

**Supplemental Material S3. Embedded-PMI Protocol** (document circulated to participants for document review post-workshops).

**Embedded Peer-Mediated Intervention for Autistic Children Who Use Minimal Speech in Inclusive Early Childhood Education and Care Settings**

**Rationale**

The embedded peer-mediated intervention (E-PMI) involves building capacity in the Early Childhood Education and Care (ECEC) workforce to support responsive interactions between minimally speaking autistic preschoolers and their peers. Autistic children who use minimal speech require specific supports to facilitate interaction with their peers in inclusive preschool settings. Supporting peers to interact with each other in play-based activities can build interaction opportunities, thereby increasing opportunities for language learning, friendship development and empathy building.

**Note:** The autistic child will continue to access services as normal. This is not intended to replace the current service provision. It is an additional support.

**Who provides it?**

- An Early Years Specialist and/or Speech and Language Pathologist (hereafter 'Program Lead') leads the E-PMI. They liaise with ECEC management regarding enrolment on the program.
- The Program Lead attends an ECEC team meeting and delivers an introductory session about the E-PMI for all ECEC setting staff (including management). This will involve discussing their expectations about being involved in the program (what it will look like and what the outcomes will be) and the supports and changes required to make these expectations a reality. Caregivers of the autistic child are invited to attend, and a flyer/online document is shared with all parents to inform them about the program.
- Two Early Childhood Educators (ECEs) enroll in the E-PMI. One is the member of staff that spends the most time with the autistic child. The other may be the ECEC manager, Inclusion Coordinator or another ECE who spends time with the autistic child.
- When the program is complete, these ECEs will have the option to become a E-PMI Setting Leader and lead the implementation of the program with colleagues in their ELC setting.

**What (procedures)?**

<b>Step 1</b>	<b>Information gathering to enhance the sensitivity of the ECEs to the child's communication, interests, sensory preferences, and friendships.</b>  <b>Why?</b> The ECEs must be familiar with how the child communicates and their Augmentative and Alternative Communication (AAC) system to
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	<p>support interactions with peers. They must also be aware of their sensory needs, interests, and peer friendships to inform the intervention.</p> <p><b>How?</b> In collaboration with the child and their caregivers, the ECEs complete a series of documents:</p> <ul style="list-style-type: none"> <li>• Compile an expressive signal dictionary. Include the following: <ul style="list-style-type: none"> <li>○ 'When I am interested I might....'</li> <li>○ 'When I am happy I might...'</li> <li>○ 'When I want to share I might...'</li> <li>○ 'When I do not want to share I might...'</li> <li>○ 'When I do not want to play I might...'</li> <li>○ 'When I am tired I might...'</li> </ul> </li> <li>• Gather information on the child's <u>interests and their sensory preferences</u> through observation and discussion with the child and their family.</li> <li>• Find out who the child is friends with, whom they are developing a friendship with, <u>whom they are interested in, and who is interested in them</u> (including neurodivergent and neurotypical peers). This may involve observation throughout the day, consultation with parents and ECEC colleagues. Include these peers in the E-PMI. Do not include as peers, children who do not get on well with each other. This is not a mechanism through which to repair a relationship.</li> </ul>
<b>Step 2</b>	<p><b>Training for the ECEs on strategies to use to support peer interaction.</b></p> <p><b>The ECEs learn the following strategies:</b></p> <ul style="list-style-type: none"> <li>✓ Use routine during play activities to support understanding and participation. This may involve using similar language, or structuring activities in the same way each time.</li> <li>✓ Reinforce the children for staying together and playing together. This will incorporate the levels of play as taught in the ECEC training programs.</li> <li>✓ Reinforce the children for communicating with one another. All forms of communication are accepted.</li> <li>✓ Identify and interpret communicative acts for both the neurotypical child, (e.g., 'Brian made a noise, this is a happy noise, he is enjoying this game'), and the autistic child, for example, ('Mary is looking at your drawing and smiling, she thinks it looks really good').</li> <li>✓ Model and support the use of AAC (including signs, gestures, communication boards and high-tech systems).</li> <li>✓ Respect signals that the child does not want to play today and consider how to modify play to support regulation and engagement.</li> </ul>

	<p>✓ Plan answers to questions that the neurotypical peers may have, for example, 'why does Sally not talk?'</p> <p>Teaching strategies will include the use of video examples and visual reminders for each strategy.</p>
<b>Step 3</b>	<p><b>Developing the E-PMI plan</b></p> <p>The ECEs will use the information gathered in Steps 1 and 2 to complete an E-PMI Plan. The plan template contains explicit links to the Aistear curriculum themes of well-being, identity and belonging, communicating, exploring and thinking. They plan for three elements:</p> <ul style="list-style-type: none"> <li>• <b>Daily Interactive Play Opportunities:</b> Identify specific times in the day when the ECEs will set up a play activity for the autistic child and their peers. Plan these activities based on the children's interests (ideally a shared interest, or mutually enjoyable game or activity). This will include preparation for how to incorporate more children into the play activity if they show interest. The children may benefit from visual prompts to guide engagement in the activity. Be cognizant of the autistic child's sensory preferences, for example, if the child prefers quiet spaces, set up the play opportunity with a peer in a quiet space.</li> <li>• <b>Supporting Peer Interactions Throughout the Day:</b> Plan for how to support interaction opportunities as they arise throughout the day. The ECEs will brainstorm when these opportunities may arise, and how to support interaction in these opportunities.</li> <li>• <b>Communication plan:</b> The ECEs will plan how they will communicate progress with the children's parents. This will involve utilizing existing communication methods, e.g., learning stories, online photo and information sharing apps. There is a program summary template for completion at the end of the program to share with parents and wider team members (e.g., social worker, psychologist etc.). This will be prepared in line with documentation requirements in the sector.</li> </ul>
<b>Step 4</b>	<p><b>Implement and Evaluate</b></p> <p><b>Implement:</b> For 12 weeks, the ECEs implement this plan and support the children to interact with each other in play-based activities. In addition:</p> <ul style="list-style-type: none"> <li>• The ECEs attend a weekly online check-in session with the Program Lead. This will involve reflection, planning and revisiting strategies.</li> </ul>

	<ul style="list-style-type: none"> <li>• ECEs have access to a closed Facebook group through which to share experiences and foster the creation of a community of practice.</li> <li>• The Program Lead will visit the ECEC setting three times over the 12 weeks for direct on-the-floor coaching. These sessions will utilize video feedback. Some ECEs may require more frequent visits in the early stages of the program.</li> </ul> <p><b>Evaluate:</b> Efficacy data is critical to foster engagement with the program. Use testimonials and follow up over the longer term.</p> <p><i>Implementation Outcomes:</i> Acceptability, Adoption, Appropriateness, Costs, Feasibility, Fidelity, Penetration, Sustainability.</p> <p><i>Service Outcomes:</i> Efficiency, Safety, Effectiveness, Equity, Patient-centeredness, Timeliness.</p> <p><i>Client Outcomes:</i> Satisfaction, Self-Esteem, Belonging, Burden, Empathy, Acceptance and Participation in more interactions.</p>
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## Where?

The training and plan development (Steps 2 and 3) will be completed in-person at a local venue. The ECEC setting itself is the location for the implementation of the E-PMI (Step 4).

## When and how much?

The training and plan development (Steps 2 and 3) will be completed over four 3-hour sessions, or two full days. This may run in the evening if preferable.

Implementation (Step 4) will be as follows:

- One planned play session per day, allowing approximately 10 minutes for the play activity. Initially the interaction may just last 30 seconds, and this will build over time.
- At least one unplanned shared interest play opportunity per day.

Implementation may begin any time from when the autistic child is settling into the ELC setting and showing signs that they are feeling regulated, and thus available for engaging with this program.

## Tailoring

The intervention should be adapted to suit the communication and sensory needs of the children and to incorporate their interests.

## Accreditation

There are currently changes in this area with a focus on developing a single national 'gateway' to access quality assured CPD resources. Core funding will be introduced to enable the provision of financial support for participation in CPD. This program could be set up as an open badge award and/or micro-credential or embedded within an existing training program.