

Professional Practice Guidelines

Version 1 / 2021

**Developmental and
Psycho-Educational
Assessments and
Provisions For
Preschool-Aged Children**



Ministry of Education
SINGAPORE



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List of Abbreviated Terms

| | |
|----------------|--|
| ABAS | Adaptive Behaviour Assessment System |
| ADHD | Attention-Deficit/Hyperactivity Disorder |
| ADI-R | Autism Diagnostic Interview – Revised |
| ADOS-2 | Autism Diagnostic Observation Schedule – Second Edition |
| AEPS | Assessment, Evaluation, and Programming System for Infants & Children |
| AHP | Allied Health Professional |
| ASD | Autism Spectrum Disorder |
| AVT | Auditory Verbal Therapist |
| CARS-2 | Childhood Autism Rating Scales – Second Edition |
| CDP | Child Development Programme |
| CFM | Case Filter Meeting |
| CP | Cerebral Palsy |
| CPAS | Cerebral Palsy Alliance Singapore |
| DLD | Developmental Language Disorder |
| DN | Developmental Needs |
| DS | Development Support |
| DS-LS | Development Support and Learning Support |
| DSM | Diagnostic and Statistical Manual of Mental Disorders |
| DS-Plus | Development Support-Plus |
| EC | Early Childhood |
| ECA | Ecological Congruence Assessment |
| ECDA | Early Childhood Development Agency |
| ECHO | Early Childhood Holistic Outcomes |
| EI | Early Intervention |
| EIPIC | Early Intervention Programme for Infants & Children |
| EIPIC@Centre | Early Intervention Programme for Infants & Children (Held at Centre) |
| EIPIC Under-2s | Early Intervention Programme for Infants & Children (For Ages under 2 Years) |
| EOI | End of Intervention |
| EP | Educational Psychologist |
| ET | Educational Therapy |
| FAST | Family and Adult Support Tool |
| FOs | Family Outcomes |
| FVA | Functional Vision Assessment |
| GCOs | Global Child Outcomes |
| GDD | Global Developmental Delay |
| HL | Hearing Loss |
| ICD | International Classification of Diseases |
| ID | Intellectual Disability |
| IEP | Individualised Educational Plan |
| KKH-DCD | KK Women’s and Children’s Hospital, Department of Child Development |
| LLD | Language Learning Disability |
| LS | Learning Support |
| MID | Mild Intellectual Disability |
| MOE | Ministry of Education |

| | |
|----------|--|
| MOH | Ministry of Health |
| MSF | Ministry of Social and Family Development |
| NIE | National Institute of Education |
| NIEC | National Institute of Early Childhood Development |
| NUH-CDU | National University Hospital, Child Development Unit |
| NUS | National University of Singapore |
| OT | Occupational Therapist |
| PEI | Private Education Institution |
| PPG | Professional Practice Guidelines |
| PIIP | Pilot for Private Intervention Provider |
| SAS | Singapore Ability Scales |
| SB | Stanford-Binet Intelligence Scales |
| SDQ | Strengths and Difficulties Questionnaire |
| SEE | Signing Exact English |
| SEN | Special Educational Needs |
| SGE | SG Enable |
| SgSL | Singapore Sign Language |
| SIB | Scales of Independent Behaviour |
| SLI | Specific Language Impairment |
| SLT | Speech and Language Therapist |
| SON | Statement of Needs |
| SPED | Special Education |
| THK | Thye Hua Kwan Moral Charities Limited |
| Triple P | Positive Parenting Program |
| VABS | Vineland Adaptive Behaviour Scales |
| VI | Visual Impairment |
| WPPSI | Wechsler Preschool and Primary Scale of Intelligence |

Foreword

The early years represent the most critical period of a child's development. For children with developmental needs, research has shown that early intervention (EI), provided in a timely manner and supported by evidence-based practices, can have a significant positive impact on their developmental trajectory.

Hence, over the years, the Ministry of Social and Family Development (MSF), Early Childhood Development Agency (ECDA), and Ministry of Education (MOE) have actively partnered stakeholders from the social, education and health sectors to ensure that children with developmental needs are systematically identified and supported in preschools, EI centres, polyclinics and hospitals. MSF and ECDA have worked with the community to extend the range of EI programmes to better tailor the support to the different needs of children and their families. At the school-going ages, MOE has extended the Compulsory Education Act to include students with moderate to severe special educational needs to safeguard their educational interests, and has progressively built up the quality, accessibility and affordability of education in mainstream and special education schools. This is to ensure that all children with special educational needs receive appropriate specialised provisions which best cater to their needs.

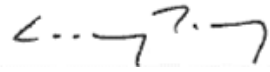
The Professional Practice Guidelines: Developmental and Psycho-Educational Assessments and Provisions for Preschool-Aged Children represents another milestone in our collective journey. It is a timely addition as we consolidate information on the range of EI programmes and practice guidelines that are important for professionals working within the sector. We hope that this document will guide professionals to provide consistent and reliable recommendations to children and their families for the appropriate EI support in the preschool years and ensure their smooth transition to the school-aged provisions.

This document reflects the consensus of professionals from the MSF, ECDA, and MOE, as well as from diverse sectors of health, education and social services, namely the KK Women's and Children's Hospital, National University Hospital and Institute of Mental Health, MOE Kindergartens, NTUC First Campus, PAP Community Foundation, Autism Resource Centre (Singapore), AWWA Ltd, Community Psychology Hub, SPD and Thye Hua Kwan Moral Charities Limited. These agencies have come together to form a workgroup to consolidate and recommend guidelines and practices for EI so as to provide greater coherence and shared understanding among professionals in the sector. The workgroup has also consulted widely to take in views from special education schools, other preschools, training agencies as well as academics. The document reflects the workgroup's collective aspiration for all stakeholders in the EI space to work collaboratively to support children and their families holistically.

We wish to thank everyone who has contributed in one way or another to this first edition. We would also like to thank the resource persons and stakeholders whose feedback have helped to shape this piece. With this set of guidelines, we hope that the sector is better positioned to serve children with developmental needs and their families. Let us all continue to work together to give a good start to every child.



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Chapter 1: Overview

This chapter describes the scope and intent for the development of these Guidelines. It also aims to clarify the concept of Developmental Needs (DN) in relation to another categorisation for children with disabilities, namely Special Educational Needs (SEN). Following from a clearer understanding of the relationship between DN and SEN, implications for practice are highlighted.

1.1 Scope and Target Users

The Professional Practice Guidelines: Developmental and Psycho-Educational Assessments and Provisions for Preschool-Aged Children (henceforth referred to as “Guidelines”) are focused on psycho-educational assessments and early interventions (EI) for children with developmental needs (DN), aged six years and below, or before the start of compulsory education. It does not include guidelines and standards for intervention.

The Guidelines are intended for use by professionals in the EI sector. This includes medical and allied health professionals (AHPs) (e.g., occupational therapists, speech and language therapists, and psychologists), and other professionals who are involved in advising parents about interventions and provisions for children with DN.

1.2 Development of the Guidelines

The Guidelines were developed by a multi-agency professional workgroup comprising representatives from various public agencies involved in the assessment and provision of advice for children with DN. These include specialists from key government agencies, namely the Ministry of Education, Ministry of Social and Family Development and Early Childhood Development Agency, hospitals, and providers of EI services. Feedback was sought and incorporated from various stakeholders that support children with DN, including those from hospitals, social service agencies, the National Institute of Early Childhood Development (NIEC), preschools, special education schools and primary schools. In addition, feedback from resource persons from the National Institute of Education (NIE) and National University of Singapore (NUS) were also included.

The Guidelines have been developed to be aligned to the current national provisions for EI as well as current policies governing provisions for children with DN in Singapore.

1.3 Statement of Intent

The content of the Guidelines is based on information available at the time of its development, from January 2020 to October 2020. This information is subject to change as scientific knowledge advances, and policies and provisions evolve.

The Guidelines are not intended to replace professional judgment. Professionals should use the Guidelines to enhance professional practice standards. Adherence to the Guidelines should be balanced with the need to consider the best interests of the child within his or her own unique circumstances.

1.4 Definitions

Developmental Needs is an umbrella term referring to a range of developmental conditions where a child would benefit from EI support. These conditions can range from physical issues (e.g., muscular dystrophy), sensory issues (e.g., vision or hearing loss), and cognitive issues (e.g. autism spectrum disorder and intellectual disability), to behavioural and emotional issues (e.g., anxiety, sadness, and opposition behaviour), as well as learning needs without accompanying disabilities (e.g., mild language developmental delays). During the preschool ages, the development of children varies considerably due to a combination of biological and environmental factors¹. There is a wide range of children with varying needs who may require EI in the preschool years where EI is offered to children as long as they have DN, whether or not they have a diagnosed disability. Hence, in these early years, DN should be seen as a broader conceptualisation beyond disability with a focus on supporting the learning and development of the child.

Amongst children with DN, however, it is noted that there are children who, even in the preschool years, display functional impairments and disability conditions that can be clearly identified and require specialised targeted provisions beyond preschool; these children are categorised as having Special Educational Needs (SEN).

Table 1 shows the operational definitions of DN and SEN used in Singapore, respectively:

Table 1: Definitions of DN and SEN

| |
|---|
| <p>Developmental Needs (DN) is a term used for children from birth to six years old who:</p> <ul style="list-style-type: none">a) Display a level of developmental functioning that is below typically developing peers of the same age; <p style="text-align: center;"><u>and</u></p> <ul style="list-style-type: none">b) Require low, medium or high levels of Early Intervention support entailing different and/or additional resources beyond what is conventionally available for typically developing peers. |
| <p>A child is considered to have Special Educational Needs (SEN) when <u>all</u> the following criteria, a, b, and c, are met:</p> |

a) Has a diagnosed disability^a;

and

b) Displays:

- Greater difficulty in learning as compared to the majority of peers of the same age; or
- Difficulty accessing educational facilities catered for the majority of peers of the same age; or
- Some areas of impairment, in terms of social, academic, physical or sensory functioning (i.e., the child is not on par with the majority of the peers);

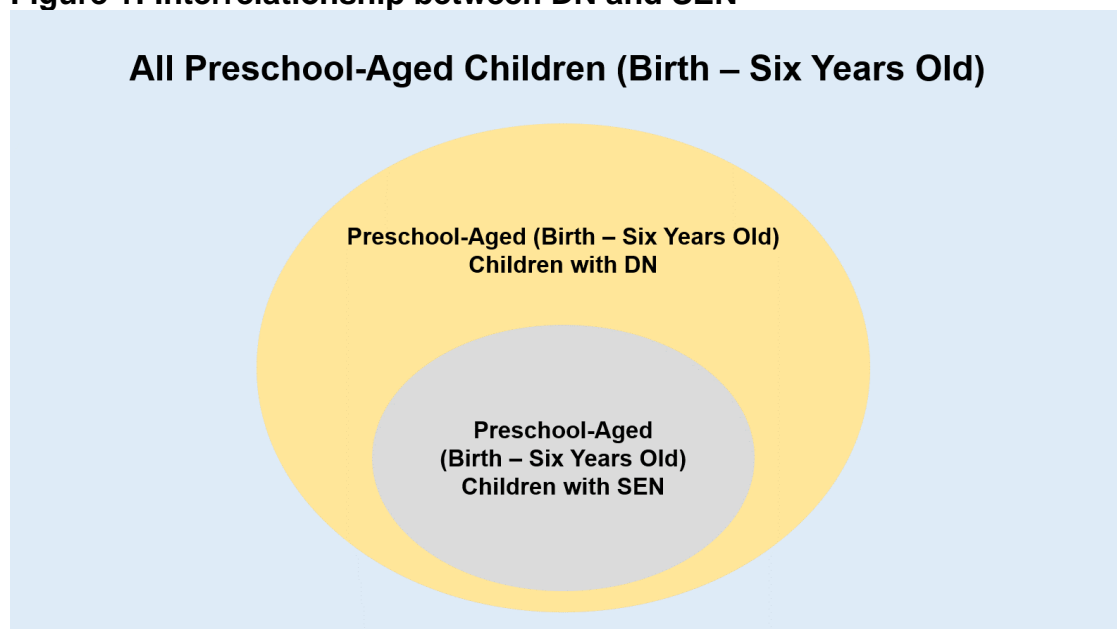
and

c) Requires different and/or additional resources beyond what is conventionally available.

Source: Professional Practice Guidelines for Psycho-Educational Assessment and Placement of Students with SEN²

Figure 1 shows the interrelationship between DN and SEN, within the group of children from birth to six years old:

Figure 1: Interrelationship between DN and SEN



Based on the above definitions, SEN can be seen broadly as a sub-set of DN (see *Figure 1*). In the preschool ages, some children would be more appropriately classified as having DN, as their developmental trajectory is still fluid, and it would be difficult to make a confirmatory diagnosis of a specific

disability condition. At the same time, there would be a sub-set of children with DN whose disability conditions can be diagnosed in the early years (e.g., children with physical or sensory impairment, or congenital conditions such as Down Syndrome), and who would likely require specialised targeted provisions beyond preschool; these children would be appropriately described as children with SEN.

The classification of children as having DN or SEN is not static, and can change over time, due to children's response to EI and/or maturational factors. For example, some children with DN may show language or behavioural needs in the preschool years and may be supported in EI programmes addressing their specific areas of need. For children with DN, specialised intervention and support through government-funded EI services are available in preschools and EI centres, depending on the levels of support required. For more information on EI services, please refer to Chapter 2 of the Guidelines. Over time, some of these children may better manage these difficulties and would not require any further specialised targeted provisions. For other children, the areas of difficulties may persist and require longer-term support and/or traits of specific conditions could become more apparent over time. For example, children with literacy difficulties in the preschool years could later be diagnosed as having dyslexia as they grow older, and thus be identified for specialised targeted provisions in the school-going ages.

For children with SEN, specialised targeted provisions in the school-going ages are available in mainstream schools^b, or in Special Education (SPED) schools. In the school-going population, over 80% of children with SEN are supported in mainstream schools, while the remaining 20% are supported in SPED schools³. For a description of the provisions for children with SEN in mainstream and SPED schools, please refer to the Professional Practice Guidelines in the Appendix.

1.5 Implications for Practice

During the preschool years, professionals and clinicians should exercise due caution before diagnosing children as having certain SEN conditions (e.g., dyslexia, ADHD, and mental health disorders). This is because the developmental trajectory of young children is still fluid, and it would be difficult to make a confirmatory diagnosis of a specific disability condition, except for certain disability conditions such as physical or sensory impairment, or congenital conditions such as Down Syndrome. For guidelines on assessment considerations for specific conditions in preschool children, please refer to Chapter 3, Sections 3.2 to 3.4 of the Guidelines.

For children under the age of 5 who fail to meet expected developmental milestones in two or more developmental domains, clinicians may provide a Global Developmental Delay (GDD) diagnosis, typically to be reviewed and reassessed when children are approaching the school-going ages. For diagnostic guidelines for GDD, please refer to Chapter 3, Section 3.2.2 of the Guidelines.

While some children with DN may be identified to have SEN in their school-going years, others with DN may ultimately not have any SEN. Professionals working with children with DN in the preschool years would need to be mindful when discussing with parents the longer-term educational needs of their children so that they can make informed decisions:

1. There is a range of EI provisions available for children with DN, based on the levels of EI support required. In recommending a particular EI service, professionals can describe to parents the range of EI provisions available for children based on the extent of their child's DN and the level of support required. For information on EI provisions, please refer to Chapter 2 of the Guidelines.
2. As children with DN approach the school-going ages (i.e., five to six years old), it is important that professionals help parents better understand their children's longer-term educational needs and make informed decisions.

To assist parents in making these informed decisions, EI professionals should base their advice on relevant information about children's cognitive and functional needs, as well as children's level of academic, behavioural, emotional and social support required. Sources of information should include data collected as part of monitoring of children's response to EI provisions, as well as other formal and informal assessments of children's needs that help inform decisions related to transition. For discussions on assessments for transition from preschool to school-age provisions, please refer to Chapter 4, Section 4.4 of the Guidelines.

References

1. World Health Organisation. (2012). *Early childhood development and disability: A discussion paper*. Geneva, Switzerland: Author.
2. Ministry of Education, Singapore. (2018). *Professional practice guidelines for the psycho-educational assessment & placement of students with special educational needs*. Singapore: Author.
3. Ministry of Education, Singapore. (2019). *Speech by Ms Indranee Rajah, Second Minister for Education, at an Extraordinary Celebration Concert*. Retrieved February 27, 2020, from <https://www.moe.gov.sg/news/speeches/speech-by-ms-indranee-rajah--second-minister-for-education--at-an-extraordinary-celebration-concert>

Endnotes

- a. Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations (World Health Organisation. Retrieved July 5, 2010, from <http://www.who.int/topics/disabilities/en/>).
- b. Mainstream schools comprise mainstream Government (including designated schools for students with moderate to profound hearing loss or visual impairment), Government-aided, Independent, Specialised Independent (School of the Arts, Singapore Sports School, NUS High School of Mathematics and Science, School of Science and Technology), and Specialised Schools (Northlight School, Assumption Pathway School, Crest and Spectra Secondary Schools).

Chapter 2: Provisions for Children with Developmental Needs at Preschool Ages

This chapter provides an overview of the government-funded Early Intervention (EI) services available for children requiring different levels of support, as well as admission criteria and processes. It serves to highlight key information that clinicians, EI professionals, allied health professionals (such as therapists and psychologists) and social workers should note when recommending EI provisions and engaging parents/caregivers. The section concludes with information on how Early Childhood educators can collaborate with EI professionals in the context of EI services.

2.1 Overview of Government-Funded Early Intervention Services for Children with Developmental Needs at Preschool Ages

The early years in a child's life represent the most critical period of their development¹. Studies in neuroscience have shown brain growth rate to be at its highest in these early years. Early intervention (EI) taps on this growth potential to help a child with developmental needs (DN) gain skills that maximise their capability for independence. Evidence-based benefits of EI include reduced dependency in daily functioning, reduced need for special education and positive long-term social effects². This is to be achieved through evidence-based, timely, right-sited intervention of appropriate intensity and support services for the child and the family.

Currently, children from birth to six years old^a with DN can receive specialised intervention through government-funded EI services, depending on the level of support needed (see *Table 2*). Children can be served in the preschool or separately at an EI centre, by EI professionals and/or allied health professionals (AHPs) such as therapists and psychologists^b.

All government-funded EI services are designed according to the five key principles³ below:

1. **Family-centred practice**, where EI support and services should be designed to meet the needs of the child and family as far as possible, while leveraging the family's strengths. This would require the EI professional to foster a collaborative relationship with the parent/caregiver to ensure continuity of the child's learning at home and other environments;
2. **Natural and inclusive environments**, where the child may receive intervention in their natural environment where they live, learn and play. This can be at home, preschool and community settings, as well as the EI centre where the child receives EI;
3. **Developmentally appropriate intervention**, pitching intervention at the child's current developmental level. Intervention is planned based on the child's interest, making the most out of the child's strengths and zone of

proximal development. Intervention typically ends when Individualised Educational Plan (IEP)^c goals are met;

4. **Functional and active child engagement**, which promotes participation and interest-based learning opportunities to engage and stimulate the child in learning in the classroom and at home; and
5. **Multi-disciplinary team practice** is used in delivering EI services. For example, in the Development Support and Learning Support Programme (DS-LS), EI professionals and/or AHPs deliver specialised intervention packages. Professionals come together during Case Filter Meetings (CFMs) to collaboratively assess and determine the most appropriate support for the child. In EI centres, EI professionals and AHPs also work collaboratively to assess, plan and support the child and family in a holistic manner.

A suitable government-funded EI programme may be recommended for each child, with different levels of EI support suited for each child. The recommended programme takes into account assessment outcomes, which can include the type of developmental condition, individualised needs of the child, and duration/intensity of EI support required (see *Table 2*). For more details on each programme, please refer to *Table 3*.

Table 2: Levels of EI Support for Different Types of EI Programmes

| Types of Government-Funded EI Programmes | Levels of EI Support |
|---|----------------------|
| Learning Support (LS) | Low |
| Development Support (DS) | |
| Development Support-Plus (DS-Plus) | |
| Early Intervention Programme for Infants & Children (EIPIC), comprising the EIPIC Under-2s and EIPIC@Centre | Medium |
| | High |

1. The **DS-LS programme** aims to provide short-term support for the child within their natural environment, i.e., in the preschool. This programme may be recommended for children who require low levels of EI support to address a range of needs, from learning needs (e.g. difficulty in reading) to other mild developmental conditions (e.g., issue that makes a child unable to be independent in his/her daily living). A child who requires intervention for difficult and challenging behavioural, emotional or psychological issues (e.g., anxiety, sadness and opposition behaviour) may also be identified for DS and/or be recommended for additional specialised intervention outside DS-LS programme.
2. The **Early Intervention Programme for Infants & Children (EIPIC), comprising the EIPIC Under-2s and EIPIC@Centre**, delivered at EI centres by a team of EI professionals and AHPs. This programme can serve children who require medium to high levels of EI support to

address multiple developmental conditions (please refer to Chapter 1, Section 1.4 of the Guidelines).

3. The **Development Support-Plus (DS-Plus) programme** in a preschool setting may be recommended for children who have made sufficient progress under the EIPIC@Centre programme, to transition to be supported in a preschool setting. These children have generally progressed to require low levels of EI support. For more information on assessing a child's progress in EIPIC@Centre and suitability for DS-Plus, please refer to Chapter 3, Section 3.5.3 of the Guidelines.

Apart from EI programmes, children may also seek medical consultations and interim therapy at KKH Department of Child Development (KKH-DCD) clinics and NUH Child Development Unit (NUH-CDU) clinics, which are under the national Child Development Programme (CDP)^d, funded under the Ministry of Health (MOH).

Table 3 shows the current government-funded EI services available for children with DN from birth to six years old.

Table 3: Overview of Government-Funded EI Services Available for Children with DN from Birth to Six Years Old

| EI Services in Preschool Setting | | EI Services in EI Centre Setting ^e | | |
|---|--|---|--|---|
| Development Support and Learning Support Programme | | DS-Plus | EIPIC@Centre | EIPIC Under-2s |
| Learning Support (LS) | Development Support (DS) | | | |
| <ul style="list-style-type: none"> Serves Kindergarten One (K1) to Kindergarten Two (K2) children who require low levels of EI support. One session per week (about one hour) for up to three months. Delivered by EI professionals. | <ul style="list-style-type: none"> Serves K1-K2 children who require low levels of EI support. One session per week (about one hour) for four months. Delivered by EI professionals and AHPs. | <p>[Progressively rolled out since July 2019]</p> <ul style="list-style-type: none"> Serves children ages up to six who have made sufficient progress under the EIPIC@Centre, within preschool settings. Average two to four hours per week. Delivered in the preschools by EI professionals and/or AHPs who work alongside the EC educator. | <ul style="list-style-type: none"> Serves children ages two to six who require medium to high levels of EI support. Five to 12 hours per week. Delivered by a team of EI professionals and AHPs. | <p>[Progressively rolled out since July 2019]</p> <ul style="list-style-type: none"> Serves children under the age of two who require medium to high levels of EI support. Average two to four hours per week. Delivered by team of EI professionals and AHPs. Programme with emphasis on skilling of parents/caregivers. Requires children to be accompanied by their parents/caregivers. |
| | | | <ul style="list-style-type: none"> Home-based EI can be provided for a selected group of children, who have medical or high-risk family factors, making their participation at EI centre difficult. Two to four hours per week. Delivered by EI professionals and AHPs. | |

2.2 Government-Funded Early Intervention Services

2.2.1 Development Support and Learning Support Programme

The DS-LS Programme targets children who require low levels of EI support, where the programme aims to provide targeted developmental and learning support in preschools where the children are enrolled. The programme also aims to enhance capabilities of the preschools to better support these children in their natural learning environment.

EI professionals and/or AHPs work closely together to design appropriate Individualised Educational Plan (IEP) goals, in-class support and parent/caregiver support for Early Childhood (EC) educators and parents/caregivers respectively. This will provide more holistic support for the children in preschool and at home.

Admission Criteria

The DS-LS programme is for children who are:

- Enrolled in preschools (K1 and K2 levels) at the point of intervention;
- Singapore Citizens or Permanent Residents; and
- Not concurrently enrolled in any other ECDA-funded EI programmes (i.e., EIPIC, DS-Plus).

Please find further DS-LS programme admission criteria and programme information in the relevant link within the SG Enable (SGE) website:

<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

Programme Phases

The DS-LS programme has six key phases as summarised below⁴.

1. Identification Phase

- a. Initial identification by form teacher: The child is identified by his/her form teacher through assessing his/her ability to function in the classroom routines in comparison to peers. This includes classroom observations, and the use of tools such as the Strengths and Difficulties Questionnaire (SDQ) (Teacher version) and the Ecological Congruence Assessment (ECA) for initial identification of children who may require screening by an EI professional.
- b. Parent/caregiver's consent: Consent forms (with details about programme activities and contact details for enquiries etc.) are given to parent/caregiver of the child identified by his/her form teacher in participating centres. Upon parents' consent, arrangements will be made for an EI professional to screen the child (see Phase 2).

- c. Referrals: Apart from the preschool, another potential source of referral could also be from paediatricians who have assessed the child to require low levels of EI support. They can refer parents to contact SGE^f who can share information or relevant resources about the DS-LS programme and how parents can seek DS-LS services.

2. Screening Phase

- a. Screening by EI professionals: With parent/caregiver's consent, EI professionals will proceed to screen the child with a battery of screening tools, interview the EC educator on the child's strengths and difficulties, and make observations on the child's functioning in school. Children who are not identified by EC educators could also be directly identified by EI professionals during the latter's preschool visits, if observed to present learning and/or developmental difficulties (please refer to the definition of DN in Chapter 1, Section 1.4 of the Guidelines). For information on assessments used in preschools, please refer to Chapter 3, Section 3.5.2 of the Guidelines.

3. Case Filter Meeting

- a. Case Filter Meeting (CFM): All cases screened are presented to a multi-disciplinary team (e.g., paediatricians from NUH or KKH, educational psychologists from KKH or Community Psychology Hub (CPH), EI professionals and AHPs from DS-LS providers⁹) at the CFM. Based on the information gathered and recommendations by the EI professional, the team collectively makes decisions on the types of support each child will receive.
 - i. For a child requiring LS, a document (i.e., Statement of Needs (SON)) that denotes the needs of the child is issued by an educational psychologist during the CFM.
 - ii. For a child requiring DS, a referral to the relevant hospitals (i.e., KKH-DCD or NUH-CDU) is made for the child to receive further consultation from a paediatrician. The SON is issued by the paediatrician during a clinic visit.
 - iii. For a child who requires higher level or other services (such as psychological issues like anxiety, depression or trauma), the paediatrician will make referrals to the necessary departments within the hospital for relevant support including trauma or psychiatric evaluation, under the paediatrician's care management, when needed.

4. Parent Meeting Phase

- a. Parent meeting: Based on the decisions made at the CFM, the social worker/case manager arranges to meet the parent/caregiver of the child to share about the programme and finalise the enrolment decision. The social worker/case manager will also gather more

information about the child (e.g., family background, socio-economic status etc.) from preschool and/or parent/caregiver. The discussion may involve the EC educator, EI professional and/or AHP as necessary.

- b. For children who are already receiving therapy services in KKH-DCD or NUH-CDU and are recommended the DS package, it is important for the KKH-DCD, NUH-CDU and DS-LS service providers to (with parent/caregiver's consent) share relevant information on the child's screening/assessment with one another at the CFM. This also helps to ensure better coordination of the services that the child is receiving, and right-siting of the child for suitable intervention.

5. Support Phase

a. Programme Design:

The programme offers two main types of intervention support: LS services delivered by the EI professionals, and the DS services delivered by AHPs such as speech and language therapists (SLT), occupational therapists (OT), educational therapy (ET) professionals, educational psychologists (EP), with in-class support conducted by the EI professionals. There are EI professionals who may also be trained EPs.

Children with learning needs are generally served in the LS programme. The LS packages provided by the EI professionals are:

- i. Language
- ii. Literacy
- iii. Fine Motor
- iv. Social Skills

The DS packages provided by the SLTs, OTs, ET Professionals and EPs are:

- i. Speech and Language Therapy
- ii. Occupational Therapy
- iii. Educational Therapy
- iv. Psychological Services

Please find further details on the respective packages in the relevant link within the SGE website:

<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

A blend of direct intervention and in-class support is planned, with the aim to maximise the child's developmental potential. During in-class support sessions, the EI professionals collaborate with EC educators to problem solve, embed and generalise the new skills within the classroom, activities and routines.

The child's EC educator and parent/caregiver are key collaborators in the intervention process to actively facilitate the development, maintenance and growth of the foundational skills.

- b. Assessment and support: A four-step cycle is used to guide the support process for a child: Assessment-Planning-Implementation-Evaluation. Please find further details in the relevant link within the SG Enable (SGE) website:
<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>
 - i. EI professionals and/or AHPs work closely together to design appropriate IEP goals, in-class support and parent/caregiver support for EC educators and parents/caregivers respectively.

6. Review Phase

- a. Case review and graduation:
 - i. A key part of the programme is reviewing the intervention goals set in a child's IEP and documenting the progress made, as a team. This includes an evaluation of where the child is at upon completion of intervention. An End of Intervention (EOI) Report^h is provided to the parent/caregiver and EC educator.
 - ii. The DS-LS intervention services are completed when:
 1. The child's developmental progress, as determined through the appropriate assessments such as Brigance Screens III, indicates that DS or LS services are no longer needed;
 2. The family moves to another programme or chooses to discontinue services; or
 3. The child transitions to school-aged provision when he/she approaches the school-going ages.

The paediatricians from KKH-DCD and NUH-CDU are also involved in the care of children who receive DS interventions. During the paediatrician consults, the paediatrician conducts an in-depth developmental assessment, makes the necessary referrals (which may include further health/medical checks) to support the family, and makes recommendations on how best to address the child's DN.

Implications for Practice

Key points for preschools interested to offer DS-LS:

1. Providing DS-LS: For preschools that do not offer the DS-LS programme but would like to offer it to their students, they can directly contact the Therapy Team (AWWA, Thye Hua Kwan and SPD) assigned to specific zones. The Therapy Team will conduct a briefing for the centre leaders and teachers, and work together with them to deliver services to the

children. For more information on the zones that each of the three Therapy Teams have been assigned to deliver the DS-LS programme, please refer to the relevant link within the SGE website:

<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

2. Programme design: The DS-LS Programme enables the child identified to require low levels of EI support, to access short-term, targeted developmental and learning support in the preschool he/she is enrolled in, to improve his/her developmental outcomes. For a child who is assessed to require a higher level of EI support, the DS-LS provider may recommend parent/caregiver to consult relevant professionals (e.g., paediatrician) for referrals to EIPIC or other services.

Key points for existing DS-LS providers:

1. Admission criteria: Parent/caregiver's consent has to be sought before the child could be screened for the DS-LS package. Parent/caregiver engagement is crucial to ensure that parent/caregiver understands and agrees to take up the respective package for the child.
2. Programme design: Depending on the IEP goals for the child, there is flexibility for the professional to conduct the session in a small group within the class setting (to increase rate of generalisation of skills even before in-class sessions are delivered) or in 1:1 setting intervention, in order to better meet the needs of the child.
3. Close collaboration required between EI professionals, EC educators and parents/caregivers: Given that the intervention is delivered in preschools, EI professionals and/or AHPs are strongly encouraged to continuously engage and update the EC educators on the child's progress and needs. A collaborative partnership between the professionals and teachers is one of the key elements for the sustainability of any positive outcome from the packages. The EI professional and/or AHP, as well as EC educator are also strongly encouraged to continuously engage parent/caregiver on the child's progress and needs. For more guidelines on the collaborative role of EC educators in the context of EI services, please refer to Chapter 2, Section 2.3 of the Guidelines.

For more information, please refer to the frequently asked questions (FAQ) page in the relevant link within the SGE website:

<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

2.2.2 Early Intervention Programme for Infants & Children Programmes

The EIPIC programmes target children who require medium to high levels of EI support, where the programmes aim to increase the developmental growth potential of the child, minimise the development of secondary disabilities, and maximise integration in mainstream settings.

In EI centres, EI professionals and AHPs work closely together to design appropriate IEP goals, deliver the intervention and provide parent/caregiver support. EI centres should adopt a trans-disciplinary approach where professionals such as EI professionals, AHPs and social worker share expertise and inputs, with the team led by a key worker who takes ownership of the child's development and is the primary contact with the parent/caregiver.

The EIPIC programmes focus on ensuring that the child is able to develop skills as they attain the Global Child Outcomes (GCOs) and apply them meaningfully in everyday activities. Given the importance of parent/caregiver involvement, Family Outcomes (FOs) are also monitored⁵.

Both GCOs and FOs are covered by the Early Childhood Holistic Outcomes (ECHO) Framework which will be implemented across all EI centres. Please refer to Chapter 3, Section 3.5.3 of the Guidelines for more information on the ECHO Framework.

The development of the above skills is embedded within daily routine activities conducted in the various natural settings like home, preschool, EI centre and community⁶.

EI centres serve different profiles of children:

1. Providers who serve children across all disabilities and DN: AWWA Ltd, Cerebral Palsy Alliance Singapore (CPAS), Fei Yue EIPIC, Rainbow Centre, SPD and Thye Hua Kwan Moral Charities Limited.
2. Providers who serve children of a particular disability and DN:
 - a. Autism Association (Singapore) and Autism Resource Centre (Singapore) that specialise in children with autism spectrum disorder (ASD).
 - b. Canossaville Children & Community Services that specialises in hearing impairment.
 - c. Metta Preschool^l that serves children with ASD, intellectual disability (ID) and/or global developmental delay (GDD).

Please find further details on EI centres in the relevant link within the SGE website: <https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

Admission Criteria

EI centre-based programmes (EIPIC@Centre and EIPIC Under-2s) are for children who are:

- From birth to six years old;
- Singapore Citizens or Permanent Residents;
- Assessed by a paediatrician^k to be at risk of a developmental, intellectual, sensory or physical disability, or a combination of disabilities; and

- Not concurrently enrolled in any other ECDA-funded EI programmes (i.e., DS-LS programme).

Please find further admission criteria for EIPIC Under-2s and EIPIC@Centre programmes in the relevant link within the SGE website:

<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

Programme Phases

1. Referral Phase

- Assessment and referral by paediatricians: Paediatricians who have assessed a child to have DN or disabilities can, with parent/caregiver's consent, refer the child to SGE for suitable EIPIC service. Please find further information on referral process for practitioners in the relevant link within the SGE website:
<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>
- SGE as a referral touchpoint between parent/caregiver and EI centres: Following the referral, SGE will contact the parent/caregiver to share information and discuss about their choice of EI centre. Upon receiving parent/caregiver's consent, SGE will refer the child to the centre of choice. The centre should contact parent/caregiver within two weeks of SGE's referral to schedule a first meeting with parent/caregiver, whereby the child could be involved in further intake screening or assessment to determine his/her strengths and needs.
- Enrolment in the centre is subject to vacancy and the enrolment cycles of each EI centre.

2. Intervention Phase

- Programme design: Depending on his/her age and needs, the child can be supported under the EIPIC@Centre, EIPIC Under-2s, or Home-based EI.
 - EIPIC@Centre programme: The programme aims to provide support for children between 24 months to six years old who are assessed to require medium to high levels of EI support. The intensity of intervention in the three GCOs will depend on the needs of each child. The trans-disciplinary team of EI professionals and AHPs mostly provides support at the EI centre. Caregiver support and training are also provided. For children with medical conditions that require close individual supervision or care, a caregiver¹ is required to accompany the child to EIPIC@Centre.
 - EIPIC Under-2s programme: The programme aims to provide targeted intervention for children under two years old and

empower caregivers of children. Support is delivered by EI professionals and AHPs mostly at the EI centre, but also includes home visits. The EIPIC Under-2s programme requires children to be accompanied by their parents/caregivers, so that the parents/caregivers can receive collaborative coaching to carry out intervention strategies in the children's daily routines at home. Such strategies embed learning opportunities throughout the children's daily lives, and lead to more sustainable outcomes. At the age of 2, children will transition to the next appropriate EI programme if needed.

- iii. Home-based EI: Children who are not suited for centre-based intervention, such as children who are unable to travel to the EI centre for medical reasons (e.g., bedridden, requires support from non-mobile medical equipment), who face higher risk of suffering from medical complications, and/or who face high risk family factors^m, that make participation in centre-based EI difficult, can receive intervention at home. EI professionals and AHPs may deliver two to four hours of EI a week and caregiver coaching, in the home setting. Caregiver participation is mandatory. The goal is to provide regular therapy services and reduce the isolation of the family and child, e.g., where appropriate, encouraging the family to gradually venture out of the home with the child to a nearby park, a relative's house, etc. In some cases, end-stage support/social work may be required. Home-based intervention should be seen as short term and conducted at home to encourage and motivate families to actively engage their child with needs. Should the child be found ready to transit to centre-based intervention but are unable to do so due to family issues, social work support is available to address the family risk factors.
- b. Assessment and support: Progress of the child will be monitored periodically typically through the ECHO Framework, sometimes alongside the Assessment, Evaluation, and Programming System for Infants and Children or (AEPS) and/or other complementary tools and checklists. For information on assessments used in EI centres, please refer to Chapter 3, Section 3.5.3 of the Guidelines. The trans-disciplinary team formulates IEP goals, and discusses and communicates clearly with the parent/caregiver periodically.
 - i. IEP goals for the child are designed and reviewed periodically. The child's IEP and goals are based on his/her developmental level and functional needs. It takes into account the intake screening or assessment and observations of the child in several routines, consultation with the parent/caregiver and/or EC educator, and trans-disciplinary team inputs.

3. Programme Completion Phase

- a. Case review and graduation: The child graduates from EIPIC@Centre when intervention goals in the IEP are met. The child can transition to DS-Plus to continue receiving intervention in the preschool, or to school-aged provisions as he/she approaches the school-going age. When the child is ready to transit to school-aged provisions, the EI centre engages parent/caregiver on the transition to the different educational pathways available. With parent/caregiver's consent, the EI centre will discuss the need for a psychological assessment for the child as the child approaches the school-going age. For more information please refer to Chapter 4, Section 4.3 to 4.4 of the Guidelines.

Implications for Practice

Key points for practitioners:

1. Referrals into EIPIC: Practitioners will need to consider the severity of developmental conditions and level of EI support required by the child when referring the child to the respective EI programmes. All referrals to EIPIC services should be made through SGE by the paediatrician with the consent from parents/caregivers. SGE will explain more about the EI programme to the family and help to make referral to EI centre.

Key points for providers:

1. Programme design:
 - a. As part of family-centred practice, the family's input should be considered in the IEP goal formulation and functional intervention. EI professionals and AHPs begin with the child's interest to engage him/her, embed naturalistic strategies within routines and activities, and tap on the naturalistic environment of the child such as playgrounds and neighbourhood shops.
 - b. With the parent/caregiver's consent, EI professionals and AHPs can inform and work with the EC educators to better support the child's participation in the preschool settings. EI professionals and AHPs will also discuss the need for a psychological assessment for the child as the child approaches the school-going age.

For more information, please refer to the FAQ page in the relevant link within the SGE website: <https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

2.2.3 Development Support-Plus Programme

The DS-Plus Programme targets children who have made sufficient progress under the EIPIC@Centre programme (see Chapter 2, Section 2.2.2 of the Guidelines for more details). It aims to support the child to increase access to participation in a preschool setting.

EI professionals and AHPs work with the preschool that the child is attending to design appropriate IEP goals, deliver the intervention and provide in-class support. They also work with caregivers for support at home.

Admission Criteria

DS-Plus programme is for children who are:

- From two to six years old^a;
- Singapore Citizens or Permanent Residents;
- Assessed by a paediatrician^k to be at risk of a developmental, intellectual, sensory or physical disability, or a combination of disabilities;
- Meet the assessment requirement for DS-Plus (please refer to Chapter 3, Section 3.5.3 of the Guidelines for more information on assessing a child's progress in EIPIC@Centre and suitability for DS-Plus);
- Enrolled in EI Centre and in a preschool; and
- Not concurrently enrolled in other ECDA-funded EI programmes (i.e., DS-LS programme).

Please find further DS-Plus programme admission criteria and programme information in the relevant link within the SGE website:

<https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

Programme Phases

For information on referrals to services provided by EI centres, please refer to Chapter 2, Section 2.2.2 of the Guidelines. For transition from EIPIC@Centre programme to DS-Plus programme, centres may take the following four steps in identifying and transiting the children.

1. Identification and Engagement Phase

- a. Initial identification by professionals: The child is identified by a trans-disciplinary team of EI professionals and AHPs through observations on his/her ability to function in daily routines in the EI centre.
- b. Assessment by professionals: The child's suitability is confirmed by assessments such as the ECHO Framework, Assessment, Evaluation and Programming System for Infants & Children (AEPS), Brigance Early Childhood Screens III and/ or other complementary tools and checklists conducted by the EI professionals and AHPs as part of tracking the child's progress during his/her time with the EI centre. For information on assessments, please refer to Chapter 3, Section 3.5.3 of the Guidelines.

- c. Parent/caregiver's consent: For a child who is found suitable to transition to the DS-Plus programme, consent will be sought from parent/caregiver for intervention to be held in the child's preschool with adjusted intervention hours and to engage the child's preschool.
- d. Engaging the preschools: As the child placed on the DS-Plus programme is also attending a preschool (see section on 'Admission Criteria' in Chapter 2, Section 2.2.2 of the Guidelines), the EI centre is to seek the preschool's consent to observe the child in the preschool routines, and agree on the intervention types (in-class support and small group), frequency (typically two to four hours per week), as well as other activities and/or co-delivery of lessons.

2. Transition Phase

Different EI centres enrol children to the DS-Plus programme at different times of the year e.g., one or multiple intakes per year, or on rolling admission.

- a. Transition planning: The transition plan and IEP goals are discussed and communicated clearly with the parent/caregiver and EC educator prior to the commencement of the intervention. The information provided by preschools, for example, observation of the child in preschool routines and interview with EC educator, helps to further establish the child's needs which will be considered in the formulation of the child's IEP.

3. Intervention Phase

- a. Programme Design:

The team of EI professionals and AHPs work with the child in his/her preschool, alongside the EC educator to address the child's needs. This helps the child to adapt better to the preschool setting, so that he/she can be equipped with skills to engage within a larger class setting.

The programme focuses on helping the child to improve in the different areas of child development and functions. Areas of child development include motor skills, language, social skills and social communication skills. Functions refer to the three GCOs.

- b. Assessment and support: The child starts the DS-Plus programme when engagement and transition planning with the parent/caregiver and EC educator are completed. Progress and IEP goals are reviewed periodically through assessments similar to the ones mentioned in Section 2.2.3.

4. Programme Completion Phase

- a. Case review: The child may return to centre-based EI programmes if found to be unsuitable for the DS-Plus intervention model or if there is regression due to various reasons during reviews.
- b. Graduation: The child graduates from DS-Plus if he/she is found to have met his/her IEP goals, or when he/she is due for transition to school-aged provisions.

Implications for Practice

Key points for professionals and preschools:

1. Admission criteria: The child needs to be recommended by EI professionals or AHPs in EI centres, and is enrolled in a preschool. Both parent/caregiver's and preschool's consent are needed to plan for the transition from the EIPIC@Centre to DS-Plus programme. The EC educator's and parent/caregiver's readiness are important considerations before transitioning the child from the EIPIC@Centre programme to DS-Plus programme.
2. Programme design: A collaborative partnership among parent/caregiver, EC educator and professionals is critical for sustainability of the positive outcomes of the intervention for the child. The EI professionals and AHPs work with the child and teacher within the preschool's routines as much as possible, to ensure minimal disruptions for the child and EC educators. The professionals share strategies with the EC educator that are useful for engagement of the child in class.

For more information, please refer to the FAQ page in the relevant link within the SGE website: <https://www.sgenable.sg/pages/content.aspx?path=/for-children/>

2.3 Collaborative Role of Early Childhood Educators in the Context of Early Intervention Services

The EC educators play an integral role in the ecosystem of support for children with DN. The centre principal and teachers' conviction in the importance of EI is key to ensuring that children are identified early, support is sustained in the classroom setting, and parents are engaged throughout the process.

A collaborative partnership between the EC team and the EI team is needed to support a child in his/her development progress. Generally, EC educators are also involved in the following areas:

1. Facilitate identification of children with needs: EC educators, who observe the children on a daily basis, can provide inputs on the children's

development and bring to the attention of appropriate person(s) the additional resources needed to support the children.

2. Collaborate with other professionals to support the child in the classroom: The EC educators work closely with EI professionals and AHPs to enable more holistic support and equip the child with skills to engage within a larger class setting. EI professionals and/or AHPs may interview EC educators to gather inputs of the child across various contexts so as to enable more holistic support and appropriate interventions for the child. The EC educators also play an important role to apply the strategies in the classroom setting, for example, through in-class support from the EI professionals for both DS-LS and DS-Plus Programmes, so that the skills learnt by the child are sustained. The EC educators would then be better empowered to teach and nurture the child in their day-to-day classroom routines.
3. Application of skills learnt to the rest of the classroom: The knowledge and skillset that the teachers acquire through working with one child can be effectively used for other children with difficulties, or even with typically developing children, in their classrooms, hence benefiting the entire class and preschool, to an extent.

In sum, the EC educators are in the position to take responsibility for the classroom learning of the children and to enhance the level of continued support for them through close collaboration and regular interaction with the children's parents and caregivers on their development progress.

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3. KK Women's and Children's Hospital (2019). *EIPIC Consultancy Recommended Practices for Early Intervention in Singapore*, 1-5.
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5. ECHO Framework (2016). *Factsheet on ECHO Framework*. Retrieved July 14, 2020, from www.echoframework.sg/echoframework_factsheet.pdf
6. KK Women's and Children's Hospital (2019). *EIPIC Consultancy Recommended Practices for Early Intervention in Singapore*, 16.

Endnotes

- a. Child aged seven and older may be served in EI programmes if:
 - i. Child is assessed by a paediatrician to require deferment for Primary One, and an extension of EIPIC during the deferment year; or
 - ii. Child is still on a Special Education (SPED) school waitlist.Please refer to Chapter 4, Section 4.6.2, part (b) of the Guidelines for further information on deferment.
- b. EI professionals can include Learning Support Educators (LSEds) and Early Intervention (EI) teachers; Allied Health Professionals (AHPs) can include physiotherapists, occupational therapists (OT), speech and language therapists (SLT), educational therapy (ET) professionals and educational psychologists (EP).
- c. Individualised Educational Plan (IEP) is a customised plan to chart the child's learning and developmental growth. The IEP contains details such as the assessment outcomes, intervention needs as well as the review of the child's progress during the period of support.
- d. For more information, please refer to <http://www.nuh.com.sg/our-services/Specialties/Paediatrics/Pages/Developmental-and-Behavioural-Paediatrics.aspx> and <https://www.kkh.com.sg/patient-care/areas-of-care/childrens-services/Pages/child-development.aspx>

- e. Parents can also choose to enrol their children in selected Private Intervention Providers under Pilot for Private Intervention Provider (PIIP) and will receive subsidies that will help them defray the programme cost. For more information, please refer to the relevant link within the SGE website at: <https://www.sgenable.sg/pages/content.aspx?path=/for-children/>
- f. SGE is the referral touchpoint for government-funded disability services including early intervention.
- g. The DS-LS providers can include preschool operators and Therapy Teams.
- h. EOI is a report written by the EI professional at the end of the LS packages or by the EI professional and therapist at the end of the DS packages to summarise the child's progress and includes recommendations, outcomes and follow-up plan for the child.
- i. Metta Preschool is an EI centre and does not offer childcare services.
- j. Referring paediatrician should be registered with the Singapore Medical Council.
- k. Caregiver should be familiar with handling the child's medical needs or medical equipment (if any), as EI centres may not be familiar.
- l. As determined by social worker using section on "Parent/Caregiver Status" in Family and Adult Support Tool (FAST). This includes children who are identified to be neglected, or with multiple family problems preventing the child's caregiver from bringing the child to the EI centre etc. The tool can be found here: <http://praedfoundation.org/fast-singapore-2/?b5-file=1773&b5-folder=1779>

Chapter 3: Guidelines on Assessments for Developmental Needs

This chapter describes the guidelines for developmental assessments of children from birth to six years. It serves to provide clear and consistent standards for professional practice within the Early Intervention (EI) sector. This information is not intended to replace prevailing diagnostic and clinical practice guidelines, including the Diagnostic and Statistical Manual of Mental Disorders (DSM), the International Classification of Diseases (ICD), or guidelines issued by the Academy of Medicine Singapore and the Ministry of Health. Instead, it should supplement professional practice guidelines for various practitioners issued by the respective professional bodies.

3.1 General Guidelines on Assessments for Developmental Needs

Early assessment and identification of developmental needs (DN) are essential for a child's development and education. A comprehensive developmental assessment will provide information about child-specific skills and areas of functioning (e.g., medical, developmental, learning/academic and social functioning), as well as environmental factors that impact the child's learning and development. Quality assessment will also ensure accurate identification of developmental disorders and DN as targets for intervention and enable the monitoring of subsequent response to intervention.

There is a range of assessments conducted for children from birth to six years in Singapore. Childhood developmental screening is recommended for all children from birth to six years old, as part of preventive health. This is anchored by parents, healthcare professionals in the polyclinics, general practitioners and paediatricians who assess a child's developmental progress using the developmental checklists in the Child Health Booklet, which is based on the Denver Developmental Screening Test, the only tool standardised for the local Singapore population. Children with observed developmental delays will be referred to specialists for detailed assessment and further management.

A comprehensive developmental assessment is typically conducted at hospitals and includes medical diagnosis as well as assessments for early childhood screening and outcome monitoring. The number and type of assessments to be conducted depend on a few factors, such as:

- The child's presenting issues;
- The child's age and developmental, behavioural or learning needs; and
- The relevant specialty of the professional seeing the child.

Some of these children are later referred for services in the EI sector where further assessments are carried out by EI professionals and allied health professionals (AHPs) for the purposes of assessing levels of EI support needed; as well as the monitoring and reporting of child outcomes within preschools and EI centres. For specific conditions and impairments, guidelines and recommendations for test use and selection (see Chapter 3 Sections 3.2 to 3.4 of the Guidelines) are provided for professionals to consider, while

keeping in mind the need to exercise flexibility and professional judgement in considering the use of other specialised, normed-referenced, standardised tests. Finally, a child may undergo assessments before he/she transitions from the preschool/EI centre into mainstream primary/Special Education (SPED) school. For discussions on assessments for transition from preschool to school-aged provisions, please refer to Chapter 4, Section 4.4 of the Guidelines.

3.1.1 Sources of Developmental Assessment Data

- Assessment data could be gathered from: Formal records on the child (e.g., past psychological, educational, developmental, medical assessments);
- A range of assessment tools including:
 - Formal testing to determine diagnosis or functioning levels (e.g., norm-referenced tests, criterion-referenced tests);
 - Progress monitoring records or curriculum-based assessments of children who are undergoing structured remediation or intervention;
 - Screeners/checklists;
- Interviews and direct observations to determine functioning levels;
- Reports from educators and other persons who work with the child in and outside of preschool or childcare (e.g., speech language therapist, social worker, medical professional);
- Reports from the primary caregiver, as well as other persons who are involved in the care of the child (e.g., parents, grandparents, domestic helper); and/or
- Work samples completed by the child, if appropriate.

3.1.2 Areas of Developmental Assessments

To obtain a holistic understanding of a child, assessment approaches should make use of diverse assessment methods and gather information from multiple sources. Professionals should obtain information about the child's functioning and skills in daily activities and routines, across different environments such as the child's home, childcare, preschool, EI centre, and/or in community settings.

Information may be gathered in the following skills and areas of functioning considered necessary or important for the child's development:

- Cognitive skills (e.g., intellectual capacity, memory, attention, concentration skills);
- Language and communication skills (e.g., receptive and expressive skills);
- Academic skills (e.g., literacy, numeracy);
- Social, emotional, behavioural and interpersonal functioning;
- Adaptive behaviour;
- Health and body state factors, including motor and sensory difficulties, energy level; and/or

- Strengths, motivation and interests.

Where appropriate, children's views on their own interests, strengths, and difficulties, should be sought.

In addition to child-specific factors, assessments should also look into the environment of the child and its impact on the child's learning and development. This could cover the following:

- a. Family and home environment, such as parenting styles, parental involvement in education, presence of a stimulating environment for learning, and family relationships.
- b. Interpersonal relationships, such as child's relationship with familiar adults (e.g., parents/caregivers, family members, and teachers) and interaction patterns between the child and peers (e.g., level of social acceptance, incidents of bullying).
- c. Instructional factors, such as curriculum (e.g., content, learning principles); pedagogy (e.g., pace of instruction, mode of instruction, use of assistive technology) and classroom management strategies used.
- d. Physical setting, such as physical and sensory environment (e.g., space, noise, lighting, classroom displays, seating); and accessibility and safety issues (especially for children with orientation and mobility concerns).

An assessment provides only a snapshot of the child's skills and functioning at a point in time. A reassessment of child's skills should be done whenever required to review the child's level of functioning.

3.1.3 Factors to Consider in Selecting and Using Different Developmental Assessment Measures

It is important to choose an appropriate assessment methodology and use appropriate measures for the specific purposes of the assessment. In general, when the assessment is for diagnostic or placement purposes, a standardised tool is recommended, as it will provide a more objective measure of the child's developmental level relative to his/her peers. For determining a child's developmental needs and level of EI support required for planning of intervention, or for monitoring of outcomes, professionals may use standardised or non-standardised tools, or a combination of both, depending on the child's presentation and/or the needs of the setting.

When conducting assessments for developmental needs, professionals must adhere to relevant professional ethics and codes of conduct (e.g., Singapore Psychological Society Code of Ethics, Allied Health Professions Council Code of Professional Conduct). Professionals should also abide by prevailing legal and organisational policies and guidelines on personal data protection (e.g., Singapore Personal Data Protection Act, 2012). The following sections highlights specific considerations for professionals to take note of when using

standardised and non-standardised tools to assess developmental needs in children.

a. Standardised Tools

i. Test Selection

Standardised tests selected to assess developmental, behavioural, cognitive and adaptive functioning must be valid and reliable. Priority of selection should be given to norm-referenced assessment tools with the most current norms, which are age-appropriate and applicable to the local population^a. Assessors should avoid using obsolete tests where more current editions are available. In the absence of appropriate norms, careful consideration should be made with regard to language and cultural factors. Assessors should be familiar with the instruments, including their limitations.

The test should be selected based on its ability to provide relevant information for decision-making. For the purpose of assessing cognitive functioning, tests that have been designed for group-based screening cannot be used to replace standardised individual tests.

ii. Assessment

When assessing children with DN, assessors should seek to ensure optimal performance in the test session by spending time to build rapport and providing clarity and predictability of assessment structures and routines (e.g., through the use of work schedule, sensory supports, and reward charts).

Standardised testing procedures should be adhered to when using psychometric assessment or screening tools. When necessary, users of standardised tests should abide by the accommodations that are allowed in the test manual (e.g., pacing and using breaks between subtests, using assistive devices).

Where modifications are made to standardised testing procedures (e.g., modifying the language of instructions, not recording a child's timing for a timed test, extending the teaching items), the validity of inferences made from test scores may be compromised. In such cases, alternative tools or modes of assessment should be considered.

iii. Scoring/Reporting

Clear indication or justification should be noted and reported for deviations from standardised testing procedures, particularly:

- Accommodations or modifications made which may compromise the validity of the assessment;

- Any subtests aborted during administration; or
- Computation of scores involving proration/substitution.

The reporting of deviations should be reflected clearly in test protocols, written reports, and at professional case discussions or case conferencing, for example the Case Filter Meetings (CFMs) conducted for children accessing Development Support and Learning Support Programme (DS-LS) services.

The interpretation of scores can be complex, and great caution should be exercised in this area. The assessor must consider the effects of various factors on results (e.g., situational factors, age and socio-economic status of the child, motivation/fatigue, effects of language and/or cultural differences, impact of specific disabilities, use of accommodations). The report should include detailed observations of test behaviours and qualitative information on the test performance.

b. Non-Standardised Tools

Non-standardised tools include direct observation of the child, parent/caregiver interviews, and in-house frameworks, screening tools, questionnaires, and checklists that have not been validated or normed. While these tools can provide valuable information in the assessment of a child and can contribute to diagnostic and placement decisions, it should not be used on its own for diagnosis or placement decisions.

Validity and reliability of data from observation and reports is optimised when:

- Behaviour is taken in context, where data is interpreted in relation to what preceded and followed the session that could impact the child's behaviour during the session; and/or
- Consistency of child's behaviour is examined across a range of settings, over a period of time, and across different sources of information.

For planning of intervention or treatment and for monitoring outcomes, non-standardised tools are often used for children with DN, particularly those with significant impairments that cannot be reliably assessed by using standardised tools. It is recommended that professionals focus on functional performance and approach intervention in a holistic manner for children with developmental needs.

3.1.4 Users of Developmental Assessment Tools and Data

Developmental assessments (whether standardised or non-standardised) should be conducted by suitably qualified professionals or trained persons. Some of these tests would require competency in the developmental and behavioural assessments of young children. Competence involves having the training, knowledge, skills and experience necessary to:

- Select and administer reliable and valid assessment procedures that are appropriate for the child and consistent with the purpose of the assessment;
- Correctly interpret assessment results based on the understanding of developmental capabilities, milestones and characteristics of the child;
- Provide appropriate and acceptable accommodations where necessary (refer to Chapter 3, Section 3.1.3 (a) (ii) of the Guidelines); and
- Make a diagnosis.

Users of Tools: Competency Levels

There are generally three levels of qualifications for the use of professional testing tools: Level A, Level B, and Level C (where the highest level of restriction pertains to Level C tests). Test users must fulfil the necessary qualifications^b for test administration. Users of the various tests should practise within their scope of expertise. Users of Level B and Level C professional tests, e.g., intelligence tests, should ensure they have the necessary qualifications, training and competency to administer the tests. In addition, if users of Level B and Level C professional tests have the necessary qualifications, training and competency, they can administer the assessments independently, otherwise, they would need to be supervised by registered supervisors. Level C tests may only be used by registered psychologists or trained associate psychologists whose role is to conduct such assessments within an approved agency under the supervision of a registered psychologist.

A range of developmental assessment tools are adopted for government-funded EI programmes in the preschools and the Early Intervention (EI) centres. All EC educators and EI professionals should be trained before using these assessment tools.

In preschools, as part of the DS-LS programme, EC educators use the Strengths and Difficulties Questionnaire (SDQ) (Teacher version) and the Ecological Congruence Assessment (ECA) to identify children. For more information on the variety of tools used by EC educators to assess the preschool children's needs, please refer to Chapter 3, Section 3.5.2 of the Guidelines. For more information on the SDQ and ECA, preschools can contact the Therapy Team that is assigned to their zones (see Chapter 2, Section 2.2.1 of the Guidelines).

In the EI centres, trans-disciplinary teams comprising EI professionals and AHPs assess children's development using tools such as the Early Childhood Holistic Outcomes (ECHO) Framework as detailed in Chapter 3, Section 3.5.3 of the Guidelines. Currently, the ECHO Framework is progressively being implemented across EI centres. Each EI centre has an ECHO Technical Assistance Team who can provide needed guidance and further information.

3.2 Assessment Considerations for Diagnosis of Specific Developmental Conditions

While the general principles of assessment have been covered previously in Chapter 3, Section 3.1 of the Guidelines, the subsequent Sections 3.2 and 3.3 highlight assessment considerations for diagnosing specific developmental conditions and when assessing physical, sensory disabilities or related medical conditions among children from birth to six years in Singapore. Section 3.4 describes assessment considerations for mental health, behavioural, and emotional conditions.

The assessment considerations mentioned in Sections 3.2 to 3.4 need to be viewed alongside the general principles of assessment highlighted in Section 3.1. The list of conditions in Sections 3.2 to 3.4 are not intended to be exhaustive. While some conditions listed are specific to childhood, other conditions can occur in persons of any age, and the content presented applies only to children. When making specific diagnoses, assessors should adhere strictly to established clinical criteria (e.g., the DSM-5) and consider any cautionary statements, use robust up-to-date testing tools and have ample experience working with young children.

3.2.1 Autism Spectrum Disorder

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that affects how a person communicates with and relates to other people, and how they experience the world around them. It is a neurodevelopmental disorder which means it affects the functioning of the brain. The effects of autism and the severity of symptoms are different in each individual.

The essential features of ASD are:

- Persistent impairment in reciprocal social communication and social interaction; and
- Restricted, repetitive patterns of behaviour, interests, or activities.

Features of ASD can be observed in infancy and toddlerhood, but for some children, these features only become obvious when they are older. Young children who present with the following clinical features should be referred for a comprehensive developmental evaluation:

- a. No babble, pointing, or other gestures by 12 months;
- b. No single words by 18 months;
- c. No spontaneous (non-echoed) 2-word phrases by 24 months; and/or
- d. Any loss of language or social skills at any age.

For young children under 7 years old, a typical ASD diagnostic evaluation should involve a multi-disciplinary team which may include a paediatrician or child psychiatrist, psychologist, speech and language pathologist, and occupational therapist. These professionals should have the training and clinical experience in diagnosing ASD. The evaluation should include a clinical and neurological examination by a medical practitioner to determine possible

etiologies, exclude treatable conditions and identify co-morbid medical conditions (e.g., epilepsy) or genetic conditions (e.g., Rett Syndrome).

It is recommended that the evaluation is made by an experienced clinician through taking a detailed clinical history through the caregiver and a clinical observation of the child, using the most current diagnostic classification system, i.e., Diagnostic Statistical Manual – 5th edition (DSM-5)² or the International Classifications of Diseases – 11th edition (ICD-11)³. It will be useful to include the use of standardised autism-specific tools, such as the Autism Diagnostic Observation ScheduleTM Second Edition (ADOS-2)^c, the Autism Diagnostic InterviewTM–Revised (ADI-R)^d, or the Childhood Autism Rating Scales – Second Edition (CARS-2)^e. While these tools provide scores and classifications that are helpful, clinicians must not rely on these tools alone to make the diagnosis. Rather, the diagnosis is made by an experienced clinician through interpretation of the information collected through interview with parent/caregiver and direct observations using these tools.

The evaluation should include an ASD-specific history taking, obtaining wider contextual and functional information of the child's present and past social and communication behaviours across different settings (e.g., childcare / preschool). Direct clinical observation of the child, preferably across multiple sessions by different professionals on the team, is a critical part of the evaluation to allow objective evaluation of the extent of the child's behaviour and his/her developmental needs. Where behaviours and characteristics typically present in individuals with ASD are directly observed by multiple people across different sessions, it would hold more weight than if the absence of these behaviours are reported by parent/caregiver through interviews or questionnaires.

When a young child's presentation does not clearly meet the diagnostic criteria for ASD, there is a need to continue monitoring the child's development if there are symptoms of concern. Some of these children may have ASD, except that their impairments in social communication or repetitive behaviours/restricted interests only become more obvious when the demands and expectations for social and communication skills are raised, e.g., in group learning or formal schooling contexts. They may present with other diagnoses, such as Social Communication Disorder, which can only be diagnosed when a child is older and has developed more advanced language skills. It is therefore recommended that clinicians defer a diagnosis of ASD for very young children if the presenting symptoms do not clearly meet diagnostic criteria and reconsider the need for diagnosis after a period of intervention and/or if their presentation changes over time.

A cognitive assessment is not necessary for an ASD diagnosis, but it can be important for schooling recommendations. Within the ASD population, severity of autism symptomatology is not necessarily correlated with cognitive level (i.e., high IQ scores are not, in themselves, indicative of "mild" ASD). Rather, it will be more useful to describe the level of support required^f when providing diagnosis for the child, as per diagnostic criteria stated in the DSM-5 or ICD-11.

3.2.2 Global Developmental Delay

Global Developmental Delay (GDD) is diagnosed when a child under the age of 5 years fails to meet expected developmental milestones in **two or more** developmental domains.

The delays should be persistent (at least for 6 months) and significant (defined as performance 2 standard deviations or more below the mean on age-appropriate, standardised, norm-referenced testing). The developmental domains include: gross/fine motor skills, speech/language, cognition, social/personal skills and activities of daily living.

This diagnosis is reserved for individuals under the age of 5 years when there are difficulties in the objective measurement of intellectual functioning in a consistent, reliable and valid fashion in the young child. Environmental factors, which may be malleable, and EI may also influence developmental trajectory and later outcomes.

The diagnosis of GDD should be made by a paediatrician or medical doctor after a comprehensive evaluation, including the use of a standardised developmental assessment or screening tool. Evaluation depends on thorough history taking, careful clinical examination and astute observation of behaviour, social and play skills. Assessment of the child's hearing and vision is necessary. Investigations as to the aetiology of the delay should first follow clinical indications, using available investigations in a rational and selective way. As GDD may occur with other medical conditions, the question of why a particular child has a neurodevelopmental disability is an important one that should always be posed at least once for each child presenting with GDD and every reasonable attempt needs to be made to answer this question.

GDD is, however, considered an imprecise term in the following ways:

- Development is not usually affected in all domains, despite the term 'global'.
- The term 'delay' suggests the possibility of maturational catch-up, that is, the condition is temporary, and prognosis is favourable. This may not be so for many children with GDD and later catch-up cannot be assumed.
- There is no clear consensus as to whether cognitive skills must be affected in GDD.

Hence, the diagnosis of GDD could be describing a child with fine motor and expressive language delays or a child with severe gross motor and cognitive delays or a child with other combination of delays. As such, children with GDD will require individualised intervention that targets their specific needs.

This diagnosis requires review and/or reassessment after a period of intervention, preferably before formal schooling to determine whether the impairments can be better explained by another established diagnosis or descriptor. This review of needs should be done by a paediatrician and if indicated, a formal assessment by a relevant professional such as a

psychologist, speech therapist, and/or occupational therapist. For some children, the presentation may change over time and a diagnosis may become apparent (e.g. children with GDD whose needs evolve to meet diagnostic criteria for Intellectual Disability (ID), Specific Learning Disorder, or Developmental Language Disorder).

3.2.3 Intellectual Disability

Intellectual Disability (ID) is a neurodevelopmental disorder defined as having limitations in intellectual and adaptive functioning; the latter as expressed in the conceptual, social and practical domains. Diagnosis of ID must meet the following three criteria:

- a. The presence of intellectual deficits;
- b. Adaptive functioning deficits; and
- c. Age of onset in the developmental period, i.e., below 18 years old;

The diagnosis of ID should be made by a clinical or educational psychologist through the use of valid and reliable standardised assessments of intellectual and adaptive functioning. In addition, the assessment should include children's current and past educational performance, intervention history, family information, developmental history, medical history (e.g., Williams Syndrome, Down Syndrome, epilepsy), psychiatric and other histories (e.g., Attention-Deficit/Hyperactivity Disorder, autism spectrum disorders). Cultural, linguistic and environmental factors (e.g., lack of opportunity) need to be considered as well.

Severe ID can typically be identified in children within the first 2 years of life as delays in motor, language and adaptive skills are obvious, while mild ID may not be apparent until primary school ages². For young children below 5 years of age, it is recommended that the diagnosis of GDD be used in situations where it is not possible to reliably determine the clinical severity of the child's delay/difficulties, particularly if there are risk factors such as premature birth, other prolonged illnesses, adverse childhood experiences and/or other environmental factors. For guidelines on the diagnosis of GDD, please refer to Chapter 3, Section 3.2.2 of the Guidelines.

The degree of a child's ID can occur across a range. In ascertaining the extent of a child's ID, greater emphasis should be placed on adaptive functioning levels, rather than just cognitive deficits. This is because IQ measures are less valid at the lower end of the IQ range, and taken alone, may not adequately capture the needs of children and the level of supports they require. In the assessment of adaptive functioning, the validity and reliability of data obtained is optimised when a standardised instrument is used with norms for local population, and corroboration is obtained from more than one context, as well as from multiple sources, e.g., parents/caregivers and teacher's reports.

Children with ID may have communication and physical limitations that make formal assessment challenging. In such situations, psychologists should consider carefully the choice of standardised assessment tools to be used so as not to disadvantage the children. For example, some standardised cognitive

tests allow for alternative administration procedures of timed test items where a child's motor dexterity may disadvantage him/her, and the child's performance on these items may be a more appropriate and valid indicator of his/her non-verbal cognitive abilities.

Additional care should be exercised when assessing individuals with visual impairment or hearing loss. Preferably, these individuals should be assessed using instruments normed on these specific populations and administered by trained assessors. The assessor could choose to only administer selected subtests (e.g., performance or verbal subtests only, in combination with an adaptive scale). However, a score based on selected subtests does not constitute a full intellectual assessment and provides only an approximation of an IQ score.

The following considerations are recommended in the assessment and diagnosis of children with ID:

- The children may have additional difficulties which need to be taken into consideration during an assessment. For example, they may have difficulties in motor skills, attention, verbal comprehension and expression.
- Emotional and motivational problems arising from persistent difficulties in learning may result in task avoidance and test fatigue.

3.2.4 Language Disorder

Language Disorder is the persistent difficulty in the acquisition and use of language across modalities (e.g., spoken, written, sign language), where the difficulty is of such severity as to create significant long-term challenges in daily communication and educational attainment.

Children with Language Disorder may show deficits in the understanding and/or use of spoken vocabulary (e.g., difficulty in naming words); spoken sentences (e.g., difficulty in following long spoken instructions); and/or spoken narratives (e.g., difficulty in understanding extended spoken explanations and in telling complete stories); this may result in literacy difficulties.

Language Disorder will be evident in all languages a child speaks, and the difficulties may present differently in each language. In addition, a child may have different levels of difficulties in the understanding (receptive) and use (expressive) of spoken language.

Children whose language difficulty has no obvious cause are described as having Developmental Language Disorder (DLD), also known as Specific Language Impairment (SLI), Language Learning Disability (LLD), or a language-based learning disability⁴.

The diagnosis of Language Disorder should be made by a speech and language therapist. In young children, it may be made by a multi-disciplinary team that may include a developmental paediatrician or child psychiatrist,

psychologist, and speech and language therapist. Assessors need to consider the following factors when diagnosing a child with Language Disorder:

- The child's age and language abilities in all languages the child hears and/or speaks; the norms of language acquisition in the local context, and influence of cultural and dialectal language differences for children whose dominant language is not Standard English.
- Adequacy of exposure to language-rich learning environments; professionals should be mindful that the assessment of language development can only be made in a language that the child has sufficient exposure to.
- Language assessment using standardised tests of receptive and expressive language abilities.
- Child's understanding and use of spoken language in different contexts and/or dynamic assessments should be considered together with standardised test results.
- Child's language difficulties are not primarily the result of sensory impairment (visual, hearing), motor dysfunction, or other medical condition.
- The impact of co-occurring difficulties and/or conditions (e.g., attentional problems, organisational difficulties, other primary conditions such as Autism Spectrum Disorder, Intellectual Disability, hearing loss, neurological injury, Cerebral Palsy, Down Syndrome, neurological conditions such as epilepsy, acquired aphasia or Landau-Kleffner syndrome).

3.3 Assessment Considerations for Physical, Sensory Disabilities and Related Medical Conditions

3.3.1 Visual Impairment

Visual Impairment (VI) refers to an impairment in vision that, even with best corrected vision, adversely affects a child's learning and development. The term includes both partial sight and blindness. Visual problems include visual field loss, visual fatigue and difficulties with figure-ground perception and visual efficiency. Any refractive error (e.g., myopia, hyperopia, astigmatism and presbyopia) should be corrected first before considering it an impairment.

Visual impairment is usually diagnosed by an eye doctor, or an ophthalmologist. AHPs such as optometrist or opticians may also be involved in the management and care of the child with visual impairment. The child's developmental needs are usually assessed by a multi-disciplinary team experienced in working with children with VI in specialised clinics.

Assessors need to be aware of the enormous variability among children with VI and need to take into account such variability when planning an assessment. Hence, information on the cause and nature of the visual loss, severity and the specific effects of child's visual loss need to be taken into account for the assessment (e.g., blindness versus partial vision). A young child's visual condition and abilities can vary over a short period of time, especially if they are actively undergoing staged surgery or treatments. Thus, a Functional Vision

Assessment (FVA)⁹ should be an ongoing assessment that is done prior to and after treatments and as the child develops so that visual factors can be taken into consideration in order to continuously modify the environment and support to be provided to the child. Young children with low vision should have a formal eye check up with their eye doctor, and also have FVA done by a well-trained person in FVA. Perhaps it is important to note that an FVA is not done in lieu of a formal eye check-up as they have different functions with equal value for the child. Whenever available, the inputs of teachers and parents/caregivers of children with visual impairment should be sought.

Children with visual impairment can also have ASD. However, developmental assessors need to be aware of the difficulties in diagnosing visually impaired children with autism. Caution should be made when referring visually impaired young children for an ASD assessment as some of their behaviours called “blindism” may mimic features of autism^{5,6}. “Blindism” may include inappropriate social interactions, rigidities and motor stereotypies. Studies have shown that autism might not be as stable a diagnosis in children with VI compared to children without VI^{5,7,8}. Hence, assessors should also consider a re-evaluation if the child shows changes in their behaviours and learning patterns.

Developmental assessors need to be aware that VI can result in difficulties in other domains (e.g., reading development). A significant number of children with VI will have co-morbid learning disabilities but caution should be exercised to avoid over-identification of additional disabilities in children with VI. It is important to ensure that adequate educational opportunities, access to appropriate learning materials and equipment, and training in disability-specific skills have been provided to children before a clear diagnosis of an additional learning disability is made. It is therefore recommended that any assessment to determine the presence of learning disabilities in children with VI is conducted only after they have had at least two years of appropriate formal academic instruction.

Assessors need to take note of response behaviours unique to children with VI:

- "Passive", neutral facial expressions should not be taken to indicate that the children are not listening attentively. Instead, pay attention to what their body, like hands and feet are doing.
- Children may display resistance to having their hands directed to unknown objects; and may use protective responses such as pulling their hands away. They may also display protective responses to unanticipated events. Avoid grabbing child's hands and putting them on objects.
- Children may display visual responses such as eccentric viewing, head tilt, holding objects close to them, delayed response in looking or touching objects, and/or closing their eyes.
- Children may avert their gaze if objects are too close or if they want to disengage from a task.
- Children may be in a low arousal state due to a lack of visual stimulus and a low postural tone.

- Children may use "immature" patterns or repetitive patterns of object exploration such as repeated dropping for auditory feedback, tapping or mouthing.
- Children may be auditorily distracted by environmental noises, visually distracted by visual clutter, and other matters that affect the senses
- Children may manifest other behaviours such as echolalia, self-stimulation and egocentricity in their interpersonal skills, especially if there are other disabilities.

It is important to choose the correct assessment tools so that the assessments do not disadvantage children on the basis of visual loss. Hence, tests that rely heavily on children's visual ability should be used with caution, especially timed tests. It is also important, for tests that require Braille reading, to enquire about children's Braille reading ability. In administering cognitive assessments^h to children with VI, assessors should note that many of the tests are adaptations of instruments that are used for the sighted, while others are designed specifically for children with VI. Hence, assessors are advised to be mindful of the strengths and limitations of the tests when considering assessment tools for use with children with VI.

Whenever possible, developmental evaluations should be conducted by respective professionals who have experience working with children with VI.

3.3.2 Hearing Loss

Hearing Loss (HL) is defined as a diminished ability to detect, recognise, discriminate, perceive, and/or comprehend auditory information. Hearing loss can be unilateral (in one ear) or bilateral (in both ears), and its extent can range from mild to profound. Hearing loss can be conductive (may be treatable), sensorineural (will benefit from augmentative or amplification hearing devices such as hearing aids, cochlear implants), or mixed.

The diagnosis of hearing loss is usually made by an ENT specialist and an audiologist. Assessment and management of hearing loss in a young child is usually done in a multidisciplinary team which may include an ENT specialist, audiologist, auditory verbal therapist (AVT), and/or speech and language therapists.

As children with HL may use spoken language, gestures and other non-verbal communication, the foremost principle to bear in mind is that the assessment should be conducted in the child's primary language and preferred mode of communication. This can be determined through an interview with the child's parents or teachers. 'Sign language' refers to the natural sign language of the child e.g., Singapore Sign Language (SgSL), and not necessarily a manually coded sign system e.g., Signing Exact English (SEE).

It is important to choose the appropriate assessment instruments that do not disadvantage children on the basis of their HL. Psychologists could use a non-verbal intelligence test such as the Comprehensive Test of Nonverbal

Intelligence, Leiter International Performance Scale -3, or Universal Non-verbal Intelligence Test, as most test instruments are not typically normed on HL populations, nor designed for sign language use. As such, the accompanying use of informal assessments such as behavioural observations, rating scales, and structured interview formats with parents, teachers and the child, alongside standardised tests, is recommended.

3.3.3 Cerebral Palsy and Other Significant Motor Impairments

Cerebral Palsy (CP) refers to a group of disorders of movement and posture, causing activity limitations which are attributed to non-progressive disturbances that occurred in the developing foetal or infant brain. CP is often accompanied by disturbances of sensation, perception, cognition, communication and behaviour; and by epilepsy; by bladder and bowel problems and by secondary musculoskeletal problems⁹.

Apart from CP, other conditions which may be associated with significant motor impairments include muscular dystrophy and spina bifida. Children may present with combinations of weakness, hypotonia, dystonia, spasticity, contractures, sensory disorders, cognitive deficits, and other medical comorbidities. Assessors should be aware that CP is a non-progressive condition, while other conditions that can result in significant motor impairments (e.g., muscular dystrophies, demyelinating diseases, metabolic diseases etc.) can be progressive.

The diagnosis of CP is made by a medical doctor or developmental paediatrician; however, a child with CP can have multiple physicians (e.g., ophthalmologist, neurologist etc.) taking care of their needs. Hence it is important for assessors to understand the child's needs and status from the perspective of all the care providers for a child with CP. Developmental assessment and management of children with CP should involve a multi-disciplinary team who will assess different domains or functions:

- Occupational therapists (e.g., motor coordination, sensorial needs, adaptive living)
- Physiotherapists (e.g., motor strength, range of movement)
- Speech therapists (e.g., swallowing, speech, language)
- Audiologist (hearing issues)

In preparation for a developmental assessment, it is important to understand the characteristics of children with CP and other significant motor impairments that may influence the assessment:

- Children with a diagnosis of CP and other significant motor impairments may have multiple medical issues, including epilepsy, visual and hearing abnormalities, gastrointestinal and nutritional problems. An update on medical concerns as well as their management is essential prior to an assessment. This would include new diagnoses of medical comorbidities, recent changes in medication or intervention, or recent surgery.

- Motor impairments, unusual appearance, and difficulties with speech, balance and gait may mask intelligence in children with CP and other significant motor impairments. Intellectual disability should not be immediately assumed as a co-morbid condition. On the other hand, assessors must also be cognisant of other possible co-morbid impaired cognitive functions such as attention and perceptual deficits.
- Problems such as poor coordination, involuntary movements and abnormal muscle tone interfere with children's manipulation of materials and make it difficult for children to respond to some motor tasks in a meaningful way.
- Irregular sleep patterns and poor sleep quality, side effects of medications are common among children with CP and these may result in daytime problems such as poor alertness, drowsiness, and decreased cognitive performance.
- Pain is a common problem for individuals with CP and can be difficult to assess in a non-verbal child. Possible sources of pain include: neuromuscular (muscle spasms), musculoskeletal (hip dislocation, scoliosis) and gastrointestinal (gastroesophageal reflux, constipation). Pain may affect test performance.

The motor status and co-morbidities associated with cerebral palsy and other conditions with significant motor impairments changes steadily. For example, a young child with CP might first have hypotonia and weakness that develops to spasticity and muscular atrophy later. As such, it is important to re-evaluate children as their functional status can change over time.

3.4 Assessment Considerations for Mental Health, Behavioural and Emotional Conditions

Children go through a rapid pace of growth and maturation over the preschool years, hence identification and diagnosis of disorders based on a child's behaviour is limited in stability and prognostic significance. As such, the term "disorder" should be used with caution in this age group. Preschool behavioural and emotional problems are influenced by various factors such as child characteristics (temperament), developmental stage, care-giving and parenting styles and environment. Many behavioural and emotional difficulties (such as temper tantrums, sibling rivalry and separation anxiety/school refusal) in preschoolers may be managed by parents/caregivers and teachers through consistent parenting/behavioural strategies¹ and professional intervention may be indicated only when these measures show limited efficacy.

Evaluation for mental health concerns may be done by a child psychiatrist, pediatrician, psychologist or other AHPs. A comprehensive assessment of the presenting problem in the context of the child's development, temperament and

family/caregiver influences is recommended. This will include a clinical interview and direct observation of the child's behaviour as well as parent-child interaction.

Conditions that present in children from birth to six years include:

- Attachment Problems

Attachment problems reflect a relationship difficulty in the primary care-giving relationship. This could be due to reasons such as insufficient parental care, social-emotional neglect and repeated change of primary caregivers.

Two clinical presentations of attachment disorders have been described¹⁰:

- Emotionally Withdrawn/ Inhibited
 - Core features include a lack of social and emotional responses, absence of attachment behaviours, difficulties with emotional regulation, lack of positive affective responses and irritability.
- Indiscriminately Social/ Disinhibited
 - Features include inappropriate approaches to unfamiliar adults, a lack of wariness of strangers and a lack of appropriate physical boundaries.

- Disruptive Behaviours

Disruptive behaviours may also be referred to as "externalising" or "acting-out" problems. These include attentional difficulties, hyperactivity/ impulsivity and oppositionality. Disruptive behaviours are the most frequent type of behavioural difficulty encountered in early childhood, particularly after the second year when parents expect compliance with rules and aggressive behaviours surface¹¹.

Disruptive behaviours include:

- Hyperactivity/Distractability
 - Core symptoms include distractibility, hyperactivity, difficulties waiting and impulsivity.
- Oppositional problems
 - These include defiance, anger, non-compliance and aggressive behaviours.

Difficulties with inattention, hyperactivity and impulsivity in preschoolers may sometimes be linked to a diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD), occasionally during the preschool years when impairments are significant, but more often, during the schooling years. A diagnosis of ADHD in the preschool years should be made with caution in view of the child's ongoing development and possible effects of family and environmental factors.

ADHD is a neurodevelopmental disorder, characterised by symptoms of inattention, hyperactivity-impulsivity or combined. Possible symptoms include difficulties sustaining attention, distractibility, not listening when being spoken to, making careless mistakes or rushing through activities, running around or climbing in situations where it is inappropriate, being constantly "on-the-go", being unable to play or engage in leisure activities quietly, being fidgety and squirmy, having difficulty remaining seated and having difficulty in waiting for his/ her turn. These symptoms must interfere with the child's functioning in two or more settings; develop before the age of 12; and occur for at least 6 months. The current diagnostic criteria for ADHD are described in the fifth edition of DSM². The assessment for ADHD should include clinical interviews or assessments with parents or significant caregivers, and teachers. Medical or mental health evaluation should be done to exclude medical, developmental, emotional conditions, which may account for ADHD-like symptoms¹².

- Emotional Problems

Emotional problems may also be known as "internalising" problems. They may be difficult to identify in younger children due to their limited ability to communicate emotions. It may also be difficult to differentiate developmentally normal emotions (such as common fears) from more significant anxiety or depression that might constitute a disorder¹³. Emotional problems may present as irritability, tearfulness, anxiety and a lack of interest in play activities to a degree of impairing daily life¹⁴.

Examples of emotional problems include:

- Separation anxiety
- Specific phobia
- Social phobia

3.5 Assessment of Developmental Needs in Preschools and Early Intervention Centres

3.5.1 Overview of Assessments in Preschools and Early Intervention Centres

Children with developmental disorders and issues often require EI to facilitate their development. Some children may present with developmental concerns

that do not fulfil the diagnostic criteria for any disorder, while others may appear at risk for future developmental, learning, or behavioural disorders. Although some may show signs of motor coordination or specific learning difficulties^l in the early years, more time should be afforded for quality intervention and instruction^k before children undergo assessment and diagnosis. For information on the diagnostic criteria of motor coordination or specific learning conditions, please refer to the DSM-5 and the Professional Practice Guidelines in the Appendix.

As described in Chapter 2 of the Guidelines, there is a range of government-funded EI services available to support children with DN under 7 years old in both preschools and EI centres. These settings have various established developmental assessment protocols to identify children with DN for the provision of EI services. Generally, children in preschools identified to require low levels of EI support can undergo more detailed screening and, if assessed as needed, be placed under the DS-LS programme. Children assessed to require medium to high levels of EI support will be referred to the Early Intervention Programme for Infants & Children (EIPIC) programmes.

3.5.2 Developmental Assessment Protocols in Preschools

Both standardised and non-standardised tests are used for assessments in preschools in Singapore, depending on the identified needs of each child. Some preschools in Singapore have EI professionals and they may observe the child and administer various tools, depending on the identified needs of the child. Teachers may also fill in questionnaires such as the Strengths and Difficulties Questionnaire (SDQ) (Teacher version) as part of the assessment. Data from the multiple sources is collated and summarised, and the consistency of the child's behaviour is examined across different sources of information.

Subsequently, for preschool children assessed to require DS-LS programmes, their information will be presented at CFMs, which are professional case conferences. CFMs are attended by a multi-disciplinary team chaired by a paediatrician and/or an educational psychologist. The team at the CFM then decides the level of EI support of each child and makes recommendations for specific types of support he/she will receive.

For children requiring DS service or identified to require other specialised services (such as psychological issues like anxiety, depression or trauma), referral to the relevant hospitals (i.e., KKH Department of Child Development (KKH-DCD) and NUH Child Development Unit (NUH-CDU)) is made for the child to receive further consultation from a paediatrician. For further information on the CFM process, please refer to Chapter 2, Section 2.2.1 of the Guidelines.

3.5.3 Developmental Assessment Protocols in Early Intervention Centres

In EI centres, when any child enters the EIPIC programme, a trans-disciplinary team comprising EI professionals, AHPs and/or social workers would collaboratively assess the child to derive a holistic picture of the child's development and functional performance across settings and situations. A child

may transition to receive services under the DS-Plus programme in his/her preschool if he/she meets the criteria on various assessments by the EI centre.

Within EI centres, to derive a holistic picture of the child, the ECHO (Early Childhood Holistic Outcomes) Framework is usually employed, sometimes alongside the Assessment, Evaluation, and Programming System for Infants and Children (AEPS) and/or other complementary tools and checklists. The ECHO Framework is not a norm-referenced assessment tool but a structured summary of the developmental and functional performance about the child from multiple sources.

The ECHO Framework is an EI service framework based on the EI framework used by the US Office of Special Education Programme and adapted by KK Women's Children's Hospital, Thye Hua Kwan Moral Charities and the Lien Foundation, to the Singapore context¹⁵. It involves observations of routines in the EI centre and/or home; parent/caregiver interviews; and information from any other assessment measures and reports. The data is collated and summarised, and the child's development is evaluated and compared to age expectations.

This is then translated into a Global Child Outcomes (GCO) rating for each of the three global child outcomes, namely:

1. Having positive social-emotional relationships;
2. Acquiring and using knowledge; and
3. Having appropriate behaviour to meet needs.

Given the importance of parent/caregiver involvement, Family Outcomes (FOs) are also monitored¹⁶, namely:

1. Understanding their child's strengths, abilities and special needs;
2. Helping their child develop and learn; and
3. Knowing how to communicate their child's needs to others, and accessing relevant services and support.

These ratings give information on the child's:

- Present level of development, which will serve as a baseline while developing an intervention plan;
- Engagement, participation and independence across frequent contexts and environments;
- Abilities and functioning on the three global functional outcomes, with respect to age expectations; and
- Overall functioning and trajectory of progress over time in each of the three GCOs (i.e., the GCO rating).

Comprehensive and on-going assessment is necessary to ascertain children's DN, which in turn helps to ensure appropriate and timely intervention. With quality EI, many children with DN progress well. Some may not require additional specialised intervention when they reach the school-going ages. However, for some other children, their DN may be more enduring and they may require additional support and closer monitoring to facilitate their transition

to school-aged provisions. This includes some children whose disability conditions can be diagnosed in the early years (e.g., children with physical or sensory impairment, or congenital conditions such as Down Syndrome) and those who continue to require sustained specialised targeted provisions beyond preschool, i.e., children with SEN. The next chapter will address these transition issues and concerns.

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Endnotes

- a. A standardised test with local norms relevant for preschool children is the Brigance Inventory of Early Development III (Brigance IED III).
- b. Some psychometric tests require specific additional post-tertiary specialised training, specifically Level C tests, which include clinical diagnostic tests, language tests, and tests of intelligence. Level C tests may only be otherwise used if the professional has a supervisor who closely supervises the use of the assessments and countersigns the reports. Level B tests may require a degree in a field related to the test and formal training, or a certification in a professional organisation relevant to the test, or a degree or license to practice in the relevant field. Level A tests do not require special qualifications.
- c. Among these tools, the ADOS-2 is reported to be the most sensitive for the diagnosis of ASD in pre-schoolers¹⁷. It consists of 5 modules, designed for individuals of varying language levels. Clinicians must take note of the recommended age ranges and levels of expressive language when choosing the appropriate module for the assessment. In particular, for children who are not yet speaking in phrases, there is a choice of the Toddler module for children aged 12-30 months old and Module 1 for children above 31 months of age. As the Toddler module only provides “at-risk” ranges, it may be prudent to defer the diagnostic assessment until the child is > 31 months old for this group of children.
- d. With reference to PPG¹, the ADI-R is considered a gold-standard assessment tool for obtaining an ASD-specific history, and it is a reliable diagnostic instrument. However, it is intended for use in individuals with a mental age above 2 years and thus needs to be used with caution in young children, particularly if they present with developmental delay. Also, the administration of the ADI-R is time-consuming and may not be of significant added value if administered in addition to ADOS. Nevertheless, clinicians should consider use of ADI-R in addition to the ADOS where the child’s presentation is more complex or unusual.
- e. The CARS-2 is a clinician rated scale, using information collected via caregiver interview, questionnaires and direct observations of unstructured activity. There are two forms available, the standard form (CARS-ST) is meant for children below 6, or children older than six years old who are estimated to have developmental delay or impaired communication. The High Functioning form (CARS-HF) is used for children older than six years old who are estimated to have no developmental delay, with fluent communication. This tool offers higher levels of flexibility for experienced clinicians to gather information from multiple sources or settings without requiring the use of specific test materials and standardised administration of activities.

- f. In the DSM-5, the levels of support required are determined based on the severity of social communication difficulties and restricted, repetitive behaviours. There are three levels of support: (a) Level 1 (“Requiring support”), where the child has difficulty in social interactions and inflexibility of behaviour interferes with functioning in one or more contexts, (b) Level 2 (“Requiring substantial support”), where the child has marked deficits in verbal and nonverbal social communication skills and inflexibility of behaviour interferes with functioning in a variety of contexts, and Level 3 (“Requiring substantial support”), where the child has severe deficits in verbal and nonverbal social communication skills and inflexibility of behaviour interferes with functioning in all contexts.
- g. Practitioners may refer children with low vision or visual impairment who require FVA to the following providers, for example:
- AWWA (for AWWA clients only)
 - iC2 PrepHouse Limited (information on referral and cost, please refer to <https://ic2.com.sg/referral/> *)
 - KKH (accepts referral from external practitioners and professionals to see the Ophthalmologist; cost would depend on the referral source; for more information please refer to <https://www.kkh.com.sg/patient-care/areas-of-care/childrens-services/Pages/eye-centre.aspx>)
 - Singapore National Eye Centre (accepts referral from external practitioners and professionals to see the Ophthalmologist; cost would depend on the referral source; for more information please refer to <https://www.snec.com.sg/patient-care/specialties-and-services/clinical-subspecialities/paediatric-ophthalmology-what-we-do>)

Please note that this list is not exhaustive.

*We would like to acknowledge iC2 PrepHouse Limited for the usage of the references from their website www.ic2.com.sg

- h. Enlarge stimulus for children with some vision capabilities but do interpret results with caution. WPPSI-IV verbal subtests: Information subtest still uses pictures at floor level, while Similarities subtest starts with picture items for children below six years old. For children six years and above, WISC-V has more subtests that can be administered to children with visual impairment, e.g., Similarities, Digit Span and Information.
- i. Before embarking on specific management strategies for behavioural and emotional problems, physical health conditions will first need to be excluded and developmental delays or deficits will need to be identified and managed appropriately. Intervention of behavioural problems in preschoolers should encompass a detailed evaluation of the frequency, duration and triggers of the presenting problems. Behavioural principles focus on positive reinforcement to promote desired behaviours, ignoring low-level provocative behaviours and responding in a clear and consistent manner to negative behaviours. Parent strengths and competencies should be built on and parents should be

supported in enhancing the parent-child relationship to enhance child well-being. Examples of parent training programs include:

- Triple P (Positive Parenting Program)¹⁸
- Incredible Years program¹⁹
- Signposts for Building Better Behaviour²⁰

For emotional problems, cognitive-behavioural techniques can be modified to match young children's developmental levels to teach skills such as relaxation techniques, identifying their feelings, rating the intensity of feelings and learning coping strategies.

The use of medication in this age group is controversial and there is limited evidence for the use of medications in preschoolers. Parent/caregiver training and behavioural interventions have been shown to be effective and should be first-line in management. Medication should only be considered when these methods have not been helpful.

- j. Currently, there is insufficient scientific evidence to support the view that learning difficulties are caused by eye or visual problems. Specifically, there is no sound theoretical basis or evidence that Irlen Syndrome exists as a condition. Scientific evidence also does not support the effectiveness of vision therapy, tinted lenses or filters in the treatment of learning difficulties. Consequently, the medical community does not endorse Irlen Syndrome or the treatment of the condition^{21,22}.
- k. For preschool children who may show some delays in acquiring literacy skills as compared to their peers, the focus should be on providing appropriate and quality instruction for the development of early oracy and literacy skills. Quality literacy intervention should include the following components: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Chapter 4: Guidelines on Transition from Early Intervention to School-Aged Provisions

This chapter describes the transition process of children with developmental needs (DN) from Early Intervention (EI) services to school-aged provisions. This information serves to guide EI professionals and allied health professionals (AHPs) in the assessment of children's competencies for formal primary/junior schooling and to make recommendations to parents for appropriate educational placement. The chapter also describes practices for effective transition support in partnership with parents and schools.

4.1 Role of Professionals in Facilitating Transition from Early Intervention to School-Aged Provisions

As children with developmental needs (DN) or special educational needs (SEN) approach the compulsory school age of above 6 years old as of 1st January, their parents will need to make important decisions about the transition from Early Intervention (EI) to school-aged provisions. Parent/caregiver engagement should be an ongoing process that starts as early as possible, although discussions about school-aged provisions typically begin by the child's K1-going age (around 5 years old). Professionals play a crucial role in guiding parents/caregivers to better understand their child's longer-term educational needs, and to make informed decisions about their child's future. In this process, professionals should engage in information sharing across agencies if necessary, to ensure common understanding and to coordinate support for the child.

Some questions to be considered in relation to these decisions include:

- a. Does their child have SEN that would require support at school-going age? (Note: Not all children who have been identified in the early years as having DN would have SEN; see Chapter 1, Section 1.4 of the Guidelines for a discussion on DN and SEN). Will their child continue to need specialised targeted provisions beyond EI, and if so, what would these provisions be?
- b. Would their child's educational needs require specialised intensive support available in Special Education (SPED) schools?
- c. What support would be needed for the child to better access the curriculum in the next education setting, i.e., mainstream primary or SPED school?
- d. What can parents/caregivers do to facilitate their child's successful transition to the next stage of education, i.e., mainstream primary or SPED school?

As parents/caregivers have the final say in decision-making (i.e., on educational placement), professionals should ensure that parents/caregivers are adequately supported to make informed decisions.

Key areas for parent/caregiver engagement include the following:

- Progress in EI support programmes: While the child is receiving EI programmes, it is important that parents/caregivers are given regular updates about their child's progress, as well as advice, activities, or resources to continue EI at home. Conversations with parents/caregivers should be positively framed to give parents/caregivers the confidence and knowledge to take on an active role as their child's co-educators and to work closely with their child's teachers.
- Needs assessment and educational placement: As part of ongoing conversations on the child's functional and learning needs, professionals should advise parents/caregivers on the child's long-term educational needs and placement options (i.e., mainstream primary or SPED school) as required. Parents/caregivers should be made aware that, while the child's progress during intervention is also a key consideration, other assessments and factors are also considered when professionals recommend suitable educational placement for the child (see Chapter 1, Section 1.5 of the Guidelines). As parents/caregivers are responsible in making informed decisions about their child, it is important to obtain parents/caregivers' informed consent for any assessments that are needed to help professionals determine the child's longer-term educational provisions (see Chapter 4, Section 4.3.2 of the Guidelines).

Professionals should provide information and recommendations that are objective, evidence-based and aligned to the child's educational interests. In situations where professional advice differs from parents/caregivers' preferences, professionals should respectfully acknowledge parents/caregivers' preferences, without compromising on the integrity and objectivity of their professional judgment. Professionals must recognise that some parents/caregivers need time and support to navigate through this complex decision-making process. Where needed, professionals should offer support or facilitate parents/caregivers' access to relevant support services^a. Regular engagement is especially important for parents/caregivers who require support to make an informed decision about their child with significant needs, who may need long-term specialised educational provisions.

4.2 Overview of Transition Process from Early Intervention to School-Aged Provisions

Professionals support children with DN with varying profiles; these may include children who:

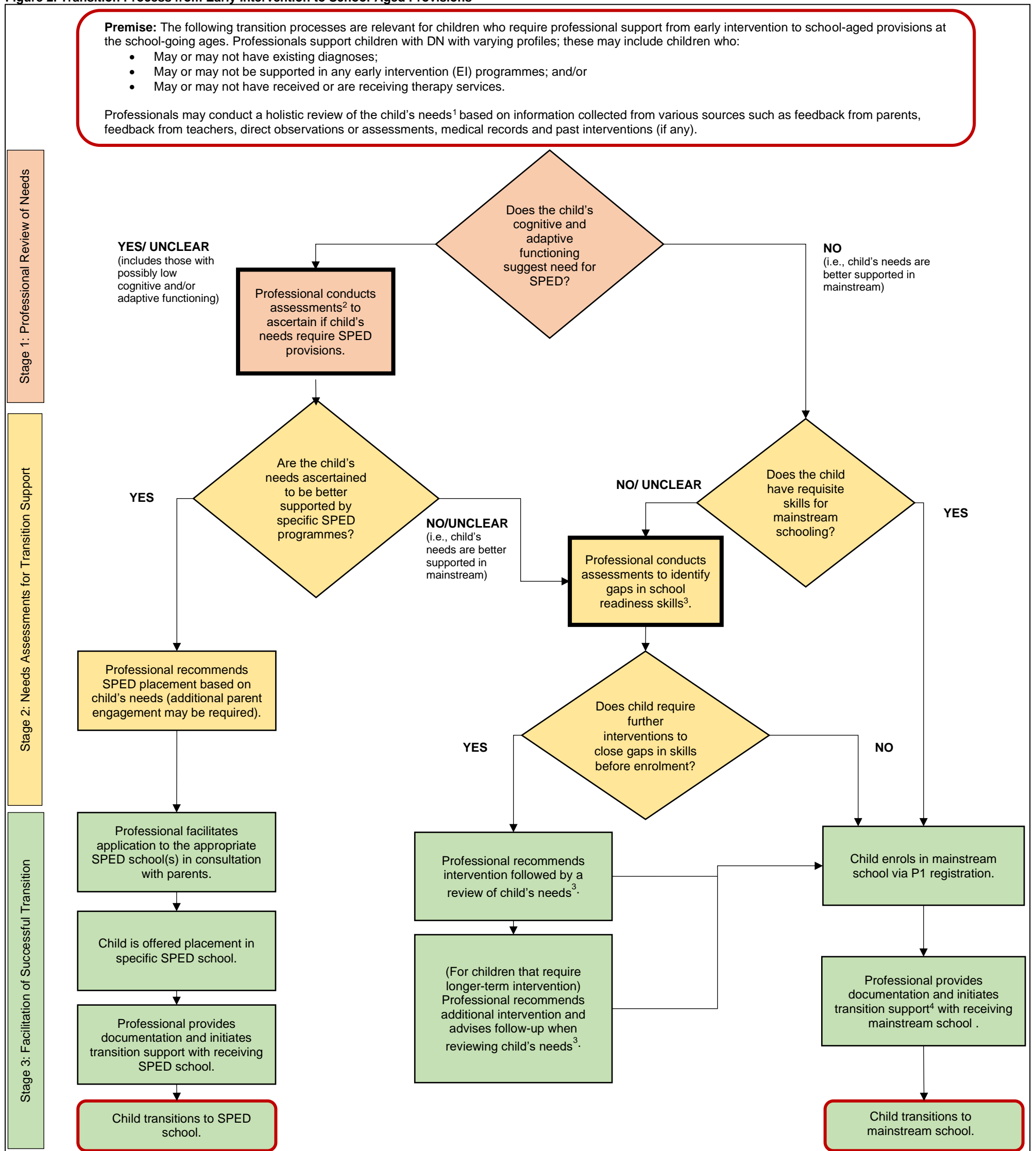
- May or may not have existing diagnoses approaching the school-going ages (i.e. five to six years old);
- May or may not be enrolled in EI programmes; and/or
- May or may not have received or are receiving therapy services.

The transition process from EI to school-aged provision includes assessments^b conducted at various stages to systematically gather relevant and valid information about a child's strengths and needs. The purpose of these assessments is to assist with appropriate educational planning for the child and to inform decisions regarding transition, including education placement and recommendations for support at the school-going ages. These assessments are typically conducted by professionals in hospitals and/or EI centres for children approaching the school-going ages.

In general, the transition process from EI to school-aged provisions involves three broad stages (see *Figure 2*):

- a. Stage 1: Professional Review of Needs. The professional conducts a holistic review of the child's needs and makes initial assessments of his/her severity of needs and whether he/she might need targeted, intensive support in specialised educational settings, i.e., SPED provisions in the long-term.
- b. Stage 2: Needs Assessments for Transition Support. For children with DN who might require SPED provisions, further needs assessment is carried out to ascertain the most appropriate SPED programme that meets the child's educational and holistic needs, e.g., daily living, emotional regulation, and adaptive needs. For children with DN who may not require SPED provisions in the long-term, further needs assessment is carried out to ascertain if additional interventions are required to facilitate their transition to mainstream primary school.
- c. Stage 3: Facilitating Transition to School Entry. The professional provides documentation and initiates transition support with the mainstream primary school or SPED school that would be receiving the child at the next stage of education.

Figure 2. Transition Process from Early Intervention to School-Aged Provisions



¹ Depending on the setting that the child is supported in, the professional review of needs may be conducted via different platforms. For children enrolled in Early Intervention (EI) programmes such as the Developmental Support-Learning Support Programme (DS-LS), the case review is led by multidisciplinary teams (e.g., Case Filter Meeting Teams), while children enrolled in Developmental Support-Plus (DS-Plus) and Early Intervention Programme for Infants & Children (EIPIC) programmes (i.e. EIPIC@Centre, EIPIC Under-2s) have ongoing reviews and discussions at Individualised Education Plan (IEP) reviews. For children that are not enrolled in EI programmes, the review of needs may be conducted by hospitals and private practitioners, in close consultation with parents.

² Assessments to ascertain a child's needs typically include norm-referenced standardised assessments. More information on standardised assessments to assess cognitive and adaptive functioning may be found at the Endnotes section of the chapter.

³ Broadly speaking, 'school readiness skills' refer to competencies that children need to have in order to access the teaching and learning in a typical mainstream primary school. These include language and communication skills; adaptive skills such as emotional/behavioural regulation; socialisation skills; and basic oracy, literacy and numeracy. More information on the assessments for school readiness skills may be found in Chapter 4, Section 4.4.2 of the Guidelines.

⁴ For children enrolled in EI programmes such as DS-LS, DS-Plus and EIPIC and require additional support in mainstream primary school, a transition report may be provided to the receiving mainstream primary school with parent/caregiver's consent.

4.3 Stage 1: Professional Review of Needs

4.3.1 Holistic Needs Assessment

Transition from EI to school-aged provisions begins with a holistic review^c of the child's profile, where professionals systematically gather information about strengths and needs to understand how to best support the child. Information is collected from various sources, including feedback from parents/caregivers, feedback from teachers, direct observations or assessments, medical records and past interventions (if any).

Based on the information gathered, professionals make an initial assessment on the severity of the child's needs, and whether the child would need targeted, specialised provisions in the long-term. This initial assessment should take into account the child's (i) level of cognitive functioning and (ii) level of adaptive functioning based on the various sources of information (e.g., parents/caregivers, school).

For children initially assessed to need specialised educational provisions (e.g., SPED), or for whom it is unclear if the child's severity of needs can be adequately supported in a mainstream primary school, it is crucial for professionals to follow up with a formal, comprehensive school readiness assessment that evaluates the support needed based on the child's needs. This comprehensive evaluation should include the use of standardised assessments to assess the child's school readiness in (1) cognitive functioning and (2) adaptive functioning skills. More information on commonly-used standardised assessments to assess cognitive^d and adaptive functioning^e by professionals may be found at the Endnotes section of the chapter. Based on the information obtained from the comprehensive evaluation, professionals form a robust conclusion, and make an independent and objective recommendation to parents/caregivers about the child's long-term educational placement. Notwithstanding this, the final decision regarding the choice of educational placement lies with the parent/caregiver.

4.3.2 Communication with Parents on Formal Evaluations

When recommending formal evaluations to parents/caregivers, it is important for professionals to communicate that the purpose of such evaluations is primarily to better understand the needs of the child, and consequently the level of support required. These assessments help to inform long-term educational planning to the extent that they enable professionals to make sound recommendations of the type of educational setting best suited to support the child's needs.

Professionals may encounter parents/caregivers who may be unwilling to agree to starting formal evaluations, for fear that the assessment process will ultimately result in SPED placements. There may also be the misperception that such formal evaluations are only recommended for children who are deemed suitable for SPED schools. Professionals should address these misperceptions by providing an accurate and complete picture of the purposes

of assessments, especially their utility in ascertaining support for the child. They should also assure parents/caregivers that, notwithstanding the professional recommendations for the child's education, the responsibility for making an informed decision about school placement lies with parents/caregivers. Parents/caregivers may also need emotional support and counselling to understand and accept the need for initiating formal comprehensive assessments of the child's needs. This is especially for parents/caregivers who have received slightly conflicting views about their children's needs from professionals who have seen the children in different contexts, e.g., group-based learning in preschool, one-to-one private therapy.

Following the conduct of assessments, professionals should communicate the findings and recommendations to parents/caregivers and others working with the child (where appropriate) in a language and manner that is accessible and understandable to them. Professionals are encouraged to follow-up and communicate their opinions regarding diagnoses and recommendations to parents/caregivers in writing as parents/caregivers may not recall what has been communicated to them verbally. This will facilitate communication between the professionals making the diagnoses and those providing support. Professionals should also remember that some parents/caregivers may need additional time and emotional support to fully internalise the recommendations before they can make an informed decision.

4.4 Stage 2: Needs Assessments for Transition Support

4.4.1 Children with Special Educational Needs who need Targeted and Specialised Support in the Long-term and Might be Considered for Special Education Schools

Based on the child's performance on the standardised assessments of cognitive and adaptive functioning (conducted in Stage 1), professionals would recommend the specific SPED programme(s) that cater(s) to the child's specific SEN profile and psycho-educational needs.

Professionals should take into consideration the admissions timeline for application to SPED schools and visit the following website for details of the government-funded SPED schools and SEN profiles they cater to: <https://www.moe.gov.sg/special-educational-needs>. In general, the following considerations may apply:

- Children with significant cognitive impairment who may require intensive and targeted support from teachers and allied health professionals (AHPs) to access a specialised and customised curriculum may be better supported in programmes in SPED schools.
- Children with adequate cognitive abilities but have significant deficits in adaptive skills and/or physical and sensory functioning may be supported in alternative specialised settings (e.g. SPED schools) offering the mainstream curriculum.
- For children whose needs remain unclear whether they would be best met by specific SPED programmes even after undergoing standardised cognitive and adaptive assessments, professionals should discuss with

parents/caregivers the mainstream schooling options for the child, and the type of additional interventions that the child may need, e.g., continued therapies in hospitals.

4.4.2 Children with Special Educational Needs who Do Not Need Support in Specialised Settings

For children with SEN who have been ascertained (based on assessments conducted in Stage 1; see *Figure 2*) to not require specialised targeted provisions in the long-term and are recommended for mainstream primary schools, professionals should follow up with discussions with parents/caregivers and assessments to identify possible gaps in school readiness skills for the child to access the teaching and learning in a mainstream school setting; these include language and communication skills; adaptive skills such as emotional/behavioural regulation; socialisation skills; and basic oracy, literacy and numeracy. More information on such assessments may be found in the Endnotes section of the chapter.

For example, if a child may not have the skills to participate meaningfully in a large group setting (e.g., following instructions, developing and practicing routines), professionals may recommend a structured skills-based intervention curriculum or home-based/parent/caregiver coaching to strengthen the child's school readiness skills. Following the period of intervention, professionals should review the child's needs and response to intervention to see if further intervention is needed.

Professionals may recommend these additional intervention (including deferment from enrolment into Primary 1, where appropriate, to extend the duration of intervention) and advise appropriate follow-up. More information on Primary 1 deferment can be found in Chapter 4, Section 4.6.2 of the Guidelines.

4.5 Stage 3: Facilitation of Successful Transition

The transition from EI to school-aged provisions (both mainstream primary and SPED schools) should be a planned and goal-oriented process. It involves professionals, parents/caregivers, schools, and the child as he/she settles and adapts to upcoming changes, and entails supporting the child as he/she transitions into a new setting.

4.5.1 School Transition Process

Professionals may refer parents/caregivers to the following resources for more information on the transition process and strategies to prepare their children for the changes.

- Which School for My Child?: A Parent's Guide for Children with SEN
- 'Preparing Your Child for A New School: Resource Kit for Parents of Children with Additional Needs'

For the above, please refer to the Appendix.

In addition, parents/caregivers of preschool children with DN may be invited by various agencies to talks and seminars to better understand schooling options for their child. Should they be invited, professionals should encourage parents/caregivers to attend the sessions and seek out information and support needed.

4.5.2 Working and Sharing Information with Schools

Professionals play an important role in ensuring that the child's needs continue to be catered for in the next stage of education. Professionals should empower parents/caregivers to advocate for the child in this process of transition and to share information and work closely with receiving schools. This may be done in the following ways, (1) professionals can help parents/caregivers to share directly such information with receiving schools on their behalf upon parents/caregivers' consent or (2) professionals can provide parents/caregivers with the information and parents/caregivers can share with the receiving schools themselves. Relevant forms of documentation may include psychological and therapy reports, medical letters/memos. For some children with significant learning and/or behavioural needs or gaps in school readiness skills, professionals may work closely with the preschool or centre to provide appropriate transition support prior to starting school to set a strong foundation for the child.

For children enrolling into mainstream primary schools, professionals (with parent/caregiver's consent) have the responsibility to share transition information with the receiving schools (addressed to the principals) and in the process, help parents/caregivers understand the purpose for sharing this information. This should be done in a timely manner (e.g. around October to November the year before school entry). Informing the primary school in advance is important as this allows the primary school to factor in the child's needs when planning school resources (e.g., class placement, timetabling, support during P1 Orientation). For some children presenting with gaps in school readiness skills, the receiving mainstream primary school may coordinate appropriate additional support, including working with professionals and external agencies on follow-up recommendations and support (if necessary).

For children enrolling into SPED schools, key information about the child should be reflected in the SPED School Application Form. Professionals should guide parents/caregivers in filling up relevant sections of the SPED School Application Form with as accurate and objective information as possible. Information from the SPED School Application Form and intake assessments conducted by SPED schools may be used in the planning of transition support. Transition support is especially important for children presenting with complex needs or those who are enrolled in a SPED school that was not the preferred parental choice.

For more information on the process of admission to SPED schools and the timeline for application, professionals may refer to Chapter 5, Section 5.4 of MOE's Professional Practice Guidelines (PPG; please refer to the Appendix).

4.6 Compulsory Education and Professional Implications

4.6.1 Compulsory Education Act 2000

The Compulsory Education Act 2000, introduced in 2003, requires all children who are Singapore Citizens residing in Singapore and of compulsory school age^f to attend a national primary school regularly. With effect from the 2019 Primary 1 cohort, children with moderate-to-severe SEN have been included within the Compulsory Education framework.

For the purpose of compulsory education, national primary schools refer to:

- a. Government/Government-aided mainstream primary schools; or
- b. Government-funded SPED schools offering primary level education.

For a small group of compulsory school age children who require long-term specialised provisions and whose parents/caregivers wish to consider other alternatives other than government-funded SPED provisions, parents/caregivers would need to make a special application for exemption from attending a national primary school from MOE¹.

4.6.2 Considerations for Deferment

Decisions about whether to defer a child's entry into the next stage of education should only be made after careful evaluation of the child's needs and circumstances. Deferment is typically not recommended but could be given under special circumstances.

- a. When Deferment is Not Recommended

Deferment is not recommended for children who:

- i. Have been clearly assessed as suitable for SPED schools, even if their parents/caregivers have a strong preference for mainstream school.

In this case, professionals should advise parents/caregivers against requesting for a deferment in hope that their child will be subsequently re-assessed as being suitable for mainstream primary school. In such cases, the recommendation for the child to be supported in a SPED school is unlikely to change with deferment, and professionals should advise parents/caregivers that their child will benefit from receiving the customised support within the SPED school as soon as possible.

- ii. Have been clearly assessed as suitable for SPED schools serving a particular disability (e.g., MID school), even if their parents/caregivers have a strong preference for other SPED schools serving another disability profile (e.g., Pathlight School).

In this case, professionals should advise parents/caregivers against requesting for a deferment in the hope that their child will be subsequently suitable for SPED schools serving a disability profile which is different from the initial assessment. The recommendation for the child to be supported in SPED schools serving a particular disability is unlikely to change with deferment. Professionals should advise parents/caregivers that it is of their child's educational interest to receive the customised support within the SPED school soonest possible.

- iii. Have been clearly assessed as suitable for SPED schools but the SPED school of their choice has no vacancy.

In this case, professionals should advise parents/caregivers that it is in their child's educational interest to receive the customised support soonest possible. Professionals should advise parents/caregivers against requesting for a deferment in the hope that there will be vacancy in the following year. Instead, they can advise parents/caregivers to admit their child into a suitable SPED school with vacancy first and concurrently place their child on the waitlist of the SPED school of their choice. The SPED school of their choice will inform parents/caregivers once there is vacancy.

b. When Deferment is Recommended

Children can be deferred from the next stage of education post preschool/EIPIC. However, this should typically only be recommended for children who have been assessed as being better supported in mainstream primary school. These children may have delayed progression in certain domains, which are crucial to determine their educational placement, and require additional time to develop the skills needed to access learning in a mainstream setting. As this period of deferment is to allow the children the opportunity to level up their skills, professionals should recommend additional intervention during the period of deferment and review the children's progress and needs after intervention to more definitively ascertain placement.

In rare cases, deferment may also be recommended for children who have been clearly assessed as suitable for SPED to help identify the most suitable SPED school placement. In these cases, it should be made clear to parents/caregivers of these children that the deferment does not increase the child's suitability for mainstream school.

When deferment is recommended, professionals should work with parents/caregivers to develop a robust plan for the remediation of specialised skills, which may include continued access to EI services and/or continued enrolment at a preschool. In the course of the

deferment, professionals should schedule reviews at appropriate junctures to assess the child's response to intervention. The level and quality of intervention received by the child during the period of deferment must be comparable or better than what the child would have otherwise received in the primary-level school. Otherwise, professionals should recommend that the children advance to the next stage of their education instead of deferment.

The following information on deferment may be shared with parents/caregivers:

- Process: Parent/caregiver seeking a deferment for the child would need to fill up MOE's application form and to have the child professionally assessed, e.g.
 - At the NUH Child Development Unit (NUH-CDU); or
 - At the KKH Department of Child Development (KKH-DCD); or
 - At the Child Guidance Clinic (Institute of Mental Health or Health Promotion Board); or
 - By a qualified educational psychologist, specialist in child psychology/development etc; so that any necessary or due intervention can take place early.
- Each request will be considered by the MOE².
- Implications for schooling: In line with the Compulsory Education Act 2000, children who are deferred from the next stage of schooling would need to secure a place in a preschool or EI centre. If home-schooling is preferred, an exemption needs to be sought from the MOE.
- Implications for children enrolled in EI centres: Children who are currently enrolled in EI centres may apply for subsidies to cover the extended year once MOE has approved the deferment. Besides the documents reflecting the professional assessment of the children, EI centres would also require:
 1. Birth Certificate; and
 2. MOE deferment letter.(For more information, please approach the EI centre)
- Implications for future SPED school placement: SPED schools have school-based processes for the applications made by children who are deferred. The age cohort may be given priority in some SPED schools.
- More information on deferment may be found at:
<https://www.moe.gov.sg/primary/compulsory-education/deferment>

4.6.3 Considerations for Alternative Educational Settings

In a small number of cases, some parents/caregivers may prefer to educate their children in alternative settings that are outside the national school system, e.g., home-schooling, full-time care or private education institutions (PEIs).

In such cases, professionals should advise these parents/caregivers on what would be beneficial for their children, taking into account the children's needs and educational interests, and refer them to MOE's website to apply for compulsory education exemption. In their application, parents/caregivers would need to provide clear reasons why their child would be better supported in an alternative setting and propose suitably adequate education and/or care arrangements in lieu of attending a national primary school (i.e., mainstream primary or SPED school). Parents/caregivers also need to consent to regular monitoring processes, including the submission of education plans³. For parents/caregivers enrolling their children into PEIs, they should also be aware that the PEI school fees are not subsidised by the government.

References

1. Ministry of Education, Singapore. (2020). Overview of compulsory education. Retrieved 22 April 2020 from <https://www.moe.gov.sg/primary/compulsory-education/overview>
2. Ministry of Education, Singapore. (2020). Defer from commencement of Primary 1 of Junior 1. Retrieved 15 July 2020 from <https://www.moe.gov.sg/primary/compulsory-education/deferment>
3. Ministry of Education, Singapore. (2020). Exemption from compulsory education. Retrieved 15 July 2020 from <https://www.moe.gov.sg/primary/compulsory-education/exemptions>

Endnotes

- a. Where needed, parents/caregivers that require assistance to make informed decisions about their child with significant needs may receive additional support from the professionals who have the best rapport with the parents/caregivers (e.g., pediatricians, medical social workers, EIPIC, etc.). If necessary, clinicians in hospitals may refer parents/caregivers for further counselling with medical social workers.
- b. The terms used by professionals to refer to assessments for transition vary widely across different settings such as hospitals and EI centres. For example, some professionals use the term 'School Placement Assessments' to refer to assessments that aim to ascertain whether a child is more appropriately supported in a mainstream primary or SPED school. Some professionals also use the term 'School Readiness Assessments' to refer to assessments that aim to identify possible gaps in school readiness skills required for the child to access mainstream curriculum. Other examples of terms used by professionals to refer to assessments for transition include School Readiness Consultations, School Readiness Evaluations.
- c. To obtain a holistic understanding of a child, professionals should make use of diverse assessment methods and gather information from multiple sources. In addition to crucial assessment components (e.g., cognitive ability and adaptive functioning), information may be gathered in the following areas of child-specific skills and areas of functioning considered necessary or important for the child's success at school:
 - Language skills (e.g., receptive and expressive language skills);
 - Academic skills (e.g., literacy, numeracy);
 - Social, behavioural and interpersonal functioning;
 - Health and body state factors, including motor and sensory difficulties, energy level; and/or
 - Strengths, motivation and interests

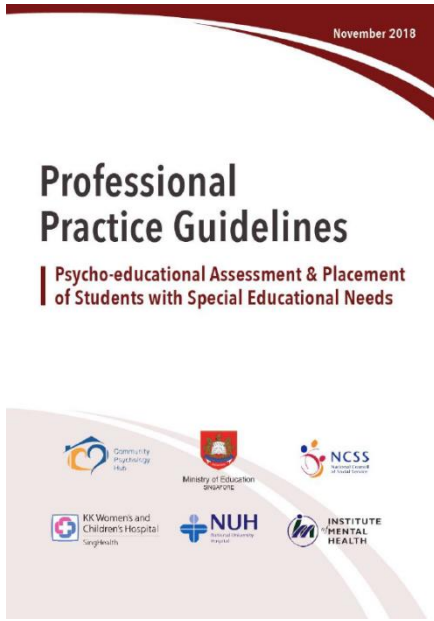

- d. Standardised, norm-referenced assessments commonly used by professionals to assess cognitive functioning include the Singapore Ability Scales (SAS), Wechsler Preschool and Primary Scale of Intelligence (WPPSI), Stanford-Binet Intelligence Scales (SB) and Woodcock-Johnson Tests of Cognitive Abilities.
- e. Standardised, norm-referenced assessments commonly used by professionals to assess adaptive functioning include the Vineland Adaptive Behaviour Scales (VABS), Adaptive Behaviour Assessment System (ABAS) and Scales of Independent Behaviour (SIB).
- f. A child of compulsory school age is one who is above the age of six but who has not yet reached the age of fifteen and has not successfully completed primary education.

Appendix

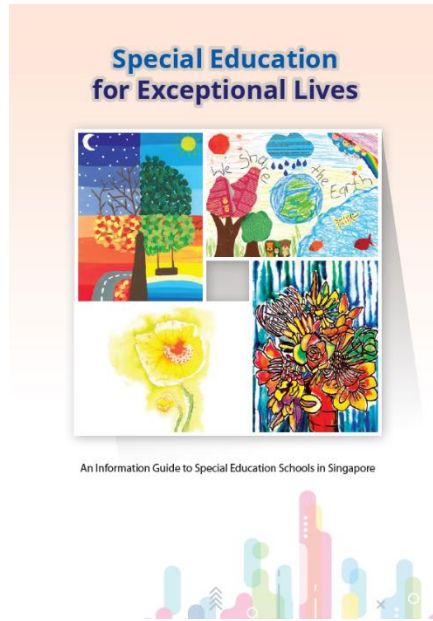
List of Publicly Available Information on Early Intervention Services for Children from Birth to Six Years Old

| Title | QR Code and Website |
|--|---|
| <p>Services for Children who require EI Support (Birth to 6 Years Old)</p> | <div style="text-align: center;">  </div> <p style="text-align: center;"> https://www.sgenable.sg/pages/content.aspx?path=/for-children/ </p> |

List of Publicly Available Documents on School-Aged Provisions

| Title | Cover Page | QR Code |
|---|--|--|
| <p>Professional Practice Guidelines</p> |  <p style="text-align: center;"> https://www.moe.gov.sg/-/media/files/special-education/professional-practice-guidelines.pdf </p> | <div style="text-align: center;">  </div> |

Special Education for Exceptional Lives: An Information Guide to Special Education Schools in Singapore



<https://www.moe.gov.sg/special-educational-needs/apply>

Note: To download the guide, access the website above, click 'Download the guide to special education schools', and select your preferred language.

Which School for My Child?: A Parent's Guide for Children with Special Educational Needs



<https://www.moe.gov.sg/-/media/files/special-education/parents-guide-children-special-educational-needs.pdf>

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<https://go.gov.sg/guidelinesforprofessionals>

