

The Early Advantage

International Case Studies of Early Childhood Education and Care Systems



Evolving a Harmonized Hybrid System of ECEC:
A Careful Balancing Act

Singapore

Evolving a Harmonized Hybrid System of ECEC: A Careful Balancing Act

A Case Study of the Singapore Early Childhood Education and Care System

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The Early Advantage



Executive Summary

Evolving a Harmonized Hybrid System of ECEC: A Careful Balancing Act, presents an analysis of early childhood education and care (ECEC) in Singapore, as part of an international comparative analysis of ECEC systems in six countries/jurisdictions (Australia, England, Finland, Hong Kong, Republic of Korea, and Singapore). Groundbreaking in intent, scope, and findings, the overall study, entitled “International Case Studies of Innovative Early Childhood Systems,” tells the story of each country, probing the nature of services provided to young children and their families from the prenatal period through age 8, as well as the country’s unique approaches to the burgeoning field of ECEC. In so doing, each country’s story is unique, revealing, and contributes to the global understanding of promising and innovative approaches to ECEC policy, practice, and service delivery. This is the amazing story of Singapore, one that focuses on an evolving ECEC system going through a period of rapid transformation while simultaneously performing a careful balancing act, harmonizing and hybridizing strong government intervention with provision of ECEC services and resources by private organizations.

Singapore presents a fascinating history of rapid transformation and success. Singapore has been an independent nation for just over 50 years, and in that short time has developed from a Third to a First World nation, becoming one of the most prosperous countries in the world, and being revered for its strong and high performing educational system. Indeed, its position as a high performing country in education is the reason why it is part of this comparative study—to understand how the provision of ECEC contributes to its high performing status. In reality, the historical disconnect between ECEC and educational systems in Singapore makes it virtually impossible to understand how ECEC impacts children’s long-term learning and development. However, the story of ECEC in many ways reflects the story of the nation—rapid transformation made possible by a strong and stable political base and responsive policy implementation to address the wider social and economic needs of the country. Pro-family policies are addressing national priorities to increase the total fertility rate, to

encourage women to return to the workforce, and to preserve and strengthen the family unit. Responding to these national priorities has resulted in a flurry of enthusiasm and effort, supported by a manifold increase in financial investment from the government, to enhance the quality, equitable access, efficiency, and sustainability of all ECEC services. A diverse array of comprehensive services, often being offered through an integrated service delivery model, are available to meet each child's and family's health, educational, and developmental needs from birth through to the early years of primary school. The ECEC system can best be represented as a hybrid model, with the public sector playing a key role in governance, development of regulations, and financing of the ECEC sector, while the private sector plays a key role in the delivery of virtually all ECEC services.

Singapore has not tried to reinvent the wheel when it comes to establishing an effective ECEC system; it has looked to the ECEC systems in other countries and international research to guide policy and practices. Many of the levers targeted by the government have been previously cited as the key elements for effective ECEC provision. Critically, expanding availability of ECEC provision meant ensuring there was plan for raising the quantity, quality, and compensation of the workforce. In 15 years, Singapore has moved from a system with virtually no training requirements and minimal educational requirements for ECEC staff to one that is standards-based and centrally monitored, with regulated pre- and in-service training for ECEC professionals. Baseline quality standards of ECEC provision are assured through harmonized legislation that applies to all types of ECEC providers across the entire age range, which are regulated and monitored through consolidated governance by one newly created agency, the Early Childhood Development Agency. Beyond efforts to ensure a consistent standard of quality across the sector, the introduction of a quality improvement framework with a focus on both structural and process factors is allowing providers to reflect on their own quality and receive external assessment and accreditation of their quality.

Harmonization is also seen in other aspects of the ECEC system; in the past decade national curriculum frameworks have been developed, which present continuity in curriculum and a child-centered pedagogical framework for children aged 2 months to 6 years, and which are aligned with the longer term desired outcomes of education articulated by the government. The frameworks clearly identify children's expected learning and development outcomes, and the tools by which EC professionals can observe whether those outcomes have been met. These curriculum frameworks also form part of the core training of EC professionals; this, coupled with the detailed teacher guides providing resources and activities, aim to support the translation of the guiding principles presented in the frameworks to actual implementation in the classroom.

One framing value of the nation is that the family is the basic unit of society and should be capable of fulfilling the needs of those individuals that belong to it. This belief is seen clearly in the policies related to the welfare of families and children, where efforts are aimed at preserving and strengthening the family unit through proactive and preventative programs. Initiatives aimed at strengthening services and inter-agency collaborations in the recent years have contributed to a more progressive, responsive, and robust child protection system, delivering a child-centered, family-focused, and community-based intervention.

This belief is also evident in the funding approach used to support health, educational, and care provision, which adopts a hybrid model of private and public funding. The government has made it clear to its citizens that Singapore is not a welfare state. Although the government provides generous subsidies, financial assistance schemes, and tax relief to families to support health, care, and education, private cost sharing is seen as essential to ensure that public funds are deployed efficiently according to need and to ensure that services are sustainable. Asset-building policies (development welfare) encourage individuals to save to support themselves and their families. Even for those who receive subsidies, families are expected to make a minimal contribution,

even if only a few dollars, to foster a feeling of internal agency and responsibility regarding their child's health, development, and learning, and to prevent a sense of entitlement. The targeting of tiered subsidies to families, supply-side subsidies to service providers, and private funding from non-government organizations, is helping to ensure that all children can access affordable ECEC services.

Of course, for any relatively young and still evolving system there are and will be challenges. While the rapid pace of policy implementation and program innovation is impressive, it also results in challenges to efficiency and sustainability. The quality and sustainability of the ECEC workforce are perceived to be one of the biggest challenges to the sector, and developing the workforce to support the rapid expansion of the sector is still the focus of intense effort from the government. Furthermore, the use of data to drive improvement efforts is limited; the lack of thorough evaluation of policy initiatives is often a consequence of the fast pace of change, but also due to methodological and administrative difficulties of collecting data at the national level when provision of services is largely in the hands of private providers. Given the short period of time many of these initiatives have been in place, there is no definitive evidence regarding the effectiveness of the key policy changes and their impact on child and family outcomes. Such evidence will come with time, but requires prospective planning, rather than retrospective ad hoc or even anecdotal evidence, to fully evaluate these efforts and to ensure their efficiency and sustainability. Building an evidence base of what works, why it works, and what impact will it have on children and families should be firmly embedded in policy and practice.

The government's approach to intervening in ECEC has been to set broad parameters to start the process of evolving a harmonized ECEC sector that meets affordability and quality criteria, while preserving the diversity that comes from having private market provision. A key theme of the Singapore story is the careful balancing act that has been required to set in motion this evolution of the sector – balancing increasing public regulation with the autonomy of service delivery expected from private provision;

balancing policy borrowing from Western cultures with policy adaptation to the local context; balancing public and private financing of services; balancing family expectations and professional beliefs; and balancing the rapid pace of implementation and the time needed for thorough evaluation. Continued sustainability and scalability of the Singapore ECEC sector hinges on the government's ability to assert and apply state interventions in a calibrated manner that is acceptable to the diverse stakeholders in the free market ECEC system.

The sustainability and equitable access to high quality ECEC programs and services are a core component of the broader economic survival and sustainability of the country. Historically, Singapore's small land size and lack of natural resources have motivated policymakers to invest in human capital and development, and hence in mainstream education, which has been key to ensure the survival and prosperity of this nation state. Education—through schooling—has been central to producing the labor force necessary to serve Singapore's economic engine. Investment in younger children is critical not only for addressing the current national priorities, but also for ensuring the continued prosperity of the nation. ECEC is recognized as the first opportunity to develop 21st century learners who have the dispositions and skills needed for future careers. Slowed economic growth may produce social challenges, including intergenerational transmission of wealth inequalities and lower social mobility. Enhanced support for children with a weaker start through making preschools more affordable, more accessible, and higher quality is seen as a key element of ensuring that “birth is not destiny,” and ensuring that all children receive the support they need to maximize their development and learning potential.



Part 1

Introduction

Chapter 1: Study Overview

This case study of early childhood system provision— *Evolving a Harmonized Hybrid System of ECEC: A Careful Balancing Act*—is part of an international comparative analysis of early childhood education and care (ECEC) systems in six countries/jurisdictions (Australia, England, Finland, Hong Kong, Republic of Korea, and Singapore). Groundbreaking in intent, scope, and findings, the overall study tells the story of each country, probing the nature of services provided to young children and their families from the prenatal period through age 8, as well as the country's unique approaches to the burgeoning field of ECEC. In so doing, it reveals each country's contributions to the global understanding of promising and innovative ECEC policy, practice, and service delivery.

Rationale and Goals

Rationale

This comparative analysis could not come at a more opportune time. Globally, the world is casting its eyes and hopes on young children, matching these expectations with unprecedented global policy attention coupled with increased services and supports. In part, global attention might be attributed to the scores of policy documents emanating from the United Nations and other international bodies that extol the importance and benefits of serving young children. Moreover, abundant scientific research fuels this interest, emanating from domains as diverse as the neuro, biological, evaluation, econometric, implementation, and systems sciences. But this focus on young children is not limited to the academy; rather, profound shifts in global demographic—exemplified by unprecedented rising rates of migration, diversification, and automation—are handmaidens to the paramount global realization that the early years matter. Similarly, there is a near-universal realization that what countries do during these all-important and non-retrievable years has the potential, when done well, to promote social cohesion and cognitive capital, advance economic productivity, and prepare societies for the

future. More than “babysitting” and “preparation for school,” early childhood education and care (ECEC) is now considered the social elixir of positive change that the research has proven it to be; it has become the sine qua non of effective policy on a global scale.

Moreover, in Singapore the time to examine ECEC has never been more ripe. The ECEC sector has undergone a rapid period of evolution in the last two decades. Responsive policy implementation to address the wider social and economic needs of the country—to encourage families to have more children, to encourage women to return to the workforce, and to preserve and strengthen the family unit—resulted in a national commitment to enhance the quality, equitable access, efficiency, and sustainability of all ECEC services.

Gaps and Goals

With all this attention accorded to young children, it is somewhat surprising that only limited comparative international analyses of ECEC services and their outcomes have been carried out. When conducted, such studies tend to: (i) provide league-table overviews of available services; (ii) focus on program evaluations that provide a glimpse into specific aspects of ECEC (e.g., parenting education); or (iii) examine specific aspects of children’s performance in certain contexts. It is noteworthy that fewer than ten studies, many conducted fairly recently, seek to understand ECEC from a comprehensive systems perspective, with many of these relying on data from a single source. Few tell complete country stories that explicate why and how exemplary services come to be, how they change and mature, and how they seek to alter the quality, equitable distribution, sustainability, and efficiency of services for young children. Few acknowledge the intimate roles that culture and context play in contouring the nature, amount, and quality of services for young children. Few adopt a systems and/or a systems-change approach to considerations of early childhood services, embracing the disciplines of education, health, and social welfare as they affect

children from the prenatal period through the early years of formal schooling. And few use a systematic methodology that permits this kind of detailed analysis. These are the contributions of this study generally, and the intention of this narrative is to present Singapore's place in that evolving story.

Considerations

Two important considerations contour this narrative. First, and unlike other studies, this analysis does not make causal claims regarding the potency of ECEC as a panacea for improving child outcomes, nor does it intend to endorse any one mode or strategy associated with ECEC. Stated simply, this study considers why, how, and with what effects ECEC systems have emerged in six high-performing countries, Singapore among them.

The second consideration relates to the focus on high-performing countries, coming at a time when so much attention is both lodged in, and aims to advance, ECEC in low- and middle-income countries (LMICs). Fueled by concerns regarding the comparatively low performance of American students on international benchmarking assessments, the National Center on Education and the Economy (NCEE), the study's funder, is interested in understanding elements of jurisdictional policies, practices, and reforms in countries that score well on PISA (the Programme for International Student Assessment). The goal is to discern variables that may account for discrepant country performances on PISA, with the intent of elevating the somewhat lackluster performance of the United States and other nations. Given that ECEC has been one of the most prominent educational reforms of the last two decades and is convincingly associated with producing significant long-term gains in students' academic and life performance, NCEE was interested in supporting the development of a comparative study to discern the nature, scope, and promising practices associated with ECEC systems implementation in countries that perform well on PISA. Precisely, how high-

performing is defined and how participating countries were selected for the study is discussed below.

Study Architecture

ECEC systems work is complicated, yet inescapable. A scholarly commitment to unmasking this complex territory using a systems lens distinguishes this study from others and provides the groundwork for its contributions. Those who understand ECEC readily acknowledge that it must be examined in its totality (Bruner, Wright, Gebhard, & Hibbard, 2004; Gallagher, Clifford, & Maxwell, 2004; Kagan & Cohen, 1996; Sugarman, 1991; Vargas-Barón, 2013). No one program or intervention can be a proxy for ECEC. No single approach to pedagogy can begin to explicate the complicated and fascinating panoply of policies that converge to create services for young children. But understanding the totality of ECEC is difficult because no country consolidates all the pre-primary services accorded to young children in a single ministry or at a single level of government. In addition to organizational chaos, ECEC policies face temporal changes; they often emerge during one year, only to disappear in the next, typically with changes in political leadership. Service access varies dramatically among countries (OECD, 2012a), as does children's well-being (UNICEF Office of Research, 2013), even in rich countries. With ECEC not yet deemed a right in most countries, inconsistent and sporadic practices and policies are gamed on ideological playgrounds amidst changing rules, funds, and governance structures. To make sense of systems, both in general and ECEC in particular, conceptual or analytic frameworks are necessary, as is a set of clearly delineated research questions.

Conceptual Framework

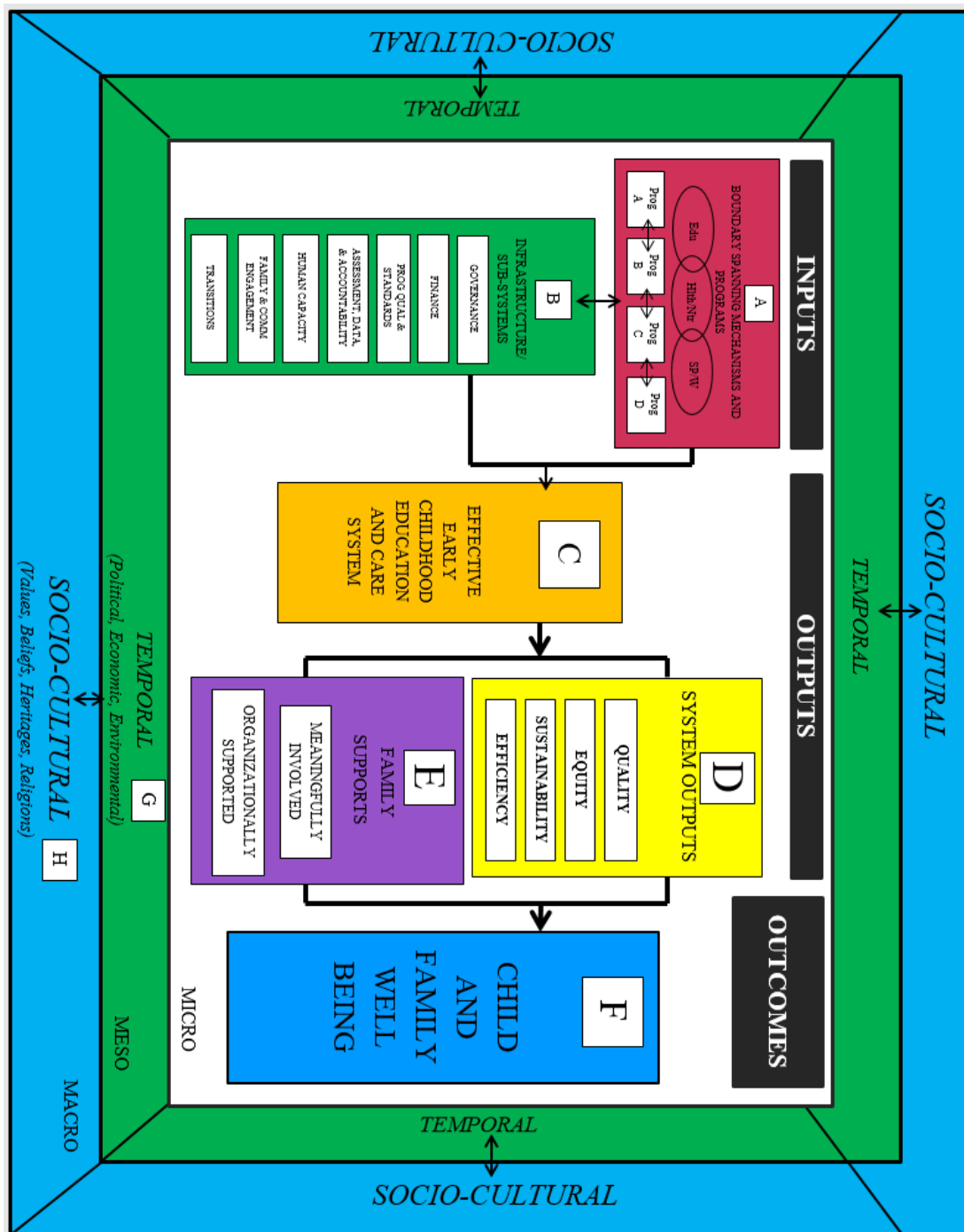
Considering the holistic nature of early development, the modal lack of consistent and durable ECEC policies, and the need for systems analyses, this study builds on prior conceptual grounding (Kagan, Araujo, Jaimovich, & Aguayo, 2016). The analysis

provisionally suggests that positive child and family well-being (F)¹ are predicated on systemic outputs (high-quality, equitably distributed, sustainable, and efficient services) (D) and family supports (E), which are achieved only in the presence of an effective system (C). Such a system is based on a clearly delineated infrastructure (B) that supports diverse programs (A), sometimes linked by a boundary-spanning mechanisms (BSM) that integrate programs and services across ministerial boundaries. All malleable, these factors are encased in both temporal (political, economic, environmental) (G) and socio-cultural (values, beliefs, heritages, religions) contexts (H).

With the goal of understanding each element of the analytic framework, the proposed analysis will focus on the programs/services (A), the infrastructure (B), and the way these conspire to yield an integrated system (C) that is capable of producing systemic outputs, within temporal (G) and socio-cultural (H) contexts.

¹ Letters correspond to diagram below.

Figure 1.1 Theory of Change



Research Questions

Using the framework above, this analysis addressed a series of research questions that describe, compare, and analyze ECEC systems in the six study jurisdictions. Guided by an effectiveness standard that privileges high-quality, equitably distributed, sustainable, and efficient services, three sets of research questions were posed. Largely descriptive, the first set seeks to discern what understandings about each country's ECEC system actually exist, as well as the current status of the ECEC system. Comparative in nature, the second set of research questions seeks to understand how differences in ECEC systems have evolved, are structured, and produce their intended outcomes. Analytic in nature, the final set of research questions seeks to explain or conjecture why the systems have evolved and function as they do. All of the research questions are designed to understand the nature and contributions of ECEC systems to high-quality, equitably distributed, sustainable, and efficient service provision. Sample research questions are provided below; the full set of research questions is provided in the volume *The Early Advantage: Early Childhood Systems That Lead by Example*.

Descriptive Questions – The What

- What does the country perceive its commitment to young children to be, and what contextual variables evoked this stance?
- What are the major ECEC policies, frameworks, programs, and services in place (e.g., parental leave, perinatal services, home visiting, child care, preschool, transition, health and mental health services, and services for developmentally and economically at-risk children)?
- What does the country perceive as the need for, and elements of, an ECEC system, and to what extent are coordinating mechanisms (e.g., boundary-spanning mechanisms, coordinating bodies, mediating structures) and elements of the infrastructure (e.g., standards and monitoring, durable and sufficient

financing, data systems, governance mechanisms, family and public engagement, pre- and in-service professional and leadership development) in place?

Comparative Questions – The How

- How does the country value or “hold” young children, and how do these values frame policies and practices? Are there certain values that more heavily contour policies and practices, and how have they become instantiated in policy and practice?
- How do country policies vary over time as a result of changes in economic, political, and governmental (centralized / decentralized) conditions and structures? How do these changes affect patterns of implementation, and the evolution of the ECEC system?
- How effective is the country in terms of the effectiveness of its ECEC system, as measured by its quality, equitable distribution, sustainability, and efficiency?

Explanatory Questions – The Why

- Why, and for what reasons, does the evolving ECEC system reflect durable country values and more transient country economics and politics? Why, and under what conditions, do ECEC systems evolve?
- Why, and under what conditions, can mediating structures have more potency, without centralizing government engagement?
- Why, and under what conditions, can a country focus on outcomes to improve services to young children? Can, and under what conditions, the contemporary support for young children be mobilized to yield greater effectiveness in quality, equitable distribution, sustainability, and efficiency?

Methodology

Country Selection

Two diverse constructs guided the jurisdictional selection: (i) PISA performance rankings for mathematics and (ii) rankings on measures of ECEC quality. For the purposes of this analysis, the top 30 PISA 2012 countries were broken into three groups (high, 1-10; medium, 11-20; and lower, 21-30), ranked according to their mathematics results. To discern the quality of ECEC programs, the Economist Intelligence Unit (2012) report for the same year was used to rank the countries' ECEC efforts. Looking at countries from around the world, the report examined four criteria: (i) social context; (ii) availability; (iii) affordability; and (iv) quality. Using a composite score based on these four criteria, this analysis divided the top 30 countries into three groups (high, 1-10; medium, 11-20; and lower, 21-30), similar to the groupings used for the PISA rankings. The two sets of rankings were combined to create nine cells. For each cell, the overlapping countries were listed, as reflected in Table 1.1.

Two countries (Netherlands and South Korea) performed in the highest third on both PISA and the Economist ranking, whereas five countries (Denmark, New Zealand, Norway, UK, France) performed in the lower third on PISA and the upper third on the Economist rankings. Given these different performance profiles, and given that only five to six countries could be involved in this study due to fiscal and temporal constraints, one country from each cell of the three PISA high-performing countries (the left column) and one country from each cell of the three Economist high-performing countries (the top row) was selected (bold highlighted in Table 1.1). This approach yielded five jurisdictions: South Korea, Hong Kong, Singapore, Finland, and the UK². One additional country, Australia, was added for three reasons: first, it represented a totally different profile (medium PISA and low Economist rankings); second,

2 Ultimately, it was decided to study England as it is the largest of the countries in the UK.

unprecedented quality work is being undertaken in the country; and third, its mixed market and highly differentiated state approaches to early childhood remarkably parallel the United States.

Table 1.2 Selected Countries

	PISA HIGH	PISA MEDIUM	PISA LOWER
ECONOMIST HIGH	Netherlands South Korea	Finland Belgium	Denmark New Zealand Norway UK - England France
ECONOMIST MEDIUM	Hong Kong Switzerland	Germany Austria	Czech Republic
ECONOMIST LOWER	Japan Singapore Taiwan	Canada Australia	

Data Sources

The conceptual framework and the research questions presented above guided two distinct, yet related, reviews of the literature. The first is an analysis of multi-country studies that have been conducted on ECEC systems and the second is a review of Singapore specific research, as well as pertinent policies and documents. Taken together, the two bodies of research represent the most recent data on ECEC systems available. In addition, interviews were conducted with key informants within the country.

Literature Reviews

Multi-Country Studies. The purpose of the multi-country study analysis (later converted into a Compendium) was to identify key lessons from previous studies and analyses of

ECEC systems around the world to inform the study of Singapore ECEC. By reviewing and analyzing multi-country studies focused on ECEC systems, which include significant attention to one or more elements of the infrastructure, the Compendium contributed to both the development of this country analysis and to the scholarship on comparative ECEC policy more generally. This is the first attempt to collate and synthesize global ECEC research using a systems-lens. The review focused on discerning diverse methodologies, tools, and results of the limited number of similar studies that exist. Data from this review were helpful in reconsidering the provisional research questions and the methodological approach to this study. Information was gleaned from sixteen research studies, most of which were conducted after 2010, and represent all regions of the world. These data have been analyzed and compiled into a compendium (Neuman, Roth & Kagan, in press).

Singapore-specific Documents. To obtain a detailed overview of the evolution and contemporary status of ECEC in Singapore, numerous documents were reviewed. Policy documents, including legislation relevant to child health, center-based care, child protection, and financial entitlements were reviewed, as were frameworks relevant to national curriculum and teacher professional development. Empirical research conducted in or about Singapore ECEC was also reviewed. Additionally, while many of the documents were well-known, in order to capture failed and visionary efforts, additional unpublished literatures were also reviewed.

Key Respondent Interviews. In order to garner the most recent information regarding the status of the ECEC system in Singapore, a series of key informant interviews was conducted. Given that this analysis is the first comprehensive examination of the full ECEC system in Singapore, it needed to include a varied set of key informants. Guiding the sample selection was a commitment to including diverse voices so that even a comparatively small sample could deliberately capture contrasting perspectives and, in some cases, disconfirming evidence. For all countries involved, the sampling frame included individuals from the government, the private sector, the philanthropic

community, and the academic community. In Singapore, diverse ministerial personnel were interviewed including representatives from Ministries of Education, Social and Family Development, and Health. In addition, elected officials and representatives from the ECEC community were sought and interviewed. Finally, scholars and representatives from professional organizations, universities, and teacher-training institutes were included. In Singapore, 19 individuals were interviewed; they are listed in Appendix B. Taken together, these individuals provided diverse perspectives on ECEC history, policies, services, and trends in Singapore.

Data Collection

Document review preceded the key informant interviews and served as the basis for the development of interview protocols. Each document was reviewed for its salience to the research questions and key data from each document was summarized. The 19 interviews were collected over a 12-week period, with each interview lasting approximately 60-120 minutes. In all cases, notes were taken during the interview and, in some cases, interviews were recorded for future reference. Typically, the interviews were conducted by the principal investigator and an assistant. Overall, data collection took six months.

Data Analysis

With the goal of producing an accurate and revealing story, a systematic process was used to analyze the data. Since the data are both quantitative and qualitative in nature, the Singapore team used different strategies to analyze each data set and then integrated the key lessons. The quantitative data were reported as they were extracted from primary sources; all quantitative data are attributed. The qualitative data were summarized into field notes that were then reviewed for policy and practice trends, concrete examples, and major areas of agreement and conflict. Data were integrated to discern key convergent and divergent themes that were expanded as the analysis was

written. Primary source documents were consulted as the report was written. Once key themes were identified and substantiated, a draft document was prepared and reviewed by the internal Singapore team comprising academic colleagues and representatives from relevant government ministries.

Analysis Validation

Committed to the highest standard of research, this analysis was validated at several points in its evolution. First, lead investigators from each of the six jurisdictions and the study's principal investigator (the international team) co-developed the data collection instruments. Developed for a prior study, these instruments were adapted for use in the present analysis and piloted in some of the counties to assure their validity for the current study. Second, categories of interview respondents were reviewed and confirmed by the international team with the goal of fostering a breadth of diverse, yet informed, interviewees. Agreed upon by the full team, the interviewee categories were content validated by the team. Third, the final draft of the case study was subjected to an internal review by knowledgeable Singapore ECEC experts who were not affiliated with the study. Finally, the study was reviewed by external experts from the staff and board of the National Center on Education and the Economy.

Limitations

Three major limitations characterize this study. First, the ECEC system in Singapore is in a state of flux. Programs are expanding and evolving at a rapid pace, suggesting that this analysis, although broadly reflective of the overall portrait of the country, simultaneously presents a snapshot in time. The field of ECEC systems, however embryonic, is rapidly changing and this study must be understood within its dynamic contextual realities.

Second, as is the case for any qualitative research, the positionality of the lead investigator influences the interpretation of the data. While efforts have been made to

validate the accuracy of the information provided, some of the content of this analysis is subjected to the interpretation of the authors, most of whom are research scholars. Such positionality is somewhat mitigated by the reality that the authors have conducted cross-national work and by the fact that numerous international and external reviewers have examined the content of this study.

Finally, this study captures the nature and evolutionary process associated with the development of an ECEC system in Singapore. As such, it is based on a conceptual framework that specifies the outputs of systemic work in four areas: quality, equitable distribution, sustainability, and efficiency of services. The efficacy of the systems is, therefore, predicated on achievements in these outputs. Unlike many other ECEC studies, this study cannot and does not make any attributional claims or suggest correlations with, much less causality for, specific *child* outcomes, either in the short or long term. In this analysis, however, the four areas are conjectured to be both an output of the system and, along with families, as an input to child outcomes. Although this lack of direct focus on child outcomes may be regarded as a limitation of the study, the authors see it as a groundbreaking contribution to discerning key systemic variables that may help account for the accomplishment, or lack, of such outcomes.

Definitions and Abbreviations

Preschool	Preschool refers to any center-based provision for early childhood care and education for children of any age. For example, we use the term preschool to refer to infant care, child care, and kindergarten provision.
Child Care Center	Child Care Centers provide care and education for children aged 2 months to 6 years. They can include (depending on the age of children that can be accommodated in the center) infant and toddler care, Nursery 1 (for children who turn 3), Nursery 2 (for children who turn 4), Kindergarten 1 (for children turning 5) and Kindergarten 2 (for children turning 6). Child Care Centers offer both full (12 hours) and part-day options. For children in K1 and K2, half the day would be spent in educational programs, and half in care programs.

Kindergarten	Kindergarten Centers provide educational programs for children turning 5 years (Kindergarten 1) and children turning 6 years (Kindergarten 2), with some centers also offering Nursery 2 provision. They are part-day programs (3-4 hours) with no care component.
Educarer	Refers to an appropriately qualified EC professional attending to the care and education of children aged 2 months to 4 years of age.
Preschool Teacher	Refers to an appropriately qualified EC professional (trained to a higher level than an Educarer) attending to the care and education of children aged 2 months to 6 years. Preschool Teachers (but not Educarers) are responsible for care and education of children in the 2 years prior to enrollment in primary school (Kindergarten 1 and 2).
AECES	Association for Early Childhood Educators Singapore
AOP	Anchor Operator
ASSETS	Association of Early Childhood and Training Services
CDU	Child Development Unit
CFAC	Center Based Financial Assistance Scheme for Children
CPS	Child Protection Services
CYPA	Children and Young Persons Act
DSP	Development Support Program
ECEC	Early Childhood Education and Care
ECDA	Early Childhood Development Agency
EIPIC	Early Intervention Program for Infants and Children
EYDF	Early Years Development Framework
FSC	Family Services Centre
FLAiR	Focused Language Assistance in Reading
ICCP	Integrated Child Care Program
KiFAS	Kindergarten Financial Assistance Scheme
HPB	Health Promotion Board
HSEU	Healthcare Services Employees Union
MCYS	Ministry for Community, Youth, and Sport.
MOE	Ministry of Education

MOF	Ministry of Finance
MOH	Ministry of Health
MOM	Ministry of Manpower
MSF	Ministry of Social and Family Development
MTI	Ministry of Trade and Industry
NCSS	National Council for Social Services
NEL	Nurturing Early Learners Kindergarten Curriculum Framework
NIEC	National Institute of Early Childhood Development
NTUC	National Trade Unions Congress
PAP	People's Action Party
PCF	PAP Community Foundation
POP	Partner Operator
SPARK	Singapore Preschool Accreditation Framework
SSG	SkillsFuture Singapore
WDA	Work Development Agency

For all financial information, the figure provided is in U.S. dollars, calculated at US\$0.72 to SG\$1. All information presented is accurate as of December 2017. Changes occurring after this date are not reflected in this document.

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Kristiina Kumpulainen (Finland), Nirmala Rao (Hong Kong), and Mugyeong Moon (Republic of Korea)—thank you for bringing a relative novice under your guidance.

The Early Advantage

A large, stylized graphic of a globe composed of many colorful handprints. The handprints are in various colors including red, orange, yellow, green, blue, purple, and pink. They are arranged in a circular pattern, with some handprints overlapping, creating a sense of movement and unity. The globe is positioned on the left side of the page, with the title 'The Early Advantage' written in a large, purple, sans-serif font across the top and right side.

Part 2 General Country Context

Chapter 2: Country Background

Key Points

- The history of the small city-state of Singapore is a story of rapid transformation and success. After centuries of turbulence and political instability, with severe unemployment and facing a housing crisis, Singapore embarked on a modernization program focused on industrialization and external trade. In three decades (from late 1960s to the 1990s), Singapore evolved from a sleepy fishing village into a major financial and commercial hub.
- The stability and clear sense of direction of the government have been central to this rapid development. The importance given to education has been also crucial. Having no natural resources, the Singaporean government believes that the prosperity of the nation is hinged on the development of human capital.
- Singapore's population is diverse in a multitude of ways—ethnicity, religious beliefs, social status, and language. The framing values of the country emphasize respect for individuals, support across the community, consensus, and harmony.
- Singapore has made tremendous efforts in past decades to enhance the quality of its mainstream education system, given the urgent need to prepare new generations for the work market. Early childhood education and care (ECEC), which has been traditionally in the hands of the private sector, has become an important focus of attention at the national level only in recent years.

Historical Context

In “From Third World to First,” Lee Kuan Yew (1923-2015), the first Prime Minister of Singapore and considered to be the father of this small nation, explained that Singapore

depends on the strength and influence of family structures. The family, according to Mr. Lee, contributes to keep society orderly and maintain a culture of hard work, thrift, filial piety, and respect for elders, scholarship, and learning. Clearly inspired in the ideas of civil order by Chinese philosopher Confucius, Mr. Lee considered these values to be the ones that make for a productive society and advance economic growth. Indeed, Confucian societies believe that governments cannot and should not take over the important role of the family, which should be capable of fulfilling the needs of those individuals that belong to it. Communitarianism, as opposed to individualism, has been one of the traditional values at the heart of Singapore's creation and historical development.

In the late 1980s, the Singapore government noted that the values of the population were slowly shifting from communitarianism to individualism, as a result of the long exposure of Singaporeans to Western ways of thinking and living. The policy leaders were concerned that this trend would negatively affect Singapore's social and racial cohesion, its economic growth and competitiveness, and ultimately its national survival. To prevent these negative consequences, in 1991, the government introduced a set of [five shared national values](#) (Parliament of Singapore, 1991):

- I. Nation before community and society above self
- II. Family as the basic unit of society
- III. Community support and respect for the individual
- IV. Consensus, not conflict
- V. Racial and religious harmony.

The aim of formulating an official national ideology was to forge a common identity that would incorporate the various aspects of Singapore's multicultural heritage, thereby preserving the attitudes and values that had contributed to the success of the nation in the past decades. The idea was first introduced by then First Deputy Prime Minister Goh Chok Tong, during his speech to the People's Action Party Youth Wing. A

first proposal for the shared values was formulated by the then President Wee Kim Wee, and refined by a committee led by Lee Hsien Loong (then Minister for Trade and Industry). A key consideration of this committee was to ensure the compatibility of the values with the cultural practices and religious beliefs of local communities in Singapore. The committee solicited feedback from ethnic and religious groups to ensure that the values reflected the mentality, beliefs, and cultural predilections of all Singaporeans. For example, the [*White Paper on Shared Values*](#) identified Singaporeans' willingness to make "temporary individual sacrifices" for the sake of national interests as key to overcoming past challenges. This value was reflected by "society before self," which emphasizes that society's interests should take precedence over the individual's. Another decision of the committee was to exclude references to political or specific religious values.

Finally, Singapore has enshrined meritocracy as one of its core tenets or principles. The overall societal conception is that individuals should be rewarded on the basis of their abilities and achievements, and that everyone should have equal opportunities to pursue their goals with respect to their individual merits and not depending on arbitrary factors, such as race and gender. According to Low (2013), the meritocracy principle constitutes a form of "national ideology" in Singapore.

Historical Milestones and Legacies. The *Lion City* (or *Singapura*) was founded in 1819 as part of the British Empire, and its trading ports attracted migrants from China, India, and other parts of Asia. Singapore's prosperity suffered a blow during the Second World War when it was occupied by the Japanese Empire. Despite reverting to British control when the war ended, the growth of nationalism led to self-government in 1959. In the country's first general election, the People's Action Party (PAP) won a majority of seats in Parliament and Lee Kuan Yew became the first Prime Minister of Singapore. Following a strategic path for economic development, Singapore officially became part of Malaysia in 1963. However, social unrest and disputes between the ruling political parties resulted in Singapore's expulsion from Malaysia and establishment as an

independent and sovereign nation in 1965. The various phases of the Singapore history are presented on Table 2.1.

Despite its lack of natural resources, the nation developed rapidly through the 1970s. After early years of turbulence and political instability, with severe unemployment and housing crises, Singapore embarked on a modernization program. The main goals were to establish a manufacturing industry, foster external trade, develop large public housing estates, and contribute to the development of Singapore's workforce through investments in public education. In working towards becoming a first-world nation, the government focused on two goals – ensuring a thriving economy and establishing a politically stable and socially cohesive nation. By the 1990s, Singapore had become one of the world's most prosperous countries; in 1990, the [Gross Domestic Product \(GDP\)](#) per capita in Singapore had risen to about \$13,000, surpassing countries such as South Korea and Israel ([Menon, 2015](#)). Today, Singapore is ranked fifth internationally and first in Asia by the United Nations Development Program (UNDP, 2016) Human Development Index (HDI). The components of the HDI are life expectancy at birth, expected years of schooling, mean years of schooling, and gross national income (GNI) per capita, representing longevity, education, and income. Singapore is ranked 19th of 149 on the 2016 [Legatum Prosperity Index](#) (Legatum Institute, 2016): Safety & Security (first), Health (second), Business Environment (sixth), Economical Quality (eighth), Education (10th), Natural Environment (11th), Governance (18th), Social Capital (31st), and Personal Freedom (97th). Moreover, Singapore has the third highest GDP per capita, according to the [International Monetary Fund](#), and is ranked sixth for health systems by the [World Health Organization](#).

Table 2.1. History of Singapore

Period	Years
British colonial era: Trading ports established on Singapore island, attracting migrants from China, India, and other parts of Asia. Singapore becomes capital of the Straits Settlements under crown colony of the British Empire	1819–1942
Japanese Occupation during World War II	1942–45
Post-war period: Japan is defeated and Singapore comes under British military administration. Singapore becomes a separate crown colony in 1946.	1945–62
Internal self-government with Lee Kuan Yew as Prime Minister	1955–63
Merger with Malaysia	1963–65
Republic of Singapore: Singapore pulls out of the Federation of Malaysia amid political and ethnic tensions.	1965–present

Geographic/Demographic Context

Country Size/Location. Singapore is a sovereign city-state in the core of Southeast Asia. Located at the tip of the Malay Peninsula, it has a total land area of approximately 720 square kilometers.

Country Population. Singapore has a population of 5,612,300: 61.3 percent are citizens, 9.4 percent permanent residents, and 29.3 percent are non-residents (Department of Statistics, 2017). The non-resident population includes employment pass holders, dependents, students, and foreign workers. The majority of foreign workers are low-skilled construction workers and foreign domestic workers from Malaysia, China, Indonesia, Philippines, India, Bangladesh, Thailand, and Myanmar.

Population Dispersion. Singapore is a dense urban city-state, with a population density of 7,796 per square kilometer. Strategic usage of land is vital given the small size of the island. The Urban Redevelopment Authority is the national urban planning authority responsible for reducing congestion, improving aesthetics, and developing urban

planning that facilitates racial harmony, as well as for the conservation of historic and cultural buildings and national heritage sites.

Socio-Cultural Context

Major Religions. The resident population remains diverse in terms of religious affiliation, and remained relatively stable between 2010 and 2015. The major religions among Singapore citizens aged 15 years and over are Buddhism (33.2 percent), Christianity (18.8 percent), Islam (14 percent), Taoism (10 percent), and Hinduism (5 percent). The percentage of the population with no religion is 18.5 percent (Department of Statistics, 2015).

Major Cultural Groups. Singapore is a cosmopolitan society where people live together harmoniously and interaction among different cultural groups is common. Singapore's ethnic composition as of 2015 was Chinese (74.3 percent), Malay (13.3 percent), Indian (9.1 percent), and Others (3.2 percent) (Department of Statistics, 2017). Racial and religious harmony is the result of continuing efforts by the government, community organizations, and citizens. All citizens are regarded as equal before the law regardless of race, language, or religion. The Presidential Council for Minority Rights scrutinizes bills in Parliament to ensure that they do not unfairly discriminate against any race or religion. Singapore implemented an Ethnic Integration Policy to ensure a balanced mix of ethnic communities in public housing. Group Representation Constituencies also ensured that minorities would always be represented in Parliament. The Singapore government promotes multiculturalism and has adopted a bilingual policy, where English is used as a common working language, with Malay, Mandarin, and Tamil as the three official mother tongue languages. English is the language most frequently spoken at home by Singapore residents (36.9 percent), followed by Mandarin (34.9 percent), Chinese dialects (12.2 percent), Malay (10.7 percent), Tamil (3.3 percent) and other languages (2.0 percent) (Department of Statistics, 2015). The push for bilingualism

has been one of the fundamental features of Singapore's education system since the creation of the nation (Goh & Gopinathan, 2008).

Disposition toward Migrants. Singaporeans generally have positive dispositions and attitudes towards migrants, both high-skilled and low-skilled workers, as it is understood that they are needed to complement the resident workforce (MTI, 2012). Policies are implemented to carefully calibrate the rate of immigration and foreign worker inflow. There were 1,387,300 foreign workers at the end of December 2015, accounting for approximately 24 percent of the total population (who are considered non-residents). The bulk of non-residents worked in services (41 percent, excluding health and social services), followed by construction (29 percent) and manufacturing (27 percent). However, the influx of foreign workers has put a growing strain on housing and infrastructure, and elevated fears about the dilution of the Singaporean national identity. Concerns have also been raised about the working conditions and rights of low-paid foreign workers, and their apparent lack of social integration. Since 2011, Singapore has seen a decline in the employment of foreign workers (for example, foreign employment slowed from 33,000 in 2014 to 23,000 in 2015).

Political Context

Centralized/Decentralized Governance. Singapore has a centralized system of governance. The Constitution establishes the supreme law of Singapore and lays down the fundamental principles and basic frameworks for the three organs of state: the Legislative, the Executive (Cabinet), and the Judiciary. The Head of State is the President, who is elected directly by the people. The [Singapore Parliament](#) is modeled after the Westminster system of parliamentary democracy where Members of Parliament (MPs) are voted in at regular General Elections. The Prime Minister (the leader of the political party that secures the most seats in Parliament) selects Ministers from the elected MPs to form the Cabinet. The Cabinet is responsible for all government policies and the day-to-day administration of the affairs of the country, and is

responsible collectively to Parliament. The life of each Parliament is five years, after which the entire Parliament dissolves. A general election must be held within three months of the dissolution of Parliament. The current Parliament is the 13th, started on 15 January 2016.

MPs consist of elected, non-constituency, or nominated members. The majority of MPs are elected into Parliament at a General Election on a first-past-the-post basis; voters indicate on a ballot the candidate of their choice, and the candidate who receives most votes wins. MPs represent either Single Member Constituencies (SMCs) or Group Representation Constituencies (GRCs). MPs act as a bridge between the community and the government by ensuring that the concerns of their constituents are heard in Parliament:

1. Elected MPs. In GRCs, political parties field a team of between three to six candidates. At least one candidate in the team must belong to a minority race. This requirement ensures that parties contesting the elections in GRCs are multi-racial so that minority races will be represented in Parliament. There were 16 GRCs and 13 SMCs in the 2015 General Election.
2. Non-Constituency MPs (NCMPs). The Constitution provides for the appointment of other MPs not voted in at a General Election. Up to nine NCMPs from the opposition political parties can be appointed. This ensures that there will be a minimum number of opposition representatives in Parliament and that views other than that of the government can be expressed. An opposition candidate polling the highest percentage of votes among losers at the general election will be declared elected as an NCMP.
3. Nominated MPs. A constitutional provision for the appointment of up to nine Nominated Members of Parliament (NMPs) was made in 1990 to ensure a wide representation of community views in Parliament. NMPs are appointed by the President of Singapore for a term of two and a half years on the recommendation

of a Special Select Committee of Parliament chaired by the Speaker. NMPs contribute independent and non-partisan views in Parliament.

Following the 2015 general election, 89 MPs and three NCMPs were elected to the 13th Parliament. Nine nominated MPs were appointed during the first session of this Parliament.

Government Stability. The government in Singapore is very stable. With the goal of improving the well-being of Singaporeans, the late Lee Kuan Yew founded the People's Action Party (PAP) in 1954. Since the general election in 1959, the PAP has dominated Singapore's parliamentary democracy. The current Prime Minister, Lee Hsien Loong, son of Lee Kuan Yew, is the Secretary-General of the PAP. He led PAP to three consecutive General Election victories in 2006, 2011, and 2015. Lee Hsien Loong highlighted in 2016 the [five key principles](#) for Singapore's political system:

1. A high-quality government that is accountable, honest, competent and effective.
2. A political system that is open and contestable, offering free and fair elections.
3. A political system that is accountable to keep the government "on its toes" and motivated to look after the interests of Singaporeans.
4. A political system that encourage multi-racial and secular politics, and not racial or religious politics.
5. A political system that incorporates stabilizers—individuals or groups/organizations of people in the government to serve the purposes of protecting Singapore's reserves and safeguarding the integrity of the public service. Stabilizers act as safeguards in case the country is swept off course by a transient public mood, or an erratic government. The Elected Presidency is one example of a long-term stabilizer for the Singapore system.

The country's population, with the world's highest confidence in the national government, is enjoying a degree of government effectiveness, regulatory quality,

policymaking transparency, and rule of law unseen in any other country, democratic or authoritarian (Legatum Institute, 2016). The stability and clear sense of direction of the government have been central to the rapid development of this country at all levels and sectors, including economic, political, social and educational.

Welfare and Social Policy Context

Singapore adopts a neo-conservative approach towards social policy. It is understood that welfare (support for unemployed, poor, ill, and elderly people) should not be viewed as an entitlement. Thus, the relatively low number of social welfare schemes compared to other countries is not due to a lack of fiscal strength but instead to ideology (Choon, 2010). The government believes that offering a comprehensive provision of state welfare would create an entitlement mentality among Singaporeans, thereby reducing incentives for people to work and improve themselves. Hence, instead of offering financial support to the unemployed, the government believes that it is better to help them improve their job skills, and promote job-matching and re-employment through work support programs. Moreover, the emphasis has been on dignity and self-reliance (e.g., individual savings and home ownership). Asset-building policies, sometimes defined as development welfare (commonly referred to as “forced savings” in the US) require all employees to set aside a percentage of their wages (up to 20 percent) with the employer contributing another 16 percent. These funds go into individual savings accounts, and can only be used for specified purposes (e.g., housing, medical care, education, and retirement). Beyond self-reliance, the family is seen as the first line of support for the poor, the community as a crucial helping resource, and only after passing through these options should individuals turn to the state for assistance. This represents a “hybrid” approach to social responsibility. According to Singapore Budget (2017), social expenditures represent 47 percent of the government budget and include: education; national development; environment; culture, community, and youth; social and family development; communication and information; and

manpower). The proportion of GDP spent on social protection is 4.2 percent (Handayani, 2014).

Socio-Economic Context

GDP, Levels of Employment, and Economic Disparities. In 2017, the Gross Domestic Product (GDP) in Singapore was \$296.97 billion (GDP per capita \$52,600)³. The total labor force was composed of 3,610,600 workers, and the labor force participation rate was 68.0 percent (76.2 percent for males, 60.4 percent for females). The unemployment rate was 3 percent (Department of Statistics, 2017). Singapore households have seen broad-based growth in real incomes over the last decade, with all household quintiles seeing significant gains. However, there is concern about income inequality, even though the Gini coefficient (a commonly used measure of income inequality) has decreased from 0.482 in 2007 to 0.458 in 2016 (0.402 in 2016 after accounting for Government transfers and taxes) (Singapore Budget, 2017) and is lower than that of most OECD countries, such as Finland, Denmark, the United Kingdom, and the United States (MOF, 2015b). Singapore has achieved this level of relative equality in a different manner than other countries. European nations, typically, levy higher taxes on the population and redistribute income through transfer programs and services. Singapore places a much lower tax burden on its citizens; based on 2014 data, the total tax revenue (as a percentage of GDP) for Singapore was lower (15.7 percent) when compared to Finland (44.0 percent), Denmark (48.6 percent), UK (32.9 percent), and USA (25.4 percent). The Singaporean approach has been to lower tax rates (particularly on the broad middle class), while providing targeted subsidies for those groups in need. Higher taxes are levied on the top 5 per cent of the population.

Regarding social mobility, the percentage of children born from parents in the bottom 20 percent level of income who reach the top 20 percent level of income is 14.3 percent

3 The figure provided is in US dollars, calculated at US\$0.72 to SG\$1.

(MOF, 2015b). This figure is much lower in other countries such as UK (9.0 percent) and USA (7.5 percent). Singapore's relatively high social mobility reflects the rapid economic growth and transformation that occurred during the 1980s and 1990s. Singaporeans who came of age during these decades would have enjoyed opportunities that their parents did not. However, with a slowing of economic growth in the recent decades, it is likely that prospects for social mobility will be more limited. There are concerns that wealth inequality will be transmitted through generations, raising doubts on how truly meritocratic Singapore can be. To equalize the starting opportunities in life, there is a strong economic and moral case for higher wealth taxes.

Major Imports/Exports and Industries. At independence from Britain in 1959 and then separation from Malaysia in 1965, Singapore had no assets other than its deep-water port. It had to import most of its food, water, and energy, and had no real economy. During the 1960s, emphasis was given to attracting labor-intensive foreign manufacturing to provide jobs for the low-skilled local workforce. The 1970s and 80s saw a shift to more skill-intensive manufacturing, particularly in the technical fields. Since the 1990s Singapore has sought to become a player in the global knowledge economy, encouraging more research and innovation-intensive industry from around the world. These strategies saw Singapore rapidly escalate from a Third to a First World economy. An open economy and free trade policy were critical catalysts to economic growth, attracting many multinational companies to set up their bases in Singapore. The last decade has seen increasing economic diversification in Singapore, with wholesale trade and manufacturing becoming less dominant. Wholesale trade still represents the largest number of the fastest growing companies, but a range of uncertainties has impacted their growth, including the slowing of the Chinese economy, financial market volatility, and exposure of countries with large foreign debts to currency movements. The manufacturing industry has also been subjected to a high level of regional competition and domestic restructuring (e.g., change in foreign labor policies) (MTI, 2015).

Following the pattern of other developed nations, the services sector (including business services, tourism, and finance) has increased in importance compared to other industries such as manufacturing. However, the information/communications sector has emerged as a key contributor to the economy. The government has been active in developing IT infrastructure, as well as a pool of highly tech-savvy workers. Leading global companies have established a presence in Singapore, which in turn has created the environment for many local companies to emerge and succeed (MOF, 2015b).

In 2015, Singapore's major imports included electronic equipment, oil, machinery, medical and technical equipment, gems and precious metals, aircraft, and plastics. Singapore's major exports included medical and technical equipment, aircraft, gems and precious metals, chemical goods, and pharmaceuticals. Singapore has a highly positive net export in the international trade of electronics, while it has an international trade deficit for fossil fuels, particularly crude oil and petroleum gases (Department of Statistics, 2015).

Level of Taxation. The income of residents is subject to tax at progressive rates ranging from 0 percent to 20 percent, after deducting expenses, donations, and tax reliefs. Director's fees, consultant's fees and all other income are generally taxed at 20 percent. In February 2015, the government raised income tax from 20 percent to 22 percent for people earning above \$183,927 per year. The Inland Revenue Authority of Singapore (IRAS) is the agency responsible for collecting taxes. IRAS' tax collection for fiscal year 2016-17 was \$34.64 billion, which accounted for 68.32 percent of the total government operating revenue. Corporate Tax was the largest source of tax revenue, contributing a total of \$10.03 billion (29 percent). The next largest contributor was the Goods and Services Tax, at \$8.19 billion (24 percent). Individual Income Tax contributed \$7.75 billion (22 percent), followed by Property Tax at \$3.25 billion (9 percent) (IRAS, 2017).

Nature of Cash Benefits to Population. Cash benefits available to Singaporeans focus on encouraging individuals to save, encouraging couples to have more children,

supporting the most needy and those on low incomes, and supporting the elderly. Examples of measures targeting families and young children include government subsidies for child care, cash “gifts” on the birth of children, and a dollar-for-dollar matching scheme up to a capped amount deposited into the Child Development Account (CDA) that can be used for prescribed purposes such as child care fees and medical fees, or transferred later to cover post-secondary education fees. ComCare provides cash assistance for individuals unable to work, with no means of income and limited or no family support, and can be used for infant and child care subsidies, urgent but short-term financial assistance, or long-term support. Other schemes provide low-income families with housing grants and incentives for employment and upgrading.

Educational Context (Primary, Secondary, and Tertiary)

According to the Education Statistics Digest (MOE, 2016a), Singapore’s education system (comprising primary, secondary, and tertiary education) aims to bring out the best in every student by enabling them to discover their talents, realize their full potential, and develop a passion for life-long learning. The Ministry of Education (MOE) seeks to nurture the whole child, and help them develop an enduring core of competencies, values, and character, to ensure that they have the capabilities and dispositions to thrive in the 21st century. MOE’s multiple educational pathways cater to students with different strengths, interests, and learning styles.

Bilingualism is a key feature of Singapore’s education system. While most subjects are taught in English, all students also learn an official Mother Tongue Language (Mandarin, Malay, or Tamil). Learning a Mother Tongue Language equips children with the language competencies to access Asian cultures, and encourages them to appreciate their culture and heritage. It also enables them to connect with people from different backgrounds in a multi-cultural environment, to give them a competitive edge and thrive in a globalized world.

Singapore is currently considered to be one of the world's top-performing countries in education, based on indicators such as students' test scores in international comparisons, graduation rates, and percentage of students pursuing higher education (Schwab, 2015). Singaporean students consistently achieve top scores in mathematics, science, and literacy in cross-national assessments such as the Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS). For example, in the latest PISA 2015 comparative study ([OECD, 2016](#)), Singapore took first place in all three categories of reading, mathematics, and science, marking Singapore's best performance yet in the global benchmarking test.

The Singaporean approach to developing the potential of its citizens through education is based on the general principle of meritocracy and the practice of academic streaming, where rewards are linked to talent and achievement, rather than ascribed characteristics (Ng, 2011). Lim (2007) stated that education remains the one factor that could determine a child's economic future in a global labor market. Therefore, parents view education as a key criterion for their children's success in the future. A phenomenon of "kiasuism" (the fear to lose) has been encultured in this highly competitive society (Ho, Ang, Loh, & Ng, 1998; Khong, 2004) and there are high expectations placed on children regarding their academic success in school and national examinations. As explained in Chapter 8, the "kiasu" mindset and meritocratic values often result in young children attending several ECEC programs and/or private enrichment and tuition centers during the evenings and weekends for a variety of activities (reading, numeracy, music, art, sports, etc.). The MOE does not encourage these practices and emphasizes that a focus on tuition may impact negatively on imagination, creativity, and social-emotional skills.

Participation Rates. According to Education Statistics Digest (MOE, 2017a), school enrolment in 2016 was 230,989 students for primary, 160,909 for secondary, 36,425 for mixed-level schools, and 18,259 for junior college/centralized institute. Enrolment rates have been close to 100 percent since 2010, compared to only 80.4 percent participation in

secondary school in 1990. Participation in some form of post-secondary education (i.e., beyond 10 years of formal schooling) is approximately 97 percent (MOE, 2017a), compared to approximately 67 percent in 1995. This increase in participation may in part be due to the fact that admission criteria to polytechnics and the Institute of Technical Education were broadened in 2006 to recognize a wider degree of aptitudes and talents other than academic achievements, and to the establishment of alternative routes into post-secondary education for students less academically inclined.

Graduation Rates. The percentage of the primary school cohort who fail to progress to secondary school has decreased from 3.2 percent in 2003 to 0.6 percent in 2015. The secondary school completion rate is approximately 97 percent (this represents the percentage of students who continued to post-secondary education) (MOE, 2017a). With increased schooling opportunities over the years, the proportion of residents with higher qualifications is higher among younger age cohorts than older age cohorts. In 2015, more than 80 percent of Singapore residents aged 25-34 had post-secondary qualifications (i.e., diploma, professional qualification, or university qualification). In comparison, most people in the groups aged 60 and over did not attain post-secondary qualifications.

Literacy Rates. The general literacy rate among Singapore residents aged 15 and above is 97 percent (98.7 percent for males, 95.4 percent for females) (Department of Statistics, 2017), a slight increase from 95.9 percent in 2010. Of these literate residents, 26.8 percent are literate in one language, while 73.2 percent are literate in two or more languages (typically English and a Mother Tongue), an increase from 70.5 percent in 2010.

Educational Structure/Organization. Singapore has a government-run and centralized primary and secondary educational system that is continually evaluated and improved. The MOE controls the development and administration of state schools receiving government funding. It also plays an advisory and supervisory role for private schools. Schools are grouped into clusters and each cluster is facilitated by a Cluster

Superintendent, whose role is to develop, guide, and supervise the school leadership teams to ensure that schools are effectively run. They play a key role in personnel and financial management, and ensure that there is networking, sharing, and collaboration among the schools within the cluster. Cluster Superintendents also develop personnel in their clusters according to training needs, and identify personnel with potential for career advancement in the different professional tracks available. They ensure the effective and optimal use of cluster financial resources such as funding worthwhile school projects and activities that help schools to achieve the [Desired Outcomes of Education](#).

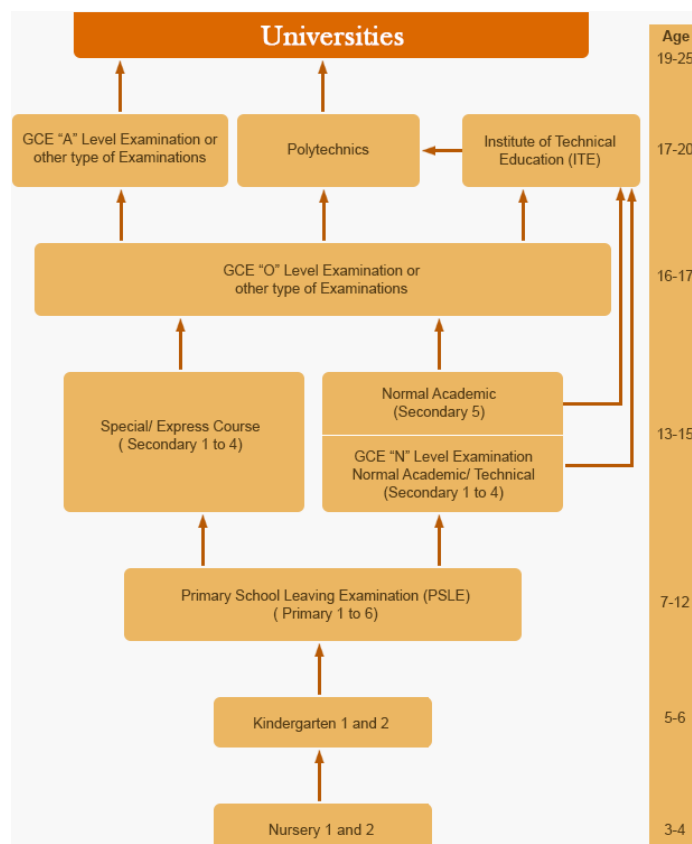
ECEC does not fall within MOE's centralized governance of the education system. There is no legal entitlement to ECEC in Singapore, although from age 4 onwards, most children attend a preschool (kindergarten or child care center). Most preschools in Singapore are run by the private sector, including religious bodies, community foundations, and business groups. The government runs a small number of public kindergartens, although these are also subject to similar fee payments as the private providers. The Ministry of Social and Family Development (MSF) coordinates social and public assistance policies (e.g., provision of subsidies, financial assistance schemes, cash grants) to ensure that all children, especially those from low-income families, have equity of access to high quality centers.

Beyond preschool, every child is given the opportunity to complete at least 10 years of formal school education. In 2016, there were 447,300 students subsidized by MOE, costing \$4.84 billion. The Singapore education system is divided into four [educational stages](#) (for a graphical representation, see Figure 2.1):

1. Primary: Six compulsory years, starting at age 7, aiming to give students a good grasp of English language, Mother Tongue, and Mathematics. At the end of Primary 6, students take a national examination, the Primary School Leaving Examination (PSLE).

2. Secondary: Four or five years. Based on the PSLE scores, students are streamed into three different groups: Express, Normal (Academic) or Normal (Technical). The different curricular emphases are designed to match student's learning abilities and interests. At the end of Secondary 4, students sit for the GCE "O" Levels (for Express course) or GCE "N" Levels (for Normal course).
3. Post-secondary: There are multiple routes available for students to pursue their post-secondary education, depending on their abilities and interests. These include junior colleges, two specialized art schools, five polytechnics, three institutes of technical education, and one centralized institute.
4. University: For undergraduate and graduate studies, Singapore has six public-funded universities (which are autonomous in nature) and one private university.

Figure 2.1 Structure of Singapore's Education System. From "Singapore's education roadmap," by Nanyang Learning Private Limited, 2013



Source: (<http://www.nanyanglearning.com/aeis-saeis/education-roadmap/>). Copyright 2013 by Nanyang Learning Private Limited.

Policy Process

Policy Formulation and Planning. Quah (2016) suggests that the Singaporean approach to policy formulation by the government and senior civil servants is typically pragmatic. Pragmatism was a constant in Lee Kuan Yew's thoughts and actions during his years as Prime Minister. Consistent with this approach, the government is willing to introduce new policies or modify existing ones as circumstances dictate, regardless of ideological principle, that is, with no policies cast in ideological stone (Ng, 2016). In other words, the good of the nation is what really counts.

The [Center for Strategic Futures](#) (CSF) is an example of this mentality. Set up in 2009, the CSF is at the forefront of anticipating problems and proactive policy formulation. Members from this agency are also part of MOE Corporate Planning Office, an office that strategically forecasts and anticipates ground realities to prepare schools, students, and teachers for the future.

The [Parliamentary Cabinet](#) formulates policies in Singapore. The Parliamentary Cabinet is led by the Prime Minister, who is the head of government. The other members are Ministers who are Members of Parliament appointed by the President on the Prime Minister's advice. The role of the civil servants is to provide the necessary information, advice, and past experience to the Cabinet, which will then discuss and evaluate such information before recommending the policy at hand. Civil servants are also responsible for identifying problems and suggesting ways to deal with them to the Cabinet. Apart from the political leaders and senior civil servants, the various elite groups in Singapore may participate in policy formulation in two ways. The first method is through their membership on statutory boards and advisory committees, which typically review and provide technical information regarding new policies and suggest new measures for consideration. The second method is through their participation in chambers of commerce, trade associations, professional societies, and other organizations that represent aggregations of economic and social power.

The government also needed a coordinated and single avenue to engage and connect with citizens in the policy process. In 2006, a lead agency named REACH ([Reaching Everyone for Active Citizenry @ Home](#)) was established. REACH is facilitating Whole-of-Government (WOG) efforts to engage and connect with citizens on national and social issues. WOG is an approach that allows governments to tap on diverse expertise from across the public sector, with officers from different agencies coming together to broaden and deepen policy development, and to deliver services to citizens in more synergistic ways. On the basis that the whole is greater than the sum of its parts, concerted and coordinated WOG efforts can achieve greater outcomes than the most competent individual agencies working alone. REACH engage in public consultation on a wide range of policy issues and the feedback collected contributes to policy making. One of the most recent examples of public consultation is the proposed Early Childhood Development centers (ECDC) regulatory framework (discussed further in Chapter 9). The existence of these formal mechanisms of participation indicates the influence of society in policy formulation and planning is acknowledged and accepted.

Singaporeans have constitutionally protected rights to freedom of speech and expression; however, the United Nations General Assembly Humans Rights Council (2016) highlights that in Singapore, the authorities use laws to control and shut down public rallies or demonstrations, public discussions, and unauthorized political meetings. The government provided the Media Development Authority with discretion to suppress independent reporting and broadly control all forms of media and journalism, and the power to impose sanctions on broadcasters of content deemed critical of the government, offensive of public interest or order, national harmony or good taste and decency. The government argues that such laws and regulations are in line with the broader values of Singaporean society to maintain harmony and stability of the nation.

Policy Implementation. Policy implementation in Singapore is in the hands of senior civil servants. Singapore's experience in policy implementation is highly efficient, and this has been attributed to a number of factors:

- High quality of the political leaders, who are able to formulate relevant policies and clearly specified policy documents;
- Commitment to and support for the formulated public policies;
- Highly effective and competently staffed statutory boards and ministries involved in implementing public policies;
- Low level of bureaucratic corruption;
- Government's reliance on periodic national campaigns as an instrument of policy implementation, as well as an agent for changing the attitudes and behavior of Singaporeans;
- A disciplined population, which has cooperated with and supported the PAP government's policies;
- Small size, which is conducive to successful policy implementation.

The top-down approach to policy implementation has been the more appropriate fit in Singapore, especially during the 1980s and 1970s. However, in recent years, the civil service has been down-sizing and a mandated fiscal budget reduction of 2 percent each year is leading to further constraints in resources. With the limited number of civil servants and manpower, it is difficult to cater to the broad scope and demands from the public in terms of implementation and functions. As such, bottom-up methods to policy implementation, such as outsourcing of some of the Ministries' functions, are frequently used within the bureaucracy.

Chapter 3: Conditions of Young Children

Key Points

- There is great ethnic and economic diversity among children in Singapore, and the government is putting in place measures to recognize increasing diversity of Singapore's demographics.
- Human resources are viewed as Singapore's most precious asset, and education has consistently been seen as the building block for economic and national development.
- The family is recognized as the building block of society and the most natural environment for nurturing the young. Policies and programs are pro-family to preserve and strengthen the family unit.
- The number of children who are in residential or foster care is low.
- Child physical health is very good.
- Increased awareness and early child assessment of mild to moderate physical and developmental disabilities has resulted in an increase in children identified with disabilities.
- There is no explicit definition of poverty in Singapore, but government subsidies are strategically targeted at working families with low incomes.
- The percentage of single parent families is low, with most children living in a two- or three-generation household.

Demographic Data on Young Children

Racial and Ethnic Diversity. In 2017, there were 388,228 children aged 0 to 9 (187,653 aged 0 to 4 and 200,575 aged 5 to 9) in the resident population. Of these, 68.52 percent were Chinese, 16.94 percent were Malay, 10.63 percent were Indian, and 3.91 percent were "other" ethnic group (Department of Statistics, 2017). Malays are recognized as the

indigenous community. A growing number of children are of mixed parentage, having parents from mixed ethnic or racial groups; in 2014, 20.4 percent of marriages were inter-ethnic. In 2010, the Ministry of Home Affairs announced that mixed-race children would be able to choose to identify themselves using both ethnicities, for instance as Chinese-Indian, with the father's race first. Previously, mixed-race Singaporeans were allowed to choose between either of their parents' races; the exception to this was *Eurasians*, who existed as an established racial category prior to independence.

Economic Diversity. Equality of opportunity is a core tenet on which Singapore society is based. The view is that every child, regardless of socio-economic background, be given equal opportunities to succeed through the provision of good healthcare, stable housing, and education. In the SG50 Distinguished Lecture of the Economic Society of Singapore, Deputy Prime Minister and Finance Minister Tharman Shanmugaratnam talked about “ensuring birth is not destiny,” and he stated that “meritocracy is fair, but it will not on its own ensure we keep up with social mobility” (MOF, 2015a). The speech highlighted how the last decade had witnessed enhanced support for those with a weaker start through making preschools more affordable, more accessible, and higher quality, but that more needs to be done to support children in the first few years of life without intruding into parenting decisions.

Despite evidence cited for social mobility over the last two decades (see Chapter 2), other evidence suggests that families of higher socio-economic status (SES) are able to create advantages for their children; talented individuals born in underprivileged circumstances may not get the opportunity to fulfill their potential, resulting in the transmission of inequalities of income and wealth across generations. This has been termed “parentocracy,” in which parents’ wealth and social capital have greater bearing on success than the child’s own abilities.

There are two clear examples of how higher SES families might create advantages for their children. One is by providing greater access to private tuition and enrichment

classes. A survey by *The Straits Times* found that higher-SES parents spent correspondingly more on private tuition for their children than lower-SES parents (Teng, 2015). Parents believe this will give their children a competitive edge when they enter school, with there being high value placed on academic success and subsequent entry to elite schools (rather than “neighborhood” schools), which have highly competitive admission requirements. Secondly, in the primary school admission system, priority is given based on proximity of the family home to the school, or affiliations (e.g., siblings or parents were former students, parents are alumni or volunteers). Given that many elite primary schools are located in wealthier neighborhoods, children from privileged backgrounds are given more opportunities to enroll in elite primary schools. Indeed, at the primary school level, about 60 percent of students in elite schools live in private housing, compared with the national average of 20 percent for all primary schools (Davie & Chew, 2012). Data also point to a disproportionate number of students from affluent backgrounds in elite primary and secondary schools. For instance, more than 50 percent of students in elite secondary schools had fathers who were university graduates, compared with about 10 percent of students in other secondary schools (Davie & Chew, 2012).

The elite and non-elite primary and secondary schools come under the purview of the MOE; they are not differentiated on the basis of fees, but are differentiated by the socio-economic composition of the student body. In recent years, the MOE has taken steps to reduce the differentiation between elite and non-elite schools. For instance, schools are no longer publicly ranked based on academic performance, and resources are channeled to help all schools level up to become “good schools” (Lim, 2012; Ong, 2012). Furthermore, the Direct Admission Exercise (DAS) provides all primary school students who do not meet academic criteria but have other achievements and talents an opportunity to qualify for entry into elite or their preferred secondary schools. Finally, the push to provide all children with access to high quality ECEC is seen as one of key

routes through which early differences in access to learning and development opportunities can be equalized.

Language Diversity. According to the Constitution of Singapore, the four official languages of Singapore are Malay, Mandarin, Tamil, and English. Despite there being many dialects of Chinese used in Singapore (Hokkien, Teochew, Hakka, Hainanese, and Cantonese), Mandarin was made the official language of the Singapore Chinese in 1965. The decision to not recognize all the dialects was taken in a move to build social cohesion and to form a common Chinese cultural identity. English is the main language used in schools. English is increasingly used as the spoken language at home, with 36.9 percent of residents aged 5 years and older using English most often, while 34.9 percent used Mandarin most frequently. Approximately 73 percent of people are literate in at least two languages. Among 5- to 14-year-olds, the use of language in the home differs by ethnic group; among Chinese children, 61.3 percent use English most frequently, compared to 37.4 percent who use Mandarin most frequently. For Malay children, 63.3 percent use Malay more frequently in the home, compared to 36.4 percent who use English. Indian children show the most language diversity—53.9 percent used English most frequently, following by Tamil (34.5 percent), Malay (3.5 percent), and other languages (8.1 percent) (Department of Statistics, 2015). There is no information available for children aged 5 and below.

Percentages of Children Defined as Special Populations

Abused. Child abuse is classified by MSF as physical abuse, emotional and psychological abuse, neglect, and sexual abuse (MSF, 2016f). From 2005 to 2014, 1,935 allegations of child abuse (an average of 194 cases per year) were taken up by the Child Protection Service (CPS). For allegations with evidence of abuse or neglect, physical abuse was the most dominant, accounting for 60 percent of all abuse cases. Sexual abuse accounted for 30 percent of the cases investigated, with physical neglect and emotional abuse accounting for 6 percent and 5 percent of cases respectively. The majority of child

abuse victims (51 percent) were between 7 and 12 years of age; children aged 0 to 6 accounted for 27 percent of abuse cases. In 2015, there were 551 child abuse cases investigated. Of these 263 were physical abuse, 82 were sexual abuse, and 206 were neglect. This figure represents an increase compared to previous years due to MSF introducing more rigorous screening tools and training for professionals (e.g., social workers, educators, counsellors, and health professionals) aimed at helping professionals promptly pick up safety concerns for a child and seek appropriate intervention (MSF, 2017a).

Identified with Disabilities. There is no official central registry of persons with disabilities. Based on the records from KK Women's and Children's Hospital (KKH), Disability Information and Referral Center (DIRC), the Child Guidance Clinic, and other private institutions, the disability prevalence rate for the preschool cohort is at least 3.2 percent. Latest figures provided by the KKH and the National University Hospital (NUH)—the two public healthcare institutions that screen and treat children aged 6 and below for issues including development delays, speech and language delays, learning difficulties, and autism spectrum disorders (ASD)—showed a 76 percent increase in cases between 2010 and 2014. In 2014, KKH diagnosed about 3,500 new cases, while NUH had 900 new cases. Comparatively, there were about 2,500 new cases reported in total in 2010 (Ng, 2016). This upward trend in the number of preschool children diagnosed with developmental issues results from an increased awareness among parents and preschool teachers, leading to earlier referrals for diagnosis.

Not Speaking Dominant Language of the Country. The majority of young children speak the official languages of Singapore—Mandarin, Malay, Tamil, or English. The Mother Tongue Language (MTL) policy requires all citizen students to study their respective official MTL: Mandarin for Chinese, Malay for Malays, and Tamil for ethnically Tamil Indians. It should be noted that MT is used only during MT class, and English is used for all other teaching (Curd-Christiansen & Sun, 2016). There is no data on how many children speak other Chinese dialects (e.g., Hokkien, Cantonese), or other

Indian languages. Children speaking these dialects would be offered the opportunity to learn one of the official languages in preschool (e.g., a child speaking Hindi would be given the opportunity to learn Tamil, although this may be restricted due to the availability of MTL teachers in preschools). In such cases, some parents may choose to have their child learn either Mandarin or Malay. For children with poor English language skills, the Focused Language Assistance in Reading (FLAiR) program provides children who are in the year before entry to primary school (Kindergarten 2) with intensive assistance to help them in speaking, reading and other uses of English through the provision of dedicated time from a qualified adult to work on a one-to-one basis or with small groups of children. Since beginning in 2007, FLAiR has benefitted more than 21,000 children (MOE, 2017b).

Percentages of Children Living in Poverty and Specific Family Circumstances

Poverty. The government has made an explicit decision not to define a single poverty line, in order to avoid a “cliff effect” where those below the line are guaranteed a wide range of help and those above receive none, regardless of their actual needs. There were also concerns regarding social stigmatization that may result from being labelled as poor or needy. It is therefore difficult to ascertain the number of children living in poverty in Singapore. In 2011, the Singapore Department of Statistics estimated that the amount needed for basic living expenses for a four-person household was \$900 per month; 10 percent to 12 percent of households fell under this level. More recent data from the Household Income Trends Survey (2015) reports the median monthly household income from work to be \$6,240. Using the OECD definition of relative poverty income at 50 percent of the median household income, households below \$3,120 would be defined as relative poverty. Approximately 20 percent of households in Singapore have a monthly household income below this threshold (excluding retiree households and households where there is no working person). Subsidies are provided to lower income families to help offset the cost of child care or kindergarten (further details are provided in Chapter 6).

Single Parent Families. The proportion of two-generation households headed by single parents living with their children remained fairly stable at around 7 percent (approximately 81,700 parents) out of all resident households between 2000 and 2014 (Department of Statistics, 2015). These single parents might be divorced or separated (47 percent, an increase of 8 percent since 2000) or widowed or never-married (53 percent). Of these single parents, only 3.6 percent had a child aged 7 or below (approximately 2,940 children). Single parent registration births by citizen mothers have shown a slight decrease over the last 10 years, from 432 in 2006 to 345 in 2015.

The percentage of nuclear families (mother and father with children) was 49.3 percent in 2014. Of these nuclear families, 23.2 percent had a child aged 7 or below (approximately 137,250). A tenth—9.5 percent--of households had three or more generations (approximately 114,000). Of these, approximately 27,000 had a child aged 7 and under. Approximately one-third of single parent-headed households with children had an elderly member aged 65 years and above.

Foster Care. Singapore's out-of-home care sector (home-based foster or residential care) provides care for vulnerable children and young persons who have been abandoned, neglected, or ill-treated by their parents or guardians. At any one time, approximately 1,100 children and young persons aged below 16 are placed in out-of-home care. The pool of foster parents has more than doubled from 198 in 2009 to 420 in 2016 (MSF, 2017b), with 430 children living with foster parents in 2016 (MSF, 2017b). MSF aims to have more children placed in home-based care rather than residential care; the number of children placed in family care rather than residential care has shifted by 10 percent between 2013 and 2016, such that 37 percent of children requiring out of home care are now in home-based foster care. There is no information available to indicate how many of these children are aged 7 or below.

Familial Parent Surrogates. There is no data regarding the number of children being cared for by the extended family. However, the strong family ties in Singapore mean

that extended families often live in close proximity and share some of the child care responsibilities. In recent years, the government has promoted the Family Integration Home Purchasing Scheme, which allows first time buyers an allowance as well as increases the chances of becoming eligible for public housing, if married couples choose to live near their parents. There are also incentives for senior citizens to join the “small-sized apartment scheme,” which allows them to live in an apartment close to their children.

Working Mothers/Fathers. Figures from the MOM show that labor force participation rates among female residents are increasing. Between 2011 and 2016, female participation in the labor force has increased from 57 percent to 60.4 percent, compared to a steady state for males of approximately 76 percent. However, there is no data to indicate how many of these are working parents, or how many are mothers of young children. The increasing demand for child care places (particularly workplace child care) is in part attributed to more mothers entering the workforce and needing full day care for their children.

The female labor force participation is still low compared to other countries of similar income levels and is lower than the average OECD figure of 62.8 percent. This is mainly due to participation rates falling after age 30, with little evidence of rising in their late 30s and 40s, when many women in other countries return to paid employment after raising children.

Chapter 4: Policies Related to Young Children and Their Families

Key Points

- Pro-family policies are addressing national priorities to increase the total fertility rate, to increase the number of women in the workforce, and to preserve and strengthen the family unit.
- Policies related to ECEC aim to raise the quality of preschool education, and enhance the accessibility and affordability of center-based care with the goal of decreasing the long-term consequences of inequality and social disadvantage.
- The laws, mandates, and frameworks developed by the government to address these policies are all-encompassing. They cover curriculum, health, teacher certification and accreditation, professional development of EC professionals, standards and quality of centers transitions, protection of young children, and support for families.
- Major policy changes in the last five years or anticipated for the forthcoming years include increases in ECEC expenditure, harmonized regulation of ECEC center-based care, increases in staff qualifications, and improvements in quality of training to ECEC professionals, child protection, and enhanced health education and prevention.

Legal Documents That Frame Service Delivery

Policies

Singapore accedes to a number of international conventions directly impacting the policies and provision of ECEC. Singapore has been a signatory to the [United Nations Convention on the Rights of the Child](#) (UNCRC) since October 1995, ensuring that the government meets minimal standards in providing healthcare, education, legal, and

social services. Singapore also acceded to the [United Nations Convention on the Rights of Persons with Disabilities](#) (UNCRPD) in July 2013. UNCRPD is a comprehensive convention to promote, protect, and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity.

Families serve as an important pillar of support for the nation. At the individual level, families are the primary source of emotional, social, and financial support. At the national level, families contribute to social stability and national cohesiveness as they help develop socially responsible individuals and deepen the bond Singaporeans have with their country. For this reason, policies are strongly pro-family. The government initiates many family policies aimed at creating a social environment conducive to family formation and the strengthening of family ties. Pro-family policies are addressing national priorities to increase the total fertility rate, to increase the number of women in the workforce, and to preserve and strengthen the family unit. Policies support parental employment and parental work/life balance, and provide education and comprehensive support networks to strengthen families, ensure child well-being, and safeguard vulnerable children.

These pro-family policies have significant implications regarding the availability, affordability, and quality of center-based care to support the increasing number of children that would require child care. The aims of key recent policies related to ECEC have been to raise the quality of preschool education and care, while at the same time keeping preschool affordable to middle- and lower-income families. The issue of affordability was particularly important for addressing other national concerns such as the long-term impact of inequality and social disadvantage. To improve standards without passing on the cost to parents, the government had to invest substantial resources into preschool education and play a more active role in the sector. This has included changing regulation and governance within the sector, having a better qualified and trained ECEC workforce, offering more financial support to parents and

incentives to service providers, and developing curricula and pedagogy in line with the desired outcomes of education focused on the holistic development of the child.

The key policy initiatives described above are supported by the enactment of laws requiring mandated adherence, through the provision of statutory entitlements, and through the development of national guiding (usually non-mandatory) frameworks, as described below.

Laws

Issues related to ECEC service provision and minimal quality standards are stipulated in the [Child Care Centers Act](#) and the [Education Act](#). The Child Care Centers Act requires: (i) all child care centers to be licensed; and (ii) all child care centers to comply with standards set out in the regulations made under the act, or any other requirements that may be specified by the Director of Social Welfare. Some requirements of a child care center include types of services to be provided (either full-day, half-day, or flexi), planning of the program and meals (which requires centers to work with MOE and HPB), and staffing (e.g., numbers and type of ECEC staff and appropriate staff qualifications). The centers also need to provide clearances from relevant government departments, such as the Urban Redevelopment Authority, Building and Construction Authority, Singapore Civil Defense Force, and Land Transport Authority, before setting up the premises (Singapore Statutes Online, 2012).

Kindergartens are governed by the Education Act and need to be registered with MOE. Under the Education Act, kindergartens are subject to the following regulatory requirements: (i) statutory approvals; (ii) staff provision and quality; (iii) space, facilities, and resources; (iv) safety, health, and hygiene; and (v) school experience (Singapore Statutes Online, 2009).

For laws governing health, the [Infectious Diseases Act \(IDA\)](#), which was enacted by Parliament in 1976 and came into force on 1 August 1977, is the principal piece of

legislation that deals with the prevention and control of infectious diseases in Singapore (MOH, 2007). This legislation is jointly administered by the MOH and the National Environment Agency (NEA). Under the Infectious Diseases Act, measles and diphtheria vaccinations are compulsory for children in Singapore.

The [Children and Young Persons Act](#) (CYPA) safeguards the care, protection, and rehabilitation of children and young persons who are below age 16 (Singapore Statutes Online, 2015). Under CYPA, the Child Protective Service (CPS) undertakes the statutory role in investigating and intervening into cases of children and young persons who have been harmed or who are at high risk of future harm. A key amendment to the CYPA was the requirement for all Children and Young Persons Homes to comply with licensing requirements. This aims to enhance the welfare, care, and protection of children and young persons in residential care. The Homes are to be guided by the regulations under the Act and Standards of Care for Homes issued by MSF.

Statutory Entitlements

There is no statutory entitlement to center-based care in Singapore for children prior to entry to primary school. All of the entitlements described below are available only for those who are Singapore citizens or Permanent Residents; they are not available to non-citizens.

[The Enhanced Marriage and Parenthood Package](#) (2008) saw the introduction of a number of entitlements aimed to address pro-family policies. The entitlements under these schemes have recently been increased following announcements in the National Day Rally 2015 and Budget 2016. The [Baby Bonus Scheme](#) is an entitlement for all families to support parents' decision to have more children. It comprises a cash gift of \$5,760 per child for first and second child and \$7,200 per child for the third child onwards (MSF, 2016a). The [Child Development Account](#) (CDA) is provided to increase opportunities for all children to maximize their potential. CDA is a co-savings scheme,

where savings deposited by parents are matched dollar-for-dollar by the government. Parents automatically receive a \$2,160 CDA First Step Grant. Those who save more will continue to receive dollar-for-dollar matching from the government (up until the year the child turns 12), up to the existing contribution caps of \$2,160 for the first and second child, \$6,480 for the third and fourth child, and \$10,800 for the fifth child onward. CDA savings funds can be used for child developmental needs at approved institutions registered with the MSF. Approved uses of CDA funds include fees for child care centers, kindergartens, special education schools and early intervention programs, medical expenses and health care insurance premiums, assistive devices, eye-related products and services, and approved healthcare items at pharmacies.

As part of the government's effort to encourage more couples to become parents, to have more children, and to promote work-life harmony by allowing parents to spend more time with their children, the government provides [parental leave and subsidies](#) (MOM, 2017). Working mothers are entitled to 16 weeks of government-paid maternity leave and working fathers can take up to two weeks of government-paid paternity leave. Shared parental leave has been increased to further encourage and support shared parental responsibility. Working fathers have the choice to share four weeks of leave (instead of one week) from their wives' 16 weeks of maternity leave. To better support parents in caring for an adopted child, in July 2017 government-paid adoption leave was extended to 12 weeks (increased from four weeks) for mothers who adopt an infant younger than 1 year old. Under the [Child Development Co-Savings Act](#), both parents are also each entitled to six days per year of child care leave until the year the child turns 7. Parents with children under 2 are also both eligible for an additional six days of unpaid infant care leave each year. Parents of non-citizen children are eligible for two days of child care leave per year in accordance to the [Employment Act](#).

To support parents with their children's health care needs, the government provides a Medisave account for each Singaporean newborn. All Singapore citizen newborns born on or after 1 January 2015 qualify for the enhanced \$2,880 [Medisave Grant for](#)

[newborns](#). This grant helps parents defray the costs of their child's health care expenses, such as MediShield Life premiums, and the costs of recommended childhood vaccinations, hospitalization, and approved outpatient treatments. The government also created a [Medisave Maternity Package](#) which parents can use for delivery expenses and pre-delivery medical expenses such as consultations and ultrasound. [MediShield Life](#) is a mandatory basic health insurance that helps to pay for large hospital bills and selected costly outpatient treatments such as dialysis and chemotherapy for cancer in the public hospitals. All Singapore citizen newborns are automatically covered by MediShield Life from birth, including those with congenital and neonatal conditions, for life (MOH, 2016a).

Tax incentives are also given to ease the tax burden of women with children who choose to remain in the workforce ([Working Mothers Child Relief](#)), or to ease the cost of caregiving for married women who choose to remain in the workforce (e.g., the Grandparent Caregiver Tax Relief recognizes grandparents for their contribution to the caregiving of grandchildren, and the lowering of the levy for domestic workers that are employed for child care at home). To encourage residents to have more children, the [Parenthood Tax Rebate](#) also offers income tax rebates. In recognition of efforts by families in supporting their children and those caring for handicapped children, parents can claim tax relief under the Qualifying Child Relief (QCR) or Handicapped Child Relief (HCR).

Policy Frameworks and Visions

Supporting early learning and development. The [Early Years Development Framework](#) (EYDF) and the [Nurturing Early Learners \(NEL\) Kindergarten Curriculum Framework](#) were originally developed by Ministry of Community Development, Youth, and Sports (MCYS) in 2011 and MOE in 2003, respectively (ECDA, 2013b; MOE, 2013c). These frameworks serve as broad guiding documents and are not mandated. The EYDF focuses on pedagogy and curriculum supporting the holistic development of children

from 2 months to 3 years of age. The NEL Framework is a curriculum framework, which preschools are encouraged to use as a guide to customize a suitable program to meet the specific needs of children from age 4 to 6. The curriculum framework is underpinned by six core early childhood education principles that are widely recognized as essential for children to learn well and gain confidence at an early age. The content of the curriculum frameworks is aligned with the Desired Outcomes of Preschool Education (MOE, 2013a), which emphasizes the need for children to build confidence and social skills in the preschool years and be equipped with the necessary knowledge, skills and dispositions to prepare them for lifelong learning. The content of these frameworks is discussed further in Chapters 7 and 8.

Supporting Quality and Training of ECEC Professionals. Pre-service training was ad hoc and brief when first introduced in the early 1970s. In the late 1990s, a key mission of the Steering Committee on Preschool Education was to align and improve the quality of training of child care and kindergarten teachers. The Preschool Qualification Accreditation Committee (PQAC), an inter-ministerial collaboration between MCYS and MOE, and the Early Years Qualification Accreditation Committee (EYQAC) were established to provide guidance on the content and training of ECEC professionals for the 4-6 and 0-3 year old age groups, respectively. [PQAC](#) and [EYQAC](#) set accreditation standards for pre-service training covering entry requirements, administration of courses, course content (aligned with the curriculum frameworks), modes of assessment and supervised teaching practice, and quality of faculty, as well as facilities and resources. These frameworks can be considered mandatory, because to be accredited the training agencies are required to follow the guidance provided within the framework regarding course content and qualifications of staff delivering the courses. Following their establishment in 2013, ECDA now oversees teacher accreditation and certification as well as the training and continuing professional development of ECEC professionals.

In 2012, MCYS launched the [Continuing Professional Development Framework](#) (CPD) for early childhood educators (ECDA, 2013a). The CPD Framework provides ECEC professionals with structured pathways to develop and update their professional knowledge and skills. It defines and maps the progressive levels of competencies required in core domains such as child development, learning environment, and curriculum as ECEC professionals progress in their roles. It also outlines tools, activities and resources that can help centers evaluate and support the professional development needs of ECEC staff. Complementing the CPD Framework is the [Skills Framework \(SF\) for Early Childhood Care and Education](#), which was jointly developed in 2016 by ECDA and SkillsFuture Singapore (SSG), with input from EC educators, employers, training providers, associations, and unions (SSG, 2016a). The SF details competencies needed for each job role, includes strategies for professional development, and suggests how practitioners can acquire competencies needed for another job role. The SF provides up-to-date information about the ECEC sector and employment landscape, career pathways, existing and emerging skills and competencies, and relevant education and training courses for those embarking on a career in ECEC or upgrading their skills. Operators and center leaders can reference the SF to strengthen HR practices and provide more career development opportunities for their staff. ECDA and WDA strongly encourage centers and organizations to adopt SF for ECEC, but it is not mandatory. The Early Childhood Manpower Plan (ECMP) complements the SF. The ECMP includes sector level strategies to deal with the current manpower issues. The focus of the ECMP is on the well-being of practitioners and what ECDA would do to increase the pipeline of practitioners. In essence, it is a plan of action for ECDA. In this respect, the SF aims at developing professional competence and the ECMP targets numbers of EC professionals.

Enhancing Quality of Preschool Provision. In 2011, the national [Singapore Preschool Accreditation Framework](#) (SPARK) was introduced by MOE as a quality assurance self-evaluation tool (ECDA, 2015c). SPARK aims to provide recognition and support for

preschool leaders in their efforts to improve teaching and learning, administration and management processes to enhance the holistic development and well-being of young children. It serves as a guide for preschools to understand what they should be striving to achieve and provides a benchmark for preschools to measure themselves against, and establish for themselves the extent of their achievement. The accreditation serves as a guide to quality improvement efforts and is not mandatory.

Supporting Children's School Readiness. In 2007 MOE also announced a framework to enhance school readiness of preschool-aged children through a targeted approach that involves identifying (i) children with a weak language foundation, and providing focused language assistance while they are in preschool; (ii) 5-year-old children not attending preschool, and making it possible for them to attend preschool; and (iii) 6-year-old children not attending preschool during registration for Primary One, and encouraging them to attend preschool to gain exposure to the English Language and school socialization (Tan, 2007). One of the initiatives under the framework is Focused Language Assistance in Reading (FLAiR). Under FLAiR, selected second year kindergarten (K2) children (children in the year prior to entering primary school) are provided with intensive assistance to help them in speaking, reading and other uses of English daily through dedicated time on a one-to-one basis or in small groups.

Supporting Children's Health for More Productive Lives. The [Health Promoting Preschool Framework](#) (HPPS), developed by the Health Promotion Board (HPB), accords accreditation to preschools that have comprehensive school health promotion practices for students, parents, and staff. The Framework is not mandatory, but provides a needs assessment, road mapping, and help with implementation of procedures and strategies to support children's healthy development. Preschools meeting the framework requirements are accredited and subsequently audited to ensure they maintain standards. The policy vision is to provide children with a head start to life by inculcating healthy habits at an early age. This supports their value

proposition that with healthy children, there will be better foundations to move further toward productive lives (HPB, 2016).

Supporting Children with Special Needs. Providing support to children with special needs is one of the stated policy aims in Singapore. This vision is made explicit in the [Enabling Masterplan](#), which comprises a series of general policy recommendations. The Masterplan describes Singapore as an inclusive society where persons with disabilities are empowered, recognized, and given full opportunity to become integral and contributing members of society. With regard to ECEC, the Masterplan provides recommendations regarding early detection of children's disabilities, and timely access to effective and family-centered early intervention services in a seamless environment.

Stated Policy Aims

The laws, statutory entitlements, and national guiding frameworks support a number of key policy aims (see Table 4.1). These include supporting citizens to have more children by supporting parental employment and work-life balance through the provision of statutory financial benefits and parental leave. Support also involves improving the quality of ECEC provision through raising the professional standards of ECEC staff and by regulating ECEC provision and providing a means for quality improvement. Ensuring accessibility to affordable ECEC is also seen as a key driver to reducing inequality and social disadvantage.

A second key policy aim is to provide a strong grounding for holistic child development and learning, as emphasized in the EYDF and NEL frameworks, and as stated in the Desired Outcomes for Preschool Education. A third policy aim is to encourage healthy physical development, evidenced through both the provision of affordable health services and through health and education efforts by the HPB. Finally, there are clear policy aims to support vulnerable children and those with special needs; this is evidenced through accordance to international conventions, through frameworks

to support those not attending preschool or needing special intervention, and through the provision of statutory financial support and additional financial benefits.

Table 4.1. Stated policy aims for children aged 0-3 years (0.1) and children aged 3 to the start of primary school (0.2)

Policy aims	Level 0.1	Level 0.2
Support parental employment	●	●
Support parental education and training	○	○
Support parental work/life balance	●	●
Encourage the development of socioemotional skills	●	●
Develop positive attitudes and dispositions to learning	●	●
Introduce language and literacy skills	●	●
Introduce basic mathematical skills	●	●
Encourage healthy physical development	●	●
Prepare young children for school	●	-
Introduce young children to citizenship	○	○
Remediate special needs, e.g., language delay/physical disability	●	●
Support/safeguard vulnerable young children	●	●
Support young children where the language use at home is different from the national language	○	●
Reduce inequality and social disadvantage	●	●
Fosters health and mental health for children	○	○
Protect children from abuse and violence	○	○
Key:		
● Highly ranked policy aim		
○ Policy aim		
- No policy aim		

Major Policy Changes

In addition to experiencing rapid changes in the last 15 years, the ECEC sector in Singapore still has a number of key policy changes planned for the next five years. Table 4.2 highlights the policy areas where major changes have taken place in the last five years and/or are planned for the next five years.

Policy change in ECEC expenditure: The Family Development Program takes up the largest share of MSF's operating budget. This Program covers the functions of the Family Development Group and ECDA. In 2016 the Family Development Group received a budget increase of 18.7 percent mainly due to enhancements to the Baby Bonus and Government-Paid Leave Schemes. ECDA received a budget increase of 23.0 percent due to key initiatives to raise the accessibility, affordability, and quality of ECEC services. These include support provided to more families and operators through infant care, child care and kindergarten subsidies, and the enhanced Anchor Operator Scheme and Partner Operator Scheme (Singapore Budget, 2016). Policy changes in ECEC expenditure are also recognizing changing family dynamics, making subsidies available to single mothers and unwed parents, and allowing fathers to take longer paternity leave. In 2017, the Prime Minister announced that annual government spending in the ECEC sector will double from \$612 million to \$1.2 billion by 2023 (PMO, 2017). This increased expenditure will support continued expansion and quality enhancement of ECEC center-based care (particularly government and government-supported ECEC provision meeting quality and affordability criteria). It will also support the transformation of the EC profession through the establishment of a new National Institute of Early Childhood Development (NIEC), through new efforts to attract and develop the pipeline of EC professionals, and through structured developmental pathways for EC educators and leaders.

Policy changes in ECEC regulation. The proposed Early Childhood Development Centers (ECDC) Act (targeted for roll out in 2018) aims to raise the overall quality of

ECEC through a harmonized regulatory framework for both kindergartens and child care centers (ECDA, 2015b). Currently, child care centers and kindergartens are under two different governance mechanisms with different licensing regulations. Under the new Act, operators and ECEC professionals will benefit from more consistent requirements, including the registration of program staff. Parents will have greater assurance of the quality and professionalism of the ECEC sector with the enhancements to ECDA's regulatory powers and baseline quality standards.

Policy changes in ECEC staff qualifications. A new Early Childhood Manpower Plan was launched in October 2016 as a part of the national SkillsFuture movement, and a collaborative effort by ECDA, the Singapore Workforce Development Agency (WDA) and key sector partners represented on the Early Childhood Sectoral Tripartite Committee (ECDA, 2016a). The strategies in the manpower plan break down barriers for people who do not meet entry requirements to progress in their careers. These include a new Skills Framework discussed earlier, alternative training routes through Professional Conversion Programs and a Place-and-Train mode. These are discussed in more detail in Chapter 10. Through these and other initiatives, ECDA hopes to attract another 4,000 ECEC professionals to join the sector by 2020, from about 16,000 in 2016.

Policy changes in child protection. Initiatives aimed at strengthening services and inter-agency collaborations in the recent years contribute to a more progressive, responsive, and robust child protection system (MSF, 2016f). A comprehensive and independent review of the child protection system was undertaken from May 2010 to February 2011. Some of the developments and initiatives arising from the review were: better integration of the child protection sector between various agencies and ministries such as the police, healthcare institutions, schools, voluntary welfare organizations, and child care centers; and training and increasing the competency of stakeholders in the child protection system. New policy initiatives to be rolled out in the next few years proactively target low-income and vulnerable children, providing them with early access to health, learning and development support (KidSTART), and supporting

parenting skills and family functioning to preserve parent-child relationships and ensure that children can remain safe in their families (MSF, 2016e).

Policy changes in health. The Minister of State for Health and Minister of State for Education are jointly leading an inter-agency taskforce (including representatives from MSF, HPB, Sports Singapore, ECDA, the medical profession and academics) to guide the development of NurtureSG, a plan to enhance health outcomes among the young (MOH, 2016b). NurtureSG focuses on fostering healthy behaviors in young children, by equipping them with skills and creating a conducive environment for them to embrace healthy living. Recommendations announced by MOH and MOE in February 2017 include an increase in the minimum amount of time children should spend engaged in physical activities. The complete set of recommendations and action plan from this taskforce are still under discussion.

While the government aims to make ECEC affordable and accessible for all families, it is not a statutory entitlement, and there are no plans to make ECEC a legal entitlement in the near future. Furthermore, there are no plans to develop a national ECEC curriculum (beyond the guidance already provided in the EYDF and NEL), and there are no plans to initiate nationwide child assessments.

Table 4.2. Key policy changes, in the last 5 years and planned for the next 5 years, for services for children aged 0-3 years (0.1) and children aged 3 to the start of primary school (0.2)

Policy changes	Level 0.1	Level 0.2
Policy changes in ECEC expenditure	●	●
Policy changes in statutory entitlements to ECEC	n/a	n/a
Policy changes in ECEC child: staff ratios	○	○
Policy changes in ECEC staff qualifications	●	○
Policy changes in national ECEC curriculum	○	○
Policy changes in ECEC regulation and quality	●+	●+

Policy changes in child assessment	n/a	n/a
Policy changes in child protection	●+	●+
Policy changes in health	●+	●+
Other	n/a	n/a
Key: ○ No changes in the past five years, and none currently ● Changes in the last five years that have taken place + Planned changes in the next five years n/a Not applicable or no data supplied		

The Early Advantage



Part 3 Direct Services for Young Children

Chapter 5: Nature of General Services for Young Children

Key Points

- In Singapore, the family is recognized as the building block of society and the most natural environment for nurturing the young. Policies and programs related to welfare and protection are therefore pro-family to preserve and strengthen the family unit, with support from the community, government and non-government organizations.
- There are a large variety of services and benefits for children and families provided by government and non-government organizations (e.g., health, nutrition, safety, protection, and education)
- Health provision and quality is high, and there are no reported inequalities in accessibility to basic health services.
- Health screening is provided by public and private institutions, with child immunization and regular developmental screening being closely monitored.
- While there is no publicly funded health service provision, all employees contribute to an individual savings scheme to cover the medical costs for themselves and their families. Subsidies are provided to those most in need.
- Only a small percentage of mothers are still exclusively breast-feeding at six months. Efforts are in place to encourage breastfeeding both in and out of the workplace.
- Recent policy changes are accommodating changing family demographics, e.g., unwed mothers now have the same maternity entitlements as married mothers, and parental leave can now be shared.
- There is an increase in focus and attention on vulnerable families, women, and children.

Nature of ECEC Services Provided

Pre-Natal

Parenting education. Government hospitals and polyclinics provide parents with a range of parent education courses, workshops, or seminars, which are free or provided at low cost. These include advice on nutrition, home safety, immunizations, infant and child CPR, as well as antenatal classes. Parents can also access a range of resources online or through patient education centers or parenting clubs offered by hospitals. Parenting workshops and courses for children aged 0 to 6 are also offered by a number of government or non-government organizations at low cost and by private commercial providers. There is no published information detailing how many parents participate in these courses, although estimations provided by respondents were that 20 percent to 30 percent of women go to some antenatal classes.

Health screening for pregnant women. Health care is provided by government hospitals and polyclinics as well as private hospitals and clinics. Routine antenatal care provided by polyclinics and hospitals include urine, weight, and blood pressure checks, assessment of fetal heart rate (after 12 weeks gestation), and subsequently a follow up check every four weeks up to 28 weeks of pregnancy, and every two weeks after 28 weeks. Expectant mothers will be referred to specialist clinics within hospitals if further tests are required. Other than the usual pre-natal health screening, pregnant women can request to undergo ultrasound scans and other health screening procedures during their regular visits to the clinics in government and private hospitals, for which they will pay the additional costs. Although all screening tests are chargeable to families, they are heavily subsidized by the government. Screening for full blood count, Hepatitis B, rubella, syphilis, anemia, and Thalassemia are offered at the first prenatal visit. Screening for HIV is offered within the first trimester, and screening for Down Syndrome is offered in the first or second trimester. An obstetric ultrasound is also offered before 22 weeks gestation. Expectant mothers can find information about

screening during pregnancy on both the [SingHealth](#) and [National Healthcare Group](#) websites. For virtually all pregnancies in Singapore, obstetricians, not midwives, have the main responsibility for care.

Peri-Natal

Parental leave. To support working parents in managing their work and family responsibilities, fathers and mothers are eligible for leave schemes such as government-paid maternity leave, paternity leave, shared parental leave, infant care and child care leave, and government-paid maternity benefit. Pro-family measures have resulted in recent changes to parental leave policies.

Working mothers (working or self-employed for at least three continuous months before the birth of the child) are entitled to 16 weeks of Government-Paid Maternity Leave under the [Child Development Co-Savings Act](#). Mothers of non-Singaporean citizens receive 12 weeks of maternity leave under the [Employment Act](#). Prior to 2017, only mothers who were married to the child's father were eligible for 16 weeks of maternity leave; unmarried mothers were eligible only to 12 weeks of maternity leave under the Employment Act, eight weeks of which were paid by the employer, and four weeks of which may be paid or unpaid depending on the mother's employment contract. However, as of 1 January 2017, all mothers (wed or unwed) receive the same maternity leave entitlement of 16 weeks. The 16 weeks leave can be taken continuously starting from up to four weeks before the date of delivery. If the employer and mother mutually agree, the last eight weeks of leave can also be taken flexibly over a period of 12 months from the birth of the child. To better support parents in caring for an adopted child, in July 2017 government-paid adoption leave was extended to 12 weeks (increased from four weeks) for mothers who adopt an infant younger than 1 year old.

According to [MOM](#), it is an offense for an employer to dismiss an employee while she is on maternity leave. If the employer terminates employment without sufficient cause

while the employee is pregnant, or retrenches the employee during pregnancy, they must pay the maternity benefits the employee would have been eligible for. Employees are not guaranteed the same job when they return to work after their maternity leave. However, employees can raise any grievances with the [Tripartite Alliance for Fair and Progressive Employment Practices](#) (TAFEP).

To better support working parents in managing their work and family responsibilities during the perinatal period, recent pro-family measures have resulted in changes to [parental leave policies](#), which have extended leave allowances for both mothers and fathers and allowed for a split leave between the two parents (Ministry of Manpower, 2017). Mothers and fathers are eligible for schemes such as government-paid maternity leave (up to 16 weeks), paternity leave (up to two weeks), shared parental leave (up to four weeks), and government-paid maternity benefit (for mothers not eligible for maternity leave). The employer pays the first eight weeks of maternity leave, and the government pays an additional eight weeks (for the first and second child) or 16 weeks (for third child onwards) up to maximum of \$1,800 per week. Shared parental leave and paternity leave is provided by the government up to a maximum of \$1,800 per week. Policy amendments are also acknowledging changing family dynamics; as of 2017, all mothers (married or unmarried) receive the same maternity leave entitlement of 16 weeks, and the leave for adoptive parents has been increased.

Working mothers who are not eligible for paid maternity leave (e.g., because they were not in continuous employment for three months prior to birth) may apply for government-paid maternity benefit as long as they have been in employment for a minimum of 90 days in the 12 months preceding the birth of their child. The benefit amount is calculated based on total income earned in the 12 months before the birth, prorated to obtain a daily benefit amount. This daily benefit amount is paid for eight weeks for the first and second child, and 16 weeks for the third and subsequent child (capped at \$1,800 per week).

To allow working parents to spend more time with their children, child care leave provision of six days of paid child care leave per year are provided if the child is below 7 years old. The first three days are employer-paid, and the last three days are government-paid. This child care leave benefit also applies to adopted children and step-children, as long as the child is a Singaporean citizen and the adoptive/step parents were lawfully married at the time of adoption. Parents whose children are non-citizens are entitled to two days of child care leave a year under the Employment Act. All parents with children under the age of 2 can also apply for an additional six days of unpaid infant care leave from their employers.

Birth registration. All births in Singapore have to be registered at one of the Birth Registration Centers at selected hospitals. Upon registration, the newborn will be issued a Birth Certificate. Parents of the newborn may register the birth. A proxy may also register the birth, provided the proxy has a letter of authorization by the parents (ICA, 2015). Births should be registered within 14 days from the date of birth. If registration is done after 42 days, a letter explaining the reason for late registration must be submitted for the Registrar/Registrar General's approval. Late registration can only be completed at the Immigration and Checkpoint Authority (ICA). Documents required for registration are notification of live birth issued by the hospital or health professional who delivered the baby, identity cards of both parents, and original marriage certificate of parents.

Health

Skilled attendants at delivery. The hospitals providing maternity services are generally very affordable, accessible, and available to all Singaporeans. The quality of services is closely monitored by the Ministry of Health (MOH) and Singapore Medical Council (SMC). The doctors, nurses, and other healthcare workers are qualified and trained, and must be registered with their respective Professional Registration Board (e.g., Singapore Medical Council, Singapore Nursing Board, Allied Health Professions Council) under

the MOH in order to practice. The World Health Organization (2014) reports that 100 percent of births are attended by skilled physicians. This has helped to ensure a low rate of maternal mortality (6 per 100,000 live births), and neonatal mortality (1 in 1,000 live births).

Childhood immunizations. There is a recommended national immunization schedule for newborns and thereafter, in the preschool and school years. The National Childhood Immunization Program (NCIP) is based on the recommendation of Singapore's Expert Committee on Immunization and the World Health Organization. The NCIP covers vaccination against tuberculosis; hepatitis B; diphtheria, pertussis, and tetanus; poliomyelitis; measles, mumps, and rubella (MMR); pneumococcal disease; and human papillomavirus. Only diphtheria and measles immunizations are compulsory by law. The National Immunization Registry (NIR) monitors and ensures that children receive immunization at the appropriate time. If a child misses an immunization, the NIR will send the parents a letter to remind them to get their child vaccinated. Records of immunization, regardless of delivery point, are kept in one consolidated location—the NIR. The NIR maintains vaccination records for children from birth to age 18. Approximately 96 percent of children in Singapore are vaccinated against key childhood diseases (WHO, 2014). The NCIP has resulted in significant declines in most childhood diseases, with diphtheria, neonatal tetanus, polio, and congenital rubella virtually eliminated. Parents are required to produce the child's immunization record when the child is registered for primary school admission.

Childhood screenings for hearing/vision/disabilities. General screening tests for newborns include an audiometry test to screen for hearing loss (conducted before 4 weeks of age), a screen of umbilical cord blood to test for glucose-6-Phosphate Dehydrogenase (G6PD) deficiency, a metabolic screen to test for inborn errors of metabolism, and a thyroid function test for primary hypothyroidism.

Beyond newborn screening, regular health and developmental screening check-ups are conducted. Parents are given a health booklet when the child is born, which provides information on their child's immunization schedule, the schedule of developmental screening checkups and developmental milestones expected at particular ages (see Table 5.1). Parents are encouraged to complete a pre-screening developmental questionnaire before bringing their child for the checkups. The questionnaire asks about developmentally appropriate behaviors and skills, and indicates the age at which 90 percent of children would be expected to achieve them. The scheduled developmental screening checks are not mandatory, and there is no published information regarding the percentage of children attending developmental screening. Complementary resource kits from the HPB on child development are also available for parents, healthcare professionals, and ECEC professionals to monitor a child's development. Recently, this information has become available to parents through an online portal, HealthHub, which provides information on the child's milestones, tracks the child's growth from 0 to age 18, shows birth information (e.g., gestation, child weight), shows a summary of school health assessments and dental records, and shows referral letters, lab test results, and discharge information from public hospitals. Access to this system requires individuals to log in with their personal identifying information used for all access to government sites (e.g., tax assessments), so only parents have access to this personal information about their child. [HealthHub](#) is part of Singapore's drive towards being a Smart Nation and a milestone under the [2020 Health Care Masterplan](#) of MOH.

The developmental screening checklists include risk indicators for developmental conditions. Parents and health care professionals use the developmental milestones presented in the Health Booklet to detect delays in the child's development during screening and medical check-ups. If a developmental delay is suspected, children are referred to the Child Development Program (CDP) at one of the major hospitals for diagnosis of developmental concerns. The CDP is funded by MOH and has the main objectives of identification and treatment of children with developmental and

behavioral problems. Between 90 percent and 95 percent of children referred to CDP have their first referral between 2 to 3 years of age.

Table 5.1.1 Schedule of child development screening

Age	Type of Screening
1 month	Growth monitoring (weight, length, head circumference) Feeding history Hearing screening if not done at birth Physical examination and developmental check
3 months	Growth monitoring (weight, length, head circumference) Feeding history Hearing screening if not done at birth/4-8 months Physical examination and developmental check
4 months	Growth monitoring (weight, length, head circumference) Feeding history
5 months	Growth monitoring (weight, length, head circumference) Feeding history
6 months	Growth monitoring (weight, length, head circumference) Feeding history Hearing screening Physical examination and developmental check
9 months	Growth monitoring (weight, length, head circumference) Feeding history Hearing screening Test for squint Physical examination and developmental check (if not done at 6 months)
15 months	Growth monitoring (weight, height, head circumference) Physical examination and developmental check
18 months	Growth monitoring (weight, height, head circumference) Physical examination and developmental check (if not done at 15 months)
3 years	Growth monitoring (weight, height, head circumference, BMI) Test for squint Physical examination and developmental check
4-5 years	Growth monitoring (weight, height, BMI) Visual acuity and test for squint Stereopsis Physical examination and developmental check

Note. Adapted from "Health Booklet," by HPB, 2014

(<https://www.healthhub.sg/sites/assets/Assets/Programs/screening/pdf/health-booklet-2014.pdf>).

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The School Health Service team (a division within the HPB) visits schools annually to conduct health examinations and to administer the necessary immunizations for all students (HPB, 2015). The HPB also conducts yearly eye tests for preschool children for common eye conditions like myopia (short-sightedness). If the results show that the child may be shortsighted, they will be referred to HPB's Refraction Clinic for further assessment. Information from these assessments may be placed on a database of health information known as the Electronic Medical Records Exchange (EMRX) System (discussed further in Chapter 8). The health information may also be collated and used for national public health policy planning, ethically approved research, official reports and publications.

National health insurance. Medisave is a national medical savings scheme that helps individuals put aside part of their income into their Medisave Accounts to meet their personal or immediate family's hospitalization and outpatient expenses at both public and private healthcare institutions (MOH, 2015a). For individuals who are working, approximately 8 percent-10.5 percent of the monthly salary will be contributed to Medisave, which is like an individual savings scheme rather than a tax on wages. Medisave may also be topped up by voluntary contributions. Medisave can be used for pre-delivery expenses such as pre-natal consultations, ultrasound scans, tests, and medications, and for delivery expenses. To support parents with the child's healthcare, the government provides a monetary contribution in the form of a Medisave grant for each newborn. All newborns automatically qualify for \$2,880 (increased from \$2,160 in 2015). The grant can be used to defray the costs of the child's healthcare expenses, such as MediShield Life premiums, and the costs of recommended vaccinations, hospitalization, and approved outpatient expenses.

MediShield Life is a national health insurance plan, administered by the Central Provident Fund (CPF) Board, which helps to pay for large hospital bills and selected costly outpatient treatments. All Singapore citizen newborns are automatically covered by MediShield Life from birth, including those with congenital and neonatal conditions,

for life. The government also provides significant support to keep premiums affordable, including subsidies to those on low and middle incomes. The position of the government is that nobody will lose MediShield coverage due to the inability to afford premiums, and nobody will be denied care if they are unable to pay. Medifund is an endowment fund set up by the government to help individuals who have remaining medical bills after receiving government subsidies and after drawing on all other means of payment. Medifund applications are submitted by medical social workers and are evaluated by a committee of independent volunteers who are familiar with the problems faced by lower income individuals.

Nutrition

Breastfeeding promotion/support. Breastfeeding remains a highly charged issue in Singapore, where it struggles to be embraced by society. According to a nationwide survey conducted by the HPB in 2011, around 93 percent of new mothers understood that breastfeeding is the best form of feeding for a newborn. Yet only 50 percent of new mothers were breastfeeding their infants at the time of discharge, and this fell dramatically to just below 1 percent at six months, well short of the 30 percent target set by the WHO. As shared by the Breastfeeding Mothers' Support Group in Singapore (BMSG), when mothers leave the hospital and return home, they may be faced with conflicting advice from extended family members. Furthermore, many established cultural and social practices—such as getting confinement nannies to take over night feeds with a bottle during the confinement period—have a big part to play in the fall in breastfeeding rates in the few months following childbirth.

Small scale qualitative studies on increasing breastfeeding have reported that new mothers expressed a need for home visits by healthcare providers in the post-discharge period. As duration of hospitalization and education sessions in the hospitals had been brief, mothers felt they should have had more guidance and support on infant care skills and breastfeeding in the context of the home environment (Ong et al., 2014). In

2007, the Postnatal Home Care Service (PHCS) was set up by the Healthcare Services Employees Union (HSEU) in collaboration with SingHealth. This home-based care is provided by retired midwives who provide guidance on infant care and feeding, and the mother's own diet and nutrition. The service is paid for by the parents, but no information is available regarding the number of families engaging the service, or whether the service is still in operation.

The HPB and the Association for Breastfeeding Advocacy (Singapore) (ABAS) have been working with five hospitals (which together account for 80 percent of all births) to implement the Baby Friendly Hospital Initiative (BFHI) guidelines and achieve BFHI certification. The BFHI was launched by WHO and the United Nations Children's Fund (UNICEF) in 1991 as a global effort to implement practices that protect, promote, and support breastfeeding. These hospitals are committed to the principles outlined in the BFHI guidelines, and have implemented initiatives such as the provision of training to all maternity ward staff to provide breastfeeding counselling, consultation and support to mothers.

Social factors such as inadequate support from the workplace and communities, and embarrassment at breastfeeding in public spaces are also contributing factors to the low prevalence of breast feeding. To address these challenges, organizations such as NTUC U Family (a voice for working families that advocates the building of strong and happy families by championing work-life harmony) launched an initiative "Project Liquid Gold" in May 2013 (NTUC, 2015) to help raise awareness of the need to support working mothers to breastfeed their babies after the mothers return to work. It encourages office building owners and employers to provide suitable nursing rooms at workplaces and also to render reasonable break time for female employees to express their breast milk during office hours. Building of such facilities to support breastfeeding can be co-funded up to 50 percent (capped at \$14,400).

Furthermore, to prepare workplaces to be family friendly, NTUC U Family and ABAS have jointly developed a Workplace [Breastfeeding Mentor Program](#) to provide information and support to new mothers on breastfeeding. Promotion of breastfeeding is also accompanied by measures to protect parents from excessive marketing of infant formula targeted at children aged 0-6 months. In this respect, the Sale of Infant Foods Ethics Committee Singapore (SIF ECS) Code of Ethics was established to safeguard ethical standards on appropriate marketing and distribution of breast milk substitutes. Adherence to the Code is obligatory for the entire infant food industry operating in Singapore.

Iron fortification. No mandatory fortification regulation has been instituted. However, [Singapore's Sale of Food Act](#) (Chapter 283) Food (Amendment) Regulations 2017 states provisions for addition of nutrient supplements, which are defined as “any amino acid, mineral, or vitamin, which when added either singly or in combination with food, improves or enriches the nutrient content of food.” The Agriculture and Veterinary Authority (AVA) states that fortified food per specified reference quantity is required to contain at least 50 percent of the daily allowance of the nutrient. The Recommended Daily Allowance (RDA) value of vitamins (including vitamins A, C, D, B vitamins and folate) and minerals (including iodine, iron, calcium, and phosphorus) as well as the reference quantity of each food category, is specified in the regulation (International Life Sciences Institute, 2011).

There are recommended lists of foods that are rich in iron on the HPB website as well as the Agricultural and Veterinary Authority (AVA) websites for public viewing. Hospitals provide information to mothers recommending folic acid in early stages of pregnancy, but there is no stated national position. The HPB recommends iron-fortified rice cereal when mothers start to wean their baby from milk.

Child Protection Services

The Ministry of Social and Family Development (MSF) is the lead agency for protecting children and youth from abuse and neglect in Singapore. MSF is guided by the [United Nations Convention on the Rights of the Child](#) (UNCRC) and the [Children and Young Persons Act](#), and works closely with other government and non-government agencies to form the Child Protection System to safeguard the interests and welfare of children in Singapore. In 2002, MSF developed a set of standards for child protection work in Singapore. The [National Standards for Protection of Children](#) sets out the service standards and service delivery framework for partners in child protection.

Services for orphans. There is no available information regarding the number of orphaned children in Singapore. With the family recognized as the building block of society and the most natural environment for nurturing the young, it is likely that orphaned children would be cared for by other family members. Care for children whose parents are deceased or are dysfunctional is also provided by a number of community, religious, and voluntary welfare groups. Some orphans may be in out-of-home residential care with other children deemed to be vulnerable, although the Ministry of Social and Family Development (MSF) aims to have more of these children moved to home-based care with foster families. The MSF oversees the services for families and children and manages cases such as adoption, foster care, child abuse/neglect, vulnerable children, at-risk children, and children of incarcerated adults. MSF also monitors and supports the work of organizations such as self-help groups, religious organizations, family service centers and other volunteer and non-governmental organizations (NGOs).

Services for abused/neglected children. The [Children and Young Persons Act](#) was enacted in 1949 to provide for the welfare, care, and protection of children and young persons aged below 16. The Act strikes a balance between family authority and responsibility and the protection of children and young persons by the State. Recent amendments to

the Act provide greater protection and enhance the well-being of children and persons who are neglected, abused, or destitute and those who are placed in residential institutions. In the revised Act, emotional and psychological cruelty has been clearly spelled out as a form of abuse.

There are currently 22 children's and young persons' homes providing residential care programs (MSF, 2016b). Children and young persons admitted into these homes are those who are: from dysfunctional families and in need of shelter; abused or neglected; in need of care and protection; beyond parental control; and in conflict with the law. The Children in Care (CIC) Service under MSF oversees the out-of-home placements of children. Under the [Enable-A-Family \(EAF\) Volunteer Scheme](#), the CIC Service recruits volunteers to provide additional support for children who have been abused or neglected by their families. The volunteers befriend the families and their children, as well as provide different forms of support to the children and/or the foster families, such as tuition or bringing the children for outings.

The focus of child protection services (CPS) is proactive and preventive in its approach, instead of being limited to treatment and rehabilitation. CPS works with various stakeholders to deliver a child-centered, family-focused and community-based intervention. Such intervention includes supporting children and families with community-based help, such as Family Services Centers (FSCs) and Child Protection Specialist Centers (CPSCs). FSCs are a key community-based focal point and social service provider for families in need. The objectives of FSCs are to promote and improve the social well-being of every individual in the family. FSCs are staffed by social workers and other professionals. There are 47 FSCs located across Singapore, run by non-governmental organizations. About 10 percent of referrals to the CPS were deemed to be low risk and were referred to FSCs (e.g., families who need caregiving support, financial assistance, or counseling to better cope with stressors). The CPS referred 15 percent of cases to the CPSCs. The CPSCs deal with cases deemed to be of moderate risk (e.g., excessive discipline, drug-addicted parents) According to MSF

(2016), the three major CPSCs handle between 150 and 300 cases a year. MSF's projection is that at least 900 cases can be supported in the community.

Services for vulnerable children. The definition of vulnerable children in Singapore includes a number of different forms of vulnerability; e.g., children who are abused or neglected, children from low-income homes, children with special needs or learning difficulties, or children from dysfunctional homes. There are four homes for children who have a primary diagnosis of intellectual or physical disability. These homes accept children from 5 to 16 years of age and provide either long-term residential care or short-term respite care to children who are destitute, neglected, or whose caregivers are unable to care for them effectively. There is no specified information regarding the care of children aged below 5.

Some programs offered by non-government organizations and philanthropic organizations provide targeted health care support for vulnerable families. For example, Temasek Cares KIDS 0-3 is a community-based program aimed at optimizing the developmental potential of children from vulnerable families, starting from pregnancy up to the age of 3. The program provides a comprehensive spectrum of care (health, social, psychological, educational) through a multi-layered and integrated community health and social care support system. A cross-sector multi-disciplinary team comprising pediatricians, obstetricians, therapists, nurses, social workers, community health visitors, and other professionals work with the family to support the healthy development, early stimulation, and development of learning skills of the child, and also the well-being of the mother. Expectant mothers within a low household income bracket (\$468 household per capita income) are eligible for the program. Nurses, social workers, and community health visitors work together to: (i) encourage attendance at medical appointments and timely immunization of the child; (ii) provide antenatal and postnatal care, education, and counseling on family planning, nutrition, self and baby care, and breastfeeding; (iii) provide counseling and education on parent-child bonding and appropriate stimulation for the child; (iv) provide counseling and

psychosocial support for family issues, and conduct needs and risk assessments to identify areas where the family requires support and assistance; and (v) work with external agencies to facilitate support and resources for the family (e.g., financial, housing, healthcare).

KIDS0-3 includes home visits and a KIDS center providing a one-stop location for health, social, and educational services. The services are coordinated by a network of community partners including philanthropic organizations, government and health agencies, child development and education centers, non-governmental organizations, FSCs, and neighborhood organizations. The pilot program expects to serve 300 expectant mothers from diverse backgrounds over a three-year period, and will continue to follow these mothers until the children are 3 years of age. Over the long term, the pilot aims to validate and establish a sustainable model of care for vulnerable mothers and children that is scalable to a national level. The vision is to strengthen community capabilities to support vulnerable families and optimize healthy growth and development for every child.

Services for incarcerated children or children of incarcerated adults. The Community Action for the Rehabilitation of Ex-Offenders (CARE) Network is a group of community and government organizations that aims to improve the effectiveness of rehabilitation of ex-offenders. Under CARE, the [Yellow Ribbon Fund](#) (launched in 2004) provides initiatives to support ex-offenders and their families such as financial assistance, family bonding activities, tuition and enrichment programs for children, and mentoring. The Yellow Ribbon Community Project (launched in 2010), has grassroots volunteers visiting families of newly incarcerated inmates to determine what help they need and link them up to appropriate agencies. For example, volunteers identify inmates' children who may need help (such as counseling or tuition), and link agencies to support these children. The Yellow Ribbon Fund started a new initiative under its Yellow Brick Road program in 2014 to help inmates and their families. For example, social workers link families up with financial aid or help with finding a job. Through the program, activities are also

organized for inmates to bond with their children as well as offering tuition and enrichment workshops (such as in drama and music) for the children.

Case monitoring services. The MSF has a unit that oversees a team of social work officers (SWOs), which works with various organizations and professionals in supporting families and children in natural environments such as homes, schools, and communities. The SWOs provide statutory intervention and supportive services to address the needs of children and young persons who have been seriously harmed or are at high risk of serious harm. SWOs also provide the following services:

- conduct social investigations and provide case management services for children and young persons who have been abused or neglected by their caregivers.
- work closely with the public and people sectors to provide services for children who need statutory guidance or care and protection because of abuse, neglect or abandonment.
- provide therapeutic services for children, young persons and families known to the Child Protective Service Branch
- facilitate legal functions under the Adoption of Children Act

Social Protection

Domestic violence reduction. The MSF oversees issues related to domestic violence in Singapore, working with the social work and legal sectors to manage domestic violence. There are also organizations, including the Association of Women for Action and Research (AWARE), actively working towards reducing domestic violence by educating the public, creating awareness, and encouraging the reporting of cases of domestic violence. Anyone who encounters family violence can contact the nearest Family Service Center, Family Violence Specialist Center, the community-based Child Protection Specialist Center, or the police. Agencies are connected through the National

Family Violence Networking System (NFVNS) and respond to cases regardless of where the first incident report is made. There are three Family Violence Specialist Centers providing family violence intervention work, including remedial, preventive, and developmental services. There are also four crisis shelters that provide temporary refuge for women and children who are victims of family violence. Between 2012 and 2015, an average of 240 abused women and children per year sought refuge, with an average length of stay of four months (MSF, 2016c).

The Women's Charter contains measures to protect women and girls against exploitation, as well as a framework to protect all persons against family violence, including children (MSF, 2016h). There are also provisions concerning the development and enforcement of maintenance orders by the Court in favor of wives, ex-wives, incapacitated husbands, and children.

In November 2016, MSF launched the three-year "Break the Silence Against Family Violence" public education campaign, to renew and continue to raise awareness of family violence in Singapore. This followed findings commissioned by a study from MSF that sought feedback from 2,000 respondents on the barriers to reporting incidents of family violence. Respondents cited fear of breaking up a family, uncertainty of what family violence constituted, and the belief that family violence was a private matter, as barriers to not reporting incidents of violence. MSF worked with community and corporate partners to further raise awareness of family violence and to provide skills to help to safely step in to help victims.

Organization of Above Services

Ministerial Authority

Authority for the services described in this chapter is provided by two key Ministries, MSF and MOH, under which operate a number of inter-agency bodies and statutory review boards. The MSF is responsible for social protection and welfare, and families

and children. The Inter-Ministry Workgroup on Child Protection (IWCP) is chaired by MSF and sets the strategic policy direction for service planning and development in child protection, and defines the roles and responsibilities of the various partners. Members include MOE, MOH, Ministry of Home Affairs, Ministry of Law, Singapore Police Force, Attorney-General's Chambers, National Council of Social Services, MOH hospitals, and voluntary welfare organizations.

One of the statutory boards under MSF is the National Council of Social Services (NCSS). NCSS is the umbrella body for approximately 450 voluntary non-government organizations in Singapore. Their mission is to provide leadership and direction in social services, to enhance the capabilities of social service organizations, and to provide strategic partnerships for social services.

The MOH is responsible for providing information, raising health awareness and education, ensuring the accessibility of health services, and monitoring the quality of health services provided to citizens. It is also involved in the control of illness and disease in the country, coordinating the utilization of resources and expertise where necessary.

Note that the MOE and an integrated body (Early Childhood Development Agency, ECDA) also play key service and governance roles in ECEC and these are discussed further in later chapters (Chapters 6 and 11).

Chapter 6: Nature of ECEC Services

Key Points

- Services involving home visiting for families with children aged 0 to 6 are not provided at a national level. However, targeted initiatives provide in-home intervention for vulnerable families.
- In-home care and education of children aged 0 to 6 is not regulated. Such arrangements tend to be informal, with care provided by extended family or foreign domestic workers.
- Center-based care and education is provided for children from 2 months to 6 years of age. With the exception of a small number of government kindergartens, all provision is in the private sector (government-supported, not-for-profit, and for-profit centers).
- The number of children in center-based child care has risen dramatically over the last two decades. Enrollment in ECEC is high, particularly in the two years prior to entry to primary school. In contrast, only 21 percent of children under 2 are attending center-based care.
- As more women enter the workforce, there is increasing demand for more and flexible center-based provision.

Nature of ECEC Services Provided

Home Visiting

Home visiting is targeted at families deemed to be vulnerable. Home visits are always made in cases of child welfare to ascertain whether the child needs to be removed from the environment. Furthermore, a new service, the [Safe and Strong Families](#) (SSF) pilot program, was initiated by MSF in April 2016 to provide family preservation and family reunification services. This pilot program aims to provide more intensive and targeted

home-based service to vulnerable or in-crisis families so that children can remain safely with their family at home. SSF case managers provide intensive in-home intervention up to three times per week, in the hope that there will be a better understanding of the needs and strengths of families in their natural environment, and hence more relevant intervention. The first phase of intervention addresses issues related to the safe care of the child. Subsequent phases address issues related to creating behavioral change and sustaining positive changes in caregiving. Case managers and therapists provide families with counseling and coaching on parenting skills, and connect the family with community resources. Intervention is provided for up to 12 months, and families can continue to receive support in the community after the SSF intervention has ended. Families and children in the program started receiving services in February 2017, and the pilot will reach out to 400 eligible families over three years.

In 2016, ECDA began the pilot of a new program, KidSTART, to assist parents who require additional knowledge, skills, and resources to nurture and develop their own child's potential. ECDA works with partners such as hospitals, social services, family services, and preschool centers to proactively identify and reach out to families through home visits and parent education programs. One key aspect of KidSTART is home visitation. This consists of regular home visits to pregnant mothers and parents of infants up to 12 months of age, and provides sustained home-based support until the child is 3 years old. Home visitors provide parents with support in skills and practical knowledge across areas of child growth, health and nutrition. Home visitors also liaise with other partners such as Family Service Centers and preschools to ensure that the holistic needs of the family are met. The home visitor may be from KK Women's and Children's Hospital or ECDA, and is supported by multi-disciplinary professionals, such as paediatricians, nurses, and social workers. Parent group sessions also provide parents and children with opportunities to interact with other families, and to develop a strong network of peer support within the community.

Parenting education

Specific initiatives are in place to provide targeted parenting education to those most in need. In 2007, MOE started working with all primary schools to identify children who are not attending preschool at the point of the Primary 1 registration. The MOE worked with community leaders to visit homes and help parents to understand the importance and benefits of attending preschool. Once identified, parents of these children are assisted in obtaining places in a preschool, and are given information on how they can help their children adjust to the learning environment.

One key aspect of KidSTART is Supported Playgroups—weekly community-based playgroup sessions targeted at parents and their children (up to age 3). Sessions seek to build parental skills in child development and parent-child bonding through evidence-based curricula of structured and purposeful play. Parents are provided educational resources to reinforce their learning. Sessions for this component of the program are delivered by ECDA-trained facilitators, who conduct home visits for families who need additional support and facilitate children's placement in appropriate preschool programs. A final element of KidSTART is Enhanced Support to Preschools. Selected preschools receive additional resources to improve engagement with and support for parents, and to improve the child's school readiness. This may include addressing barriers related to poor preschool attendance and referrals to other support programs to ensure children's developmental needs are addressed. "Child Enabling Executives" are in charge of providing this support; they are deployed to the selected preschools to work with the children and their families. One thousand children are expected to benefit from this three-year pilot program. Similar programs are also being piloted by other groups, e.g., Circle of Care (led by the Lien Foundation), and the KIDS 0-3 program (led by KK Women's and Children's Hospital), targeting mothers prior to the birth of their child (discussed in detail in Chapters 5 and 13).

In-Home Care and Education

Family child care homes. Informal care arrangements may be made with neighborhood babysitters, typically an older woman from the local neighborhood who would provide care in her own home. Some families may also hire a nanny to care for their child in the home environment. In both cases, the main provision is physical care and there is no planned program for the children. Other families may hire a foreign domestic worker (FDW) to look after the house and care for children. Many FDWs have limited experience or education in child development, and may not speak the mother tongue language used in the home. Families can pay for their FDW to attend training courses in child care through FDW Association for Skills Training (FAST). The most likely arrangement for in-home care would be with extended family members. ECDA provides information on courses available to support caregiving of children at home. For example, the Care and Learn Workshop is a six-hour program targeted at parents, grandparents, babysitters, and FDWs, focusing on topics such as child development, care-giving skills, safety, health, hygiene, and nutrition, learning through play, child care practices, and community resources and networking.

The Family Day Care Service is a more formalized version of conventional nanny and baby-sitting services, providing home-based care for infants and toddlers by caregivers who have received training through approved agencies such as the Association of Early Childhood Educators Singapore (AECES). ECDA promotes and facilitates the implementation of the Family Day Care Service at the community level through selected child care centers, who match caregivers with parents. The 30-hour Family Day Care course equips professional home-based caregivers with skills and knowledge of how to plan and provide for the development needs of young children in a home setting. Focus topics include the role of the caregiver, safety, health, nutrition, planning the day for the child, managing children, appropriate guidance and discipline, and caregiver and child relationships.

Despite there being training for both informal and professional home-based caregivers, there is no monitoring or regulation of child care practices within the home, and there is no information regarding enrollment numbers in the training courses.

Family child care centers. Currently there are no family child care centers in Singapore that are licensed or regulated by the government.

Center Based Care and Education

The provision of center-based care and education has been influenced by Singapore's welfare, economic, and population policies (Khoo, 2010). In the 1940s and 50s, the provision of child care was motivated by the need to provide welfare for low-income families. Under the Social Welfare Department, child care centers began as a feeding scheme for poor and undernourished children. During the rapid industrialization of the 1960s and 70s, additional centers were set up to encourage more women to work in order to supplement family income. In 1977, the government divested its 11 child care centers to the National Trades Union Congress (NTUC) and encouraged non-government organizations and the private sector to offer services instead. At this time, the government assumed the role of regulator and policy-maker, relinquishing all direct service provision. In 1984, a move to encourage female participation in the labor force led to new policies and legislation to increase the quantity, quality, and affordability of child care centers. The [Child Care Centers Act and Child Care Center Regulations of 1988](#) were established to regulate and license child care centers.

Kindergarten provision during the colonial era and after World War II was available via churches and the private sector and was mainly attended by children from middle- and upper-income families. The PAP set up three kindergartens in the 1960's, but it was not until the mid-1980s and the establishment of the PAP Community Foundation that affordable kindergartens were available to the masses (Khoo, 2010). Preschool provision from the MOE was initially targeted at children aged 5 to 6 as a one-year Pre-Primary

Program (PPP) to facilitate early learning of English and Chinese languages and to arrest declining enrollment in Chinese medium schools. However, studies conducted in 1984 showed that by Primary 3, there was little difference between the language abilities of children who attended the PPP and those attending non-MOE kindergartens. As a result of these findings and the high cost of running the PPP, the PPP was discontinued in 1990. In 1990, the MOE also trialed a seven-year primary education structure, which included a one-year Preparatory Year Program (PYP) for 5-year-olds. The PYP was meant to set benchmark standards to raise the quality of preschool education. There was high demand for the PYP because it was highly subsidized and of good quality, and was linked to admission to Primary 1 in the same school. The plan was to phase out PYP once private kindergartens were perceived to be providing preschool education of acceptable standards. In fact, the PYP was phased out just three years later as MOE decided to concentrate on improving the formal education system, and due to the high cost of expanding the PYP to the whole sector. At this point, there was no public preschool provision from the MOE with all provision being in the hands of the private sector.

The turn of the century represented a pivotal turning point in the push towards improving ECEC in Singapore. Then-Senior Minister of State for Education, Aline Wong, articulated the government's stance towards the preschool sector:

"Simply pouring money [into preschool education] will not raise quality automatically. We must carefully decide how to deploy resources so that most children can get the best value out of preschool education.... we will be more involved in preschool education, paying particular attention to high-leverage areas like defining outcomes, designing a developmentally appropriate curriculum, training teachers, conducting research, and improving our regulatory framework..." (MOE, 2000).

It was also emphasized at that time that MOE would not take over preschool education, and that there was merit in maintaining provision in the hands of providers from the

private and community sectors. Maintaining different providers ensured there would be different philosophies and schools of thought to meet the differing needs of children and their families. It was not until 2013 that the MOE started operating a small number of public kindergartens with a view to providing quality and affordable education, to pilot teaching and learning resources that would be shared with the sector, and to work with other operators to distill best practices in the sector.

Settings and types of services. In this description of ECEC settings, we use the term “preschool” to refer to any center-based care, regardless of age of the child or type of provision (child care versus kindergarten). Details of programs are shown in Tables 6.1 and 6.2 and Figure 6.1. Kindergartens provide educational programs for children from approximately 3 to 6 years of age. Kindergartens are open from Monday to Friday, and have the same school holiday as the primary schools. Child care centers provide child care and education for children between 18 months and 6 years. Some centers may also provide infant care programs for infants between 2 and 18 months. There is a flexible arrangement of provision hours up to a maximum of 12 hours (typically 7am to 7pm) Monday to Saturday. Child care centers only close for official public holidays and a maximum of seven days annual closure, which need to be approved by ECDA.

There are currently 1,861 preschools in Singapore (495 kindergartens, 1,366 child care centers and 492 infant care centers). Some infant care centers are completely separate from child care centers, while others are integrated within a child care center. Virtually all ECEC provision, except the MOE Kindergartens, is provided by private for-profit, not-for-profit, or government-subsidized providers. One of the largest providers of center-based care (both child care and kindergarten) is the People’s Action Party Community Foundation (PCF) established as a non-political voluntary welfare organization, associated with the ruling political party offering educational, social, and welfare provision to the masses. This is a uniquely Singaporean creation, a route through which MPs in the current ruling political party can be in touch with the needs

of residents in their constituencies (Lim & Lim, 2017). The National Trades Union Congress (NTUC) is one of the largest child care providers.

Table 6.1. Overview of ISCED Level 0 and 1 in Singapore



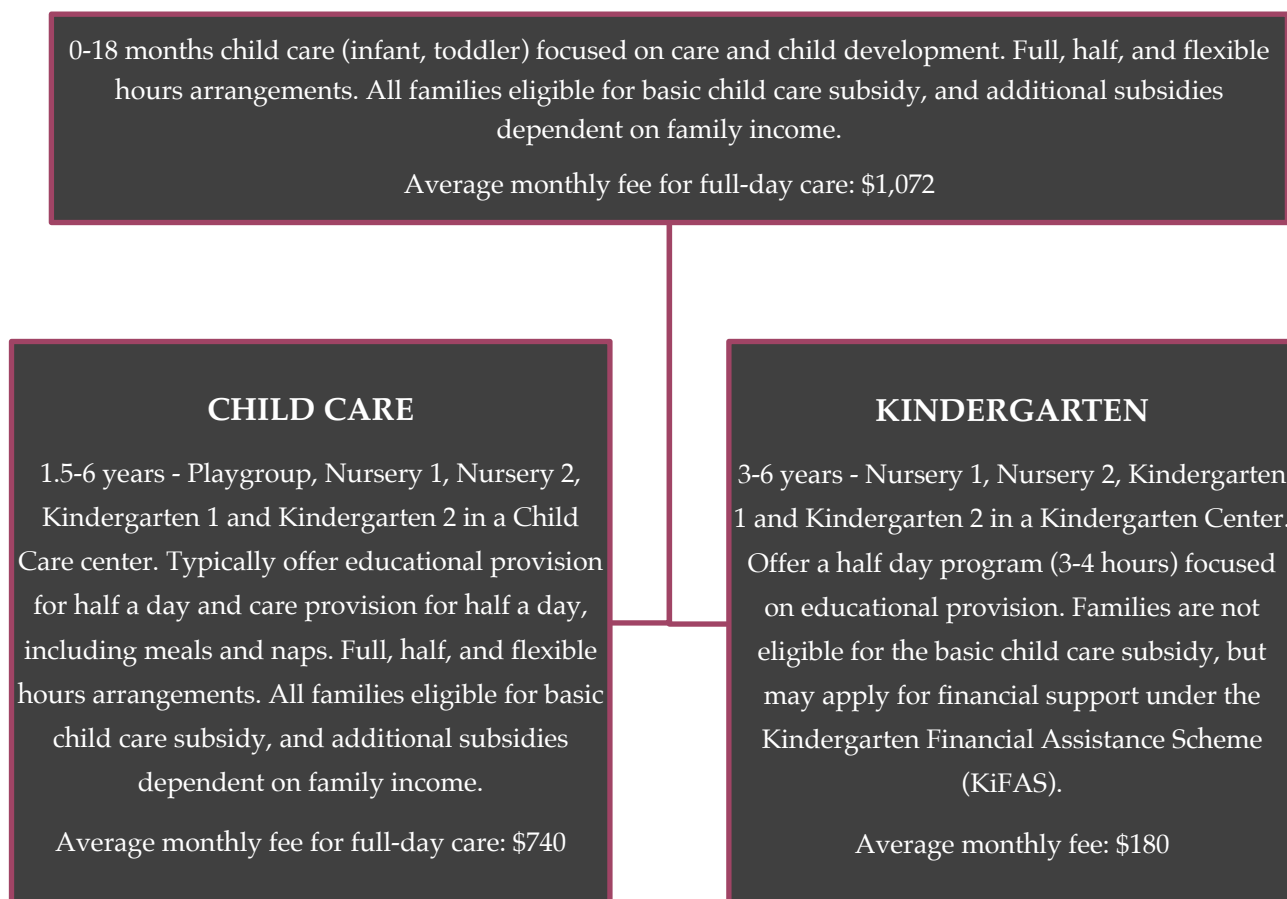
Age of children										
0	1	2	3	4	5	6	7	8		
Center based infant and toddler care (2 -18 months)				Kindergartens -Nursery 1 (year child turns 3) -Nursery 2 (year child turns 4) -Kindergarten 1 (year child turns 5) -Kindergarten 2 (year child turns 6)			ISCED 1 (year child turns 7)			
		Child care Centers -Play Group (year child turns 1.5) -Nursery 1 (year child turns 3) -Nursery 2 (year child turns 4) -Kindergarten 1 (year child turns 5) -Kindergarten 2 (year child turns 6)								
Key										
ISCED level 0										
ISCED level 1										

Figure 6.1. Structure of ECEC center-based provision in Singapore.



The Singapore government (under MOE) operates 15 state-run kindergartens. In 2017, the Prime Minister announced that the number of MOE Kindergartens will be increased to 50 by 2023, serving approximately 20 percent of children aged 5 to 6. This represents a significant expansion in the capacity of Singapore's ECEC system, with over 40,000 new preschool places being added, representing an increase of 30 percent in total capacity. All children attending MOE kindergartens will have the option for after school care offered by a different provider but in the same center; this essentially means the MOE kindergartens will be following a child care model of provision.

In 2009 and 2016, respectively, the [Anchor Operator Scheme](#) (AOP, for all types of center-based care) and [Partner Operator Scheme](#) (POP, for child and infant care operators) were introduced. These schemes provide funding support to selected preschool operators to increase access to good quality and affordable ECEC. ECDA provides funding directly to centers to enable them to keep fees low, ensuring a monthly maximum fee payable by parents of approximately \$1,078 for full day infant care, \$616 for full day child care, and \$123 for kindergarten. Preschools under the AOP have to commit to investing in quality improvement and support of continuing professional development. AOP preschools are selected based on a range of criteria including financial stability, governance processes, high program quality, affordability, and the ability to increase capacity. They include PCF, NTUC, one not-for-profit, and two private providers. Just over 50 percent of all preschool children in center-based care attend an AOP center. The POP has a minimum size requirement of 300 child care places for each operator to encourage economies of scale and career progression for teachers. Smaller operators may partner others to submit expressions of interest as a group. All POP preschools are required to attain SPARK certification. There are 23 POPs running 169 centers; 16,500 children are expected to benefit from this scheme between 2016 and 2020.

Table 6.2. Main setting types and characteristics of services for children aged 0-3 years (0.1) and children aged 3 to the start of primary school (0.2)

	Setting type	Serving children aged...	Typical length of day (hours)	Funding type	
				Publicly subsidized*	Privately subsidized
0.1	Center-based child care	2 months -3 years	Full Day: 12 hours Half Day: 6 hours Flexible: min 12 hours a week and 3 hours per session	•	•
	Home-based, non-relative day care (not child's own home)				
	Kindergarten, private				
0.2	Center-based child care	3 years – 6 years old	Full Day: 12 hours Half Day: 6 hours Flexible: min 12 hours a week and 3 hours per session	•	•
	Home-based, non-relative day care (not child's own home)				
	Kindergarten, public (MOE)	4-6 years	3-4 hour per day	•	•
	Kindergarten, private	3-6 years	3-4 hour per day	•	•

Boundary Spanning Mechanisms

ECEC has been governed as a combination of both split and parallel systems. Historically, child care centers and kindergartens came under the purview of MSF/MCYS and MOE, respectively; they had different policy objectives (custodial care versus education); and they were regulated under different legislation (the Child Care

Centers Act for child care centers versus the Education Act for kindergartens). The parallel system reflected the fact that both ministries provided preschool education to children aged 4 to 6, and both were guided by the same curriculum framework. The split system applied because MSF also had responsibility for children aged 2 months to 3 years. While the late 1990s and early 2000s saw MCYS and MOE forming high-level inter-ministerial committees tasked with aligning and improving the quality of preschool education (Khoo, 2010), it was only in 2012 that the Prime Minister announced the establishment of a new autonomous statutory board to oversee ECEC (PMO, 2012).

ECDA is a within-government boundary spanning mechanism. ECDA serves as the single point of contact for: (i) children attending infant and child care centers and kindergartens; (ii) new and existing ECEC professionals; (iii) parents, families, and the wider community of caregivers; and (iv) child care center and kindergarten operators. Staff from both MSF and MOE are positioned within ECDA. ECDA's key responsibilities include all those expected of a boundary spanning mechanism: (i) overseeing measures to enforce and incentivize quality of ECEC programs, including regulation, quality assurance, and the provision of ECEC resources such as curriculum frameworks; (ii) facilitating the training and professional development of ECEC professionals; (iii) creating a master plan for infrastructure and manpower resources to support the ECEC sector; (iv) providing subsidies and grants to keep quality preschool programs affordable; (v) conducting public education and outreach; and (vi) uplifting the image and professionalism of the ECEC sector through strategic partnerships and programs.

Enrollments in ECEC Services

The number of children attending preschool has surged in the last decade. Between 2007 and 2017, the number of available places in child care centers more than doubled, from 62,911 to 143,468, and child enrollment increased from 50,290 to 108,351;

conversely, enrollment in kindergarten decreased from approximately 82,000 to 59,620 (Department of Statistics, 2016; PMO, 2017). These trends occurred because parents chose to enroll their children in child care to provide full day care for their child when they returned to work, and because of basic financial subsidies for all children registered in a licensed child care center, which are not available for children enrolled in kindergarten. Between 2012 and 2016, the number of infant care places also increased from 4,722 to 7,032, with enrollment increasing from 2,604 to 4,306. Information provided by ECDA (personal communication, 31 October 2017) suggests that while enrollment of children up to the age of 2 is relatively low (21 percent), this increases dramatically to 69 percent for Nursery 1 (the year children turn 3), and is between 89 percent-91 percent for all subsequent years (see Table 6.3). Driven by meritocratic ideals, parents are anxious to provide children with educational opportunities from an early age; parents may view the educational programs at Kindergarten 1 and Kindergarten 2 as more important than care programs offered below this age, explaining the near universal attendance of children aged 4 years and older in center-based care despite it not being compulsory.

Table 6.3. Enrollment rates for children aged from 0-3 years (0.1) and from 3 years to the starting of primary schooling (0.2) at different ages

Enrollment rates as a percent for age groups 0-7	Singapore
Enrollment rate as percent <1 years	21
Enrollment rate as percent 1 <2 years	
Enrollment rate as percent 2 <3 years	69
Enrollment rate as percent 3 <4 years	89
Enrollment rate as percent 4 <5 years	91
Enrollment rate as percent 5 <6 years	90
Enrollment rate as percent 6 <7 years	-



Part 4 Systemic Outputs: Fostering Quality Services

Chapter 7: Pedagogical Approaches and Curriculum

Key Points

- Two curriculum frameworks have been developed to enhance ECEC quality for children aged 2 months to 3 years (Early Years Development Framework; EYDF) and children aged 4 to 6 (Nurturing Early Learners Kindergarten Curriculum Framework; NEL). Within their broad frameworks, the NEL and EYDF provide a seamless and coordinated approach to the care, development and learning of children from infancy through to age 6.
- Both curriculum frameworks are centered on the vision of the child as an active, curious, and competent learner. A holistic approach focused on purposeful play is emphasized.
- The curriculum frameworks were developed to be broad enough to allow the adoption of a range of pedagogical approaches.
- The government actively supports innovation in curriculum and pedagogy through funding of grants, and the sharing of ideas and resources across the sector.
- Key challenges include the alignment of parent expectations with a pedagogy emphasizing play rather than academic achievement, and the competence of teachers to put play-based pedagogical approaches into practice in the classroom.

Curriculum and Pedagogical Approaches

It should be noted that the main curriculum and pedagogical approaches espoused by the government are not mandatory, and autonomy is given to preschools to adopt their own pedagogical approaches to meet the diverse needs of children. However, the NEL Framework was adopted by child care centers for its kindergarten programs as part of its licensing requirements in 2009 (ECDA, 2013b), and centers choosing not to follow the

NEL Framework have to justify their decision and document the suitability of the alternative curriculum or pedagogy they are adopting. There is no information regarding the percentage of preschools formally adopting the NEL Framework. Furthermore, it has been acknowledged by ECEC stakeholders that not all ECEC professionals are aware of the existence of these two curriculum frameworks.

Current Epistemological Beliefs and Values

The curriculum frameworks are deliberately broad in their guiding principles, but clear in encouraging a holistic and play-based approach to children's development and learning. The frameworks do not require curricula to be standardized and the curricular principles are not inconsistent with those found in other popular EC curricula, leaving flexibility for preschools to design their own educational programs and activities.

The refreshed [Nurturing Early Learners \(NEL\) Kindergarten Curriculum Framework](#) (MOE, 2013c) articulates MOE's beliefs on how children learn and develop. It is applicable to children aged 4 to 6 in both child care and kindergartens. The theoretical underpinnings of the NEL Framework are drawn mainly from Piaget's (1896-1980) theory of children as active, self-motivated and able to learn, Vygotsky's (1896-1934) views of the importance of social interaction with peers and more knowledgeable facilitators in children's learning and development, and Dewey's (1859-1952) ideas emphasizing the need for active learning through authentic experiences. Based on these theoretical principles, at the core of the NEL Framework is the conception that children are active, curious, and competent learners. Stemming from this belief, the framework advocates "iTeach," the acronym for the six principles that should guide teaching and learning.

i – integrated approach to learning

T – teachers as facilitators of learning

e – engaging children in learning through purposeful play

a – authentic learning through quality interactions

c – children as constructors of knowledge

h – holistic development

The [Early Years Development Framework](#) (EYDF) (ECDA, 2013b) was developed for younger children aged 2 months to 3 years. While not articulating a specific belief statement, it embraces a broader vision of “children being secure, confident, safe, and healthy,” “children being involved, engaged, and enquiring,” and “centers, families, and the community connecting and relating” (ECDA, 2013b). Children are viewed as being intrinsically motivated and self-directed, and as competent to construct their own knowledge through interaction with the social and physical environment. This broad vision is in line with the NEL Framework in that children are viewed as active, curious learners who need a physically and emotionally safe environment in which to learn, construct, and explore. Five guiding principles uphold the EYDF vision of the child and the conditions that support children’s development and learning:

- The developing child: The young child needs good nutrition, a safe, culturally sensitive and stimulating environment, and responsive, nurturing adults to promote the child’s holistic development.
- The intentional program: The program, environment, and curriculum are flexible to meet the needs of young children, focusing on positive interactions and building warm and nurturing relationships. The environment is created to facilitate play and exploration. The program provides culturally and

developmentally appropriate opportunities for children's holistic development and learning in a safe and healthy environment.

- The professional educator: The educator is aware of different developmental stages and milestones, especially the need for infants and toddlers to develop secure attachments and relationships, and is aware of differing needs of children in his/her care. The professional educator will also reflect on their own practices and will seek to continually develop their skills and knowledge in working with young children, their families, and the community.
- An involved family: Establishing an open, respectful, culturally sensitive, and friendly relationship with families is seen as essential in building a strong home-center partnership and in ensuring consistency and continuity in the child's care and development.
- An engaged community: Engaging the community as support and resources in children's learning and development. For example, making use of community resources such as libraries and playgrounds, engaging community partners to speak about, e.g., road safety, oral hygiene, or providing support for parents through parenting education or referral to community support services.

Defining Curriculum and Pedagogical Approaches

The key outcomes of preschool education outlined in the NEL Framework align with the overall [desired outcomes of education](#) for primary, secondary, and tertiary schooling stated by MOE, and reflect the importance of the holistic development of the child. The key stage outcomes emphasize the need for children to build confidence and social skills in the preschool years and be equipped with the necessary skills, knowledge, and dispositions to prepare them for lifelong learning. According to the NEL Framework (MOE, 2013c), at the end of preschool education (i.e., at the end of Kindergarten 2), children should:

- Know right from wrong
- Be willing to share and take turns with others
- Be able to relate to others
- Be curious and able to explore
- Be able to listen and speak with understanding
- Be comfortable and happy with themselves
- Have developed physical coordination and healthy habits, and participate in and enjoy a range of arts experiences
- Love their families, friends, teachers, and school

The desired outcomes make a statement about focusing on developing young children with positive dispositions who are educated to fit into a society that values hardworking citizens who are law-abiding, who value order, and who are respectful and considerate towards others (Lim & Lim, 2017). To achieve these desired outcomes, knowledge and skills are acquired through six learning areas (described below) through the nurturing of positive behaviors and attitudes toward learning: perseverance, reflectiveness, appreciation, inventiveness, sense of wonder and curiosity, and engagement. The emphasis is that children should learn these skills in an integrated way, through activities that develop several skills at the same time. A thematic approach to teaching and learning is advocated, where learning activities revolve around a theme, story, or project. The belief is that integrated approaches help children draw meaningful connections across different learning areas and understand how knowledge and skills are linked (MOE, 2013c).

Despite openness to Western educational principles, the existing curriculum frameworks and pedagogy in Singapore are also hybrid in nature. Indeed, there is at least one feature in which the NEL Framework reflects traditional Asian cultures and values: the understanding of the roles that teachers should play in children's education (Tan, 2007). In the NEL Framework, the teacher is conceived as a facilitator, mediator,

and guide of children's learning; as a designer of the learning environment; and ultimately, as the person in charge of establishing the learning goals and providing children with activities, resources, or materials. Some of these elements are aligned with Western notions, but this way of conceiving the teacher's roles and responsibilities may be interpreted as a reflection of Confucian traditional values of respect for elders and authority, scholarship, and learning (Lam, 2015).

A paradigmatic example of how Western ideas have been adapted (rather than adopted) in Asian educational systems is the NEL Framework's notion of "purposeful play" (MOE, 2013c). In contrast to the notion of free-play, where children are given total freedom and teachers just observe from the background and intervene only under children's request, purposeful play involves children engaging in activities that are intended to foster specific learning outcomes (previously established by the teacher), predominantly within environments that are also carefully designed by the teacher (e.g., learning corners). At a conceptual level, some scholars and practitioners argue that the relative control exercised by the teacher in purposeful play is against the very notion of play (Leggett & Ford, 2013) and is more aligned with "intentional teaching" rather than a play-based approach.

The EYDF also emphasizes learning through play and exploration, with a focus on building positive interactions and warm and nurturing relationships. The program for infants, toddlers, and nursery children is defined by care-giving, play, and other daily routines for physical care, building relationships, learning, and developmental experiences. For example, routine care-giving moments are used to foster pleasant and enjoyable relationships, but are also seen as important opportunities for the educator to foster the child's language, cognitive, and socio-emotional development. Aside from the opportunities for learning and development afforded through every day care routines, play is seen as the major pedagogy for learning, e.g., sensorial and object play, social and dramatic play.

The EYDF overlaps with the NEL framework for 4- to 6-year-olds, providing continuity of support from 2 months to 6 years. Compared to the NEL Framework, play in the EYDF is much more child-led, with the educator providing appropriate resources and environments dependent of the child's age and developmental level. Within the EYDF there is also a stronger focus on the development of secure attachment relationships rather than on developing children in specific learning areas. While the EYDF and the NEL Framework provide the nationally defined pedagogical and curriculum approaches, the fact that preschool provision is in the hands of private providers means that other approaches are evident in Singapore (e.g., Montessori, Reggio Emilia, and Waldorf).

Historical Evolution of Curricular/Pedagogical Approaches

Before 2003, preschool education (particularly Kindergarten 1 and 2) was perceived as preparation for primary school. There was a focus on academic skills through a didactic teaching approach, with children completing repetitious exercises and worksheets (Tan, 2007). This stood in stark contrast to pedagogical approaches in Western education systems. The competition faced by globalization resulted in demands for educational change in pedagogical practices. It was argued that basic academic skills, while important, should not be considered to be of greater importance than children's moral, social, emotional, and physical development.

The government argued that the definition of school readiness was not mastery of the Primary 1 syllabus, but rather that children are ready for school when they are eager to learn, have confidence, perseverance, and an ability to communicate, make friends, and understand socially appropriate behaviors (Tan, 2017). In 2002, the government conveyed the message to parents that children will be best prepared for learning in school if they develop the curiosity and eagerness to learn during their preschool years. As expressed by Tharman Shanmugaratnam, then-Senior Minister of State for Trade and Industry and Education, *"the child who has his curiosity ignited in his early years, who*

develops an excitement about learning and interacts easily with others, will have a head start in life” (MICA, 2002).

Frameworks from other countries (e.g., Australia, Hong Kong, UK, and USA) were used as reference, along with input from local researchers and various stakeholders. A local pilot project conducted between 2001 and 2002 and involving over 1,300 children, evaluated the impact of a new curriculum emphasizing interactivity, discovery, and experimentation on children’s language, social, and intellectual development (MOE, 2003). Findings indicated that exposure to this curriculum resulted in significant improvements in problem solving and social skills, and some aspects of English language skills. Moreover, children from low SES and non-English speaking homes were found to benefit most (MOE, 2003).

With the introduction of this curriculum framework in 2003, there was no one specific pedagogical approach mandated, although the emphasis was on learning through play. It was acknowledged that there was flexibility, depending on the situation and the needs of the children, for both a teacher-led didactic approach and a teacher-facilitator approach to learning, where the teacher provides children with opportunities to explore and discover and initiate their own activities. A set of desired outcomes was formulated that emphasized the whole development of the child and sought to encourage character building, acceptable social behaviors, and a sense of self-worth (Nyland & Ng, 2016). The desired outcomes specifically did not emphasize academic learning achievements. In 2008, the MOE published a new curriculum guide to extend the 2003 curriculum framework and to differentiate between “child-directed play” and “teacher-directed play.” The teacher’s role as the director of play was highlighted, along with an emphasis on active and holistic child learning.

Changes to the curriculum were driven by a growing recognition of developmentally appropriate practices, but also by a need to nurture Singapore’s most precious asset—the future human resource. Education and “nurturing every child” are seen as key to

economic development. This has also resulted in a shift in the pedagogical approach from a purely knowledge-transmission education model to one that emphasizes creativity and self-directed learning (“Thinking Schools, Learning Nation” and “Teach Less, Learn More”), in a bid to provide the high-skilled creative, flexible workers needed for the 21st century economy. This shift in pedagogical approach has filtered through all levels of education, and is reflected in the dispositions highlighted in the NEL framework (perseverance, reflectiveness, appreciation, inventiveness, sense of wonder and curiosity, and engagement), which are deemed to be essential for an innovative society and economy, and are aligned with MOE’s [desired outcomes of education](#).

Framework Documents that Influence Curriculum

The key framework documents that influence curriculum are the nationally mandated regulations in the Child Care Centers Act and Education Act (replaced with the Early Development Centers Act in 2017—for more details see Chapter 4), and the EYDF and the NEL Framework, as described in previous sections. Accompanying the NEL framework are [NEL Educators’ Guides](#), which are designed to help preschool educators put into practice the teaching and learning practices articulated in the framework. These include a guide providing an overview of how children develop and learn, and six separate guides related to each of the six learning areas. The guides include teaching strategies, suggestions on organizing the environment, and ideas regarding how to observe and assess learning. There is also an [NEL Framework for Mother Tongue Language \(MTL\)](#), which articulates the broad vision, objectives, guiding principles, and learning goals for MTL teaching and learning. The guiding principles support MTL teachers in their planning and implementation of their MTL curriculum, and in observing and assessing children’s MTL learning. The Framework and educator guides are available in English, Chinese, Malay, and Tamil.

Nature/Content of Curriculum

The NEL Framework defines six core learning areas to support the holistic development of the child. These are: (i) Aesthetics and Creative Expression, (ii) Discovery of the World (which includes people and cultures; natural and built environments; places and spaces; science, time and events; and inventions and technology), (iii) Language and Literacy, (iv) Motor Development, (v) Numeracy, and (vi) Social and Emotional Development. Religion is specifically not a recognized area of learning, and parents who wish for their child to receive religious education often send their children to preschools run by churches, mosques, or temples. Within each area of learning, a set of learning goals is defined reflecting what children should know and be able to do upon completion of preschool (i.e., by the end of Kindergarten 2). For example, the NEL framework guide for Language and Literacy (MOE, 2013d) states the learning goals as: (i) listen for information and enjoyment; (ii) speak to convey meaning and communicate with others; (iii) read with understanding and for enjoyment; (iv) use drawing, mark making, symbols and writing with invented and conventional spelling to communicate ideas and information.

Within each of these four learning goals, there are clearly identified knowledge, skills, and dispositions, and examples of what children's learning and development would look like. An example for the last language and literacy learning goal, "Use drawing, mark making, symbols and writing with invented and conventional spelling to communicate ideas and information," is shown in Box 7.1.

Box 7.1. Example key skills to be developed, and how these skills could be observed.
From the NEL Framework Language and Literacy Guide (MOE, 2013d, p. 29)

Key knowledge / skills / dispositions	Examples of what children's learning and development look like
<ul style="list-style-type: none"> • Recognise and write own name • Form upper and lower case letters of the alphabet • Copy cards and phrases with understanding of basic writing conventions (e.g., spaces between words, use of upper and lower case letters) 	<ul style="list-style-type: none"> • Show beginning control and manipulations when holding a fat pencil / marker • Show proper posture and hold fat crayon / marker with correct pencil grip • Use fat pencil / marker to make scribbles and letter-like form • Use symbols to represent ideas (e.g., draw circle for moon) • Use different forms of writing during play (e.g., make a shopping list, create a birthday card for a friend) • Move from left to right when copying phrases • Put spacing between words • Form letters of the alphabet using materials such as buttons and beads • Write own name using upper and lower case letters • Copy individual words and phrases from a book / sheet in front of them

In the EYDF, there are no prescribed learning areas per se. Rather, there is guidance to educators on how they might facilitate and observe development in many of the learning areas highlighted in Table 7.1 through care-giving routines, play, and other daily experiences. For example, to observe dispositions to learning, educators are guided to look for children demonstrating exploration of objects, persistence in the face of challenges, and manipulation of resources, among others. Areas covered include personal and emotional development, communication and language development, cognitive development, early numeracy and problem solving, aesthetic experiences, and physical development and health. The learning areas are not used to guide assessment of children, but teachers are provided with guidance on how to document children's

learning and development to allow for objective feedback to parents, and to inform curriculum decisions and planning (e.g., revision of activity plans in response to children's needs).

Table 7.1. Areas of learning included in curriculum guidance for children aged 0-3 years (0.1) and children aged 4 to the start of primary school (0.2)

Areas of learning in prescribed curriculum guidance	Level 0.1	Level 0.2
Personal and emotional development	●	●
Social development including citizenship, values	●	●
Attitudes and dispositions to learning Physical development and health education	●	●
Language development and communication skills	●	●
Reading and literacy skills	●	●
Mathematical skills	●	●
Understanding the natural world	●	●
Science	●	●
Technology and the digital world	○	●
Expressive arts music, and creativity	●	●
Second / foreign language	○	●
Religious and spiritual	○	○
Key:		
● Yes, national guidance includes this area of learning		
○ No, national guidance does not include this area of learning		

Use of Time and Space

Guidance on the use of time and space is provided in both the EYDF and the NEL Framework, and via guidance notes provided by ECDA on setting up a preschool center.

The physical environment (both the indoor and outdoor space) of a preschool should invite exploration and experimentation and not stifle creativity or restrict imagination. The EYDF provides guidance on how the physical environment can stimulate learning and physical development for children of different ages, particularly when there is a premium on space and accessibility to a suitable outdoor environment (ECDA, 2013b). Very few centers have the luxury of a dedicated outdoor space, instead making use of community resources. Educators and teachers are encouraged to make use of playgrounds located within housing blocks and neighborhood parks, and to spend time in the natural environment. The construction of learning centers in the classroom is promoted, along with the arrangement of space to encourage both individual and group work. Teachers are guided to provide a variety of materials that are able to sustain children's interest, are non-restrictive, which allow children to be creative and imaginative, and which are presented in a way that encourages exploration and experimentation. Use of technology to enhance the teaching and learning environment in a developmentally and culturally appropriate manner is supported, but it is emphasized that technology should supplement, rather than replace, activities such as outdoor play, water and sand play, art and craft. One challenge facing many providers in the ECEC sector is the availability of space. In the recent project "[A Different Class: Preschool Spaces Redefined](#)," the Lien Foundation introduced 10 new preschool concepts looking at space in Singapore in a different way, through a discovery of underused and overlooked plots that could be developed into unique and innovative spaces for preschool centers.

The temporal environment refers to time for activities such as routines and transitions between activities. Teachers are encouraged to facilitate learning during transitions and routines, to structure a logical sequence of events in the daily schedule, to respond to unplanned learning opportunities that arise, and to organize time and space for children to complete work over a number of days. Licensing regulations require centers to post the daily schedule in the classroom, and centers are also required to provide a

term schedule indicating the key themes/topics that will be covered. There are no prescribed time allocations for different types of activities, although recent recommendations from the government are for an increase in the amount of time for physical exercise to one hour per day for a 12-hour program. Guidelines from ECDA indicate simply that the daily schedule should allow for regular blocks of uninterrupted time so that children can engage in complex, integrated, and in-depth learning experiences, and that the schedule should provide a balance between structured and unstructured activities, between quiet and active activities, and between group and individual activities.

In reality, implementing some of these recommendations is difficult. Space is limited in Singapore, and some centers may have limited options for how to make use of a small classroom space. Time is also limited especially in three- to four-hour kindergarten programs. There is currently no published evaluation of how the EYDF or NEL Framework have influenced the preschool environment, but preliminary evidence from the Singapore Kindergarten Impact Study (Singapore Kindergarten Impact Project [SKIP], 2016) suggests that more needs to be done to help teachers and center heads convert these visions into actual practice. Preliminary evidence from SKIP indicates that despite posted daily schedules in the classroom, a considerable amount of time was spent in teacher-directed whole group work, or in small group learning center time where children had been allocated by the teacher to a specific activity. Time scheduled for outdoor activities or indoor motor activities was often appropriated by other ongoing activities. It should be noted that SKIP did not include a sample of high-fee commercial centers, and classroom observations were only conducted over two days, so while these findings reflect what was directly observed, the activities observed may not be representative of all centers or all days.

Diversity and Cultural Responsiveness

Living in a multi-cultural and multi-religious society means that teachers have to be aware of and sensitive to different cultural practices. The EYDF and NEL Framework emphasize a family-centered approach to child care that is accepting of cultural diversity, and that promotes understanding of children's culture and home environment. All holidays associated with specific cultural or religious groups (e.g., Chinese New Year, Christmas, Hari Raya, Deepawali) are respected and celebrated in centers. The NEL Framework for MTLs envisions that, besides knowing how to communicate in MT languages, children are given opportunities to know the local ethnic culture such as celebrations of festivals, customs, and traditions, and telling of folk tales and stories. No particular cultural group is given prioritized access to ECEC, but not all centers have teachers available to offer provision of all three MT languages (e.g., a center may have a Chinese language teacher and a Malay language teacher, but not a Tamil language teacher). Therefore, some groups may have more limited choices if they wish to pursue a specific MT language.

Provision for Special Populations

Children Identified with Disabilities

There is no mandated screening for disabilities other than potential warning indicators picked up through regular (although not mandatory) developmental screening by health professionals. In these cases, children are referred to the appropriate unit (e.g., Child Development Unit) for further assessment. Currently, there is no statutory support for inclusion of children with disabilities in preschool education and care. The government is exploring models to improve social integration of children with disabilities, within the constraints of its resources, in particular a shortage of qualified staff. The [Third Enabling Masterplan 2017-2021](#) has recommended that current opportunities for interaction between children in mainstream preschools and early intervention centers (discussed below) be strengthened and enhanced, and new

opportunities explored and implemented. Following these recommendations, in March 2017 the MSF announced that they will be working with the MOH to form a network of “touch points” across the health and preschool sectors that would facilitate the early detection of children with developmental needs so that they can be supported through timely intervention. MSF will develop a pool of learning-support educators (LSEds) over the next five years to provide targeted intervention for children with developmental needs in preschools. MSF also announced that they will study the feasibility of an Inclusive Preschool model (MSF, 2017d). In the meantime, depending on the severity of disability and level of need of the child, different service options are available.

For children with mild developmental needs, the [Development Support Program](#) (DSP) provides learning support and therapy for children with developmental difficulties such as speech and language delays and behavioral problems. The intervention, which takes the form of a short package of between six and 15 weekly sessions conducted by a specially trained LSEd and/or a psychologist/therapist, is conducted within the preschools. Depending on means testing, parents will pay between \$3.60 and \$144 per month for this program. This program is only available to children in K1 and K2, and who are not enrolled in any other form of early intervention as detailed below. DSP is offered in approximately 300 preschools and has catered to more than 2,000 children since its inception in 2012.

There are 14 mainstream child care centers offering the Integrated Child Care Program (ICCP) for children aged 2 to 6 with mild to moderate disabilities. These centers receive additional funding to deploy at least one teacher per center who has received training in special needs to provide extra guidance and help needed by the child. However, such teachers are not professional Special Education teachers. Each center can have up to 10 children with special needs enrolled. No specific physical, learning, or emotional therapy is provided, but the program will cater to the child’s learning needs through modification of the curriculum and the development of an Individual Education Plan.

Philanthropic organizations and voluntary welfare organizations have recently worked together to open the first inclusive preschool in 2016 for children with a full spectrum of needs from mild to severe, where the curriculum and facilities allow for integration with mainstream children. Staff in the center include allied health professionals and an early intervention / inclusion support facilitator. In these centers, 30 percent of the places in each classroom are set aside for special needs children and fees are subsidized by the government. The center was over-subscribed for both typically developing and children with special needs within three months of opening.

For children who cannot be accommodated in a mainstream setting, the Early Intervention Program for Infants and Children (EIPIC) provides therapy and educational support services for infants and young children with moderate to severe special needs. There are currently 21 EIPIC centers run by voluntary welfare organizations providing between five to 12.5 hours of therapy per week. The therapy received will depend on the needs of the child but could include physical and occupational therapy, speech and language therapy, or psychological support, as well as caregiver training and support. EIPIC is not considered a substitute for preschool education, but 70 percent of children attending EIPIC do not attend preschool due to the severity of their needs or the lack of suitable preschools. Fees are means tested as for fees for mainstream child care and kindergarten. As of May 2017, EIPIC centers had waiting lists of three to 15 months. Therefore, some parents choose to register their child with private providers for early intervention. Parents who choose to enroll their children in selected private intervention centers can receive subsidies (administered by MSF) to defray costs under the Enhanced Pilot for Private Intervention Providers (Enhanced PPIP).

Children whose Home Language/Culture is not that of the Country Majority

English is the recognized first language in Singapore, and is the language used in all educational settings. In 2007, MOE announced a framework to enhance school readiness

targeted at children with a weak language foundation, or who do not have English as a common language at home. The Focused Language Assistance in Reading (FLAiR) was launched in preschools to provide K2 children with intensive assistance to help them in speaking, reading, and other uses of English. Approximately 50 not-for-profit preschools offer the program, benefitting around 400 children, with MSF announcing that the number of preschools offering FLAiR would be doubled (MOE, 2016b). The policy motivation behind this is to ensure an inclusive education system where every child is given the opportunity to develop their talent and ability.

The bilingual policy in Singapore requires every student to learn English and a Mother Tongue. The Mother Tongue Languages Review Committee, set up in 2010, found that there is a need to plan MTL teaching and learning activities that would cater to students from different home backgrounds and of different MTL proficiency levels to enable them to learn MTL languages to as high a level as possible. Aligned to the NEL Framework, the NEL Framework for MTLs articulates a vision and a broad set of objectives, guiding principles, and learning goals for MTL teaching and learning. A small number of preschools may offer the opportunity to learn other languages, e.g., Punjabi or Hindi, so the availability of learning a non-dominant language of the country may influence parents' choice of preschool.

Transitions within Settings

The EYDF provides advice to educarers on easing transitions within and across settings. It recommends that the parent and child make brief visits to the center before admission, encourages a familiar adult accompany the child while the child becomes familiar with the educarer and environment, and suggests bringing familiar items from home to comfort the child. Such practices serve as guidance only; there is no information regarding how often these practices are used, or how they differ across different centers.

For transitions within the center (e.g., infant to toddler, or toddler to nursery), the child is likely to progress with the same peer group, but may be moving into an environment where there are fewer adults per child. The EYDF highlights that transition to the next level will be easier for children if the same educator follows the class. However, this is not a mandated requirement and again, there is no information on how often this happens. Guidance is given to educators on how to minimize drastic changes in routine, including slowly introducing infants to the next level of play, and familiarizing the children with the new educator and environment. Educators are guided to allow space and time for the child to retreat and be quiet, and not to over-stimulate or overwhelm the children. While these are recommended practices, there is no monitoring of practice implementation. This may change with the introduction of the new career and training pathway for preschool teachers and educators, as the Senior Educator would be expected to monitor and support the work of the educator. Transitions across settings (from preschool to primary school) are discussed in Chapter 13.

Innovations

The curricula and pedagogical approaches endorsed by the EYDF and NEL Framework are not original—Singapore looked to practices in other countries and to established theories of child development and learning when constructing these frameworks. However, MOE has given the NEL Framework and the resources that support the implementation of the curriculum a distinctive Singapore flavor that captures unique aspects of the local context. For example, big books used in group reading time have been designed to incorporate the everyday context children would experience, such as food types, animals, character names, different languages, and religious festivals. Moreover, the curriculum is accorded supports (materials, training, resource guides) to help teachers bring it to life in the classroom.

MOE and ECDA are keen to explore less conventional ideas and approaches to enhance learning experiences for children, promote community engagement and home-center

partnerships, and to continue with such innovations beyond the first year of implementation. To support innovations in areas including curriculum and pedagogy, ECDA provides Innovation Grants of up to \$2,880, which can be center-led (See Box 7.2 for an example) or which can be led by a community partner such as HPB, National Arts Council, National Environment Agency, and Singapore Kindness Movement (see Box 7.3c for an example). Funding can support activities such as teacher training, learning journeys for preschoolers, and teaching and learning resources. For many projects, a key deliverable is that the preschool assists in the development of a learning resource that can be shared across the ECEC sector, and that is sustainable and scalable.

Box 7.2

Innovation Grant Projects (Centre Based)

Example:

Use of inquiry based learning to understand the significance of dragons in Eastern and Western contexts. The inquiry based approach included using recyclable materials to make art and models, the involvement of parents not only in sharing information with the children, but also in understanding how children's learning could be documented in different ways, and choreographed dance performed at the opening of an exhibition of the children's work.

Box 7.3

Innovation Guidance Projects (Community Partnerships)

Example:

Preschool centers could apply to collaborate with the Science Center Board in a project called 'Creative Curious Tinkers' which targets children's learning in the domain of discovery of the world. The project aimed to use a 'think, make, play, improve' approach to stimulate imagination, curiosity, and creativity. In addition, the project aimed to set up 'tinkering space' that would allow preschoolers to engage in activities that encourage creative thinking, teamwork, and collaboration.

Contributions to Quality

In many countries, the establishment of national curriculum frameworks has been seen as one of the key requisites for quality improvement in ECEC. MOE reviewed how the government could improve the quality of preschool education in Singapore by focusing on areas where it was perceived they could achieve high leverage, while keeping the provision of preschool education in the hands of the private or community sector. One of the key factors identified was the development of a clearly articulated curriculum framework. The Frameworks are used as a central focal point for pre-service and in-service training. While it is unclear to what extent the ideas of the Frameworks are enacted in practice, one unique aspect has been the development of resources, materials, and activities in each learning area to help teachers translate the principles into practice. MOE has started sharing these resources across the wider ECEC sector. Furthermore, the EYDF and NEL Framework provide continuity of curricula and belief about how children learn from birth through to age 6, and these beliefs are in turn broadly aligned with the MOE desired outcomes of education. This has brought ECEC, despite being run by the private sector, in line with the public primary and secondary educational systems. There is currently no data to definitely conclude that changes to curricula and pedagogy have contributed to improvements in quality of ECEC provision, and we indicate below some challenges to implementation that may impact on quality improvements. However, there was broad consensus among respondents that the frameworks have served to raise the quality of learning and development experiences across the sector by aligning ECEC professionals with the ideas presented in the frameworks.

Challenges

While the curriculum framework is disseminated nationwide as a vision for what ECEC provision should look like, there is no follow-up action or research to ensure that the curriculum has been delivered as planned or translated into practice. A small-scale qualitative study (Ng, 2011) found that while teachers had modified the physical

environment to include learning corners with an aim to integrate across different disciplines, teachers had not noticeably changed to a play-based curriculum. Timetables were rigid and structured with a heavy emphasis on academic subjects. The majority of time was spent in teacher-led activities. Preliminary findings from the Singapore Kindergarten Impact Project tend to support this; while there are some clear examples of practices aligned with the NEL curriculum framework, and the majority of centers have adopted the use of learning centers, there is still a preponderance of teacher-led activities and rigidity in daily schedules (SKIP, 2016).

Furthermore, teachers are faced with the dilemma of trying to reconcile the requirement for a holistic curriculum and a play-based pedagogy with parents' expectations for a more academic curriculum (Lim-Ratnam, 2013). The views of parents continue to play a dominant role in ECEC in Singapore, where the requirements of successful transition to primary school, as perceived by parents, force preschools to implement curricula that reflect an academic approach to learning (Ebbeck & Chan, 2011). Nyland and Ng (2016) reported on teachers' experiences of implementing a play-based curriculum. Teachers reported that play is difficult to implement as parents' expectations have to be met, and that using play to teach is difficult because it is not easy to show parents that the child is working and learning. Parents' understanding of what is "play," moreover, was limited and tended to be equated with just having fun. This was not an interpretation the parents found attractive and they made clear that they sent their children to school to learn, not play (Nyland & Ng, 2016). Many teachers reported doubts that play could be substituted for "academic rigor" and, in the face of parent demands, they were reluctant to change their current practices. As private businesses, preschools are dependent on maintaining their enrollment figures to ensure sustainability. As such, they will cater to families' requests, including requests to have more academic work in the curriculum. Furthermore, the *kiasu* mindset and meritocratic values (Ellis, 2014) still result in parents wanting their children to have a head start even at the earliest points of development, and many young children attend private enrichment and tuition centers

in the evenings and weekends for a variety of activities (reading, numeracy, music, art, and sports). MOE emphasize the excessive tuition may erode the love of learning, especially if the child is already doing well, and that a focus on tuition may impact on imagination, creativity, and socio-emotional skills. MOE is articulating a clear value shift towards holistic development from ECEC all the way to tertiary education.

Chapter 8: Children's Development: Goals, Standards, Assessment, and Accountability

Key Points

- The EYDF and the NEL Kindergarten Curriculum Framework present the developmental and learning goals and desired outcomes for children aged 2 months to 3 years and 4 to 6 years, respectively, with an emphasis on holistic development.
- These goals and outcomes are not formulated as national standards, as neither EYDF nor NEL Framework is compulsory. Both frameworks are positioned as suggested guidelines to educators. Centers are not mandated to adhere to them.
- The developmental and learning goals and desired outcomes set out in EYDF and NEL Framework are not used for national level monitoring.
- Given the lack of national monitoring, there is no national or standardized assessment of developmental and learning outcomes for children aged 0-6. The first nationwide screening takes place within the first month of entering primary school.
- The Child Care Centers Act, and regulations from MOH and ECDA, provide guidance on health standards and monitoring expected for children aged 0-6.
- One key challenge is aligning the developmental and learning goals and desired outcomes set out in the EYDF and NEL Framework with parental expectations of readiness for primary school.

Early Learning and Development Standards

History/Evolution

The establishment of early learning and development goals and outcomes in Singapore is a relatively recent achievement. The EYDF articulates the goals and outcomes for children aged 2 months to 3 years, while the NEL Framework focuses on expected outcomes for children aged 4 to 6 (ECDA, 2013b; MOE, 2016c). Both frameworks outline key principles, learning areas, desired outcomes and best practices that emphasize the holistic development of the child (discussed in Chapter 7).

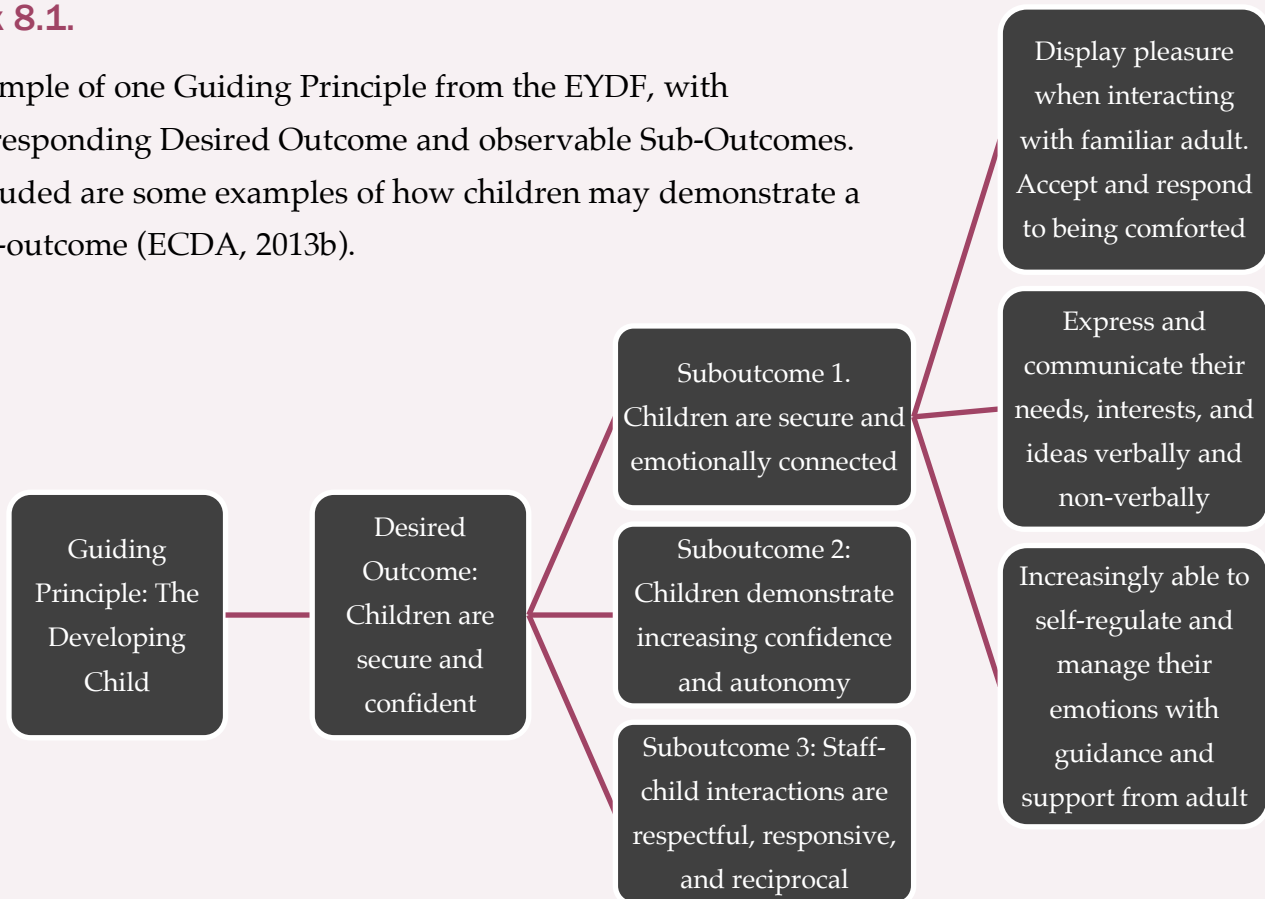
Content

The EYDF embraces a broad vision of “children being secure, confident, safe and healthy,” “children being involved, engaged and enquiring,” and “centers, families, and the community connecting and relating” (ECDA, 2013b). Five guiding principles uphold the vision. The principles are then divided into desired outcomes and sub-outcomes, which apply not only to children but also to centers, educators, family, and community (discussed in Chapter 7).

As a concrete example, under the guiding principle of “The Developing Child,” the vision is that the child is embraced as a whole person developing physically, intellectually, emotionally, socially, and culturally. Positive relationships and experiences with nurturing adults, along with good nutrition and safe, healthy, and stimulating environments, are articulated as key to children’s development. The desired outcome is “children are secure and confident.” This outcome is further divided into observable sub-outcomes which can be used to understand and document children’s learning and development. The example provided in Box 8.1 shows the three sub-outcomes and some examples of how one of these sub-outcomes might be demonstrated by children of increasing age and developmental maturity.

Box 8.1.

Example of one Guiding Principle from the EYDF, with corresponding Desired Outcome and observable Sub-Outcomes. Included are some examples of how children may demonstrate a sub-outcome (ECDA, 2013b).



The EYDF provides guidance on how educators might facilitate and observe development in the areas highlighted in Table 8.1 through care-giving routines, play, and other daily experiences. Areas covered include personal and emotional development, communication and language development, cognitive development, early numeracy and problem solving, aesthetic experiences, and physical development and health. For example, to observe dispositions to learning, educators are guided in looking for children demonstrating exploration of objects, persistence in the face of challenges, and manipulation of resources, among others. Criteria for the demonstration of learning outcomes are adjusted to be age appropriate.

The NEL Framework contains learning goals for six learning areas (presented in Chapter 7) that establish what children should know and be able to do at the end of their kindergarten education, to ensure they have a smooth transition from Kindergarten 2 to Primary 1 (MOE, 2013c). An example of learning goals for the learning area Aesthetics and Creative Expression are that children should: (i) enjoy art and music and movement activities; (ii) express ideas and feelings through art and music and movement; (iii) create art and music and movement using experimentation and imagination; and (iv) share ideas and feelings about art and music and movement. Within these learning goals, there are key knowledge, skills, and dispositions (see column 2 in Box 8.2) and examples of how children's learning and development could be observed (column 3 in Box 8.3). Note that these examples are not exhaustive.

Box 8.2.

An example of learning goals for the area Aesthetics and Creative Expression. Included are key knowledge, skills, and dispositions (column 2) and methods thought which children learning and development can be observed (column 3) (MOE, 2013b).

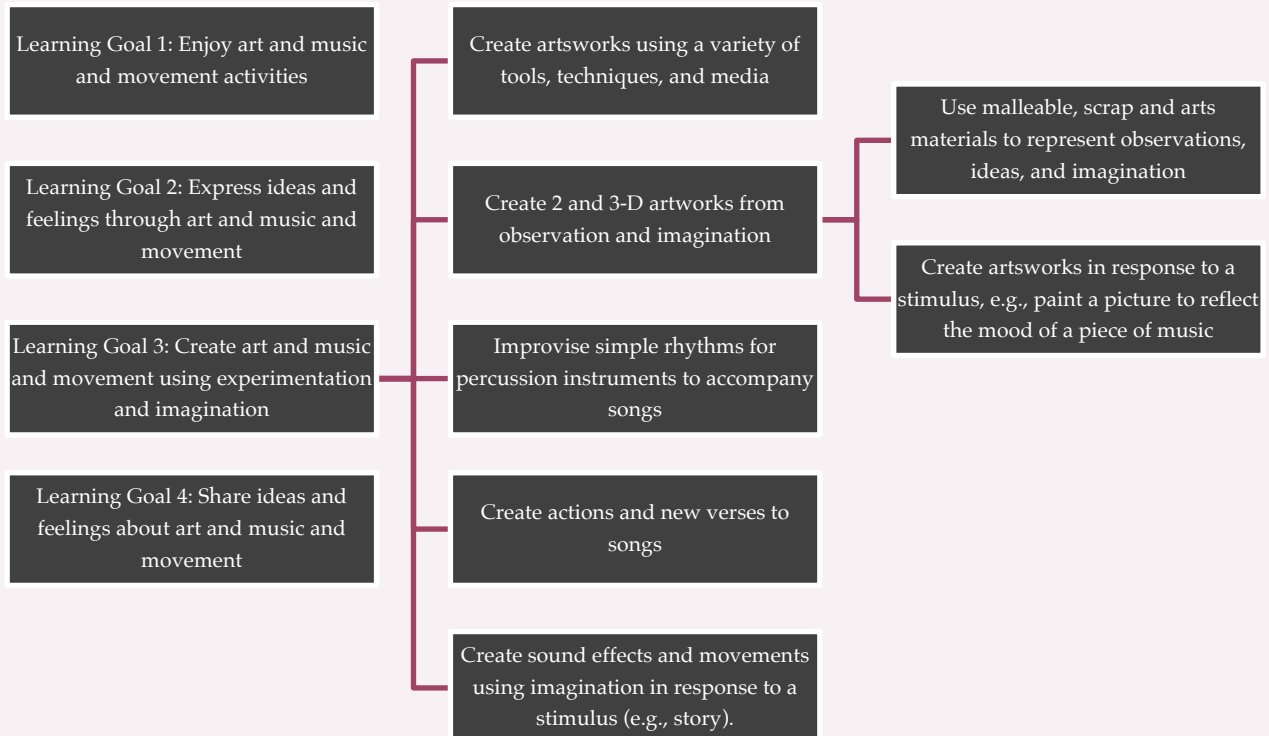


Table 8.1. Expectations for child outcomes in different areas of learning and development for children aged 0-3 years (0.1) and children aged 4 to the start of primary school (0.2)

Explicit expectations for child outcomes in areas of learning	Level 0.1	Level 0.2
Personal and emotional development	●	●
Social development including citizenship, values	●	●
Attitudes and dispositions to learning Physical development and health education	●	●
Language development and communication skills	●	●
Reading and literacy skills	●	●
Mathematical skills	●	●
Understanding the natural world	●	●
Science	●	●
Technology and the digital world	●	●
Expressive arts music, and creativity	●	●
Second / foreign language	○	●
Religious and spiritual	○	○
Key: ● Yes, there are expectations for child outcomes ○ No, there are not expectations for child outcomes in this area		

Use

The learning and developmental goals and outcomes presented in the EYDF and the NEL Framework are not mandated. Centers are encouraged to adhere to these frameworks, but are not required. As the goals and outcomes are not formulated as national standards, there is no standardized collection of assessment data at the national level (see Table 8.2). While there is no formal or standardized assessment, ECEC professionals are encouraged to observe and document the child's learning and

development through a variety of means (e.g., use of checklists, through keeping of anecdotal records, through time and event sampling, and using photographs and videos). This combination of methods allows the ECEC professional to build a comprehensive profile of each child. Such observation and documentation allow the ECEC professional to make informed curriculum decisions that are sensitive and responsive to children's developmental needs and interests, and helps teachers in planning activities and opportunities that enhance individual children's development. Such documentation also offers a way to provide objective feedback to parents regarding the child's development. This also serves the function of raising the teachers' awareness to developmental variations and difficulties, and advocacy in referring for early intervention and help when necessary.

The first standardized and nationwide screening of children's learning outcomes takes place within the first month of entering primary school, where children are screened on measures of early numeracy and language. Based on this, children may be placed in learning support programs for mathematics or language. Children are not assessed on other aspects of their learning and development and this stage.

Table 8.2 Use of child outcomes data for children aged 0–3 years (0.1) and children aged 3 to the start of primary school (0.2) in Singapore

Use of results of national or typical subnational child assessments to inform the development of ECEC policy and practice nationally	Level 0.1	Level 0.2
For accountability and performance management of settings	n/a	n/a
For commissioning of providers	n/a	n/a
By central body to inform strategic planning of ECEC	n/a	n/a
By regional body to inform strategic planning of ECEC	n/a	n/a
By local body to inform strategic planning of ECEC	n/a	n/a
By providers to inform strategic planning of ECEC	n/a	n/a
By settings to inform planning of ECEC programs	n/a	n/a

By ECEC practitioner-groups to inform planning of ECEC programs	n/a	n/a
By parent bodies to inform parental choice of ECEC	n/a	n/a

Key:

n/a There are no national child assessments during this phase

Health Standards

History/Evolution

At the time of Singapore's independence, the initial focus was on meeting the basic health needs of the populace. This included putting in place proper sanitation procedures, controlling infectious diseases, and guaranteeing access to basic medications and clean food. Economic growth contributed to raising the health standards of the nation and building a sustainable care system. Primary care services were provided through maternal and child health clinics; one-stop centers for immunization, health promotion, health screening, well-women programs; family planning services; nutritional advice; and counselling. Health care is now provided by government and private hospitals and community-situated polyclinics. Because of increased health standards, Singapore now has some of the lowest rates of neonatal, infant, and under-5 mortality in the world. With good health standards in place, the focus of the government turned to health education and disease prevention, with the Health Promotion Board (HPB) established to undertake national health promotion and disease prevention efforts.

The [Child Care Centers Act](#) (Singapore Statutes Online, 2012) states various regulations regarding the health, medical care, and nutrition of children, including immunizations that are required by law, the child health checks that should be completed by centers, the procedures to be followed in the event of illness, and the provision of meals in accordance with guidelines from the HPB. In the case of infectious diseases, the physical premises and operation of centers are required to conform to guidelines set out by

MOH, and centers are required to immediately report any suspected or known infectious diseases among the staff or children to a health officer, the director of the center, and all parents of children attending the center. The MOH guidelines issued in 2005 spelled out how to prevent, how to detect, and what to do in the event of an infectious disease such as chickenpox or hand, foot, and mouth disease, occurring in the preschool. In the event of an outbreak of two or more cases, MOH must be notified under the [Infectious Diseases Act](#).

Content

Children in Singapore receive recommended immunizations and a variety of health assessments and general screening tests (described in detail in Chapter 5). ECEC centers are required to monitor the health status of children at regular intervals. On entry to the preschool each morning, centers are required to record children's temperature, and do visual checks for hand, foot, and mouth disease. Furthermore, centers are required to keep a three-month record of the growth of every child who is aged 18 months or younger, and a six-month record for those aged over 18 months. In addition to checks conducted in the centers, children also attend regular screening from health professionals for physical development (weight, length/height, head circumference), along with developmental checks in relation to expected milestones at different ages. From 9 months of age onwards, children are given additional regular checks for vision problems (visual acuity, squint, stereopsis, and myopia).

The [Infectious Diseases Act](#), which was enacted by Parliament in 1976 and came into force on 1 August 1977, is the principal statute that deals with the prevention and control of infectious diseases in Singapore (MOH, 2007). This law is jointly administered by the MOH and the National Environment Agency (NEA). It requires every child in Singapore to be vaccinated against diphtheria and measles. It permits the Minister to order mandatory vaccination of at-risk persons during any disease outbreaks, when an outbreak is imminent or when it is necessary to secure public safety. Medical

practitioners are required under the Act to make records and notify vaccinations carried out by them or carried out under their supervision, as prescribed by the Director. The National Immunization Registry (NIR) maintains the immunization records for all Singapore Residents aged 18 and below. All requirements specified under the Child Care Centers Act (such as the nature of health monitoring that centers are required to undertake) are mandated by virtue of all child care centers having to be licensed.

Use

Parents play a central role in monitoring a child's health and development. Parents are given a health booklet at the time the child is born. All information from developmental screening is recorded in the Health Booklet. This Health Booklet contains information to help parents monitor the growth and development of their child from birth to school age. Parents are encouraged to complete a pre-screening developmental questionnaire before bringing their child for these checkups. The questionnaire asks about developmentally appropriate behaviors and skills, and indicates the age at which 90 percent of children would be expected to achieve them. The health information may also be collated and used for national public health policy planning, ethically approved research, official reports and publications.

Modifications

Trends in health standards in Singapore are often used to guide policy recommendations and decisions pertaining to ECEC. Work completed by the NurtureSG task force (policy recommendations from the task force are discussed in Chapter 4) highlighted that young children were consuming more unhealthy food and high-calorie diets and were leading more sedentary lifestyles. Data for older children indicated that only 9.6 percent of Singaporean 15-year-olds have at least 60 minutes of physical activity daily, and as such there is a need to cultivate young children's interest in physical activities. The HPB is also attempting to address the very high prevalence of

myopia (Singapore has one the highest rates of myopia in the world). To address both health concerns, the HPB has recommended more time for physical activities, including outdoor play. On the basis of this, in 2017 ECDA recommended an increase in the time scheduled for physical activity for children in child care centers from thirty minutes to one hour daily, half of which should be spent outdoors. Another recent modification undertaken by the Health Promoting Preschool (HPPS) framework accords accreditation to preschools that have comprehensive school health promotion practices, such as provision of healthy meals, prevention of obesity, and inclusion of health curriculum for students, parents and staff. ECDA now specifies the need for a variety of food groups and fruits to be included in meals, and have banned sugary drinks, deep-fried food and preserved food from menus. MOH report that, as of January 2017, approximately 71 percent of child care centers were providing healthier food and drinks to more than 64,000 children.

Assessment, Data, and Accountability

There is no national assessment data on child developmental or learning outcomes collected at any level prior to primary school. While ECEC professionals are encouraged to document the learning and development of children of children (e.g., through portfolios, notes, and photographs), this data is used for self-monitoring purposes at the center level, not as a tool for accountability or for national-level assessments.

It is understood that assessing children's learning involves on-going and systematic observation and documentation of children in action. This information helps teachers understand children's likes and dislikes, as well as their strengths and weaknesses, having the potential to inform curriculum decisions and planning (MOE, 2013c). Teachers regularly share progress reports with parents to inform them about the progress of their child, with tips on how parents can complement the learning and development of the child at home. Teachers are encouraged to organize the information using portfolios to document evidence of children's progress. In addition, teachers are

encouraged to use information technologies to communicate and share information with parents and families.

As for health data on children, the MOH and the HPB work with the child care centers to identify children who have not been immunized. The regular recording of height and weight carried out by child care centers also helps to identify children failing to meet physical milestones. HPB has their own database on children from kindergarten to secondary school since the 1990s. This enables them to examine trends and key health conditions from a national perspective, for example, the rates of childhood diseases following changes to immunization schedules.

Accessibility of Data

Some data is accessible online to the public via the Singapore Department of Statistics (singstat.gov.sg). This includes annual data on the percentage of children immunized; the number of registered health and allied health professionals; trends in primary health problems of children at entry to primary school (e.g., vision defects and obesity); birth and fertility rates; and infant, under-5 and maternal mortality rates. General data on ECEC services is also accessible, for example, the number (and total capacity) of infant, child care, and kindergarten settings, enrollment in kindergarten and child care for different types of providers, and number of investigated child abuse cases. Key indicators on education, language spoken and literacy, and marriage, divorce, and family structure are also publicly accessible.

While there is a large amount of data collected by preschools (e.g., formative information on children's learning and development, and mandated collection of information such as teacher qualifications, regular measurement of child physical development), this information is used for administration purposes only and would only be accessible to ECDA officers conducting checks for preschool licensing.

Assessment Data Uses

The first opportunity for gathering data of child learning outcomes is at entry to Primary 1, when children are screened on measures on numeracy and language. This data is used to direct certain children to learning support intervention for mathematics and literacy, as necessary.

Information pertaining to health screening and medical records is typically stored on a database known as the Electronic Medical Records Exchange (EMRX) system. This information may be collated and used for national public health policy planning, ethically approved research, official reports, and publications.

Nature of Integrated Data Systems

Services-related data can be linked with data from other sectors (e.g., education and healthcare), to form a holistic picture of individuals. MSF and MOH provide a clear policy statement regarding data sharing across sectors. Both ministries request individuals to provide consent to manage and share personal data across relevant organizations (government ministries, approved statutory boards, and other organizations approved by the government), including Social Service Offices (SSOs), the Family Service Centers (FSCs), ECDA, and MOH. For example, staff at ECDA providing programs under KidSTART would be able to retrieve data from SSOs, FSCs, Divorce Support Specialist Agencies, NCSS, and other relevant public agencies to ensure they are able to provide the appropriate support and referrals for vulnerable children. If individuals do not consent to data sharing, their personal data will not be disclosed and shared between agencies. There is no information regarding what data held centrally by ECDA, or how and what data held at the organizational or center level by private ECEC providers, will be integrated into this data sharing network.

The government recognizes the need to better collect, use, and share data to inform policies. To improve data exchange within the public service, the government

announced in May 2017 that it is implementing a network exchange that will allow different agencies to share data from disparate systems through a secure application programming interface. The Government Technology Agency of Singapore (GovTech) is also training an additional 2,000 public officers in data science each year to ensure that those in Public Service are conversant with data. Perhaps most relevant to ECEC, GovTech and MSF have embarked on the Social Service Sector ICT Masterplan (SSICT) to enable government and social service providers to deliver coordinated and integrated social services (including family services, children disability services, and children and youth services) through the adoption of ICT.

Within MOH, as part of the Smart Nation Drive, there are moves to have more information be stored electronically. For example, HealthHub now provides parents with online access to their child's health records, including immunization records, health screening, lab results, school health, dental record, and referral letters. HealthHub draws records from databases such as National Electronic Health Record (NEHR), National Immunization Registry, and School Health System.

The Electronic Medical Record Exchange System (EMRX) is an initiative from MOH to share electronic medical records (EMR) across healthcare establishments. EMRs include recorded details of consultations with doctors including diagnoses, test results and medications, discharge summaries from hospitalizations, medical operation reports, allergies, and x-ray and radiological test results. Prior to 2004, such information was maintained on paper within individual hospitals and clinics. The use of EMRs now allows information to be shared across healthcare institutions. Only doctors and healthcare staff involved in the patient's treatment have access to the EMR from protected computer installations in healthcare establishments.

Innovations

The Association of Early Childhood and Training Services (ASSETS), in collaboration with ECDA and Infocomm Development Authority of Singapore (IDA), has recently

called for proposals for smart IT solutions to aid preschools in their day-to-day processes and streamline administrative duties for educators. The intended objective of these solutions is to enable preschools to move away from conventional processes to adopting technology-based solutions for administration and for the documenting of children's learning activities and outcomes. With regard to health standards, one proposal supported was a centralized catering system, providing meals for approximately 2,000 children in preschools run by different providers. The menu is approved by ECDA and MOH, and meets nutrition standards set by the HPB. Other solutions include apps to monitor attendance and record children's temperature and observations in relation to their health. With regard to learning outcomes, solutions include paperless learning portfolios that can be shared with parents, allowing parents to track their child's learning moments and progress. Preschool centers can sign up for the initiatives, but they are not nationally mandated. The continued use of such resources will inevitably result in the voluminous amounts of data, but how and if these data will be used to guide policy decisions at a national level is unclear.

Contributions to Quality

The regular and monitored developmental screening of children across the early years ensures that both health and developmental delays are flagged at an early stage and children and families can be referred for appropriate help and intervention. The sharing of information across government ministries and agencies ensures that delivery of relevant services to families is appropriate and efficient. While there are clearly specified learning goals detailed in the curriculum frameworks, there is no standardized or nationally organized data collected on child outcomes that would allow the government to monitor the quality and effectiveness of ECEC services or the impact of policy changes. The voluntary SPARK accreditation framework includes evaluation of the setting and reviewing of learning objectives and goals in different learning areas, the methods by which teachers observe and document children's learning and development, and subsequently how teachers communicate this information with

parents. As such, participation in SPARK accreditation draws the center's attention to increasing the quality of these practices.

Challenges

National-level collection of data regarding children's learning outcomes would provide information to help to evaluate the impact of, and equitable access to, high-quality preschool education and care. There is resistance to national-level evaluation, particularly at a time when the government is trying to de-emphasize the importance of high-stakes summative assessments, and ability comparisons. Methodologically and administratively this would also be difficult given that there is no statutory requirement for children to attend preschool, and the provision of services is largely in the hands of the private sector. However, there would be potential value of having child outcomes data at a national level to inform, evaluate and improve system performance, as well as at setting level to inform children's learning plans and setting development.

Chapter 9: Program Quality: Standards, Inspection, and Improvement

Key Points

- The Early Childhood Development Agency (ECDA) is the sole government regulatory body maintaining program quality of the Singapore ECEC sector.
- Although ECEC centers are currently governed by two statutes—the Child Care Center and Education Acts—a new law passed in Parliament in February 2017, the Early Childhood Development Center Act, will harmonize the regulations for both child care centers and kindergartens.
- Key aspects covered under regulation and inspection include staffing, administrative operations, health and safety, space, premises, and furnishings.
- One major initiative is the introduction of Singapore Preschool Accreditation Framework for Kindergartens (SPARK), a holistic and integrative qualitative assurance framework that accredits ECEC centers. Certification is voluntary, although those providers receiving additional subsidies from the government have to commit to achieving SPARK certification within a given timescale.
- No studies have examined the effectiveness of SPARK accreditation. While anecdotal evidences suggest that the SPARK has been beneficial to improving center quality, detractors have questioned its impact on children’s learning outcomes, and have criticized the administrative burden it places on centers.

Program Regulations

Child care centers and kindergartens are regulated under the [Child Care Centers Act](#) (2012) and the [Education Act](#) (1985), respectively, with different regulatory requirements for child care centers and kindergartens. The Child Care Centers Act refers to a child care center as “any premises at which five or more children under the age of 7 years are habitually received for the purposes or care and supervision during

part of the day or for longer periods.” The Act does not apply to any child care center maintained and controlled by the government, or any school registered under the Education Act; they are legally exempt from the Child Care Centers Act, instead being required to comply with the regulations specified in the Education Act. Under the Education Act, kindergartens are defined as education centers with 10 or more children.

In February 2017, Parliament passed a new [Early Childhood Development Centers \(ECDC\) Act](#). Under this Act, the regulation of child care centers and kindergartens will be harmonized, and centers will be collectively regulated as ECDCs. Under a common licensing framework, all center-based care will be subject to the same basic requirements. To accommodate existing differences in service models that exist in the ECEC sector (e.g., child care centers versus kindergartens, as they meet different needs), different types of licenses will be given. Specific criteria and requirements, such as operating hours and space norms/requirements, may be prescribed differently for child care centers and kindergartens.

The new Act also includes provisions that ensure the quality and suitability of staff. All staff, including those who do not teach or who may come from outside agencies, will have to be approved by ECDA before they work at centers. The new law gives ECDA more investigative power to ensure that preschools uphold standards, and grants ECDA more flexibility in handling less serious offenses by providing a wider range of regulatory sanctions (e.g., imposition of fines, shortening of license tenures, and public censures). The hope is that the new Act will give parents greater assurance of the quality of center-based care and their children’s well-being and safety in centers, and that operators will benefit from clearer and more consistent requirements, regardless of the type of ECEC services they provide. The new Act is expected to take effect after other detailed regulatory requirements have been finalized, and centers will be given one year from the commencement of the Act to obtain a license.

Applicability of Regulations

Program registration and regulation/licensing are mandatory and are in place to ensure minimum standards of center operation. There is no licensing or regulation of non-center-based programs. All infant and child care centers, regardless of provider, have to be licensed with ECDA. A center cannot begin operations or accept monetary payments until the application for a child care center license has been approved by ECDA.

Licensed centers are also approved to administer the government Child Care Subsidy Scheme for eligible parents. All privately run kindergartens also have to apply for a certificate of registration through ECDA. Registration (the formal process of starting a business entity) must precede licensing. The business entity must show that they have met specific conditions set out by ECDA. There are a few exemptions from these regulations; government kindergartens (overseen by MOE) are held to comparable standards as the rest of the ECEC sector through direct government oversight and accountability, and hence do not need ECDA's approval in terms of licensing. Center staff in MOE kindergartens are directly employed and deployed by MOE, and are accountable to MOE, not ECDA. Furthermore, the regulations do not apply to centers that provide services principally conducted for the instruction of a particular activity (e.g., enrichment centers, music and religious classes, therapy services for special needs children), and schools offering pre-primary classes that also conduct full-time primary and secondary education in accordance with a foreign curriculum. These schools are registered under the [Private Education Act](#) and prepare foreign children for overseas school systems, with different curriculum and teaching requirements.

Review Process for Changing Regulations

In March 2015, the Minister for Social and Family Development spoke of the need to harmonize regulations and uphold higher standards for the ECEC sector. The new ECDC Act resulted from a year-long review and deliberation by ECDA. Feedback from sector partners who were involved in earlier focus group discussions was taken into

consideration in developing the proposals outlined in the public consultation paper. In July 2015, a four-week public consultation was held on the proposed ECDC Regulatory Framework. This was followed by three briefings involving representatives from preschool operators, and focus groups with representatives from preschool parent support groups. Industry partners such as the Education Services Union were also engaged, and feedback was gathered from online forums and media articles.

External Inspection (Monitoring) Regulations

Responsible Authorities

Child care centers were licensed by MSF, but have come under the oversight of ECDA since 2013. Kindergartens were previously registered by MOE, but have also come under the oversight of ECDA since 2013. Premises for centers have to be approved by the relevant government department for clearance on building plans, facilities, and safety matters (e.g., the Urban Redevelopment Authority, Building and Construction Authority, Land Transport Authority, Singapore Civil Defense Force).

Intention of Monitoring

The intention of external monitoring is purely for accountability, to ensure that all center-based providers meet minimum standards of provision as stated in the relevant Act. Under the new ECDC Act, ECEC service providers with no or a poor track record will be required to pay a security bond. ECDA will be given additional powers to give financial penalties or censure if there are administrative breaches within a center. Designated ECDA officers will be given enhanced powers to interview persons and to take photographs, videos, and audio recordings for investigation and enforcement purposes.

Focus of Monitoring

The focus of external inspection is almost entirely on structural variables (ECDA, 2015a). Regulations relate to:

- Services provided: hours of operation, types of programs that can be offered (full, half, flexi), age range for admission.
- Daily program schedule: The daily program schedule must be oriented towards enhancing the physical, social, intellectual, and emotional development of children, and the philosophy of care and method of operation should be provided in a written program statement. Centers are encouraged to adopt national curriculum frameworks and guides to plan and develop appropriate curriculum and assessment. Centers referencing alternative curriculum frameworks should ensure proper documentation to justify their suitability.
- Nutrition: centers are encouraged (but not mandated) to provide meals that meet the requirements of the HPB and to work toward meeting the Healthy Eating in Child Care Centers Program.
- Staffing requirements: minimum qualifications required to teach children of different ages in different types of settings, minimum number of staff at each qualification level that should be in the premises during operational hours, staff:child ratios (see Table 9.1), and schemes of service (e.g., hours of work, annual leave, and benefits, which should be in accordance with regulations stipulated by MOM).
- Physical requirements of the center (including safety): minimum amount of space required per child (three to five square meters of usable indoor floor space per infant/child, excluding service areas). Child care centers are required to have access to an outdoor play space or additional indoor space for gross motor activity of at least 30 square meters or one-fifth of the center's capacity at five square meters per children, whichever is more. There should be designated space

for activity areas, playing, toileting and bathing, washing, eating, and resting; an office, staff rest periods, isolation area for sick children, storage and preparation of foods, bedding, toys, indoor and outdoor play materials/equipment, and medical supplies, as well as at least one air-conditioned room equipped with an air filter to accommodate children who may develop health problems during periods of poor air quality.

- **Administrative requirements:** records on center operations, children, parents, and staff. Centers are required to monitor daily attendance of children and staff, to keep records of the child's personal details, date of registration and enrollment of children attending the center, records of height and weight, details of family physician, written authorization from parents for emergency medical care, fetching and alternative care arrangements of children, a profile of individual child development, food and drug allergies, and administration of medicines. For infants, centers are required to record daily observations of feeding (e.g., food intake), naps, and toileting. Records of parents include employment details and contact information. With regard to staff, centers are required to keep records of staff education, medical reports, and appointment letters.

Table 9.1 Regulated group size for children aged 0–3 years (0.1) and children aged 3 to the start of primary school (0.2)

Maximum group size for children	Regulated group size	Regulated staff : child ratios
Under 1 year old	n/a	1/5
1 year old	n/a	1/5
2 years old	n/a	1/8
3 years old	n/a	1/12
4 years old	n/a	1/15
5 years old	n/a	1/20
6 years old	n/a	1/25

Key:

n/a Not applicable as there are not national regulated group sizes

Note: When mixed age grouping is practiced, the staff : child ratio got the youngest children in the group is adopted.

Frequency, Tools Used, and Scope of Monitoring

Currently, licenses for child care centers are issued for a period of six to 24 months, and need to be renewed at the end of each relevant period. As such, licensing is considered ongoing monitoring. In contrast, kindergartens need to be registered one time only; there is no requirement for regular license renewal. The new ECDC Act will allow for licenses to be granted for up to 36 months, increased from the current 24 months stipulated under the Child Care Centers Act. It is hoped this would lower the administrative burden for well-performing child care centers, and also ensures that kindergartens will have to meet similar standards and frequency of license renewal as child care centers. Inspection includes monitoring of regulation compliance, staff qualification, and continued professional development, management of the center, children's physical well-being, and curriculum program. Inspection does not monitor child learning outcomes, parental satisfaction, financial stability, or value for money.

Table 9.2. Aspects of quality assurance processes covered by inspection for children aged 0-3 years (0.1) and children aged 4 to the start of primary school (0.2)

Aspects of quality assurance covered by inspection	Level 0.1	Level 0.2
Regulation compliance	●	●
Staff performance	●	●
Leadership and management	●	●
Children's learning outcomes	○	○
Curriculum program	●	●
Children's well-being	●	●
Parental satisfaction	○	○
Financial stability	○	○
Value for money	○	○

Key:

● Yes, aspect covered ○ No, aspect not covered

Professionalism and Adequacy of External Inspection Personnel

ECDA has a team of licensing officers who oversee the monitoring of child care centers and kindergartens by geographical location. They are trained internally by senior

officers through job-shadowing and small-group briefings. Many of these officers have early childhood qualifications, though this is not a pre-requisite. Throughout their careers, the licensing officers also attend professional development courses on enforcement procedures and related regulatory matters.

Uses of External Inspection Data

Inspection data is reported back to individual settings and providers to highlighting areas of concern and to identify areas where improvement is needed. Data is also reported back to ECDA who subsequently grant licenses to centers to operate. ECDA may also use this data to impose sanctions for those in breach of regulations. Data from inspections are not publicly available to parents or the media, or on the internet.

Table 9.3. Reporting of inspection results of settings for children aged 0-3 years (0.1) and children aged 4 to the start of primary school (0.2)

Reporting process of inspection	Level 0.1	Level 0.2
Report to setting	●	●
Report to parents	○	○
Report to providers	●	●
Report to national body with responsibility for ECEC	●	●
Report published in local media	○	○
Report published on internet	○	○
Key:		
● Yes, reporting does occur		
○ No, reporting does not occur		
n/a Not applicable, as no inspection exists		

Use of Inspection Data for Program Improvement Efforts

Beyond the mandatory level of registration and licensing of preschool centers, the [Singapore Preschool Accreditation Framework](#) (SPARK) provides additional data that can be used for program improvement efforts. SPARK includes internal self-appraisal, assessment of quality by external assessors, and subsequently invitation by ECDA to apply for certification. Accreditation is voluntary, although those centers recognized as

Anchor and Partner Operators are encouraged to commit to achieving SPARK accreditation within a given timeframe.

Quality rating and improvement systems. SPARK is a quality assurance framework to assist preschools in quality improvement. It is applicable to all centers offering programs for children aged 4 to 6. The development of SPARK began in 2008. MOE reviewed ECEC quality assurance systems in different countries and consulted local and overseas ECEC practitioners and experts during the development. Several rounds of testing in different preschool settings were conducted to ensure that the components of SPARK are reliable and applicable, and it was validated against other internationally recognized preschool assessment tools, most notably the Early Childhood Environment Rating Scales-Revised (Harms, Clifford, & Cryer, 2005). To help preschool leaders and teachers understand SPARK, briefings and training sessions were also conducted.

SPARK assessment was subsequently implemented in 2011. SPARK aims to provide recognition and support for preschool leaders in their efforts to improve teaching and learning, and administration and management processes so as to enhance the holistic development and well-being of young children. The focus of quality improvement is on both process and structural variables. The model comprises six criteria: leadership, planning and administration, staff management, resources, curriculum, and pedagogy. A seventh criterion—checks on health, hygiene, and safety, which were previously part of SPARK assessment—has been integrated into the licensing and regulatory checks.

Assessment for SPARK is conducted by experienced practitioners and educators, mainly from MOE and subsequently seconded to ECDA, who had previously worked in schools as middle managers, principals, or school leaders. They receive training from ECDA, and many also play a role in development and refinement of the assessment tool. Quality assurance coaching is available to assist preschools in enhancing the quality of their structures, processes, and outcomes, and in planning and executing quality improvements in preparation for SPARK assessment. With ECDA's oversight,

an assessment team inspects the preschools in terms of the center's processes and its indicators (e.g., teacher-child interaction, program design, selection of resources, development of teachers, monitoring of child development, feedback to parents, and transition of children from preschool to primary school). The assessment team provides the center with a report containing the strengths and areas for improvement, which centers are consequently expected to address.

The intention of SPARK is to provide preschools with quality benchmarks to guide their own quality improvement efforts. However, SPARK is also being used for accountability purposes; for example, providers who are given status as Partner and Anchor Operators are encouraged to meet the standards for SPARK accreditation within a given timeframe. Center leaders and providers use the framework and accreditation as a form of quality branding. All SPARK accredited centers are listed in the public media domain. Parents are given clear guidance on how to identify centers that have achieved accreditation (e.g., via branding on a center's publicity materials). This information is used by parents as an indication that a center has achieved a level of quality and may impact on their decisions regarding enrolment of their child in that center.

As of November 2017, 807 preschools (approximately 40 percent of all preschools in Singapore) had achieved SPARK certification. A tenth of those preschools (70) attained the highest level of certification, which recognizes centers with strong teaching and learning practices that include a well-designed and integrated curriculum and strong pedagogies to support children's development in an environment conducive for learning. Approximately 90 percent of centers that applied for accreditation were successful. In 2017, the SPARK quality rating scale was revised, adopting a stronger focus on a center's teaching and learning practices, and the validity of accreditation was increased to six years (from three years). To help centers take stock, a mid-term developmental visit replaced the previous three-year re-certification assessment.

There is currently no accreditation and quality improvement system for programs serving children aged 0–3. However, ECDA is currently developing an accreditation framework that will align with SPARK on certain factors, but will reference developmentally appropriate practices for younger children in sections pertaining to curriculum and pedagogy.

Use of Monitoring Data to Inform Policy

Data from external inspections is used by ECDA, services providers, and other stakeholders for a variety of purposes (detailed in tables 9.4 below).

Table 9.4. Usage of data from external inspection

<i>Used by</i>	<i>Use for</i>
ECDA	<i>Accountability and Performance Management</i> Determine license tenure or impose sanctions for those in breach of regulations (e.g., imposition of fines, shortening of license tenures, and public censures). For Anchor and Partner Operators funded by ECDA, there are regular reporting and audits, which will inform funding and assessment of these operators.
	<i>Commissioning Providers</i> Identify suitable operators to provide early childhood services based on license track records (i.e., successful and unsuccessful licensing applications in the past, adherence to regulations, and financial track records).

ECDA and Service Providers, Parents

Strategic Planning of ECEC

Develop strategic plans for the sector and help ECDA calibrate regulations and the extent of developmental help extended to the sector. For example, information about the regulatory performance of centers (e.g., indicated by license tenure) and profile and supply of EC workforce, and enrolment figures in centers may be used when considering projections for sector master planning. Some survey findings undertaken by ECDA may also be shared with the sector or participating operators. Public information on the sector is also available on the Internet (e.g., child care capacity, enrolment, fees and distribution of services by housing estate).

ECDA and Practitioner Groups

Planning of ECEC services by Practitioner Groups

On a sector level, ECDA highlights salient issues from incident reports to the sector for them to take note (e.g., briefing on scalding and security issues at annual sector town hall meetings). Survey findings and sector manpower data may also be shared with practitioner groups e.g. training and educational institutes to calibrate training programs.

Innovations

The recent decision to harmonize the regulation of child care centers and kindergartens under a common licensing framework, the [Early Childhood Development Centers \(ECDC\) Act](#), constitutes an important innovation. It will accommodate differences in service models across the ECEC sector, while including provisions to ensure the quality and suitability of staff. The new Act gives ECDA more investigative power to ensure that preschools uphold standards, as well as the capacity to provide preschools

throughout the sector with more support. The expectation is that operators will benefit from clearer and more consistent requirements, parents will have greater assurance of the quality of ECDCs, and ultimately, children will benefit from ECEC of a higher quality.

While SPARK can be seen as an inspection regime externally imposed, the spirit of it is closer to internal self-appraisal and self-improvement. Because it is voluntary, the onus is on the preschool operators to initiate and sustain continuous improvement through the use of a quality framework. The innovativeness lies in marrying both internal self-appraisal and external evaluation, and correspondingly formative and summative assessment. The importance given to both of these ideas is highly appropriate in view of government's stand on leaving the ECEC sector privatized but desiring preschools to have minimal standards in terms of quality and access.

Contributions to Quality

National-level mandated regulations regarding basic requirements needed to license a center ensure that minimum standards are met regarding health and safety, premises and space, administrative operations, and staff qualifications. Regular inspection, at least of child care centers, ensures that centers have to maintain these basic quality levels and are adjusting to new requirements as necessary. However, the current requirement of a one-time only registration of kindergartens cannot guarantee that minimum quality standards are maintained in that sector. The ECDC Act will ensure that all centers have to meet the same standard quality requirements and all centers will be regularly inspected. SPARK provides a systematic approach for preschools to review their structures, processes, and outcomes.

Challenges

While the introduction of the new regulatory framework will provide more consistency across the sector and potentially reduce administrative burden, there have been some

concerns raised including: (i) lack of flexibility in the qualification requirements of ECEC professionals; (ii) abuse of power from ECDA officers carrying out inspections; (iii) inappropriate types and content of the curriculum and program carried out in the centers; and (iv) the loss of professional dignity and voice of ECEC educators in determining these aspects of their working lives. There are also concerns regarding the level of administrative reporting required and the burden this places on centers. It is also not specified what ECDA intends to do with the collected data.

There is currently no national study that investigates the effectiveness of SPARK. Notwithstanding some positive anecdotal evidence, some observers still view it as not having much impact on classroom practices. One potential unintended outcome of the SPARK accreditation is the time spent in processes and documentation rather than with people such as staff, parents and children. Furthermore, for centers that are already popular with parents, there is not sufficient incentive for them to “prove” their quality by gaining SPARK certification.

Chapter 10: Professional Preparation and Development

Key Points

- The ECEC workforce has expanded rapidly in the last five years, with plans for continued expansion over the next five years. The government provides a range of incentives to encourage new professionals into the sector and to promote the progression of individuals within it.
- Pre-service training is provided by public and private providers. The Preschool Qualification Accreditation Committee (PQAC) and the Early Years Accreditation Committee (EYQAC) developed accreditation standards for pre-service training covering entry requirements, administration of courses, course content, modes of assessment and supervised teaching practice, quality of faculty, and facilities and resources. Since being established, ECDA has acted as the regulatory body to maintain minimal standards of quality for pre-service training and in-service professional development (PD).
- MOE will shortly set up the National Institute of Early Childhood Development (NIEC) to centralize strategic matters related to the training and professional development of ECEC professionals (e.g., curriculum design and development, academic governance), as well as to enhance the rigor and quality of training programs.
- Our respondents commented that the range of efforts to enhance the initial preparation and professional development of ECEC staff have been positive in terms of improving service quality, teaching, and learning. However, systematic studies need to be conducted to validate these assertions.
- Ongoing challenges include attracting a sufficient number of good quality educators and leaders, satisfying the aspirations of new generation of young educators who seek career advancement, staff retention, and professionalization of the sector.

Overview of the Teaching Workforce

A wide variety of employment opportunities are available in the Singapore ECEC sector to fit diverse educational and skill profiles. There are three tracks (or career pathways) for ECEC professionals, each requiring appropriate qualifications and competencies: Educarer track, Teaching track, and Leadership track.

- *Educarer track*: Educarers work with children aged 2 months to 4 years. An Educarer starts as either a Beginning Educarer or Infant/Toddler Educarer, and progressively moves up to Educarer 1, Educarer 2, and Senior Educarer.
- *Teaching track*: Teachers work with children aged 18 months to 4 years or 6 years, depending on their qualifications and experience. A Teacher starts as Beginning Preschool Teacher, and progressively moves up to Preschool Teacher, and Senior Preschool Teacher.

There is flexibility between the Educarer and Teaching tracks. However, professionals in the Educarer track are required to gain more experience and higher qualifications to move to the Teaching track at the same level. Educarer 1 and Educarer 2 can laterally progress to Beginning Preschool Teacher and Preschool Teacher, correspondingly, upon meeting the experience and competency needed for these roles. Similarly, professionals who are Senior Educarers and Senior Preschool Teachers can laterally change from one to the other, provided they have the experience and competencies needed for these job roles. Senior Educarers and Senior Preschool Teachers can correspondingly move up to the Leadership track.

- *Leadership track*: Those on the leadership track oversee the center's operation for all age groups. Senior Educarers and Senior Preschool Teachers can correspondingly become Center Leaders and Lead Teachers. Both can laterally change from one to the other. Center Leaders can move up to become Senior

Center Leaders, and Lead Teachers can become Senior Lead Teachers. Both these two professionals can then move up to become Pinnacle Leaders.

A graphical representation of these three tracks is shown in Figure 10.1. Besides the competencies and professional qualifications required to progress along the three tracks, ECEC professionals also require certification by ECDA. In addition to professional qualifications, capabilities such as language proficiency are taken into consideration for the certification of EC professionals.

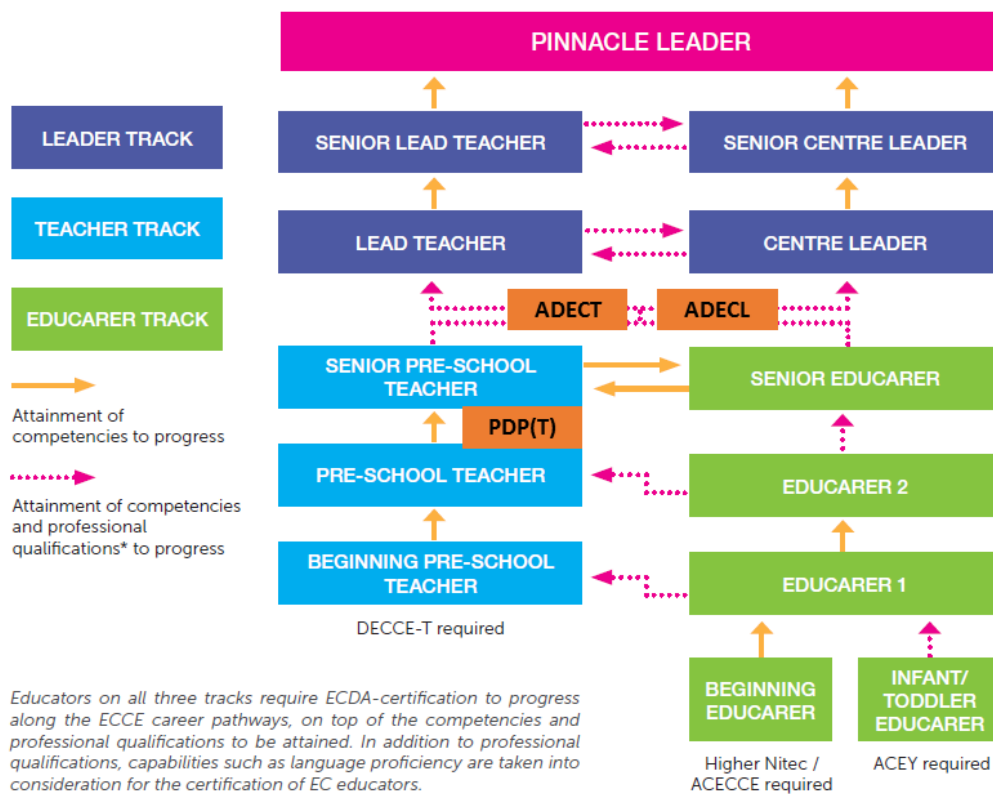


Figure 10.1. Tracks for ECEC professionals in Singapore. Adapted from “[Prospectus 2017](#)” (ECDA, 2017). Copyright 2017 by ECDA.

ECEC professionals can only start their careers under the Educarer and Teaching tracks (not under the Leadership track). The Continuing Professional Development (CPD) framework (ECDA, 2013a) establishes two levels of competencies for Educarers and Teachers. *Level 1 Practitioners* are beginning their careers in ECEC. They are expected to carry out routine tasks with basic competence in a range of roles and responsibilities, working under supervision and with the ability to apply solutions to familiar problems and situations. *Level 2 Practitioners* have at least three years of relevant work experience in ECEC programs. These professionals are expected to be able to monitor, evaluate, and plan for developmental and educational programs that meet the needs of children. They are also expected to acquire specialist knowledge, evaluate, compare and interpret more complex information, and make decisions in complex situations. Note that there is no direct correspondence between these two levels and the various Educarer/Teaching occupations described above.

Those in leadership positions are considered *Level 3 Practitioners* (ECDA, 2013a). These professionals are recognized as having in-depth knowledge of child development and curriculum and pedagogy, and provide an exemplary model to others through their professional expertise. These professionals commonly assume leading roles in raising standards in the centers by supporting improvements in teaching practice as well as support and help their colleagues improve their effectiveness. They are expected to carry out developmental work across a range of workplaces and draw on their experience to improve practice in their own center as well as other centers. They provide mentorship and guidance to more junior staff.

Besides the career structure of three tracks and 13 occupations captured above, ancillary support positions have been created to support the work of ECEC educators. These include Para-Educarers, Para-Educators, or Assistant Teachers who are able to work with children from 2 months to 3 years of age. Their main role is to assist Educarers and Teachers in the preparation and supervision of development activities, and routine care and administrative support. They are required to complete the Fundamentals in Early

Childhood Care & Education (FECCE) course. This is a three-month course (full-time) consisting of 120 classroom hours and 60 practicum hours, and requires a minimum of at least Secondary 2 education (schooling up to the age of 14, totaling eight years of formal education). Para-Educators/Para-Educators and Assistant Teachers are encouraged to go for skills upgrading to enable them to become ECDA-registered EC professionals.

Statutory Requirements for Working with Young Children

Content of Initial Requirements

The content of pre-service courses is prescribed by the Preschool Qualification Accreditation Committee (PQAC) and the Early Years Accreditation Committee (EYQAC), which oversee the standards and quality of training for professionals in both child care centers and kindergartens. To work in the three tracks described in the prior section, candidates need to complete different educational programs and/or courses in Early Childhood. Table 10.1, adapted from “SkillsFuture Framework” (SSG, 2016b), describes the entry criteria for the three different tracks.

Becoming an Educator requires the completion of an accredited Certificate. In Singapore, ECEC Certificates are relatively short programs designed to provide candidates with the core competencies needed to begin their careers in the sector. Completion of a Certificate typically requires eight to 13 months’ equivalent of full-time study and includes approximately 240 practicum hours. Workforce Skills Qualification (WSQ) Certificates are awarded by SkillsFuture Singapore (SSG) and are recognized by Workforce Singapore, ECDA, and the industry. Candidates complete either a Higher National Institute of Technical Education Certificate (NITEC) in Early Childhood, or a Workforce Skills Qualification (WSQ) Advanced Certificate in Early Childhood Care and Education (ACECCE). Minimum entry requirements are three GCE “O” levels, including English. GCE “O” levels are examinations taken at 16 years of age after 10 years of formal schooling.

Becoming a Teacher requires the completion of a Diploma. Diploma programs are longer and more demanding than Certificate programs, typically requiring the equivalent of 18 months full time study and approximately 300 practicum hours. There are different types of Diplomas offered by the local polytechnics (Ngee Ann, Temasek) and other private institutions in Singapore (e.g., KLC School of Education). The Diploma in Early Childhood Care and Education in Teaching (DECCE-T) and Professional Diploma in Early Childhood Care and Education (PDECCE) have a minimum course entry of five GCE “O” levels, including English. Lower level EC certifications can also be used for course entry. There are also accelerated programs for those making mid-career switches with local tertiary qualifications. Individuals already holding a polytechnic diploma, including a recognized qualification in English, or a state-registered university degree where the medium of instruction was English, can enroll in professional conversion programs—Professional Diploma in Early Childhood Care & Education – Child Care (PDECCE-CC) or Professional Diploma in Early Childhood Care & Education – Kindergarten Teaching (PDECCE-KT) / Diploma (Conversion) in Kindergarten Education Teaching (NVKET). These professional diplomas have a lower classroom requirement (640 hours) than the diplomas, but maintain the same requirement for practicum content (300 hours).

Becoming a Leader requires additional professional qualifications. A Teacher Leader is required to undertake the Advanced Diploma in Early Childhood Teaching and Learning (ADECT), which requires the individual to be ECDA-certified as a Level 2 preschool teacher, have completed an ECDA-recognized diploma in early childhood care and education, and have at least three years of trained teaching experience. Those wishing to be a Center Leader undertake the Advanced Diploma in Early Childhood Leadership (ADECL), which requires the individual to be ECDA-certified as a Level 2 preschool teacher, have completed an ECDA-recognized diploma in early childhood care and education, have met the competency level for Senior Preschool Teacher, and have completed the pre-requisite core course(s) as identified and offered by ECDA.

Singapore lacks data on home-based care providers, as ECDA does not require these to be officially registered.

ECDA is encouraging more professionals to upgrade their skills and enhance their pedagogical practice, as well as hone leadership competencies, by providing scholarships and teaching awards, which are offered to outstanding and deserving early childhood professionals who wish to pursue a Bachelor's or Master's degree in Early Childhood Care and Education. Table 10.2 shows the breakdown by level and age group for the highest early childhood professional qualification level as of December 2015, based on data provided by the centers to ECDA. Note that figures only include staff currently employed and registered with ECDA. While ECEC professionals are predominantly qualified at the Diploma level or lower, it is clear that the qualification level of staff increases with the age of the child. However, this stands in contrast to teachers in primary schools, where approximately 75 percent of teachers (this figure does not include Principals or Vice Principals) are educated to Bachelor's Degree level or higher (MOE, 2016a). The MOE recruits the top third of each graduating high school cohort into a fully-paid four-year teacher education degree program or a one- to two-year graduate program for those already holding a degree in another subject.

Table 10.1. ECEC Career Tracks Entry Criteria & Information

Track	Age Group of Children	Occupation	Early Childhood Courses	Course Minimum Entry Requirements
Educarer	2 months to 3 years	Infant/Toddler Educarer	Workforce Skills Qualification (WSQ) Advanced Certificate in Early Years (ACEY)	Minimum Secondary 4 education or completed 10 years of formal education (schooling to 16 years of age). At least Statement of Attainment (SOA) Level 5 in Workplace Literacy (WPL)
	18 months to 4 years	Beginning Educarer	Higher NITEC in Early Childhood Education/ WSQ Advanced Certificate in Early Childhood Care and Education (ACECCE)	Minimum 3 GCE "O" levels including English Language OR English Language acceptable alternatives
Teacher	4 to 6 years	Beginning Preschool Teacher	Diploma in Early Childhood Care and Education in Teaching (DECCE-T) / WSQ Professional Diploma in Early Childhood Care & Education (PDECCE) WSQ Professional Diploma in Early Childhood Care & Education - Childcare (PDECCE-CC) or Diploma (Conversion) in Early Childhood Teaching (DCECT)	Minimum 5 GCE "O" levels including English Language OR English Language acceptable alternatives 3-year polytechnic diploma with GCE "O" level English Language OR English Language acceptable alternatives OR State-recognized university degree, where the medium of instruction is English
Leader		Lead Teacher	Advanced Diploma in Early Childhood Teaching & Learning (ADECT)	Be ECDA-certified as a Level 2 preschool teacher Have completed an ECDA-recognized diploma in early childhood care and education Have at least 3 years of trained teaching experience
		Centre Leader	Advanced Diploma in Early Childhood Leadership (ADECL)	Be ECDA-certified as a Level 2 preschool teacher Have completed an ECDA-recognized diploma in early childhood care and education Have met the competency level for Senior Preschool Teacher (with reference to the Skills Map) Have completed the pre-requisite core course(s) as identified and offered by ECDA

Note. Adapted from "[SkillsFuture Framework](#)" (SSG, 2016b). Copyright 2016 by SSG.

Table 10.2. Center-based staff: Breakdown of highest early childhood professional qualification by level and children's age group

Center-based Staff (Breakdown by Teacher Certification Level)	Age group of children certified to work with	Highest Early Childhood Professional Qualification (percent)		
		Certificate	Diploma	Bachelor's Degree or higher
Leaders	All age groups	-	64	36
Level 2 Preschool Teacher	18 months – 6 years	1	86	13
Level 1 Educarer or Preschool Teacher	18 months – 4 years	88	9	3
Beginning Educarer	2 months – 3 years	100	-	-
Infant / Toddler Educarer	2 -18 months	99	1	-

Distribution of Authority

All courses up to Diploma level for ECEC professionals in Singapore, both pre-service and in-service, are accredited by ECDA. Note that training courses offered by private institutions (e.g., Diploma in Montessori Method of Education) are not accredited and are not deemed by ECDA to be a teaching qualification for preschools in Singapore. According to the CPD framework (ECDA, 2013a), ECEC training pathways fall under the purview of the Preschool Qualification Accreditation Committee (PQAC) and the Early Years Accreditation Committee (EYQAC), which oversee the standards and quality of preschool teacher training for both kindergarten and child care sectors. More specifically, the function of PQAC is to ascertain that the courses conducted by teacher training agencies meet the prescribed standards. Its role is to assess and accredit early childhood teacher training courses in Singapore up to Diploma level. The function of EYQAC is to provide guidance over the content and accreditation of training courses for Educarers. ECDA does not accredit Bachelor's or Master's programs in ECEC, as the highest qualification required to be certified as a preschool teacher is a Diploma.

An important announcement during the National Day Rally 2017 was that MOE will shortly set up the National Institute of Early Childhood Development (NIEC) to

centralize strategic matters related to the training and professional development of ECEC professionals (e.g., curriculum design and development, academic governance), as well as to enhance the rigor and quality of training programs. Under the ambit of Singapore's National Institute of Education (NIE), which is the sole teacher education college in the nation, NIEC will bring together the various local post-secondary institutions and institutes of higher learning, in order to become a major player in the EC training landscape. NIEC will offer Certificate-level and Diploma-level Pre-Employment Training (PET) courses for post-secondary students, Continuous Education and Training (CET) courses for mid-careerists, and in-service upgrading and Continuing Professional Development (CPD) courses to further develop the competencies of in-service teachers and leaders. Upon graduation, students will receive diploma or certificate qualifications awarded by NIEC, in collaboration with the polytechnics or institutes of technical education. NIEC will benefit from NIE's expertise in curriculum, pedagogy, and teacher training to strengthen the nexus between research, training, and practice. It will be fully operational in January 2019.

Organization of Work Responsibilities

Distinctions among Responsibilities for Those Working in Programs

As mentioned, Singapore offers three career pathways or tracks for ECEC professionals, with clearly distinctive responsibilities. All 13 occupations within the three tracks share four common broad skills types: (i) Developing the child holistically, (ii) Collaborating with families and community, (iii) Building professional community, and (iv) Building organizational capacity. Each job role has differing demands on the extent, depth, and/or scope of the skills categories.

According to the Skills Framework (2016), Educators need to be passionate about and committed to helping young children develop holistically. These professionals work closely with families to ensure that the best care is provided for their children. The

Educator is expected to nurture the curiosity in and to support the unique needs of each child.

Preschool Teachers are expected to cultivate critical thinking and to support the curiosity and love for learning in each child with varying strengths and abilities (SSG, 2016b). They are also expected to form meaningful relationships with each child and his/her family to ensure the child's holistic development and well-being. A Preschool Teacher can also take on additional training to become a Learning Support Educator (LSEd). The LSEd works closely with children with mild developmental needs and equips them with age-appropriate skills to optimize learning.

Responsibilities of Leaders vary depending on the specific occupation at hand. First, Lead Teachers and Senior Lead Teachers are educators focused on developing high quality teaching and learning within their center and/or sector. They are expected to build teaching and learning capacity through bringing to the fore effective teaching and learning practices. Second, Center Leaders and Senior Center Leaders are expected to foster a shared vision among staff and to nurture professionalism and a culture of care, respect and collaboration within the center. They set the tone for learning in the center, to ensure the holistic development of children, develop structures and processes to facilitate sustained collaborative partnerships with stakeholders and take responsibility for managing center operations. Finally, the Pinnacle Leaders are transformational leaders who work with ECDA to uplift the quality and image of the ECEC sector. They are advocates of the mission, vision and values of the ECEC sector. They also serve as advisor and mentors to educators and take the lead in fostering a culture of collaboration and professionalism among educators.

Supervisory Structure

As explained above, each track includes a number of occupations of increasing seniority. Those in senior positions are expected to act as mentors to junior staff and provide leadership within the domain of their role (ECDA, 2016b; SSG, 2016b).

Professional Preparation (Pre-Service)

Who Delivers and the Capacity of Preparation Institutions

Agencies conducting early childhood training courses are approved by ECDA. Post-secondary institutions (Polytechnics and Institute of Technical Education) offer diploma level courses as well as leadership courses. Private training institutes also must be accredited with the Singapore Workforce Skills Qualifications (WSQ). WSQ is a national credential system that trains, develops, assesses and certifies skills and competencies for the national workforce in numerous professions, including ECEC. Training programs developed under the WSQ system are based on skills and competencies validated by employers, unions, and professional bodies. These training institutions offer courses from the most basic level (Fundamentals Certificates) up to diploma-level courses. Bachelor's degrees in Early Childhood Education are offered by two institutions: the Singapore Institute of Technology (SIT), in collaboration with Wheelock College (Boston) and the SEED Institute, and the Singapore University of Social Sciences (SUSS). As mentioned, from January 2019 NIEC will support the preschool sector through new efforts to attract and develop the pipeline of EC professionals, and through more structured developmental pathways for EC educators and leaders. The decision to centralize the pre- and in-service training of ECEC professionals under the NIEC represents an important next step toward quality enhancement and harmonization.

Nature, Frequency, Distribution, and Evaluation of Preparation Efforts

The PQAC and EYQAC frameworks developed by MOE and MCYS state standards for admission requirements and practices, administration of courses, course content, modes of assessment and supervised teaching practice, quality of faculty, and facilities and resources. All training agencies must engage a full-time academic head, a full-time course coordinator, and at least one full-time core trainer per course conducted. The academic head must have the qualifications and experience to teach the highest level of course offered. Trainers and practicum supervisors must have specialist training, experience, and qualifications in ECEC. For delivery of Certificate courses, trainers are required to have a Bachelor's degree in ECEC or related fields or in another subject but with subsequent professional qualifications in ECE at diploma level. They are also required to have at least two years of teaching experience in ECEC. Practicum supervisors must minimally have a diploma and at least three years of EC experience. For teaching at diploma level, trainers are required to have a Master's degree or higher and two years of EC experience. Practicum supervisors are required to hold a Bachelor's degree and have three years of EC experience. Trainers for specific courses at the infant and early years (e.g., Safety, Health, Hygiene, and Nutrition) must have relevant professional specialization (e.g., medical/nursing).

Incentives for Participation

ECDA provides capability awards for full-time students, which include full course sponsorship, a grant for study-related expenses, a study allowance, and funding for professional development. The value of the awards ranges from \$11,400 to \$53,500 (total), depending on the length and level of course. For example, the ECDA Training Award is a three-year grant of around \$29,100 that offers full course sponsorship, a learning resource grant of \$765, monthly study allowance of \$580, and PD grant capped at \$730 per academic year. Recipients serve a one-year bond to the ECEC sector (not specific to any provider) for each year of funding support. ECDA also provides

sponsorship for those interested in pursuing diploma programs on a part-time basis. Students can also participate in enhanced internship programs of 22 weeks, via early childhood capability grants offered to centers. Apart from the capability grants, the government also funds half of the allowance that is given to trainees during their internships.

MOE also provides awards for teacher training, with a practicum in MOE kindergartens. The package matches the sponsorship provided by ECDA. Students receive a monthly salary while undertaking an appropriate training program, course fees are sponsored by MOE, and students receive a grant for study-related expenses. Upon completion of training, recipients are required to serve a two-year teaching bond at MOE kindergartens.

Professional Development (In-Service)

Who Delivers and the Capacity of the Deliverers

Fostering the professional development of staff is key to ECDA's efforts to raise the quality of the Singapore ECEC sector, the centerpiece of ECDA's CPD framework for practitioners, and also a foundational standard in the quality assurance framework (SPARK). The CPD framework (ECDA, 2013a) provides ECEC personnel with structured pathways to develop and update their professional knowledge, skills, and dispositions, while customizing PD to the specific needs and progressive levels of competencies of each professional. Currently, ECDA strongly encourages all ECEC professionals to participate in a minimum of 20 hours of PD per year. Both formal and informal (center-based) PD activities are recognized (ECDA, 2016b). Participating in PD, however, is not a mandated requirement for Singapore ECEC professionals.

Since its establishment, ECDA has facilitated and monitored a variety of PD initiatives, in collaboration with private training agencies and organizations (e.g., SEED Institute, Science Center Board, National Arts Council, National Library Board, Singapore Center

for Chinese Language), as well as individual expert trainers in specific fields. The National Institute of Education (NIE) also offers courses and programs for ECEC professionals. ECDA appoints trainers and training agencies through a tender process. Other providers of PD include professional organizations such as [AECES](#) and unions such as NTUC.

As of October 2014, all early childhood professional qualification courses are required to be accredited by the Early Childhood Care and Education (ECCE) Workforce Skills Qualifications (WSQ) Framework. ECCE is jointly administered by ECDA and the Workforce Development Authority (WDA). Under the new Early Childhood Manpower Plan, ECDA and WDA have conducted a briefing for Approved Training Organizations (ATOs) accredited under the Singapore WSQ system to align their courses with the Skills Future for ECCE. Support will be provided to education and training providers that wish to continue running their ECCE WSQ qualifications and ECDA-endorsed modular courses. ECDA and WDA are also working with the local universities and Polytechnics to align their ECCE programs to the Skills Framework for ECCE. The establishment of NIEC represents a positive step towards the harmonization of the provision of in-service teacher PD initiatives.

As mentioned, progression to leadership positions (lead teacher, senior lead teacher, center leader, senior center leader) require additional professional qualifications that are provided by polytechnics. In addition to this, ECDA runs CPD courses on leadership topics for center leaders. These are not tied to professional qualifications. There are currently nine leadership courses offered, which are delivered by a team of part-time trainers employed by ECDA and the ECDA Fellows. ECDA monitors and evaluates these PD courses.

Nature, Frequency, Distribution, and Evaluation of In-Service Efforts

The different types of initiatives currently offered to promote the learning of in-service practitioners include conferences, seminars, courses, workshops, and center-based PD activities. All the PD initiatives described in [ECDA's Prospectus](#) (2016b) focus on deepening knowledge and honing teaching skills. All courses are aligned to at least one of the Skill Categories in the Skills Framework for ECCE, which include developing the child holistically, collaborating with families and community, building professional capacity, and building sector and/or organizational capacity.

With regards to content focus, these initiatives aim at developing preschool educators' knowledge and skills in the learning areas of the NEL framework. Some examples of the courses available are: "Development of Numeracy in the Early Childhood Education," "Fun Elements of Art," and "Discovery of the World through Inquiry-based Learning." There is a set of training courses for those teaching younger children, but the choice is much more limited. Examples of content include engaging children in play, class management, Mother Tongue, and setup of learning corners.

ECDA also places much emphasis on informal modes of teacher PD (e.g., professional learning communities, networked learning, informal discussions, sharing of innovative pedagogies), which are deemed to both enhance teachers' content and pedagogical knowledge and bring about a sense of belonging, camaraderie, and solidarity among ECEC educators. However, unlike mainstream schools, there is no "protected time" in preschools for teachers to come together to plan or discuss curriculum or assessment issues, and so such opportunities will vary greatly across centers.

ECDA acts as the regulatory body to maintain minimal standards of quality for in-service professional development (PD). To obtain funding from ECDA or SSF, courses in high demand need to be supported by WDA and approved by ECDA. It is estimated

that around 10,000 in-service training opportunities are offered to ECEC practitioners per year.

Incentives for Participation

Core and milestone CPD courses are heavily subsidized (usually 80 percent or more) either through SkillsFuture or through ECDA's funding. The idea of having professionals pay a small percent of the course fee is a strategy adopted by the government to foster a feeling of internal agency in ECEC educators regarding their own professional growth. Through the CPD Masterplan, support is provided to operators to allow time off for ECEC professionals to engage in in-service PD (e.g., trained relief teachers, and flexible staffing arrangements during days that are designated for PD). Furthermore, centers that allow their staff to embark on PD are eligible to receive tax deductions and/or cash payouts under the Productivity and Innovation Credit Scheme by the Inland Revenue Authority of Singapore (IRAS).

Many incentives are provided to foster the development of Leaders. For example, the SkillsFuture Study Award provides \$3,500 on top of government course fee subsidies to defray expenses when undertaking EC leadership courses at polytechnics. According to our respondents, the main motivations to undertake in-service PD courses typically include enhancing knowledge and skills, obtaining higher salaries, having opportunities to grow as professionals, and career development.

Compensation

Salary Ranges

The government is supporting the salary increase of ECEC professionals in a very substantial way. According to the Skills Framework for Early Childhood Care and Education (2016), the salary range for professionals in the Educarer track is \$1,300 to \$1,520 per month. Salaries for professionals in the Teaching track range from \$1,560 to

\$2,165 per month. The salary for professionals in the Leader track ranges from \$2,240 to \$4,335 per month. These figures are aggregated from public and private sources and provide a reference of the general monthly salaries for educators at different job roles, based on information current as of 2015.

Starting salaries for ECEC professionals are comparable with those for primary school teachers who hold a Diploma in Education (DipEd), which range from \$1,300 to \$1,520 per month. However, starting salaries for ECEC professionals are significantly lower than primary school teachers holding a Postgraduate Diploma in Education (PGDE) or a Bachelor's Degree, who typically have a starting salary of around \$2,240 to \$2,530 per month. Some of our respondents expressed that, in terms of salaries and professional prestige, the Singapore ECEC sector has lagged behind other professions. However, they also acknowledged that this situation is currently changing. Over the past six years, starting salaries for diploma holders in early childhood have increased rapidly and faster than in fields such as communications, accounting, and business.

Salaries for ECEC professionals should be commensurate with the qualifications and job responsibilities of the candidate (ECDA, 2015a). However, because the sector is primarily private, salaries may vary considerably across providers. Respondents noted that turnover is high and staff are likely to move to new positions for a small increase in salary. There was also a sense that good staff may be "poached" by commercial providers who can offer a higher salary. Commercial providers generally charge higher fees to parents, and hence are able to pay higher salaries to their teachers and educators. Standardizing the pay system, regardless of types or locality of operators, may help to mitigate teacher attrition. This would then weaken the effect of teachers choosing schools based on pay packages, and would encourage teachers to choose schools that resonate with their ECEC philosophy.

Benefit Ranges

The schemes of service provided to ECEC professionals need to satisfy the regulations stipulated by the Ministry of Manpower (MOM). Such stipulations are articulated in the [Good Employers' Toolkit for the Early Childhood Sector](#) (MCYS, 2011). Benefits that are mandatory under law include annual leave, sick leave, medical consultation fees, maternity leave, child care leave, and work injury compensation. Discretionary benefits include medical insurance plans, dental and outpatient medical benefits, special leave (e.g., compassionate leave, paternity leave), allowances (e.g., meal allowance), sponsorship for training, and provision of company outings (MCYS, 2011, p. 54).

Regarding contractual hours of work, an employee is not required under her/his contract of service to work more than eight hours a day or 44 hours a week. This does not include break-time for meals or rest. An employee is not allowed to work more than six consecutive hours without a break. It is mandatory to make overtime payment to an employee whose basic salary is \$2,000 or less a month. All work in excess of the contractual hours of work is considered overtime. Overtime must be paid at no less than 1.5 times the employee's hourly basic rate of pay for the salary period.

Who Determines Salaries and Benefits?

Because the ECEC sector is primarily private, salaries and benefits may vary depending on the provider. However, the basic guidelines are specified in the above-mentioned [Good Employers' Toolkit for the Early Childhood Sector](#) (MCYS, 2011). This Toolkit is a collaborative effort of the Ministry of Community Development, Youth, and Sports (MCYS) and the Education Services Union (ESU), with input from the Singapore Workforce Development Agency (WDA). The Toolkit details the legal responsibilities of an employer, and provides guidance on the training and funding schemes available for the sector. The Toolkit aims to help early childhood employers improve their HR practices, business processes, and productivity, to attract and retain the necessary staff

for their centers. It also aims to increase awareness of initiatives and programs available for upgrading professional qualifications of early childhood professionals, and to encourage employers to apply fair employment practices and industry standards in HR management.

Role of External Entities

The Education Services Union (ESU) serves union members in the Education Services Sector. The main objectives of ESU are to promote good industrial relations between members (ECEC professionals) and their employers; improve the working conditions of members or enhance their economic and social status; and achieve the raising of productivity for the benefit of members, their employers, and the economy of Singapore. When retrenchment of an ECEC professional is necessary, the retrenchment exercise is carried out in consultation with the union. Professional associations in Singapore, such as the Association for Early Childhood Educators (Singapore) (AECES) or the Association of Early Childhood and Training Services (ASSETS), do not play a role in determining the compensation schemes, salaries, and benefits of ECEC professionals.

Attracting, Promoting, and Retaining the Workforce

Strategies/Processes for Attracting People into the Workforce

A new Early Childhood Manpower Plan was unveiled in October 2016. With it, ECDA hoped to attract another 4,000 professionals to join the current pool of 16,000 by 2020. The plan, announced by MSF, is part of the national SkillsFuture movement and is a collaborative effort by ECDA and the Singapore Workforce Development Agency (WDA). New strategies and processes for attracting people into the ECEC sector and supporting career development include:

- More and better employment opportunities: A wide variety of employment opportunities will be available in the sector to fit diverse educational and skills profiles. A new skills framework for ECEC will be articulated, which spells out the three above-described career pathways as well as specific skills and competencies required for various job roles under the Educarer, Teacher, and Leadership tracks.
- Improved remuneration and benefits: Salaries for qualified early childhood educators have improved in recent years, and fresh graduates will find employment terms that are competitive with other sectors.
- Enhanced support for new entrants and in-service educators:
 - Mid-career switchers get more training options (for example, ECDA will provide more support for early childhood education diploma courses in polytechnics, with more than \$7.2 million set aside to sponsor the ECDA Training Awards over three years).
 - For new entrants, early childhood educator training courses will be made available in the Place-and-Train mode at all levels. Mid-career entrants can benefit from the WDA's Professional Conversion Programs (PCP) for Preschool Teachers and Place-and-Train Programs for Educarers to undergo training to attain skills for a career in the profession while earning a salary.
 - ECDA will also recognize prior learning and working experience of in-service educators who are keen to upgrade themselves through these training courses, and take on different educator roles.
- Enhancing recognition of ECEC professionals: To professionally align ECEC staff with primary and secondary school teachers, from 2017 onwards ECDA will encourage and support all preschools to provide a day off for early childhood educators on Teacher's Day.

Opportunities for Advancement in the Field

The strategy of offering three career pathways for ECEC staff, with distinctive roles and responsibilities, aims at responding to the various interests and needs of the workforce, allowing professionals to find different opportunities for advancement in the field. In addition, there are clearly defined roadmaps in the CPD Masterplan that highlight the different opportunities for advancement, and ECDA offers several scholarships and awards for ECEC professionals to advance their careers. For example, ECDA's Scholarships and Teaching Awards are offered to early childhood professionals who wish to pursue a Bachelor's or Master's degree in Early Childhood Care and Education to enhance their pedagogical practice as well as hone leadership competencies. ECDA also offers Sponsorships for part-time Diploma in Early Childhood Care and Education courses.

These strategies are responsive to the motivations of today's ECEC professionals. Our respondents reported that the goals and aspirations of staff have significantly changed over the past years in Singapore. Especially the younger educators want to move away from being seen as a "carer" for the physical needs of children, preferring to focus on teaching and developing curriculum. Others do not even want to be in the classroom for a long time, aspiring to become center leaders and curriculum specialists, as part of their career advancement.

Turnover Rates

Statistics on the number of professionals leaving the ECEC sector are not publicly available, although based on their experience in the sector, our respondents estimated this number to be around 15 percent-20 percent per year. The Lien Foundation's report titled "Vital Voices for Vital Years" (Ang, 2012) examined the views of leaders in Singapore's ECEC sector, finding that one of their top concerns was the shortage of

qualified and experienced preschool teachers due to turnover. As explained in the report:

This is largely the result of either preschool teachers moving from one setting to another, or leaving the profession altogether. [...] With the increase in the number of preschool centers in recent years, the current demand for preschool teachers is high. Some participants felt that the raising of preschool teachers' qualifications, while a necessary and welcome step forward, has exacerbated the issue of attrition in the workforce as preschool teachers are able to take advantage of the expanding private sector to move from one center to another for marginally more pay, and this has created a volatile employment market. According to a preschool provider, "To employ and retain diploma teachers are quite difficult because it is so competitive out there. They (diploma teachers) will just go for \$100 or \$50 more. Higher pay is the governing factor." (p. 51)

Evaluating the Workforce

Singapore does not have a national framework to evaluate its ECEC workforce; ECEC professionals are appraised and evaluated by center leaders. For this reason, as expressed by our respondents, evaluation practices vary widely. While SPARK includes a standard on performance appraisal, centers can be certified without necessarily scoring high on this specific item. SPARK positively values centers that have a system for performance appraisal and evaluation of the workforce. It describes three increasingly sophisticated levels related to staff performance appraisal practices and recognition.

- Centers in the "Emerging" level appraise staff at least once a year and recognize staff for their contribution.
- Centers in the "Performing" level have a formalized staff appraisal system and a structure for staff career advancement, which are communicated to staff.

- Centers in the “Mastering” level have staff who articulate and demonstrate their understanding and expectations of the staff appraisal system. Centers encourage and reward staff for accomplishment through a career advancement system.

Given that staff evaluation and appraisal is conducted at the center level, there are no official consequences resulting from positive or negative evaluations. Internally, however, positive evaluation may lead to salary increases, performance bonuses, promotions, or nomination for further training and scholarships. In contrast, systematic negative evaluations may lead to termination of employment.

Health Workers Who Support ECEC

ECDA’s (2015a) “Guide to setting up a child care center” advises that every child care center should ensure that there is at least one staff trained in first aid at all times during the center’s operational hours. In addition, centers with infant care services are required to have a certified infant care Educarer or a Certificate in Infant/Toddler Care (CITC) trained staff or a State Registered Nurse (SRN) with Early Years Development Framework (EYDF) certificate, at all times (from 7am to 7pm). Finally, child care centers providing solely infant care (aged 2 months to 18 months) services are required to have at least one qualified trained supervisor who holds a valid first aid certificate recognized by ECDA.

Mental Health Workers Who Support ECEC

We are not aware of any mental health workers who work directly as a center staff. There are integrated support programs currently being piloted that include health, social, psychological, and educational support to vulnerable children and families (e.g., KIDS 0-3, KidSTART, Circle of Care). These initiatives are described in detail in Chapter 13.

Innovations

Innovative Approaches to Pre-Service Education: On-The-Job Training and Coaching

In March 2017, ECDA began to pilot a new approach to train infant educators in 30 child care centers. Similar to an apprenticeship, trainees will undergo a short training program with more time spent on structured on-the-job training and coaching from an experienced mentor. This new approach targets individuals who may not be inclined toward long classroom-based training, and individuals joining the program will be considered based on their aptitude and competence, rather than on academic qualifications. Trainees will take on the role of Allied Infant Educators, working closely with certified Educators, and supervised by Senior Educators. This arrangement also creates opportunities for experienced Educators to assume expanded job roles, and to lead infant care teams.

Measures to Attract, Promote, and Retain More Professionals in the ECEC Sector

Recent data from the Ministry of Manpower (MOM) showed that only 56.5 percent of fresh ECEC graduates from polytechnics were in the labor force one year after graduation, a much lower percentage compared to graduates from other disciplines. The government is implementing initiatives for mid-career individuals who are looking to return to work and/or switch careers for the ECEC sector. These include the provision of work trials, professional conversion programs, and place-and-train programs. Individuals receive course sponsorship and monthly salary for the duration of the program. In one of these initiatives, the Workforce Development Authority (WDA), supported by ECDA, has a Traineeship Program that allows interested job seekers to gain first hand experiences with the types of positions available in the ECEC sector. Trainees undergo a short-term traineeship program with preschool operators for up to 80 hours of on-the-job training. Trainees receive a training allowance, and receive additional incentives of up to \$360 if they complete the program and remain in the sector.

Additionally, the government has announced a range of strategies to promote and retain the workforce. For example, through the Skills Framework for Early Childhood Care and Education (2016), the Singapore Workforce Development Agency (WDA) is offering the scholarship “Early Childhood Care and Education-STEP (Skills Training for Excellence Program) (ECCE-STEP)” to provide upgrading opportunities for ECEC professionals. In-service professionals can apply for this scholarship to pursue degree programs in areas of specialization such as Chinese Language, Child Development, or Business Management.

Innovative Tools to Enhance Communication and Foster In-Service PD

One of the most recent innovations in Singapore’s ECEC PD landscape is the creation of ONE@ECDA, an online system that has been developed to support the professional growth of ECEC professionals. As described in ECDA’s Prospectus 2016, early childhood educators can now access and apply for continuing professional development (CPD) courses and maintain their CPD portfolios directly through ONE@ECDA. This system facilitates and streamlines the training administration process (e.g., registration for courses, and issuing of e-certificates), which makes it easier for centers to manage their staff professional development. Since February 2016, center leaders and administrators have been able to nominate ECEC professionals for courses, and ECEC staff themselves have been able to apply for courses directly via this system.

Initiatives to Foster Leadership, Mentorship, and Collaboration

The [ECDA Fellows](#) program is one of ECDA’s key initiatives to recognize Pinnacle Leaders in the early childhood profession and expand opportunities for these leaders to further develop their careers. The ECDA Fellows were appointed based on their professional expertise in teaching and learning, ability to foster creativity and innovation, strong leadership in building a culture of professionalism, collaboration,

and trust among ECEC professionals, coupled with their ability to build a culture of lifelong learning through continuing professional development, and build partnerships to harness resources for sustained impact and effective implementation. The ECDA Fellows work closely with ECDA to train and mentor other EC professionals, and uplift the quality and image of the ECEC sector. They also develop sector-wide resources for professional development, curriculum leadership and sector partnerships. ECDA Fellows are required to contribute 100 hours of service roles to the sector each year for a period of three years, in addition to their current employment. Most ECDA Fellows concurrently maintain their positions typically as center principals, directors, or managers. They receive an annual service recognition allowance of \$6,400.

A second leadership-related innovation is the Professional Development Program (PDP), an initiative recently introduced by ECDA. The goal of PDP is to support the growth of ECEC professionals with the potential to take on leadership roles in their organizations. This three-year program involves 180 hours of work and is bond-free. It involves a compulsory module on center and teacher leadership, a project component to allow the transfer of learning (e.g., innovation projects, practitioner inquiry projects), and a leadership component to develop agency. Annual cash awards and service milestones are given after the completion of the program, up to \$8,500 (in total over the 3 years). In 2017, the PDP was rolled out to those in the Educarer and Leader tracks.

The third leadership program is called “[Principal Matters](#)” (PM), with the Lien Foundation, SEED Institute, and Wheelock College as program partners. PM was introduced in 2016 to respond to the growing need to support and enhance the professionals who would be likely future leaders. With rapid expansion in the sector, some young and relatively inexperienced preschool teachers were asked to assume senior positions. Lacking the appropriate skills, knowledge, and dispositions to survive in leadership positions in a rapidly developing sector, some chose to leave the sector. This training program adopts an experiential, multi-disciplinary approach that gives participants exposure to best practices overseas, as well as diverse learning

opportunities with mentors and leaders outside ECE. It aims to develop 150 EC professionals (with three to 10 years of experience). The program, valued at over \$11,400 per participant, comes free with no strings attached for the professionals selected. The program comprises bite-sized modules taking approximately 100 hours spread over six months. It includes a five-day workshop conducted by an organizational development firm that trains senior civil servants and corporate leaders, an overseas learning journey, a mentorship program with nine ECE leaders (including ECDA Fellows), a public symposium showcasing the participants' capstone projects, and a research study on the evolving nature of preschool leadership amid changing societal norms and family dynamics. The first cohort of 25 participants was selected in 2016, and graduated in September 2017. As it is quite new, there is currently no evaluation of this program.

Contributions to Quality

With the establishment of ECDA, and the formation of EYQAC and PQAC, pre-service teacher education and in-service professional development have significantly evolved, and are now perceived to be of better quality. However, there has been no evaluation of the impact of changes in statutory requirements and training models on teacher quality. This is partly due to the fact that changes have taken place very recently and rapidly. Although not verifiable with empirical data, some of our respondents expressed the belief that increasing entry requirements has contributed to improving teacher preparation and their effectiveness in the classroom. Such belief was based on their own observations and/or the observations of others. More specifically, they commented on how ECEC professionals now better understand the implications of their actions, and have better knowledge of developmental and learning theories that can be applied in classroom settings. Differences have also been observed in how staff use developmental language and their confidence when speaking to parents. Finally, one of our respondents expressed that the recent changes in teacher training has highlighted an increasing divide between younger and older teachers; there is a sense that, "while

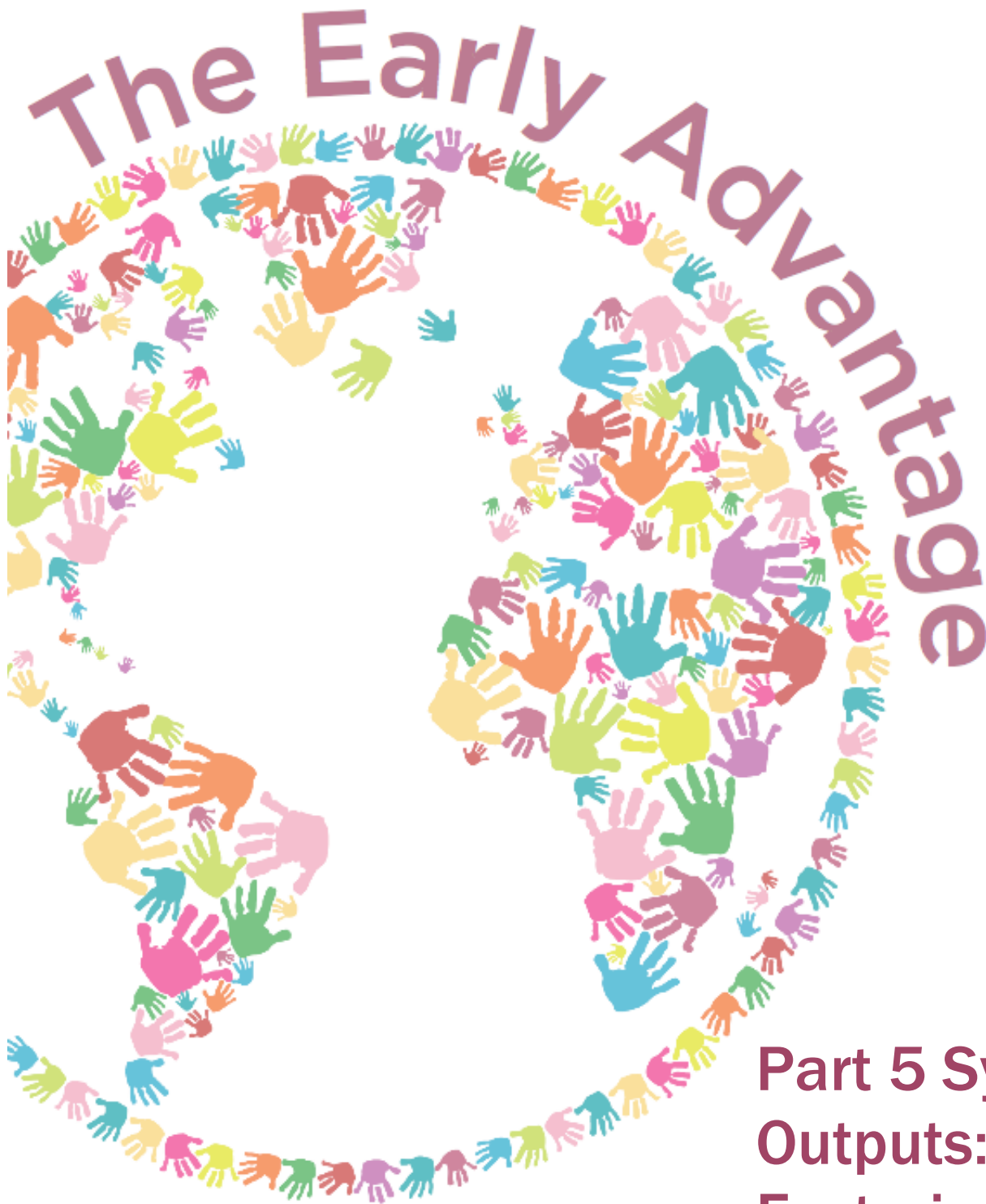
older teachers have a lot of heart, they may not have the required knowledge and professionalism.”

Challenges

One of the most important challenges faced by the ECEC sector in Singapore relates to the shortage of professionals who are appropriately trained, especially because the number of preschools is increasing very rapidly. Our respondents commented that this problem came about due to neglect and under-investment in the ECEC sector since the early days of nation building, when the focus was on primary and secondary schooling. One respondent elaborated on the paradox of deploying the least-qualified professionals to teach children in the most critical formative years.

Another key challenge relates to attracting and retaining in the profession those students who complete the existing preservice education programs, particularly in view of the rapid expansion of the sector at the same time as a push to raise quality. As mentioned, data from the Ministry of Manpower (MOM) indicates that only 56.5 percent of fresh ECEC graduates from polytechnics remain in the teaching force one year after graduation. According to a study by Craig (2013), conducted with Diploma holders, the most likely reasons to leave the field included low salary, perceived low prestige of the profession, lack of professional autonomy, esteem or respect by the public, and perceived lack of career advancement.

High turnover of ECEC professionals results in a lack of stability in the care and education of children, and difficulties establishing professional communities within centers. Professional development may help to address issues of teacher retention, and in particular will help to prepare teachers for their roles as leaders as the sector continues a rapid expansion. Regulating salary and benefits may also help to alleviate some of these problems.



**Part 5 Systemic
Outputs:
Fostering
Equitable and
Efficient Services**

Chapter 11: Governance

Key Points

- The introduction of the Preschool Qualification Accreditation Committee (PQAC) in 2000 brought about a closer collaboration between the Ministry of Education (MOE) and Ministry of Ministry of Community Development, Youth, and Sports (MCYS). The MCYS was subsequently restructured to become the Ministry of Social and Family Development (MSF) to bring a sharper focus to the government's work in the development of families, social services, and social safety nets.
- A key milestone in the government's intervention of the ECEC sector started in 2013 with the formation of the Early Childhood Development Agency (ECDA), an agency that reports to both MOE and MSF.
- ECDA has been tasked to lead and oversee the development of the ECEC sector in terms of governance and coordination.
- ECDA adopts a multi-agency and intra-agency approach to facilitate formal platforms for various interest groups, organizations and ministries to work together at the policy realm.
- The main challenge to raising the quality of the ECEC sector through a government agency is one of balancing the level of control imposed by the government with the maintenance of some autonomy of service delivery by the private sector.

Level of Authority

Responsibility for ECEC policy as it relates to children across the early childhood age range lies almost entirely at the national level—there is no sub-national level governance. However, while guidelines for educational program development are

provided at the national level, implementation decisions on educational program are made at the provider or individual setting level.

Involved Ministries

Roles/Responsibilities of Involved Ministries

The [Ministry of Social and Family Development](#) (MSF) focuses on nurturing resilient individuals, strong families, and a caring society in Singapore. MSF was formed on 1 November 2012, after it was announced that the Ministry of Community Development, Youth, and Sports (MCYS) would be restructured. The restructuring aimed to bring a sharper focus to the government's work in the development of families, social services, and social safety nets. Key responsibilities of MSF include the protection and social welfare for children and families, including foster care and adoption, and the promotion of strong families through relationship support, family-centric events, and administration of financial supports and statutory entitlements for children and families. MSF also takes lead responsibility for services to individuals with disabilities, and services supporting the elderly. A key agency under MSF supporting the ECEC sector is the [Early Childhood Development Agency](#) (ECDA), described in more detail in later sections. A statutory board under MSF is the [National Council of Social Services](#) (NCSS). NCSS provides leadership and direction in social services, and serves as a coordinating body for approximately 450 voluntary welfare organizations. Various other councils support MSF, e.g., Families for Life, many of which play key roles in the provision of ECEC. The Inter-Ministry Workgroup on Child Protection (IWCP) is chaired by the MSF and sets the strategic policy direction for service planning and development in child protection, and defines the roles and responsibilities of the various partners. Members include MOE, MOH, Ministry of Home Affairs, Ministry of Law, Singapore Police Force, Attorney-General's Chambers, NCSS, MOH hospitals, and non-government organizations.

The [Ministry of Education](#) (MOE) focuses on directing the formulation and implementation of policies related to education in Singapore. These include education structure, curriculum, pedagogy, and assessment. It oversees the management of government-funded schools, and the Institute of Technical Education, polytechnics (post-secondary tertiary institutions), and universities. It is currently headed by two ministers—one for Schools and the other for Higher Education and Skills—to oversee education from Primary 1 to tertiary institutions. The Preschool Education Branch at MOE provides curriculum guidance to the ECEC sector for children aged 4 to 6, and oversees the operations of MOE kindergartens, public center-based care serving children from ages 4 to 6. SkillsFuture Singapore (SSG) is a statutory board under the MOE, having recently taken many of the responsibilities of the Workforce Development Agency (WDA). SSG will drive and coordinate the implementation of the national SkillsFuture movement, promote a culture and holistic system of lifelong learning through the pursuit of skills mastery, and strengthen the ecosystem of quality education and training in Singapore. As such, MOE, via post-secondary institutions and institutes of higher learning, will play in key role in ensuring the quality of education and in-service training provided to those already in the ECEC sector. MOE's role will be also central given the establishment of the National Institute of Early Childhood Development (NIEC), which will centralize strategic matters related to the training and professional development of ECEC professionals.

The [Ministry of Health](#) (MOH) focuses on providing information, raising health awareness and education, ensuring the accessibility of health services, and monitoring the quality of health services. It is also involved in the control of illness and disease prevention in the country, coordinating the utilization of resources and expertise where necessary. Particularly in relation to ECEC, the MOH plays a critical role in ensuring high-quality health provision, in immunization and developmental screening of children, in developing licensing criteria for nutritional standards in center-based care,

and in health promotion via the Health Promotion Board, e.g., the Healthy Meals in Child Care Centers Program (HMCCP), and Preschool Health Curriculum.

National Coordinating Strategy

History, Mission, and Goals

Historically, direct responsibility for ECEC fell under the charge of two ministries: the MOE, which oversaw policy and management of kindergartens, and MCYS, which had responsibility for child care regulation and policies. In 1999, the then-senior Minister of State for Education proposed the need for MOE to review impactful strategies to help raise the quality of ECEC. A Preschool Education Steering Committee was formed to enhance the quality of kindergartens, along with the creation of the Preschool Education Branch in MOE. In 2000, the Preschool Qualification Accreditation Committee (PQAC) was established to maintain high educational standards in ECE teacher training courses; this denoted a significant signal from the government to focus more attention on ECEC, and marked a significant strengthening of the partnership between MOE and MCYS. However, there were still concerns that the sector remained divided, with each Ministry working towards its own policies and agendas. In 2010, the joint MOE-MCYS Steering Committee for improving the quality of preschool education had identified three key leverage areas: to raise qualifications for ECEC professionals; to provide resources and sharing of best practice to enhance the quality of programs; and to develop a quality assurance and accreditation scheme. In his National Day Rally Speech in 2012, the Prime Minister stated that the government would establish a new statutory board to oversee preschool education, echoing suggestions put forward by preschool leaders in Singapore (PMO, 2012). The Prime Minister also clearly stated that the preschool sector would not become a public sector service run by the government.

ECDA was set up on 1 April 2013 to integrate the government's approach towards ECEC, and was an integral part of the national effort to raise the quality of ECEC programs. It was established as an autonomous agency jointly overseen by MOE and

MSF (administratively hosted by MSF). ECDA integrated the capabilities of the existing MOE PEB, and MSF Child Care Division, and in so doing, removed the overlaps of responsibilities pertaining to ECEC matters. The integration of these two ministries was to support children to develop holistically, nurture positive attitudes towards learning, facilitate the transition of preschoolers to formal education, as well as increase efforts to support and strengthen families. At this point, the role of MOE PEB was to drive the setting up and operations of MOE kindergartens and to develop a comprehensive curriculum framework for which ECDA would oversee its adoption and implementation in the preschool sector.

Functions

ECDA serves as the single point of contact for children attending infant and child care centers and kindergartens; new and existing ECEC professionals, parents, families, and the wider community of caregivers; and child care center and kindergarten operators. ECDA's key responsibilities are to oversee measures to enforce and incentivize quality in ECEC programs, including regulation, quality assurance, and the provision of early childhood development resources such as curriculum frameworks; facilitate the training and continuing professional development of sufficient numbers of good-quality ECEC professionals; develop a master plan for infrastructure and manpower resources to support the ECEC sector; provide subsidies and grants to keep quality preschool programs affordable, especially for low- and middle-income families; conduct public education and outreach to raise parents' awareness and support for their children's development; and uplift the image and professionalism of the EC sector through strategic partnerships and programs.

ECDA facilitates formal platforms for various interest groups and bodies to work together at the policy realm and, through this, provides governance and coordination—a multi-agency and intra-agency approach. ECDA also has a sectorial tripartite committee to develop the ECE manpower plan, which involves various agencies and

operators so as to bring in stakeholder inputs (e.g., AECES). The partnerships it establishes with different interest groups and bodies can also serve to address specific issues. For example, the KidSTART program—piloted in July 2016—aims to form an ecosystem of support (multi-agency and intra-agency) around children from low-income households, which involves bringing together different committees and communities and various donors.

Evidence of Effectiveness

This consolidated focus on the ECEC sector is very recent, in contrast to the many decades of dedication given to primary, secondary, and tertiary schooling. Given that the thrust of the national coordinating strategy via ECDA only started in 2013, it is perhaps too early to make definitive statements about effectiveness. On the whole, however, the establishment of ECDA has been seen as a positive move by the government to assert control over standards in the ECEC sector. It has also allowed for the harmonizing of policies and greater regulation of a sector that the government does not want to pull under public sector control and that historically has been somewhat divided. Furthermore, integrating accountability for the ECEC sector under one agency ensures there is no opportunity for issues to slip through the gaps between Ministries with different responsibilities. A number of respondents noted that the small size of the city-state had afforded a stronger state intervention and control, which had in turn helped to ease the managing of collaborations, partnerships and networks. The establishment of ECDA and its functioning can thus become more expeditious.

Issues Encountered by the Strategy

ECDA's role in coordinating the myriad ministries, agencies, and organizations has not been easy, particularly given the different mandates, interests, and agendas of the MSF and MOE and the private ECEC providers. One respondent reported that there is a clear need to “put everybody on the same page,” where everyone has the interest of the child

at heart. More platforms for open dialogues across these different groups, bodies, and ministries are needed to find common perspectives on the same matter. There is also concern that increasing government regulations and rapid changes in policies may stifle the independent voice of program providers, professionals, training providers, and other stakeholders. To ensure the views of all parties are considered, and to ensure participation from other ministries such as MOH and MOM, an independent advisory body of key stakeholders and ministry representatives may be needed. Such a body would be one avenue to ensure the government is fully informed of current issues and challenges the sector is facing on the ground.

Intersectorality

Role of Private Sector in ECEC

The private sector plays diverse roles in ECEC provision. With regard to direct services, virtually all ECEC center-based provision in Singapore (except the small number of MOE kindergartens) is through the private sector, including community foundations, religious bodies, and social and commercial organizations.

The private sector also plays a key role in supporting the ECEC infrastructure. As described in detail in Chapter 10, much of the pre-service and in-service training offered to ECEC professionals is provided by post-secondary educational institutions (e.g., polytechnics under the purview of MOE) and for-profit private agencies, although all are heavily regulated and accredited by ECDA. Some organizations, such as the Association for Early Childhood Educators Singapore (AECES), support the government in the delivery of programs to preschools. For example, AECES supported MOE to deliver the Focused Language Assistance in Reading FLAiR, through the recruitment, training, and deployment of para-educational professionals (e.g., retired teachers). AECES has also supported the HPB in the delivery of a mental wellness program to preschools. While the previous focus of AECES was on supporting the professional development of educators, they are moving to focus on collaborative

professional community building, which includes the professional community of nurses and social workers. This is in recognition of their belief that a focus on center-based classroom education alone may not be sufficient to address the needs of an increasingly diverse society, and that professionals from the different parts of the ECEC sector need skills to be able to work and communicate effectively together.

Some private sector agencies also act as incubators for innovative practices. Some of these innovative practices have had major impacts on public policy and programs. For example, the Developmental Support Program (DSP, described in Chapter 7) was scaled up from a previous pilot program “Mission I’mPossible” led by the Lien Foundation, KKH, and PCF.

Other private-sector agencies also support family and community engagement and work to establish links and networks of support across the sector. For example, the Association of Early Childhood and Training Services (ASSETS), formed in 2012, is a non-profit organization run by and for private preschool and teacher-training operators in Singapore. The aims of the organization are to conduct research in early childhood education; conduct training programs, workshops and lectures; promote the general awareness and understanding of the profession in Singapore; provide a forum for the exchange of ideas; assist in improving the quality and standards of centers by providing coordination and support, and related training programs and courses; and liaise with government departments and other relevant authorities and bodies on matters concerning early childhood education matters. Currently ASSETS is collaborating with Workforce Singapore (WSG) on projects designed to boost productivity and improve retention in the ECEC sector. These projects include centralized meal catering for preschools run by different operators across Singapore. This helps the preschools to save on manpower and resources, as they do not need to have dedicated space and staff to prepare meals for the children. ASSETS works closely with ECDA and MOH to plan the menu so that it meets the nutrition standards set by the Health Promotion Board. Another initiative developed by ASSETS is to identify IT solutions that help educators

in their administrative work, such as apps that make it easier and paperless for educators to mark attendance, record children's temperatures, manage information on staff and pupils, and communicate with parents.

Many of these organizations have also played a major role in highlighting some of the challenges faced by the ECEC sector in Singapore, bringing them to local and international attention. For example, the Lien Foundation commissioned the Starting Well Report conducted by the Economist Intelligence Unit (2012), and the Vital Voices for Vital Years report (Ang, 2012), which voiced stakeholders concerns about the ECEC sector in Singapore. Some respondents indicated that, while the government had started to focus attention to ECEC far in advance of such reports, these reports have acted as catalysts for the government to more rapidly formulate and implement new policies.

Relationship between Public and Private Sectors

The public sector plays a key role in regulating and financing the ECEC sector, while the private sector plays a key role in the delivery of virtually all ECEC services, as described in the previous section. While some private providers generally function independently and rarely engage with the rest of the sector (except for the purpose of regulation and licensing), there are clear examples of the public and private sectors working in harmony in the shared interest of children and their families. For example, the Lien Foundation, a privately funded philanthropic organization, has worked with preschools, MOE primary schools, Care Corner (a voluntary welfare organization that runs both Family Service Centers and preschools), and MSF to develop “Circle of Care” (COC), a multidisciplinary, child-centric model of education and care combining social work, learning support, and parental involvement for at-risk children. Children in COC preschools are supported by a multi-disciplinary team comprising the principal and preschool teachers, educational therapists, and social workers. The COC social worker coalesces different supports for the child and family, ranging from case management, community resources, and educational therapy, to counselling or financial aid. They

work closely with the teachers to identify, assess, and provide early intervention to children at risk—including those with learning difficulties—and support the transition of children into targeted primary schools that can continue to support their needs. This example highlights how a range of organization types (commercial for-profit, not-for-profit, and government) are collaboratively involved in achieving ECEC goals. While the ECEC sector has been privatized for a considerable time, government's recent efforts to raise the quality of the sector implies that more harmonizing work between private organizations, as well as between private and public organizations, are needed.

Incentives for Private Sector Engagement

The government's efforts at incentivizing private sector engagement, primarily via financial means, are essentially aimed at raising the quality of ECEC provision. These are discussed in more detail in Chapter 12. These financial incentives are typically provided by the government on the basis of a commitment to improving quality and affordability of services. The following are the range of incentives for private sector engagement.

- Direct support to operators to ensure they can keep center-based care affordable to parents.
- Grants to attract, recruit, and retain better qualified teachers and leaders, and to provide scholarships for their teachers; funding to reduce class sizes; and financial support to provide learning supporting programs for children who need additional assistance.
- Schemes that provide funds to promote targeted programs, partnerships with stakeholders, or customized in-house projects that support children's holistic development.
- Teaching and learning resource grants to defray the costs of purchase or renewal of developmentally appropriate resources that can be used to set up well-resourced, purposeful, and stimulating learning environments.

- Rental subsidies and funding support for development and conversion works.
- The Capability Development Grant, Innovation and Capability Voucher, and other programs offered by SPRING Singapore, an agency under the Ministry of Trade and Industry responsible for helping Singaporean enterprises grow. Operators of small and medium-sized centers can make use of these programs to build capabilities via staff training or technology adoption, or by defraying the cost of consultancy projects in the areas of human resources, financial management, innovation and productivity.

Contribution to Equity and Efficiency

The combined efforts of the government and non-government organizations have been key to ensuring a move towards equitable access to ECEC in Singapore. The increased government regulation of the sector (e.g., through teacher training and qualifications, licensing, and increased financing of providers who can meet quality enhancements and affordability targets) means that all children should be able to access ECEC provision that has met a baseline quality standard. A number of non-government organizations have for many years advocated for families most in need of support, and new pilot programs being offered by various agencies are aiming to ensure that all children are given the best opportunity for a good start in life. In the Singapore context, the government plays a highly significant role in its proactive initiation to collaborate and partner with the private sector to enhance better equity in the ECEC sector.

Challenges

The increasing involvement of the government in regulating the sector is generally welcomed, but a number of respondents noted that there is a need to balance centralized governance with localized autonomy to balance ground-up initiatives and top-down policies and guidelines. While there is great institutional trust in the government, some parents (via online forums) and respondents have questioned why the government has not fully embraced the younger age, for example, by having MOE

govern the ECEC sector, or by having the national teacher training institute—similar to the NIE—taking care of the education of ECEC professionals (note that this challenge will be solved in the near future with the establishment of NIEC). Although these kinds of measures would certainly serve to establish national level quality provision, they would result in a “one-size-fits-all” sector.

There are also concerns that efforts to increasingly regulate the sector are stifling innovation. For example, one response to the public consultation of the new ECDC regulatory framework was: *“will it be a massacre of genuine hearts of the educators and the potential out-of-the-box preschools that are currently blooming and budding beautifully in our garden of early childhood education?”* Some respondents also indicated that inter-ministerial and inter-agency collaborations are challenging because of the different mandates each group may hold and different levels of bureaucracy within which each has to work. Good communications and interpersonal skills are therefore essential to allow people from different parts of the system to work together, necessitating additional training for ECEC professionals regarding interacting with different stakeholders (e.g., parents, government) and professionals (e.g., social workers, medical staff) in the sector.

Some respondents also proposed more inter-ministry dialogue, for example with MOM and the URA, to deal with issues that are causing difficulty with sustainability for some providers (e.g., insufficiency of teachers and cost of land and property rental). For example, to maintain the provision of Mother Tongue in preschools, more teachers from China and Taiwan are needed to deal with a shortfall in locally available teachers. However, MOM policies, such as levy and quota impositions, make it difficult and costly to hire such staff. Smaller, non-profit providers who are not eligible for some sources of funding support (e.g., due to a religious affiliation) are finding it increasingly difficult to keep fees affordable while maintaining some basic level of quality. Hence, there is a risk that diversity within the sector will be stifled if these providers are lost

from the sector, or that there will be fewer options for lower income families as these providers have to increase their fees to ensure sustainability.

Finally, although ECDA is trying to encourage sharing of best practices across the sector, there is a sense that, while provision is in the hands of private providers there will always be tension in balancing competition and collaboration between different providers in a competitive market. Even though there has been more sharing of innovative practices through various conferences, talks, and visits, some providers remain more guarded in sharing as they are perceived to want to keep some programs and trade secrets exclusively for themselves in a competitive market.

Chapter 12: Finance

Key Points

- In 2012, government funding to the ECEC sector was doubled to address key initiatives to increase the affordability, accessibility, and quality of the ECEC sector. Building on this commitment, in 2017 the Prime Minister announced that annual government spending in the ECEC sector will again double, from \$605 million to \$1.2 billion, by 2023.
- Basic subsidies provided directly to service providers are used to offset running costs to keep fees affordable to parents. Additional subsidies are provided to allow for a further fee reduction for low-income families. There are also various infrastructure subsidies, and subsidies and scholarships to ECEC professionals to support the costs of professional training and upgrading.
- More subsidies are available to those providers who have committed to quality improvement efforts and to maintaining affordable fees.
- Subsidies provided directly to families are in the form of both universally available statutory entitlements and additional subsidies targeted at lower- and middle-income families. These subsidies can only be used for specified activities such as payment for child care fees and certain medical expenses.
- Support from private funding sources, coupled with significant investment from the government, highlight the hybrid nature of the ECEC sector in Singapore.
- Private funding comes from parental contributions toward health, care, and education costs, and through the support of private organizations that provide funding for research, for innovative programs supporting ECEC leadership development, and for the initiation of programs supporting vulnerable children and families.

Key Public Funding

Revenue Amounts and Sources, Covering Whom

Following the Prime Minister's speech at the National Day Rally in 2012 (PMO, 2012), there was a substantial increase in the budget provided to ECEC. In the 2013 Budget Speech, Deputy Prime Minister Tharman Shanmugaratnam announced that the government would more than double its spending on the preschool sector over the next five years to a total of more than \$2.16 billion (averaging at \$432 million per year).

The total expenditure for MSF in FY2016 was projected to be \$1.8 billion, an increase of \$190.15 million (11.8 percent) over the revised FY2015 expenditure. The Family Development Program takes up the largest share of MSF's budget. This Program covers the functions of the Family Development Group and ECDA. The Family Development Group administers a range of family services to encourage the formation of families and to strengthen families, and administers demand-side schemes such as Baby Bonus and Government-Paid Leave. The Family Development Group was allocated \$679.20 million, an increase of 18.7 percent over the revised FY2015 operating expenditure. This increase in budget was mainly due to enhancements to demand-side funding.

ECDA was allocated \$520.37 million for FY2016, an increase of 23 percent over the revised FY2015 expenditure. The increase was due to key initiatives to raise the accessibility, affordability, and quality of early childhood care and education services. These include supply-side funding to providers through infant care, child care and kindergarten subsidies, and the enhanced Anchor Operator Scheme and Partner Operator Scheme. Additional development expenditure of \$71.94 million was earmarked for the building of more child care centers, for the setup of more centers to support the Early Intervention Program for Infants and Children, and for the continued development of the ECDA IT system to support the early childhood sector (Singapore Budget, 2016).

The total expenditure of MOE in 2016 was projected to be \$9.22 billion, 5.8 percent higher than the revised FY2015 expenditure. One of the main increases in expenditure is for initiatives under SkillsFuture, which includes training routes and opportunities for those entering or in the ECEC sector. There is no publicly available information on the breakdown of budget allocations to different divisions within MOE, so it is not possible to state how much of MOE's expenditure was on ECEC.

Key Public Supply-Side Funding Streams

ECDA administers a wide variety of funding sources directly to providers. Under the Child Care / Infant Care subsidy, all parents with Singapore citizen children enrolled in any child care center licensed by ECDA are eligible for a basic subsidy of \$216 per month for child care and \$432 per month for infant care, depending on the main applicant's working status—stay at home mothers get 50 percent of the subsidy. Rather than paying the subsidy to parents, the subsidy is paid direct to the infant/child care provider, with the parent then paying the reduced fee. On top of the basic subsidy, parents can apply (via the center) for an additional subsidy of between \$72 to \$317 for child care and \$144 to \$389 for infant care, depending on the household income level, with lower income families getting higher subsidies. Again, this additional subsidy is paid direct to the provider. To qualify for the additional subsidy, the main applicant (the mother/single father) should be working at least 56 hours per month, and the monthly household income should not exceed \$5,400. For larger families with five or more members with more than two dependents who are not earning an income (e.g., where retired grandparents are living with the family), they may apply for an additional subsidy through Per Capita Income (PCI) if the family's PCI does not exceed \$1,350. Parents will receive the additional subsidy subject to a minimum co-payment amount. The minimum co-payment amount increases progressively as household income rises. For example, a family earning less than \$1,800 per month will minimally have to pay a co-pay of \$2.15 for child care per month, while a family earning \$3,241 to \$5,400 will have to pay a co-pay of at least \$155. Low-income families with extenuating

circumstances can apply for further financial assistance if they are unable to afford child care fees even after the basic and additional subsidies.

Children enrolled in kindergarten are not eligible for the basic and additional subsidies described above. Since January 2015, parents whose gross monthly household income is \$4,320 and below and have a Singapore citizen child enrolled in a kindergarten, nursery, or pre-nursery (K2, K1, N or pre-N) program operated by Anchor Operators or the MOE, are eligible for the Kindergarten Fee Assistance Scheme (KiFAS). This provides a percentage maximum fee assistance of between 99 percent of the monthly for kindergarten attendance (capped at \$115) and 20 percent (capped at \$22) depending on income level.

Different providers are eligible for different sources of funding depending on whether they are selected as Anchor or Partner Operators, and depending on their non-profit or commercial status. This funding model is working to incentivize high performing centers who are accessible (in terms of their affordability) to lower- and middle-income families, while at the same time ensuring that there are a variety of providers in the market to allow parents some choice. Providers who are disadvantaged by this model are likely to be non-profit, smaller-scale providers who do not meet the capacity requirements (in terms of number of children who can be served) to be eligible as an Anchor or Partner provider. Religious providers (e.g., mosque or temple kindergartens) are also heavily disadvantaged, as religious affiliated centers are not eligible for these key funding sources. Information about all [funding schemes to operators](#) is available on the ECDA website.

In 2009 and 2016 respectively, the [Anchor Operator Scheme](#) (AOP, for all types of center-based care) and [Partner Operator Scheme](#) (POP, for child and infant care operators) were introduced. These schemes provide funding support to selected preschool operators to increase access to good quality and affordable ECEC. ECDA provides funding directly to centers to enable them to keep fees low, ensuring a

maximum monthly fee payable by parents of approximately \$1,078 for full day infant care, \$616 for full day child care, and \$123 for kindergarten. Preschools under the AOP Scheme have to commit to investing in quality improvement and support of continuing professional development. AOP preschools are selected based on a range of criteria including financial stability, governance processes, high program quality, affordability, and the ability to increase capacity. They include PCF, NTUC, one not-for-profit, and two private providers. Just over 50 percent of all preschool children in center-based care attend an AOP center. The POP scheme has a minimum size requirement of 300 child care places for each operator to encourage economies of scale and career progression for teachers. Smaller operators may partner with others to submit expressions of interest as a group. All POP preschools are required to attain SPARK certification. There are 23 POPs running 169 centers; 16,500 children are expected to benefit from this scheme between 2016 and 2020.

Since July 2009, additional recurrent grants (beyond the basic funding subsidies described above) have been offered to AOP non-profit child care operators. The objective of these recurrent grants was to develop child care operators who would set the benchmark for high-quality and affordable child care services. The grants allow operators to attract, recruit, and retain better qualified teachers. Grants can also be used to provide scholarships to pay course fees for their teachers, reduce class sizes, and provide learning supporting programs for children who need more assistance. The disbursement of grants is performance-based; operators are required to meet quality targets that are higher than the requirements for the rest of the sector, e.g., 85 percent of teachers in the two largest AOPS are diploma-trained, compared to 76 percent in the general sector.

To maintain a diverse range of providers and to cater to parents and children with differing needs, the government does provide funding to not-for-profit and commercial providers who are not under the AOP or POP schemes. However, non-AOP and non-POP centers have to meet eligibility criteria of affordability and quality to qualify for

this funding. In terms of quality, centers have to obtain a license tenure of 24 months and attain SPARK certification within one year (for existing centers) or two years (for new centers) and subsequently must maintain the SPARK certification standard. In terms of affordability, over a two-year period the center must charge below ECDA's fee cap of \$850 a month for child care, \$210 for kindergarten, and \$1,450 for infant care, and must seek ECDA's approval for fee increases to ensure they are manageable for parents. Funding schemes include the Preschool Opportunity Fund, which supports targeted programs, partnerships with stakeholders, or customized in-house projects that support children's holistic development. Teaching and learning resource grants are also available to defray the costs of purchase or renewal of developmentally appropriate resources that can be used to set up well-resourced, purposeful, and stimulating learning environments. Centers can also apply for rental subsidies for the physical space depending on certain criteria (e.g., located in an area assessed by ECDA to have a high demand for child care services). Capped subsidies of up to 60 percent of rental costs are provided for voluntary welfare organizations and up to 30 percent for commercial operators. Building owners can also apply for funding support through the Enhanced Workplace Child Care Scheme; this provides funding for development and conversion works, and for subsequent outfitting of a new child care center. Building owners engaging a child care center that meets ECDA's quality and affordability criteria can receive funds for both development and outfitting; if the child care center does not meet these criteria, the building owner can only apply for outfitting costs. The percentage of funding available is higher for non-profit than for commercial providers.

Small and medium-sized operators can also tap the Capability Development Grant, Innovation, and Capability Voucher, and other programs offered by SPRING Singapore, an agency under the Ministry of Trade and Industry (MTI) responsible for helping Singaporean enterprises grow. Operators can make use of these schemes to build capabilities via staff training or technology adoption, or by defraying the cost of

consultancy projects in the areas of human resources, financial management, innovation, and productivity.

A range of other financial incentives are available to help all operators develop and attract more professionals to the sector. The SkillsFuture Study Award provides \$3,600 direct to the individual on top of government course fee subsidies to defray expenses when undertaking EC leadership courses at polytechnics. Continuing professional development courses are heavily subsidized (usually 80 percent or more) either through SkillsFuture or through ECDA's funding. Through the CPD Masterplan (discussed in Chapter 10) support is provided to operators to allow time off for teachers to attend training (e.g., the provision of trained relief teachers).

Finally, the government also provides funding support for operators to adopt technology to support administration, health monitoring, and portfolio generation of children's activities and learning, to support educators in their work, and to raise sector productivity. Various routes for funding ensure all service providers can apply for up to 70 percent of the cost of the subscription to these technology supports.

Table 12.1. Supply-side funding from central funds for children aged from 0-3 (0.1) and children aged from 3 to the start of primary schooling (0.2)

Types of supply-side funding	Level 0.1	Level 0.2
Funded places subsidy	•	•
Staff salary subsidy	•	•
Capital grants for acquisition and improvement physical plant	•	•
Resource grants	•	•
Key:		
• Supply-side funding is available		

Key Demand-Side Strategies

Financial assistance is provided directly to parents to cover costs of health care and to help to defray additional costs of child care and education. The [Baby Bonus Scheme](#) comprises a cash gift of \$5,760 per child for the first and second child and a cash gift of \$7,200 per child for the third child onwards (MSF, 2016a). The [Child Development Account](#) (CDA) is a co-savings scheme where savings deposited by parents are matched dollar-for-dollar by the government, up to a specified cap depending on the child's birth order. Parents automatically receive a \$2,160 CDA First Step Grant. Those who save more will continue to receive dollar-for-dollar matching from the government (up until the year the child turns 12), up to the existing contribution caps of \$2,160 for the first and second child, \$6,480 for the third and fourth child, and \$10,800 for the fifth child onward. Approved uses of CDA funds include fees for child care centers, kindergartens, special education schools, and early intervention programs; medical expenses; premiums for health care; optical products and services; and approved healthcare items at pharmacies.

To support parents with their children's health care needs, all Singapore citizen newborns born on or after 1 January 2015 qualify for the enhanced \$2,880 [Medisave Grant for newborns](#). This grant can help parents defray the costs of their child's health care expenses, such as MediShield Life premiums, and the costs of recommended childhood vaccinations, hospitalization, and approved outpatient treatments. [MediShield Life](#) is a mandatory health insurance that helps to pay for large hospital bills and selected costly outpatient treatments such as dialysis and chemotherapy for cancer in the public hospitals. All Singapore citizen babies are automatically covered by MediShield Life from birth, including those with congenital and neonatal conditions, for life (MOH, 2015b).

Various forms of tax relief are also available. These include the Qualifying Child Relief (tax relief of up to \$2,880 per child), and Handicapped Child Relief (up to \$5,400 per

child). Working mothers can also claim Working Mother's Child Relief (WMCR) which provides tax relief on 15 percent of the mother's income for the first child (i.e., 15 percent of the mother's income is not taxed), 20 percent for the second children, and 25 percent for the third child and beyond. The various statutory entitlements and tax incentives have been described in Chapter 4.

Table 12.2 Demand-side funding from central funds for children aged from 0-3 (0.1) and children aged from 3 to the start of primary schooling (0.2)

Types of demand-side funding	Level 0.1	Level 0.2
Tax credits/relief	•	•
Vouchers	n/a	n/a
Reduced fees	•	•
Family allowances	•	•
Key: • Demand-side funding is available n/a Demand-side funding does not exist		

Key Private Funding Sources

Virtually every family will make a financial contribution to the care and education of their own children, even if it is only a few dollars each month; wealthier families will make larger private contributions. All parents are expected to make a minimum co-payment as a reflection of their stake in the child's education and development.

Another major source of private funding to the ECEC sector is from philanthropic organizations that invest significant amounts of money to initiate pilot programs or commission research. The Lien Foundation has commissioned a number of key research projects, such as Starting Strong and Vital Voices (discussed in Chapter 14), has contributed funding for innovative programs supporting ECEC leadership development (described in Chapter 10), and has provided seed funding to initiate

programs supporting vulnerable children and families, such as Circle of Care (described in Chapter 13). Such support from private funding sources, coupled with significant investment from the government, highlight again the hybrid nature of the ECEC sector in Singapore. Engaged constituents, such as the Lien Foundation, work hand in hand with government and non-government organizations to address key policy issues such as raising the overall quality of ECEC sector, and equalizing access to care and education for all children.

Recent Changes in Funding

As highlighted in earlier sections, there have been substantial increases in funding to the ECEC sectors in the last five years. Indeed, in just one year (from 2015 to 2016), ECDA received a 23 percent increase in funding to address key initiatives to raise the accessibility, affordability, and quality of early childhood care and education services. Statutory entitlements and tax benefits have also been increased as part of marriage and parenthood policies to encourage families to have more children and to encourage mothers to return to the workforce. There has also been a substantial increase in research funds from MSF and MOE to start large scale studies examining a range of issues in ECEC.

Building on this momentum, the Prime Minister announced in 2017 that annual government spending in the ECEC sector will double from \$605 million to \$1.2 billion by 2023 (PMO, 2017). This increased expenditure will support continued expansion and quality enhancement of ECEC center-based care, particularly to help ensure government and government-supported ECEC provisions meet quality and affordability criteria. It will also support the transformation of the ECEC profession through the establishment of a new National Institute of Early Childhood Development (NIEC); through new efforts to attract and develop the pipeline of ECEC professionals; and through the creation of more structured career pathways for ECEC educators and leaders.

Affordability of ECEC (Percentage of Wages)

Through the Child Care Masterplan, which was introduced in 2008, affordability of child care for parents has increased. In 2008, the basic subsidy for child care was \$108 per child. This has now doubled to \$216. During this time median income also increased from \$2,086 to \$3,047. More recently, the child care financial assistance has been enhanced for families with household incomes up to \$2,520 and a per capita income criterion was introduced to allow larger families to receive more subsidies. Parents can also utilize funds from the Child Development Account (CDA), for which government provides a one-for-one matching grant, to offset the cost of child care fees.

Despite the many subsidies available that provide additional support for lower- and middle-income families, many parents still perceive that the costs of infant and child care are high. In 2012, the Lien Foundation released findings from a survey of over 1,300 parents that indicated that 88 percent of all parents considered preschool costly or very costly. Parents indicated that their most desired changes for preschool education were the provision of more government subsidies, and the regulation of center fees. The targeting of supply-side funding to those providers that meet affordability criteria should have served to lower the costs of preschool education to many parents during the last few years, and it would be interesting to now re-examine parents' perceptions regarding the affordability of preschool care and education across the whole preschool sector. However, it should also be noted that increasing subsidies has been accompanied with an average increase in fees; between 2012 and 2016, the median fee for child care increased from \$540 to \$616 per month, while the average fee for infant care increased from \$915 to \$977 per month.

Based on the subsidy structure and expected minimum co-payment from parents, it is possible to consider the affordability of infant and child care provision. All parents are expected to make a minimum co-payment. For the lowest cost child care provision, taking into account all basic and additional subsidies, approximately 0.5 percent of per

capita income is spent on child care (as little as \$2.15 per month) in the lowest income families. For those in the highest income range who receive a lower subsidy, approximately 15 percent of per capita income would be spent on child care. For a fee-capped AOP charging around \$554 per month (inclusive of tax), approximately 5 percent of per capita income would be spent on child care for those in the lowest income range, compared to approximately 26 percent in higher income ranges.

Infant care is considerably more costly; for the lowest-cost infant care provision, taking into account all basic and additional subsidies, approximately 10 percent of per capita income is spent on infant care. For those in the highest income range who receive a lower subsidy, approximately 28 percent of per capita income would be spent on infant care. For a fee-capped AOP Infant Care provider, cost per capita income ranges from 35 percent to 42 percent. This may help to explain the lower percentage of children attending center-based care prior to the age of 3.

It should be noted that these examples apply to subsidies that would be given to mothers working 56 hours or more monthly. For non-working mothers or those working fewer than 56 hours, the lack of additional subsidy, plus the 50 percent reduction in basic subsidy, make infant and child care provision unaffordable at the lowest income brackets, although parents are able to make use of other subsidies, such as the Baby Bonus, to defray the costs of infant and child care.

Parental Choice

Parents are free to choose whichever preschools they would like their children to go depending on their budget, location, desired curriculum, and structure. However, some providers may simply not be affordable to those in the lower income brackets. Information on providers, fees, and availability of space, as well as sources of subsidies is all presented in a one-stop location for [parents on the ECDA website](#).

Durability of Funding Over Time

To ensure durability of funding over time, as discussed above, Singapore has adopted a hybrid funding approach in which the government provides funding to support services provided by private organizations. The different organizations involved in the provision of ECEC services harmonize their effort to fund a still-privatized sector, thereby contributing to its sustainability, accessibility, and quality. Support from the government includes supply-side subsidies, which are used to offset running costs to keep fees affordable to parents. There are also various infrastructure subsidies, and subsidies and scholarships to ECEC professionals to support the costs of professional training and upgrading. More subsidies are available to those providers who have committed to quality improvement efforts and to maintaining affordable fees.

Moreover, ECDA works with the MOF and service providers in terms of projections and norms of how much it will cost to develop new centers based on a per-child unit cost. In the future, it is expected that funding will increase to match the number of places based on current demographic information.

Equitable Distribution of Funds

The basic subsidy (as described earlier) is available for all children registered in an infant or child care center licensed with ECDA. Additional subsidies are tiered according to household income. Non-working mothers and single fathers are not eligible for additional subsidies. Many of the funds to support healthcare costs and continued support to the child are provided as a statutory entitlement. With regard to the dollar-for-dollar matching of the CDA, it requires substantially more effort for lower-income families to embark on such a savings plan, and hence they may benefit less from the dollar-for-dollar matching. The program can further incentivize investment by providing a higher matching quantum for low-income parents.

Not all subsidies are available to all service providers. For example, more funding support is available to the anchor operators who have committed to quality improvement efforts, and who meet affordability criteria. The POP scheme has a minimum size requirement of 300 child care places, to encourage economies of scale and a career progression for teachers. This means that smaller operators may not be eligible for certain subsidies, and may have to increase fees to cover costs, making them financially unavailable to some families. Smaller operators may partner with others to submit expressions of interest as a group to become a POP and subsequently access available funding. However, virtually all providers are eligible for some forms of subsidy, which support operating costs, infrastructure development, and data management systems.

Innovations

Although the government has decided to leave the ECEC sector privatized, it has adopted a strong interventionist stance in terms of ensuring that ECEC provisions are accessible and affordable, and meet minimal standards on quality. The pragmatic move by government in this instance is its utilization of harnessing current existing financial provisions from various organizations, yet partnering with them to inject more funds to the sector (e.g., financial assistance). This form of hybridity is an innovation in itself, where government, through ECDA, encourages partnerships between public and private organizations, and between for-profit and not-for-profit organizations. This neo-conservative financing strategy represents an instance of Singapore's innovative approach towards social policy and welfare (Choon, 2010).

Contributions to Equity and Efficiency

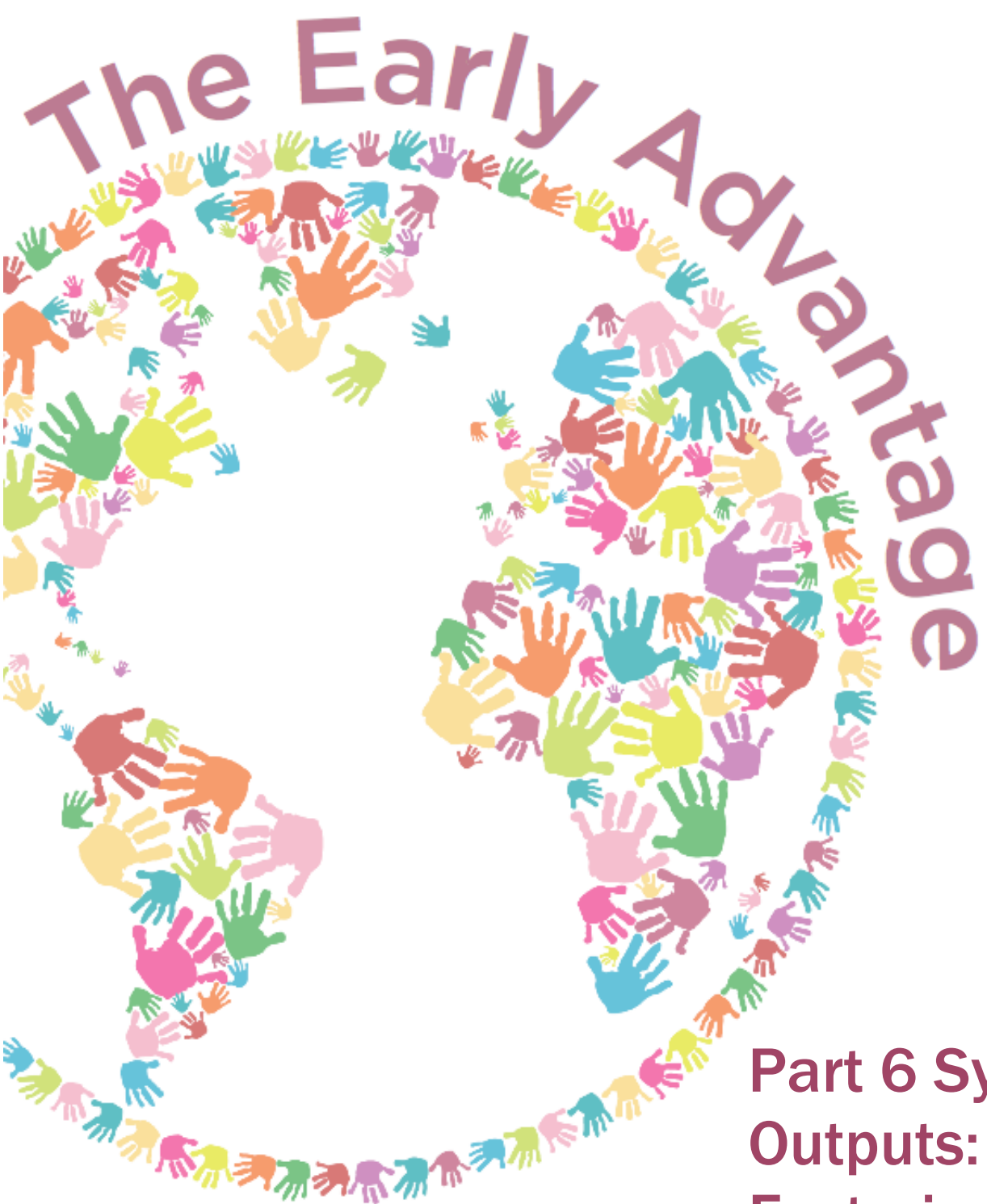
ECDA aims to improve affordability, accessibility, and quality across all preschools in Singapore; efforts to enhance affordability of child care especially for lower- and middle-income families with both supply- and demand-side funding have already been described. In terms of accessibility, the number of physical places has increased and

there is wide access of preschools especially in the newer estates, exceeding the target of 20,000 new places in the past four years.

Under the AOP and POP schemes, the government provides recurrent grants to help lower the operating costs for eligible non-profit preschool operators. The bulk of these grants comprise of salary grants to enable AOPs to attract, retain, and develop quality teachers. The AOPs and POPs also receive development grants to set up new centers. In return, AOPs and POPs are required to provide good quality, affordable services, targeted primarily at the broad majority of lower- and middle-income families. The government is also incentivizing providers by providing additional sources of funding to non-profit and commercial providers who meet quality and affordability standards. This, coupled with the AOP and POP schemes, has raised quality while maintaining affordability in kindergartens and child care centers.

Challenges

There are a number of issues that may challenge the financial sustainability of ECEC programs and services. The rapid expansion of services brings a challenge to sustainability, as it requires Singapore to find the financial resources necessary to maintain the expansion. The country is pulling on net investment return contributions to fund new social welfare initiatives, rather than increasing taxes, but continued use of this strategy is clearly reliant on reserves continuing to grow. Furthermore, the current targeting of subsidies to specific service providers may mean that the current level of diversity and choice of provision (e.g., smaller non-profit providers who may be offering more diversity in terms of pedagogy and curriculum) cannot be sustained.



Part 6 Systemic Outputs: Fostering Sustained Services

Chapter 13: Family, Community, and Primary School Linkages

Key Points

- National frameworks in Singapore propose that children's development and learning are strongly influenced by the communities and cultures in which they grow up. The family is seen as an essential building block of society.
- Singapore has numerous initiatives in place that seek to foster parenting education and empowerment.
- Innovative projects and programs are currently in place to promote community engagement and home-center partnerships. These are primarily coordinated by government and philanthropic organizations, in partnership with public and private institutions and communities.
- Singapore is taking significant steps to link ECEC to schools and to foster changes in the school curriculum that are continuous and child-centered. Existing strategies focus on pedagogical continuity, informal induction experiences, teacher training and collaboration, family and community engagement, and parenting education.
- Singapore lacks national legislation with regard to the engagement of parents, families, communities, and schools in ECEC. However, SPARK (the quality accreditation framework) does include collaboration with parents, communities, and primary schools in its quality assessment.
- Despite the abundance of initiatives in place to foster the engagement of parents, families, communities, and schools in ECEC, little research is conducted to assess their effectiveness.

Integrating Families

Purposes and Intensity

Singapore recognizes the family as an important stakeholder in the care and education of young children. It is understood that while ECEC centers must work diligently to provide children with high-quality care and education in a nurturing environment, they cannot do it alone. The [EYDF](#) and [NEL](#) Framework recognize that children's development and learning are strongly influenced by their families, as well as the communities and cultures in which they grow up. Thus, parents and families are encouraged to actively participate in the activities organized within the centers.

Both the EYDF and the NEL Framework spell out various levels of parental engagement for a variety of purposes. At a minimum level of participation, parents are expected to attend year-end concerts or other celebrations. Beyond this, centers provide talks and workshops on children's development, and parents are encouraged to volunteer and share their expertise in classrooms (e.g., baking, teaching traditional songs and dances) and helping to supervise children during field trips. These types of strategies, according to EYDF and NEL, ensure that families and ECEC professionals maintain open communication channels. Additionally, these strategies allow parents and teachers to work together to develop a shared sense of responsibility for the child, which supports continuity and consistency of care between the home and the preschool.

One of the strategies utilized by ECDA to foster the participation of families in the provision of ECEC services is the inclusion of standards on parental collaboration as part of the [SPARK](#) certification process. Centers are assessed on the level of parental involvement in center activities. Intensity of involvement ranges from communication from the center to parents regarding programs and activities at least once per term, to centers' engaging parents in participating in programs and activities, to centers' having established active parent support groups. Centers are also evaluated on their home-learning support system, ranging from the center's providing materials and organizing

activities to help parents facilitate children's development at home, to the center's involving parents in reviewing and customizing learning activities to meet the different needs of their own children.

As part of the NEL Framework, the MOE developed a "Guide for Parents" (MOE, 2012). This guide explains to parents that the early years are crucial in building a strong foundation for life-long learning, emphasizing the key role of parents in providing a home environment that supports the work done within ECEC centers. The guide also shares with parents the principles underlying the learning experiences and activities planned for children by the teachers. Parents are strongly encouraged to communicate and share relevant information about children with teachers. It is understood that parents are the ones who know their children best and, therefore, can share very valuable information about their interests, needs, daily experiences and progress with educators. Finally, the guide suggests strategies for parents to help children make connections between life in preschool and at home, in order to enrich their learning experience beyond the classroom.

The NEL Framework proposes various strategies for ECEC professionals to create an atmosphere in the centers that welcomes parental involvement, thereby fostering two-way communication between families and educators. For example, teachers are suggested to share information with parents regarding i) the preschool center's vision, mission, philosophy and values; ii) the curriculum, goals, and pedagogical approaches; iii) staff training and qualifications; iv) teacher-child ratio; v) the facilities of the center, opening hours, and fees; and vi) policies concerning managing behavior and promoting healthy living. Both pre-service and in-service preparation for ECEC professionals include courses aligned with the category "Collaborating with Families and Community," one of the Skills Framework categories for ECCE (ECDA, 2016b).

Singapore lacks national legislation with regard to the involvement of families in sustaining ECEC services for young children. While the EYDF and NEL Framework

provide guidance on practices to integrate families, the implementation of these practices is neither mandatory nor monitored. Many of the practices to integrate families are informal and vary substantially from one center to the next.

Efforts and Strategies

In Singapore, the various ministries and government agencies involved in ECEC (e.g., HPB, MSF, ECDA) and other non-government organizations (e.g., self-help groups, voluntary welfare organizations) have initiatives in place to promote family empowerment, education and advocacy. The ultimate purpose of these efforts and strategies is to maximize the involvement of families in the provision of ECEC services for young children.

The initiatives with the lowest intensity focus on the mere provision of information about relevant ECEC issues, typically through guides and other online resources.

Examples include:

- *Health-related information.* The HPB provides parents with various guides, booklets, and/or online resources (free of charge) when children are born. These resources focus on issues such as postnatal care, breastfeeding and nutrition, immunization, and child safety. For example, “The Healthy Start For Your Baby” guide covers topics relevant to infants aged 0-24 months, organized according to the baby’s age, and addresses concerns relevant to early development, suggesting strategies to play a positive role in the child’s life and to create healthy and safe home environments. Similarly, the “Healthy Start for your Growing Kid” guide covers essential health information and practical tips for raising a healthy and happy preschooler, including mental well-being, screening and early detection of abnormal development, oral health and dental services, myopia and infectious disease prevention, and child safety. This comprehensive health guide includes parent-child activity ideas intended to facilitate the child’s

understanding of the key messages related to each health topic. There is no data available on the utilization rates of these resources.

- *Service information provision.* ECDA provides parents with comprehensive information on child care and kindergartens (e.g., how to choose a center, overview of the system, subsidies and financial assistance, registration) and with resources on the science and practice of early childhood development (e.g., importance of learning through play, how to ensure the child's safety). For example, ECDA has developed a resource kit for parents whose children have been diagnosed with developmental needs. This kit is intended to enable parents to better engage preschool teachers and other professionals in their children's development, thus playing more active and proactive roles. The different resources available offer useful tips in understanding, monitoring and addressing the child's learning needs, and list the various training and care agencies where parents can seek further professional advice and assistance. The resources developed by ECDA are available in the "Child Care Link," a one-stop portal to child care services.

Another strategy of slightly higher intensity is the provision of short seminars and courses that seek to promote parental empowerment and education. Many of the ECEC service providers in Singapore also offer such initiatives. For example, the preschool arm of the National Trades Union Congress ([NTUC](#)) First Campus Co-operative has an online portal that advertises frequent seminars on topics that are relevant to parents (e.g., enjoying books with children, guiding children's behavior). Similarly, the Association for Early Childhood Educators – Singapore ([AECES](#)) is a professional body committed to collaborating with the community to foster the well-being of children and families. AECES organizes events (e.g., conferences, workshops, discussion groups, smaller customized courses) in which ECEC professionals offer parental empowerment and education initiatives.

Finally, the efforts and strategies with the highest intensity relate to parenting education and support organized by the MSF. Their purpose is to ensure that children and youth in Singapore have conducive environments to grow up in and that they develop into good citizens and socially responsible adults. One program, called [FamilyMatters!](#), utilizes a variety of resources to empower parents with the necessary knowledge and skills to build strong and happy families. MSF partners preschools, workplaces, and community partners to bring these resources closer to parents at each life stage.

Evidence of Impact

While there are efforts to integrate families into the Singapore ECEC system, these efforts are currently not coordinated or monitored by any one organization at the national level. Hence, it is difficult to determine the overall effectiveness or impact of these efforts. At the organizational level, however, there seems to be clear evidence of success. As expressed by our respondents, parents are today much more involved in the preschool life of their child compared to one to two decades ago, and are much more aware of their children's growth and development. ECDA recently conducted the [Early Childhood Parenting Landscape Study](#), which offers a snapshot on how parents raise their children during their formative years. This study was undertaken to inform: ECDA's outreach strategies and public messaging on the importance of child development; early childhood and high quality home learning environments; the development of suitable content and resources for parents; and key stakeholders' outreach strategies in their work with parents of children from birth to age 8.

The study comprised both a survey and focus group discussions. Fieldwork for the survey involved face-to-face interviews with 3,800 Singaporean parents. The study investigated the perceptions of parents regarding the importance and usefulness of different types of parenting resources and information provided. The most helpful sources of parenting information as perceived by parents were a significant person (e.g., teachers, school counselors, social workers) as well as ECEC educators. Parents rated

workshops conducted by centers and teachers as the most helpful activities. These workshops typically focus on topics such as preparation of children for primary school, parent involvement activities, and time for feedback sessions with the teachers. Parents also shared that they often obtain help from doctors when they need advice and treatment of the child's health, medical, and developmental conditions. Finally, parents expressed that MOE and ECDA were helpful sources of information.

Information from SPARK related to level of parental engagement and home-learning support is not publicly available, and it is not clear how ECDA uses this information other than to provide feedback to centers.

Integrating / Linking with Communities

Purposes

Both the EYDF and the NEL Framework argue that building strong partnerships between centers, families, and communities is one of the key components for effective ECEC. There is clear recognition that “When the community, families, and teachers regard one another as partners in education, a caring community is inevitably formed to support children in their learning” (MOE, 2013c, p. 93).

Currently, Singapore has several initiatives in place that promote community engagement. These are coordinated by government bodies such as ECDA, MSF, and MOH, and philanthropic organizations such as the Lien Foundation, and carried out in partnership with public and private institutions and communities in Singapore. The main purposes of these community links are to provide a comprehensive network of support to families and children, to provide opportunities to enhance children's learning experiences, and to emphasize the framing values of the nation. Below we elaborate on the specific purposes of some of these efforts and strategies.

Formality

Singapore lacks national legislation or frameworks regarding the involvement of communities and organizations in sustaining ECEC services for young children. Despite this, there are currently numerous programs and initiatives that foster community engagement to find new solutions for the current challenges of the Singapore ECEC sector.

Led by Centers. Preschool centers are encouraged to collaborate with community partners to explore innovative ideas and approaches to enhance children's learning experiences and to promote community engagement. Through Innovation Guidance Projects ([IGP](#)), launched by ECDA in 2014, preschools can collaborate with community partners such as the National Heritage Board, Wildlife Reserves of Singapore, National Parks Board, Science Center Board, and Singapore Kindness Movement. The collaboration between centers and community partners is one criterion covered in the SPARK quality framework.

Projects involving the community aim to encourage children to contribute to the community and to teach them values of responsibility, empathy, and compassion. One initiative launched by ECDA in 2015 was [Start Small Dream Big](#), an initiative in which children take part in community projects such as food donation drives, clean-up of beaches and parks, and raising awareness of health-related issues such as dengue and haze pollution. Parents are also invited to work with children and ECEC professionals on these projects.

Led by Government Agencies. The various government bodies involved in ECEC have designed and implemented programs focused on health-related issues as well as programs that adopt a more holistic approach towards the promotion of community engagement (with participation of several government agencies). Regarding health-related issues, the HPB runs the [Healthy Meals in Child Care Centers Programme](#). The

program is based on the idea that ECEC providers should contribute to the cultivation of healthy eating habits in children, as research shows that children form food preferences mostly during their preschool years. Other key efforts integrating the community with ECEC services are seen in programs that aim to provide comprehensive and integrated support to vulnerable children and families.

Orchestrated by ECDA, [KidSTART](#) is contributing to establish strong links among social service offices, family service centers, hospitals, and education services at the ground level. This pilot program, targeted at low-income children and vulnerable young children from birth to age 6, aims to build an ecosystem of support across various community agencies and government bodies. Parents, professionals from multiple disciplines, and the community work collaboratively to respond effectively to the changing needs of low-income and vulnerable young children, giving them the necessary support to achieve age-appropriate development in their immediate settings.

Led by Non-Governmental Organizations. Philanthropic organizations and private associations also play an important role in the promotion of community engagement and home-center partnerships. For example, the Lien Foundation has fostered numerous strategic partnerships among individuals, communities, and public and private organizations. The initiative “[Circle of Care](#)” (COC) uses an integrated approach that weaves a “circle of care” around the child, bringing teachers, social workers, education therapists, and community partners—who typically work apart—together to provide a holistic continuum of care for children. The early intervention provided by this ecosystem of care is able to benefit children at-risk or with learning difficulties effectively because it is done in the natural setting of a preschool. The COC social worker brings together different aspects of support and care for the child and family, including case management, community resources, educational therapy, counseling or financial aid. They work closely with the teachers to identify, assess and provide early intervention to children at-risk including those with learning difficulties. COC began in

two preschools and expanded to a further nine preschools in 2016, with the aim to expand to 15 preschools by 2018.

Evidence of Impact

Impact of Government-Led Initiatives. Some of our respondents spoke positively about the impact of the Healthy Meals in Child Care Centers Programme, conducted by HPB. They expressed that, in recent years, children from participating centers have tended to show lower objection to eating foods such as fruits, vegetables, and brown rice. In addition, children seem to have transferred healthy habits into the home environment, encouraging their parents to purchase healthier products.

The very recent introduction of the types of comprehensive and integrated support services described in the previous section means that it is not yet possible to appreciate the full impact of the program on child and family outcomes. However, our respondents spoke positively about the impact of KidSTART, which is consistent with recent feedback from participating parents currently enrolled in this program. Feedback regarding [KidSTART Home Visitation](#) indicates that parents are feeling better supported and are more confident in their parenting skills, and that they appreciate having a platform to meet other parents who share similar concerns (MSF, 2017c).

Impact of Center-Led Initiatives. There is no information provided directly from ECDA regarding the number of children or centers who have engaged in Innovation Guidance Projects ([IGP](#)). However, information is provided by some of the community partners regarding level of engagement. For example, the Science Center Singapore reported that approximately 3,250 children from 65 preschools had been exposed to projects related to topics such electricity, chemistry, and magnetism. With regard to Start Small Dream Big, in the second year of this initiative (2016), participation in events doubled from the previous year, with approximately 20,000 children from 300 preschools participating in community service projects. These efforts show a clear trend for both greater parent and

community integration in supporting both children's learning and enhancing of values that are central to the nation as a whole.

Impact of Initiatives Led by Non-Government Organizations. Since its launch, COC has demonstrated impact in improving child and family outcomes. In one preschool of 80 children, attendance at parent-teacher conferences increased from virtually zero to 54 percent in two years after the introduction of COC, suggesting healthy parental involvement in understanding their child's development. The literacy and numeracy skills of over 75 percent of children had shown improvement, and attendance at preschool increased from 30 percent to 67 percent. Finally, 30 percent of the cases identified for support were new cases, where families had not previously sought help, or where organizations had closed cases when circumstances were deemed to have improved (Lien Foundation, 2016).

Integrating / Linking with Schools

Purposes

As explained in prior chapters, the preschool and primary school systems in Singapore are run by the ECDA and MOE respectively, and historically the preschool system has been seen as being separate from the school system. As a result, preschools and primary schools do not have formal links. However, the MOE has put in place several pilot initiatives to explore how engagement between preschools and primary schools can be fostered, thereby facilitating children's transition to formal education. Existing initiatives and strategies focus on pedagogical continuity, induction experiences, teacher training and collaboration, family / community engagement and parenting education.

Efforts and Strategies

One strategy adopted by ECDA to enhance links between ECEC providers and primary schools and ease transitions was to include children's induction experiences as one of the standards assessed in SPARK. In the lowest expected quality level, indicators involve familiarizing children with the primary school setting (for example, visiting the school, taking a virtual tour of the school, or inviting primary school personnel to give talks) as well as familiarizing teachers and parents with primary school education. In the highest quality level, indicators involve having an established partnership with the same primary school for at least three years, for smooth transition of the children. However, many of our respondents indicated that the efforts for transitioning children from preschool to school are quite uneven. Largely, the transition effort depends on each preschool taking the initiative to collaborate with a nearby primary school. The MOE has taken a number of measures to make "schools ready" and help Kindergarten 2 children adjust to primary school, including lowering the class size at Primary 1, and setting up the classroom so that it more closely resembles that of the preschool. The MOE has a transition project team focusing on several areas, including professional continuity, pedagogical continuity, and engagement with families and the community. Educators from primary schools and MOE kindergartens have opportunities for rich discussion, sharing of resources, site visits, and class observations to help better understand expectations of children in Kindergarten 2 and Primary 1. Efforts are mainly focused on helping children adapt to the environment and settle into routines. In the following, we describe the efforts and strategies currently employed in Singapore to facilitate children's transition to formal education.

Smoothing Pedagogical Transitions for Preschool to Primary School. A number of initiatives aim to ease the transition by making Primary 1 more closely resemble the pedagogy and environment of preschools, rather than the other way around. Importantly, the learning goals presented in the NEL Framework were established by a team comprising both preschool and primary school curriculum specialists. The intent of this collaborative

effort was to make explicit the learning and development standards expected of children at end of K2, to ensure a better alignment with the kindergarten and primary school curriculum, and to ensure continuity of pedagogy across transitions, at least into the early primary years. On the recommendation of the Primary Education Review Implementation ([PERI](#)) Committee (MOE, 2009) there is now a greater emphasis on non-academic skills for all P1 and P2 children. The Program for Active Learning (PAL) is now part of the timetabled curriculum and exposes students to varied and fun learning experiences in four domains (sport and games, outdoor education, performing arts, and visual arts), and aims to nurture confidence, curiosity, and co-operation skills. The program was rolled out in a phased approach with the aim that it would be offered in all primary schools by 2017.

Parent Education. The MOE runs a series of workshops for parents to help them understand approaches that are appropriate for their child's holistic development, including preparation for and transition to primary school. Engaging parents is important to ensure that they have clear and reasonable expectations of what children should be able to achieve on entry to primary schools, and the kinds of developmentally appropriate practices through which these can be achieved. All primary schools also have a two-week orientation program at the beginning of P1 to help children's transition from preschool to primary school life and to familiarize children with teachers, peers, and the new environment.

Formalizing Relationships between Preschools and Schools. Some of the new program initiatives aim to ease transitions by formalizing the working relationship between preschools and schools located in the same geographical area. Driving the expansion of COC is the concept of "COC clusters"; that is, feeder preschools grouped around an anchor primary school that will create a structured transition for children from ECEC to primary school. The primary schools have formal working relationships with COC to enable regular meetings between COC social workers and teachers, counselors, and pastoral care teams in the primary schools, in which transition issues are discussed.

Prior to entry to primary school, school visits are organized for the parent and the child, to familiarize the child with the school location, facilities, and the new classroom setup. The COC social worker continues to be the key point of assistance between the school and parents in relation to the child's attendance, performance, and relationship with teachers and peers. Children and families receive continued support through COC until the child is in the third year of primary school.

In 2017, the announcement that the MOE will expand service provision through the opening of 50 kindergartens by 2023 was accompanied by the news that the two largest government-supported operators in Singapore (PCF and NTUC) will set up new Early Years Centers (EYCs) catering to children aged 2 months to 4 years. Children enrolled in EYCs will be guaranteed a place in a nearby MOE Kindergarten. Furthermore, all MOE Kindergartens will be co-located within primary schools, and children within these kindergartens will be given priority admission to the co-located primary school. Both the transition from EYC to kindergarten and from kindergarten to primary school aim to smooth the service continuum for parents and children.

Enhancing Teacher Collaboration and Preparation. The MOE Preschool Branch designed strategies to encourage collaboration among teachers from MOE kindergartens and primary schools, in order to ensure curriculum continuity and foster the creation of inter-center professional learning communities. In these meetings, teachers come together and share NEL resources, discuss student learning in small groups, or co-design lesson plans to achieve specific learning goals. Furthermore, MOE kindergarten teachers often sit in the P1 classrooms to see similarities and differences between the two settings and better understand transition issues. Anecdotal evidence suggests that teachers who participated in these initiatives valued them very positively.

Regarding teacher preparation, the National Institute of Education (NIE) is increasingly involved in the training of preschool teachers. NIE currently runs [ECEC-related programs](#) such as the Advanced Diploma for Teaching in Primary School Years, and

offers a minor in Early Childhood for those pursuing a Bachelor's degree, as well as a Master of Education with Early Childhood Specialization. The main goal of one of the courses offered by NIE is to provide Primary 1 and 2 teachers with a better understanding of preschool education. NIE is also involved in early childhood education research and consultancy, and offers numerous professional development initiatives for ECEC professionals.

Evidence of Impact

The information presented above indicates that Singapore is making clear efforts to integrate and link ECEC providers and the primary school system. However, there are no studies being conducted to assess the effectiveness of these efforts as a whole. MOE Preschool Branch is currently piloting the various initiatives described in this chapter within MOE kindergartens, where processes to ease transitions are becoming increasingly formalized. The expectation is that best transition practices will be cascaded later on across the entire ECEC sector.

Innovations

The significant steps Singapore is taking to link ECEC to the schools and to foster changes in the school curriculum that are continuous and child-centered represent substantial innovations. Initiatives coordinated by ECDA such as KidSTART and Innovation Guidance Projects also constitute innovative and ambitious initiatives. The Lien Foundation, as well, has sponsored significant innovations, such as “Circle of Care” and “[StartWell: Preschool Awareness Campaign](#)”, an initiative in partnership with SEED Institute and community partners to support parents and early childhood educators in their quest to improve children's early years. StartWell comprised a series of projects aimed at helping Singaporeans reconsider the priorities of early childhood. Another initiative is the “[3-in-1 Preschool Project](#),” which explores ways to foster a learning culture across organizations. In this training and exchange program, the Persatuan Pemudi Islam Singapura (PPIS, or the Young Muslim Women's Association)

and the Young Women's Christian Association (YWCA) work together to better equip preschool teachers.

Contributions to Sustainability

As explained by some of our respondents, the Singapore government is currently working with different stakeholders exploring formulas to better sustain the engagement of families and parents in the provision of ECEC services. For example, because the government is trying to better integrate ECEC within the community, new settings and locations across the city are being explored to settle preschools and child care centers in the future (e.g., parks, rooftops in multi-story car parks, museums, residences for the elderly).

Many of the initiatives and programs described in this chapter are implemented on a regular basis (usually annually), which contributes to the sustainability of the ECEC services being offered.

Challenges

There are a number of important challenges that Singapore faces regarding the involvement of parents, families, communities, and schools in sustaining services for young children.

Challenges related to parental conceptions. It is well known that Singapore functions as a meritocracy and has a highly competitive mainstream education system (see Chapters 2 and 7). Parents are typically concerned about and involved in their children's education, having high aspirations for the professional future of their children. Many parents provide children with additional resources (e.g., tuition, enrichment lessons) to ensure their academic success, often even during preschool years (Ellis, 2014). The MOE does not recommend or encourage these types of practices. Moreover, many parents hold the misconception that preschool years should be primarily employed in preparing children for primary school. Some parents try to dictate to kindergarten or child care

teachers what they should be teaching in the classroom, placing strong emphasis on the acquisition of academic knowledge and skills. Despite the high level of involvement of these parents in ECEC, they often contribute to impede the enactment of developmentally appropriate teaching and learning practices.

Challenges related to lack of time. At the other end of the spectrum, there are parents who rarely participate in the life of ECEC due to their busy schedules (at work, taking care of their elderly parents, household responsibilities).

Challenges specific to transitions. Currently, there is no national coordinating committee or formalized transition plans from preschool to primary school, and many respondents indicated that the arrangements for transitioning children are quite uneven. Largely this depends on each preschool center taking the initiative to collaborate with a nearby primary school. With regard to teachers and schools, one of the challenges is that many preschool and primary teachers have very limited time to work together in easing children's transition. Collaboration may also be complicated by the distance between centers. Many of the MOE kindergartens are situated in primary schools, which makes teacher collaboration much easier and likely. However, the majority of teachers do not have this luxury. Moreover, one often overlooked group is those with disabilities who are transitioning from early intervention services to formal schools. The Third Enabling Masterplan 2017-2021 has called for a standardized case management, care planning, and coordination system to be explored with a view to smoothing transitions for children with disabilities.

Chapter 14: Research, Demonstration, and Evaluation

Key Points

- ECEC in Singapore has been informed by knowledge, theories, and practices generated in studies from Western cultures. However, there has been an increasing awareness of the need for producing locally relevant and situated knowledge.
- A variety of research efforts are under way to investigate ECEC in Singapore. These include survey studies focused on social and family issues, research on pedagogy and practice, studies of policy formulation, and review research, and to a lesser extent basic, longitudinal, and neuroscience research.
- There is lack of research about the effect of pre-service teacher training and in-service professional development on teacher quality, or about the effect of specific ECEC programs on children's developmental and learning outcomes.
- Most ECEC research in Singapore is government-funded, and some of it is also government-led (i.e., contracted research).
- The Singapore government prioritizes research that has direct implications on pedagogy/practice and that informs policy formulation. Private organizations are perceived to be better positioned than the government in terms of investigating alternative or innovative topics.
- Despite the number of groups involved in ECEC research, there is no consolidated repository detailing all the projects conducted locally. More work needs to be done to organize existing research efforts as a consolidated national research agenda.

Research

Nature of Research Enterprise

In the past, Singaporean ECEC policies and regulations, curriculum and accreditation frameworks, and teacher preparation models have been primarily informed by knowledge, theories, and practices generated in Western studies. In recent years, however, there has been an increasing awareness of the need for producing knowledge that is locally relevant and situated. The various stakeholders understand that Western theories and knowledge cannot be simply adopted, but instead need to be adapted to the characteristics of the Asian learner, in particular within the Singaporean society (Li, Rao, & Tse, 2012). Today, a variety of research efforts are underway to study ECEC in Singapore. We discuss the nature of the ECEC research enterprise according to three dimensions: its scale (national vs international studies), who funds and conducts the research (government-led / funded vs independent research), and the degree of research collaboration among stakeholders.

Scale: National vs International. Singapore ECEC research has predominantly centered on issues that are relevant at the national level, with the government being rather reluctant to engage in international or cross-national comparative studies (e.g., OECD research). Priorities have been focused on establishing a functioning ECEC system locally. In particular, the kinds of studies most commonly supported include descriptive survey studies, classroom-based research, studies focused on language-related topics, and analyses intended to support educational policy formulation and review. In recent years, generous funding has been also allocated to longitudinal (cohort) studies, as well as basic science and neuroscience research. More details are provided later in this chapter.

Who Funds and Conducts the Research. Most ECEC research in Singapore is government-funded, and much of this work is also government-led (that is, carried about by government officers themselves and / or commissioned to independent researchers). The

ministries most heavily involved in ECEC, namely MSF and MOE, as well as agencies such as ECDA, have specific divisions responsible for conducting empirical research projects, typically at a relatively small scale, as well as reviewing and synthesizing literature (for details, see the following section). Researchers from universities and higher education institutions (e.g., [National Institute of Education](#) (NIE), [National University of Singapore](#), [Nanyang Technological University](#), [SIM University](#), [Center for Research and Best Practice](#) within the SEED Institute) also conduct projects that are funded and/or commissioned (i.e., contracted) by the government. In particular, the research undertaken by NIE is expected to be closely aligned with MOE's policies and strategic directions. NIE's research is fed back to MOE and is used to inform policy formulation and refinement. University researchers in Singapore are also free to engage in research funded by independent parties. Private organizations, such as the Lien Foundation, are typically perceived to be better positioned than government organizations in terms of conducting research about innovative topics (for example, evaluate the effectiveness or impact of alternative intervention projects). These organizations provide a substantial amount of research funding to the ECEC sector.

Collaboration. Until recently, there has been no systemic research agenda in ECEC, perhaps as a result of this sector being under the remit of different ministries. There have been calls by stakeholders to create a network of policymakers, researchers, practitioners, and providers who can work together to strengthen research and innovative practices (Ang, 2012). This would also facilitate ease of access to research information, smooth the process of conducting research, and provide a means to systematically review and evaluate research findings. Some such networks already exist and could perhaps be the model to learn from. For example, the [Family Research Network \(FRN\)](#) brings together academics, policymakers, and practitioners with the objectives of promoting a multi-disciplinary approach to research, developing a stronger research and evidence base for family policies, and identifying new areas of research interests and facilitating collaboration between Government and research

communities. The FRN was recently expanded to form the [Social and Family Research Network](#) (SFRN) housed at the National University of Singapore (NUS). The specific objectives of SFRN are: to promote a multi-disciplinary approach and greater expertise on social and family research through sharing of new research findings and developments; to identify new areas of research interests and facilitate research collaboration between government and the research communities; and to develop a stronger research and evidence base for social and family policies.

Kinds of Research Supported

Various kinds of research have been conducted in Singapore in recent years, as well as new research topics being currently supported or encouraged within the field. These include: (i) longitudinal (cohort) studies; (ii) survey studies on social and family issues; (iii) pedagogy and practice; (iv) policy formulation and review research; and (v) basic science and neuroscience research.

Longitudinal (Cohort) Studies: Several longitudinal studies are currently underway to understand factors that may impact on children's long-term outcomes. [Growing Up In Singapore Towards Healthy Outcomes \(GUSTO\)](#) is Singapore's largest and most comprehensive birth cohort study, funded by MOH. GUSTO evaluates how mothers' diet and lifestyle during pregnancy affect the child's growth and developmental after birth. The study includes measures of cognitive, physical and brain development outcomes. The children from this cohort study are now entering primary school.

The NIE is undertaking the first national evaluation of preschool quality in Singapore—the [Singapore Kindergarten Impact Project \(SKIP\)](#). Funded by MOE, this research program is evaluating both structural and process factors in the preschool classrooms, and is collecting information regarding the home environment, to examine the impact of home and preschool factors on children's learning and developmental outcomes (e.g., measures related to executive function, attention, theory of mind, gross motor

development, numeracy, literacy). In particular, SKIP is examining structural factors such as teacher-child ratio, group size, teacher qualifications, physical environment, routines, activities, program structure, and process factors, including teacher-child interaction, on children's holistic development. This study involves 1,500 children attending center-based care. The study began when the children were in K1, and followed these children to primary school entry in 2017. Even though SKIP was not framed or conceptualized as a program evaluation, the data that is being collected will allow a comparison of the newly established MOE kindergartens with other types of providers in the sector. Some preliminary findings from this study have been shared with ECDA and MOE but have not yet been published, as the study is ongoing.

Survey Studies on Social and Family Issues: MSF conducts numerous survey studies aimed to examine social and family trends over time (e.g., changes in families and households, child development and care, child protection and welfare, Singaporeans' support from family and friends). The Institute of Policy Studies at NUS also undertakes large-scale survey studies. Many of these focus on demography and family issues, and there is ongoing participation in a project to develop an Asian version of the OECD Family database that would include indicators of family structure, public policies for families and children, and child outcomes.

Pedagogy and Practice: ECEC research in Singapore has strongly focused on exploring innovative classroom practices, curriculum, and pedagogical approaches. Methodologies most typically employed in these efforts have been qualitative in nature, as research projects tend to be conducted in a small number of centers. One of the niche research areas at the National Institute of Education (NIE) is Early Childhood Education. One of the overall goals of this niche area is to better understand how Singapore children are growing and learning during their first six years of life in different kinds of homes, communities, and preschools. Another overall goal is to investigate how children's early education experiences can be improved to support their transition into primary school. NIE researchers maintain close relationships with

MOE, ECDA, and schools (including preschools). NIE's research, which typically focuses on issues related to the improvement of pedagogy and practice, is fed back to MOE and is used to inform policy evaluation and refinement. NIE researchers are frequently involved in ministry discussions and decisions, and teacher preparation programs and research priorities are closely aligned with government policies and reforms. The overarching objectives of NIE's ECEC research is to support the development of better preschool programs and policies, enhance the training and professional development of preschool teachers, and build capacity of local researchers.

In an effort to better study the direct implementation of different pedagogies and practices, a recent collaboration between the Lien Foundation, NTUC First Campus, and the SEED Institute involved the set-up of a child development and study center. This serves as a living classroom and teaching school bringing together ECEC professionals, researchers, and pre-service teachers. Such centers aim to have a high level of innovation as a spur for quality improvement.

Policy Formulation and Review Research: Some of the ECEC studies conducted in recent years focus on policy formulation and reviews of research literature. For example, [MOE's Management Information Section](#) conducts analyses to support educational policy formulation and review, collects and manages student data, and conducts international collaboration studies, as well as national research and evaluation studies of strategic importance to inform policy and practice. Within this Branch, the [Corporate Research Office](#) also aims to optimize the creation, dissemination and translation of knowledge and promote collaboration between policymakers, practitioners, and educational researchers. NIE researchers play an important role in supporting many of these research efforts.

Philanthropic organizations also play a vital role in their involvement and financing of research, and in advocacy for the EC sector. The [Lien Foundation](#) commissioned the [Economist Intelligence Unit \(2012\)](#) to examine and benchmark early childhood

education across the world. Singapore ranked 29th out of 45 countries. The index used in the report assessed the extent to which governments provide a good, inclusive EC environment for children aged 3 to 6. In particular, it paid attention to the relative affordability, availability, and quality of preschool environments, as well as the broader social context that looks at children's health and readiness for school. The Lien Foundation followed up with a study (Ang, 2012) examining the challenges faced by the EC sector in Singapore, and how the sector could be improved, drawing on views from leading stakeholders (teachers, principals, healthcare professionals, social workers, academic, private and non-profit operators, and training providers). This study revealed that, despite significant improvements in the preceding years, more work needed to be done in terms of governance of the sector and the overall quality of the sector. While changes to the sector had been planned for some time, some respondents believe the findings from these studies served as a catalyst for focusing the government on the need to rapid implementation of changes and for the need for increased government funding and involvement.

Basic Science and Neuroscience Research: In 2017, the MOE awarded \$14.4 million to NIE to establish a Center for Research in Child Development, to establish a critical mass of researchers in Singapore and to conduct basic science research in child development not typically covered by current funding streams. This high level of financial support indicates that the Singapore government clearly acknowledges that ECEC is an area of priority for research, and values both basic and applied research in early child development and learning.

Use of Research Findings

As described in prior chapters, Singapore typically adopts a pragmatic stance when it comes to policy formulation and implementation. A similar approach is observed regarding the use of research findings pertaining to ECEC. Research projects being funded with public resources, even studies that are basic in nature, are typically

expected to impact theory and practice, policy, and/or the development of future research. For example, findings from the SKIP project are expected to impact pedagogy and practice (e.g., the initial plan is to develop evidence based materials, based on local examples of good practice, for professional development purposes), program improvement (e.g., while being funded by MOE, providers will receive information on their strengths and weaknesses, which will allow them to improve quality of service provision), policy formulation (e.g., findings will inform MOE's future policy decisions), and future research (e.g., new research questions will emerge). Findings from this and other studies are also being used to validate research measures and are providing much needed data on the suitability of measures for use within the local context, and are developing locally normed monitoring instruments (e.g., the Inventory of Early Development-III).

Information from large-scale surveys is being used to identify emerging trends and issues. It strengthens the evidence base for social and family development policies and improves the ministry's planning capabilities to respond quickly and effectively to new challenges and opportunities. For example, MSF recently launched the three-year "Break the Silence Against Family Violence" campaign based on findings from a study commissioned by MSF regarding the barriers to reporting incidents of family violence.

Pilot (Demonstration) Efforts

Nature and Content of Pilot Efforts

Due to the widespread recognition of the importance of evidence-based practices, both government and non-government organizations in Singapore highly prioritize research and development (R&D) work in ECEC. Numerous R&D pilot projects have been undertaken in the past years. Generally, these programs start at a relatively small scale, either based in a few preschools, or targeted at families in a particular location. This allows the lead provider to test implementation and refine the delivery model, advancing a more feasible approach. However, perhaps due to the fast-changing

landscape of the Singaporean society, specifically in terms of educational goals and directions, many of these pilot projects are implemented for short periods of time, not long enough to allow for a systematic evaluation of their durable impact or effects.

Some of the existing pilot efforts (KIDS 0-3 program, KidSTART, Circle of Care, Safe and Strong Families) can be conceptualized as intervention programs focused on integrated support services for vulnerable and low-income families. These intervention programs have been described in detail in prior chapters (see Chapters 6 and 13). Given that the pilot programs aim to provide a range of comprehensive services, the content of the programs is very diverse, including parental education, child and family well-being, health, and education.

Use of Results from Pilot Efforts

Pilot programs that are implemented and found to be successful are typically scaled and mainstreamed, although often there are no explicitly stated criteria for success. One such example is the three-year pilot program [“Mission I’mPossible” \(MIP\)](#) initiated by the Lien Foundation, KKH, and PAP Community Foundation. MIP was the first proactive early detection and intervention program to screen, diagnose and help preschoolers with mild developmental needs (Lien Foundation, 2010). In this program, kindergarten teachers at the pilot centers were trained to screen and detect children with developmental needs. Some senior teachers were also trained as Learning Support Educators (LSEds), in charge of providing these children with better support at all levels (therapy, communication, pedagogical aids). The clinical team (comprised of a pediatrician, psychologist, speech language therapist, occupational therapist and learning support facilitator) worked closely with the LSEd to integrate therapy goals into classroom routines. The LSEd also facilitated the interaction and communication between all parties—namely, the children, teachers, parents and therapists. Based on the success of this program (with evidence based on in-depth qualitative case studies), in 2012 the government scaled up and funded the program to become the Development

Support Program (DSP). DSP is currently offered in some 300 preschool centers (compared to 22 centers in the pilot program) and has catered to more than 2,000 children since its inception (MSF, 2016g).

“Circle of Care” (COC) has also been turned from a pilot project into a formal service offered by Care Corner to preschool operators. This program began in two preschools and expanded to a further nine preschools in 2016, with the aim to expand to 15 preschools by 2018. Since its launch, it has demonstrated an impact in improving child and family outcomes. This expansion was based on promising results from one preschool where results showed greater engagement of parents (increased attendance of parent-teacher conferences), children’s improved attendance at preschools, and improvements in children’s literacy and numeracy skills (Lien Foundation, 2016). A training program has been created to introduce this new intervention approach to social workers, educational therapists, teachers and professionals who work in related fields. COC is now expanding to form networks of cluster (or district) preschools, which feed into an anchor primary school. This allows for more formalized and structured transition between ECEC and primary school for those children who need most support.

Program Evaluations

Nature and Content of Program Evaluations

One of the main gaps of Singapore ECEC research relates to systematic evaluations of the quality and effectiveness of ECEC services and programs on children’s developmental and learning outcomes. The Singapore Kindergarten Impact Project is the only large-scale study that could be included in this category. The establishment of MOE kindergartens was positioned as a pilot project, with the aim to examine them as a role model for the market for what a low-cost but high-quality ECEC provision may look like. The MOE kindergartens were set up to develop fresh approaches and best practices in early education; pilot innovative teaching methods and share them with the

preschool sector. These include focusing on learning through play and placing stronger emphasis on bilingualism, allowing children to learn through stories, songs, and dances with a distinct local flavor.

Use of Program Evaluation Results

SKIP, the only large-scale program evaluation, is expected to produce findings that will have an impact on teacher preparation (e.g., the initial plan is to develop evidence based materials, based on local examples of good practice, for professional development purposes), program improvement (e.g., providers will receive information on their strengths and weaknesses, which will allow them to improve quality of service provision), policy formulation (e.g., findings will inform MOE's future policy decisions), and future research (e.g., new research questions will emerge).

Innovations

There is the perception that private organizations are better positioned than the government to push the sector to experiment with alternative ideas and approaches. However, the research grants provided by the various government bodies also call for innovative research, provided that the work being conducted is locally relevant and has potential implications for policy and/or practice. For example, MSF and the Social Service Institute (SSI) embarked on a new partnership on evidence-based research in 2015. The primary role of this partnership is to conduct research and disseminate findings to encourage evidence-based practice in the social service sector. The research priorities for the first five years include understanding the risk and needs of those who end up requiring protection (including maltreated children), the improvement of training for social service professionals, and the effectiveness of services, programs, and practices. To drive forward this agenda, the partnership aims to forge collaborations with other Ministry departments, social service agencies, and research institutes, to enable larger-scale studies to be conducted that can answer more complex research questions.

Challenges

Some of the main research-related challenges referred to by our respondents were in relation to: (i) the need for producing rigorous local knowledge; (ii) the need to better coordinate research across sectors to improve efficiency and quality; (iii) ownership and autonomy; (iv) competing agendas and different priorities; and (v) limited research manpower.

Need for Producing Rigorous Local Knowledge

There was widespread agreement among the respondents that there needs to be more research to evaluate ECEC in Singapore. Virtually all respondents emphasized the need for basing national policies on local research findings, as in the past many ECEC policies in Singapore have been formulated based on Western studies. In particular, our respondents expressed that more systematic research and evaluation should be undertaken to monitor the short-term and long-term impact of different ECEC programs on children and families, given the diversity and complexity of ECEC in the Singapore context. This would help to provide insights into why some programs succeed while others are less successful, as well as what improvements might make them more effective.

Better Coordination to Improve Efficiency and Quality

Our respondents also expressed the need for data to be aggregated across the government agencies and the social service sector to ensure more effective planning of services, and monitoring trends to identify potential service gaps. Furthermore, a central repository for research studies and data would facilitate research efforts. More efficient systems to manage data, measure quality, and provide evidence on the impact of practice would enhance the quality and impact of the research being conducted.

Ownership and Autonomy

Respondents also cited challenges associated with the lack of research autonomy when working with the government, as well as issues of ownership of the data and intellectual property, and potential censorship of reporting of results. For example, one respondent indicated that the government was controlling what information is being shared— *“they are deciding what is good for the audience.”* This has led some to work more closely with philanthropic and other non-government organizations, where researchers perceive they have more autonomy to explore novel methods to support early childhood care and education. Even then, there was a perception that the government is not always willing to endorse and help to scale up findings, unless the findings had come from a source directly working for or funded by the government.

Competing Agendas and Different Priorities

Our respondents referred to the challenges resulting from the competing agendas and different priorities that ministry officers and academic researchers typically have. In particular, they referred to tension between the slowness of academic research (and the need to produce publishable findings) versus the need to produce findings quickly that will have a large impact (where the aim is not necessarily to produce publishable findings). Balancing the needs and expectations of the two sides needs to be addressed.

Limited Research Capacity

Another challenge is the limited capacity of current research expertise in Singapore. Given rapid developments across the sector, the research expertise will take some time to develop. In addition, our respondents referred to the need for more collaborative research groups across the sector (e.g., psychology, public health, social work, education).



Part 7 Country Analysis

Chapter 15: What's Effective and Why?

Extent to Which ECEC System Is Effective Predicated on our Systemic Outputs

According to the Theory of Change, program and boundary spanning entities (e.g., education, social protection, health) and infrastructure subsystems (e.g., governance, finance, standards, human capacity, family and community engagement, assessment, data and accountability, and transitions) are the requisite conditions for an effective ECEC system. Based on the information presented in this case study of Singapore, some of the requisite conditions for an effective ECEC are clearly in place, while others are still in a phase of development. Some limitations in the infrastructure make it difficult to conclude that the system outputs of quality, equitable access, efficiency, and sustainability have been realized to their full potential. Furthermore, the lack of available data and evidence makes it difficult to corroborate the linkages from system inputs to child and family outcomes. Throughout this chapter, we detail some specific strengths and limitations in the system inputs, and how these have been influenced by socio-cultural factors and political and economic conditions of the country. Notwithstanding the difficulties of drawing definitive conclusions about effectiveness, it is clear that Singapore has made tremendous efforts to address the quality, equity, efficiency, and sustainability of ECEC services, achieving significant improvements in a short period of time.

To What Extent Are ECEC Programs/Services High Quality?

Singapore has not tried to reinvent the wheel when it comes to establishing an effective ECEC system. With the ultimate goal of harmonizing quality across this primarily privatized sector, the government has spent the past decades looking to the ECEC systems of other countries and examining international trends and research to guide its policy formulation and practices. One of the key pieces of systemic change is the centralization of governance. Matters related to ECEC were previously just one part of a large portfolio of services under two different ministries, which were each responsible

for the monitoring of different aspects of service provision regulated under different legislative acts. The decision to consolidate all matters related to ECEC under one autonomous agency, ECDA, emphasized Singapore's heightened focus on ECEC, and has served to consolidate the expertise of the existing MOE, PEB, and MSF Child Care Division. This ensures there is no preferential focus on welfare or care versus education, but instead that there is a holistic and integrated understanding of all services for families and children. ECDA's role is all-encompassing and its position as the boundary-spanning mechanism is evident in virtually all aspects of the ECEC infrastructure. In a hybrid ECEC sector, one of ECDA's key responsibilities is to align the values and goals of the multiple groups and organizations which have strong interest and stake in the ECEC sector via regulation (e.g., licensing, accreditation), sponsorship (e.g., subsidies) and advocacy (e.g., multi- and intra-agency collaborations). Engaged constituents, including policymakers, researchers, professional associations, and philanthropic organizations, work hand-in-hand with government and non-government organizations to address key policy issues, such as raising the overall quality of ECEC sector and equalizing access to care and education for all children.

Changes in legislation, such as the introduction of the Early Child Development Centers Act, have served to solidify ECDA's position as the sole regulatory authority for center-based care and education, and have further harmonized the licensing and regulation of all center-based provision regardless of the age of the children and type of provision. The intent is to ensure that all center-based provision meets minimum quality standards, that all provision is subject to the same accountability criteria, and that programs are monitored regularly by trained personnel. Similarly, the goal of introducing a quality improvement framework with a focus on both structural and process factors (now also overseen by ECDA) has been to allow providers to reflect on, and receive external assessment and certification of, their quality.

The same attention to harmonizing quality is also seen in the government's approach to developing and maintaining a well-trained, compensated, and respected workforce.

There is now closer regulation of the content of pre-service training and of the quality of training providers, which must be accredited by ECDA in order to deliver approved training programs. Innovative programs have been initiated for both the professional development of sector leaders and the deployment of sector leaders as advocates and mentors. Skills maps and career progression pathways have been articulated as part of the broader national effort of SkillsFuture Singapore to provide a common reference for the skills and competencies required in the ECEC sector. The recent decision to centralize the pre- and in-service training of ECEC professionals under the NIEC represents an important next step towards quality enhancement and harmonization.

Another major step for quality enhancement was the development and refinement of curriculum frameworks, which present continuity in curriculum and a child-centered pedagogical approaches for children aged 2 months to 6 years, and which are aligned with the longer-term desired outcomes of education articulated by the government. The intent of producing these frameworks was to make explicit the learning and developmental expectations of children at different ages, to ensure better alignment between the preschool and primary school curriculum, and to ensure continuity of pedagogy across transitions, at least into the early primary years. The emphasis on the holistic development of the child is in line with a re-emphasis in primary and secondary schooling away from academic achievement to recognize varied skills and achievements, including a greater emphasis on non-academic skills and active learning in the first two years of primary school.

Comprehensive, high-quality health services have ensured that health standards in Singapore are excellent. The various policies and regulations recently implemented by MOH and ECDA (e.g., Child Care Centers Act) provide guidelines on health standards and monitoring regarding health, medical care, and nutrition for children from birth to age 6. All these have resulted in Singapore now having some of the lowest rates of neonatal, infant, and under-5 mortality in the world. While the health system is not nationalized and cost of health care varies significantly depending on provider, the

enforced system of savings for medical insurance ensures that families have the capacity to meet health care costs. This is supported by statutory entitlements and additional savings incentives from the government, which can be used to offset health care costs. The focus in Singapore is currently shifting towards health education efforts, particularly in relation to prevention of long-term disease and prevalent conditions (e.g., obesity, diabetes, and myopia). Several specific programs intended to promote healthy habits (physical activity, nutrition, sleep, and mental health) have been initiated. These are targeted at expectant mothers, families, and preschool children with education and recommended changes to diet and exercise.

The framing values of the country emphasize respect for individuals, support across the community, consensus, and social harmony. They also view the family as the basic unit of society. These values are considered to be those that make for a productive society and help economic growth. Inspired in the ideas of civil order by the Chinese philosopher Confucius, the founders of the nation adopted the view that government should not take over the important role of the family, which should be capable of fulfilling the needs of those individuals that belong to it. Nowhere is this seen more clearly than in the policies related to the welfare of families and children, where efforts are aimed at preserving and strengthening the family unit through proactive and preventative programs. Initiatives aimed at strengthening services and inter-agency collaborations in the recent years have contributed to a more progressive, responsive, and robust child protection system delivering a child-centered, family-focused, and community-based intervention.

To What Extent Are ECEC Programs/Services Equitably Distributed?

Meritocracy and equality of opportunity are core tenets on which Singapore society is based. As such, the view is that every child, regardless of socio-economic background, be given equal opportunities to succeed through the provision of good health care, stable housing, and education. However, the government has also articulated that while

meritocracy is fair, it will not by itself own ensure social mobility. With a widening income gap and a system of private preschools and health care providers with high variation in cost, Singapore has gone through intense efforts to be vigilant about providing all citizens with access to comprehensive range of ECEC services, although as indicated later, the opportunity for equal access to all provision may not be equitable.

Existing policies are driven by the national vision of “A good start for every child” (ECDA, 2013). In line with this vision, the government has invested significant financial resources to ensuring all families receive sufficient funding for baseline services, and that additional funding is available for targeted populations. Singapore has excellent standards for medical provision and developmental screening in the early years. The provision of government subsidies and national medical savings schemes, along with legislative regulations, ensure that all children have access to high quality health care and environments that meet acceptable levels of health and safety. Comprehensive health care services are available to all children, are of high quality, and there are no reported inequalities in accessibility (WHO, 2014).

With regard to education and care, while there is no legal entitlement to ECEC services for children prior to entry to primary school, the understanding is that all children, regardless of background, deserve a positive early childhood experience through high-quality care and education, which nurtures holistic development and builds a strong foundation by instilling a love for learning. In a meritocratic society, the government understands that the ideal of equal opportunity should start from preschool. A rapid increase in the availability of child care provision has resulted in a doubling of the number of children enrolled in center-based care in the last decade, with there being almost universal access for those aged 4 to 6. Equitable access to this provision is made possible by ensuring affordability via statutory entitlements to all, and via targeted subsidies to the middle- and lower-income households. As the OECD notes, though, it is not enough simply to target affordable services. Countries have to also aim for high-quality provision (OECD, 2012b). Through regulation and a quality rating system the

government is offering more financial incentives for providers who meet quality *and* affordability criteria. Typical support includes subsidizing operating costs, providing subsidies for staff salaries and training, and infrastructure development. Such targeted support is helping to ensure that providers offering high quality ECEC provision are accessible to low and middle-income families.

Equal access to services does not necessarily mean *equitable* access to services. Some children and families will need additional or compensatory support to ensure that the opportunities available to them are equitable with the opportunities available to the wider community. To ensure equitable access, new policy initiatives (e.g., KidSTART, Circle of Care) proactively target low-income and vulnerable children. Yet further efforts are needed to support access to services for other groups of children. For instance, accessing center-based care is more difficult for infants and toddlers, with lower enrollment attributed to personal choice on the part of parents, lack of places, or lack of affordability. In February 2017, the government announced that there would be an expansion of infant care provision from 4,000 to 8,000 places by 2020. With that expansion, there may be increased access to services, but this may not be available to all parents due to the high costs involved. This expansion also requires training more ECEC professionals to work with younger children, but also highlights the paradox of deploying the least qualified professionals to care for and educate children in the most formative years. The lack of focus on this age group is also underscored by the fact that there are currently no incentives for infant care to make quality improvements; however, ECDA is developing an analogue of the SPARK quality framework for use in settings catering to children aged 2 months to 3 years.

Another group lacking equal opportunities for preschool access is children with disabilities. Children with disabilities have fewer options for center-based care, and some attend center-based care for just a few hours per week. The government recently announced that it will study the feasibility of an inclusive preschool model (MSF, 2017) to improve social integration of children with special needs. Non-government

organizations have already piloted such a model, and the over-subscription of child care places for both typically developing children and children with special needs provides evidence that the public will subscribe to this inclusive model of ECEC provision.

One challenge to equity specific to the Singapore context is the capacity of ECEC services to respond to the linguistic and cultural diversity of this nation. For example, operators need to be able to provide various food choices to children (e.g., halal-certified food) and hire professionals with good command of the three official mother tongues (e.g., Mandarin, Malay, Tamil), which is challenging especially for the smaller operators. These operators would find it difficult and expensive to hire teachers who can teach each of the three official mother tongue languages if the number of children who speak that official mother tongue language is small or is just one child. This will result in some children having less equitable access to ECEC provision if their cultural and linguistic requirements cannot be met.

Another challenge relates to the inequitable distribution of financing and services among the different types of providers in Singapore. For example, our respondents reported that non-anchor operators (especially not-for-profit preschools) might not be able to continue to function without the financial support of the government. Indeed, the smallest providers are feeling the strain financially and may struggle to operate effectively as the years go by, which would reduce the diversity of the ECEC sector in favor of the largest providers. To continue to operate, these providers may have to increase their fees, putting them out of reach to lower income families. Moreover, with ECEC as a free market, the distribution of personnel may not be equitable. While the MOM has baseline regulations regarding benefits to be provided to staff, providers within this private sector can decide on the level of remuneration. Some of our respondents noted that the highest quality ECEC professionals may be “poached” by the commercial for-profit providers through the offer of higher pay and better working

conditions, again meaning that not all children would have access to the highest quality ECEC professionals.

To What Extent Are ECEC Programs/Services Efficient And Sustainable?

One framing value of the nation is that the family, as the basic unit of society, should be capable of fulfilling the needs of those individuals that belong to it. These beliefs and values are pervasive across ECEC, particularly in terms of the funding models used to support health, educational, and care provision. Although the government provides generous subsidies, financial assistance schemes, and tax relief to needy individuals and families to support health, care, and education, private cost sharing (tiered according to income) is essential to ensure that public funds are deployed efficiently according to need. Asset building policies encourage individuals to support themselves and their families. Such policies ensure that the money stays in the hands of individuals, and is spent on the things that individuals really need, as opposed to being in the hands of the government for other purposes. Universal benefits are considered to be wasteful and inequitable, and hard to take away once given. The first priority is to keep government subsidies targeted at those who most need them, rather than commit to benefits for all.

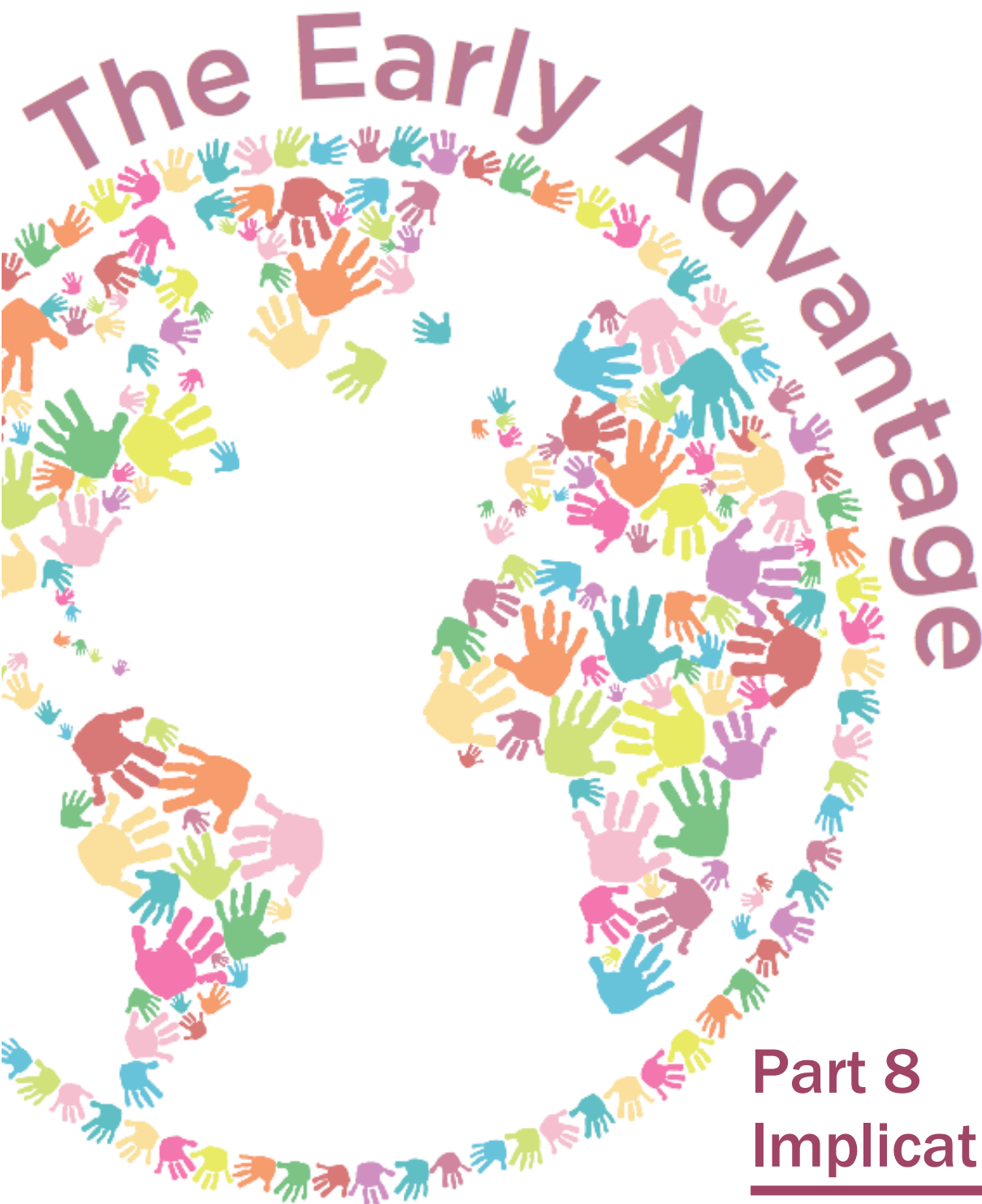
Changes within the ECEC system have resulted in efficiency gains at multiple levels through the consolidation and integration of services. For example, at the governance level, the establishment of ECDA allowed Singapore to adopt an economy of scale based on a single monitoring (as opposed to multiple monitoring) mechanism; this also enabled the consolidation of staff who were previously spread across two ministries, namely MOE and MSF. At the training level, the consolidation of all pre-service training under the new NIEC will reduce the requirements for administration and regulation at multiple institutions. At the service level, the costs (on a per child basis) and operational efficiency associated with staffing, food services, rental expenses, daily operations, or service matters are being lowered by the building of larger preschools, or by sharing

costs and resources across multiple providers (e.g., centralized provision of services such as catering).

The government's decision to adopt a hybrid model, leaving ECEC service provision primarily in private hands but with strong monitoring structures, reflects a clear concern with the sustainability of the sector. Nationalizing the ECEC sector like mainstream education would have had huge financial implications on the national budget, and may not have been sustainable. Public funds have been used to establish an accessible and well-functioning ECEC market (e.g., through regulation and licensing). Families then choose and pay for provision within the framework of a regulated market. The government's intention to make early ECEC affordable has been successful through the provision of supply-side and demand-side subsidies. This funding model helps to bring about a balance of the free market, parent choices, and government control of the quality of private center-based ECEC provision. The decision to adopt a mixed model ensured the sustainability of private sector delivery with public quality safeguards.

There is both an economic and a value rationale that result in the expectation that ECEC programs and services should be sustainable. The recent increased investment in the ECEC sector is motivated by the need not only to respond to the threats of widening social income gaps, but also to prepare citizens with the knowledge, skills, and values that are relevant to future society and economy. A limited workforce with a declining birth rate means that every individual is important to the sustainability of the nation. ECEC is seen as the first opportunity to develop the competencies that are deemed essential for an innovative society and economy. It is also one of the earliest opportunities to instill the national values, particularly racial and religious harmony, that will be critical for future world challenges. The government has shown a strong commitment to addressing issues of quality and affordability of ECEC, and a historical legacy of political stability and highly efficient and effective policy implementation

instill great confidence that the government's commitment of investment and effort will be sustained.



Chapter 16: Challenges and Implications

Drawing on key themes highlighted throughout this case study, and taking into consideration the challenges to quality, equity, affordability, and sustainability, here we make some recommendations and highlight implications for ECEC practice, policy, and research in Singapore, before ending with some concluding thoughts.

Developing the ECEC Workforce To Address Quality, Efficiency, And Sustainability Challenges

Building a high-quality ECEC workforce is one of the biggest endeavors to be undertaken in the development of an effective ECEC system. Despite all the highlighted efforts, and consistent with the views of study respondents, there are still a range of challenges to be addressed. The first is reducing staff turnover and staff dropout. Data from the MOM indicates that only 56.5 percent of fresh ECEC graduates remain in the teaching force one year after graduation. Reasons cited for leaving the sector included low salary (initial salaries are reasonable but remain fairly stagnant); perceived low prestige of the profession; lack of professional autonomy, esteem, or respect by the public; and perceived lack of career advancement (Craig, 2013). Ensuring a sufficient number of qualified ECEC professionals is critical to the sustainability and expansion of center-based care provision. Research is needed to examine whether the recent initiatives and incentives to attract and retain staff in the sector have helped achieve this goal.

Furthermore, with the increase in the number of preschool centers, the current demand for ECEC professionals is high, and staff are able to take advantage of the expanding private sector by moving from one center to another for marginally more pay. This has created a volatile employment market (Ang, 2012), with study respondents noting that good teachers may be poached by providers who can offer a higher salary. High turnover of ECEC professionals results in a lack of stability in the care and education of children, and difficulty establishing professional communities within centers.

Standardizing pay and benefits across the sector may help to mitigate the high turnover rate, and might also weaken the effect of ECEC professionals choosing centers based on pay packages, instead encouraging them to choose centers that resonate with their ECEC philosophy. Recently announced measures designed to enhance the status, compensation, and training of ECEC professionals may help mitigate this challenge (PMO, 2017).

A second challenge is how best to facilitate the engagement of ECEC professionals in Continuing Professional Development (CPD). Many respondents acknowledged that the current working conditions of ECEC professionals do not allow them adequate time to engage in CPD, and that CPD opportunities are not available equitably. While some center leaders actively structure non-teaching time into the day to allow staff the opportunity to engage in other activities, others do not. To ensure equitable access to opportunities for CPD and career advancement, strategies need to be developed to afford all ECEC professionals sufficient time and opportunity to engage in CPD. Similar to the mainstream education system in Singapore (Bautista, Wong, & Gopinathan, 2015), this may include mandating minimal no-teaching periods (known as “white space”) and providing assistant teachers and/or community and parental involvement so that ECEC professionals can be released to engage in CPD.

There is also a sense that professional development needs to be sensitive to the needs of the ECEC professionals (Múñez, Bautista, Khiu, Keh, & Bull, 2017). In line with the international literature on professional development, a focus on mentoring and professional learning communities—essentially, on the job-embeddedness of teacher learning—may support the application of CPD to actual practice. The development and sharing of training resources that provide examples of good practice and innovation in the local context, rather than in Western societies, would also ensure that ECEC professionals see the relevance of the training for their own classroom context.

A third challenge is the development of high-quality and efficient ECEC leadership. Investments should be made in developing not only transformational leadership and pedagogical leadership, but also system leadership—that is, developing skills and attitudes in extending and deepening networks and collaboration with individuals, groups and organizations, which could in turn increase leaders' own organizational capacity. Such delivery models are seen in the mainstream education system, where Cluster Superintendents develop, guide, and supervise the school leadership teams in a designated cluster of schools to ensure that schools are effectively run. These Cluster Superintendents play a key role in personnel and financial management and ensure that there is networking, sharing, and collaboration among the schools within the cluster. This model could be adopted in the ECEC sector, and may be one way to sustain the momentum of highly innovative leadership programs such as ECDA Fellows, Principal Matters, and the Professional Development Program. Some of the larger preschool providers are already implementing such a model, promoting staff to become Executive Principals. Study respondents indicated that the degree of expertise of such mentors is a critical factor, but it may be possible to use this example as the basis for developing sustainable and efficient practices across the sector.

Supporting High Quality and Efficient Transitions Across Settings

While Singapore is aware of the importance of linking ECEC to the compulsory school system and is currently exploring various strategies to aid transitions (e.g., pedagogical continuity, informal induction experiences, targeted transition support for at-risk children), decentralization of transition responsibilities to private ECEC providers has resulted in varying levels of transition quality. Despite the curriculum frameworks' inclusion of national guidelines on transitions, structural impediments render coordination across sectors challenging. These include teachers' lack of time due to shortage of staff in centers, limited knowledge and external support, and inaccessibility to primary schools due to physical distance or lack of institutional connections. To overcome some of the structural impediments to transitions, plans for the building of

new schools should include space for preschools within primary schools. The locating of all MOE kindergartens within primary schools, partnered with a number of surrounding Early Years Centers, will be an important step towards addressing transition challenges within the ECEC sector.

Another way to support transitions is through professional continuity, which requires that ECEC center leaders, primary school principals, ECEC staff, and primary school teachers are prepared for collaboration and transitions through initial training and ongoing professional development, and that they receive relevant and sufficient support to facilitate transitions. Current discrepancies in the status and educational background of ECEC and primary school staff might create tensions, affecting relationships and, in turn, the quality of cooperation. However, alignment of working conditions, content, and level of qualifications would require change at a systemic level; ECEC would need to be re-conceptualized as spanning the age range of 0-8, wherein professionals across the age range build on common knowledge and professional practice to support a holistic, continuous learning environment. This would mean strengthening the role of ECEC professionals as an indispensable feature of mainstream schooling, as well as providing opportunities for primary school teachers to be trained and engaged in preschool practices and pedagogies (Ang, 2012). If such systemic change is not viable, initiatives to support collaboration and shared understanding might include joint training of ECEC and primary school staff, or the creation of collaborative professional learning groups. The government could also look at opportunities to reskill in-service primary school teachers, or to provide training to pre-service primary school teachers, that would enable them to work with younger children. This may support children's transition from the preschool to the primary school through teacher looping. The centralization of training for ECEC professionals in the NIEC provides the ideal opportunity to begin consideration of training overlaps between ECEC and primary school teachers, and will help to uplift the professional standing of ECEC professionals.

Balancing Beliefs, Expectations, and Practices of Different Stakeholders

The government has taken a strong stand in its vision that ECEC should support the holistic development of the child through a play-based approach, and that prematurely formalizing preschool, via a strong academic focus, may be dangerously counterproductive. However, these Western notions of how children learn and should be taught, which are clearly articulated in Singapore's curriculum frameworks, run counter to cultural beliefs and academic priorities held by many parents and teachers in a largely Chinese society with Confucian values (Lim-Ratnam, 2013). ECEC professionals have to re-evaluate traditional teaching approaches, from being dispensers of knowledge to being facilitators of learning. However, with the pressures levied by parents that children need to be prepared for the rigors of an exam-based school system and academic excellence, some ECEC professionals have expressed doubt that play can be substituted for academic rigor, and on account of parents' demands, hesitate to remodel their existing practices (Nyland & Ng, 2016). Furthermore, as private businesses, preschools are dependent on maintaining enrollment figures to ensure sustainability. ECEC professionals may therefore face pressure from providers to accede to parents' requests to include more academic work in the curriculum.

This has a number of important implications. If parents perceive the curriculum to be less academically rigorous and inadequate in preparing their child for school, they may take preventative action such as enrolling their children in private tuition classes that are additional to the child's center-based care. This exacerbates inequity in opportunities, as lower-income families cannot afford such additional support, resulting in the growth of social disparity when children enter primary school. Secondly, it will be impossible to quantify the impact of the holistic and child-centered pedagogical approach unless there is evidence that there is a clear link between a provider's planned curriculum and what is actually enacted in the classroom.

More needs to be done to ensure that parents and ECEC professionals have a common understanding of national policy goals. There are numerous initiatives that seek to foster parenting education and empowerment, and MOE and ECDA have made concerted efforts to educate parents about the importance of developing children holistically to be lifelong learners. However, there is no research to monitor parent or center engagement with these initiatives, it is not clear if parents are truly embracing these ideas, and there are no data that can testify to the effectiveness of these initiatives. Furthermore, research suggests that teachers may not be adequately prepared to teach using play-based pedagogies, or they may be struggling to adjust or re-evaluate their beliefs about how children learn (Ng, 2011; SKIP, 2016).

Re-positioning deeply rooted and strongly held cultural beliefs and practices will be difficult; additional efforts should be undertaken that ensure parents' active involvement in program activities and center decision-making, and ECEC professionals need additional support to not only put into practice play-based pedagogies, but also to be able to identify and document children's learning and development in such activities. Enhancement of family and center partnerships may help to reduce tensions between parents' expectations and the expectations of ECEC professionals, in order to align their pedagogical practices with national curriculum frameworks. However, embracing such change may only happen when local evidence is provided to both parents and teachers that such curricular and pedagogical adjustments do not leave children at a disadvantage when they enter school, and in fact may actually provide a more positive experience for children.

Efficient and Sustainable Use of Data to Drive Improvement Efforts

One of the biggest challenges to determining whether initiatives to improve quality have achieved their goal is the lack of data or research evidence directly linking policy initiatives to measured outcomes and actual practices. Rather, there appears to be the general expectation that the changes made, for example to teacher education and

professional development, will inevitably result in better teachers, and hence better child outcomes. It is not clear what prospective plans are in place at the point of policy implementation to measure the impact of these efforts in the future. Moreover, the incredibly fast pace of policy development and implementation may not allow sufficient time for an evaluation of whether and why the changes are effective in bringing about positive outcomes for children and families.

The ability to evaluate effectiveness is also limited by the lack of system-level data on child and family outcomes. The dearth of child outcome data might be partially due to resistance to national-level evaluations, particularly at a time when the government is trying to de-emphasize the importance of high-stakes summative assessments and ability comparisons. Conducting national evaluations is also challenging, both methodologically and administratively, as there is no statutory requirement for children to attend preschool and the provision of services is largely in the hands of the private sector. Despite these constraints, having child outcome data at a national level would be of immense value to foster equitable access, as well as to inform, evaluate, and improve the efficiency of system performance. However, the collection of such data should not put an additional burden on ECEC staff. One model would be standardizing the measurement and documentation of children's learning and development, replacing the current methods of documentation that are decided at the center level. The collation of this data should be supported by technology that can deliver meaningful and actionable information in realistic timeframes. These assessments could then be used at the national level for summative evaluation (e.g., of policy changes and pilot programs), and for formative purposes at the center level to support individual children's learning and development. Having such data collected by teachers ensures efficiency and sustainability, as there is no requirement to have specially trained and designated research or monitoring staff deployed to centers. Furthermore, such data could be shared across settings to help teachers in supporting children's transitions.

There is currently no designated body to coordinate, oversee, or provide strategic direction for research in the early years. Although many organizations are engaged in ECEC research, establishing a national body dedicated to advancing research on ECEC—which could draw together expertise from multiple domains such as health, social policy, education, psychology, and neuroscience—would allow evaluation and monitoring of initiatives using multiple sources of evidence. The promotion of programmatic research studies would support collaboration between the various organizations that have interest in the ECEC sector, and would encourage the efficient use of funding for ECEC research. This would also optimize and support sustainable collaborations between the relatively small number of academics and professionals currently conducting research on ECEC in Singapore, and would help to ensure data collection efforts are not unnecessarily duplicated across multiple agencies. Finally, engaging researchers at the point of policy planning would allow for prospective (rather than retrospective) research efforts to evaluate the impact of changes in policy. The need for high-quality research was articulated by many study respondents and echoes the sentiments expressed in *Vital Voice for Vital Years* (Ang, 2012):

It is important to build a body of evidence-based research over the short and long term that will measure and evidence the impact of preschool services, policy, and practice in the sector, and the ultimate benefits for children and families. The pertinent questions “what works?”, “why it works?”, and “what impact will it have on children and families?” should be firmly embedded in policy and practice. (p. 85)

As well as harmonizing research efforts, there is also a need for methods by which to better use and share data across different parts of the ECEC system. Multiple sources of data are currently collected, including monitoring data collected from centers as part of the licensing regulations, data from ECEC researchers, data collected by health professionals, and national data held by ministries (e.g., subsidy support to families). The government recognizes the need to better collect, use, and share data to inform policies, and there are efforts currently in place to improve data exchange and use

within the public service. The focus of such work should be to consider how to develop data exchange systems to make data sharing possible to non-government organizations, and to develop professional capacity for integrating, managing, and analyzing large and secondary sources of data.

Concluding Thoughts

The Singapore government is focused on two goals: ensuring a thriving economy and maintaining a politically stable and socially cohesive nation. Singapore is proud to have progressed from Third World to First World status in a very short period of time. Human resources are the nation's most precious asset, and the education and nurturing of every child is seen as key to economic development. Singapore is world-renowned for its successful educational system, and this success has been attributed to its high investment in educational infrastructure, curriculum design, research, and teacher education and professional development at the primary, secondary, and tertiary levels. Now, the government focus has turned to the early years, as there is greater realization that high-quality health, care, and education for young children positively impact the later years. Investment in young children is critical not only for addressing the current national priorities, but also in ensuring the continued prosperity of the nation. Slowed economic growth may produce social challenges, including intergenerational transmission of wealth inequalities and lower social mobility. Enhancing support for children with a weaker start by making preschools more affordable, more accessible, and higher quality is a key element of ensuring that "birth is not destiny," and that all children receive the support they need to maximize their development and learning potential.

The government's approach to intervening in ECEC has been to set broad parameters to start the process of evolving a harmonized ECEC sector that meets affordability and quality criteria, while preserving the diversity that comes from having private market provision. A key theme of the Singaporean story is the careful balancing act that has

been required to set this evolution in motion: balancing increasing public regulation with the freedom expected from a private market; balancing competition versus collaboration in a lucrative free market; balancing policy-borrowing from Western cultures with policy adaptation to the local context; balancing public and private financing of services; balancing family expectations and professional beliefs; and balancing the rapid pace of implementation with the time needed for thorough evaluation. Striking the right balance will require continued vigilance and innovative policies on the part of the government.

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Appendix: List of Respondents

Name	Position	Organization
Mr Alex Fun	Director, School Health and Outreach Division	Health Promotion Board, MOH
Dr Chan Lin Ho	Senior Consultant	ECDA, MSF
Dr Christina Lim-Arasaratnam	Senior Lecturer, Curriculum, Teaching, and Learning	NIE
Dr Christine Chen	Founder and Current President	AECES
Dr Dora Wu Chen	Head of Programs, Early Childhood Education	Singapore University of Social Sciences - SUSS
Mr Esa Masood	Director, Regulations and Standards, and Director, Policy	ECDA, MSF
Mr Eugene Leong	Chief Executive Officer	ECDA, MSF
Professor Gopinathan Saravanan	Adjunct Professor, Lee Kuan Yew School of Public Policy	National University of Singapore
Dr Jacquelyn Chung	Senior Principal, ECDA Fellow	St. James' Church Kindergarten
Mr Koh Kok Khai	Previously ECDA, MSF Currently Director, Psychological Services Branch and Psychological Assessment and Research Branch and Member, Allied Health Professionals Council	MOE

Mr Lee Poh Wah	Chief Executive Officer	Lien Foundation
Mdm Leong Pik San	Lead Specialist, Preschool Education Branch	MOE
Mrs Loke-Yeo Teck Yong	Previously Divisional Director, Education Services Division, MOE Currently Director-Designate	National Institute of Early Childhood
Dr Lucy Quek	Senior Lecturer. Deputy Director (Industry Relations & CET ECCE Diplomas. School of Humanities & Social Sciences Vice-President, AECES	Ngee Ann Polytechnic
Mr Lui Earnler	Previously Director of Preschool Education Branch, MOE Currently Principal	Bowen Secondary School
Dr Sum Chee Wah	Advisor to MOE and ECDA Adjunct Senior Fellow in Early Childhood and Special Education	NIE
Ms Tan Guat Hoon	Senior Specialist, Preschool Education Branch	MOE
Dr Theresa Lu	Head of Programs, Early Childhood Education	Singapore University of Social Sciences - SUSS

Please note that one additional respondent requested to remain anonymous.