found relating to HIPPY tracked grade repetition across primary and secondary school. However, given that improved educational outcomes were found to be persistent over time⁶¹, it is reasonable to expect that HIPPY results in reduced grade repetition throughout primary and secondary school.

Comparator program evidence base

The following studies provide a representation of the evidence base relating to the impact of early childhood interventions on grade repetition:

- A longitudinal study of children receiving a preschool Chicago Child-Parent Centre program showed that 23 per cent children of children who received the intervention were held back a grade by age 15, as compared to 38.4 per cent of a comparator group of children.⁶²
- A randomised control study with a longitudinal follow up period of children receiving the Abecedarian Approach showed that by age 21, 34 per cent of children who received the intervention had repeated a grade, as compared to 65 per cent of a comparator group of children.⁶³
- A meta-analysis and cost benefit analysis conducted for the FAST program showed that participation in the program resulted in reduced expenditure on grade repetition per participant who received the intervention, indicative of reduced rates of grade repetition.⁶⁴

Reduced incidence of OOHC

There is modest evidence that home visitation programs occurring in early childhood, including those similar to HIPPY, play a role in the prevention of child abuse, neglect, and

⁵⁹ Washington State Institute for Public Policy. (2017). Benefit-cost results: Families and Schools Together (FAST). Retrieved from <<http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/150/Families-and-Schools-Together-FAST>>.

⁶⁰ Johnson, U. Y., Martinez-Cantu, V., Jacobson, A. L., & Weir, C.-M. (2012). The Home Instruction for Parents of Preschool Youngsters program's relationship with mother and school outcomes. *Early Education and Development*, 23(5), 713-727. doi: 10.1080/10409289.2011.596002.

⁶¹ Goldstein, K. (2017). *Five decades of HIPPY research: A preliminary global meta-analysis and review of significant outcomes*. Mount Scopus, Jerusalem: HIPPY International.

⁶² Intervention and comparator group participants in the study were from low income families in the USA. Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379-404. doi:10.1111/j.1467-8624.2010.01563.x

⁶³ Study was conducted in the USA. Barnett W. S., & Masse, L. N. (2007) Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26(1), 113-25. Wise, S., da Silva, L., Webster, E., & Sanson, A. (2005). The efficacy of early childhood interventions. *Australian Institute of Family Studies*.

⁶⁴ Washington State Institute for Public Policy. (2017). Benefit-cost results: Families and Schools Together (FAST). Retrieved from <<http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/150/Families-and-Schools-Together-FAST>>.

family violence.⁶⁵ Effects found have generally been modest in size, and were not monetised.

Despite these caveats, it is important to consider the potential for HIPPY to impact rates of maltreatment among children from disadvantaged communities. This is particularly true in light of the higher than proportional concentration of Indigenous children in the OOHC system, and the high cost of care. In light of this, modest estimates of the impact of HIPPY have been applied to this analysis.

HIPPY evidence base

There are presently no studies of HIPPY that have estimated its impact on child maltreatment.

Comparator program evidence base

Although it has been proposed that early childhood interventions may play a role in reducing child maltreatment, sparse evidence is available based on studies conducted through the use of longitudinal datasets. One of the few robust longitudinal studies conducted relates to the Chicago Child-Parent Centre program, the results of which are outlined below.

- A longitudinal study of children receiving a preschool Chicago Child-Parent Centre program showed that between the ages of four and 17:⁶⁶
 - 9.9 per cent children of children who received the intervention showed any indication of abuse or neglect, as compared to 17.4 per cent of a comparator group of children
 - 5.2 per cent children of children who received the intervention were placed in OOHC, as compared to 8.5 per cent of a comparator group of children.
- This was supported by other research into the Chicago Child-Parent Centre program which found that maltreatment and neglect was reduced among children due to a range of mechanisms including increased, earlier parental involvement with children and schools, as well as improvements in maternal educational attainment.⁶⁷

These results are supported by the findings of a meta-analysis, which considered 15 studies of 14 programs targeted at children between birth and five years old.⁶⁸ This research found that the early childhood programs under consideration resulted in an approximately 31 per cent decrease in the rate of maltreatment among the intervention group. Furthermore, three programs provided strong evidence for the preventative effect of early childhood interventions on childhood maltreatment.

⁶⁵ London Economics. (2016). *Cost benefit analysis of interventions with parents*. Research Report DCSF-RW008. Produced for the Department for Children, Schools and Families UK. Retrieved from <<http://www.socialvalueuk.org/app/uploads/2016/03/CBA%20interventions%20with%20parents.pdf>>.

⁶⁶ Intervention and comparator group participants in the study were from low income families in the USA. Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

⁶⁷ Mersky, J. P., Topitzes, J. D., & Reynolds, A. J. (2011). Maltreatment prevention through early childhood intervention: A confirmatory evaluation of the Chicago Child-Parent Center preschool program. *Children and Youth Services Review*, 33(8), 1454–1463. doi: 10.1016/j.chilyouth.2011.04.022

⁶⁸ Reynolds, A. J., Mathieson, L. C., & Topitzes, J. W. (2009). Do early childhood interventions prevent child maltreatment? A review of research. *Child Maltreatment*, 14(2), 182-206. doi: 10.1177/1077559508326223

C.4.3 Long term outcomes

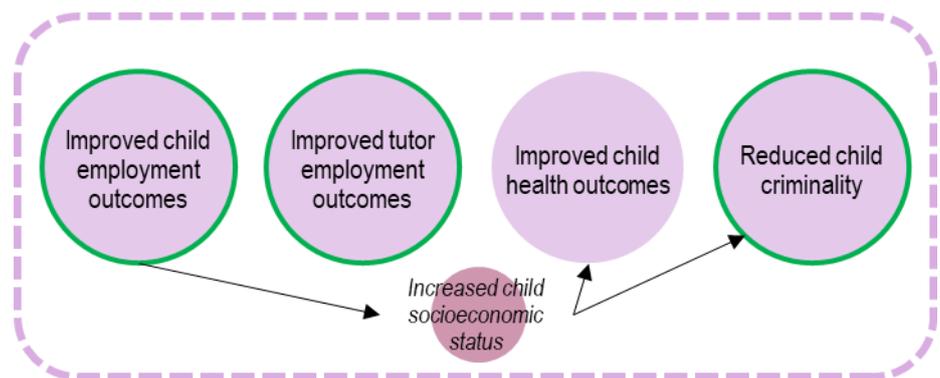
Improved education outcomes are associated with increased income and employment opportunities. Improvements in income, education, and other social inequities experienced by children and young people are shown to have a proven effect on both lifelong health outcomes⁶⁹, which interact with and affect involvement in the criminal justice system.⁷⁰

As shown in Figure C.11, the long term benefits HIPPY provides relate to:

- improved child employment outcomes
- improved tutor employment outcomes
- improved child health outcomes, due to improved socioeconomic status
- reduced child criminality, due to improved socioeconomic status.

These outcomes are discussed in turn below. The literature generally provides robust support for these outcomes. However, the quantification of these long term outcomes depends on the availability of relevant information relating to their probability of occurrence in an Australian context, and associated monetised values. For this reason a decision was taken not to quantify the benefits of improved child health outcomes in this evaluation.

FIGURE C.11 LONG TERM OUTCOMES EXAMINED



SOURCE: ACIL ALLEN CONSULTING 2018

⁶⁹ Department of Health. (2013). *The Social Determinants of Health*. Retrieved from <<http://www.health.gov.au/internet/publications/publishing.nsf/Content/oatsih-healthplan-toc-determinants>>.

⁷⁰ Neumann, S. (2011). The link between health and the criminal justice system. In *Doing time - Time for doing: Indigenous youth in the criminal justice system* (pp. 87-120). Canberra: Commonwealth of Australia.

Estimates of the value of these benefits are summarised in Table C.18.

TABLE C.18 BENEFIT ESTIMATES – LONG TERM OUTCOMES

Metric	National average	HIPPY community estimates		Rationale
		HIPPY child	Non-HIPPY child	
Improved child employment outcomes				
<i>Number of FTEs in a part time role</i>	n.a.	0.5 FTEs	0.5 FTEs	Assumes that a part time role is half the work intensity (and wages) of a full time role.
<i>Retirement age</i>	67 years	67 years	67 years	The national retirement age is 67 years old. The analysis assumes an income is generated up until this age for children in HIPPY communities.
Weighted effective annual income: All children, 2017 dollars				
<i>16-24 years</i>	n.a.	\$14,665	\$13,521	Assumes that young people between the ages of 16-24 earn 50 per cent of the amount that a 25-29 year old would earn.
<i>25 to 29 years</i>	n.a.	\$29,331	\$27,043	Based on the average annual income for a full time employee of different levels of educational attainment, re-weighted by the expected level of attainment achieved by children in the HIPPY community and proportion of these children expected to work at different work intensities.
<i>30 to 34 years</i>	n.a.	\$34,577	\$31,546	
<i>35 to 39 years</i>	n.a.	\$38,404	\$34,928	
<i>40 to 44 years</i>	n.a.	\$39,504	\$35,809	
<i>45 to 49 years</i>	n.a.	\$39,724	\$36,028	
<i>50 to 54 years</i>	n.a.	\$41,024	\$37,194	
<i>55 to 59 years</i>	n.a.	\$38,399	\$34,877	
<i>60-67 years</i>	n.a.	\$28,799	\$26,158	Assumes that people between the ages of 60-67 earn 75 per cent of the amount that a 55-59 year old would earn.
Improved tutor employment outcomes				
<i>Number of FTEs in a part time role</i>	n.a.	0.5 FTEs	0.5 FTEs	Assumes that a part time role is half the work intensity (and wages) of a full time role.
<i>Retirement age</i>	67 years	67 years	67 years	The national retirement age is 67 years old. The analysis assumes an income is generated up until this age for children in HIPPY communities.
<i>Number of children per tutor</i>	n.a.	24 children	24 children	Assumes at full capacity each tutor is able to work with 12 children each aged four and five years old. This is based on the assumption that a site operating at full capacity has approximately two tutors and intake of 24 children per year.
<i>Average age of tutors on completion of HIPPY program</i>	n.a.	26 years	26 years	Calculation of lifetime earnings for tutors / non-tutors begins at this age.
Highest qualifications attained				
<i>Proportion who hold Certificates</i>	n.a.	71% (+19%)	60% ¹ (HIPPY AU)	Estimates for the proportion of community members who hold Certificates is based on the per cent of parents and tutors (combined) who hold Certificates. It is assumed that this figure represents the general level of qualifications in the target group.
<i>Proportion who have completed year 12</i>	n.a.	8% ²	20% ²	
<i>Proportion who have completed year 11 or below</i>	n.a.	8%	20%	

Metric	National average	HIPPY community estimates		Rationale
		HIPPY child	Non-HIPPY child	
Work intensity				
<i>Full time employment</i>	n.a.	8%	0%	The figure for tutors in full time work following HIPPY has been halved to estimate a conservative 'lifetime' rate for home tutors.
<i>Part time employment</i>	n.a.	41%	40%	The figure for tutors in part time work following HIPPY has been halved to estimate a conservative 'lifetime' rate for home tutors.
<i>Unemployed or outside the labour market</i>	n.a.	50%	60%	The balance of tutors / community members who do not work full time or part time are assumed not to be working.
Weighted effective annual income, 2017 dollars				
<i>16-24 years</i>	n.a.	\$8,713	\$5,850	Assumes that young people between the ages of 16-24 earn 50 per cent of the amount that a 25-29 year old would earn.
<i>25 to 29 years</i>	n.a.	\$17,426	\$11,700	Based on the average annual income for a full time employee of different levels of educational attainment, re-weighted by the level of attainment achieved by home tutors and community members in the broader community, and proportion of these people expected to work at different work intensities.
<i>30 to 34 years</i>	n.a.	\$20,053	\$13,263	
<i>35 to 39 years</i>	n.a.	\$20,766	\$13,856	
<i>40 to 44 years</i>	n.a.	\$19,662	\$13,434	
<i>45 to 49 years</i>	n.a.	\$19,858	\$13,359	
<i>50 to 54 years</i>	n.a.	\$20,416	\$13,798	Assumes that people between the ages of 60-67 earn 75 per cent of the amount that a 55-59 year old would earn.
<i>55 to 59 years</i>	n.a.	\$18,962	\$13,084	
<i>60-67 years</i>	n.a.	\$14,222	\$9,813	
Reduced child criminality				
<i>Weighted average cost of a year of incarceration, 2017 dollars.</i>	\$85,931 ³ (ROGS)	\$85,931	\$85,931	The average cost of a year of incarceration is the same for all children irrespective of their HIPPY completion status. This figure uses the cost of imprisonment in each state per child, weighted based on the proportion of children enrolled in HIPPY in each state (2014 cohort). ³
<i>Age at which a person may be imprisoned</i>	18 years	18 years	18 years	Assumes only adults may be imprisoned.
<i>Weighted likelihood of imprisonment as an adult</i>	0.15% ⁴ (ROGS)	0.15%	0.40% (+0.25 percentage points)	The national average uses the rate of imprisonment by state, weighted based on the proportion of children enrolled in HIPPY in each state (2014 cohort). ⁴ Based on collected evidence, comparator groups performed between 5 and 9 percentage points worse than intervention groups with respect to likelihood of involvement with the criminal justice systems (on average, 7 percentage points worse). Therefore it is conservatively estimated that the non-HIPPY cohort will be 0.25 percentage points more likely to be incarcerated.

Metric	National average	HIPPY community estimates		Rationale
		HIPPY child	Non-HIPPY child	

Notes:

1 Based on the HIPPY 2016 Q4 report, which indicates that 39 per cent of parents and tutors (aggregated) held a Certificate and 21 per cent held a Traineeship.

2 The balance of community members / tutors who do not have Certificates is split evenly between the proportion who have completed year 12 and the proportion who have completed year 11 or below.

3 2014 cohort numbers are used as costs used for cost benefit and effectiveness analysis refer to the 2014 cohort.

4 Based on the rate of non-Indigenous adults in the prisoner population per 100 000 of the population, 2015-16. This figure is used for the general population of HIPPY children as it is assumed that the rate for Indigenous adults is sufficiently diluted.

SOURCE: ACIL ALLEN ANALYSIS OF ABS 2015 & AMP.NATSEM 2012, HIPPY AUSTRALIA DATA (2014 COHORT), ROGS 2017 TABLE 16A.3 & TABLE 16A.17, ACIL ALLEN CONSULTATIONS

Improved child employment outcomes

Due to the focus of HIPPY on both improving educational outcomes among children, and among home tutors drawn from the families of children enrolled in HIPPY, this analysis considers the impact of improved employment outcomes in both these groups.

In both instances, the net benefit due to improved employment outcomes has been considered – it is assumed that this includes any societal benefits derived from taxation. Avoided welfare costs such as Centrelink payments are also excluded from this analysis. This is because it is assumed these funds represent a transfer of wealth, and would be spent elsewhere.

Improved employment outcomes among HIPPY participants

Early childhood interventions often hold the aim of improving long term labour market outcomes through improved educational attainment during childhood and young adulthood. Previous studies have shown an association between early childhood interventions and increased income during adulthood, with a majority of findings derived from studies that have taken place in the USA.⁷¹

HIPPY evidence base

Primary research relating to HIPPY in Australia and internationally has not considered its long term impact on participants' employment opportunities during adulthood.

Comparator program evidence base

Analysis of peer-reviewed literature identified two longitudinal studies relating to early childhood interventions that tracked employment outcomes over the long term. The results of these are outlined below.

- A longitudinal study of children receiving a preschool Chicago Child-Parent Centre program showed that 36.8 per cent children of children who received the intervention were in full time employment between the age of 22 and 24 years, as compared to 33.5 per cent of a comparator group of children.⁷² The authors did not consider this to represent a significant difference between the intervention and comparator groups.
- A randomised control study with a longitudinal follow up period of children receiving the Abecedarian Approach showed that by age 21, 65 per cent of children who received the

⁷¹ World Bank Group. (2015). *Later impacts of early childhood interventions: A systematic review*. IEG Working Paper 2015/3. Retrieved from <https://ieg.worldbankgroup.org/sites/default/files/Data/reports/ImpactsOfInterventions_EarlyChildhoodonLaterOutcomes.pdf>.

⁷² Intervention and comparator group participants in the study were from low income families in the USA. Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

intervention were employed, as compared to 50 per cent of a comparator group of children.⁷³

In addition to these findings, a meta-analysis and cost benefit analysis conducted by the Washington State Institute for Public Polices on the FAST program showed that participation in the program resulted in increased labour market earnings associated with improved test scores of \$2,848 per child (2016 dollars).⁷⁴

Proposed estimates

Rather than directly utilising the findings of these studies, this evaluation considers the average annual full-time income for Australian employees by age band, as reported by National Centre for Social And Economic Modelling (NATSEM).⁷⁵ These figures, the proportion of employees of each qualification type who are reported to work full or part-time, and the proportion of people with each qualification, are reported in Table C.19.

TABLE C.19 AVERAGE ANNUAL FULL TIME EMPLOYEE INCOME (2017 DOLLARS) AND EMPLOYEE WORK INTENSITY BY QUALIFICATION LEVEL

	Postgraduate ¹	Bachelor	Diploma ²	Certificate	Year 12	Year 11 or below
Average annual full time employee income (2017 dollars), by age band and qualification level (AMP.NATSEM)³						
25 to 29 years	\$62,521	\$71,272	\$59,283	\$61,151	\$55,262	\$53,793
30 to 34 years	\$81,271	\$87,106	\$68,533	\$71,034	\$63,570	\$54,912
35 to 39 years	\$102,592	\$100,812	\$74,099	\$73,158	\$68,747	\$58,186
40 to 44 years	\$116,739	\$100,230	\$86,285	\$68,223	\$74,349	\$56,828
45 to 49 years	\$117,543	\$107,186	\$80,965	\$69,600	\$67,533	\$57,641
50 to 54 years	\$116,629	\$109,024	\$91,142	\$71,339	\$71,745	\$59,185
55 to 59 years	\$129,506	\$89,553	\$80,067	\$65,365	\$73,998	\$57,017
Proportion of people aged 15-74 years old working at different work intensities, by qualification level, 2015 (ABS)⁴						
Full time employment	62%	58%	52%	55%	41%	26%
Part time employment	20%	22%	24%	19%	25%	18%
Unemployed or outside the labour market	18%	20%	25%	27%	34%	56%
Highest level of educational attainment among people aged 15-74 years, 2015 (ABS)⁴						
Proportion of the population not in education	9%	17%	9%	23%	17%	25%

⁷³ Study was conducted in the USA. Barnett W. S., & Masse, L. N. (2007). Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26(1), 113–25. Wise, S., da Silva, L., Webster, E., & Sanson, A. (2005). The efficacy of early childhood interventions. *Australian Institute of Family Studies*.

⁷⁴ Washington State Institute for Public Policy. (2017). Benefit-cost results: Families and Schools Together (FAST). Retrieved from <<http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/150/Families-and-Schools-Together-FAST>>.

⁷⁵ AMP.NATSEM (2012). *Smart Australians: Education and innovation in Australia*. AMP.NATSEM Income and Wealth Report. Retrieved from <<http://www.natsem.canberra.edu.au/storage/AMP.NATSEM%2032%20Income%20and%20Wealth%20Report%20-%20Smart%20Australians.pdf>>.

Postgraduate ¹	Bachelor	Diploma ²	Certificate	Year 12	Year 11 or below
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Note:

1 Post Graduate includes Post Graduate Degree, Graduate Diploma and Graduate Certificate.

2 Diploma includes Advanced Diploma

3 Figures were converted to 2017 dollars using a 2.5 per cent inflation rate.

4 Includes people who are not in education, between the ages of 15 and 74 years of age.

SOURCE: AMP.NATSEM (2012) SMART AUSTRALIANS: EDUCATION AND INNOVATION IN AUSTRALIA, ABS (2015) 6227.0 - EDUCATION AND WORK, AUSTRALIA, MAY 2015

Based on the year 12 retention rates identified in Table C.17, the likelihood of a child completing different types of qualification and working either full time, part time, or not at all, was calculated by reweighting the national averages found in Table C.19. This resulted in the estimated weighted effective annual income figures by age band for children living in HIPPY communities shown in Table C.18.

Further estimates relating to the work intensity of part time staff, retirement age, and earnings for the 16 to 24 and 60 to 67 year old age groups are also provided, based on the assumptions provided in the table. Estimated weighted effective annual income figures for children of Indigenous descent are lower than those for the broader population; this is linked to the comparatively low rates of retention to year 12 among this group. A summary of our estimates is found in Table C.18.

These estimates rely on the robustness of estimates of year 12 retention and completion for the HIPPY cohort. Accordingly, they are sensitive to the accuracy of assumptions made in relation to secondary school performance.

Improved employment outcomes among tutors

One of HIPPY's stated goals is to improve employment opportunities for home tutors who deliver HIPPY. These tutors are drawn from the parents and carers of children who take part in HIPPY. It is reasonable to expect that employment opportunities are improved for this group, given that they are funded to attain additional qualifications as part of the HIPPY model.

HIPPY evidence base

No comprehensive, long term evaluation of the effect of HIPPY on tutor outcomes has been identified. Consequently, quantitative information relating to this outcome may only be extrapolated on the basis of recent studies of HIPPY internationally, and findings from HIPPY Australia outcomes data and consultations that form part of this review. These are described as follows.

- A qualitative evaluation of HIPPY in New Zealand found that of 14 HIPPY parents interviewed, seven continued their training or changed their occupation as a direct result of the confidence they had gained through taking part in HIPPY.⁷⁶
- The most recent HIPPY outcomes data used by this evaluation recorded by the program showed that 19 per cent of parents and tutors took part in a qualification while involved with HIPPY. HIPPY Australia reporting in 2016 Q4 indicated the following:
 - None of HIPPY parents worked full time prior to HIPPY and 16 per cent of tutors worked full time following completion of HIPPY
 - 40 per cent of HIPPY parents worked part time prior to HIPPY and 84 per cent of tutors worked full time following completion of HIPPY

⁷⁶ Younger, S. (2009). *Evening up the odds: A study of the long-term effects of HIPPY on eighteen young people who completed the program with their parents between 1992 and 1998*. Auckland, New Zealand: Great Potentials Foundation.

- Among a combined sample of parents and tutors, 39 per cent had attained a Certificate and 21 per cent had attained a Traineeship as their highest qualification.

Comparator program evidence base

Comparator programs were not used to provide estimates for this outcome as the mechanism used to improve parental employment in HIPPY is relatively unique.

Proposed estimates

The distribution of tutors who achieved varying levels of qualification and their reported work intensity was applied to the average annual full time employee income found in Table C.18 to derive the weighted effective annual income for tutors.

These estimates are expected to be relatively reliable, as evidence of increased work intensity and attainment of additional qualifications has been taken from current information on HIPPY Australia.

Improved health outcomes

Familial socioeconomic status has an effect on a range of health outcomes throughout the course of a child's lifetime, through the 'gradient effect' of social determinants of health.⁷⁷ The 'gradient effect' has been shown in relation to differences in children's wellbeing and health outcomes in later life across a variety of settings.

Socioeconomic status throughout childhood has been shown to be of great importance in predicting a range of chronic diseases later in life, such as coronary heart disease and disease linked to obesity.⁷⁸ In relation to HIPPY, potential benefits include:

- Reduced childhood stress due to its capacity to improve parenting skills and reduce childhood maltreatment. Childhood stress, poor parenting and maltreatment have significant impacts on health outcomes later in life.⁷⁹ These effects are expected to be particularly pronounced among Indigenous children, who may experience 'clustering of stressful events' which negatively impact their health and development.⁸⁰
- Early identification of developmental delays. Analysis of HIPPY Australia data showed for the 2014 cohort, developmental delays and other health conditions were identified over the course of the program for 166 children. Identification of children's emerging developmental and other health needs as early as possible is of great importance, as the cumulative nature of learning means that addressing such needs early prevents them from impacting on longer term life outcomes.⁸¹

⁷⁷ Irwin, L. G., Siddiqi, A., Hertzman, C. (2007). *Early child development: A powerful equalizer*. Final report for the World Health Organization's Commission on the Social Determinants of Health. Retrieved from <<http://apps.who.int/iris/bitstream/10665/69729/1/a91213.pdf>>.

⁷⁸ Willcox, S. (2014). *Chronic diseases in Australia: the case for changing course*. Background and Policy Paper No. 2014-02. Australian Health Policy Collaboration. Retrieved from <<https://www.vu.edu.au/sites/default/files/AHPC/pdfs/Chronic-diseases-in-Australia-the-case-for-changing-course-sharon-willcox.pdf>>.

⁷⁹ Moore, T., McDonald, M., & McHugh-Dillon, H. (2015). *Evidence review: Early childhood development and the social determinants of health inequities*. Carlton South, Victoria: VicHealth. Retrieved from: <https://www.rch.org.au/uploadedFiles/Main/Content/ccch/151014_Evidence-review-early-childhood-development-and-the-social-determinants-of-health-inequities_Sept2015.pdf>.

⁸⁰ Askew, D. A., Schluter, P. J., Spurling, G. K. P., Bond, C. J. R., & Brown, A. D. H. (2013). Urban Aboriginal and Torres Strait Islander children's exposure to stressful events: A cross-sectional study. *Medical Journal of Australia*, 199(1), 42-45.

⁸¹ KPMG. (2011). *Reviewing the evidence on the effectiveness of early childhood intervention*. Report to the Department of Families, Housing, Community Services and Indigenous Affairs. Retrieved from <https://www.dss.gov.au/sites/default/files/documents/05_2012/childhood_int_effectiveness_report_0.pdf>.

- Based on the findings from comparable early childhood programs, HIPPY may also play a role in reducing rates of substance misuse and smoking, and delay the onset of teenage pregnancy.

These have not been monetised as part of this analysis, due to a lack of data from both HIPPY and comparator programs relating to the magnitude of such effects and their presumed savings. However, from a qualitative perspective, the gains from these factors are expected to be important and they should not be disregarded in funding decisions.

The following sections present the evidence for reductions in substance misuse and smoking, and delayed onset of teen pregnancy from HIPPY's comparator programs.

Improved health outcomes – Teen pregnancy

Familial socioeconomic status⁸² and child maltreatment⁸³ have been shown to have an impact on teenage pregnancy rates. Given HIPPY's expected effect on these factors, it is reasonable to presume that participation in the program may have an impact on teen pregnancy and the average age at which a participant's first child is born. It is of importance to consider the impact that HIPPY could have on teen pregnancy due to the significant impact this has on both maternal and child life outcomes.

While there are no studies on HIPPY that measure its impact on teenage pregnancy, a randomised control study with a longitudinal follow up period of children receiving the Abecedarian Approach showed that by age 21, 34 per cent of children who received the intervention had repeated a grade, as compared to 88 per cent of a comparator group of children.⁸⁴

However, due to a lack of certainty relating to the magnitude of these effects of HIPPY on teenage pregnancy, this factor has not been included in the analysis. The Abecedarian Approach specified in the research above was implemented in the USA in the 1980s. Given the degree of social change experienced between the 1980s and the present, it is not possible to infer effect magnitude from this study with any degree of accuracy.

Improved health outcomes – Smoking and substance misuse

The impact of substance misuse and smoking on long term chronic health outcomes has been well established. Studies of comparable programs to HIPPY have found that there is a link between participation in early childhood interventions and rates of smoking and substance misuse later in life. These studies are described as follows:

- A longitudinal study of children receiving a preschool Chicago Child-Parent Centre program showed that by the age of 26 years, 14.3 per cent children of children who received the

⁸² Moore, T., McDonald, M., & McHugh-Dillon, H. (2015). *Evidence review: Early childhood development and the social determinants of health inequities*. Carlton South, Victoria: VicHealth. Retrieved from <https://www.rch.org.au/uploadedFiles/Main/Content/ccch/151014_Evidence-review-early-childhood-development-and-the-social-determinants-of-health-inequities_Sept2015.pdf>.

Woodward, L., Fergusson, D. M., & Horwood, L. J. (2001). Risk factors and life processes associated with teenage pregnancy: Results of a prospective study from birth to 20 years. *Journal of Marriage and Family*, 63, 1170–1184. doi: 10.1111/j.1741-3737.2001.01170.x.

⁸³ Sickel, A. E., Dillard, D. M., Trickett, P. K., Putnam, F. W., & Noll, J. G. (2014). Post trauma moderators in the childhood sexual abuse-teenage pregnancy/teenage childbirth relationships. *International Journal of Childbirth Education*, 29(1), 10-20.

Garwood S. K., Gerassi L., Jonson-Reid M., Plax K., & Drake B. (2015). More than poverty: The effect of child abuse and neglect on teen pregnancy risk. , 57(2), 164-168. doi: 10.1016/j.jadohealth.2015.05.004.

⁸⁴ Study was conducted in the USA.

Barnett W. S., & Masse, L. N. (2007). Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26(1), 113–25.

Wise, S., da Silva, L., Webster, E., & Sanson, A. (2005). The efficacy of early childhood interventions. *Australian Institute of Family Studies*.

intervention had any substance misuse, as compared to 18.8 per cent of a comparator group of children.⁸⁵

- A randomised control study with a longitudinal follow up period of children receiving the Abecedarian Approach showed that by age 21, 39 per cent of children who received the intervention were smokers, as compared to 55 per cent of a comparator group of children.⁸⁶

Similar to the case of teen pregnancy, this analysis has chosen to exclude the impact of HIPPY on smoking and substance misuse among participants. Both studies are based on interventions conducted in the 1980s in the USA, and given systemic changes in regulation governing smoking and drug usage since that period, it is difficult to separate the effect of early childhood interventions from these external factors.

Even so, given that education and socioeconomic status are predictors of smoking and substance misuse, it is possible to assume qualitatively that HIPPY will result in savings from reduced smoking and substance misuse in the target group.

Reduced criminality

Given that the determinants of criminality heavily overlap with social determinants of health, including low socioeconomic status, it is expected that programs that impact broader social determinants positively will also reduce criminality in the target group.⁸⁷

Furthermore, there is some evidence from programs similar to HIPPY that indicate a causal link between early childhood interventions and reduced criminality in adulthood in socioeconomically disadvantaged subpopulations. Even if the effect size of these programs is modest, given the high societal cost of crime, such programs are still likely to be cost effective.⁸⁸

In spite of these caveats, it is useful to consider the impact of HIPPY on criminality in adulthood in particular due to the relatively high rates of incarceration among Indigenous adults. Any slight impact on these rates is expected to result in cost savings.

This analysis deliberately understates the societal costs of crime in order to provide a conservative estimate of the possible impact of HIPPY on criminality in adulthood. As such, only the direct costs of imprisonment are considered. The analysis does not consider either savings derived through reduced incidence of less serious crimes and reduced costs to victims of crime (which can be substantial depending on the type of crime committed).⁸⁹

HIPPY evidence base

The HIPPY evidence base does not provide evidence for the impact of the program on adult criminality, as all studies found in the literature do not consider adults who received the intervention as children.

⁸⁵ Intervention and comparator group participants in the study were from low income families in the USA. Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

⁸⁶ Study was conducted in the USA. Barnett W. S., & Masse, L. N. (2007) Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26(1), 113–25. Wise, S., da Silva, L., Webster, E., & Sanson, A. (2005) The efficacy of early childhood interventions. *Australian Institute of Family Studies*.

⁸⁷ Neumann, S. (2011). The link between health and the criminal justice system. In *Doing time - Time for doing: Indigenous youth in the criminal justice system* (pp. 87-120). Canberra: Commonwealth of Australia.

⁸⁸ London Economics. (2016). *Cost benefit analysis of interventions with parents*. Research Report DCSF-RW008. Produced for the Department for Children, Schools and Families UK. Retrieved from <<http://www.socialvalueuk.org/app/uploads/2016/03/CBA%20interventions%20with%20parents.pdf>>.

⁸⁹ Smyth, R. (2011). *Costs of crime in Victoria*. Discussion Paper 25/11. Monash University. Retrieved from <https://business.monash.edu/_data/assets/pdf_file/0009/338688/costs_of_crime_in_victoria.pdf>.

Comparator program evidence base

There is a relative paucity of research relating to the direct impact of early childhood interventions on criminality in adults. However, two studies have identified a significant effect of early childhood interventions similar to HIPPY on crime. These are listed as follows.

- A longitudinal study of children receiving a preschool Chicago Child-Parent Centre program showed that:⁹⁰
 - by the age of 18 years, 16.1 per cent children of children who received the intervention had petitions to juvenile court, as compared to 25.1 per cent of a comparator group of children
 - by the age of 26 years, 13.3 per cent children of children who received the intervention had been arrested for any type of felony, as compared to 17.8 per cent of a comparator group of children.
- A meta-analysis and cost benefit analysis conducted for the FAST program found that participation in the program resulted in reduced expenditure on crime per participant who received the intervention, which may be indicative of reduced rates of criminality or severity of offence.⁹¹

C.5 Cost benefit analysis

This section ‘brings together’ the costs and benefits discussed above in sections C.3 and C.4 in the form of a cost benefit analysis (CBA). The CBA compares the sum of the costs discussed in section C.3 with the benefits discussed in section C.4. This is done on a ‘per average child’ basis. Thus the benefits take account of the increased probability that children who participate in HIPPY will experience (more) positive outcomes and compares this with the cost of providing them with the relevant services.

This approach does not consider a ‘base case’ which is commonly included in CBAs. This is not to say that the base case is omitted. Rather, it is incorporated in the way the benefits are treated as improvements relative to the base case rather than as estimates of the value of, for example, educational attainment.

The analysis is conducted on the assumption that HIPPY continues into the future. The costs and benefits are compared in net present value terms using a seven per cent discount rate.

C.5.1 Results

Based on analysis of the costs and benefits discussed above in sections C.3 and C.4, the estimated net present value of HIPPY for the typical child is expected to be \$13,375. This corresponds to a benefit: cost ratio of 2.58 times.

The estimated net present value and ratio of the societal benefits to costs ‘per average child’ outlined in sections C.3 and C.4 are shown in Table C.20.

⁹⁰ Intervention and comparator group participants in the study were from low income families in the USA. Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Centre Early Education program. *Child Development*, 82, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

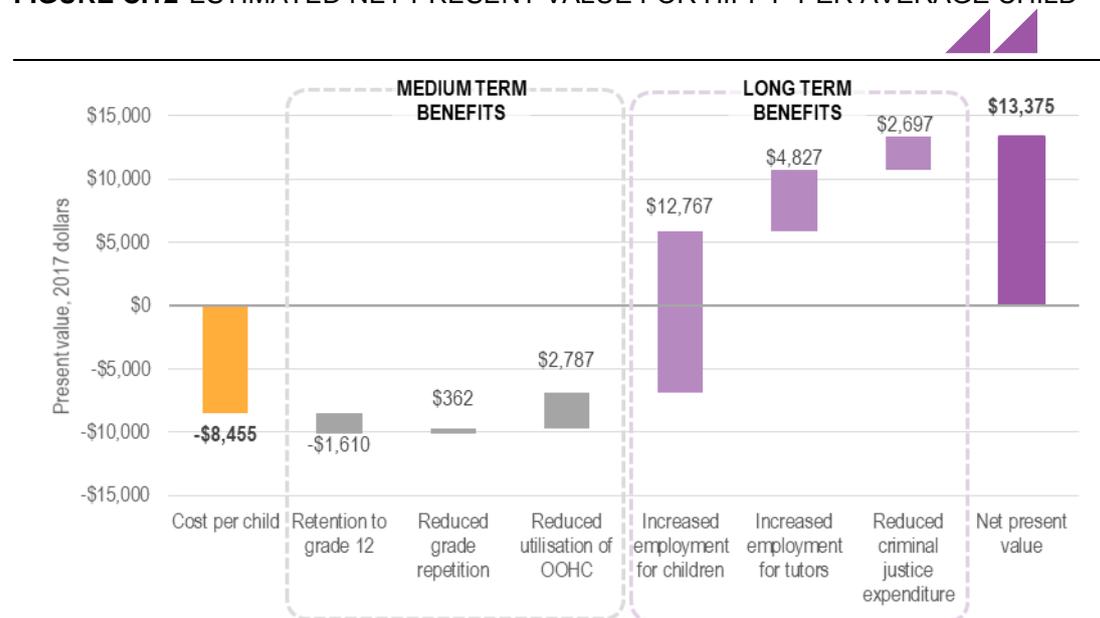
⁹¹ Washington State Institute for Public Policy. (2017). Benefit-cost results: Families and Schools Together (FAST). Retrieved from <<http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/150/Families-and-Schools-Together-FAST>>.

TABLE C.20 ESTIMATED NET PRESENT VALUE AND BENEFIT COST RATIO FOR HIPPY 'PER AVERAGE CHILD'

Cost or Benefit	Estimated value (2017 dollars)
Costs	
Cost per child	-\$8,455
Benefits	
Medium term	
Retention to grade 12	-\$1,610
Reduced grade repetition	\$362
Reduced utilisation of OOHC	\$2,787
Long Term Outcomes	
\$20,291	
Increased employment for children	\$12,767
Increased employment for tutors	\$4,827
Reduced criminal justice expenditure	\$2,697
Improved health outcomes	Positive
Net present value (2017 dollars)	\$13,375
Benefit / cost ratio	2.58

SOURCE: ACIL ALLEN CONSULTING 2018

The value of each component of the estimated net present value is represented graphically in Figure C.12.

FIGURE C.12 ESTIMATED NET PRESENT VALUE FOR HIPPY 'PER AVERAGE CHILD'

SOURCE: ACIL ALLEN CONSULTING 2018

The cost per child used in this analysis is \$8,455. This refers to the average cost across phase 1 sites, per 'active child', as described in section C.3.2. This cost has been used as it is expected to represent a more accurate estimate of the cost of delivering the program as compared to use of the cost per child figure based on all sites. This is because the cost based on all sites, \$11,113, includes newly established sites which have yet to achieve any operating efficiencies.

As shown in Figure C.12, the expected value of medium term benefits is negative because HIPPY effects are modelled to increase retention to grade 12. Although increasing student retention is beneficial over the longer term, it represents an increased cost to society in the form of additional school fees.

The monetised value of HIPPY's impact on utilisation of OOHC is expected to be low relative to other benefits. HIPPY is assumed to impact OOHC rates by improving parenting and the home environment, thereby reducing rates of maltreatment. However, many factors may influence the decision to place a child in OOHC outside the actions of parents at home.

Improved lifetime employment outcomes for children who participate in HIPPY comprise an expected 58 per cent of the total benefits of the program. These benefits ensue from improved year 12 retention rates among the HIPPY cohort. HIPPY is assumed to have no direct impact on the child – instead, the increased value of lifetime income results from the assumption that if a child completes year 12, they are more likely to work full time and potentially complete tertiary education at rates comparable to the general population.

Improved lifetime employment outcomes for tutors who deliver the program make up a considerable proportion of expected long term benefits. The value of this benefit is expected to be relatively stable, given that, anecdotally, a relatively high proportion of home tutors complete an additional qualification through the program and go on to work in other organisations following completion.

Reduced criminal justice expenditure has the smallest anticipated impact on net present value of the long term effects. This value includes only saved incarceration expenses and does not consider other forms of criminality or avoided victimisation. Therefore, the true value of this component may be larger than stated.

Improved health outcomes is included in Table C.20, but has not been monetised as part of this analysis. Nevertheless, it can be said with some certainty that an intervention that positively impacts socioeconomic status will also have a positive impact on long term health.

Estimated net present value and benefit cost ratios for HIPPY under 3 and 10 per cent discount rates are provided in Table C.21 for comparison.

TABLE C.21 ESTIMATED NET PRESENT VALUE AND BENEFIT COST RATIO AT DIFFERENT DISCOUNT RATES

Cost or Benefit	Discount rate		
	3%	7%	10%
Net present value (2017 dollars)	\$62,915	\$13,188	\$2,953
Benefit / cost ratio	8.44	2.56	1.35

SOURCE: ACIL ALLEN CONSULTING 2018

As can be seen from Table C.21, at a discount rate of 10 per cent, HIPPY shows a small, positive net present value. This supports the finding that HIPPY provides value for money.

C.5.2 Sensitivity analysis

To test the robustness of these results, sensitivity analysis was undertaken using Monte Carlo simulations (described in Box C.1). In conducting these simulations, assumptions were made regarding the underlying distributions of key parameters. The chosen distributions are shown in Table C.22. The central estimate of each of the parameters refers to the value used in the cost benefit analysis presented in section C.5.1. In all instances, triangular distributions were used in absence of definitive information relating to the shape of the distribution for each parameter.

TABLE C.22 ASSUMED DISTRIBUTIONS OF KEY PARAMETERS

Parameter	Outcome	Central estimate	Statistical distribution
Impact of HIPPY on student retention rates between year 6 and year 12	Improved student retention	+5 percentage points	Triangular (min= -3 percentage points, max= +20 percentage points)
Impact of HIPPY on grade repetition rates	Decreased grade repetition	-3 percentage points	Triangular (min= 0 percentage points, max= +30 percentage points)
Impact of HIPPY on likelihood of utilisation of OOH	Decreased likelihood	-0.5 percentage points	Triangular (min= -3 percentage points, max= +5 percentage points)
Impact of HIPPY on the proportion of tutors that hold certificates at the end of the program	Increased proportion	+40 percentage points	Triangular (min= 0 percentage points, max= 60 percentage points)
Impact of HIPPY on incarceration rates	Decreased rates	-0.25 percentage points	Triangular (min= 0 percentage points, max= 2.5 percentage points)

SOURCE: ACIL ALLEN CONSULTING 2018

BOX C.1 MONTE CARLO SIMULATIONS

Monte Carlo simulation is a computerised mathematical technique that accounts for risk in quantitative analysis and decision making. The technique was first used by scientists working on the atom bomb; it was named for Monte Carlo, the Monaco resort town renowned for its casinos. Since its introduction in World War II, Monte Carlo simulation has been used to model a variety of physical and conceptual systems.

Monte Carlo simulation performs risk analysis by building models of possible results by substituting a range of values—a probability distribution—for any factor that has inherent uncertainty. During a simulation, values are sampled at random from the input probability distributions. Each set of samples is called an iteration, and the resulting outcome from that sample is recorded.

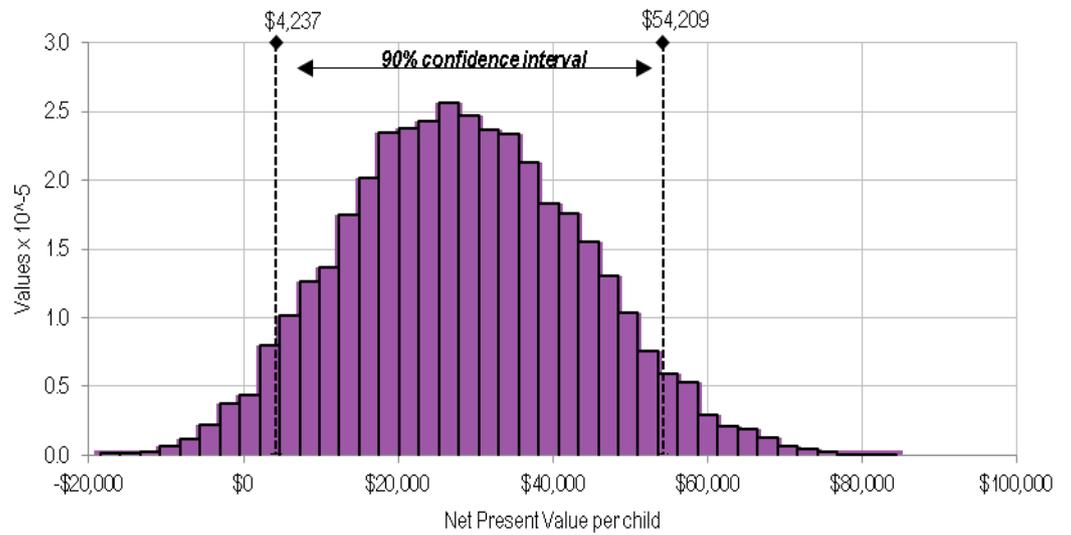
Monte Carlo simulation does this hundreds or thousands of times (depending upon the number of uncertainties and the ranges specified for them), and the result is a probability distribution of possible outcome values. In this way, Monte Carlo simulation provides a much more comprehensive view of what may happen. It shows not only what could happen, but also how likely it is to happen.

SOURCE: PALISADE SOFTWARE

Based on the parameters shown in Table C.22, a 90 per cent confidence interval was generated for the net present value per child. After 10,000 iterations using the Palisade @Risk software package, the 90 per cent confidence interval was found to lie between \$4,237 and \$54,209, as can be seen in Figure C.13.

This implies that, with 90 per cent probability, the net present value of HIPPY for a typical child lies between \$4,237 and \$54,209.

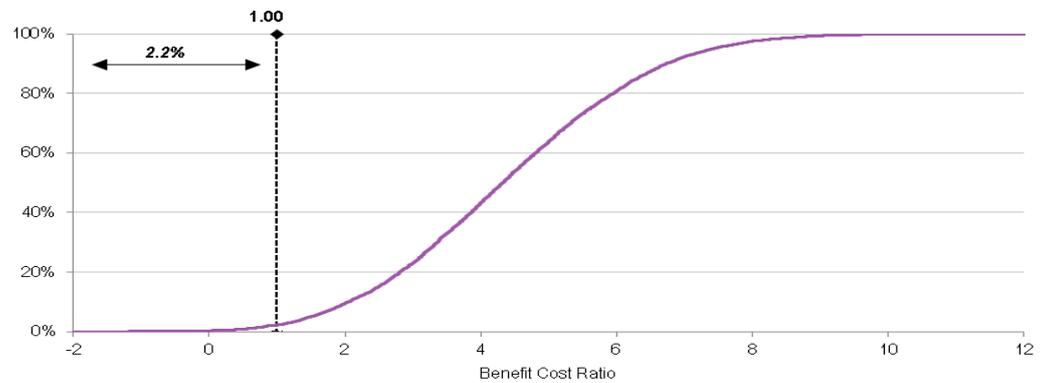
FIGURE C.13 PROBABILITY DENSITY FOR NET PRESENT VALUE OF COST PER CHILD



SOURCE: ACIL ALLEN CONSULTING 2018

According to the sensitivity analysis, the likelihood that HIPPY will return a benefit cost ratio of less than one is only 2.2 per cent. This is shown in Figure C.14. This means that in 97.8 per cent of cases, the estimated net present benefit of HIPPY will outweigh its costs for the typical child.

FIGURE C.14 CUMULATIVE DENSITY FOR BENEFIT COST RATIO PER CHILD



SOURCE: ACIL ALLEN CONSULTING 2018

C.5.3 Comparison to previous studies

Table C.23 provides a summary of the results of the cost benefit analysis outlined in section C.5.1, as compared to HIPPY implemented in different settings and other similar early childhood interventions.

TABLE C.23 COMPARISON OF ESTIMATED COST BENEFIT ANALYSIS, HIPPY AND COMPARATOR PROGRAMS

Program	Net present value per child 2017 Australian dollars	Benefit cost ratio
HIPPY cost benefit analyses		
HIPPY Australia, 2014 cohort, all sites	\$13,188	2.56
HIPPY Australia, 2009 cohort ^{92,A}	<i>Not provided per child</i>	1.42
HIPPY New Zealand, 2002 cohort ⁹³	<i>Not provided per child</i>	4.28
Cost benefit analyses of other programs		
FAST 2016 USA ^{94, B}	\$580	1.23
PAFT, 2012 USA ^{95, B}	\$1,117	1.18
Chicago Child Parent Centre, 2007 USA ^{96, B}	\$138,228	10.83
<p>Note: Figures have been converted to 2017 dollars using an annual inflation rate of 2.5 per cent. Exchange rates were based on rates on 9 October 2017. Exchange rates were as follows: 1 USD: 1.29 AUD; 1 GBP: 1.69 AUD, 1 NZD: 0.91 AUD.</p> <p>A Based on a discount rate of 7 per cent, with half of long term benefits produced after 15 yea and the rest after 30 years.</p> <p>B Uses a discount rate of 3 per cent.</p> <p>SOURCE: ACIL ALLEN ANALYSIS OF HIPPY AUSTRALIA SITE LEVEL FINANCIAL DATA AND DESCRIPTIVE DATA, DEED OF VARIATION NO.1 RELATING TO FUNDING FOR THE HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY) (2017).</p>		

The benefit cost ratio for HIPPY Australia as estimated by this review is higher than that found in the 2011 review, despite higher per-child costs as outlined in section C.3.3. This may be because in the current review, values for increased tutor employment, reduced OOHC utilisation, and reduced incarceration during adulthood are included. These benefits are excluded from the 2011 HIPPY review.

On the other hand, the benefit cost ratio for HIPPY New Zealand is 67 per cent higher than that found for HIPPY Australia in this review. The New Zealand calculation only considered benefits from crime reduction resulting from HIPPY. However, the scale of these benefits was assumed to be large in this study, which estimated that HIPPY would result in a 10 per cent reduction in crime if implemented on a large scale across families with low socioeconomic status. It considered the savings to society resulting from reduced utilisation of correction facilities, direct costs of crime more broadly, and societal costs of crime. For this evaluation savings due to reduced criminality were more conservative (as described in sections C.4.3 and C.5.1).

The net present value and benefit cost ratios for FAST and PAFT are lower than that shown for HIPPY in this review. Of all the programs considered, the Chicago Child Parent Centre shows the highest net present value and benefit cost ratio. This program is the most heavily studied of all those considered, and has been subject to a 20 year longitudinal study. Consequently, cost benefit analysis of this program was able to consider relatively complete evidence of its long term impact on socioeconomic outcomes over time. This cost benefit

⁹² Liddell, M., Barnett, T., Roost, F. D., & McEachran, J. (2011). *Investing in our Future: An evaluation of the national rollout of the Home Interaction program for Parents and Youngsters (HIPPY)*. Final report to the Department of Education, Employment and Workplace Relations. Melbourne: Monash University. Retrieved from <https://www.mychild.gov.au/sites/mychild/files/documents/04-2015/hippy_evaluation.pdf>.

⁹³ Shulruf, B., & Wang, G. (2011). *Parent Influence on outcomes for children: HIPPY as a cost effective option*. Alexandru Ioan University, Lumen Publishing House. Retrieved from <http://rcis.ro/images/documente/rcis34_01.pdf>.

⁹⁴ Washington State Institute for Public Policy. (2017). *Families and Schools Together (FAST); Children's mental health: Disruptive behaviour benefit cost results*. Retrieved from <<http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/150/Families-and-Schools-Together-FAST>>.

⁹⁵ Washington State Institute for Public Policy. (2012). *Parents as Teachers benefit cost results*. Retrieved from <<http://www.wsipp.wa.gov/ReportFile/1489>>.

⁹⁶ Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the Child-Parent Center Early Education program. *Child Development*, 82, 379–404. doi:10.1111/j.1467-8624.2010.01563.x

analysis was calculated using a three per cent discount rate, but the net present value and benefit cost ratio and remain high even when this is taken into consideration.

A separate cost benefit analysis was not performed for phase 2 sites, which focussed on Indigenous communities for two main reasons. Firstly that costs per child are relatively high for the 2014 cohort at phase 2 sites. This is due to a range of factors, in particular high fixed costs which are allocated across relatively few children in the first year of site operations. Secondly, there is not sufficient evidence to indicate that the benefits of HIPPY among Indigenous children is significantly different from the rest of the cohort.



OVERVIEW OF COMPARATOR PROGRAMS

D

This appendix provides an overview of the key characteristics of HIPPY comparator programs. Table D.1 (over the page) compares each of the comparator programs across a range of measures.

TABLE D.1 KEY CHARACTERISTICS OF HIPPY COMPARATOR PROGRAMS

Program	Origin	Operates in Australia	Child Level Outcome				Target age group (e.g. best evidence)			ATSI focus	Delivery				Financial
			Cognitive	Evidence	Behavioural/ Developmental	Evidence	0-3 years	3-5 years	School		Model	Duration	Frequent (>1 session per month)	Professional delivery	
Home Interaction program for Parents and Youngsters (HIPPY)	Israel	✓	✓	Promising				✓	✓	✓	Multi-component	2 years or greater	✓		Med-High
1-2-3 Magic and Emotion Coaching	USA	✓			✓	Promising			✓	✓	Service	1-3 mths	✓	✓	Low
Abecedarian Approach Australia (US model)	USA	✓	✓	Emerging (Aus)			✓	✓		✓	Service	2 years or greater	✓	✓	High
Brookline Early Education Project	USA		✓	Promising			✓	✓			Service	2 years or greater	✓	✓	High
Chicago Child-Parent Centre program	USA		✓	Demonstrated				✓	✓		Service	2 years or greater	✓	✓	High
Early Childhood Education and Assistance program	USA		✓	Mixed				✓			Service	2 years or greater	✓	✓	High
Early Years Education program	Australia	✓	✓	Emerging			✓	✓			Service	2 years or greater	✓	✓	High
Empowering Parents, Empowering Communities	UK	✓			✓	Promising		✓			Service	3-6 mths	✓		Low
Even Start	USA		✓	Mixed			✓	✓			Service	2 years or greater	✓	✓	High

Program	Origin	Operates in Australia	Child Level Outcome				Target age group (e.g. best evidence)			ATSI focus	Delivery				Financial
			Cognitive	Evidence	Behavioural/ Developmental	Evidence	0-3 years	3-5 years	School		Model	Duration	Frequent (>1 session per month)	Professional delivery	
Families as First Teachers (FaFT)	USA	✓	✓	Formative			✓			✓	Service	2 years or greater		✓	Med
Family Wellbeing program	Australia	✓			✓	Emerging		✓	✓	✓	Service	1 year or over, less than 2 years	✓	✓	Med-High
Families and Schools Together (US model)	USA	✓	✓	Formative (Aus)					✓	✓	Multi-component	6-12 mths	✓	✓	Med
Getting Ready	USA		✓	Promising				✓			Home	1 year or over, less than 2 years		✓	Low-Med
Head Start	USA		✓	Mixed				✓			Service	2 years or greater	✓	✓	High
High Scope Perry Preschool program	USA		✓	Demonstrated				✓			Multi-component	2 years or greater	✓	✓	High
Incredible Years Preschool	USA	✓			✓	Demonstrated		✓			Service	6-12 mths	✓	✓	Medium
It Takes Two to Talk/ Hanen	Canada	✓			✓	Promising	✓	✓			Service	6-12 mths	✓	✓	Medium
Kids in Transition to School	USA				✓	Promising		✓	✓		Service	3-6 mths	✓		Medium
Learning In Families Together	Australia	✓	✓	Formative				✓	✓		Service	2 years or greater			Medium
Learning Together program/ PEEP	UK	✓	✓	Formative				✓			Service	1 year or over, less than 2 years	✓	✓	Low-Med

Program	Origin	Operates in Australia	Child Level Outcome				Target age group (e.g. best evidence)			ATSI focus	Delivery				Financial
			Cognitive	Evidence	Behavioural/ Developmental	Evidence	0-3 years	3-5 years	School		Model	Duration	Frequent (>1 session per month)	Professional delivery	
Let's Start	Australia	✓			✓	Formative		✓		✓	Service	3-6 mths	✓	✓	Low-Med
Let's Play in Tandem	UK		✓	Promising				✓			Home	6-12 mths	✓	✓	Medium
Lidcombe program	Australia	✓			✓	Promising		✓			Service	3-6 mths	✓	✓	Low-Med
Parent Child Home program	USA		✓	Promising				✓			Home	2 years or greater	✓		Medium
Parent-Child Mother Goose	Canada	✓	✓	Formative			✓				Service	3-6 mths	✓	✓	Low
ParentCorps	USA				✓	Promising		✓	✓		Service	3-6 mths	✓	✓	Medium
Parents and Learning	Australia	✓	✓	Formative				✓		✓	Multi-component	2 years or greater	✓		Medium
Parents as First Teachers/ PAT	USA		✓	Promising			✓				Home	2 years or greater	✓		Med-High
Parents Building Solutions	Australia	✓			✓	Emerging	✓	✓	✓		Service	3-6 mths	✓	✓	Low
Raising Early Achievement in Literacy	UK		✓	Promising				✓			Multi-component	1 year or over, less than 2 years	✓	✓	Medium
Ravenswood Early Learning Centre- Family Based program	Australia	✓	✓	Formative			✓	✓			Service	6-12 mths	✓	✓	Medium
Reach Out and Read	USA		✓	Promising			✓	✓			Service	1 year or over, less than 2 years		✓	Low-Med

Program	Origin	Operates in Australia	Child Level Outcome				Target age group (e.g. best evidence)			ATSI focus	Delivery				Financial
			Cognitive	Evidence	Behavioural/ Developmental	Evidence	0-3 years	3-5 years	School		Model	Duration	Frequent (>1 session per month)	Professional delivery	
Schoolchildren and their Families (aka Parents as Partners)	USA				✓	Promising		✓	✓		Service	3-6 mths	✓	✓	Low-Med
Second Step: Early Learning and Kindergarten	USA	✓			✓	Promising		✓			Service	3-6 mths	✓	✓	Medium
Sing&Grow	Australia	✓	✓	Formative			✓			✓	Service	3-6 mths	✓	✓	Low-Med
Smalltalk	Australia	✓	✓	Promising			✓				Service	3-6 mths	✓	✓	Low-Med
Sure Start	UK		✓	Mixed			✓	✓			Service	2 years or greater	✓	✓	High
Triple P Positive Parenting program (L3-5)	Australia	✓			✓	Promising	✓	✓	✓	✓	Service	3-6 mths	✓	✓	Low-Med

SOURCE: ACIL ALLEN CONSULTING 2018



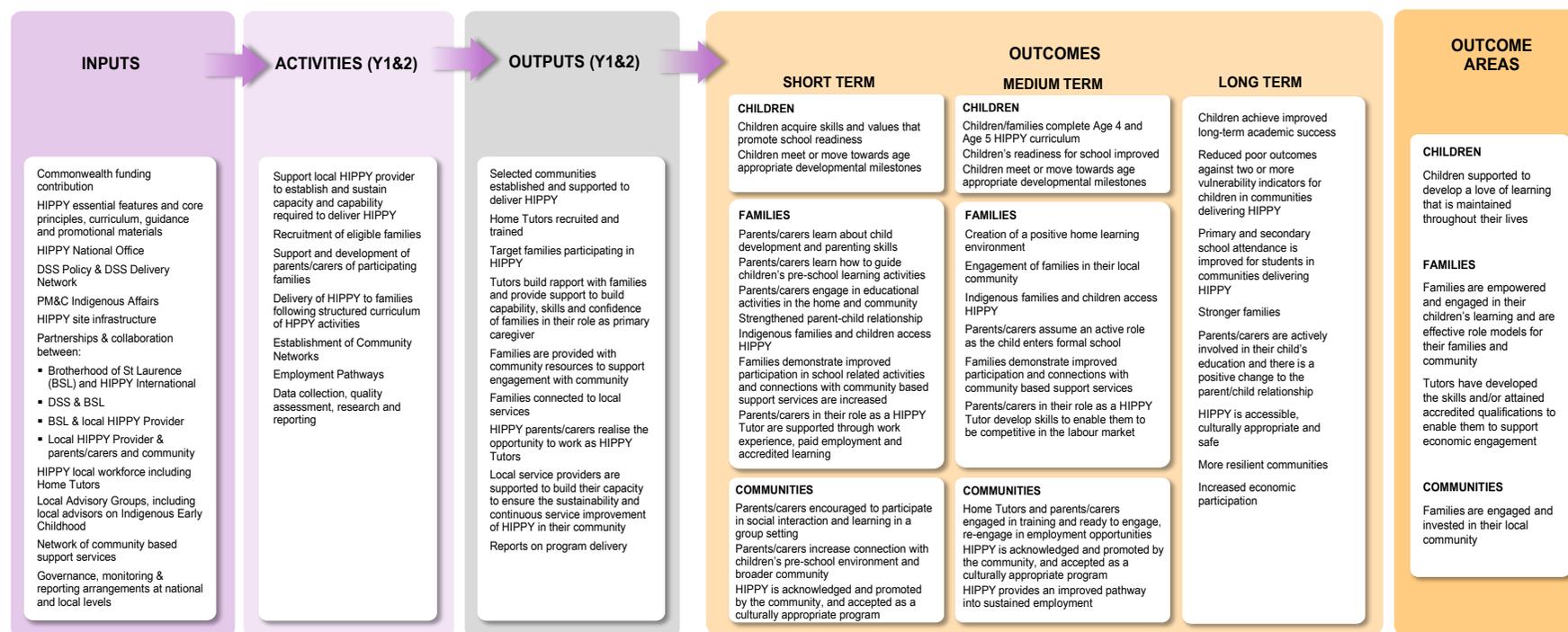
This appendix provides materials to support the discussion of the evaluation readiness materials in chapter 6. The program logic for HIPPY is provided in Appendix E.1, and the HIPPY theory of change is set out in Appendix E.2.

Appendix E.1 HIPPY logic

PROGRAM LOGIC: HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY)



MISSION	To improve the wellbeing of children and young people, and to enhance family and community functioning, as well as increasing the participation of vulnerable people in community life ¹
POLICY PRIORITY	Families achieve improved child, youth, adult and family wellbeing, increased economic engagement and more cohesive communities ²
POLICY PROBLEM	There is a link between low education outcomes and poor life trajectories including low rates of employment, increased welfare dependency and involvement in the justice system ³
POLICY OBJECTIVE	To support families, improve children's wellbeing, strengthen relationships, build parenting and financial management skills, and strengthen social cohesion ⁴



- ASSUMPTIONS**⁵
- Parents/carers are the primary and most important educators of their children
 - Parent/carers can and do teach their children
 - Parents/carers can support and teach other parents
 - Children's learning is enhanced when parents/carers understand children's growth and development
 - A parent's/carer's role in supporting their child's learning is enhanced with consistent support and access to appropriate materials and techniques
 - Respect and acknowledgement of diversity enhance children's and parents/carers' sense of belonging
 - Connections between parents/carers and community build a family's capacity to care for and educate their child

- EXTERNAL FACTORS / INFLUENCES**
- Community stability and cohesion
 - Capacity and capability of community service organisations
 - Parental/carer engagement
 - Leadership to drive coordinated network of local services
 - Community engagement
 - Cultural settings
 - Community need

¹ Programme Information, Families and Communities, Families and Children, Australian Government (Department of Social Services)
² Ibid
³ Kirby LA, Kilburn MR & Cannon JS (2005). Early Childhood Intervention – Proven Results, Future Promise. RAND Corporation, Santa Monica, California
⁴ Department of Social Services Annual Report 2015-16: Part 2 – Annual performance statement available at www.dss.gov.au
⁵ Based on ten guiding principles of HIPPY

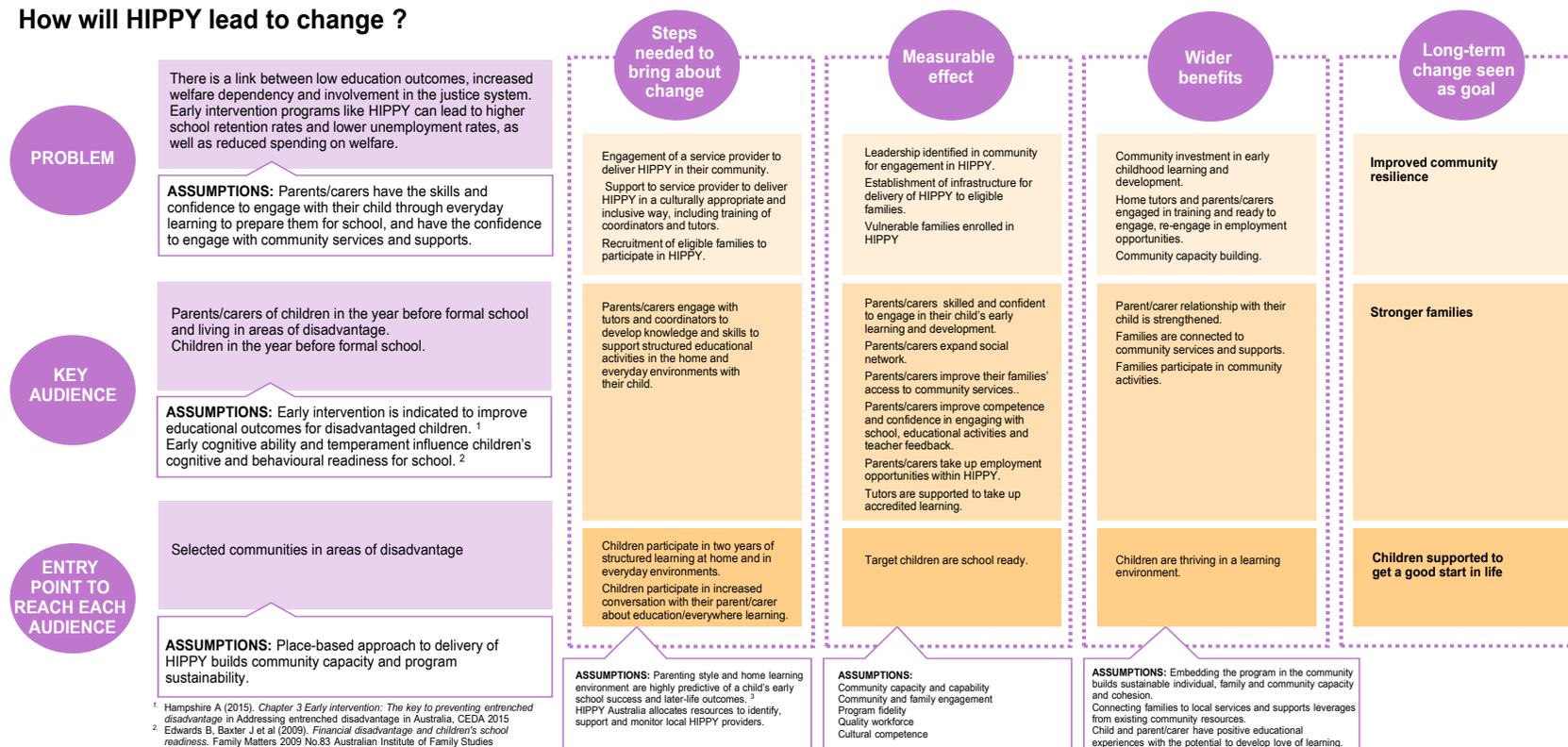
Appendix E.2 HIPPY Theory of change

THEORY OF CHANGE: HOME INTERACTION PROGRAM FOR PARENTS AND YOUNGSTERS (HIPPY)

What will HIPPY deliver?

HIPPY initiative	Benefit: <i>What HIPPY plans to deliver</i>	Theory of change: <i>What HIPPY will do to achieve its desired objectives</i>
Children supported to get a good start in life	Parents/carers are the primary and important educators of their children and their role can be enhanced when parents/carers understand children's growth and development. Parents/carers in disadvantaged communities may require additional support to achieve this understanding and realise the full potential of the home as a positive learning environment for their child.	Parents/carers achieve skills required to provide a positive learning environment for their child through participation in a structured two-year program commencing in the year before their child starts formal school. This approach includes the support of experienced peers contributing to effective parental/carer support.
Stronger families	Vulnerable families are supported to build their capacity, confidence and resilience through improved access to services. Parents/carers in their role as a HIPPY Tutor are supported through work experience, paid employment and accredited learning.	The family is better able to build a positive environment for active engagement in their child's education through improved understanding of their child's developmental needs, and ability to access supports that reduce barriers to effective family functioning. Parents/carers in their role as a HIPPY tutor develop skills to support their trajectory into employment.
More resilient communities	Community resilience is enhanced through establishing a strong foundation for lifelong learning, improved cohesion, increased social inclusion and investment in early childhood development.	Families improve their awareness of local community services, connections to early learning providers and schools, and training and employment opportunities. Stronger families contribute to community assets and resilience.

How will HIPPY lead to change ?



¹ Hampshire A (2015). Chapter 3 Early intervention: The key to preventing entrenched disadvantage in Addressing entrenched disadvantage in Australia, CEEDA 2015

² Edwards B, Baxter J et al (2009). Financial disadvantage and children's school readiness. Family Matters 2009 No.83 Australian Institute of Family Studies

³ Ibid

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