KidsMatter and young children with disability
Evaluation Report

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Ministerial Advisory Committee: Students with Disabilities
KidsMatter and Young Children with Disability

Foreword

KidsMatter Early Childhood (KMEC) is the Australian national mental health promotion, prevention and early intervention initiative specifically developed for early childhood services. The findings of a two year evaluation of KMEC by the Flinders University KMEC Evaluation team were published in July 2012. As an extension of this evaluation, the Minister for Education and Child Development asked the Ministerial Advisory Committee: Students with Disabilities (MAC: SWD) to undertake a project to determine the effect of this initiative for children with disability as a specific cohort. Previously, the committee had collaborated with the KidsMatter Primary evaluation team, based at Flinders University, and found children with disability in their primary years are at greater risk of mental health issues than children without disability. This project has been commissioned to see if this was also the case for young children with disability.

It was necessary to use the Australian sample of children to maximise the sample size for analysis to be valid. Approval was sought and granted from the Minister for Education and Child Development and the KidsMatter national partners to undertake an Australia-wide analysis of the KMEC data, of which the South Australian data is a subset.

KMEC has been developed in collaboration with beyondblue, the Australian Psychological Society and Early Childhood Australia, with funding from the Australian Government Department of Health and beyondblue. We would like to thank beyondblue, for providing MAC: SWD with permission to access the national KMEC evaluation data.

Gratitude is also extended to Principals Australia Institute for approving Dr Katherine Dix to work on this project and to Dr Dix for her expertise and work producing this report.

Finally we would like to thank all those who contributed to this work, including Dr Jane Jarvis Flinders University, members of the Flinders University Research Centre for Student Wellbeing and the Prevention of Violence, and staff of the Ministerial Advisory Committee: Students with Disabilities.

We commend this report to the South Australian Minister for Education and Child Development for her information.

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Executive Summary

Background

The KidsMatter Early Childhood (KMEC) initiative is a pilot study that has been implemented in a very diverse group of Australian early childhood services that provide education and care for young children of differing ages. These early childhood education and care (ECEC) services are operating in a policy environment that is concerned with reform to early childhood services nationally, and so are experiencing significant change. As such the design of future versions of the KMEC initiative needs to be mindful of the diverse and dynamic nature of the early childhood education field.

The KMEC initiative provides a framework to enable services to plan and implement evidence-based mental health promotion, prevention and early intervention strategies that aim to:

- improve the mental health and wellbeing of children from birth to school age
- reduce mental health difficulties among children
- achieve greater support for children experiencing mental health difficulties and their families.

KMEC uses a risk and protective factors framework that focus on four components, where early childhood services can strengthen the protective factors and minimise risk factors for children’s mental health and wellbeing. The four areas that comprise the core content of KMEC are:

1) Creating a sense of community
2) Developing children’s social and emotional skills
3) Working with parents and carers
4) Helping children who are experiencing mental health difficulties.

Beyondblue contracted Flinders University to undertake the evaluation of the KidsMatter Early Childhood Pilot Phase. The evaluation involved a team of researchers and support personnel located in the Flinders University Centre for Student Wellbeing and Prevention of Violence.

The evaluation used multiple methods (questionnaires, interviews, photo study, KMEC Facilitator reports), involved multiple participants associated with the 111 services (service leadership, staff, parents, and KMEC Facilitators), and gathered detailed data on multiple occasions (including four questionnaire data collection occasions over the two-year pilot).

The South Australian Ministerial Advisory Committee: Students with Disabilities (MAC: SWD) has had a focus on the topic of mental health for children and students with disability since 2006. Two reports have been published by MAC: SWD—Mental Health and Children and Students with a Disability in 2007 and KidsMatter for Students with a
Disability: Evaluation Report in 2010. The latter focused on the effect of KidsMatter Primary on South Australian students with disability. In this context, the South Australian Minister for Education and Child Development, gave approval to MAC: SWD to build on their previous work and undertake the KidsMatter Early Childhood for Children with Disability project to determine the effect of the KMEC initiative for children with disability as a specific cohort.

The KidsMatter national partners were approached and permission was granted to undertake an Australia-wide analysis of the KMEC data to report on the effect of the KMEC initiative for young children with disability, with the understanding that South Australian data would be a subset of this larger study.

Research aims and questions

In the first instance, the research aim was to analyse the existing KMEC Evaluation database to establish whether any young children who participated in KMEC had been identified with disability by their parent or carer. Once established, the principal aim of the research was to determine if there were any differences in the cohort of children with disability—in terms of the impact and effectiveness of KMEC—compared to children without disability.

The research questions were:
1. How many young children with disability participated in the KMEC pilot?
2. Is there a correlation between children with disability and mental health problems?
3. To what extent does disability status impact on children’s temperament and ECEC staff-child relationships and how do these change over time?
4. For children with disability, to what extent did KMEC achieve its major aims to contribute to:
   • improving the mental health and wellbeing of young children;
   • reducing mental health problems amongst children; and
   • achieving greater support for children experiencing mental health difficulties and their families.

Children with disability in early childhood education and care services

In the KMEC Evaluation, questionnaire data were collected from parents and carers of children aged between 1 and 5 years in care for 10 or more hours per week, on up to four occasions. An item on the parent questionnaire asked parents and carers to specify if their child was identified as having disability. Due to space constraints on the paper-based questionnaire form, the categories of disability used on the parent questionnaire were:

- Autism
- Intellectual or Developmental delay
- Vision or Hearing impairment
- Speech or Language impairment
- Physical disability
- Other disability
Assessing mental health

Mental health is a multidimensional concept, comprised of both strengths and difficulties. The mental health of young children in KMEC services was assessed by multiple informants using multiple measures to determine improvement in children’s mental health over time. Goodman’s Strength and Difficulties Questionnaire (SDQ, 2005) for children 3-4 years old (UK version) was used by parents and ECEC staff to assess young children’s mental health.

An additional aspect of the evaluation design was the inclusion of a non-KMEC comparison group, using data from the Longitudinal Study of Australian Children (LSAC). Key instruments included the Australian Temperament Project scales (ATP), the Student-Teacher Relationships scales (STRS) and the Strengths and Difficulties Questionnaire (SDQ).

The national KMEC sample of 4469 children, present on one or more occasions, comprised the database for analyses presented in this report. There was a near-balanced sample of boys (52%) and girls (48%), who had an average age of 4 years, and spent an average of 20 hours in care each week. The average time in care was a little less at 17.9 hours (SD=8.19). The sub-group of 609 children with an identified disability that participated in the KMEC initiative, represented approximately 14% of the national sample. Five hundred of these children were identified as having one disability, while 109 children were identified with multiple disabilities.

Based on parent and staff assessments of children’s mental health using Goodman’s SDQ, approximately 82 per cent of all young children were identified in the normal range of mental health – the staff rating was 79 per cent in the normal range and the parent rating was larger with 85 per cent of young children in the normal range. Approximately 9 per cent were identified in the borderline range of mental health (staff rated was 11% and parent rated was 7%), and the remaining 9 per cent were identified as being in the abnormal range of mental health (with closer agreement between staff (10%) and parent (8%) ratings). This is similar to data from Australian Health (2010), which shows that 9 per cent of Australian children have long-term mental health problems.

Further analysis of the KMEC data showed that approximately 84 per cent (81%-87%) of young children without disability were identified as being in the normal range of mental health, with about 16 per cent (13%-19%) being in the borderline to abnormal ranges of mental health. For children with one disability, the prevalence of mental health difficulties jumps to 26 per cent (23%-30%). These results broadly suggest that young children without disability have a 1 in 6 chance of experiencing mental health difficulties (being in the borderline or abnormal range), whereas children with one disability have a 1 in 4 chance and children with multiple disabilities have a 1 in 2 chance of experiencing mental health difficulties. There was a moderately strong correlation between mental health and disability according to staff and parent ratings (.30).

Impact of KMEC

In terms of temperament for children with disability, there was a reduction in shyness, which suggests a significant small improvement in the approach-sociability of children over time. There was also a reduction in reactivity, with a significant small improvement in
the reactivity of children over time along with a significant reduction in inflexibility, of children over time.

There was also a small significant increase in closeness between children with disability and ECEC staff over time. However, the analysis showed that children with disability were less likely to share as close a relationship with ECEC staff as those children without disability.

It should be remembered that mental health is more than the absence of ‘mental illness’ and includes positive wellbeing. Therefore, this evaluation also collected information from staff and parents regarding young children’s positive wellbeing (e.g. ‘shares with others’). Analysis of data showed that over the course of the two-year period, prosocial behaviours increased above that of normal ageing, and particularly so for children with disability.

Assessing the impact of a complex intervention in complex and diverse education settings is challenging. Increasingly, it is recognised that there is often a discrepancy between what is planned and what is delivered in any intervention. The findings of the evaluation confirmed that the quality of KMEC implementation impacted on the level of improvement in wellbeing for young children with disability, highlighting the need for greater attention to be given to implementation quality for any intervention program.

Overall, KMEC was found to have a broad positive impact in ECEC services that also allowed staff the opportunity to focus on the specific and often special needs of children. KMEC was found to have a positive effect on young children with disability at risk of developing mental health difficulties, by strengthening their wellbeing and reducing mental health difficulties.
Recommendations

The following recommendations are provided for the Minister’s consideration.

**Major recommendation**

1. Taking account of the evaluation findings and subject to the recommendations below, the main recommendation is that the broad framework, processes and materials associated with KMEC be maintained for continued roll out.

This recommendation is based on the view that the findings of the national evaluation indicate that the KMEC initiative can provide positive support for services as they work to assist young children with disability who may be at risk of or experiencing mental health difficulties and to support their families. It is also based on the findings from the current evaluation that KMEC positively impacted on young children with disability.

**Recommendation’s regarding elements of the KMEC Model**

It is recommended that:

2. Children with disability are given special consideration in universal mental health and wellbeing policies and initiatives, now and in the future.

3. KMEC continue to be supported by the South Australian ECEC and schooling sectors because it has been demonstrated that the initiative is effective in reducing mental health difficulties and enhancing mental health strengths of young children with disability.

4. Further mental health resources be developed that are specifically tailored to assist the ECEC sector to work with young and very young children with disability and their families to:
   - reduce mental health difficulties
   - improve mental health and wellbeing
   - achieve greater support for those experiencing mental health difficulties and their families.

5. In any future national evaluation of KidsMatter Early Childhood, KidsMatter Primary or MindMatters, that specific attention be given to children in known risk groups, such as disability, because of the greater likelihood of mental health difficulties and supporting their additional needs should be of particular interest.

6. That more consideration is given to the implementation of mental health and wellbeing initiatives in ECEC services, particularly for those children with disability.
Chapter 1. Introduction

1.1 Background

The Ministerial Advisory Committee: Students with Disabilities (MAC: SWD) has had a focus on the topic of mental health for children and students with disability since 2006. Two reports have been published by MAC: SWD—Mental Health and Children and Students with a Disability in 2007 and KidsMatter for Students with a Disability: Evaluation Report in 2010 (Dix, Shearer, Slee & Butcher, 2010). The latter focused on the effect of KidsMatter Primary on South Australian students with disability.

In December 2012, the South Australian Minister for Education and Child Development, gave approval to MAC: SWD to build on their previous work and undertake the KidsMatter Early Childhood and Young Children with Disability project to determine the effect of the KMEC initiative for children with disability as a specific cohort.

KMEC, which has been developed in collaboration with beyondblue, the Australian Psychological Society and Early Childhood Australia (with funding from the Australian Government Department of Health), is the Australian national early childhood mental health promotion, prevention and early intervention initiative specifically developed for early childhood services. It was trialled across Australia in 111 long day care services and preschools (during 2010 and 2011), of which 16 were in South Australia.

Following approval from the Minister for Education and Child Development, the KidsMatter national partners were approached and permission was granted to undertake an Australia-wide analysis of the KMEC data to report on the effect of the KMEC initiative for young children with disability, as a specific cohort, on the understanding that the South Australian data would be a subset of this larger study and therefore valid.

The investigating team for this project consisted of members from the MAC: SWD committee and secretariat staff, members of the KidsMatter Early Childhood Evaluation team from Flinders University and a staff member from Flinders University with expertise in the area of disability and education (see the Appendix for details of the project group).

KMEC has been implemented at a time when Australian early childhood care and education is experiencing significant and unprecedented change. The reforms focus on providing Australian families with high-quality, accessible and affordable integrated early childhood education and child care that is inclusive of all children. The reform agenda is complex and demanding, for it mandates change at the national, state, and local levels of provision and practice. The main features of the change include a uniform national quality system (National Quality Framework, NQF) that applies to all Out of School Hours Care, Long Day Care, Family Day Care and Preschools. The NQF includes a single National

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1 Both of the terms ‘service’ and ‘centre’ refers to an early childhood education and care (ECEC) service.
Quality Standard (NQS), which provides expectations at a national level across seven quality areas including the implementation of the Early Years Learning Framework\(^2\).

1.2 What is KidsMatter Early Childhood?

KMEC is a national mental health promotion, prevention and early intervention initiative specifically developed for early childhood services. It involves the people who have a significant influence on young children’s lives, including families and early childhood professionals along with a range of community and health professionals, who come together to make a positive difference for young children’s mental health during this important developmental period.

Good mental health is not simply the absence of mental illness but is vital for learning and for leading a happy and rewarding life. Mental health should be viewed as equally integral to development as physical health for an individual’s wellbeing. Early childhood mental health addresses young children’s social, emotional and behavioural wellbeing. This includes children’s developing capacity to: experience, regulate and express emotion; form close, secure, satisfying relationships; and to explore and discover the environment and the world around them. For some children, their disability alone may hinder the development of these capacities, making it all the more important that their mental health is optimised.

The KMEC initiative aims to support early childhood services to implement evidence-based mental health promotion, prevention and early intervention strategies that contribute to:

- improving the mental health and wellbeing of children from birth to school age;
- reducing mental health problems amongst children; and
- achieving greater support for children experiencing mental health difficulties and their families.

Central to the KMEC approach is the reduction of risk factors and the promotion of protective factors associated with mental health. Risk factors can be defined as “variables associated with a high probability of onset, greater severity and longer duration of major mental health problems”, while protective factors are “conditions that improve people’s resistance to risk factors and disorder” (Coie et al., 1993, p.1013). The protective factors promoted by KMEC are presented in Figure 1. They focus on the child, the family, the Early Childhood Education and Care (ECEC) service, and the broader community. This framework acknowledges that addressing mental health is not a matter of identifying and ‘fixing’ problems in individual children, but fostering relationships and promoting the conditions that help young children to thrive. KMEC embodies a strengths-based approach grounded in positive psychology.

In considering risk and protective factors associated with mental health for children with disability, it is important to acknowledge that disability is a very broad category, encompassing a range of conditions that affect different areas of children’s functioning to an extent that can range from mild to severe. Disability is only one aspect of a child’s make-up; mental health and other outcomes are the result of multiple interacting characteristics, relationships, environments, and experiences. Within any specific

\(^2\) We acknowledge Dr Susan Krieg at Flinders University for providing this background detail.
disability group, individual children will vary markedly in their cultural, family, and socioeconomic circumstances and in their relative strengths and interests. Therefore, it is important to understand that the presence of disability will not automatically result in negative outcomes. At the same time, understanding the potential for increased risk in children with disability can help service providers to ameliorate risk factors and bolster protective factors to support the development of positive mental health. The relationship between disability and mental health is discussed in Chapter 4.

Figure 1. Protective factors promoted by KidsMatter Early Childhood

1.3 Research aims and questions

In the first instance, the research aim was to analyse the existing KMEC Evaluation database to establish whether any young children who participated in KMEC had been identified with disability by their parent or carer. Once this was established, the principal aim of the research was to determine if there were any differences in the cohort of children with disability—in terms of the impact and effectiveness of KMEC—compared to children without disability.

The research questions were:
1. How many young children with an identified disability participated in the KMEC pilot?
2. Is there a correlation between children with an identified disability and mental health problems?
3. To what extent does disability status impact on children’s temperament and ECEC staff-child relationships and how do these change over time?
4. For children with an identified disability, to what extent did KMEC achieve its major aims to contribute to:
   • improving the mental health and wellbeing of young children;
   • reducing mental health problems amongst children; and
   • achieving greater support for children experiencing mental health difficulties and their families.
1.4 About this report

This report has been written and prepared as a complement to the KidsMatter Early Childhood Evaluation Final Report (Slee et al., 2012). Accordingly, background information to the KMEC Evaluation has been kept to a minimum with the main focus of this report addressing the research questions above, regarding children with disability in South Australia and nationally. For full details about the evaluation design, the data collected, analyses conducted, conclusions drawn and recommendations for policy and practice resulting from the nation-wide two-year evaluation of the KMEC initiative, consult the full Final Report (Slee et al., 2012). For further information about the statistical analysis presented in this report, please refer to the KMEC Technical Report (Dix et al., 2013) or visit www.kidsmatter.edu.au/early-childhood/evaluation.
Chapter 2. Investigation Methods

2.1 Children with disability in early childhood education and care services

Typically, to access additional support in education settings in Australia children with disability and additional needs must be verified as meeting certain criteria. In South Australia the Department for Education and Child Development (DECD) use the Disability Support Program 2007 Eligibility Criteria. Children in this study were not verified as having disability but they were identified by parents using this criteria as a guide for respondents.

In the KMEC Evaluation, questionnaire data were collected from parents and carers of children aged between 1 and 5 years who were in care for 10 or more hours per week, on up to four occasions over a two year period. An item on the parent questionnaire asked parents and carers to specify if their child was identified as having disability. Due to space constraints on the paper-based questionnaire form, the categories of disability used on the parent questionnaire were limited to the following categories:

- Autism
- Intellectual or Developmental delay
- Vision or Hearing impairment
- Speech or Language impairment
- Physical disability
- Other disability

These categories were based on the seven categories of disability which appear in the DECD Disability Support Program 2007 Eligibility Criteria:

- Autistic Disorder/Asperger’s Disorder
- Global Developmental Delay
- Sensory Disability - Hearing
- Sensory Disability - Vision
- Intellectual Disability
- Physical Disability
- Speech and/or Language

It should be noted that ECEC service staff also completed a questionnaire on up to four occasions for each child. However, their questionnaire did not include an item about the child’s disability status due to potential sensitivities and the likelihood that the staff person may not know if the young child had been formally diagnosed.
2.2 Assessing mental health

Mental health is a multidimensional concept, comprising both strengths and difficulties. The mental health of young children in KMEC services was assessed by multiple informants using multiple measures to determine improvement in children’s mental health over time. Goodman’s Strength and Difficulties Questionnaire (SDQ; Goodman, 2005) for children 3-4 years old (UK version) was used by parents and ECEC staff to assess young children’s mental health. Its chief purpose was to examine what impact KMEC had on child mental health outcomes with respect to the initiative’s key aims of improving mental health and wellbeing of children and reducing child mental health difficulties. Although there are some studies using the SDQ with younger age groups, and the recent review, by the Australian Institute of Health and Welfare (2012), of instruments suitable for a headline indicator of children’s mental health recommended the use of the SDQ, it must be borne in mind that the SDQ is a broad and brief screening instrument only, and the contexts and purposes of its use for decisions about intervention should be closely monitored. Other authors, such as Sawyer et al. (2011) express similar cautions about the use of the SDQ. See the KidsMatter Early Childhood Technical Report (Dix et al., 2013) for a full discussion of the limitations of the SDQ.

The SDQ was completed by staff and parents on four occasions over two years to give a rating of each child’s mental health strengths and difficulties in terms of 25 attributes, some positive and others negative. These 25 items are divided between five scales: hyperactivity, conduct problems, emotional symptoms, peer problems and prosocial skills. A slightly modified version for 3-4 year old children, which retained 22 items that are identical to the version for children 4-10 years old was used for this evaluation study. The item on reflective behaviour was ‘softened’, and items on oppositional behaviour replaced two items on antisocial behaviour. A total SDQ difficulties score of 40 was calculated by adding responses to items in the subscales of hyperactivity, emotional symptoms, peer problems and conduct problems. Goodman’s (2005) recommended cut-points were applied to the parent and staff responses to categorise students into normal range, borderline range, and abnormal range (Goodman’s terminology).

Given the lack of research concerning the age-related suitability of the 3-4 year old version of the SDQ, the age of the children was taken into consideration in the analyses. Initial investigation into other similar samples (Millennium Cohort Study and Avon longitudinal samples in the UK) showed a pattern of decrease in SDQ scores across early childhood that paralleled the pattern of change that was present in the KMEC sample used in this analysis. Our initial tests using multilevel analysis indicated that the direct influence of age on children’s SDQ was significant in most cases. Therefore, an age correction was applied to the final analysis, yielding estimates that were more accurate and conservative. This age correction accounts for the higher SDQ scores (greater level of difficulties) that are typically given to younger children, reflecting age-appropriate developmental behaviours rather than reflecting mental health difficulties. By applying the age correction in the multilevel analyses, scale changes over time associated with the KMEC initiative compared to developmental changes due to ageing during the period of the evaluation were sought. Further details about the age correction are provided in the KMEC Technical Report (Dix et al., 2013).
Figure 2 shows the effect of the age correction by comparing it to the raw scores for different age groups of children.

\[
\text{Staff: } \text{SDQ}_{\text{corrected}} = \text{SDQ}_{\text{raw}} - 1.22 \times (5 - \text{AGE}) \\
\text{Parent: } \text{SDQ}_{\text{corrected}} = \text{SDQ}_{\text{raw}} - 0.54 \times (5 - \text{AGE})
\]

Figure 2. Raw SDQ scores compared to the correct scores for different age groups of children

From Figure 2 it can be seen that a near-linear relationship exists between a child’s age and the steeper slopes of the raw scores of staff and parent rated SDQ. The relationship is stronger (the slope is steeper) for the staff-rated SDQ. Using a cross-sectional approach to assess the relationship of age with SDQ, the slope-coefficient was identified for the staff and parent data and used as a correction factor. Removing the effect of ageing has reduced the slopes so that very young children are more appropriately assessed.

An additional aspect of the evaluation design included an assessment of the child’s temperament by the parent using the Australian Temperament Project scales (ATP), and an assessment of the ECEC staff-child relationship by the staff person using the Student-Teacher Relationships scales (STRS). Both of these are discussed next.

### 2.3 Assessing temperament

Supporting the positive development of a child’s temperament is regarded in the literature as a protective factor. Parents of children of all ages in the KMEC evaluation responded to 16 items from the Short Temperament Scales for Toddlers and Children (Prior et al., 2000), rating their child on questions concerned with usual patterns of behaviour regarding approach-sociability, reactivity and inflexibility that have been identified in the research as three key dimensions of temperament (Rothbart & Bates, 2006; Sanson et al., 1996; Sanson et al., 2009). Parents completed the questions on their child on up to four occasions over two years. Using a scale ranging from 1 ‘almost always’ to 6 ‘almost never’, the Approach-Sociability scale assesses the tendency to approach new people and situations (e.g., This child is outgoing with adult strangers outside the home) with a high score reflecting shyness. The Reactivity scale assesses the readiness with which a child reacts to a particular stimulus and the ability to deal with frustration (e.g., This child responds to frustration intensely), with a high score being very reactive. The Inflexibility scale assesses the difficulty with which the child has dealing with anger, frustration and adjusting to challenges, with a high score being very inflexible. Total scores for each dimension were calculated by reversing the negatively worded items and averaging the responses.
2.4 Assessing the relationships between child and ECEC educators

Children’s high-quality social relationships are seen as serving a protective function that help to develop resilience in the face of risk factors threatening wellbeing. The research evidence has consistently identified the quality of the teacher-student relationship as a potential mediating factor in the behavioural trajectories of young children (e.g., Doumen et al., 2009). In this evaluation, relationships between staff and young children were assessed on four occasions over two years with the widely used Student–Teacher Relationship Scale (STRS). The STRS (Planta, 2001) is a self-report measure of staff-perceived relationships with individual children. This evaluation used the conflict and closeness dimensions of the STRS to assess ECEC staff-perceived conflict and closeness with each child. Research by Doument et al. (2009) indicates that these two scales are the most robust in the STRS. The seven conflict items are designed to attain information about perceived negativity within the relationship (e.g., This child easily becomes angry with me), whereas the eight closeness items ascertain the extent to which the relationship is characterised as warm, affectionate, and involving open communication (e.g., I share an affectionate, warm relationship with this child). Items were staff rated on a Likert-type scale ranging from 1 ‘definitely does not apply’ to 5 ‘definitely applies’. Total scores for each dimension were calculated by averaging the responses (Jerome et al., 2009). The scales potentially reflect changes in ECEC staff and in children, given that a key focus of KMEC is to improve staff-child relationship.

2.5 Assessing implementation quality

A significant facet of the two-year evaluation study of KMEC involved the development of an Implementation Index. As reported by Durlak and DuPre (2008) in their review of the literature on published mental health prevention studies, only a minority of published studies have reported on implementation processes (5%-24%). The same authors concluded that “the magnitude of mean effect sizes are at least two to three times higher when programs are carefully implemented and free from serious implementation problems than when these circumstances are not present” (Durlak & DuPre, 2008, p.340). This highlights the critical nature of implementation quality. The Implementation Index developed for the purpose of this evaluation was based upon the initial work undertaken for the KidsMatter Primary Implementation Index (Dix et al., 2010; Slee et al., 2009), with additional refinement to suit features particular to KMEC. A range of factors were identified as facilitating the KMEC initiative and were used in the Implementation Index, including leadership, engagement with the initiative, support structures and links with external agencies. Application of the Index in the evaluation identified 54% of services as High Implementing, 32% of services as Moderately Implementing, and 14% of services as Low Implementing.

KMEC Facilitators reported three main factors as supporting effective implementation.

1. Leadership: where the leadership was strong and focussed on the initiative.
2. Staff engagement: where the staff were engaged and motivated regarding the initiative.
3. Staff commitment: where the staff had a strong belief in and commitment to enhancing the mental health of children.
Chapter 3. Overview of the ECEC Services and Participants

3.1 KidsMatter Early Childhood services

The 111 services involved in the pilot of KMEC were a volunteer sample of early childhood services selected from a larger national sample, affording the opportunity to select a representative sample on the basis of distribution across states and territories, location, and service type. Other factors were also considered, so that there were services with relatively higher Aboriginal or Torres Strait Islander populations and services that were culturally and linguistically diverse. Demographic information, presented in Table 1, contains data collected from services at the start of the evaluation and provides background information about the context of the early childhood educational settings.

Table 1. Background characteristics of services involved in the KMEC evaluation

<table>
<thead>
<tr>
<th>Services</th>
<th>N=111</th>
<th>Long Day Care</th>
<th>Preschool</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro</td>
<td>33</td>
<td>23</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>19</td>
<td>19</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Remote</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Profit</td>
<td>17</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Non-Profit</td>
<td>39</td>
<td>39</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff</th>
<th>Mean (SD)</th>
<th>Long Day Care</th>
<th>Preschool</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Service staff</td>
<td>14.7(6.1)</td>
<td>8.2(4.8)</td>
<td>18.7(9.7)</td>
<td></td>
</tr>
<tr>
<td>% of Full-time staff</td>
<td>49.6 (24.1)</td>
<td>31.9 (21.4)</td>
<td>41.0 (14.9)</td>
<td></td>
</tr>
<tr>
<td>% of Part-time staff</td>
<td>33.3 (25.4)</td>
<td>45.8 (26.9)</td>
<td>35.9 (20.7)</td>
<td></td>
</tr>
<tr>
<td>% of Full-time with qualification*</td>
<td>47.0 (24.8)</td>
<td>30.5 (21.4)</td>
<td>38.9 (12.7)</td>
<td></td>
</tr>
<tr>
<td>% of Part-time with qualification*</td>
<td>28.1 (23.8)</td>
<td>33.6 (29.4)</td>
<td>29.7 (17.7)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children</th>
<th>Mean (SD)</th>
<th>Long Day Care</th>
<th>Preschool</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total children enrolled</td>
<td>104.9 (51.6)</td>
<td>91.2 (52.9)</td>
<td>126.3 (64.4)</td>
<td></td>
</tr>
<tr>
<td>% Aboriginal or Torres Strait Islander</td>
<td>6.4 (15.9)</td>
<td>9.5 (20.3)</td>
<td>9.0 (21.4)</td>
<td></td>
</tr>
<tr>
<td>% ESL/CALD</td>
<td>9.6 (14.5)</td>
<td>4.7 (10.3)</td>
<td>15.5 (20.6)</td>
<td></td>
</tr>
</tbody>
</table>

* Qualifications include: Early childhood teaching degree, Diploma, Nursing/Mothercraft, or Certificate 3
The distribution of services across states and territories resulted in 20 services in NSW, 16 each in VIC, SA, WA and QLD, 11 in NT, 10 in TAS, and six services in the ACT. It should be noted that the cross-sectional sample is not a random sample, and caution should be taken if generalising findings to other services, staff, or children in Australia.

3.2 The participating children with and without disabilities

The evaluation of KMEC was undertaken over a two-year period and there were significant challenges as with any longitudinal research design. For example, the majority of families transitioned into, out of, or between services within that two-year timeframe, due to the non-compulsory nature of attending an early childhood service, and because children generally attend preschool only for one year prior to starting school. In order to maximise the opportunity to collect both cross-sectional data and longitudinal data, a whole-service-population approach was adopted, with the delimitation of only involving the staff and parents of children aged between 1 and 5 years (12 – 60 months) who attended the service 10 hours or more per week. On this basis, the parents and service staff of these children were invited to complete questionnaires on up to four occasions (Times 1 to 4). The background characteristics collected from these questionnaires of the children involved in the KMEC evaluation, are presented in Table 2.

| Table 2. Background characteristics of all children involved in the KMEC evaluation |
|--------------------------------------|------------------|------------------|
| National cohort | N = 4469 | Male | Female |
| Gender | Number (% of total) | 2303 (52%) | 2166 (48%) |
| Child age | Mean (SD) | 4.05 (1.15) | 4.04 (1.15) |
| Aboriginal or Torres Strait Islander | Number (% of gender) | 140 (6.1%) | 115 (5.3%) |
| Average weekly hours spent in care | Mean (SD) | 19.7 (9.37) | 20.21 (9.57) |
| Disabilities identified multiple for some | Autism | 43 | 9 |
| | Intellectual or Developmental delay | 60 | 27 |
| | Vision or Hearing impairment | 74 | 62 |
| | Speech or Language impairment | 218 | 89 |
| | Physical disability | 22 | 10 |
| | Other disability (not defined)* | 111 | 77 |
| Has a disability | Total 609 (13.6%) | 397 (17.2%) | 212 (9.8%) |

* Due to space limitations on the questionnaire, parents were not prompted to explain what ‘other disability’ might be.

Only children for whom disability status was provided (including children with no disability), by the parent or carer is presented in the table above, and it should be noted that these identifications were based on parent views and were not necessarily formally verified. Accordingly, 4469 children, present on one or more occasions, comprise the database for all subsequent analyses presented in this report. As indicated in the table,
there was a near-balanced sample of boys (52%) and girls (48%), who had an average age of 4 years, and spent an average of 20 hours in care each week. Only considering children with disability, the average time in care each was a little less at 17.9 hours (SD=8.19).

Table 2 also provides an overview of the sub-group of 609 children with an identified disability that participated in the KMEC initiative, approximating 14% of the national sample of children. Of this sub-group of children with disability, 9% were identified by their parent as having Autism, 14% experienced Intellectual or Developmental delay, 22% experienced Vision or Hearing impairment, half were identified as having Speech or Language impairment, only 5% experienced Physical disability, and almost one third of parents indicated that their child had another type of disability. Speech and Language Impairment was the most frequently occurring disability category identified, which is consistent with Llewellyn, Thompson and Fante (2002). The profiles are also consistent with Ministerial Advisory Committee: Students with Disabilities 2012 study, apart from the per cent of children with Vision or Hearing impairment which is much larger in this study. The ratio of male to female children with disability was approximately 2:1 (male n= 397, 65% & female n=212, 35%). This is consistent with previous findings of the Ministerial Advisory Committee: Students with Disabilities (2012) and with Australian Bureau of Statistics’ census data (2009). Five hundred of these children were identified as having one disability, while 109 children were identified with multiple disabilities. Figure 3 presents the number of children with none, one or multiple disabilities. Three boys were identified as having all five listed disabilities and 10 children experienced four disabilities with Speech or Language impairment common among all, and Intellectual or Developmental delay common to all but one child.

![Figure 3. The number of children with none, one or multiple disabilities (on a log scale)](image)

It is acknowledged that the categories of disability used by care and education providers across Australia and the Australian Bureau of Statistics (ABS) may differ from the categories used in this study. Whilst direct comparison cannot always be made, data from the ABS has been used to provide some indication and comparison.
### 3.3 Cross-sectional and longitudinal data

The non-compulsory nature and structure of preschool and long day care services meant that many children and their parents were only present in the service for one or two data collection occasions, as children started at the service, left or changed services, or transitioned to school. The fact that most children were typically only in the service for 12 months during a two-year evaluation, posed challenges for tracking changes over time.

In order to make best use of the available data, two methods of analysis are presented. The first method involves the full sample of 6858 surveys received on the 4469 children, as shown in Table 3. This method takes a cross-sectional approach by comparing percentage change between Time 1 and Time 4. It provides insight into the pattern of broad changes that occurred in services. The percentage of parents and staff reporting that they strongly agreed on particular items is taken as the highest two levels of the response scale (i.e., scored 6 or 7 on the Likert scale).

#### Table 3. The presence of children on one or more occasions

<table>
<thead>
<tr>
<th></th>
<th>All children</th>
<th>Children with disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals</td>
<td>6858</td>
<td>956</td>
</tr>
<tr>
<td>Present on:</td>
<td>4469</td>
<td>609</td>
</tr>
<tr>
<td>One occasion</td>
<td>2698</td>
<td>361</td>
</tr>
<tr>
<td>Two occasions</td>
<td>1304</td>
<td>175</td>
</tr>
<tr>
<td>Three occasions</td>
<td>316</td>
<td>47</td>
</tr>
<tr>
<td>Four occasions</td>
<td>151</td>
<td>26</td>
</tr>
<tr>
<td>Change over time (three or four occasions)</td>
<td>467</td>
<td>73</td>
</tr>
</tbody>
</table>

The second method of analysis uses a subset of the data for which there are three or more data collection occasions for each individual child, thus allowing for an analysis of change in scores on key measures for children in the subset.

Table 3 indicates that 467 children (10.4%) had sufficient data for analysis of changes over time, which includes 73 children with disability.

In the second method of analysis, an important step is to understand the differences between the bulk of children who were present on one or two occasions (indicated as the unselected group in Table 3) and children who were present on three or four occasions (indicated as the selected group in Table 3). Table 4 presents the background characteristics of the selected group of children involved in the KMEC evaluation on three of four occasions. Of these 73 children with disability, 25 were from South Australia and their profiles were consistent with the national profile. No child with disability was identified as being from Aboriginal or Torres Strait Islander background.
The profiles presented in Table 2 and Table 4 do differ, with more female than male children staying in care for more than a year and for more hours each week (23 hours compared to 20 hours on average). These children tend to be younger (3.7 years of age) and are less likely to be of Aboriginal or Torres Strait Islander background. While every disability category has representation, only children with one (n=67) or two (n=6) disabilities are represented.

Table 4. Background characteristics of children involved in the KMEC evaluation on three or four occasions

<table>
<thead>
<tr>
<th>Present on 3 or 4 occasions</th>
<th>N = 467 All children</th>
<th>Children with disability N= 73</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male Number (% of total)</td>
<td>221 (47.3%)</td>
</tr>
<tr>
<td></td>
<td>Female Number (% of total)</td>
<td>246 (52.7%)</td>
</tr>
<tr>
<td>Child age</td>
<td>Mean (SD)</td>
<td>3.7 (1.1)</td>
</tr>
<tr>
<td>Aboriginal or Torres Strait Islander</td>
<td>Number (% of total)</td>
<td>11 (2.4%)</td>
</tr>
<tr>
<td>Average weekly hours spent in care</td>
<td>Mean (SD)</td>
<td>22.8 (8.7)</td>
</tr>
<tr>
<td>Disabilities identified multipie for some</td>
<td>Autism</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Intellectual or Developmental delay</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Vision or Hearing impairment</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Speech or Language impairment</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Physical disability</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Other disability</td>
<td>23</td>
</tr>
<tr>
<td>Has a disability</td>
<td>73 (15.6%)</td>
<td></td>
</tr>
</tbody>
</table>

It should be kept in mind, when considering the results, that the cross-sectional sample and the longitudinal sample are different. Importantly, both methods contain sufficient data to conduct the desired analyses presented in the remainder of this report.
Chapter 4. The Relationship between Disability and Mental Health

There is evidence that children with disability are significantly more likely to develop mental health problems than children without disability (McMillan & Jarvis, 2013). The chance of developing mental health difficulties is even higher in children with multiple disabilities. A recent Australian study (Dix et al., 2010) found that 10 year-old children with no disability had a 13% chance, children with one disability had a 33% chance, and children with multiple disabilities had a 50% chance of experiencing mental health difficulties. This chapter investigates the existence of a similar profile of comorbidity in young children (4 years of age).

In considering the findings from this study and the existing research in this area, it is important to bear in mind that the presence of disability does not mean that a child will inevitably experience negative life outcomes, including poor mental health. With appropriate supports and opportunities, individuals with disability can and do lead productive, fulfilling lives. Children with disability are diverse individuals with a range of strengths, interests, relationships, opportunities and specific difficulties. The relationship between disability and mental health is a complex one, and different for each individual based on unique interactions between personal characteristics and life circumstances. However, in order to provide appropriate opportunities to support and enhance positive mental health, it is important to acknowledge the increased risk for children with disability of experiencing mental health difficulties and to consider both the individual and environmental factors that may contribute to this heightened risk. The value of investigating mental health difficulties in young children with disability is to inform efforts to build personal and social competencies related to resilience and to prevent future difficulties, rather than to highlight intractable problems.

4.1 Existing evidence

Owing to different data collection methods and definitions of both disability and mental health difficulties used in different jurisdictions, it is challenging to accurately estimate the prevalence of mental health difficulties in children with disability. However, there is agreement from a range of sources that the prevalence of mental health problems among children with disability is greater than in the general population (Davies, 2005; Einfeld & Tonge, 1996; Ghaziudden, Ghaziudden & Greden, 2002; Gillott, Furniss & Walter, 2001; Hackett et al., 2011). Brereton, Tonge and Einfield (2006) reported that children with disability had a greater chance of developing mental health problems than children without disability. Thus, physical and intellectual disability are listed among risk factors for mental health problems (Ministerial Advisory Committee: Students with Disabilities, 2007).
For example, 41 per cent of children with intellectual disability, 4 to 18 years of age, were also diagnosed with emotional and behaviour disorders such as depression and Attention Deficit Disorder (Brereton et al., 2006). When comparing children with and without intellectual disability, Kaptein, Jansen, Vogels and Reijneveld (2008) reported that 61 per cent with disability were found to have mental health difficulties compared to 10 per cent of children without disability.

Research involving groups of children with specific disability types has reported prevalence rates for mental health difficulties between 40 and 70 percent for, among others, individuals with intellectual disability (Torr et al., 2008), Autism Spectrum Disorder (Davies, 2005; Strang et al., 2012), Down syndrome (Spendelow, 2011; Walker et al., 2011), Fragile X syndrome (Cordeiro, Ballinger & Hagerman, 2011), and Foetal Alcohol Syndrome Disorder (Famy, Streissguth & Unis, 1998). Higher rates of depression than in the general population have also been reported for children and adolescents with chronic epilepsy (Jones et al., 2003), specific learning disabilities (Kuur et al., 2011), vision impairment (du Feu & Fergusson, 2003), hearing impairment (van Gent, Goedhart & Treffers, 2011), and Attention Deficit Hyperactivity Disorder (ADHD) (Larson et al., 2011).

It is widely acknowledged that living with any type of disability can contribute to the development of mental health difficulties because of a range of adverse individual and environmental conditions associated with disability (Kim et al., 2000; World Health Organization, 2004). Specific cognitive difficulties associated with some disabilities may impede the development of key social and emotional competencies associated with positive mental health, including self-regulation, communication, problem-solving, social coping and interpersonal skills (Westwood, 2011). Difficulties in these areas can make it challenging for children to express their needs, form social relationships, establish patterns of appropriate behaviour, and experience academic success in early learning and school settings, leaving them vulnerable to later difficulties. Research suggests that children accessing special education services for behavioural and other disabilities are more likely than their age peers to be bullied and to bully others (Swearer et al., 2012), while a range of studies have established that being bullied, victimised and/or ostracised by peers is a significant predictor of mental health difficulties in children and adolescents with disability, regardless of the severity of the disability (e.g., American Academy of Pediatrics, 2012; Fellinger et al., 2009).

From an educational attainment perspective, children with disabilities that affect their academic engagement and progress might be faced with repeated experiences of failure, particularly when instruction is not tailored to their learning needs and there are few opportunities to consistently build self-efficacy through mastery experiences (Jarvis, 2011). Feelings of inadequacy can exacerbate depressive symptoms in children with disability (Bender, Rosenkrans & Crane, 1999) and children who experience difficulty with learning often develop a sense of learned helplessness, giving up easily in the face of difficulty and becoming disengaged with school (Hallahan, Kaufmann & Pullen, 2012). Researchers have noted that cycles of academic success, in which students select and apply appropriate learning strategies, reflect on their strategy use and receive timely and ongoing feedback, are particularly important for the development of executive functioning and other cognitive skills associated with both academic and social problem solving (Meltzer et al., 2004). For children with cognitive disabilities, it is particularly important for
educators to facilitate access to targeted, systematic opportunities for skill development in areas of difficulty, rather than assuming that children will develop these skills on their own.

Patterns of difficulty can emerge from an early age for children with social, emotional and behavioural vulnerabilities. For example, Leadbetter and Hoglund (2009) found that children who exhibited aggressive behaviour or signs of anxiety or depression (e.g., excessive worry, crying, fear, and sadness) in their first year of schooling were at increased risk of being chronically victimised by their classmates by Grade 3. This is of particular concern since children with disability are more likely to enter school with existing behaviour problems (Baker et al., 2003; 2005). Factors such as early behaviour problems and poor self-regulation skills have been shown to predict significantly poorer student-teacher relationships in primary school for children with intellectual disability, which tend to be characterised by less closeness and more conflict and dependency than for typically developing children (Eisenhower, Baker & Blacher, 2007; Blacher, Baker, Eisenhower, 2009). Emotional and behavioural difficulties in young children with disabilities such as autism and developmental delay have also been associated with increased parental stress (particularly for mothers), parental mental health problems and perceived family dysfunction (Herring et al., 2006; Webster et al., 2008).

Sawyer et al. (2000) suggest that there appears to be no natural point at which children with mental health problems, no matter how minor, cease to have difficulties in other areas of their lives. A continuum exists whereby increasing mental health difficulties proportionally impact upon other aspects of life – a situation potentially exacerbated for children with disability. Emotional and behavioural difficulties in early childhood affect relationships with peers and teachers, impact on families, and have been shown to predict future mental health difficulties, and children with disability are particularly vulnerable to these kinds of difficulties. Early childhood educators play a critical role in recognising early signs of difficulty and supporting young children with disability to build competencies and access the kinds of experiences that are associated with positive mental health. Thus, it is particularly important to explore and understand the relationship between disability and mental health in Australian young children and to communicate this information to early childhood educators in South Australia and elsewhere.

4.2 What is the prevalence of mental health difficulties in young children

In this cross-sectional investigation, a national sample of 3748 young children were rated independently by their parent and an ECEC educator and then classified as being within the range for ‘normal’, ‘borderline’ or ‘abnormal’ mental health according to Goodman’s SDQ (2005). Only data collected on the first occasion for the child was considered, in order to provide a baseline level of prevalence, independent of any potential impact from the KMEC initiative.

Based on this national sample of over 3700 young children and their parent and staff assessments of mental health using Goodman’s SDQ, approximately 82 per cent of young children were identified in the normal range of mental health – the staff rating was

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4 Some parents did not complete sufficient items in the SDQ, resulting in fewer parent ratings in the analysis, therefore the sample size is 3748 rather than 4469.
79 per cent in the normal range and the parent rating was larger with 85 per cent of young children in the normal range. Approximately 9 per cent of young children were identified in the borderline range of mental health (staff rated was 11% and parent rated was 7%). The remaining 9 per cent of young children were identified as being in the abnormal range of mental health, with closer agreement between staff (10%) and parent (8%) ratings. This is similar to data from Australian Health (2010), where 9 per cent of Australian children are identified as having long-term mental health problems.

According to the results presented here, the national prevalence of young children (4 years of age) at risk of mental health difficulties, is 18 per cent. This cohort includes 14 per cent of children with a disability. The higher prevalence (20%) of mental health difficulties being reported in ECEC services, is not unexpected. At this early stage in a child’s life, they are still learning independence and to adjust to being away from the familiar faces and routines of home. However, given that an increasing number of young children are attending ECEC services for longer hours, this higher rate must be given due consideration. It further raises the importance of ECEC services needing to be respectful, safe and nurturing environments, and for ECEC educators to be able to identify, early on, the signs of distress and be able to respond effectively.

4.3 Is there a correlation between young children with disability and mental health problems?

Central to this investigation was the question of whether young children with disability were more likely to experience mental health problems than their peers without disability. Using the same sample of over 3700 young children and their staff and parent assessments of mental health, children were categorised according to their disability status of having none, one, two, or three or more disabilities. Figure 4 presents the proportions of young children in normal, borderline and abnormal ranges of mental health, according to their disability status and comparing parent and staff ratings. Figure 4 indicates that approximately 84 per cent (81%-87%) of young children without disability were identified as being in the normal range of mental health, with about 16 per cent (13%-19%) being in the borderline to abnormal ranges of mental health. For children with one disability, the prevalence of mental health difficulties jumps to 26 per cent (23%-30%).

In other words, these results broadly suggest that young children without disability have a 1 in 6 chance of experiencing mental health difficulties (being in the borderline or abnormal range), whereas children with one disability have a 1 in 4 chance, while children with multiple disabilities have a 1 in 2 chance of experiencing mental health difficulties.

In order to estimate the strength of relationship between mental health and disability, canonical correlation analysis was undertaken in AMOS using asymptotic distribution free (ADF) methods due to the extreme skewness of the SDQ data. This technique considers more completely the complexity of relationships than does a simple correlation analysis (Tabichnick & Fidell, 2007).

5 The parent ratings contained some missing data.
6 AMOS is a program to assist with structural equation models. The acronym stands for Analysis of Moment Structures.
Figure 4. The comorbidity of young children’s mental health with extent of disability

Figure 5 suggests that there are significant moderate standardised correlations of 0.36 for the parent rated model and 0.30 for the staff rated model. An adequate model fit was indicated by the Root mean square error of approximation (RMSEA=0.04) and the Comparative fit index (CFI=0.99). These findings confirm more strongly the comorbidity of mental health difficulties amongst young children with disability. The analyses also suggest the relationships are based on different behaviours in the home and service. The association of hyperactivity in the home was the weakest (0.46), while in services it was the strongest (0.73).

Figure 5. Correlation between disability status and mental health difficulties in young children

The bar graph in Figure 4 more clearly illustrates the generally higher prevalence of mental health difficulties, particularly in the borderline range, according to staff ratings. It suggests that some children identified as ‘normal’ by their parent, exhibited different behaviours in the ECEC service, to the extent that staff identified them as having difficulties in the borderline or abnormal ranges of mental health. Based on the canonical
models in Figure 5, young children with disability may exhibit more hyperactive behaviour in ECEC services.

These analyses suggest that comorbidity is present and that young children with disability are more likely to also experience mental health difficulties, particularly if they are being cared for by others outside of the home.

It suggests that the key factors that influence the mental health and wellbeing of young children with disability, aside from the extent of the child’s disability, include the support and attitudes from others. It is hoped that when families and ECEC services take effective steps to include young children with disability and ensure their needs are met, they can foster positive mental health and wellbeing. When the child’s individual needs are understood, their strengths are built upon, and a supportive and respectful environment is provided, young children with disability can maximise their developmental potential and thrive.

The next chapter investigates to what extent the implementation of KMEC in ECEC services can make a difference to the mental health and wellbeing outcomes of young children with disability.
Chapter 5. Findings and Discussion

In Australia, 89 per cent of school-aged children with disability attend a mainstream school, with around 63 per cent experiencing difficulty at school, in terms of intellectual or learning difficulties, fitting in socially, and communication difficulties (Australian Institute of Health and Welfare, 2006). Recommendations have been made in Australia, that school-aged children with disability, who are at increased risk of developing mental health problems, be identified by governments and agencies providing mental health care, and that services should be prioritised for these children and their families (see for example, Ministerial Advisory Committee: Students with Disabilities, 2007).

Although there has been growing evidence to suggest that school-wide mental health promotion initiatives benefited the mental health and wellbeing of students with disability (for example, Dix, Shearer, Slee & Butcher, 2010), little evidence exists to indicate that young children with disability benefit equally. In a review of literature, no studies were found that investigated the impact of a whole-service mental health promotion program on young (preschool) children with disability.

5.1 Disability and temperament

The development of protective factors early in childhood is a crucial factor for subsequent adjustment to life’s challenges and stresses. Child temperament is regarded in the literature as a potential risk or protective factor, according to the nature of its expression in each young child (Slee, Campbell & Spears, 2012). Child temperament refers to innate tendencies and behavioural style, and comprises both emotional reactivity and self-regulatory abilities (Rothbart, 1986; Rothbart & Sheese, 2007) that work together to influence social interactions (Pérez-Edgar & Fox, 2007).

The concept of temperament has received an increasing amount of research interest in the last two decades (Sanson, Hemphill & Smart, 2004). A well-accepted definition of temperament is “individual differences in attentional, emotional, and behavioural self-regulation, along with the relative level of emotional reactivity, which together give a unique flavour to the individual” (Prior et al., 2000, p.3). The authors conclude that temperament does matter and influences a child’s predisposition to adjustment problems inside and outside the home. They also conclude that “temperament has a significant long-term influence on positive adjustment and socially adaptive behaviour, as shown in the studies of resilience in the face of adversity” (Prior et al., 2000, p.64).

Sanson et al. (2009) found, in their analysis of longitudinal data from the Australian Temperament project, that identifiable temperamental types (inhibition, reactivity, self-regulation) in early childhood were associated with specific outcomes in later childhood, particularly with respect to capacities for self-regulation. However, as argued by Smart
and Sanson (2005), temperamental traits may not be immutable, but could be receptive to environmental experiences. This suggests that there appear to be some opportunities to influence temperament, through interventions such as the social and emotional skills education included in KMEC. Smart and Sanson (2005, p.56), in referring to ‘reactivity’ (the tendency to respond intensely to frustration or control emotions) noted that, “this characteristic clearly puts a child at some risk for the development of behaviour problems such as aggression and hyperactivity”.

As reported by Sanson et al. (2009) emerging findings from the Australian Temperament Project point to a link between temperament and later adjustment. Clusters identified in the first 3 years of life had implications for behavioural adjustment 4–8 years later. Differences among the temperament clusters, identified from infant and toddler data, were evident for behaviour problems, social skills, and school functioning in childhood across all informants. Children in the reactive/inhibited and poor attention regulation clusters tended to have more behaviour problems and poorer social skills and school functioning than children in the nonreactive/outgoing and high attention regulation groups.

While the link between temperament, adjustment and behaviour is well established in typically developing children, researchers have begun to focus on temperament in children with disability (Martin, 1992). Research in this area has shown differences in temperament between children with various types of disabilities and typically developing children. For example, studies have found that children aged 3–8 with Autism Spectrum Disorder (ASD) and those with Fragile X syndrome were less adaptable, less persistent and more withdrawn on average than typically developing children (Bailey, Hatton, Mesibov & Ament, 2000; Hepburn & Stone, 2006). Others have found that toddlers and children with ASD experienced greater difficulties with attentional focusing, inhibitory control, soothability, and effortful control and were more likely to show lower positive anticipation, higher activity level, lower positive affect, and greater negative affectivity than typically developing children (Butzer & Konstantareas, 2003; Konstantareas & Stewart, 2006). Links between temperament and behaviour have also been established, such as in a study by Schwartz et al. (2009) which found that effortful control and negative affectivity predicted problem behaviour in 8 to 16 year olds with high functioning autism.

One of the challenges in considering the role of temperament for children with disability is the degree of overlap between the diagnostic features of some disabilities and the construct of temperament. For example, diagnostic characteristics of Autism Spectrum Disorder (ASD) include “insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior” (American Psychological Association, 2013), while flexibility (dealing with anger and frustration and adapting to challenges) is an important component of temperament related to mental health. Adamek et al. (2011) caution that this “diagnostic overshadowing” can encourage a tendency to over-explain an individual child’s temperamental characteristics or behaviour wholly in terms of the disability. In fact, researchers have noted that there is considerable variability in the temperamental characteristics of individual children with the same kind of disability (Schatz, Weimer, & Trauner, 2002; Schwartz et al. 2009). Studies have found greater variability in temperament among groups of children with ASD (Adamek et al., 2011) and young children (aged 4-6 years) with intellectual disability (Bostrom, Broberg & Bodin, 2011) than in typically developing children. While it is useful to consider patterns of temperament and behaviour in large groups of children, it is also important to consider
individual differences among children with disability and to carefully consider the influence of different dimensions of temperament on mental health and behaviour.

Parents of children of all ages in the KMEC evaluation responded to 16 items from the Short Temperament Scales for Toddlers and Children (Prior et al., 2000), rating their child on questions concerned with three key dimensions of temperament, that of approach-sociability, inflexibility and reactivity.

5.1.1 The approach-sociability of young children with disability

The Approach-Sociability scale assesses children’s tendency to approach new people and situations with a high score reflecting shyness. Parents completed eight questions on their child on up to four occasions. Table 5 presents a comparison between children with and without disability on their first occasion in the study, with the higher percentage in bold. Some items were worded pro-approachability, for example, *This child is pleasant when first arriving in unfamiliar places.* For this item, 44 per cent of parents indicated that their child without disability was like this frequently or almost always, compared to only 41 per cent of children with disability. This suggests that children without disability were more likely to be approachable-social than children with disability in their first months at the ECEC service. Other items were worded pro-shyness. In response to *This child is shy when first meeting new children*, parents indicated that only 22 per cent of children without disability, compared to 29 per cent of children with disability were like this frequently or almost always. The results from the South Australian sample of young children were similar. This suggests that children with disability were more likely to be shyer, and this held true across all items.

Table 5. Approach-Sociability: Parent rating of their child on their first occasion

<table>
<thead>
<tr>
<th>Frequently or almost always, this child:</th>
<th>without disability (n=3350)</th>
<th>with disability (n=512)</th>
</tr>
</thead>
<tbody>
<tr>
<td>is pleasant (smiles, laughs) when first arriving in unfamiliar places</td>
<td>44%</td>
<td>41%</td>
</tr>
<tr>
<td>smiles when an unfamiliar adult plays with him/her</td>
<td>30%</td>
<td>28%</td>
</tr>
<tr>
<td>is outgoing with adult strangers outside the home</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>is still wary of strangers after 15 minutes</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>is shy with strange adults</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td>is shy when first meeting new children</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>will go up to strange children and join in their play, when in a park or visiting</td>
<td>36%</td>
<td>33%</td>
</tr>
<tr>
<td>is friendly and approaches them, when unknown adults visit our home</td>
<td>29%</td>
<td>25%</td>
</tr>
</tbody>
</table>

The initial results presented in Table 5, suggest that there were small differences in the temperament of children with and without disability, such that children with disability were more likely to be shy. A more thorough analysis was conducted using three level Hierarchical Linear Modeling in order to statistically test for these differences and to investigate any change in these differences over time.
Figure 6 presents the results of the HLM analysis of approach-sociability scores of 360 young children aged between 2 to 5 years (mean age 3.88 years, sd = 1.03) involved in the KMEC evaluation and tracked across the two-year period. Focusing on change in children over time, Figure 6 shows a reduction in shyness, which suggests a significant (p=0.005) small improvement in the approach-sociability of children over time.

![Figure 6. Change in children's approach-sociability over time](image)

The suggestion in Table 5, that children with disability were more likely to be shyer, is evident in Figure 6. However, these children appeared to ‘catch-up’ to their peers without disability by the end of the evaluation. Compelling as this evidence may be, for the positive outcomes of children with disability in KMEC ECEC services, the differences between the approach-sociability of children with and without disability (p=0.138) and the way they changed over time (p=0.228) were not found to be statistically significant.

5.1.2 The reactivity of young children with disability

The Reactivity scale assesses the readiness with which a child reacts to a particular stimulus and the ability to deal with frustration, with a high score being very reactive. Parents completed four questions on their child on up to four occasions. Table 6 presents a comparison between children with and without disability on their first occasion in the study, with the higher percentage in bold. All items were worded pro-reactive, for example, *This child shows much bodily movement (stomps, writhes) when upset or crying.* For this item, only 20 per cent of parents indicated that their child without disability was like this frequently or almost always, compared to 29 per cent of children with a disability. Similar results were found for children in the South Australia sample. This suggests that children with disability were more likely to be reactive than children without disability and this was the case for the other three items – responding to frustration intensely, having moody “off” days, and reacting strongly when unable to complete an activity.
Table 6. Reactivity: Parent rating of their child on their first occasion

<table>
<thead>
<tr>
<th>Frequently or almost always, this child:</th>
<th>without disability (n=3353)</th>
<th>with disability (n=512)</th>
</tr>
</thead>
<tbody>
<tr>
<td>responds to frustration intensely (screams, yells)</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>has moody “off” days when he/she is irritable all day</td>
<td>7%</td>
<td>16%</td>
</tr>
<tr>
<td>shows much bodily movement (stomps, writhes) when upset or crying</td>
<td>20%</td>
<td>29%</td>
</tr>
<tr>
<td>reacts strongly (cries, screams) when unable to complete a play activity</td>
<td>8%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Figure 7 presents the results of the HLM analysis of reactivity scores of 360 young children aged between 2 to 5 years (mean age 3.88 years,.sd = 1.03) involved in the KMEC evaluation and tracked across the two-year period. Focusing on change in children over time, Figure 7 shows a reduction in reactivity, which suggests a significant (p<0.001) small improvement in the reactivity of children over time. It also shows that children with disability are more likely to be reactive, but not significantly so (p=0.233), and that the way children with and without disability changed in reactivity over time was not significantly different (p=0.752).

5.1.3 The inflexibility of young children with disability

The Inflexibility scale assesses the difficulty with which the child has in dealing with anger and frustration and adjusting to challenges, with a high score being very inflexible. Parents completed four questions on their child on up to four occasions. Table 7 presents a comparison between children with and without disability on their first occasion in the study, with the higher percentage in bold. Some items were worded pro-reactivity, for example, *If this child is upset, it is hard to comfort him/her.* For this item, only 4 per cent of parents indicated that their child without disability was like this frequently or almost always, compared to 10 per cent of parents of children with disability. One item was reverse worded – *If this child wants a toy or sweet while shopping, he/she will easily accept something else instead.* For this item, parents indicated that 47 per cent of children without disability, compared to 41 per cent of children with disability were like this frequently or almost always. These findings were consistent in the South Australian...
Table 7. Inflexibility: Parent rating of their child on their first occasion

<table>
<thead>
<tr>
<th>Frequently or almost always, when this child:</th>
<th>without disability (n=3353)</th>
<th>with disability (n=512)</th>
</tr>
</thead>
<tbody>
<tr>
<td>wants a toy or sweet while shopping, he/she will easily accept something else</td>
<td>47%</td>
<td>41%</td>
</tr>
<tr>
<td>is angry about something, it is difficult to side-track him/her</td>
<td>13%</td>
<td>22%</td>
</tr>
<tr>
<td>wants something I do not buy when shopping together, he/she cries and yells</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>is upset, it is hard to comfort him/her</td>
<td>4%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Figure 8 presents the results of the HLM analysis of inflexibility scores of 360 young children aged between 2 to 5 years (mean age 3.88 years, sd = 1.03) involved in the KMEC evaluation and tracked across the two-year period. Focusing on change in children over time, Figure 8 shows a reduction in inflexibility, which suggests a significant (p<0.001) small improvement in the inflexibility of children over time. It also shows that children with disability are more likely to be inflexible, but not significantly so (p=0.415), and that the way children with and without disability changed in inflexibility over time was not significantly different (p=0.506).

Figure 8. Change in children's inflexibility over time

5.1.4 Discussion

In the HLM analyses presented, the effect of child’s age on temperament scores was tested and was not found to be statistically significant, which supports findings from the literature that suggests temperament is trait-related and has stability over time. However, as argued by Smart and Sanson (2005), temperamental traits may not be immutable, but could be receptive to environmental experiences. The quality of KMEC implementation was also tested, but was not found to significantly influence change in temperament, directly. Nevertheless, the fact that children’s approachability, reactivity and inflexibility did
improve over time, suggests that there appears to be some opportunities to influence temperament, through interventions such as the social and emotional skills education included in KMEC.

Smart and Sanson (2005, p.56), in referring to ‘reactivity’ (the tendency to respond intensely to frustration or control emotions) noted that

\[
\text{This characteristic clearly puts a child at some risk for the development of behaviour problems such as aggression and hyperactivity, which can become ingrained.... and it can impede the development of pro-social attributes, which are the foundation for social competence.}
\]

The finding in the present study, that there was a small but practically significant improvements in approachability, reactivity and inflexibility during the KMEC intervention, can be interpreted as being consistent with the view that some small modifications in temperament are possible. While the evidence suggests that children with disability were more likely to be shy, reactive and inflexible, compared to children without disability, these differences were trivial. KMEC was shown to have a similar positive impact on temperament across all children and this reinforces the importance of temperament styles and their role as a potential protective factor. In considering the influence of temperament for students with disability, Adamek et al. (2011) suggest that in addition to supporting the modification of specific behaviours that represent relatively modest changes to temperament, it is also important to consider “goodness-of-fit” (matching the task/activity/situation to the child’s temperament), and “niche picking” (selecting or designing a situation that best fits the child’s temperament). In other words, early childhood educators can understand and work with a child’s temperamental characteristics in designing or adapting learning tasks and opportunities to foster successful, positive experiences that help to build skills and confidence at the same time as they implement longer-term efforts to change behaviour.

5.2 Disability and staff-child relationships

Children’s high-quality social relationships are seen to serve a protective function that helps to develop resilience against risk factors for mental health difficulties. The research evidence has consistently identified the quality of the teacher-student relationship as a potential mediating factor in the behavioural trajectories of young children (e.g., Doumen et al., 2009). Peisner-Feinberg et al. (2001) report a positive relationship between the quality of relationships with child-care workers, in terms of ‘closeness’, as assessed by the STRS and the child’s later socio-emotional development. Generally findings stress the importance of paying systematic attention to relationship in the context of prevention and intervention of children’s adjustment and socio-emotional development. Several research reports have identified the teacher-student relationship as a potential mediating factor in the behavioural trajectory of children in the early elementary years. Moreover, children who exhibit externalizing behaviour problems in early elementary grades who maintain a positive relationship with their teacher (despite teacher boundary setting and consequences for misbehaviour) often experience an improved behavioural trajectory (e.g., Hughes, Cavell, & Jackson, 1999). Research into teacher-student relationships in early primary school has found that young children with intellectual disability are significantly less likely than their typically developing peers to enjoy close, positive
relationships with teachers, and that the quality of these relationships is predicted by early childhood behavioral difficulties (Eisenhower, Baker & Bacher, 2007).

ECEC educators of children of all ages in the KMEC evaluation responded on up to four occasion to eight closeness items (i.e., warmth and open communication) and seven conflict items (i.e., discordant interactions) from the widely used Student–Teacher Relationship Scale (STRS; Pianta, 2001). Closeness is shown as a positive attribute and Conflict is shown as a negative attribute. The scales potentially reflect behavioral changes in both staff and in children in the context of KMEC.

5.2.1 The closeness of ECEC educators and children with disability

The Closeness scale assesses the extent to which the relationship between an ECEC educator and child is characterised as warm, affectionate, and involving open communication, with high scores reflecting a close relationship. ECEC staff completed eight questions on children for which they were the main carer on up to four occasions. Table 8 presents a comparison between children with and without disability on their first occasion in the study, with the higher percentage in bold. On average, there were 6 per cent fewer staff who somewhat or definitely felt that they shared a close, affectionate relationship between children with disability, compared to children without disability. This difference was as large as 13 per cent with regard to the ECEC educator finding it somewhat or definitely easy to be in tune with what the child was feeling. Nevertheless, the high rating scores, many in the 90 percentile, suggest that the majority of ECEC educators share a warm relationship with the children they care for. The South Australian sample of children showed similar results.

Table 8. Closeness: ECEC staff rating of children on their first occasion

<table>
<thead>
<tr>
<th>Applies somewhat or definitely applies</th>
<th>without disability (n=3350)</th>
<th>with disability (n=512)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I share an affectionate, warm relationship with this child</td>
<td>94%</td>
<td>92%</td>
</tr>
<tr>
<td>If upset, this child will seek comfort from me</td>
<td>92%</td>
<td>86%</td>
</tr>
<tr>
<td>This child values his/her relationship with me</td>
<td>87%</td>
<td>83%</td>
</tr>
<tr>
<td>When I praise this child, he/she beams with pride</td>
<td>96%</td>
<td>94%</td>
</tr>
<tr>
<td>This child spontaneously shares information about himself/herself</td>
<td>84%</td>
<td>77%</td>
</tr>
<tr>
<td>It is easy to be in tune with what this child is feeling</td>
<td>84%</td>
<td>72%</td>
</tr>
<tr>
<td>This child openly shares his/her feelings and experiences with me</td>
<td>84%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Figure 9 presents the results of the HLM analysis of closeness scores of 360 young children aged between 2 to 5 years (mean age 3.88 years, sd = 1.03) involved in the KMEC evaluation and tracked across the two-year period. Focusing on change in children over time, Figure 9 shows an increase in closeness, which suggests a significant (p<0.001) small improvement in the closeness of relationship between children and ECEC staff over time. The way that the relationship changed over time was not significantly different (p=0.209) in children with and without disability. However, it also shows that children with disability were less likely to share as close a relationship with ECEC staff, to a small but significant extent (p<0.001), compared to children without disability. It should
be noted that age of the child was found to be a small positive significant influence on change in staff-child closeness over time and its effect on time (the slope) was corrected for.

![Graph showing closeness between ECEC staff and children with or without disability over time.](image)

Figure 9. Change in ECEC staff-child relationship closeness over time

### 5.2.2 The level of conflict between ECEC staff and children with disability

The Conflict scale is designed to attain information about perceived negativity within the staff-child relationship, with high scores reflecting discordant interactions. The conflict dimension is reported to be a salient characteristic of educators’ relationships with disruptive children. ECEC staff completed seven questions on children for which they were the main carer on up to four occasions. Table 9 presents a comparison between children with and without disability on their first occasion in the study, with the higher percentage in bold.

<table>
<thead>
<tr>
<th>Applies somewhat or definitely applies</th>
<th>without disability (n=3350)</th>
<th>with disability (n=512)</th>
</tr>
</thead>
<tbody>
<tr>
<td>This child and I always seem to be struggling with each other</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>This child is uncomfortable with physical affection or touch from me</td>
<td>2%</td>
<td>12%</td>
</tr>
<tr>
<td>This child easily becomes angry with me</td>
<td>6%</td>
<td>12%</td>
</tr>
<tr>
<td>This child remains angry or resistant after being disciplined</td>
<td>14%</td>
<td>19%</td>
</tr>
<tr>
<td>Dealing with this child drains my energy</td>
<td>9%</td>
<td>17%</td>
</tr>
<tr>
<td>When this child is in a bad mood, I know we're in for a difficult day</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>This child's feelings towards me can be unpredictable</td>
<td>7%</td>
<td>13%</td>
</tr>
<tr>
<td>This child is manipulative with me</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

On average, there were 5 per cent more staff who somewhat or definitely experienced more conflict and discordant interactions with children with disability, compared to children without disability. Ten per cent more ECEC educators felt that children with disability were
uncomfortable with physical affection or touch from them, while 8 per cent somewhat or definitely felt that dealing with a child with disability drained their energy, compared to children without disability. Interestingly, there was no difference in the small proportion of staff (6%) who somewhat or definitely felt manipulated by children with or without disability. The low rating scores, below 10 per cent on average, suggest that the majority of ECEC educators share easy comfortable relationships with the children they care for. The results from the South Australian sample were similar.

Figure 10 presents the results of the HLM analysis of conflict scores for 360 young children aged between 2 to 5 years (mean age 3.88 years, sd = 1.03) involved in the KMEC evaluation and tracked across the two-year period. Focusing on change in children over time, Figure 10 shows a trivial decline in relationship conflict over time between ECEC staff and children, which was not significant (p=0.428). Similarly, the differences in the relationships between the ECEC staff and children with and without disability were not significant (p=0.159).

![Figure 10. Change in ECEC staff-child relationship conflict over time](image)

### 5.2.3 Discussion

As an outcome measure, the STR Scale should be viewed as a protective factor so that the small significant change in ‘closeness’ as reported by staff, is a positive outcome across the two-year intervention. As reported by Fowler et al. (2008), several research reports have identified the staff-child relationship as a potential mediating factor in the behavioural trajectory of young children. Importantly, the same researchers cite evidence that children who exhibit externalising behaviour problems in early elementary grades, but who maintain a positive relationship with their teachers, often experience an improved behavioural trajectory.

The findings in the present study suggest that there was a small but practically significant improvement in staff-child closeness during the KMEC intervention, but that children with disability were less likely to share as close a relationship with ECEC staff, compared to children without disability.
5.3 Disability and mental health strengths

There is no doubt that early childhood is characterised by rapid developmental change, and in the analysis of changes in mental health, this effect is of particular relevance. In this evaluation of change across time in mental health, serious consideration has been given to changes in behaviour in the early years and the compounding impact of disability. Any analysis of change in behaviour also needs to acknowledge that for a small proportion of young children there is considerable long-term persistence for both internalising and externalising behaviour, and for some, this might be associated with disability. Furthermore, the challenge of accurately diagnosing ‘normative misbehaviour’ from clinically significant mental health problems complicates the attribution of any change from an intervention to the impact of the intervention itself. These influences need to be kept in mind when interpreting the changes in mental health for the children in the KMEC evaluation.

Notwithstanding these provisos and the broader social determinants of change, it could be argued that the following findings highlight the extent of the positive impact possible, of a well implemented whole-of-service initiative on the mental health and wellbeing of a small group of highly vulnerable young children, including children with disability.

As introduced in Chapter 2, Goodman's Strength and Difficulties Questionnaire (SDQ, 2005) for children 3-4 years old (UK version) was used by parents and ECEC staff to assess children's mental health on up to four occasions. Its chief purpose was to examine what impact KMEC had on child mental health outcomes with respect to the initiative's key aims of improving mental health and wellbeing of children and reducing child mental health difficulties. This section considers mental health strengths.

Children who do not exhibit positive social behaviour are less likely to be considerate of other people's feelings, or share with others, are less helpful if someone is hurt or upset, or are less kind to younger children. Although the prosocial dimension is not included in the overall calculation of the total SDQ Difficulties score, this dimension affords the opportunity to investigate the improved mental health and wellbeing of children. Changes in children's scores associated with the KMEC intervention provided a measure of improved wellbeing.

Table 10 presents a comparison of children with and without disability on their first occasion in the study, for which ECEC staff and parents felt that the prosocial behaviour was certainly true of the child. One interesting result is that parent views, are on average, approximately 10 per cent higher than ECEC staff views of the child. However, it appears that the views of parents of children with disability and without disability, are not only higher, but are also more similar, with only 4 per cent fewer parents of children with disability believing these behaviours to be true of the child. In contrast, 9 per cent fewer ECEC staff believed the prosocial behaviours were true in children with disability. Comparable results were present in the South Australian sample of children.
Table 10. Prosocial behaviour: ECEC staff and parent rating of children on their first occasion

<table>
<thead>
<tr>
<th>This child is:</th>
<th>ECEC staff</th>
<th>Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>% responding ‘certainly true’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerate of other people’s feelings</td>
<td>47%</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>41%</td>
</tr>
<tr>
<td>Shares readily with other children (treats, toys, pencils etc.)</td>
<td>44%</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td>39%</td>
<td>41%</td>
</tr>
<tr>
<td>Helpful if someone is hurt, upset or feeling ill</td>
<td>45%</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>Kind to younger children</td>
<td>55%</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td>63%</td>
<td>58%</td>
</tr>
<tr>
<td>Often volunteers to help others (parents, staff, other children)</td>
<td>38%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>48%</td>
<td>46%</td>
</tr>
<tr>
<td>Prosocial behaviour on average</td>
<td>46%</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>54%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Figure 11 presents the results of the analysis of change over time in ECEC staff and parent perceptions of prosocial behaviour in children with and without disability. The effect of the child ageing during the two-year period was tested and results were corrected to remove the effect of ageing. According to parent perceptions, there was no change in prosocial behaviours for children with or without disability over time. While the parent graph reflects the results in Table 10 of differences between the levels of prosocial behaviour of children with and without disability, this difference was not significant ($p_{\text{intercept}}=0.108; p_{\text{slope}}=0.772$).

However, according to ECEC staff perceptions, there was a small significant improvement ($p<0.001$) in the prosocial behaviours of children over time. There was also a small significant difference ($p=0.017$) in the prosocial strengths of children with and without disability on the first occasion, such that children with disability were more likely to be
perceived by staff as having fewer strengths. Importantly, while the differences in trajectories were not significant (p=0.414), children with disability are shown in Figure 11 to improve at a greater rate in their prosocial strengths and, in effect, close the gap.

The prosocial dimension of the SDQ has provided valuable insight into the similarities and differences between the mental health strengths of children with and without disability. Parent perceptions of their child’s strengths, with or without disability, start high and stay high, suggesting that these strengths are viewed as being relatively stable over time in the context of the home. However, changes in children’s scores, particularly those of ECEC staff, may provide a measure of improved wellbeing associated with the KMEC intervention. ECEC staff perceptions of children in general, start lower and may reflect the initial apprehensions of all children when they first start day-care or preschool. Over the course of the two-year period, prosocial behaviours increased above that of normal ageing, and particularly so for children with disability to the extent that children achieved similar levels of wellbeing reflected in the home.

5.4 The impact of KMEC on the mental health difficulties of children with disabilities

Goodman’s Strength and Difficulties Questionnaire (SDQ, 2005) for children 3-4 years old (UK version) was used by parents and ECEC staff to assess children’s mental health on up to four occasions, in order to examine what impact KMEC had on child mental health outcomes, and in reducing child difficulties in particular. In Chapter 4, we considered the prevalence of mental health difficulties in young children and the comorbidity with disability. This evaluation found that the national prevalence of young children, 4 years of age, at risk of mental health difficulties, in the borderline and abnormal ranges of mental health at the start of the evaluation, was 18 per cent. This cohort included 14 per cent of children with a disability and it established that children were experiencing difficulties, particularly if they also had disabilities.

The multilevel analyses presented in this report, up to this point, have been relatively simple – only considering the impact of disability status (at Level 2) and the effect of time on the outcome of interest (both at Level 1). These analyses have addressed the general question, to what extent does disability status impact on children’s wellbeing and how does this change over time? After correcting for the effect of developmental ageing during the longitudinal study, any statistically and practically significant changes in children’s temperament, their relationships with ECEC staff, or their prosocial development, was arguably attributable to the impact of KMEC.

In this section, a more comprehensive analysis is undertaken. While the general question remains the same – to what extent does disability status impact on children’s mental health difficulties and how does this change over the course of the two-year evaluation? – the analyses also seeks to understand how the protective factors interact with mental health and if the quality of KMEC implementation makes a difference.

Accordingly, the investigation undertaken in this section brings together the key factors discussed in the previous sections. At Level 1 in the HLM model, children’s mental health difficulties, as assessed by parents and ECEC staff using the SDQ, are separately analyzed against time, resulting in the testing of two similar models – a parent model and
an ECEC staff model. This recognizes the importance of context and that young children in the home environment with their parent or carer may behave very differently to when they are in the ECEC service with many children and ECEC educators.

In Chapter 2, while there was a good balance of girls and boys participating in the evaluation, there was a gender imbalance in children with disabilities with 17 per cent boys and 10 per cent girls. Gender is taken into consideration in the analysis, along with Disability Status at Level 2 in both models. In the first sections of this chapter, child protective factors were considered. In the parent model, the temperamental traits of approach/sociability and reactivity are included at Level 2, while in the ECEC staff model, the staff-child relationship traits of closeness and conflict are included. Do these protective factors influence mental health difficulties, and are they in fact protective factors?

At Level 3 in both models, the quality of KMEC implementation is included. Do ECEC services that implement KMEC well, have better outcomes for their kids, and particularly their kids with disability? The inclusion of the KMEC Index provides additional rigour to the analyses and strengthens the claim that any change in mental health and wellbeing is attributable to the KMEC intervention. Figure 12 graphically represents the final parent and ECEC staff models.

![Figure 12. The multilevel model of factors associated with child mental health outcomes](image)

5.4.1 The impact of KMEC from the perspective of parents

Soon after KMEC had commenced in the ECEC service, parents were asked to rate their child on the temperament traits of reactivity (high score indicates high reactivity) and approachability (high score indicates shyness), along with an indication of the child’s disability status (0=without disability, 1=with disability) and gender (1=male, 2=female). These define the characteristics of the children before any potential influence from KMEC. So an ‘easy’ child could be characterised as being highly sociable and easy-going. Parents were also asked to rate their child’s mental health difficulties on up to four occasion using the SDQ (high score indicates many difficulties). And KMEC facilitators were asked to assess the quality of implementation near the end of the two-year evaluation as the best measure of high and low quality implementing services.
Accordingly, from the perspective of parents, the analysis represented in Figure 12 broadly indicates that:

- Children’s mental health difficulties significantly declined over time (p=0.004) over and above any effect of developmental ageing (which was corrected for).
- Children with disability were significantly more likely to have mental health difficulties (p<0.001) – difficulties increase with the extent of disability.
- Boys were more likely than girls to be assessed as having difficulties (p=0.003) – boys tend to be more active so this could be a limitation of the SDQ.
- Children who were identified as having a shy temperament at the start, were more likely to have mental health difficulties (p=0.001). We also know from earlier analysis that approachability improved over time.
- Children who were identified as being highly reactive at the start, were also more likely to have mental health difficulties (p<0.001). We also previously know that reactivity declined over time, and we also see that the mental health of these ‘difficult’ children improved significantly more (p=0.029) than ‘easy-going’ children over time.
- The differences in the quality of KMEC implementation was significant (p=0.031) and operated through children’s reactivity, which in turn, influenced their mental health outcomes.

5.4.2 The impact of KMEC from the perspective of ECEC educators

Soon after KMEC had commenced in the ECEC service, staff were asked to rate their relationship with each child they cared for, in terms of closeness (high scores reflecting a close relationship) and conflict (high scores reflecting discordant interactions). From the earlier analysis, we know that closeness improved over time. However, in this present analysis, it was not found to significantly influence the mental health outcomes of children and suggests that ECEC staff maintained positive warm relationships with all children. ECEC staff were also asked to rate children’s mental health difficulties on up to four occasions using the SDQ (high score indicates many difficulties). All other aspects of the analysis were the same as the parent model, which involved disability status, gender and the KMEC Index.

Accordingly, from the perspective of ECEC staff, the analysis represented in Figure 12 broadly indicates similar findings to the parent model, in that:

- Children’s mental health difficulties significantly declined over time (p=0.039) over and above any effect of developmental ageing (which was corrected for).
- Children with disability were significantly more likely to have mental health difficulties (p=0.001) – difficulties increase with the extent of disability.
- Boys were more likely than girls to be assessed as having difficulties (p<0.001) – possibly a limitation of the SDQ.
In addition, the analysis indicates that:

- Children who were identified as having conflictive relationships with ECEC staff at the start, were more likely to have mental health difficulties (p<0.001), and that the mental health of these ‘discordant’ children improved significantly more (p<0.001) than ‘easy-going’ children over time.

- The differences in the quality of KMEC implementation was marginally significant (p=0.08) and operated through conflictive relationships, which in turn, influenced their mental health outcomes.

### 5.4.3 The impact of KMEC on the mental health outcomes of children with disability

The previous two sections looked respectively at the individual effects of risk and protective factors on young children’s mental health from the individual perspectives of parents and ECEC educators. It found that temperament traits of reactivity and approach-sociability were linked to mental health outcomes and behaviours of children in the home environment, and that discordant interactions between children and ECEC staff were linked to the mental health outcomes and behaviours of children in the ECEC service.

On the continuum of personality characteristics, children who are highly reactive, shy, have conflictive relationships with ECEC staff, and can be described as ‘difficult’ children, are also the children at greatest risk of experiencing mental health difficulties. The risk is increased for children with disability.

In order to better understand the potential impact of KMEC on this small, highly vulnerable group of young children, their characteristics were analysed within the context of the implementation quality of ECEC services. This took into consideration that not all ECEC services would implement KMEC to the same extent. Accordingly, a key feature of this evaluation was to address these concerns by developing a robust measure of implementation quality to account for the likelihood that not all services would implement KMEC to the same level of quality. By doing so, it strengthened our ability to attribute significant changes in services over the four occasions to the impact of the KMEC initiative.

The results of the HLM analyses, presented in Figure 13, were configured and plotted against high implementing and low implementing services. Accordingly, Figure 13 represents ECEC staff and parent perceptions of the change in mental health outcomes over time of ‘difficult’ children, with and without disability, according to whether they are in a high or low Index service.

Figure 13 suggests that children with disability were more likely to have more difficulties. It also suggests that children that were characterised as being ‘difficult’ at the start, showed a significant improvement in mentally healthy behaviour by the end of the two-year KMEC evaluation. These children had the greatest scope to improve, and having a disability did not significantly affect that rate of improvement. From the parents’ perspectives, these children being in a high implementing ECEC service increased the likelihood of improved mental health outcomes, compared to similar children in low implementing services.
By comparison, the greater majority of ‘easy kids’ exhibit few mental health difficulties and have little scope for improvement – they’re already functioning in the ‘normal’ range. These ‘easy’ children, with and without disability, are represented as the pale flat lines in Figure 13, suggesting that there is little change in their mental health and little impact of implementation quality over time.

5.4.4 Discussion

This analysis suggests that for the majority of young children with and without disability who have good mental health and wellbeing, their experiences in ECEC services are developmentally positive, irrespective of the extent to which a service implements KMEC. However, for the small group of highly vulnerable children, who are more likely to include children with disability, the quality of whole-service mental health promotion makes a difference, particularly from the perspective of parents (Askell-Williams, Dix, Lawson & Slee, 2012). This is an important finding as it pertains to the issue of how ECEC services can deliver the best quality care for young children particularly those with disability.

Slee et al. (2012) reported that in relation to implementation quality in ECEC services factors facilitating implementation quality included leadership and having an enthusiastic and engaged Facilitator supporting the services, along with having staff and leadership who were motivated and engaged with the initiative. In this regard it is noted that

> No matter how good the intervention or the science behind it, no matter how good the implementation strategy, efforts to promote change in any complex system are very likely to fail unless the change effort has the support and active involvement of the people who live in that system. (Backer, 2005, p.4)

It is a fact that until very recently the matter of how programs and frameworks are successfully implemented in organizations has been largely overlooked. However, the field of ‘implementation science’ is now recognised as significant in its own right. The increasing demand for evidence-based practice means an increasing need for more practice-based evidence.
As Durlak and DuPre (2008, p.327) note:

Social scientists recognize that developing effective interventions is only the first step toward improving the health and well-being of populations. Transferring effective programs into real world settings and maintaining them there is a complicated, long-term process that requires dealing effectively with the successive, complex phases of program diffusion.

The present findings highlight that if we are to deliver effective quality care for young children with disability we must pay attention to implementation quality.
Chapter 6. Conclusions

“Normally I would just look at a child and go ‘something’s wrong’, whereas now with that bit of knowledge behind me I can go back and have a look and go over it again without jumping to conclusions.” ECEC educator, NT

Recognising the need for ECEC services to adopt a population health model, the Australian Department of Health and beyondblue funded the KidsMatter Early Childhood (KMEC) initiative, aimed at improving the mental health and wellbeing of young children. This whole-service mental health promotion, prevention and early intervention initiative provides ECEC services with proven methods, tools and support that are so important in nurturing happy, balanced children. Integral to the KMEC implementation was independent evaluation conducted by a team at Flinders University during 2009-2010.

This report was commissioned to investigate the impact of KMEC on young children with disability in South Australia. Due to an insufficient sample size from this state only (and the availability of data at the national level), the analyses have been conducted using the national KMEC evaluation dataset. This report has had the benefit of going back and taking a second look at the data, which further validates the original conclusions discussed in the Full Evaluation Report (Slee et al., 2012).

The findings of this secondary analysis should be considered in the context that KMEC was implemented at a time when Australian early childhood education and care was, and continues to be, experiencing significant and unprecedented change. These national reforms focus on providing Australian families with high-quality, accessible and affordable integrated early childhood education and child care, driven by the National Quality Framework and the National Quality Standards. KMEC aligns with the framework and standards. The whole-service mental health approach offered by KMEC is enhanced by resources tailored to support children and families with additional needs. In addition to the suite of ECEC staff and family resources that are part of the whole-service mental health promotion approach, KMEC also includes information specifically related to children with disability. This includes a set of guiding principles and information sheets. (See Appendix 2 for a summary of information sheets related to disability and additional needs).

The guiding principles promoted by KMEC are designed to support the mental health of children with disability. These principles have been interlaced below with a selection of quotes from interviews with ECEC educators involved in the KMEC evaluation to emphasise that they are actively pursued in the ECEC services involved in this study.
1. **Build strengths step by step**: Breaking tasks into small steps helps to ensure success and supports young children's development and learning. Support children’s confidence by emphasising what they can do.

   “Professional learning sessions have provided an opportunity to think about the special needs of some children and consider strategies to increase their confidence and positive sense of identity and wellbeing.” ECEC educator, SA

2. **Advocate for children with disability**: Making sure that others understand the need to include and value all children, benefits the individual child and promotes a caring community.

   “We’ve also invited the intake officer at Community Health, because that’s where a lot of families who are dealing with issues, and the grieving process ... when your child gets identified with autism ... and coping with the fact that your child might have a speech disorder or, things along those lines. We felt that it was important that she was on the same page as us, because we had a lot of referrals. For some reason, lots of children with learning issues and disabilities and things like that seemed to come here.” ECEC educator, SA

3. **Focus on the whole child and their individual needs**: Focussing on the whole child may include their family. Children’s needs should be assessed individually and regularly and in connection with the family. Avoid assuming that all children with a particular disability have the same problems and needs. An individual child’s needs may also change over time.

   “We went to do a home visit. Very difficult mother, though she does visit more than she would have if we hadn’t made that connection. So for us, it’s made that impact, but for me it’s also made me more aware that this child has no facial expressions. She shows very little emotion. She is very closed off. So I have picked up on a lot more of her issues, and so I’m talking with the social worker a lot more about how I can help that child, but that’s become a team thing.” ECEC educator, TAS

   “I think as a centre, most staff have taken KMEC on board, all in different ways. We seem to be getting more back from families. We’ve had some parents’ comments on how they suffer from depression and how they can see it affecting their child, which makes us as educators consider how to respond with the child. Being more aware of child’s emotions and being more understanding of individual needs. We did do this but now it has opened up new doors on how far we can go as well.” ECEC educator, TAS

4. **Build an inclusive positive community**: Be mindful that children with disability have a greater chance of developing mental health problems and act to reduce negative experiences. All children will benefit.

   “We’ve encouraged the inclusion of two particular children with special social needs.” ECEC educator, QLD
5. **Build partnerships:** Parents and carers cannot meet the complex needs of children with disability or chronic illness alone. Collaborative involvement between families, schools and health professionals helps to ensure the best outcomes for children’s development and mental health. It takes a village to raise a child.

“We have quite a few students with special needs and we have some assistants who come in for a few hours a day to work with them. I think it’s [KMEC] made us more aware of explaining to them why we do certain things.”

ECEC educator, ACT

“We sought assistance from support agency to work with children with special needs (regular visits made).”

ECEC educator, SA

KMEC was found to have a positive effect on children with disability by strengthening their wellbeing and reducing mental health difficulties. Because KMEC uses a whole-service approach and a four component framework, it does not focus on specific groups of children, but acts to destigmatise groups known to be at greatest risk of mental health problems. Within this broader approach, there is opportunity for ECEC services and their staff to tailor the KidsMatter four component framework to help children with disability, particularly under Component 4. This is important given that research into mental health programs in schools indicates that the most successful approaches incorporate three levels of intervention: (a) “universal” or school-wide preventative efforts involving all children, (b) “targeted” more intensive efforts involving groups of children at particular risk of developing mental health difficulties, and (c) “indicated” interventions that are individually designed for children already experiencing mental health difficulties and which are likely to involve specialist services and professionals (McMillan & Jarvis, 2013). That is, while general, whole school approaches serve an important preventive function for all children, some children will require more targeted and tailored supports to overcome risk factors and bolster protective factors related to mental health.

**Component 1. Developing a sense of community for children with disability:**

Developing a culture of belonging and inclusion at the ECEC service is especially important for children with disabilities and their families. This involves finding out about the particular needs of children with disability, tailoring activities accordingly and collaborating effectively with parents and carers. ECEC services can also support belonging and inclusion by promoting values of friendship, cooperation and respect, and by ensuring that the services’ policies and practices address instances of negative experiences quickly and effectively when they occur.

**Component 2. Developing social and emotional skills for children with disability:**

When planning social and emotional development opportunities, ECEC educators of children with disability should be sure to take into account their particular needs. By assessing each child’s social and emotional skills individually, a support plan can be developed to build skills step-by-step. Appropriate learning activities and materials should be selected. Breaking down complex skills into smaller concrete steps is important for ensuring success. Opportunities for children to practise should be provided for each step. Providing structured peer-to-peer learning activities, in which children learn social skills through direct interaction with one another, is often helpful. Praise or rewards given for effort and achievement of each step help to consolidate new skills.
Component 3. Supporting families of children with disability: Having good support is especially important for families of children with disability. ECEC services can provide support by listening to parents and carers, finding out about the particular needs of their children, and collaborating to meet those needs. ECEC Services can also assist families by providing relevant information and links to health and community services. By facilitating access to support networks and professional services, ECEC services can help families of children with disability get the range of support they require.

Component 4. Helping children with mental health difficulty: Getting help early in the lifespan can make a significant difference to ensure that a child’s disability is appropriately identified, and that professional help and learning support are provided as soon as possible. This helps to minimise the negative effects of the disability and provides developmental support. Some disabilities, particularly those involving learning and social difficulties, may only become apparent after children begin preschool. In these circumstances, preschools can provide crucial assistance through facilitating children’s referral for specialist assessment and services.

At the heart of KidsMatter is a model of inclusivity such that all young children with diverse needs, including those with mental health difficulties, are given the best possible opportunity to participate, grow and learn as part of a coherent service-wide approach. ECEC services can increase the protective factors that support children’s mental health by providing an inclusive and accepting environment for all children, including those with disability and mental health difficulties. It also helps to have effective working relationships and clear referral pathways with services, and to work in partnership with parents and health professionals in order to meet the additional needs of children with disability. By paying attention to the mental health needs of children with disability and identifying mental health concerns, ECEC services can facilitate appropriate support and make a positive difference in young children’s lives. This is particularly important given the findings from this report that children with disability are more likely than those without disability to experience mental health difficulties; rather than assuming that all social, emotional and/or behavioural issues experienced by a particular child can be explained in terms of disability, it is important for early childhood educators to acknowledge and support the mental health needs of children with disability.

In conclusion, there were practically significant positive improvements in mental health and wellbeing for children with disability and this is attributed to the impact of the KMEC initiative. This attribution was tested using a quality of implementation index. The analysis suggested that for the majority of young children with and without disability who have good mental health and wellbeing, their experiences in ECEC services are developmentally positive, irrespective of the extent to which a service implements KMEC. However, for the small group of highly vulnerable children, which is more likely to include children with disability, the quality of whole-service mental health promotion makes a difference, particularly from the perspective of parents.

The small but practically significant improvements in approachability, reactivity and inflexibility, during the KMEC intervention, can be interpreted as being consistent with the view that some small modifications in temperament are possible. While the evidence suggests that children with disability were more likely to be shy, reactive and inflexible, compared to children without disability, these differences were not significant. KMEC was shown to have a similar positive impact on temperament across all children and this
reinforces the importance of temperament styles and their role as a potential protective factor.

There was also a small but practically significant improvement in staff-child closeness during the KMEC intervention, but children with disability were less likely to share as close a relationship with ECEC staff, compared to children without disability.

Triangulation of available data gathered through interviews suggests that for those ECEC staff who were directly involved in the care and education of young children with disability, KMEC was making a real difference.

Finally, it is noted that in attending to the needs and mental health of young children with disability, it is imperative to consider the quality of the implementation of initiatives in early child care. In this regard, the present findings highlight that a great deal more work is required to better understand how initiatives are best implemented in the complex and diverse contexts of ECEC services. It is this finding, along with a number of other important findings that have contributed to the recommendations presented at the beginning of the report.
References


Appendix 1: Project Teams

**KMEC and Children with Disability Project Team**

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<thead>
<tr>
<th>Name</th>
<th>Role</th>
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<tbody>
<tr>
<td>Dr Katherine Dix</td>
<td>Project Leader</td>
<td>SWAPv, Flinders University, Principals Australia Institute</td>
</tr>
<tr>
<td>Dr Jane Jarvis</td>
<td>Research Consultant</td>
<td>SWAPv, Flinders University</td>
</tr>
<tr>
<td>Prof Phillip Slee</td>
<td>Research Consultant</td>
<td>SWAPv, Flinders University</td>
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**MAC: SWD Consultation**

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<tr>
<td>Margaret Wallace</td>
<td>Chairperson</td>
<td>Ministerial Advisory Committee: Students with Disabilities</td>
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<tr>
<td>Jo Shearer</td>
<td>Executive Officer</td>
<td>Ministerial Advisory Committee: Students with Disabilities</td>
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<tr>
<td>Skye Yuill</td>
<td>Project and Policy Officer</td>
<td>Ministerial Advisory Committee: Students with Disabilities</td>
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**KidsMatter Early Childhood Evaluation Team: Flinders University**

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<tr>
<td>Prof Phillip Slee</td>
<td>Project Co-Director</td>
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<tr>
<td>Prof Rosalind Murray-Harvey</td>
<td>Project Co-Director</td>
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<tr>
<td>Dr Katherine Dix</td>
<td>Evaluation Manager</td>
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<tr>
<td>Grace Skrzypiec</td>
<td>Research Officer</td>
</tr>
<tr>
<td>Dr Helen Askell-Williams</td>
<td>Evaluation Team Member</td>
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<tr>
<td>Prof Michael Lawson</td>
<td>Evaluation Team Member</td>
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<tr>
<td>Dr Susan Krieg</td>
<td>Early Childhood Consultant</td>
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Appendix 2: Information Sheets that Focus on Additional Needs

The KidsMatter website provides resources that specifically support children with diverse needs, and includes information under the following headings:

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The full suite of PDF and web resources is available for download from www.kidsmatter.edu.au/primary/resources-your-journey/mental-health-information

In addition, the KidsMatter website also provides additional information and links to relevant resources and services. The resources have been compiled for parents, carers and educators who may be seeking further information about supporting children with a disability. The page is available at www.kidsmatter.edu.au/primary/mental-health-information/additional-needs/additional-needs-other-resources

Information about children with a disability
- Australian Association for Families of Children with a Disability
- National Disability Service
- Children, Youth and Women’s Health Service
- National Council on Intellectual Disability
- NSW Council for Intellectual Disability

Resources for use with siblings
- Siblings Australia
- Kids’ Health
- Siblink

Information, support and advocacy for specific disabilities
- Deaf Children Australia
- Vision Australia
- CP Australia
- Cystic Fibrosis Australia
- Epilepsy Australia; Epilepsy Action
- Muscular Dystrophy Australia
- Down Syndrome NSW; Down Syndrome Victoria

Information and resources for parents and carers
- Raising Children Network
- Association for Children with a Disability Supporting siblings