

WORKING PAPER 2

Public provision of centre-based childcare in high-, middle- and low-income countries: What are the systemic features that aided the effective scale up of these programmes?

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TABLE OF CONTENTS

	Acknowledgements	5
	List of abbreviations	6
	Abstract	8
1	Introduction: Defining the problem	9
2	Global childcare models	10
3	Indian centre-based childcare models	30
4	Discussion	33
	Annexures	38
	Bibliography	49

LIST OF TABLES AND FIGURES

Table 1:	Timeline of the evolution of maternity/parental leave in Denmark	12
Table 2:	Tax revenue, social protection financing and expenditure	14
Table 3:	Public spending on early childhood education and care	15
Table 4:	A comparison of various features across Nordic and Latin American models – scope of the programmes	20
Table 5:	A comparison of various features across Nordic and Latin American models – governance and accountability	22
Table 6:	Public spending on early childhood education and care - Chile, Colombia and Mexico	23
Table 7:	Changes in public expenditure on ECCE, in per cent of GDP	23
Table 8:	A comparison of various features across Nordic and Latin American models – human resources	25
Table 9:	Impact on maternal employment and hours per week for a select few countries	27
Table 10:	Snapshot of all the non-government childcare models present in India and included in this study	31
Table 11:	Pratham/Balwadi – day-care centres with a focus on ECCE	45
Table 12:	Hippocampus Learning and Sudiksha – provision of pre-primary learning	48
Figure 1:	Complex adaptive system of childcare	10
Figure 2:	Percentage utilisation of centre-based childcare for children (0-5 years)	12
Figure 3:	Process of agenda setting and programme implementation	17
Figure 4:	Poverty and pre-primary programme attendance for three-four-year old – region wise	18
Figure 5:	Indian states with population less than or comparable to the population of Mexico, Chile and Colombia	34

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LIST OF ABBREVIATIONS

3R	Reading, Writing and Arithmetic
AWC	Anganwadi Centres
BMGF	Bill & Melinda Gates Foundation
CAS	Complex Adaptive System
CAIC	Centros de Atención Infantil Comunitario
CECED	Centre for Early Childhood Education and Development
CCC	Chile Crece Contigo
CDI	Centros de Desarrollo Infantil
CDPO	Child Development Project Officer
CLR	Centre for Learning and Research
DAY	Deendayal Antyodaya Yojana
ECD	Early Childhood Development
ECEC/ECCE	Early Childhood Care and Education
FZTF	From Zero to Forever
GDP	Gross Domestic Product
HRC	Human Resource for Childcare
HCB	Hogares Comunitarios de Bienestar
HI	Hogar Infantil
HIC	High Income Country
ICBF	Instituto Colombiano Bienestar Familiar
ICDS	Integrated Child Development Services
IFMR LEAD	Institute for Financial Management and Research - Leveraging Evidence for Access and Development

IMSS	Mexican Institute of Social Security
INTEGRA	Fundacion Nacional para el Desarrollo Integral del Menor
ISST	Institute of Social Studies Trust
IWWAGE	Initiative for What Works to Advance Women and Girls in the Economy
JUNJI	Junta Nacional de Jardines Infantiles
LMIC	Low and Middle Income Countries
MIS	Management Information System
MSK	Mahila Shakti Kendra
NGO	Non-Governmental Organisation
NOSOSCO	Nordic Social Statistical Committee
NNM	National Nutrition Mission
NRLM	National Rural Livelihood Mission
OECD	Organisation for Economic Co-operation and Development
PAIPI	Programa Atención Integral a la Primera Infancia
PEI	Programa de Estancias Infantiles
PMRY	Pradhan Mantri Rozgar Yojana
RTE	Right to Education
SEWA	Self Employed Women's Association
SRLM	State Rural Livelihood Mission
UP	Uttar Pradesh
WHO	World Health Organization
WASH	Water, Sanitation and Hygiene

ABSTRACT

This paper “Public provision of centre-based childcare in high-, middle- and low-income countries: What are the systemic features that aided the effective scale up of these programmes?” highlights that the provision of public childcare sits in a large complex adaptive system made of building blocks, such as governance/accountability, financing, scope of the programme, human resources for childcare, data systems, evaluation, costing and impact, and social norms, that need to work in cohesion to ensure a positive impact on two outcomes: maternal employment and early childhood development in large-scale programmes. The main contribution of this paper is to focus, in a comparative study format, on the systemic features that have allowed low- and middle-income countries to implement and iteratively scale up centre-based childcare programmes. This is supported by examples from countries which were cognizant of this complex adaptive systemic thinking, and iteratively scaled up programmes, achieving a positive impact on the two outcomes mentioned above. This paper also documents examples of small-scale, alternate/non-government models of affordable, quality centre-based childcare in India that support working mothers. The intention is to show the feasibility of adoption of the systemic thinking to deliver quality service in India.

1

INTRODUCTION: DEFINING THE PROBLEM

The paper titled “Global evidence on the benefits of centre-based quality childcare on maternal employment and early childhood development outcomes,” the first in this series, contributes to an understanding of the interlinkages between unpaid care work, nurturing care and potential of centre-based childcare to impact the two outcomes of maternal employment and Early Childhood Development (ECD) (<six years).¹ This second paper focuses on the public provision of centre-based childcare facilities in some high-income and low- to middle-income countries.

The objective is to highlight the provision of public childcare as seen through the lens of a Complex Adaptive System (CAS) – a multi-disciplinary approach to understanding the behaviour of diverse, interconnected agents and processes from a system-wide perspective.² It is a system made up of building blocks³ such as:

- I. Governance/accountability;
- II. Financing and budget;
- III. Scope of the programme (interventions, coverage, equity and maternity-centred design);
- IV. Human Resources for Childcare (HRC);
- V. Data systems and evaluations (appropriate indicators and research → quality assurance and compliance); and
- VI. Social norms (childcare awareness and utilisation) and costing and impact.

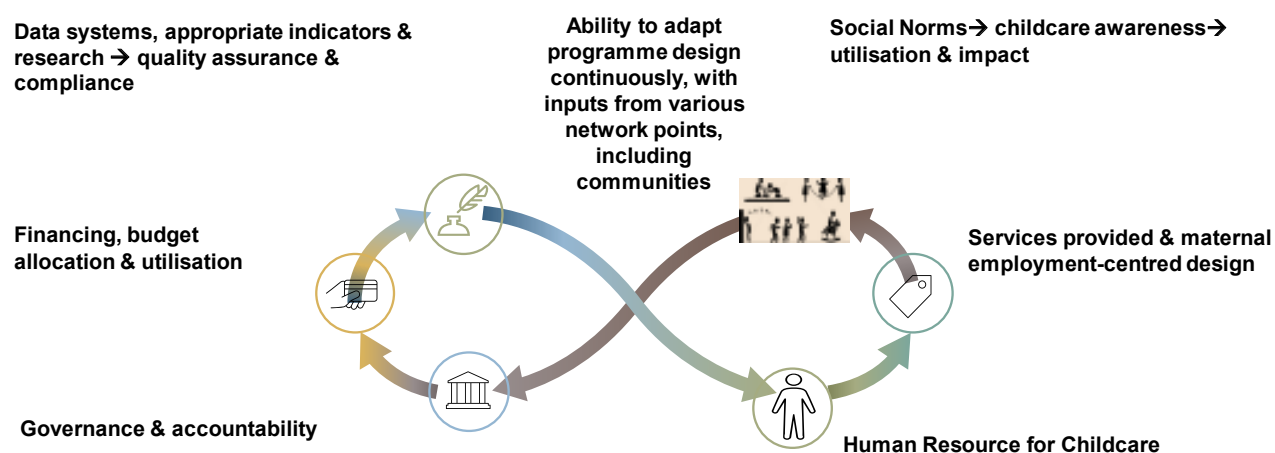
The building blocks need to work in cohesion to ensure substantial gains on the two outcomes within large-scale programmes. Figure 1, shows how each building block interacts in a non-linear manner with others to generate outputs and outcomes.

¹ Chaturvedi, S. (2019). Global evidence on the Impact of centre-based quality childcare on maternal employment and early childhood development outcomes. First paper in the Childcare Series, IWWAGE.

² Paina, L. and Peters, D.H. (May 2011). Understanding pathways for scaling up health services through the lens of complex adaptive systems.

³ Adapted version of World Bank’s System’s Approach for Better Education Results (SABER) framework and World Health Organization’s (WHO’s) health systems building blocks framework.

Figure 1: Complex adaptive system of childcare



Source: Adapted from the World Health Organization (WHO) building blocks for health system and World Bank's System's Approach for Better Education Results (SABER) framework. The loop illustrates one of the pathways of a CAS.

Using a comparative case study approach, this paper highlights the systemic features that have allowed High Income Countries (HICs) and Low- and Middle-Income Countries (LMICs) to plan, implement, monitor and scale up centre-based childcare programmes. This is supported by examples from countries (HICs like Norway, Denmark, Sweden and Finland and LMICs such as Colombia, Chile and Mexico) which were cognizant of CAS thinking, and iteratively scaled up programmes, achieving positive impact on the two outcomes mentioned above.⁴ Additionally, there are examples of small-scale, alternate/non-government models of affordable, quality centre-based childcare in India that support working mothers. The intention of including these is to show the feasibility of adoption of systemic thinking to deliver quality service in India.

2 GLOBAL CHILDCARE MODELS

In the following sections, given the similarities in the childcare models and the research sources, the details for each of the building blocks from countries such as Norway, Sweden, Denmark and Finland are captured under the Nordic country models; details of the ECD/childcare models from Chile, Colombia and Mexico are captured under the LMIC categories.⁵ This section additionally compares and highlights the commonality of the systemic features across Nordic countries and LMICs. Additionally, given the significance of LMICs in the context of developing countries, summaries of ECD models from Ecuador, Argentina, Bolivia, Brazil (implemented only in Rio de Janeiro) and Uruguay are mentioned for reference but not studied in detail as their scale is small or they do not fulfil the criteria for inclusion mentioned in the methodology section in Paper I.

⁴ For the criteria for selection of these countries, please refer to the "Methodology" section in Chaturvedi, S. (2019). Global evidence on the Impact of centre-based quality childcare on maternal employment and early childhood development outcomes. First paper in the Childcare Series, 2019, IWWAGE

⁵ Detailed independent case studies of the ECD models in the three countries are available on request from the author for a detailed understanding. Please also see Annexure 1.

High Income Countries – Nordic (Norway, Denmark, Sweden and Finland)

Nordic countries are seen as having the best childcare models. The United States and United Kingdom have had state-sponsored childcare programmes; however, Nordic countries have the strongest programmes for children less than three years (these are not common) and for children from three to six years. They also have the highest enrolment rates, even among European nations. In fact, the Nordic countries recognised inequalities in combining work and care as a basis of gender inequality much before most other European countries.⁶ During the 1960s and 1970s, in the early stages of welfare and child development policies, the Nordic countries invested in the expansion of childcare to enable parents to combine both family and working life. The focus of investment was on labour policy orientation. However, with emerging evidence of childcare's impact on child development in the past decade, the investment orientation has changed and the focus is now more on children and their education as future citizens. Irrespective of the orientation, the countries strongly prioritised investment in human capital for short- and long-term gains.

Nordic model of childcare (Denmark, Norway, Sweden and Finland)

Five central policy areas are common to these models, considered the best in the world, across countries: generous maternity/parental paid leave; social cohesion;⁷ universal coverage; financial structures and incentives (low monthly fee for services, tax rebates to parents on top of subsidised fees); and scheduling flexibility – especially to combine part-time work with leave over a longer period.⁸ Over the course of years, governments in these countries universalised childcare, thereby institutionalising it as a *social right*.

Young children were cared for, educated in public institutions and, over the years, *since accessibility and quality were high*, this became the socially acceptable norm. However, it took decades of effort to create demand, change social norms and constantly improve the quality of service delivery using data and research, and to make them into systems that they are today. An example of this policy evolution is shown in Table 1 that captures the timeline of how a two-week maternity leave has evolved into a paid 52-week parental leave.

⁶ Sümer, S. (2014). The Nordic Approach to Work and Care: Challenges on the Way to Inclusive Citizenship.

⁷ A society that works towards the well-being of all its members, fights exclusion and marginalization, creates a sense of belonging, promotes trust, and offers its members the opportunity of upward social mobility – as per the definition in Perspectives on Global Development 2012, entitled Social Cohesion in a Shifting World

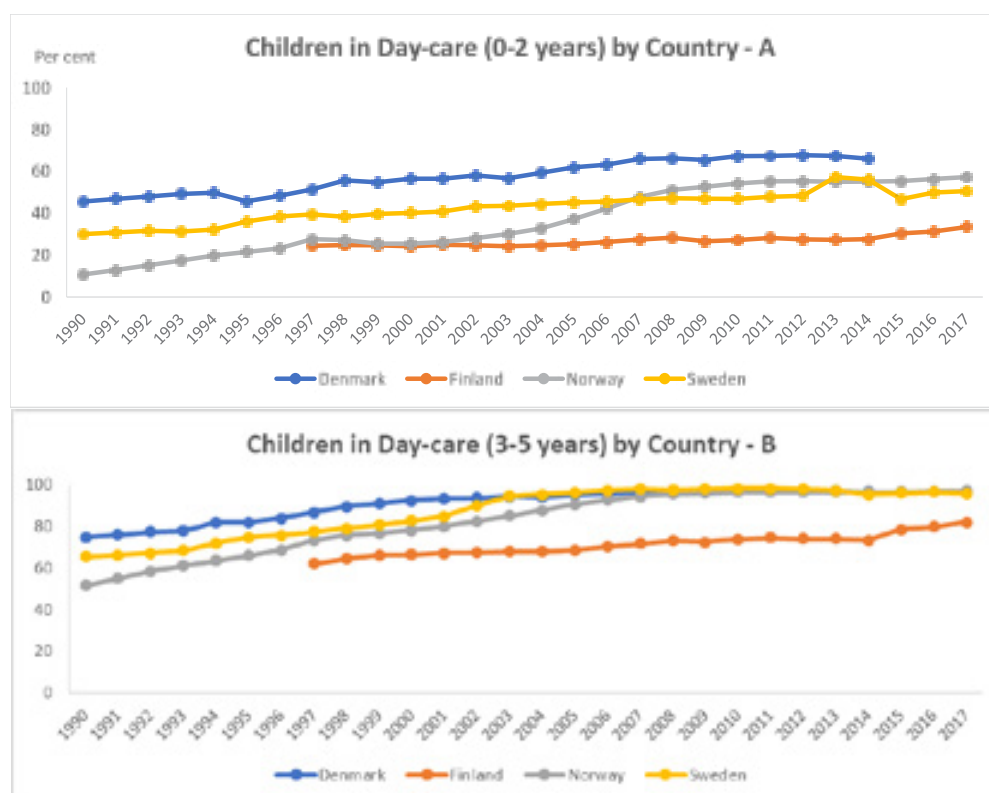
⁸ Ray, R., Gornick, J.C., and Schmitt, J. (June 2010). Who cares? Assessing generosity and gender equality in parental leave policy designs in 21 countries.

Table 1: Timeline of the evolution of maternity/parental leave in Denmark

1901	Two weeks of mandatory maternity leave for female factory workers introduced
1933	Two weeks of paid maternity leave, extended to all salaried mothers
1960	Universal paid maternity leave scheme of 14 weeks introduced, not job protection
1980	Leave extended to 18 weeks, still no job protection
1984	Additional introduction of two weeks of paternal leave, along with provision of extension of maternal leave in the form of six weeks of parental leave
1985	Parental leave extended to 10 weeks, with the provision of paid leave
1989	Job protection added to maternity and parental leave
1992	Parental leave increased to 12 weeks, paternal leave of two weeks made mandatory
2002	Total maternal, paternal and parental paid leave allowance extended to 52 weeks
Current	Paid childcare leave of 52 weeks, extendable up to 64 weeks; parents receive at least 65 per cent of their previous earnings during this period

Even childcare utilisation was not always as high as it is today, especially for younger children. In the 1990s, the uptake of childcare services in Norway, for children aged three-five years, was 52 per cent and for one-two-year-olds was a mere 11 per cent (as shown in Figure 2). However, over the last 15 years, the governments have evolved their policies and facilities. As of 2014, utilisation of childcare in Norway for children aged three-five years is 96 per cent, and for children one-two years of age, 56 per cent. Denmark and Sweden share these utilisation rates.

Figure 2: Percentage utilisation of centre-based childcare for children (0-5 years)



Note: Day-care includes care of all children at different ages, whether full-time or part-time during day-time hours (6 am to 6 pm) in all institutions where attendance is checked by a public authority. For Denmark, latest available data are for 2014.
Source: Eurostat, NOSOSCO.

According to a 2013 study (A Comparison of International Childcare Systems), the levels of regulation, consistent data collection and government's strategy and investments, along with some level of decentralisation in implementation and decision-making, were the most common factors aiding the success of the centre-based early childcare programmes in the Nordic countries.⁹

Systemic perspective of the Nordic model of childcare: Features that helped in increased coverage, quality and a positive impact on outcomes

The key elements for success of the childcare model are:^{10,11,12,13}

Governance and accountability: legal framework – establishing an enabling environment

1. Strong national policy focus: Proper and binding regulations for public and private provision (child-minders – HRCs that have received training to care for children at their own or the child's home, or at childcare centres), adequate national funding (financial support for different kinds of projects), training of staff or development work is incorporated in the budget;
2. Regulations for HRCs, child-minders and child-minder alliances are very clear and known by all parents and child-minders. This ensures a certain level of quality assurance and compliance and acts as a quality control. Childcare is a social right; parents and providers are aware of the entitlements which creates a strong mechanism of social accountability; and
3. Most models are implemented at the local, municipal level where there are strong governing bodies to monitor regulations. *Decentralisation of decision-making and the implementation process* has been considered a reason for effectiveness.

Financing

1. Nordic countries have a high tax base (tax revenue as a percentage of Gross Domestic Product (GDP)) as indicated in Table 2. The table shows the tax base of each country, and how much of that is spent on social protection programmes in categories such as families and children, unemployment benefits, sickness, old age, disability survivors, housing and other social expenditure. The adjacent column shows the percentage break-up of sources of finance for social protection

⁹ Pascal, C., Bertram, T., Delaney, S. and Nelson, C. (July 2013). A Comparison of International Childcare Systems, , Centre for Research in Early Childhood (CREC).

¹⁰ Einarsdottir, J. Purola, AM., Johansson, E., Brostrom, S., Emilson, A. (2014). Democracy, caring and competence: values perspectives in ECEC curricula in the Nordic countries. Various papers by Kirsti Karila, Eva Johansson Anna-Maija Puroila, Maritta Hännikäinen, Lasse Lipponen.

¹¹ Hännikäinen, M., Rutanen, N. (2013), Important themes in research on and education of young children in day care centres: Finnish viewpoints.

¹² Peter, K., Antonella, B., Rautamies, E., Colwell, J., Tsalagiorgou, E., Mazzanti, C., Nicoletti, S., Sansavini, A., Guarini, A., Romera, E., Monks, C., Lofqvist, M., (2007) The role and practice of interpersonal relationships in European early education settings: sites for enhancing social inclusion, personal growth and learning?

¹³ Rintakorpi, K., Lipponen, L., Reunamo, J., (2014). Documenting with parents and toddlers: a Finnish case study, Early Years

programmes. For examples, in Sweden, social protection programmes are funded by public authorities (52 per cent), employers (37 per cent) and a few other sources (11 per cent). Most Nordic countries spend a substantial percentage of the GDP on social protection and education programmes. Norway spends around 17.6 per cent of GDP on social protection and 5 per cent on education (with tax revenue of GDP at 37.3 per cent) while Denmark spends 24.5 per cent of GDP on social protection and 7 per cent on education (with tax revenue of GDP at 46.9 per cent). Even though, in most countries, the pre-primary (four to six years) component lies with the ministry of education, the centre-based childcare component can come under the ministry focusing on children, culture or social protection.

Table 2: Tax revenue, social protection financing and expenditure

	Tax Revenue (% of GDP), 2013	Total Public Expenditure on Social Protection, in per cent of GDP, 2013	Financing of social expenditure (percentage), 2013			Total Public Expenditure on Education, in per cent of GDP, 2013
			Total Public Authorities	Employer	Other	
Sweden	40.0	21.3	52	37	11	6.6
Denmark	46.9	24.5	76	11	13	6.9
Norway	37.3	17.6	55	27	18	4.9
Finland	43.6	24.8	47	35	18	6.4

Source: Nordic Statistics – NOSOSCO (<https://www.nordicstatistics.org/social-integration-and-income/day-care/>).

Even when the services at childcare centres fall within the ambit of the ministry of education or some other ministry, the tax rebates offered to parents often come under social protection expenditure. Overall, the responsibility of providing subsidised childcare lies with the government. In some countries, parents pay a percentage of the monthly fee (variable fee structure for children between zero to two years and three to five years, with a cap of 25 per cent). Often, one or two years of the pre-primary component (four to five years) are mandatory and free, and co-located with the childcare for zero- to three-year-olds, where the government charges a small fee for childcare services for younger children. The range of interventions under childcare support – parental leave, centre-based childcare and pre-primary programmes – is largely financed through the tax revenue and, in some cases, social security contributions by the parents and employers.

Even though the expenditure on childcare or pre-primary programmes may come from the social protection or education expenditure, the overall spend by these countries on early childhood education care is as shown in Table 3. Childcare programmes include programmes for children from zero to less than four years and pre-primary programmes are typically for children aged four to six years.

Table 3: Public spending on early childhood education and care

Public expenditure on childcare and pre-primary education and total public expenditure on early childhood education and care, in per cent of GDP, 2013			
	Total	Childcare	Pre-primary
Sweden	1.6	1.1	0.5
Denmark*	1.4		
Norway	1.3	0.5	0.7
Finland	1.1	0.6	0.5

Source: OCED Social Expenditure database; * For Denmark, data cannot be disaggregated by age or education level.

Data availability and monitoring leads to compliance and quality assurance

- 1. The countries have clearly defined indicators** focused on inputs – structural and process variables – that are tracked for monitoring childcare programmes; data collection on outputs is very regular (every year). The outcomes related to maternal employment and child development are also tracked at the national level regularly and annually. In addition to each of the countries tracking the indicators, the Nordic Social Statistical Committee (NOSOSCO) operates under the Nordic Council of Ministers. The organisation was set up to coordinate Nordic countries' social statistics and research efforts.
- 2. Utilisation of childcare as well as quality has been tracked** for years as a key indicator of the success of the programme. Tracking focuses not only on structural aspects of childcare centres, but also on process variables.^{14,15}
- 3. Dedicated staff members oversee the administrative data and record keeping at centres across the nation.** The human resources for centre management are separate from the care and education staff, thereby not overburdening the staff with job requirements or work.
- Given these programmes have been in place for a while, **sociologists and economists have actively analysed them using the (publicly-available) data;** *the findings have then been fed into the policies and programmes over the years, creating positive feedback loops and allowing for scale up of programmes without compromising on quality.*

Scope of programmes

- 1. Duration of childcare:** The majority of children (50-88 per cent) spend more than 30 hours/week at these day-care centres which are open and functional for more than six-seven hours a day.
- 2. Provision of nutritious meals** varies across these countries. It is always provided however; the centres may or may not provide it as a complementary service (included in the monthly fee).

¹⁴ López Boo, F., Araujo, CM. Tomé, R. (2016). How is Childcare Quality Measured? A toolkit (captures what are structural and process variables.)

¹⁵ OECD, Education at a Glance, 2018.

3. **Continuity of care for the child:** The governments have secured paid leave, lasting up to one year, to allow parent interaction with the new born. For children older than one year of age, there is provision of child-minders or centre-based care. The pre-primary component (four to five years) is mandatory and free, and often co-located with childcare for zero- to three-year olds, where the government charges for childcare services for younger children.
4. **Close interactions with the childcare workers and parents** are an inherent part of the design, and parents are often engaged to receive evidence-based guidance on how to have quality interaction with their children.
5. The emphasis is on adhering to **age appropriate ECD** without the introduction of formal learning standards too early (3Rs – Reading, Writing and Arithmetic).

Human resource requirement and qualifications – quality standards

1. **There are two core members associated with childcare services** – one is an early childhood teacher, focusing on the early childhood curriculum and, the other, a pedagogy, care staff, focusing on psycho-social stimulation and physical, nutrition and emotional well-being. In addition, the core staff is supported by auxiliary staff to administer or manage the centres. In all, the three members work as a team to deliver quality services.
2. **High child-to-staff ratios:**¹⁶ Child-to-staff ratios vary across countries and age groups (<three years and three to six years). For instance, Norway has a 9:1 child-staff ratio for children less than three years and 18:1 for older children. In Finland, the ratios range from 4:1 for younger children and 7:1 for older children. Denmark and Sweden do not have specified regulation around child-staff ratios, but these are not very high either.
3. **A trained cadre exclusively working on childcare services is an integral feature of delivering quality services.** The centre-based staff is provided with opportunities for professional development and pathways to become qualified primary school teachers. Child caregiving is considered a respectable profession in the Nordic countries, with competitive salaries, at par with those of primary school teachers. Based on the job profile, qualifications vary. Typically, education staff has a bachelor's degree, care staff has a minimum upper-secondary or post-secondary qualification. Denmark has specified that auxiliary staff should have an upper secondary level degree; however, other countries have more relaxed norms on this job profile.¹⁷
4. **Parent-childcare giver interaction is integral to programme design:** Recognising the importance of parent-child caregiver communication, to ensure quality control, and also to improve the quality of parent-child interactions, these meetings are built into the programme design and are not incidental.

¹⁶ Early childhood education and care systems in Europe, Eurydice, facts and figures 2014-2015.

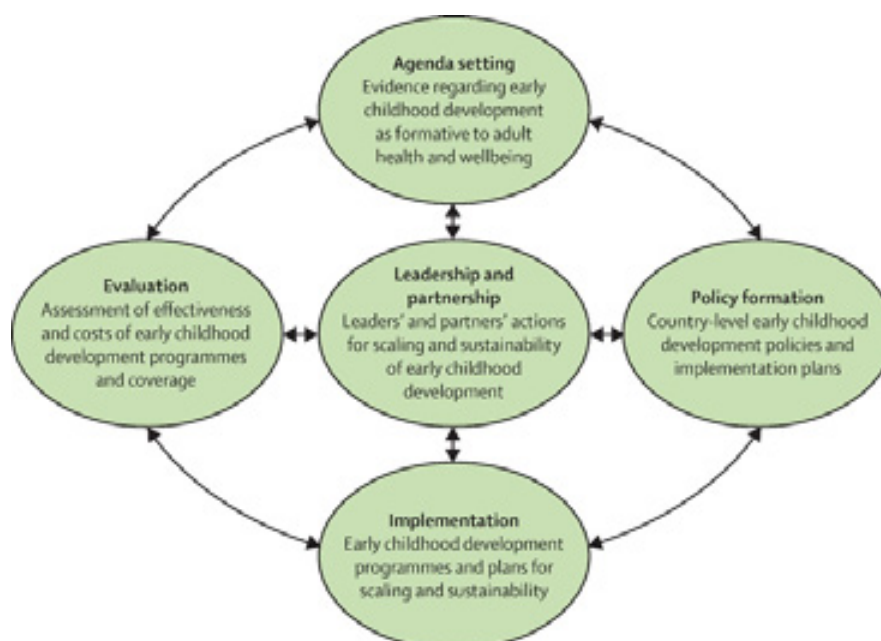
¹⁷ Key data on ECEC in Europe Eurydice and Eurostat report 2014.

Centre-based childcare programmes in the Nordic countries have a clear and well-defined scope. They focus on care, an age-appropriate curriculum and provision of supplementary nutrition and child protection. Denoboba et al. (2014) write that ECD frameworks focus on 25 interventions spread across five sectors: health; nutrition (maternal and child); Water, Sanitation and Hygiene (WASH); education; and social protection. The Nordic models have a primary focus on age-appropriate care, stimulation, social protection and safety in a sanitary environment. On the nutrition front, the focus is on providing a nutritious diet and information to parents during routine engagement sessions. In terms of health, while the centres maintain documents and regular records on a child's health, immunisations and relevant medical records, they do not actually deliver these services. The main responsibility for child health (such as immunisation) is highly integrated in the set-up, in that data are used for strong coordination between the centre-based childcare and health entities to ensure children receive regular health check-ups. The role of human resources at these centres is clear and they are not overburdened with performing services delivered by the health centres or expected to provide counselling via home visits.

Low- and middle-income countries: childcare models in Chile, Colombia and Mexico

The experience of the developed country models cannot be directly applied to developing country contexts, where the format of ECD programmes, cultural-family context and institutions are vastly different. The concept of availing of childcare services is a relatively nascent idea in the developing countries, especially regions which are rural and socio-economically less advanced. Most countries have some sort of a childcare programme but with low quality and utilisation rates. Moreover, even the countries that have some good programmes are still testing and perfecting their

Figure 3: Process of agenda setting and programme implementation



Source: *Lancet*, January – 2017, Early childhood development coming of age: science through the life course.

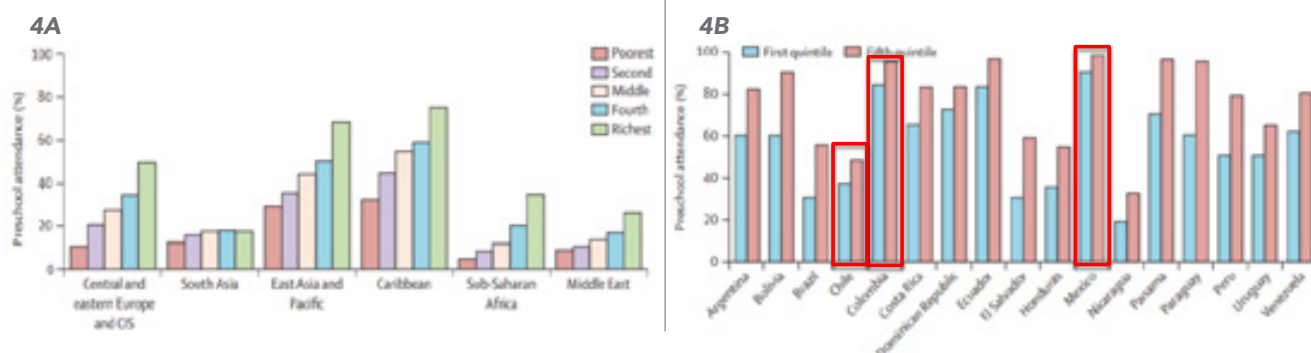
models, and trying to learn how to deliver ECD intervention at scale. As Figure 3 depicts, this process involves agenda setting, policy formation, leadership, implementation, and evaluations as well as how these loops in feedback connect with and inform each other.

This paper captures a few countries (mostly Latin American countries, referred to in the evidence map in Paper I) that have been using this mechanism to develop and scale their childcare adaptive systems. Some are more advanced than others; some have actively researched the impact on maternal employment and various other unintended consequences as well. **However, these are still a work in progress.**

Systemic perspective of the LMIC model of childcare: features that helped in increased coverage, quality and a positive impact on outcomes¹⁸

Childcare Utilisation and Awareness: A major difference between centre-based childcare programmes in HICs and LMICs is the awareness and acceptability of utilising childcare facilities (Figure 4 A). The cultural notion of ‘mother as primary caregiver’—with some support from family or communities – is the norm. The notion that quality childcare centres can be utilised and would benefit their children in the short- and long-term and support maternal employment is not prevalent or even acceptable in most LMIC regions. The utilisation varies based on the region and socio-economic background. In South Asia, it is consistently low across wealth quintiles as shown in Figure 4 A while, in other regions, it is consistently higher for children belonging to economically well-off households and low for the poorest households. However, as shown in Figure 4 B, most countries in Latin America, on an average, have a fairly high pre-primary programme attendance. In Mexico and Colombia particularly, the utilisation is very high, with a low gap between the richest and poorest wealth quintile children.

Figure 4: Poverty and pre-primary programme attendance for three-four-year old – region wise



Source: Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries, 2011, *Lancet*, Child Development series.

¹⁸ For detailed political, administrative and policy context around child development or social protection programmes in each of the countries, please refer to Annexure 1: Political and social context of the LMICs – Colombia, Chile and Mexico

Scope of the programmes

The three countries – Chile, Colombia and Mexico – have a few variations in models of childcare. Most of these programmes in the three countries exist across rural and urban areas with some variation to cater to the demographics.

Colombia has a rural-peri-urban community-based model, with a state provision-entrepreneurship component: Hogares Comunitarios de Bienestar (HCB) along with a state-provided and implemented model including Hogar Infantil (HIs) or Centros de Desarrollo Infantil (CDIs) which are present across the country. For the community childcare centre programme (HCB), the government's Instituto Colombiano Bienestar Familiar (ICBF) provides loans and subsidies to run these centres in the communities in peri-urban and rural areas. For HIs, ICBF has constructed large centres; the number of children, as compared to HCB, varies substantially at these centres (HCBs cater to 12-15 children, HIs/CDIs up to 300 children – child-teacher ratios are 15:1 versus 25:1, respectively).

Chile has state provided centre-based childcare through Junta Nacional de Jardines Infantiles (JUNJI) that oversees end-to-end direct implementation. It also has a certification model called Fundacion Nacional para el Desarrollo Integral del Menor (INTEGRA), a non-profit entity model, entirely funded by the state but implemented by the non-profit entity, and certified by JUNJI. INTEGRA serves the hard-to-reach areas in Chile where JUNJI does not have direct implementation.

Mexico has a few variations of the programmes,¹⁹ catering to different age groups. Here, pre-primary programmes for four- to five-year-old children have been a right for more than a decade now. They are present in both urban and rural areas. However, this paper focuses on its rural programme, Programa de Estancias Infantiles (PEI), a scaled-up programme, close to the communities, with the primary focus of supporting working mothers with children zero to four years of age. More recently, there has been an attempt to combine its day-care programme (PEI, for children zero to four years of age) with its pre-school programme (for children four to five years old).

In terms of interventions, the services provided are similar to those mentioned under the Nordic countries' programmes. These countries too have separate platforms that work closely to deliver specific services, without overburdening the staff at the centres. These countries do have health and nutrition outreach programmes; however, they are separate. More importantly, they have separate staff (salaried/volunteers/per diem) whose responsibilities are delineated from the centre-based staff. Table 4 captures the features of these centre-based childcare programmes in terms of design and services. A child at these centres is exposed to an age-appropriate curriculum and receives nutritious

¹⁹ See Annexure 1.3. Mexico: childcare programme to support working mothers – PEI.

meals. In Colombia, HCBs serve children from poor households for full-day schedules, and provide up to 70 per cent of daily nutritional requirements.²⁰ All these centres are functional for more than six to eight hours a day; in the case of Chile, they function up to 11 hours a day.

Table 4: A comparison of various features across Nordic and Latin American models - scope of the programmes

	Colombia	Chile*	Mexico	Nordic Countries
Adhering to age-appropriate curriculum (<3 years, 3-6 years)	✓ (6 months-6 years)	1-3 years; 4-5 years	0-4 years [^]	1-2 years; 3-5 years
Nutritious meals	✓	✓	✓	✓ However, some countries charge a small amount for meals
Maintaining health records	✓	✓	✓	✓
Outreach for health & nutrition by the same caregiver	No	No	No	No
Regular & frequent parental engagement	Yes; quality improvements underway	Yes; quality improvements underway	Yes; quality improvements underway	Yes; quality improvements underway
Duration of childcare	~8 hours per day (additional hours possible based on understanding of the community mother and parent, with additional fee paid by the parent)	Free childcare for 11 hours a day	8-9 hours per day	6-8 hours per day
Location	Urban & rural areas	Urban & rural area	Predominantly in rural area; urban areas different model	N/A
Continuity of care; maternity leave to centre-based care	Yes	Yes; as of may 2015, childcare is a right	Yes	Yes; maternity leave for a year, then childcare is a right

Source: Chile made childcare a right, also included provision of an after-school programme for children above six years; [^] (four to five-year-olds have a free and mandatory pre-school programme since 2014). ECD/SABER country-specific reports by the World Bank, ECCE country-specific documents by Organisation for Economic Co-operation and Development (OECD). Information collated through multiple policy documents available from the country's ministry/department websites, 3ie Impact Evaluations report for individual countries.

Another common feature across these centres is their continuity of care for the mother and child dyad. In Chile and Nordic countries, during the first few months of a child's life (up to a year in case of Nordic countries), maternity leave is a legally binding provision. Thereafter, centre-based childcare is a right for all eligible children. These centres maintain health records of the child and, in case of Chile, follow a referral system using family/child IDs;²¹ however, the staff at the centre does not have additional responsibility to provide health interventions for the child. The staff is not expected to perform any outreach activities, and is mandated to engage in psycho-social stimulation based on the age group of the child. With a decade long experience in implementation, these Latin American countries are now prioritising further scale up as well as a simultaneous focus on quality improvement of these centres.

²⁰ Bernal, R., Attanasio, O., Pena, X. and Vera-Hernandez, M. (Sept 2018). The effect of the transition from home-based childcare to childcare centres on children's health and development in Colombia

²¹ Registry System, Derivation and Monitoring, CCC government website.

Governance and accountability

Though provision of childcare is not a right in all the Latin American countries, most governments recognise their responsibility in supporting maternal employment and child development and provide centre-based childcare/pre-primary programmes. In Colombia, this responsibility is indicated by the presence of a strong cadre of lawyers, supported by the municipalities, who advocate for and protect child rights (Annexure 1). In the case of Chile, the government has implemented the programme for about a decade and only recently decided to make the provision of childcare a social right. Table 5 highlights some of the key differences in the status of ECD/Early Childhood Care and Education (ECCE) policies, cost per child, regulations and means of financing across the countries.

Most of these countries have multiple tiers of government: federal government at the national level and regional governments which further have administrative units at the municipal levels. In many, some form of a governance entity exists even at a level below the municipal levels. The childcare programmes have a theme of decentralised implementation (at regional or municipal levels), with varying degrees of freedom in decision-making as well as financial resources to support those decisions. To include some element of social accountability and to ensure quality, each of these programmes has parental engagement with the caregiver as an intrinsic part of the design.



Table 5: A comparison of various features across Nordic and Latin American models – governance and accountability

	Colombia	Chile*	Mexico	Nordic Countries
Social right/policy to provide childcare	Policy not a right. However, the intention to respect the legal right to child health and protection was noticeable in the presence of a strong cadre of lawyers supported by municipal governments to protect child rights.	Policy implemented for 10 years; as of 2015, became a right	Policy	Right: state, parents and providers are aware and high level of transparency
Regulation, accreditation system	No regulation, but clearly defined cohesive guidelines.	JUNJI (state entity) implements and provides accreditation to the NGO run centres (INTEGRA) and private sector	No regulation	Clearly defined regulation for the centres, and also child-minders for home-based care
Decentralised planning & implementation; flexibility in decision making and use of funds	✓	✓	N/A	✓
Robust data information systems Focus on structural and process variables Deep engagement with country researchers, informing the implementation	Large-scale causal impact and process evaluation	Large-scale causal impact and process evaluation Emphasis on integration through having good data information systems and not over burdening the same platform	Large-scale causal impact and process evaluation	Regular and annual data collected on not only utilisation, but also on processes and on outcomes These are regularly used by qualitative and quantitative researchers
Parental engagement	✓Through parents' association	Monthly meetings; not as much as Colombia	Monthly meetings; not as much as Colombia	Through bi-weekly and monthly designated parent-staff meetings
Financing & childcare subsidy	State provides money to parent's association at the community level (this includes provisions for partial salary of the caregiver, supplementary nutrition); state also provides zero interest loans to the caregiver for refurbishments; parents pay a monthly fee directly to the caregiver	State provided	State provided; small contribution from parents to create ownership	For children 4-5 years, its mostly free and mandatory. For children <1 year to 3 years, parents pay a small percentage of the monthly fee.
Cost (per year/per child)	US\$450-750	US\$1,800-2,400	US\$1,002	Available, but not so relevant in the comparison context

Source: Early childcare education: Evidence from the new law in Chile, Felipe Aravena Castillo, Marta Quiroga Lobos, 2017;* Chile made childcare a right, also included provision of an after-school programme for children above six years; ^ (four to five-year-olds have a free and mandatory pre-school programme since 2014). ECD/SABER country-specific reports by the World Bank, ECCE country-specific documents by OECD. Information collated through multiple policy documents available from the country's ministry/department websites, 3ie Impact Evaluations report for individual countries.

*After ~a decade of testing and implementation, in May 2015.

The programmes also have a very strong coordinating system across departments with robust data information systems, and integration is reinforced by creating horizontal and vertical coordinating mechanisms across the ministries and all administrative units. These countries did not always have these lattice-shaped coordinating mechanisms, but they were designed and built into the programmes along with the envisioning of national policies around child development. In the case of Chile and Colombia, centre-based childcare programmes are a part of larger national level programmes focused on children (Chile Crece Contigo (CCC) and From Zero to Forever (FZTF), respectively), where integration through data sharing is key. In both cases, countries have a technical secretariat or a supervisory body that is anchored under the office of the president. Usually, they have one ministry of social development or education that serves as a nodal ministry for these programmes. However, integrated planning and delivery is ensured through legal contracts and agreements with collaborating ministries: these agreements have clearly-stated service delivery standards and expectations.

Financing

Most countries have state-run (publicly provided) programmes financed by leveraging different sources of government revenue. The tax revenue, as per cent of GDP for each of the three countries, is shown in Table 6.

Table 6: Public spending on early childhood education and care - Chile, Colombia and Mexico

Public spending on early childhood education and care				Tax Revenue (% of GDP), 2013
Public expenditure on childcare and pre-primary education and total public expenditure on early childhood education and care, in per cent of GDP, 2013				
	Total	Childcare	Pre-primary	
Chile	0.5	0.3	0.2	20.2
Colombia			0.5	19.8
Mexico	0.6	0.1	0.5	16.2

Source: OECD database, the figure for Colombia is from 2011, and disaggregated data not available.

In the past few years, countries such as Chile and Colombia have really emphasised inter-sectoral coordination to support the mother-child dyad. In terms of financing, the governments have ensured that collaborating ministries all allocate a portion of their budget allocations towards childcare services (see Annexure 1 for more country-specific details). Even though the tax revenue base for these countries is much lower than for the Nordic countries, it is important to note that these countries started prioritising child development programmes only in the last decade or so. Even though these countries' spending on ECCE/ECD programmes (Table 7) is lower than the OECD average (0.8 per cent of the GDP), they have been successful in influencing child development and maternal employment outcomes, because they have course corrected their scale up, using data and research, while steadily increasing the percentage spend in the last decade.

Table 7: Changes in public expenditure on ECCE, in per cent of GDP

Total public expenditure on early childhood education and care, in per cent of GDP, 2000-2014															
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Chile	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.5
Mexico	0.4	0.5	0.5	0.7	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6		0.6	

Source: OECD Social Expenditure Database; comparable time-series information on Colombia is not available.

Data availability, research and monitoring – quality assurance and compliance

A common feature across childcare programmes in the three countries is the robust data systems that capture the *appropriate indicators – structural and process indicators*.²³ Chile has a clear focus on strengthening systems for decentralised service delivery and administrative support for planning and monitoring.²⁴ A law was passed by Congress in May 2015 to set forth compulsory

²² OECD database.

²³ Process variables, please refer to "How to measure childcare quality" toolkit by Florencia López Boo María Caridad Araujo Romina Tomé.

²⁴ Torres, A., Lopez Boo, F., Parra, V., Vazquez, C., Segura-Pérez, S., Cetinli, Z. and Pérez-Escamilla, R. (Aug 2017). Chile Crece Contigo: Implementation, results, and scaling-up lessons.

national minimum standards (Biblioteca del Congreso Nacional 2015). The Chilean government has set standards at the national level for staff quality, service quality, and child development outcomes in an effort to not only focus on improving coverage of services but also *quality*.

A very unique feature of these programmes – and considered a reason for success – is the fact that they were designed in collaboration with researchers from local and global universities. Each step of the programme – from conceptualisation to scale-up – was informed through research on impact and process evaluations. Even when the impact was not very significant, researchers captured the information on structural and process variables indicating points of improvement for the programme which, in turn, informed the scale up. Given these programmes have existed for a decade or two, active and relevant research, conducted by reputed researchers, is continuously informing their improvement, often funded by the relevant ministries. Findings from multiple evaluations show significant improvement in rates of maternal employment. However, they also highlight the need for improving the quality of caregiver and child interactions for greater impact on ECD outcomes. Government institutions recognise that they have reached a point in their programmes where, along with course correction for improved programme coverage, there is also a need to focus on quality improvement, as they continue to scale up the programmes.

Human resource for childcare

The child-staff ratios in Latin American countries are a bit higher than the models in the Nordic countries. Chile has a regulation to maintain one teaching staff per centre for about 26 children, and one care/auxiliary staff per centre for about 12 children. In the Nordic countries, centres usually have one teaching staff, one care staff and one auxiliary staff for about seven to 18 children (see Table 8 for more detailed comparisons). In Colombia's HCB model, each centre has only one staff – a caregiver, known as the community mother (the centre is usually the caregiver's home or a centre within a community, chosen by the parents' association). However, the child-staff ratio is much lower, about 15 children per staff, which is well within reasonable standards of child-staff ratios.

Chile is at the forefront of recognising that human resources are the key to improving the quality of centre-based childcare. Through various process evaluations, it realised that it is not just financial incentives that help in improving the workers' performance but also that professional development opportunities really influence motivation, which in turn impacts performance and quality. Hence, it introduced Un Buen Comienzo, a two-year programme that provides professional development to pre-kindergarten and kindergarten teachers in Chile.

Table 8: A comparison of various features across Nordic and Latin American models – human resources

	Colombia	Chile	Mexico	Nordic Countries
Staff per centre	1	1 teaching staff, 1 care staff /auxiliary	1	1 teaching staff, 1 care staff and 1 auxiliary
Child:staff ratio	15:1	26:1 with teaching staff, 12:1 with care/auxiliary staff	35:1	It varies: Denmark & Sweden do not have regulation; Norway- 9:1 for younger children, 18:1 for older ages; Finland 4:1 for <3 years, 7:1 for older children
Salaried	Honorarium from the government (routed through parents' association); additionally, parents pay a monthly fee directly to the caregiver	✓	✓	✓ Salary is competitive, approximately the same as primary school teacher; profession recognised as a lucrative career option
Qualification & hiring process	Parents within the association elect a woman called madre comunitaria (usually is a high school graduate), who is responsible for running the nursery in her house.	4-year university degree	At least junior high schooling or equivalent	Teaching staff has a bachelor's degree; care and auxiliary staff has upper secondary schooling
Training	First evaluation of the programme indicated gaps in quality. As a remedial measure, a multivariate mandatory 40-hour training was designed that covered teaching, integrated care, health, nutrition, and centre management.	Un Buen Comienzo is a 2-year programme that provides professional development to pre-kindergarten and kindergarten teachers in Chile, with the goal of enhancing children's language, literacy, health, and socio-emotional outcomes	Caregiver is trained by the state; cannot begin working without completion of training by the relevant department	Multiple training institutes; they have a defined career track, care staff can be promoted to a teacher, and teaching staff can go on to become a primary school teacher

Source: Un Buen Comienzo, the first large-scale, randomised study of an effort to improve the quality of pre-school education in South America; This was designed and implemented after researchers identified lack of quality as the limiting factor in the impact achieved on child development. Early childhood education and care systems in Europe, Eurydice, facts and figures 2014-2015. Information collated through multiple policy documents available from the country's ministry/ department websites, 3ie Impact Evaluations report for individual countries.

Colombia too realises the importance of providing training and financial support, in terms of amenable loans, to enable women from the community to run the childcare centres in the community as state-subsidised entrepreneurs. Colombia and Mexico have a component where parents' contribution or fee forms part or all of the human resources' salary. This initiative was introduced to create ownership and also build in parental engagement. However, both Chile and Mexico have fixed monthly salaries that are provided to the caregivers. Table 8 also highlights the wide range of hiring qualifications, recruitment process and training regime followed across these countries. While Colombia allows the community to select local women to run the centres, Chile and the Nordic countries have more stringent criteria for the teaching staff (a bachelor's degree) and high school or upper secondary degree to become a care/auxiliary staff.

Costs²⁵

Per child/year cost in Chile varies from anywhere between US\$1,800-2,400.²⁶ In Mexico, it is about US\$1,002²⁷ and, in Colombia, it varies: HCB (community centre-based care) costs about US\$450²⁸ -750²⁹ and HI (ICBF centre-based care) costs about US\$1,330³⁰ -1,500.³¹

Chile is at the forefront of recognising that human resources are the key to improving the quality of centre-based childcare. Through various process evaluations, it realised that it is not just financial incentives that help in improving the workers' performance but also that professional development opportunities really influence motivation, which in turn impacts performance and quality. Hence, it introduced Un Buen Comienzo, a two-year programme that provides professional development to pre-kindergarten and kindergarten teachers in Chile.

Impact

The impact is captured in terms of employment rate, hours worked per month and income (where available). It also captures information on ECD outcomes on nutrition, child health and child development (cognitive and psycho-social emotions). As shown Table 9, the effect of Chilean childcare and its impact in improving maternal employment corroborate the hypothesis that pre-primary programmes have positive impacts on mothers' probability of taking up employment (close to 15 percentage points).³² In Colombia, the programme increased the probability of a mother being employed by 25 per cent and the average hours worked by more than 36 hours per month.³³ In Mexico, PEI's evaluation showed that mothers who benefitted from PEI increased their proportion of employment ~6 per cent, and hours worked per month by 24 hours. Annexure 2 highlights the impact of these programmes in the three countries on early childhood development outcomes (health, nutrition and cognitive development). Please also see Annexure 3, which captures the impact on two outcomes for Ecuador, Rio de Janeiro (Brazil), Bolivia, Argentina, Uruguay, countries that didn't fit the criteria for inclusion for system's study. The Chilean study also mentioned that mothers who graduated from high school and had worked for six months before pregnancy tended to be the ones driving this increased percentage.

²⁵ For the cost data, see the section on challenges and limitations. The number of interventions included, non-standardised methodology of costing could be potential explainers for the difference.

²⁶ Prada, M., Rucci, G. and Urzua, S. (April 2015), The Effect of Mandated Child Care on Female Wages in Chile.

²⁷ Angeles, G., Gadsden, P., Galiani, S., Gertler, P., Herrera, A., Kariger, P. and Seira, E. (March 2014), The impact of day-care on maternal labour supply and child development in Mexico.

²⁸ Vidya Putcha and Jacques van der Gaag, (2015) Investing early childhood development, What is being spent and what does it cost? The cost is US\$353.7 per year per child, plus US\$8.10 per month per child fee by parents.

²⁹ Sirali, Y., Bernal, R. and Naudeau, S. (Jan 2015). Early Childhood Development: What Does it Cost to Provide it at Scale?

³⁰ UAlison et al. (June 2018). Evaluation of infant development centres: An early years intervention in Colombia, 3ie.

³¹ Sirali, Y., Bernal, R. and Naudeau, S. (Jan 2015). Early Childhood Development: What Does it Cost to Provide it at Scale?

³² Bentancor, A. (2013). The impact of accessing nursery schools on Chilean mothers' probability of employment.

³³ Attanasio, O. P. and Vera-Hernández, M.(2004). Medium and long run effects of nutrition and childcare: evaluation of community nursery programme in rural Colombia.

Table 9: Impact on maternal employment and hours per week for a select few countries

	Colombia	Chile	Mexico
Impact on Mothers			
Employment Rate	HCB increased the probability of the mother being employed by 25%	Nursery schools have positive impacts on mothers' probability of employment, close to 15 percentage points	PEI increased the probability of beneficiary women entering the workforce to 5.17% above the national average
Income	N/A	Not Available	PEI increased the income of women with at least high school education. For the group of mothers already working before entering PEI, the probability of switching jobs decreased by 17.6% compared with the mean
Hours worked	The average hours worked by more than 36 hours per month	Not Available	The hours worked per month increased by 24 hours
Source	Attanasio, 2004.	Andrea Bentacor. However, other papers by Medrano in 2009, Encina & Martinez, 2009 and Manely & Vasquez, 2013, found no significant effect on maternal employment rates	INSP 2009, Gabriela Calderón, 2014.

Colombia's HCB programme documented a positive impact of about 0.15 to 0.35 of a standard deviation³⁵ on children's development (Annexure 2), which is about the average effect for similar programmes in Latin America. Bernal's research also highlighted that children who entered the programme at three – rather than at four, five or six years – and stayed on for at least 15 months showed a greater improvement in cognitive tests. *Vocational training programmes for the care-providers resulted in an impact on children's development of 0.2 to 0.3 standard deviations.* In Mexico's PEI programme, with respect to a child's well-being, no significant effects were found for the full sample on child development and dietary diversity. However, children whose mothers did not work prior to joining the programme benefitted by seeing improvements in personal-social behaviour outcomes.

In terms of child development outcomes in Chile, Hidalgo and Sergio, measured cognitive development, using bulk motor skills, fine motor skills, language, and auditory skills to arrive at child development outcomes. In these dimensions of development, the study finds a statistically significant average marginal impact of 0.8–0.9 standard deviation for children six to 24 months of age with 13-18 months of programme exposure.³⁶ In terms of psycho-social outcomes, the study estimated a positive marginal effect of 1.2 standard deviation for children six to 24 months of age, with similar exposure time. However, it also noted some negative effects in child-adult interaction which is a sub-outcome under

³⁵ To interpret the size of the effect reported in terms of standard deviation, the economic rule that classifies the size of effects in broad terms is: an effect of 0.2 standard deviation is considered small; 0.5 medium; and 0.8 large (Cohen 1988).

³⁶ Noboa-Hidalgo, G.E. and Urzúa, S.S. (Spring 2012). The Effects of Participation in Public Child Care Centres: Evidence from Chile.

overall psycho-social outcomes. These were sometimes attributed to the quality of the caregiver and other times considered normal, as children this age learn to negotiate and can get competitive over toys, etc. It can be concluded that these evaluations have now fed the need and importance of quality improvement of the caregiver into the system, leading to programmes such as Un Buen Comienzo. CCC also recognised that what helped mothers join the workforce was the afterschool programme for children six to 14 years of age.³⁷

Across all countries, centre-based childcare programmes, included in this paper, showed no impact on nutrition outcomes and sometimes did not even study this parameter. In terms of child health, most programmes captured that children were more susceptible to catching acute respiratory infections or having episodes of diarrhoea but these effects decrease once the child has spent 15-16 months in these programmes, indicating that the exposure helps children develop immunity. These programmes almost always have a positive impact on maternal employment rates and hours worked per month; however, there is need to further research their impact on child development and income.

Some Unintended Consequences

I. Trade-off in cost of childcare and impact

It is worth noticing that, in Colombia, the HI programme (introduced much later than HCB) in comparison to HCB resulted in a positive effect on nutrition but it also had several negative effects (on children's health, language and gross motor development) and no effect on socio-emotional development as opposed to positive effects from the HCB format. Though the HCB format largely had a positive impact on cognitive development, there was a mixed effect on psycho-social development. This could have been due to the skillset of the caregiver; efforts were made to train the community mothers, after this result was highlighted in one of the evaluations.

This shift to the new HI (ICBF centre-based care) by Colombia was also a lot more expensive. Hence, there is a need to better understand the costing structures and not assume that improved quality necessarily requires a lot more money.³⁸

II. Maternal Income

In their study "The effect of mandated employer-provided childcare on the wages of women hired in large firms in Chile," Prada, Rucci and Urzua note that Chile had implemented the childcare law that made childcare mandatory for all firms that had 20 or more female workers. They used the country's employer-employee database – unemployment insurance – to

³⁷ Martinez, C. and Peticara, M. (2017). Childcare effects on maternal employment: Evidence from Chile.

³⁸ Bernal, R., Attanasio, O., Pena, X. and Vera-Hernandez, M. (Sept 2018). The effect of the transition from home-based childcare to childcare centres on children's health and development in Colombia.

analyse the effect of this policy on female wages. They found that monthly starting wages of the infra-marginal woman hired in a firm with 20 or more female workers are between 9 and 20 per cent below those of female workers hired by the same firm when no requirement of providing childcare was imposed. In the light of this result, it is important to understand who is effectively paying (firms or employees (women)) in cases such as the Factories Act, Maternity Benefit Act, etc., and how this impacts hiring decisions or their wages.

Integrated Approach

Another point to note is that, even though the LMICs have had some form of ECCE policies, the programmes' universalization has been a challenge. However, the three countries studied have achieved good progress with accounted positive impact (with some unintended consequences and insignificant impact as well). Most developing countries identify an existing platform and incrementally added multiple interventions mentioned in Denoboba et al.'s 2014 framework to implement the ECCE programmes. The intuitive sense for this integrated approach is that these interventions directed towards the mothers and children would have a synergistic impact. A potential benefit of integrating ECD services into the health sector is the potential for lower costs as a result of synchronised training, monitoring and supervision, and use of the same personnel.

Unlike the Nordic countries' childcare workforce, the staff employed in these common platforms in LMICs is relied on to disseminate services across sectors such as health, nutrition and social protection, under centre-based service delivery and home visits format. In addition, they are expected to bring about increased awareness about interventions in multiple sectors and create demand for these programmes as well. *Whether there is a negative or positive impact on the existing personnel and service is unknown and often not thought through.*³⁹ There is a need for future research to understand what is the optimum number of interventions or package of ECD interventions that can be integrated into effective inter-sectoral policies and programmes on a large scale.⁴⁰ The models studied in Mexico, Chile and Colombia have eight- to ten-hour childcare at the centre, with a few additional interventions such as provision of meals and a hygienic environment. In terms of the platform as well as services and interventions provided, they are more similar to the Nordic models. In that they have separate outreach/home visits programmes and the staff is not overburdened with a plethora of responsibilities could possibly have led to better outcomes as well.

³⁹ Hurley, K.M., Yousafzai, A.K. and Lopez-Boo, F. (March 2016). Early Child Development and Nutrition: A Review of the Benefits and Challenges of Implementing Integrated Interventions.

⁴⁰ Pérez-Escamilla, R. and Moran, V.H. (January 2017). The role of nutrition in integrated early child development in the 21st century. *Maternal and Child Nutrition Journal*.

3

INDIAN CENTRE-BASED CHILDCARE MODELS

The models included in this section are non-profit models (Self Employed Women's Association (SEWA), Mobile Crèches, Pratham Balwadis, Prajaytna, Centre for Learning Resources (CLR)) and private sector models such as Sudiksha and Hippocampus Learning. While Mobile Crèches has been successful in maintaining quality and operations since 1969, others non-profits have experienced ups and downs in terms of scale. These models have served as proof of concept that, in the Indian context, it is possible to provide quality centre-based childcare while ensuring maternity support design at an affordable price. However, it is also important to note that none of these models has ever been assessed through a rigorous impact evaluation. Nonetheless, the willingness of mothers to use these facilities warrants a detailed systemic analysis of their models.

Governance and accountability

In terms of rigorous governance and accountability structures, Mobile Crèches and SEWA have multi-level governing bodies to maintain checks and balances. Both organisations have executive councils/boards that meet a few times in a year. SEWA's board comprises SEWA members who are also users of the childcare facility, whereas Mobile Crèches' board is comprised of founding members, experts in ECD and a governing council. In addition to the board meetings, they have monthly meetings with the human resource and management teams. Other non-profits included, Prajayatna and CLR, function as technical support units to existing childcare facilities such as the Anganwadi Centres (AWCs) or Non-Governmental Organisation (NGO)-run childcare centres. CLR focuses on developing an age-appropriate curriculum and a management cadre for childcare while Prajayatna is trying to improve the governance of government-run childcare centres – AWCs – by strengthening social accountability. Sudikhsha and Hippocampus Learning are private entities; hence public information is not available about their governance and accountability processes. Additionally, in the absence of any regulations in the country, not much is known about internal processes or compliance either. In terms of accountability, all models encourage child caregiver and parental engagement through monthly meetings. Additionally, the management of these organisations, especially SEWA and Mobile Crèches, engages in monthly interaction with the caregivers.

Table 10 captures information on each of the models in a comparative case study format, similar to the one used to compare the public provision models in HICs and LMICs.

Table 10: Snapshot of all the non-government childcare models present in India and included in this study

	# of Centers	Year	Push/Pull	Location	Cost of Operation	Services	Duration of Operations	Fee/Month	Governance/Accountability	Funding	Child-Staff Ratio	Human Resource
SEWA (Sangini Cooperative)	33	1982	Pull	Urban-Rural	INR 2-3 Lakh Salaries 45-50% Supplementary Nutrition Toys & Medicines 25% Rent: 12-15% 25-30 Children	Primary Daycare, includes health, nutrition and stimulation	6-7 am till evening, matches mothers work hours	INR 175-400, depending on the location of the center	Sangini & SEWA women have monthly parent-caregiver meetings; once in 3 years, SEWA board (including SEWA women, reviews the performance)	Cooperative Contributions from SEWA women, plus fee. Also payment from purchase of their service by government and non-government entities	25-30:2 Coordinate with local health and nutrition services, ensure children can avail RTE-Bridge to primary	Mothers of children; Salaried – INR 4000-550, get 10% of the cooperative surplus
Mobile Crèches*	73	1969	Push	Urban-Peri urban	INR per child/month: 1500 57% Salaries for workers and supervisory staff, 35% Health and Supplementary nutrition. Please note that cost of infrastructure not included	Primary Daycare, includes health, nutrition and stimulation	8 hours, 6 days a week		Experts and Founding members are the Governing Council; The council meets 4-5 times a year, and uses the extensive data collected on process and structural variables through its internal systems	Non-profit 60% of its total income comes from donors, 17% from private corporates. Remaining from services to builders for running the crèches and training programs	15-25:2	36 days of theoretical training along with on the job placements for a hands-on experience. Workers get fixed salary
	# of Centers	Year	Push/Pull	Location	Cost of Operation	Services	Duration of Operations	Fee/Month	Governance/Accountability	Funding	Child-Staff Ratio	Human Resource
Pratham Balwadi	104 centers self run; 1871 AWC	1995	Push	Rural & Peri-Urban	INR 6-10K, however, additional money from fundings is used	Daycare & Stimulation	2-3 hours	Parental contribution that is given to the caregiver	Internal Reviews; No Evaluation	Government and Donor Funding	Not known	For Balwadi, community women are engaged and trained by Pratham Teachers
Prajayatra	3266 schools & 111 AWC	2000	Push	Rural	Not Known	Improve Governance by creating Bal Vikas Samitis comprised of parents and gram Panchayat and AWC functionaries to decentralize the planning and implementation of ECCE services. For ensuring functioning of the Bal Vikas Samitis, they try to leverage the SHG collectives and their monthly meetings. Duration and Fee aren't applicable			Not Known, Effectiveness not evaluated	Donor Funding	25:1	AWW
Center for Learning Resources	Not at Scale	1984	Push	Chattisgarh	Not Known	Childcare work and Supervision Training Curriculum			Internal Reviews, No evaluation	Donor & Government Funding	N/A	N/A
Sudiksha	21	2011	Pull	Urban, peri-urban low-income children	INR 104,000 (Start up Cost)	Daycare & Stimulation	Haven't been able to get the information	INR 400-500	No Regulation, so Not Known	For-profit model for low income families	25-30:1	Recruit local mothers to run branches; Salary+ 10% profit share
Hippocampus Learning	300	2011	Pull	Rural	~INR 200,000 (Start up Cost)	Daycare & Stimulation	Haven't been able to get the information	INR 250-650 per month	No Regulation, so Not Known	For-profit model for low income families; Franchise Model	Not Known	INR 4810; Community women Grade 12 or graduates

Scope of the programme

In terms of quality, Mobile Crèches has the most holistic approach to childcare. It adheres to an age-appropriate curriculum, latest prescriptions for age-appropriate nutrition (diet diversity, frequency) and also structural requirements for a childcare centre. SEWA attempts to provide a holistic set of interventions as well. It engages with universities researching on nutrition and child development, updates its curriculum based on the latest pedagogy every few years, and has a meal plan combining nutrition and locally sourced ingredients. However, based on information gleaned from centre visits, some of the centres, especially urban centres, tend to lean towards a 3R approach for young children. This is often motivated by demands from low-income parents who are influenced by the private sector pre-schools. Pratham Balwadis focus more on the education part of ECD rather than the other interventions – care, health and nutrition. Amongst the private sector players, Hippocampus Learning emphasises the 3R approach which is not age appropriate or recommended for young children. Given its market orientation, it tends to pander to the misguided aspirations of the low-income parents. It possibly has the best of intentions but this is where the inability of the consumer to have perfect information and assess quality distorts market-based solutions. On the other hand, Sudiksha emerges as a more cautious and well-balanced private sector player in terms of attempting to provide an age-appropriate curriculum.

Please note: the information on private sector players is based on publicly available sources.

Financing

Mobile Crèches and SEWA have diversified sources of funding. However, the majority of funding comes from personal or organised donations. In the case of Mobile Crèches, funding is sourced from donors, corporate sponsors and client-user-fee. SEWA has similar sources too; however, in the past, it also charged the government for running childcare centres at the AWCs in a purchaser-provider format.

Sudiksha and Hippocampus Learning provide market-oriented solutions for childcare and claim to sustain their models on a client-user-fee alone (see Annexure 4.4 for more details). The fee typically varies from INR 250 per month/per child to INR 650 per month/per child, depending on its urban/rural location. Hippocampus Learning also has a franchise model; in addition to the client-user-fee, this also contributes towards its financial resources.

Data systems, quality compliance and assurance

Mobile Crèches engages in active research studies with third-party partners and has an in-house publication while SEWA has an internal data monitoring system. Using data to inform the planning and implementation process is an intrinsic part of implementation for both organisations. However, not much information is available from independent third-party evaluators. Pratham has been

involved in testing and research for efficacy trials of childcare on ECD outcomes in Odisha (studies yet to be published).

Human resources for childcare

In terms of HRC, there are many interesting insights that emerged from the study of these models. A common practice is the rigorous training provided to caregivers. Mobile Crèches has the most detailed pre-work training component, along with an in-training component, along with refresher courses. SEWA has a pre-training component, along with a week-long apprenticeship. Post this, both organisations encourage a peer-to-peer learning format, and best practices are shared during the management-staff monthly meetings. There is an emphasis on career development.

SEWA follows a different recruitment strategy. It often hires women from the community, and sometimes women who have benefited from the childcare centres in the past. It is interesting to see that many of these women have not even completed school but they retain the information provided at the training. Given the high altruistic capital at the recruitment stage, combined with technical training, they deliver good quality childcare to the children at the centre.

CLR, which is not an implementer but a technical support organisation, has many years of expertise in developing an age-appropriate curriculum. However, recognising the role of a human resource management cadre in providing supportive supervision and improving quality, it is working with the Chhattisgarh government and piloting a training curriculum for the Child Development Project Officers (CDPOs) and lady supervisors.

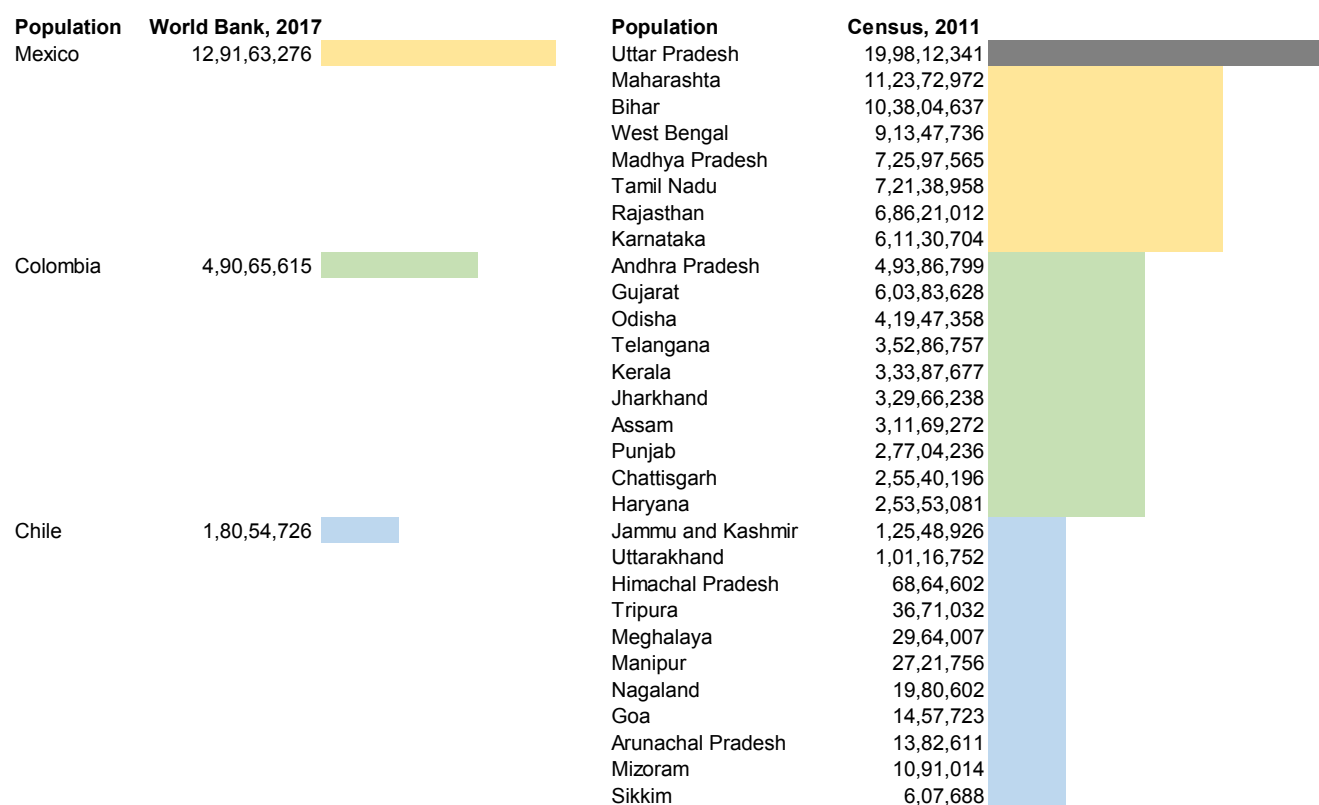
(For more detailed insights on human resource time-use, training approach and ambit of services from the qualitative field study, please see Paper 3 in this series on ICDS and ICDS gap analysis.).

4

DISCUSSION

Many social protection, women's empowerment and child development programmes that are highly efficacious in an experiment stage often have diluted or no impact when scaled up. This is not an anomaly but the reason why findings from the above comparative case studies are extremely crucial, and can find relevance even in the Indian context. While the size (population) and governance structures of these countries might be akin to the size and governance structure of the states in India rather than the country as a whole (please see Figure 5), there is still merit in using the findings to inform learning and implementation research. This is because not many countries have successfully designed and implemented policies and programmes with the dual objective of supporting mothers' economic empowerment and child development.

Figure 5: Indian states with population less than or comparable to the population of Mexico, Chile and Colombia



Note: States with the adjacent bar coloured in yellow have a population less than Mexico's, states with the bar coloured in green have a population less than the population of Colombia and states with bar coloured in blue have populations less than that of Chile. Barring Uttar Pradesh, all states have population sizes that are comparable to one of the three countries. Source: World Bank, India Census, 2011.

In the last few years, many progressive policy reforms have been introduced in India for women's economic empowerment, women's health and child development. Specifically, policies such as the National Crèche Scheme, Early Childhood Care & Education (ECCE), Maternity Benefit Entitlements, National Nutrition Mission (NNM), and Samagra Shiksha could offer immediate opportunities for programmes that support the mother-child dyad in the form of centre-based childcare. Integrated Child Development Services (ICDS) could still serve as the nodal agency to offer these services, provided integration, learning and service delivery are embedded in the science of implementation. A few takeaways from the findings shared above that might be relevant in the Indian context are detailed below:

Key Systemic Features

Governance and accountability

- There is ownership of the government in recognising its responsibility to support the women-child dyad holistically; policies are designed that acknowledge the importance of the mother's economic empowerment, her responsibilities and child development needs to address gender inequality and advancement of human capital;
- Strong coordinating organisational structures (horizontal and vertical across all administrative units) have been established that leverage data for integration to ensure accountability;

Chile has developed, tweaked and successfully implemented governance of this multi-sectoral, integrated approach in a developing country setting;

- Some level of regulation of service providers and relevant public authorities, with clear and transparent terms of engagement that are known by the beneficiary and service provider, is essential as well as awareness of the entitlements; clear and binding agreements, with appropriate programmatic milestones, are established between collaborating authorities and departments; and
- Some level of decentralised decision-making in lower administrative units is allowed in the implementation process, with some level of financial autonomy to support it.

How is this relevant in the Indian context?

There could be many parallels between Chile's CCC (2006), Colombia's FZTF (2010) and India's NNM (2018) in terms of strategic opportunities. CCC and FZTF were launched with a mission to improve child and adolescent development and later to aid maternal employment. Even though a major focus of NNM is on nutrition in the first 1,000 days of childbirth, it does provide a set up, resources and clause for innovation to enable learning around ECD and aid women's economic empowerment. In fact, given the findings on unpaid care work of women in India and the fact that ECD interventions benefit children whose stunting could not be prevented, NNM offers an immediate opportunity to research, learn and implement the centre-based childcare programme. It would be beneficial to understand, in greater details, the legal and reporting structures, successes and challenges across the different departments and administrative units in CCC and FZTF, since these have been functional for a few years now and have undergone iterations. Given that most of the implementation decisions and partial financing of women and child development programmes take place at the state level, learning from these countries might actually be more relevant to effect impact at the ground level.

Scope of programmes – platforms

- There is a focus on providing an age-appropriate curriculum, involving plenty of opportunities for psycho-social stimulation, supplementary nutrition, and maintenance of health and immunisation records for the children. The platforms work in strong coordination with the health (preventive and treatment) programmes; however, they do not deliver those services at the childcare centre;
- The centres are functional for eight hours per day and more; the functioning hours are determined to match working hours of the parents. Close interaction with the caregiver and parents is built into the programme design to ensure accountability and improvement in the quality of parent-child interactions. In platforms such as HCB, the caregiver is often selected based on consensus of a parents' association; and
- Colombia's is an example that has evolved from a low-cost community-based childcare model to encompass most of

the best practices mentioned above, while encouraging an entrepreneurial childcare cadre.

Human resources

- The staff at the centre has clearly defined roles and responsibilities and is not expected to perform outreach services/home visits. Different staff or complementary programmes are introduced to perform outreach and home-based counselling; and
- HRC not only has clear qualification requirements but also stringent and comprehensive pre-service and in-service training. HRC is offered proper financial incentives; in addition, non-financial incentives are built in such as opportunities for professional development.

Research, quality and demand

- An iterative approach to scale up is an intrinsic part of the planning. Research and researchers have been an intrinsic part of programme planning and design. They have generated feedback that is fed into the system as the programmes are scaled up;
- For programmes that have achieved high utilisation and have been functioning for a decade or two, there is a shift in prioritisation of the 'quality' aspect of services now to emphasise the role of structural and process variables and not just outcome goals; and
- The awareness that quality childcare can benefit maternal employment, provide maternal support and can also aid ECD outcomes is high in these countries, and substantial efforts were made to generate this awareness.

How is this relevant in the Indian context?

In addition to NNM, synergistic opportunities could be identified with new initiatives such as the Mahila Shakti Kendras (MSKs), Maternity Benefits, Samagra Shiksha, Pradhan Mantri Rozgar Yojana (PMRY) and Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY - NRLM), and these could be explored to create childcare programmes, using mother-centred designs.

The HCB modality from Colombia can have relevance in exploring the role of NRLM/ State Rural Livelihoods Missions (SRLMs) in providing rural childcare centres, in complementarity to the existing ICDS model. Colombia has had HCBs since the 1980s and, a few decades later, HIs were established. However, both exist in the country, as of today. In terms of benefits for maternal employment and child development metrics, other than nutrition, HCBs have been more effective in achieving outcomes while being cost-effective as well. It would be worth exploring if SRLMs and MSKs can be leveraged to introduce an HCB-like model. In fact, evidence from Chile suggests that both the centre-based childcare model for children less than six years of age, and the after-school programme (for children six to 14) had an incremental impact on mothers' employment.

In addition to the SRLM-MSK format, a MSK-Samagra Shiksha initiative might also have potential to support the mother-child dyad to achieve economic empowerment and improved ECD outcomes, all the while averting adverse consequences to the older sibling's care and education. Each of these schemes has the requisite administrative unit at the state, district, block and, in some cases, Gram Panchayat level, culminating at a common point of AWCs. It might make sense to look at the lattice-shaped coordinating structure of Chile, where responsibility for coordination is spread across the system. Lastly, social protection programmes, especially for women and children, should be designed keeping in mind that benefits in one stage of life are not lost before the beneficiary reaches the next stage, which implies that the design should be cognizant of the general equilibrium effects. The announcement of these multiple initiatives and schemes can provide strategic opportunities so that women and children in India are assured of continuity of care, provided best practices are replicated and implemented.



ANNEXURES

Annexure 1: Political and social context of the LMICs – Colombia, Chile and Mexico

1. Colombia

Colombia is a republic with 32 departments (equivalent of states) which are further sub-divided into municipalities with the lowest administrative unit being the village. Conventionally, various ECD interventions are provided in Colombia across the age range of zero-six years. Most relevant programmes were HCB and Programa Atención Integral a la Primera Infancia (PAIPI). Since the 1980s, HCB has been a community-based programme, run in the homes of community mothers, for children aged six months to six years provided by the ICBF. ICBF financed its programmes by introducing a 2 per cent national payroll tax in 1974, which was increased to 3 per cent in 1988. This payroll tax demands that all private and public institutions allocate 3 per cent of their payrolls to the ICBF.⁴¹ In addition to ICBF, the Ministry of Education provided services through a comprehensive ECCE programme called PAIPI for the pre-primary age-group to improve school readiness.

In 2010, the government announced an inter-sectoral ECCE/ECD strategy called FZTF. *The new regime prioritised ECD as a mandate to address poverty.* However, till the launch of FZTF, there was no all-encompassing ECD strategy. Interventions around childcare were mentioned in the constitution but their implementation was variable. However, the intention to respect the legal right to child health and protection was noticeable in the presence of a strong cadre of lawyers supported by the municipal governments to protect child rights.⁴²

More recently, in addition to HCBs, ICBF has extended the programme to offer HIs, situated within communities in community centres or social gardens built by ICBF. These are programmes to ensure safety and physical, emotional and cognitive development of children under the age of six in marginalised urban and rural areas. FZTF includes integrated services for children – child care, parent education, protective services and nutritional supplements for pregnant and lactating women, preschools – through various modalities. As of 2012, after the introduction of FZTF, ministries contributing to the ECCE budget, in addition to ICBF and Ministry of Education, include the Ministry of Health and Social Protection and Ministry of Culture. For effective implementation of the FZTF strategy and its monitoring, Comisión Intersectorial para la Atención Integral de la Primera Infancia or the Inter-sectoral Commission for Early Childhood, led by the presidential office was formed.⁴³ As of 2016, ICBF has started signing agreements with its allies (ministries and administrative bodies) which are pacts for transparency and legalities to guarantee comprehensive attention to interventions across ECD.

2. Chile

Chile's political climate has been marked with military rule, followed by attempts at democracy, which finally brought a stable democratic government in the late 1980s. The new regime acknowledged the mass inequities and issues of poverty affecting human capital. Healthcare was one of the first areas within the realm of social development that was prioritised to reduce the prevalence of under-nutrition and child mortality. Chile is a prime example of how science behind scaling-up has been used to design and scale a comprehensive childcare system in the country. In 2005, the President's Council for Child Policy Reform, a body of multidisciplinary experts, was formed to inform what became Chile CCC. The programme prioritised not only nutrition and health outcomes but also safety, cognitive, socio-emotional outcomes for the children, especially children from marginalised families. In 2006, under the administration of Michelle Bachelet, the national ECD policy (CCC) was launched.

⁴¹ Vidya Putcha and Jacques van der Gaag, (2015) Investing early childhood development, What is being spent and what does it cost?

⁴² ECD, SABER report, Colombia, 2013.

⁴³ For details on structure and functions and contracts of the inter-sectoral CIPI, please visit: <http://www.deceroasiempre.gov.co/QuienesSomos/Paginas/ComisionIntersectorial.aspx>

CCC has various programmes, relevant to the life stage (childhood to adolescence) offered by different ministries through various platforms. There is a comprehensive approach to child development; however, integration is ensured by CCC through agreements and monitoring of the associated ministries and departments. CCC has four components: it has a communications programme, with a goal to inform, educate and raise public awareness about childcare and ECD; the programme is targeted at all children served by Chile's public health system, delivered by the Ministry of Health; the programme is focused on children in vulnerable families and includes social protection such as free access to centre-based childcare for 10-11 hours a day and technical aids for children with disabilities; and a component focused on strengthening systems for decentralised service delivery and administrative support for planning and monitoring.⁴⁴

The Ministry of Social Development is responsible for managing and coordinating at national, regional and municipal levels. At the national level, the executive secretariat of CCC in the Ministry for Social Development coordinates the implementation of the policy and the technical secretariat of CCC coordinates the health components of CCC. The Ministry of Social Development engages with the Ministry of Education to deliver the third component under JUNJI, the National Board of Day-care Centres. The coordination entities function through the signing of contracts between the coordinating structure at the Ministry for Social Development and direct service providers. Similar structures that exist at the national level between ministries (horizontal inter-sectoral coordination) have been replicated at different government levels (vertical coordination – national, regional and municipality), akin to a lattice structure. CCC has a well-developed inter-sectoral and participatory coordinating structure that constantly feeds into and receives input from the CCC subsystems.

Since 2006, the Chilean government has greatly expanded public childcare for children younger than five with the dual objective of improving human capital and FLFP rates.⁴⁵ JUNJI and Fundación Nacional para el Desarrollo Integral del Menor (INTEGRA) are two main public providers of childcare in Chile for age groups six months and four years, respectively. JUNJI is an autonomous organisation related to the Ministry of Education, whose purpose is to provide quality education and care to vulnerable children up to five years of age. JUNJI also supervises and certifies other public centres (as well as private centres that are run under the labour law for the formal sector). In addition to this, INTEGRA is a private provider (non-profit entity) of care and education to children of ages younger than school age, and is fully financed by the government.⁴⁶ The state promises legal entitlement to free childcare for 11 hours a day.

Financing for the implementation and monitoring of public provision of centre-based childcare is provided by the national government from its federal budget. The Ministry of Social Development has entered formal agreements with the Ministries of Health and Education at the national and regional levels to not only transfer funds but also clearly define expectations on terms of service delivery and standards. The country has more recently also instituted an after-school programme for children from six years up to 14 years as well, that has been credited with improving the maternal employment rate and solving the issue of compromise on older siblings' care and education.

3. Mexico: childcare programme to support working mothers – PEI

Mexico has a federal system of government; the country is divided into 32 "federal entities" or states which in turn are divided into 2,443 municipalities that incorporate a number of local governments (towns and agencies). Most revenues accrue to the national government, which then redistributes funds to the states and municipalities according to a complex set of rules, formulas and process of negotiation. Nonetheless small yet important contributions from state and local governments are also a part of financing these childcare programme. For this reason, even though education and health are decentralised, the central government has higher political power than the states – which only have the administrative responsibility. There are no special rules on how the state decides to

⁴⁴ Torres, A., Lopez Boo, F., Parra, V., Vazquez, C., Segura-Pérez, S., Cetinll, Z. and Pérez-Escamilla, R. (Aug 2017). Chile Crece Contigo: Implementation, results, and scaling-up lessons.

⁴⁵ Martinez, C. and Peticara, M. (2017). Childcare effects on maternal employment: Evidence from Chile.

⁴⁶ Dussailant, F. Usage of Child Care and Education Centres: The Proximity Factor.

distribute those funds among early education and primary, secondary and higher education levels. Free basic education – including pre-primary, primary and lower secondary – is a constitutional right; however, as in most developing countries, the quality and equity is a concern. Pre-school education (for children between three to five years) was made compulsory in 2002. There is some overlap between childcare and pre-primary programmes (as explained below) as the country is still improving the scale of its mandatory pre-primary school programme.

Mainstreaming of childcare has been a result of the country having a strong community driven social movement (dating back to 1917) and a constitution provisioning for child protection for working women.⁴⁷ Currently, Mexico has a strong network of centre-based childcare programmes for formal and informal sectors, in urban areas, run by various administrative authorities/government employers, as part of social security (Mexican Institute of Social Security (IMSS) which provides guardería/day-care for children of ages between six months and six years) (not included in this paper). Additionally, the government also has Programa Educación Inicial that has recently been evaluated. However, its approach to address ECCE is based more of home visits, community awareness on health and nutrition counselling. Centros de Atención Infantil Comunitario (CAIC) or Community Centres for Attention to Young Children is another programme mostly aimed at urban children who do not have access to social security.⁴⁸ However, it has not been evaluated so its effectiveness is not known.⁴⁹ These are the various different programmes to support mothers and children in Mexico.

However, PEI (for children zero-four years of age) is the largest programme for childcare in the country that has been evaluated to assess its impact on child development and maternal labour supply. The Ministry of Social Development is the main entity that provides the childcare programme, PEI, to people working in the informal sector. In 2002, Mexico passed a legislation for a free and mandatory universal pre-school programme for four- to five-year-olds, implemented by the Secretariat of Public Education (SEP) – Ministry of Education equivalent. This programme has greater than 80 percent coverage as of 2014. As of April 2016, SEDSOL and SEP announced plans to integrate pre-school for three-year-olds as well. However, plans to execute it are still in the works.



⁴⁷ Early Childhood Education and Policy, Country Note for Mexico, OECD Directorate for Education.

⁴⁸ Cardenas, S., Evans, D. and Holland, P. (April 2017). Estimating the effects of a low-cost early stimulation and parenting education programme in Mexico.

⁴⁹ Building an Inclusive Mexico Policies and Good Governance for Gender Equality: Policies and Good Governance for Gender Equality.

Annexure 2: Impact on ECD outcomes – nutrition, health and cognitive-psycho-social development – for a select few countries

	Colombia	Chile	Mexico
Impact on children			
Age Group	Children 0 to 6-year-old belonging to SISBEN levels 1 to 2. (identification system for potential beneficiaries of social programmes, SISBEN is an indicator of economic well-being; indicator ranges from 1 (poorest) to 6)	Children who were 4 months or older in 2007, and were a part of longitudinal study. Analysis was done in 2011-12.	Children between the ages of 12-48 months
Impact on nutrition	Impact of programmes on nutrition anthropometric is mixed, and there was no consistent effect. The HCB evaluation by Attanasio and Vera-Hernández 2004, estimated a positive impact of 0.45 standard deviation (sd) and 0.94 sd on height-for-age z-scores for rural and urban areas, respectively, for children under 6 years. However, Bernal et al. in 2009 evaluated the same HCB and found different and adverse effects on stunting of young children who were exposed only for 2-4 months	The specific analysis only considered eating behaviour and did not record the effect on anthropometric indicators – under-nutrition. There have been other studies that looked at variation of energy content of the meals provided in these programmes, and its impact on reducing obesity. In general, Chile has low levels of stunting	In impact evaluation, conducted by Gustavo, 2014, no significant results were found with regards to dietary diversity in the full sample. However, positive effects were noted on dietary diversity for the subgroup of children whose mothers had worked prior to entering PEI.
Impact on child health	The impact evaluation of the HCB (Bernal et al. 2009) found that children who attended the programme had a 3.6% higher incidence of acute diarrhoeal disease (ADD) and 0.09% more acute respiratory infections (ARI). Differentiated by age, children aged 0–24 months who attended the programme for more than 16 months had a lower prevalence of ADD (6.9%) and ARI (3.4%). These numbers are explained by the possibility that the children developed immunity due to prolonged exposure	Did not study the effect on child health, ARI or ADD	The programme leads to an increase of 17.1% in the prevalence of disease among the children. This result may be accounted for by their increased contact with a greater number of children at the day-care centre, whose immune systems are still developing. For children 30 months or older, and exposure to the programme for more than 6 months, there was reduction of 17.4% in the prevalence of illness (ADD and ARI). However, this was not the case for children less than 30 months, for whom prevalence of illness increased by 14%.
Impact on child development	Bernal et al. (2009) found an improvement of 10%-34% on language and cognitive skills, depending on the exposure (2–15 months and more than 16 months, respectively). In cognitive development components like vocabulary, they found positive impacts for children with an exposure over 16 months (2.4% for children aged 3-4 years and 5% for children over 4). This was also the case for verbal ability (4%), mathematical reasoning (5%) and general knowledge (3%) for children over 3 years who had more than 16 months of exposure. There was mixed effect on a component of psycho-social development – aggressive behaviour increased in children in the age 36-48 months. However, this increase in aggression has been considered normal, as children learn to negotiate at this age.	Cognitive development, using bulk motor skills, fine motor skills, language, and auditory skills were measured. In these dimensions of development, the study finds a statistically significant average marginal impact of 0.8–0.9 sd for children aged six–24 months with 13–18 months of programme exposure. In terms of psycho-social outcomes, they estimated a positive marginal effect of 1.2 sd for children six-24 months, with similar exposure time. However, also noted some negative effects in child-adult interaction which is a sub-outcome under overall psycho-social outcomes.	The qualitative analysis of PEI indicates that beneficiary mothers perceived improvements in their children's language and expression skills, colour recognition, nursery rhymes and sphincter control. In impact evaluation, conducted by Gustavo, 2014, no significant results were found with regards to child development; however, the children whose mothers did not work before entering the programme benefited most in terms of developing personal-social behaviours, an outcome that increased with higher exposure.
Source	Non-experimental analysis done by Attanasio, 2004, Bernal 2009.	Effects from a Longitudinal Study, Implemented since 2007, Analysis done by Hidalgo & Sergio, 2012.	Pipeline design, analysis done by Angeles, Gadsden, Gertler, Herrera, Kariger and Seira, 2014.

Annexure 3: Special mentions: Ecuador, Rio de Janeiro (Brazil), Bolivia, Argentina and Uruguay

Country	Impact on ECD Outcomes	Impact on Maternal Employment	Evaluation Design	Additional Findings
Ecuador ⁵⁰	No effect. However, impact was estimated using regression discontinuity on a special sample of children in the neighbourhood	Positive; points to an effect that is between 20 and 22 percentage points higher than for mothers of children not exposed to the programme. This is also reflected in working hours, when children attend childcare, their mothers work between 9 and 10 hours more per week. No effect on mental health of the mother	Propensity score matching, regression discontinuity design	No commentary on the quality of these programmes
Brazil ⁵¹ Public Childcare Programme in Rio de Janeiro	Strong impacts of attendance at public day-care on the height and weight of children, several years after they left the crèches. The experiment didn't find statistically strong cognitive impact; but no adverse impacts were detected. However, moving from a low-quality to a high-quality day-centre may increase the development of the child on mental, physical and social dimensions by about 0.2 standard deviation	There is an increase in the labour supply and income of grandparents (mostly grandmothers) residing in the same household as the child attending day care	Randomised control trial	In addition, we also find that having access to a day-care centre produces strong and lasting impacts on household income, expenditure on consumer durables and on investments in children – in both time and goods

⁵⁰ On the Effectiveness of Child Care Centres in Promoting Child Development in Ecuador

⁵¹ Attanasio, O., de Barros, R.P., Carneiro, P., Evans, D., Olinto, P. and Schady, N. (April 2017). Impact of free availability of public childcare on labour supply and child development in Brazil.

Country	Impact on ECD Outcomes	Impact on Maternal Employment	Evaluation Design	Additional Findings
Bolivia	Bolivia's day-care programme had a positive effect (2-11% increase) on bulk (gross) and fine motor, language and psycho-social skills for children with more than 7 months of exposure to the programme	Effect not studied on this outcome	Systematic review	—
Argentina⁵²	One year of pre-school increased mathematics and Spanish test scores at third grade of primary education by 8%	Mothers with children enrolled in pre-school were 19.1 percentage points more likely to work full time, measured as more than 20 hours per week, and a separate model indicates that women with children in pre-school worked 7.8 hours more per week on average	Instrumental variables, regression discontinuity design	The Argentine government provides three years of free pre-school education and attendance in the final year is mandatory for all children who turn 5 on or before June 30 of the school year
Uruguay⁵³	Children who attended at least one year of pre-school increased their schooling by nearly 1 additional year by the age of 15	Expansion of the pre-school service increased schooling tenure for low-income children; however, no effect of the policy on labour market outcomes ⁵⁴	Systematic review	—

⁵² Berlinski, S., Galiani, S. and McEwan, P.J. (2011) Pre-school and Maternal Labour Market Outcomes: Evidence from a Regression Discontinuity Design.

⁵³ Leroy, J. Gadsden, P. Guijarro, M. (2012). The impact of day-care programmes on child health, nutrition and development in developing countries: A systematic review for outcomes.

⁵⁴ Nollenberger, N. and Perazzo, P. (August 2016). Effects of providing universal pre-primary education on attendance and female labor participation. Evidence for the case of Uruguay.

Annexure 4: Indian centre-based childcare model

1. Cooperative: SEWA

In 1982, in response to the demand by SEWA members, Sangini Childcare Cooperative was formed to offer childcare services for children between the ages of zero to six years. This cooperative was set up with a vision to provide childcare that is not just custodial but provides all the interventions covered under the Denboba framework for ECD (2014). In a way, Sangini was a pioneer in providing affordable and quality ECD care, even before the benefits of ECD interventions had been proven. Given that this was a service-providing entity and not a product-based one, Sangini had to struggle to get itself registered as a cooperative initially. However, given its service delivery model and potential for sustainability, it was incorporated as a childcare cooperative.

Over a period of time, various centres were set up in districts of Gujarat – Patan, Ahemadabad, Anand and Kheda district. Overall, SEWA has around 33 centres.

Governance and accountability: The cooperative was set as a response to the existing need and demand of women working in rural and urban areas, premised on the idea that working women are the user, owner, and manager. The women running the cooperative are also shareholders and get 10 per cent of the surplus per year. Every three years, a board is selected to oversee the cooperative at its shareholding meetings. These centres have a monthly meeting involving other SEWA cooperative women, who serve as a client and provide feedback during the monthly parent-staff meetings.

Financing: The board is comprised of the SEWA women. Nearly all the SEWA members (with or without children) contribute towards the childcare cooperative. Additionally, a monthly fee of INR 175-400 is charged per child from the parents. This set-up ensures high accountability and sustainability. Additionally, SEWA has also diversified its revenue stream by running childcare centres for larger organisations like the Reserve Bank of India in more urban areas. In some rural areas, SEWA has a type of purchaser-provider set up with the ICDS department and state rural labour boards, where it runs the AWC in collaboration with the local Panchayat. In other places, it gets support from local industries (such as tobacco) which employ women.

Data monitoring system: SEWA childcare cooperatives maintain a Management Information System (MIS) which tracks indicators that are discussed in a monthly meeting with the executive committee. The programme coordinator, designated with supervisory duties, is present at these meetings and also cross-references these data through monthly visits.

Scope of the programme: The SEWA centres are set up in urban-slums and rural settings and have about 25-30 children each. They provide all the ECD interventions across health, nutrition, care/stimulation (age appropriate) and closely collaborate with the local government providers, especially in health with the primary health centres, accredited social health activists (ASHAs), Anganwadi workers (AWWs) and primary schools. They ensure that children in the pre-primary age group have a seamless transition to primary schools, and also facilitate admissions under the Right to Education (RTE) Act. Another key feature of the model is parental involvement and that it encourages husbands to be equal partners in taking care of the child. Fathers visit the centres once every three months for parent meetings as do mothers. The centres provide a local and diverse diet for the children, one that is not simply nutritious but also promotes healthy eating habits. Parents are counselled on the importance of diverse diets and follow a similar diet for the child at home as well. Lastly, the centres synchronise with the work hours of the mother. They open early (7 am) to ensure mothers can drop their children at the centre to make it in time for work, and can pick them up after their day's work at 4-5 pm. There is a provision for mothers to pay extra if they want to keep the children for longer hours at the centre. Additionally, flexibility of location that is built into their models works well for the women (convenient locations are identified at the beginning of setting up of these childcare centres). In rural areas, the childcare cooperative and panchayats identify a safe, hygienic space within the village to run operations. In urban areas, a space is rented to run the childcare centres.

Human resources: Women running the childcare centres are called Balsevikas. These are women who are brought together under the SEWA umbrella and work within their community. SEWA does not have a rigid criterion on the level of education; however, it tries to recruit women who have attained high school education. The hiring process is decentralised and works on the principle of referrals; this process helps hire women who are strongly aligned with the mission of the organisation, and have very high altruistic capital that influences their performance productivity. The emphasis is on training these women on how to manage the centre and the age-appropriate curriculum. Usually the centres have two workers; however, in cases where there are many under three-year-old children, three workers are hired as well, since for every eight-10 children in the under-three age group one worker is needed. There is a fixed salary component (~INR 5,000-8,000) in their remuneration, and then 10 per cent of the cooperative surplus. Additionally, the cooperative has seen low to nil attrition rates. This is because the women who join the cooperative have a positive predisposition towards the issue, have a strong sense of solidarity and they take pride in what they do. Apart from gathering altruistic capital, these women also get access to all the other services that are available to the SEWA members such as health and life insurance schemes, investment products, and so on. *The SEWA model truly emphasises the need to not only support women in allowing them to pursue paid work but also creating accessible employment opportunities.*

Costs: The cost of running one centre of 25 children is INR 18-25,000 per month. Per year/per child cost comes to about INR 8,640-INR 12,000. Annual costs of running the centre are INR 2-3,00,000 with about 45-50 per cent going towards salaries, 25 per cent towards supplementary nutrition, toys and medicines, and 12 per cent towards rent. This component varies depending on whether a centre is in rural or urban India. The per child/per year cost in an AWC, according to one study, comes to about INR 6,455.⁵⁵

2. NGOs (rural) – Prajaytna, Pratham (Balwadi) and others

There are a few noteworthy NGOs working with the ICDS department in various states to strengthen the AWC/crèche model, or running their own day-care centres. Some are:

1. Prajaytna

Prajaytna focuses on improving governance, quality learning initiatives and ECCE through three different models/approaches. The NGO works with public systems and has three different areas of expertise: strengthening governance mechanisms for improved education systems (primary and pre-primary) in 19 blocks of Uttar Pradesh (UP); improving quality of education for children with disabilities under RTE in seven blocks of UP and Karnataka; and ECCE in 101 AWCs across two districts of Karnataka.

The approach to ECCE work is to improve governance by creating Bal Vikas Samitis (child development committees) comprised of parents and Gram Panchayat and AWC functionaries to decentralise the planning and implementation of ECCE services and to empower and train AWC workers. To ensure functioning of the Bal Vikas Samitis, self-help group collectives and their monthly meetings are leveraged.

Table 11: Pratham/Balwadi – day-care centres with a focus on ECCE

Organization	Year	Location- # of Centers	Age group	Model	Human Resource	Payment Fee	Start up cost
Prajaytna	2000	Districts in Karnataka, Telangana, Uttar Pradesh with Jharkhand and Madhya Pradesh (10 districts, 40 blocks, 3266 schools and 111 AWC)	0-6 years	Rural areas, work with government schools and AWCs on issue of improving Governance, Quality Learning Initiative and ECCE: Hours of operation: AWC hours: 2-4 hours	Anganwadi Worker	Free of cost	NGO support provided through donor funding
Balwadis	1995	104 Pratham run Balwadis, Pratham supports 1871 Anganwadi units across 12 states	3-5 years	Direct implementation: the balwadi centers, in states of Bihar, UP & Maharashtra support the government AWC in terms of training, monitoring and assessments; Hours of operation: 2-3 hours	Local community women. The parents of the child provide a certain amount of monthly fee, that goes towards the balwadi worker's salary.	Not fixed and Voluntary	INR 8-10 k per annum. Donor funding and some government funding as well

⁵⁵ Day-care for migrant children: The Mobile Crèches way. (2013). Action Aid, Mobile Crèche's Publication.

2. Pratham Balwadis

Pratham runs 104 balwadis and supports 1,871 AWCs across 12 states. It directly runs the balwadi centres; however, in the states of Bihar, UP and Maharashtra, it also supports the government AWCs in terms of training, monitoring and assessments. Local community women are hired to run the balwadis which are open two or three hours a day. The women are trained by the Pratham teachers. In communities where balwadis are being run, the municipalities/ panchayats provide a safe hygienic space to run the centre. The parents of the child provide a certain monthly fee that goes towards the balwadi worker's salary. INR 6,000-10,000 per annum is the cost of running the centre. However, the programme itself has donor funding and some government funding as well. Since a break-up of the costing is not available, it is not easy to deduce what has been included in the costing and this might not be a true representation of the cost.

In addition to these models, there are other organisations that have tested some innovative models to improve some aspects of service delivery:

- I. Center for Learning Resources: Focuses on improving an age-appropriate curriculum, training of service providers and predominantly works with the government for capacity building. It does not implement or run a centre-based care system, but focuses on training not only the caregiver but also developing a childcare human resource management cadre. It is currently working with the state government of Chhattisgarh.
- II. Sesame Workshop India Trust: Focuses on leveraging technology to impart age-appropriate learning for children belonging to low-income groups. The project is called 'Play.Connect. Learn', and develops ECD content for local radio shows, television channels and low-cost smart phones. This is funded by the Sesame Street Foundation in the U.S. Sesame India's work can offer easy solutions for aiding the day-care provider and help in retention of children at these day-care centres.
- III. Action Against Malnutrition, Ek Jut, Jan Swasthya Sahyog: These organisations have developed models that can serve as proof of concept for an integrated approach using health and nutrition. They focus on community mobilisation to effect behaviour change for improved health and nutrition practices, relying on participatory learning and action. They also serve as a proof for an operational model for community-based management of malnutrition. This model was implemented in seven blocks across four states. However, since this largely focused on day-care, limited information is mentioned in this paper since it is out of the scope of this study.

NGOs (Urban) – Mobile Crèches

The first crèche was set up in 1969 in Delhi after its founder recognised that the condition of children of construction workers around building sites needed to be addressed. Over a period of time, Mobile Crèche has worked out an approach that combines an age-appropriate curriculum and protection for the children, enforcement of the legal provision for crèches and synergistic partnerships with the real estate developers. The organisation has slowly and steadily expanded its operation from Delhi NCR to Mumbai, Pune and other cities (Bengaluru, Ahmedabad, Mohali and Chandigarh) as separate entities or sister concerns. It has 73 day-care centres at construction sites and in slum areas. As the name suggests, these constructions site are mobile and stay in one site for a period of two-three years or till the building construction is over.

Governance: Mobile Crèche has ECD experts and founding members on its governing council, who work very closely with the executive director of Mobile Crèche to supervise and implement the programme. The council meets up to four-five times in a year to ensure adherence to Mobile Crèche's mission. These meetings are supported by extensive data that are collected throughout the year to monitor the programme, to ensure data-driven implementation.

Scope of the programme: The Mobile Crèche approach has very consciously built in demand creation for ECD and day-care centres as an intrinsic part of its model. It spends a substantial amount of time at every new site in engaging with the parents, engaging with the real estate developers to highlight how these programmes are beneficial in the short- and long-

term for everyone. Mobile Crèche follows three models of implementation with varying levels of engagement. Model 1 follows an 80:20 split, where Mobile Crèche uses its own staff and resources to run the day-care centres for eight hours, six days a week, with partial funding from the real estate developers. In Model 2, the level of engagement reduces to 50 per cent. Mobile Crèche acts as a facilitator in forming partnerships with the real estate developer, but implements the programme through local NGOs. In Model 3, Mobile Crèche oversees implementation for the first year to ensure compliance with predetermined quality standards and provides training support. The real estate developer or, in some cases, the local government (ICDS) takes on the onus of infrastructure arrangement, hiring human resources and implementing while Mobile Crèche acts as a technical capacity building partner (level of engagement – 20 per cent). In nearly all models, Mobile Crèche emphasises the entire gamut of ECD interventions ranging from health, nutrition, WASH, child protection and social security. Models 1 and 2 have higher quality control. In these, Mobile Crèches also organises monthly health check-ups by visiting doctors for all children and twice a year, health camps are organised for mothers and other members of the communities where Mobile Crèche operates. An active community group – Sathi SamooH – works with local government schools on age-appropriate school enrolment of children from the day-care centres.

Financing: Mobile Crèche is a non-profit organisation. Around 60 per cent of its total income comes from donors such as the Tata Trusts, UBS Optimus Foundation, Grand Challenges Canada, and others. It also receives funding from corporates and private foundations (17 per cent). Apart from these sources, Mobile Crèche has a diversified revenue stream by providing services to the builders (10 per cent) and state governments (<1 per cent) through its Models 2 and 3.

Human resources: Mobile Crèche, since its inception, has believed that trained human resources are the key to quality. It has trained day-care centre workers and has programmes to train workers at partner organisations. Mobile Crèche's training module (Models 2 and 3) for crèche set-up and management consists of 36 days of theoretical training along with on-the-job placements for a hands-on experience.⁵⁶ Depending on the requirements of the partners organisation, these modules are customised and adapted to local area needs. An example of this is its training of 91 AWC workers in Madhya Pradesh, in two districts of Dhar and Singrauli. The state wanted to test the Angwanwadi/ crèche model, and Mobile Crèche provided customised training and initial hand-holding support to the AWC workers. (Harold Alderman from IFPRI is the Principal Investigator and evaluating this pilot).

Costing: On an average, the per child/per year cost is INR 17,496. The principal components of this cost are: 57 per cent on personnel (management and functionaries), 25 per cent on materials, supplies and equipment to run the centres, and 18 per cent on transport, fuel and other office expenses. The per child/per year in an AWC, as per one study, comes to about INR 6,455.⁵⁷

3. Private sector pre-primary schools/day-cares for children two-six years: Hippocampus Learning and Sudiksha

Two organisations stand out in terms of provision of pre-primary schools in rural areas or for low-income groups: Hippocampus Learning Centre and Sudiksha. Many private pre-primary schools are running in the country. However, those that have some scale cater to high-income groups or are standalone unorganised entities (due to lack of pre-primary school regulation, many schools are set up under the private companies' regulations).⁵⁸ These two schools have achieved some scale, evolved low-cost models (equity funding, and monthly fee) and are present in peri-urban or rural areas.

⁵⁶ Mobile Creches annual report 2016-17.

⁵⁷ Day-care for migrant children, Mobile Creches Way.

⁵⁸ A bill to regulate the functioning of play schools and matters connected therewith has been introduced by a Member of Parliament, Bill no XXXV of 2017. Currently there is no update on it.

Table 12: Hippocampus Learning and Sudiksha – provision of pre-primary learning

Organisa- tion	Year	Location- # of Centres	Age Group	Model	Human Resources	Fee	Start-up Cost
Sudiksha	2011	Near Hyder- abad– 21	2-6 year- olds	Urban, peri-urban low-income children	Recruits local wom- en to run branches; salary+ 10% profit share	INR 400- 500	~INR 104,000
Hippocam- pus Learn- ing	2011	Various districts in Karnataka – 300	2-6 year olds	Rural - franchisee model	INR 4,810; community women class 12 pass or graduates	INR 250- 650 per month	~INR 2,00,000

Governance: These two organisations are privately owned. Sudiksha is a relatively smaller scale model with 21 centres. Hippocampus Learning has a franchisee model, through which it assists teacher recruitment and training process, knowledge, expertise and assessment.

Scope of the programme: The organisations seem to have worked out a sustainable, scalable model. They focus on recruiting local women and ensure quality through proper recruitment, training process and subsequent supportive supervision. However, it is not very clear if they are following an age-appropriate curriculum or providing the popular 3Rs curriculum, which is no longer considered the appropriate curriculum for ECD outcomes.⁵⁹

Human resources: Both organisations hire local women from within the community to function as caregivers/teachers in the schools. They focus heavily on building the capacity of these women, as they understand that they are the key to maintaining quality. Sudiksha is novel in that it actually has a profit-sharing component for its employees, which is an excellent way to motivate the staff to maintain high standards of quality. At the same time, both provide an accessible avenue for employment to local women.

⁵⁹ Hippocampus Learning Centers (HLC), an organization that aims to provide affordable and high-quality pre-primary education for 3-6-year-old children in rural Karnataka, India, is partnering with J-PAL affiliated researchers to conduct a randomized evaluation of attending two years of kindergarten.

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