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How can early childhood education programmes be scaled up and made cost-effective?

Evidence review

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Table of Contents

Acknowledgement	i
List of Tables	iii
List of Abbreviations	iv
1 Introduction	1
2 Search methodology	2
3 Costs and cost-effectiveness of ECD programmes	3
3.1 Cost estimates across countries	3
3.2 Cost-effectiveness and benefit-cost ratios	7
3.3 Summary	9
4 Financing mechanisms	10
4.1 Who pays?	10
4.2 How can governments direct more funding to ECD?	11
4.3 Summary	12
5 Characteristics of programmes that have scaled up successfully	14
5.1 Building on existing capacity	15
5.2 Staff and training	16
5.3 Targeting	16
5.4 Governance, coordination and multiple services	17
5.5 Summary	19
6 Research gaps	20
7 Conclusion	21
References	22

List of Tables

Table 1. Official gross enrolment ratios in pre-primary education, by region in 1999 and 2011	1
Table 2. Costs per child per year of ECD (approximate)	4
Table 3. Total (public plus private) expenditure on pre-primary education, per pupil per year	5
Table 4. Estimates of the benefit-cost ratios of ECD programmes.....	8
Table 5. Examples of scaled-up ECD programmes or systems	14

List of Abbreviations

CCT	Conditional Cash Transfers
CIBV	<i>Centros Infantiles del Buen Vivir</i> (Ecuador)
CNH	<i>Creciendo con Nuestros Hijos</i> (Ecuador)
ECC	Early Childhood Commission (Jamaica)
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
EYC	Educate Your Child (Cuba)
GDP	Gross Domestic Product
ICBF	Institute for Family Welfare (Colombia)
ICDS	Integrated Child Development Services (India)
NGO	Non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
OPM	Oxford Policy Management
PAIN	<i>Programa de Atención Integral a la Niñez</i> (Guatemala)
PAININ	<i>Programa de Atención Integral a la Niñez</i> (Nicaragua)
PEI-CONAFE	<i>Programa de Educación Inicial</i> (Mexico)
SEWA	Self-Employed Women's Association (Gujarat, India)
UNESCO	United Nations Economic, Social and Cultural Organisation
UNICEF	United Nations Children's Foundation
USD	United States Dollars

1 Introduction

In many countries, early childhood development programmes reach only a small minority of the population of young children. Gross enrolment ratios in pre-primary education remain extremely low in developing countries, despite increases during the past 10 years (Table 1), and children from the poorest families are often particularly unlikely to enrol in pre-primary. There may be enrolment in non-formal programmes but in most countries little is known about how many children are covered by such programmes.

There are a large number of small-scale and pilot ECD programmes in developed and developing countries. However, these are often too expensive to fit within current government ECD budgets, and so rely on alternative financing such as from non-government organisations (NGOs), international agencies, or parental contributions. Reaching universal access to ECD is likely to involve *both* identifying cost efficient programmes, *and* increasing expenditure. National ECD systems may also lack the capacity for scaling up: they may not be able to train enough teachers, to monitor a large-scale programme effectively, or to manage complex work across different sectors of government.

Table 1. Official gross enrolment ratios in pre-primary education, by region in 1999 and 2011

Gross enrolment ratio (%)	1999	2011
Sub-Saharan Africa	10	18
Arab States	15	23
Central Asia	19	32
East Asia and the Pacific	39	62
South and West Asia	22	50
Latin America and the Caribbean	54	73
North America and Western Europe	76	85
Central and Eastern Europe	51	72

Source: UNESCO (2014)

This paper reviews the evidence on financing and scaling up of ECD. It is assumed that the ultimate aim is universal coverage, so that all children within the early childhood age range have access to some form of high quality ECD. This may mean scaling up a single ECD programme to the point where it reaches all children; or ensuring the capacity, coordination, institutions and incentives are in place for multiple programmes, potentially offered by different public and private institutions, to cover all children between them.

The following section explains the search strategy used in this literature review. Section 3 reviews the evidence on costs and cost-effectiveness of ECD programmes. For programmes to be financially sustainable when scaled up, they have to be within a realistic boundary of how much public spending on ECD is likely to increase over the following years. Section 4 examines evidence on the use of different financing mechanisms to pay for ECD. Section 5 then lists cases of programmes that have been taken to a large scale, and examines evidence on the preconditions to this success. Section 6 describes some of the main research gaps relating to questions of financing and scaling up of ECD, while section 7 concludes.

2 Search methodology

The literature search for this paper attempted to capture three issues:

1. Costs and cost-effectiveness of ECD
2. Financing mechanisms for ECD
3. Scaling up of ECD

The search strategy involved using four types of search:

1. **Academic journal databases.** The databases sciencedirect.com, tandfonline.com, and IDEAS/REPEC were searched with the term “early childhood” and similar (early learning, ECE, ECCD), combined with:
 - o cost; paying; payment; finance; financing; expenditure; vouchers; scaling; expansion; effectiveness; universalThe focus was on developing country studies from 2000 or more recent where the abstract makes clear that they contain information on costs, cost-effectiveness, scaling up, or financing mechanisms.
2. **Development / economics journals.** The following were targeted with general queries on early childhood.
 - o *World Development; Journal of International Development; Journal of Development Studies; IDS Bulletin; Journal of Development Economics; Economic Development and Cultural Change; Economics of Education Review; Journal of Development Economics; Journal of Public Economics; Quarterly Journal of Economics; Journal of Human Resources*
3. **Early childhood / education journals.** The following were targeted using the above keywords in the target field.
 - o *Compare; International Journal of Educational Development; Journal of Research in Childhood Education; Comparative Education Review; Economics of Education Review; International Journal of Educational Research; Journal of International Cooperation in Education*
 - o *Early Childhood Research Quarterly; International Journal of Early Years Education*
4. **Grey literature.** This was identified with general Google and Google Scholar searches; using EconLit and similar for economics papers; and site searches on a list of organisations.

Given that experts had suggested there would be a paucity of evidence on this topic, articles found as part of the literature search for other papers in this series were also checked for evidence on cost of ECD programmes; how ECD programmes were financed; and, for ECD programmes operating on a large scale, how they were scaled up.

3 Costs and cost-effectiveness of ECD programmes

ECD programmes can include a wide range of different types of service, from formal pre-school programmes based in ECD centres or primary schools, to home visits by community volunteers. Consequently the costs of ECD programmes are difficult to compare across cases. Data collected as part of government statistics systems are often inadequate for making international comparisons of costs, for several reasons: the nature of what is provided varies greatly; statistics provide little detailed information on quality; there are usually inaccuracies in the data; and they tend to focus on public expenditures only (Levin and Schwartz, 2010). As staff salaries are usually the main recurring cost, unit costs are generally much higher in higher-income countries. 'Model' or pilot programmes developed on a small scale are often funded at much higher levels than publicly funded large-scale programmes (e.g. Currie, 2001). Nevertheless, this section attempts to break down the cost estimates for different ECD programmes and pre-primary systems across countries, examine the main reasons for differences in cost, and review the international evidence on cost-effectiveness and benefit-cost ratios.

3.1 Cost estimates across countries

Table 2 lists costs for a small number of programmes where data is available, demonstrating how much they vary across countries. Van Ravens and Aggio (2008) describe lower unit costs than those presented in Table 2 for centre-based ECD in Africa and Asia, stating that they tend to be in the order of magnitude of USD25-50.

For a number of countries, data are available – but very dated – for expenditure per student per year in pre-primary education (Table 3), in most cases focusing on public institutions only. They range from USD46 in the Philippines to USD1431 in Chile. Naudeau et al. (2011) reports annual expenditure on educational institutions offering preschool services in a number of countries, ranging from USD8867 in the US to USD1315 in Brazil. Some of the expenditure amounts given in Table 3 are in countries where very few children were enrolled in pre-primary education, such as Benin, Cote d'Ivoire, and Niger. In such cases it cannot be assumed that the same amount per child would be spent if pre-primary education was scaled up. In Cote d'Ivoire, for example, GDP per capita in 2000 was USD646 (current USD). Therefore expenditure per student per year in pre-primary education is almost one-third of per capita GDP. It is doubtful that such a high amount, relative to local incomes, could be sustainably allocated to all of the country's pre-primary age children.

What determines the costs of ECD services? Staff salaries are generally the largest component of overall costs (Araujo et al, 2013; Naudeau et al., 2011). The overall costs are therefore driven to a large extent by typical salaries in each country, the number of hours of teacher or caregiver time per child per month, and whether the programme employs volunteers or paid staff. Araujo et al. (2013) find that programmes with higher child-to-caregiver ratios cost less, although there was wide variation with some programmes with low costs and low child-to-caregiver ratios, and vice versa. Araujo et al. (2013) also find a positive relationship between the number of services offered by a programme and its costs, and that programmes covering larger numbers of children on the whole had lower unit costs, suggesting some returns to scale.

Table 2. Costs per child per year of ECD (approximate)

Programme	Country	Type of service	Cost per child per year (USD) ¹	Source – year
Head Start	USA	Part-day preschool for disadvantaged 3-4 year olds, 34 weeks a year	5000	Currie (2001) – 1998
Perry Preschool	USA	Part-day preschool, 8 months a year	approx. 7000	Currie (2001) – 1999
Carolina Abecedarian Project	USA	Full-day child care for pre-schoolers and home-school resource teacher for school age children	15,000	Currie (2001)
Estimated average	OECD countries	School-year full-day programme for 3-6 year olds	8000	Bennett et al. (2006)
Madrasa Early Child Development Programme	Kenya, Zanzibar (Tanzania), Uganda	Community-based preschool	168-228 ²	Hyde (2008)
Average of 28 programmes	Latin America and the Caribbean	Child care services in institutional and community settings	1240 (2010)	Araujo et al. (2013)
Average of 4 programmes	Latin America	Parenting services which work with parents and families to improve their child rearing practices and early stimulation	247 (2010)	Araujo et al. (2013)
Integrated Child Development Services (ICDS)	India	Nutrition, healthcare and non-formal pre-school for 3-6 year olds	10-22	Belfield (2006); Gupta et al. (2013)

Bennett et al. (2006) estimate the cost for a school-year, full-day programme with reasonable staff-child ratios and a majority of certified educators at around USD8000 for OECD countries. However the costs are likely to be much lower in developing countries. Van Ravens and Aggio (2008) use models of ECD delivery to estimate the likely costs of regular (centre-based) ECD programmes and home visits in the Arab States. They estimate that regular programme delivery, along the lines of their model with 20 children per caregiver, would cost around 12.5% of GDP per capita per child per year. This amount ranges within the region from under USD75 in Mauritania, Sudan and Yemen, to over USD3000 in Qatar. For home visits, the unit cost varies according to the number of children per family: for larger families, several children can be reached with a single visit. Home visits are therefore a particularly cheap option in countries where salaries are low – because it becomes cheaper to employ teachers – and family sizes are large. For a country with on average four children per family, the cost would be around 4% of GDP per capita. The cost of home visits is estimated to be a fraction of the cost of regular programme delivery – from under USD20 in Mauritania, Sudan and Yemen, up to USD1400 in Qatar.

¹ The unit costs have not been adjusted for inflation and so should be taken only as rough estimates of the cost in 2014 USD.

² Hyde (2008) gives costs per child per month; these are multiplied by 12 to estimate annual costs

Table 3. Total (public plus private) expenditure on pre-primary education, per pupil per year

Country	Year	Expenditure per student per year (USD)	Net enrolment rate in pre-primary education (%)	Source	Note	
Benin	1998	70	2.7	Hyde (2008)	1, 2, 4	
Cameroon	1998	100	n/a		1, 4	
Côte d'Ivoire	2000	210	2.7		1, 4	
Niger	1998	130	1.0		1	
Argentina	1999	1409	56.3	OECD and UNESCO Institute of Statistics (2002)		
Brazil	1998	1222	n/a		1	
Chile	1999	1431	n/a			
China	1999	105	n/a			
India	1998	65	n/a			
Indonesia	2000	53	n/a			
Jamaica	1999	386	79.3		1	
Malaysia	1999	437	49.7		1	
Peru	1999	442	56.0			
Philippines	1998	46	23.1		1, 3	
Uruguay	1999	1133	n/a		1	
Argentina	2010	2427	74.4		OECD (2013)	
Brazil	2010	2111	n/a			1
Chile	2010	3544	81.0			

Notes: Unit costs are in current USD for the year shown. 1 – public institutions only. 2 – NER is for 1999. 3 – NER is for 2001. 4 – Approximate estimates to the nearest USD10, based on on USD1 = CFA500.

Araujo et al. (2013) review 42 early childhood programmes in 19 countries in Latin America and the Caribbean, focusing on the programmes with greatest coverage in each country. They find costs of child care services delivered through centres ranging from USD77 – PAININ in Nicaragua – to USD3263 – Funcación Integra in Chile. Costs of parenting programmes ranged from USD13 per child per year in Argentina to USD599 per child per year in Chile. This study describes both costs and delivery modality in detail, making it possible to isolate some of the factors associated with cheaper or more expensive programmes. It is worth summarising some of their findings in individual countries:

- The Programa Nacional Primeros Años in **Argentina** is operated by the National Council for Social Policy Coordination, which was formed by the Ministries of Education, Health and Social Development. It is a parenting programme with national coverage, targeting families who are not served by preschools or early childhood care centres. It covers over 400,000 families with children under 4, mostly in urban areas. Vulnerable families are identified using indicators of vulnerability developed for other social programmes. The extremely low cost of this programme is due to low frequency of visits – once per month – and the use of unpaid community volunteers (receiving only a small stipend) as facilitators, who run monthly meetings with families to discuss childrearing issues. Much of Argentina's public provision of early childhood services is at the municipal level, with the low-cost national programme sweeping up those who remain excluded.
- **Chile's** *Funcación Integra* has among the highest costs of any early childhood programme in the Latin America region. This partly reflects higher salaries than in other countries, but also the comprehensive nature of services. The programme targets vulnerable and low-income

populations and offers child care services, education, food, and parental support. They serve children for eight hours per day; provide meals; work with parents through bimonthly sessions; employ caregivers who must possess a professional degree in early childhood care; adhere strictly to quality standards and are monitored on a monthly basis.

- In **Ecuador**, *Centros Infantiles del Buen Vivir* (CIBV) offer child care services through a community-based programme in Ecuador, while *Creciendo con Nuestros Hijos* (CNH) is a parenting programme focused on mothers who do not work, combining weekly group sessions for older children with weekly home visits for the youngest children. CIBVs provide meals and micronutrient supplements, while CNH does not provide either. Mothers who work can send their children to a CIBV, but the CNH is considered more viable for remote communities. CNH costs one-third as much as CIBV and reaches more than twice as many children.
- **El Salvador** has a similar divide between the low-cost *Centros de Bienestar Infantil* and *Centros de Desarrollo Infantil*, which provide integrated child development services and have better infrastructure.
- In **Guatemala**, one of the lowest cost programmes in the region – *Programa de Atención Integral a la Niñez* (PAIN), has unit costs around one-quarter of those of a similar programme, *Hogares Comunitarios*. Both offer child care services, mostly in modified family homes, although some use other types of building. The main difference is the child-caregiver ratio: in PAIN there are 20-40 pupils per caregiver, compared to 6 in Hogares Comunitarios. The programmes are staffed by teachers and ‘community mothers’, but both types of staff receive a salary.
- In **Jamaica** and several other Caribbean nations, the Roving Caregivers project supported by UNICEF and the Bernard van Leer Foundation operates without public funds. Despite being promoted as a low-cost programme, it has not reached scale in Jamaica, and in 2010 served only 200 children due to lack of funding. However, Jamaica’s Early Childhood Commission (ECC) regulates public and private early childhood services, which together reach 132,000 children aged 0 to 5, including universal service provision for children aged 3 to 5. The costs borne by the ECC are low – only USD126 per child per year – but this only covers part of the operating costs of the centres. The remainder is covered by families themselves. The ECC system also relies to some extent on mothers to work as volunteer caregivers, receiving only a small monthly stipend instead of a salary.
- **Mexico** has an extremely low-cost parenting programme called *Programa de Educación Inicial* (PEI-CONAFE). It has a unit cost of just USD75 per child, compared to USD737 for private daycare centres operated under the Secretariat of Social Development and USD3104 for daycare centres of the Mexican Social Security Institute, which are operated either directly by the Institute or by third-party subcontractors. The latter has one of the largest budgets in Latin America, allowing it to maintain very low child-caregiver ratios and excellent infrastructure. PEI-CONAFE is larger, however, covering over 450,000 children, often in more dispersed populations than those who use childcare centres. It relies on volunteer workers who receive only a stipend to reimburse their transport costs, who need not have prior experience or educational qualifications, and with 30 children in a session led by one or two staff members.
- In **Nicaragua**, *Programa de Atención Integral a la Niñez* provides childcare services for children aged 0 to 6, divided into different age groups. Care is provided for three hours per day, and programme staff also make home visits. A 2010 survey showed that more than 30% of the facilities were damaged. Child-caregiver ratios vary from 3.5 to 11.1. There were two types of staff – educators and volunteer mothers – but neither have a formal employment relation with the programme, and receive only a monthly stipend. In 2010 the programme came to an end, although subsequent programmes aimed to build on its network of volunteers, and to improve quality through investments in infrastructure and training of staff.

A common strand is that many of the countries in Latin America and the Caribbean have both low-cost programmes offering a limited service, especially for younger children and their parents, and more extensive, integrated, usually centre-based, services for older children. Section 5.4 below discusses such modes of delivery. Programmes with lower unit costs often achieve this by employing only, or mainly, volunteers, although even volunteers are usually offered some kind of stipend. Alternatively, they use models where a single staff member can reach large numbers of children, by reducing the contact time between the staff member and the children or parents, or by having each staff member care for or teach a larger group of children. In programmes that work with parents, families or caregivers, a single community worker or home visitor can be charged with working with 8-15 families, visiting each once a week or once every two weeks, for 1-2 hours per visit. In this way a single worker can cover a very large number of families. Community workers (in the Latin America and Caribbean context) are usually not formally employed but may receive a modest payment for their work. The cheapest programmes of all are those that combine reliance on volunteers with a high child-to-caregiver ratio, such as Mexico's PEI-CONAFE.

3.2 Cost-effectiveness and benefit-cost ratios

Do cheaper programmes deliver better value for money, or merely deliver fewer services? Is quality reduced in the bid to cut costs? Cost-effectiveness studies attempt to compare the effectiveness of different programmes in terms of delivering a defined set of outcomes per unit of spending. This study found few systematic attempts to compare cost-effectiveness of different types of ECD programmes within developing countries. The variation in what is delivered makes it difficult to identify common outcomes across programmes that would enable a fair comparison to be made. Helpburn's (1995, cited in Araujo et al., 2013) study of costs and quality of daycare centres in the US found that quality was low in many of them; more than half of the sampled children attended centres with quality levels that did not meet minimum standards. Even mediocre quality centres were very expensive, while high quality centres only cost around 10% more than the mediocre ones. Thus, a relatively small increase in overall spending can in some situations bring disproportionate benefits. In contrast, Barros et al. (2011) examine the cost-effectiveness of improving quality of a programme in Brazil, and estimate that a 60% increase in costs would be required to get an improvement of one month in the developmental age³ of children who participate. In many contexts, such expensive quality improvements may be seen as unaffordable.

For programmes in different countries delivering different sets of services, the benefit-cost ratio – the money value of future benefits that are expected to be gained as a result of an ECD intervention, divided by the costs of providing the service – provides a metric for comparing cost-effectiveness. As described in the evidence review on benefits of early childhood education and care (Paper 3 in this series), there is evidence for benefits in a wide range of areas, including readiness for entering primary education, grade attainment and achievement, employment prospects and earnings, physical and mental adult health, high-risk behaviour and delinquency. However these benefits depend both on the groups targeted by the programme – they are often larger for more disadvantaged groups – and on the quality of the care and education provided.

Table 4 presents the benefit-cost ratios for several programmes in the USA, and one each in Bolivia, Colombia and Indonesia. The ratio varies widely, and except in the Colombia case, the benefits clearly outweigh the costs. Benefit-cost ratio studies vary somewhat in the range of benefits that they take into account. They often focus on the public benefits and costs, although it

³ Developmental age is a scale in years and months used to measure child development by benchmarking against expected abilities at a particular age. For example a developmental age of 5 means a child can do the things a 5 year old is expected to be able to do. An improvement of one month means that if children who participated in the programme previously came out of it with an average developmental age of x years, they now come out of it with an average developmental age of x years plus one month.

is also useful to know what the benefits to the individual will be, especially if the participants are from deprived population groups. For example the the estimated ratios in Bernal and Fernández (2013) are based on the marginal effects on future wages as a result of improved cognitive ability and socioemotional skills resulting from the ECD programme. Currie's (2001) assessment of the benefit-cost ratio of the US Head Start programme takes into account a range of benefits including improved health and nutrition, prevention of abuse and neglect, increased parental earnings, and preventing the child from repeating grades or from having to attend special education at a later age.

Table 4. Estimates of the benefit-cost ratios of ECD programmes

Programme	Country	Type of service	Benefit-cost ratio	Source
HighScope Perry Preschool Programme	USA	Preschool programme for 3-5 year olds, lasting 2.5 hours on weekdays during the school year, targeting disadvantaged children	7:1 to 16:1	Heckman et al. (2010); Temple and Reynolds (2007); Schweinhart et al. (2005); Barnett and Masse (2007)
Chicago Child-Parent Centres	USA	Preschool for 3-5 year olds, mixed half and full-day, during the school year, targeting high-poverty neighbourhoods.	around 7:1	Temple and Reynolds (2007); Naudeau et al. (2011)
Carolina Abecedarian Project	USA	Full-day, year-round child care for children from 6 weeks to 5 years, plus home-school resource teacher for school age children	3:1 to 4:1	Temple and Reynolds (2007); Naudeau et al. (2011); Barnett and Masse (2007)
Meta-analysis of 48 programmes	USA		more than 2:1	Isaacs (2007)
Hogares Comunitarios de Bienestar	Colombia	Home-based childcare, nutrition, psychosocial stimulation	1:1 to 3:1 ⁴	Bernal and Fernández (2013)
Early childhood education and development interventions	Indonesia		6:1	World Bank (2006)
Proyecto Integral de Desarrollo Infantil	Bolivia	Daycare, nutrition and education for children aged 6 months to 6 years who live in poor, mainly urban areas	2:1 to 4:1	Behrman et al. (2004)

Note: ratio numerators are rounded to the nearest whole number

The US studies which found high benefit-cost ratios all involved fairly intense intervention, with children spending at least part of every day of the school year in a preschool centre where they received both care and education, and in some cases with additional components once children reached primary school age. Barnett and Masse (2007) note that, although the benefit-cost ratio of the Perry preschool programme is estimated to be higher than that of the more comprehensive Abecedarian Project, the Abecedarian estimates are low because they do not include maternal employment benefits and may also reflect differences in context.

⁴ The authors argue the ratio may be higher if the marginal effect of ECD on nutrition is also included.

The World Bank (2006) analysis of costs and benefits to early childhood education and development interventions in Indonesia found a benefit-cost ratio of around 6:1, and a higher ratio for interventions targeted to poor children. Moreover, this study focused only on medium term education benefits and long term earning benefits, ignoring other benefits such as health and the ability of mothers to go to work. Engle et al. (2011), using a simulation model, find benefit-cost ratios from 6:1 to 18:1 for increasing preschool enrolment in developing countries.

3.3 Summary

Costs of ECD vary enormously both within and between countries. The variation between countries results to a large extent from differences in average salaries. Variation within countries often results in a split between two distinct forms of ECD. Typically these include a costlier and more intensive programme of early childhood education or pre-primary education, based in centres or schools; and a cheaper programme based on home visits and parental supports, and often relying on a volunteer workforce. ECD programmes have been found to have high ratios of benefits to costs, including in studies from the USA, Colombia, Indonesia and Bolivia. The US studies have suggested that more intensive, and therefore costly, programmes may also bring higher benefit-cost ratios.

4 Financing mechanisms

4.1 Who pays?

There are few studies systematically comparing the source of financing for early childhood development programmes across countries. The literature from both developed and developing countries highlight a wide range of sources, including national and regional governments, international development partners, employers, philanthropists, and families. However, the predominant form of ECD in many developing countries is privately provided and paid for by the families themselves, and there is some evidence that this results in socio-economic or regional disparities in access. Belfield's (2006) review of financing mechanisms includes the following examples:

- **China.** Early childhood care and education (ECCE)⁵ is administered, organized and funded mainly locally, with private providers. Parents are expected to contribute significantly to ECCE, with tax exemptions to encourage such investments. The availability and quality of ECCE varies considerably across regions.
- **Indonesia.** The financial burden falls almost entirely on families, with small amounts of resources being provided by various ministries to fund private child care centres, particularly in urban areas and for younger children. Public contributions are estimated at less than 5% of total funding. The gross pre-primary enrolment rate is very low.
- **Vietnam.** Private providers cover 8% of the population, but are “typically too expensive for most families” (p. 14). Government funding is mandated at 10% of the national education budget, but most provinces have been unable to reach that level.
- **Egypt.** Most nurseries are run either as non-government agencies or private companies. Pre-primary enrolment is very low, and half of the enrollees are in private programmes. Growth since the 1990s has been partly due to international agency intervention.
- **India.** In theory, ECCE is primarily the responsibility of national government. The centrally funded ICDS programme covers around 20% of the population with “an integrated package of health, nutrition, and early education services to children up to six years of age from low income and rural households” (p. 8). Despite this, many families continue to rely on private sector ECCE, sometimes with subsidies.
- **Kenya.** Total government expenditures for ECCE are very low. However some funding is provided to train ECCE teachers and develop the curriculum. Coverage is extremely variable; an estimated 40-50% have access to some form of ECCE.

Total government expenditure on pre-primary has been estimated at around USD1200 in Brazil, USD105 in China, USD65 in India, USD53 in Indonesia, and USD46 in the Philippines (UNESCO, 2004). In most cases private expenditures were higher than government expenditure. In the Arab States, two thirds of pre-primary pupils are enrolled in private institutions (van Ravens and Aggio, 2008). The evidence review on access to early childhood programmes for disadvantaged and vulnerable children (Paper 7 in this series) similarly notes that many developing countries have greater enrolment in private than public institutions; and cites scoping studies of four large African cities, which found that low cost private preschools dominate the supply.

Focusing on pre-primary education – because that is where the most data is available – government spending is often very low. In most countries, government expenditure on pre-primary is under 1% of GDP, and in many cases it is under 0.1%. Preschool investments typically range from less than 1% to less than 10% of overall education spending (see Neuman and Devercelli,

⁵ Belfield (2006) refers specifically to ECCE rather than ECD, but the findings would likely be the same for ECD.

2013). According to the official statistics, public education expenditure per child enrolled in pre-primary per year is around USD10 in Nepal, USD50 in Ghana, USD55 in Tanzania, USD65 in the Philippines, USD272 in Vietnam, and USD553 in Peru.⁶

4.2 How can governments direct more funding to ECD?

As section 3.1 showed, the costs of early childhood development programmes vary enormously even within countries. It is therefore difficult to estimate how much funding is needed for ECD to scale up. Section 4.1, however, gives a rough idea of the likely budget limits for government-funded programmes. For example, the Madrasa ECD programme in Kenya, Zanzibar and Uganda, would require a massive increase from current spending levels if it, or similarly costly programmes, were scaled up to reach all children. The European Commission Network on Childcare recommended in 1996 that European countries should have an investment level of at least 1% of GDP in early childhood services, although by 2004 few countries had actually reached this level (Bennett et al., 2006).

If more government funding is indeed required, how can this be provided? ECD can be publicly funded through various channels, including direct funding by national governments of publicly provided systems; giving funds to parents in the form of conditional cash transfers or vouchers; and various mechanisms for disbursing funds to private sector providers. Stoney (1998) warns against overly complex financing mechanisms that leave parents and ECD centres responsible for making the most of funding from different sources and with different eligibility requirements. Nevertheless, the following mechanisms have been suggested as ways of increasing the amount of funding that reaches ECD.

- **Co-financing by parents and communities.** As noted above, it is the default situation in many countries for parents or communities to pay in all or in part for private or publicly-managed ECD provision. As governments seek to direct more public funding towards ECD they may decide to retain co-payments in some form, perhaps combined with targeted grants to parents or communities, vouchers or cash transfers. For example, in the Self-Employed Women's Association (SEWA) programme in Gujarat, India (Anandalakshmy, 2011), teachers collected funds from local businesses and shopkeepers as well as nominal sums from parents. However, Bennett et al. (2006), reporting on the findings of a series of OECD reviews, suggests that a public supply side investment model for ECD, managed by public authorities, brings "more uniform quality and superior coverage of childhood populations ... than parent subsidy models" (p. 114).
- **Grants to communities.** Funding can be provided to communities to set up ECD services, perhaps choosing from a menu of options, as in Indonesia's Early Childhood Education and Development project, and with technical assistance from national or state-level government or institutions (Lombardi, 2008; World Bank, 2006).
- **Vouchers or cash transfers.** The evidence review on access for disadvantaged and vulnerable children (Paper 7 in this series) notes some examples of promising programme outcomes of conditional cash transfers in Ecuador, Mexico, Nicaragua and South Africa. Vouchers have also been used in some settings, especially to help families access privately provided pre-school and kindergartens. There are few studies of these. In Hong Kong a voucher programme, combined with initiatives to improve quality and train teachers, led to perceived improvements in access and quality. In China, a combined voucher and CCT programme increased preschool attendance although there was no evidence of improved child development outcomes.

⁶ Author's calculations based on UNESCO Institute of Statistics (n.d.), using most recent data available from 2009-2012.

- Payroll taxes.** In many cases, scaling up ECD services is likely to require governments to increase revenue collection. In middle and upper income countries, ECD is often funded alongside other forms of social service, through payroll taxation. However, payroll taxation is typically only available as a widespread option in countries with largely urbanised and formal economies. Developing countries rely to a much greater extent on consumption and trade taxes (Barrientos, 2004). Vargas-Barón (2006) describes payroll taxes for child development in Colombia. In 1974, the Institute for Family Welfare (ICBF) – a semi-autonomous agency affiliated with the Ministry of Health and responsible for child care, parent education, protective services, and nutritional supplements – was authorised to collect monthly payroll taxes for ECD. The tax, charged at 3%, applies to all public and private institutions, and is paid directly to the ICBF. In 2004 this gave the Institute an income of over USD500m. This income has helped the ICBF to achieve nation-wide coverage. One drawback of the payroll tax is that income from it rises and falls with the economy, making budget preparation and financial reporting difficult. Programmes relying directly on payroll tax revenues may find that they are underfunded just when their services are most needed. Another option is to encourage individual employers to pay towards their employees' child care without imposing this as a national payroll tax (Bennett et al., 2006). Again, though, in developing countries with large informal sectors, few workers are likely to enjoy such benefits as part of their employment.
- Decentralised funding channels.** A few studies have considered effects of decentralisation of financing for ECD, meaning that funds are collected and/or disbursed at local or regional government levels. In Colombia, Vargas-Baron (2006) notes that tax collection is done centrally rather than in a decentralised manner, an arrangement that ICBF managers characterise as more efficient, although there are plans to involve municipalities more in planning of local services. Biersteker (2010) states that in South Africa it can be difficult to ensure that provinces allotted money for early childhood education, really direct it where it is supposed to go; differing levels of funding across provinces were also an issue.
- Reallocating or earmarking government funds.** Bennett et al. (2006) describe strategies for increasing resources including pooling resources between ministries and reallocation of resources within education budgets. In some countries, public funding for ECD comes from specific earmarked revenue streams, such as business taxes in Sweden, the US, and Brazil; dedicated payroll taxes in France and Colombia; public lotteries in Jamaica, the UK and some US states; and excise taxes in some US states (Vargos-Barón, 2008).
- Social impact bonds** are a financing mechanism where private investors put up capital to fund a social intervention, and governments repay the investor only if an agreed outcome is achieved (Gustaffson-Wright and Atinc, 2014). Social impact bonds are not currently used to pay for ECD in developing countries. Bloomgarden (2014) considers whether they could be used in Latin America and the Caribbean, arguing that current financing mechanisms for education do not do enough to reward results and expand coverage while maintaining quality. However, the evidence basis for such claims is currently unclear. The rationale for social impact bonds tends to rest upon claims that existing financing mechanisms are insufficiently adaptive or create misaligned incentives. But this review has not uncovered any evidence that such problems with the existing financing mechanisms are among the bottlenecks for scaling up ECD. More evidence will emerge on social impact bonds in the coming years, as they are being tried and evaluated in developed countries. A social impact bond for ECD has been created in 2013 in Utah, USA, with investors committing up to USD7 million for a small-scale programme targeting at-risk children in the state (Gustaffson-Wright and Atinc, 2014).

4.3 Summary

The predominant form of ECD in many developing countries is privately provided and paid for by the families themselves, and this may result in socio-economic or regional disparities in access.

Government spending on pre-primary education is often very low, and data on spending on other forms of ECD is difficult to find. Ways of obtaining funding ECD include parental payments, which may be subsidised through grants, vouchers, or conditional cash transfers; payroll taxes, administered at national or local levels; reallocating government funds from other sectors or other levels of the education system; and social impact bonds. It has been argued that direct public funding of ECD can bring more uniform coverage and better quality, and conversely that conventional financing public financing mechanisms are insufficiently adaptive or fail to provide the right incentives. At present most developing countries continue to rely mainly on private sector and informal ECD with no government investment, and so there is little developing country evidence to support either side of the debate about which public financing mechanisms would work best.

5 Characteristics of programmes that have scaled up successfully

Developing country case studies of programmes that have been scaled up successfully are unfortunately, quite rare. Furthermore, few case studies were found that set out the reasons for success in scaling up, and it is difficult to isolate with any certainty which characteristics caused a successful outcome. Much of the evaluation evidence comes from small-scale operations. There remain questions about whether these will continue to be successful when scaled up (Atinc and Gustaffson-Wright, 2013). Table 5 lists some programmes that have succeeded in reaching a large scale in a relatively short space of time, with some indication of coverage where available. Even in these cases, there is little evidence on whether these programmes have maintained high quality and high impact, or are sustainable in the sense that their financial and human resource needs will continue to be met in future.

Table 5. Examples of scaled-up ECD programmes or systems

Programme / system	Country	Coverage (if available)	Source
Preprimary for 3-5 year olds	Argentina	Enrolment rate increased from 49% in 1991 to 64% in 2001	Berlinski, Galiani, and Gertler (2009), cited in Naudeau et al. (2010)
Primeira Infância Melhor	Rio Grande do Sul state, Brazil	68,600 children under 6	Schneider et al. (2009); Tinajero (2010); Evans and Kosec (2012)
Chile Crece Contigo	Chile		Delpiano and Vega (2011)
Educate Your Child (and other ECD services) (EYC)	Cuba	ECD enrolment rate increased from 26% in 1992 to 98% in 1999	Tinajero (2010)
Nuestros Niños (including Creciendo con Nuestros Hijos and 4 other models)	Ecuador	over 100,000 children	Tinajero (2010)
Wawa Wasi	Peru	55,000 children	Cueto (2011); Araujo et al. (2013)
ECD centres	Kenya	Enrolment increased from 800,000 in 1990 to 1.7m in 2008	Okengo (2011)
Community-Based Childcare Centres	Malawi	580,000 children (around 20% of all children aged 0-5)	Drouin and Heymann (2010)
Reception year ('Grade R') for 5 year olds	South Africa	49% coverage by 2007	Biersteker (2010)
Integrated Child Development Services	India	20% of the population	Vazir and Kashinath 1999, cited in Naudeau et al. (2011); Belfield (2006); Gupta et al. (2013)
Step by Step	Central, Eastern and Southern Europe, Central Asia, Mongolia and Haiti		Klaus (2011); Velkovski and Misik (2011)

Boller et al. (2014), in the context of home visit programmes in the US, stresses the need for 'fidelity' in scaling up from pilot programmes that have been shown to be effective in rigorous

studies. Unfortunately most developing countries do not have this option, because there are too few rigorous studies of pilot programmes, but also because pilots are often funded at a level that is too low to be sustained when scaled up. Scaled-up programmes will also make wholly different types of demand on management structures, monitoring and accountability mechanisms, and human resources, and it may not always be realistic to think they can closely replicate pilot programmes in the services they deliver and the ways they deliver them.

Few studies have checked whether scaled-up programmes continue to have the same impact as pilot programmes. Bouguen et al. (2013) examines three types of programme – formal preschool within primary schools; community based preschools; and home-based programmes – that were scaled up in Cambodia, in an attempt to determine which is most effective when scaled up. None of the three programmes were found to have significant short-run benefits after being scaled up, probably as a result of deficiencies in implementation and low take-up rates. There were delays in building facilities and difficulty retaining staff and volunteers. There were also some signs that for five year olds, who are often found in primary schools despite being below the official entry age, formal preschool merely substituted for early primary school attendance and so did not lead to any gains in terms of cognitive development.

Other literature on scaling up tends to focus on the extent of provision without attempting to track whether quality has been maintained. Nevertheless, it is useful to ask what factors are associated with rapid expansion of ECD. The following sections consider several aspects that have appeared repeatedly in the literature in accounts of scaled-up programmes.

5.1 Building on existing capacity

Programmes that have scaled up have built on existing capacity in a number of ways, including using existing physical infrastructure such as schools and hospital buildings; using existing services such as health visits and post-natal health services as a way of reaching out to parents; and building on existing networks and channels of cooperation between different services or government departments.

Adding one year of pre-school or “reception” to the beginning of primary education, usually targeting 4- or 5-year olds, is one way of building on the existing capacity in the education sector. In South Africa, the priority for expanding ECD has been to add a reception year for children aged 5 to the beginning of primary education. Although initially relying in large part on community-based services, the government shifted towards locating most provision within the schooling system, on the basis that this would make it possible to use the existing infrastructure and systems for accountability and quality found in primary schools (Biersteker, 2010).

Tinajero (2010) argues that the success of the EYC programme in Cuba in the 1990s depended to a large extent on foundations laid much earlier, including improvements in primary and secondary education, and the implementation of universal healthcare in the 1970s with a network of community polyclinics and health promotion services for pregnant women and young children established by the early 1990s. The new ECD programme drew on existing networks of providers and human resources. It also drew on a history of evaluated pilot programmes during the 1970s and 1980s that had demonstrated the potential low cost of ECD programmes and their effectiveness in improving educational outcomes.

In Chile, many of the services rolled out as part of the *Chile Crece Contigo* programme had already been provided for years, for example through health centres. The role of the programme was not to introduce totally new services but to roll them out to the entire population while maintaining quality standards. Communes that already had strong maternity services in public hospitals were chosen

for the first phase of roll out, before reaching out to areas with weaker infrastructure in the second phase (Delpiano and Vega, 2011). In Gujarat, India, early childhood development has been scaled up through SEWA, an already established organisation which provided a range of services through neighbourhood centres (Anandalakshmy, 2011). In the same country, the much larger Integrated Child Development Services programme has also rolled out informal preschool education on the back of an existing nutrition programme, although a review (Gupta et al., 2013) suggests that there may be shortfalls in actually implementing the education component.

5.2 Staff and training

Creating and maintaining a qualified workforce for ECD is commonly among the main challenges of scaling up services. In some cases of successful scaling up, countries have been able to rely on an existing workforce, while in other cases programmes have relied on the creation of a massive volunteer workforce, paid a small stipend or nothing at all.

Tinajero (2010) describes how EYC in Cuba was helped by an unintentional excess in the number of ECD teachers trained in the preceding years. The aspiration to expand education had been present among policy makers for a number of years, and teacher training had been expanded in line with this expectation. By 1992, the supply of qualified teachers had overshot demand, and so there were a number of underused teachers ready to work for EYC. In South Africa, finding qualified teachers for the expanded reception grade has been the most serious challenge, according to Biersteker (2010). In some areas primary school teachers were redeployed as reception grade teachers, and the government has created training opportunities for practitioners to obtain a recognised qualification.

In Malawi, scaling up of community-based care has relied on a community volunteer model. This allowed costs to remain low but created challenges in maintaining volunteer numbers, with some loss of trained volunteers (Drouin and Heymann, 2011). The Primeira Infância Melhor programme in Rio Grande do Sul state, Brazil, faced difficulties due to municipalities' lack of funds for paying professional facilitators. To overcome this they reached an agreement with universities to use students, paying them an allowance in exchange for working as facilitators (Tinajero, 2010). EYC in Cuba is also reliant on volunteers – although some of these are in fact salaried officers borrowed from government ministries or other institutions – and sometimes has difficulty in finding enough volunteers (Tinajero, 2010).

Araujo et al. (2013) reports that 6 of the 34 programmes in Latin America and the Caribbean for which they gathered data relied on volunteer staff, although they may have received stipends. Teachers' salaries ranged enormously across the region, between USD70 and USD1421 per month. For parenting programmes, staff worked almost exclusively on a volunteer basis. Parenting programmes, especially in rural areas, can have difficulty finding and training suitable personnel, and often also require a time commitment from mothers which can be difficult for them to fulfil given their need to work.

5.3 Targeting

Targeting government expenditure towards the poorest or most marginalized parts of the population, and especially towards those least able to cover the costs of services privately, has potential to increase the impact of limited budgets for ECD. Programmes can be targeted by need, or to parts of the population where it will have maximum impact, such as families with mothers who need childcare in order to work. In practice the two types of targeting often overlap, as the benefits are greatest among families with greatest needs.

However, there are drawbacks of targeting: it can be difficult and costly to identify the target groups; indicators used for targeting such as family income may change quickly, which could lead to temporary exclusion of children; and placing children in groups only with others of similar socio-economic background could reinforce inequalities (Hustedt and Barnett, 2011, discuss these issues in the US context). It may also be easier for universal programmes to win support from the whole population, and if – as the studies described above have suggested – the benefits outweigh the costs regardless of the socioeconomic background of the child – then there is an economic rationale to extending provision universally wherever possible.

Scaling up of the reception year in South Africa has aimed to reach all children aged 5, but subsidies have been poverty-targeted, with highest per capita grants going to the poorest 40% of schools (Biersteker, 2010). In India, ICDS targets low income and rural areas, although the eventual goal is to make it universal (Belfield, 2006; Gupta et al., 2013).

Araujo et al. (2013) find that in Latin America and the Caribbean, ECD resources have been mostly focused on marginalized urban populations. Often they were created with the primary objective of enabling women with low socioeconomic status to work. There remains a challenge to scale the programmes up in rural areas, which may require different modes of working. Araujo et al. also note that programmes that work with parents, families or caregivers may be more suited to scattered rural populations than programmes providing child care services in a centre.

5.4 Governance, coordination and multiple services

ECD services typically involve cooperation between different government departments. Successfully scaled-up programmes have used different institutional models to achieve this, and there is limited evidence about what models work best. However, the need for an effective set of coordinating bodies has been stressed in many studies. Fragmented programmes with complex and overlapping governance by different ministries and institutions are reported in several contexts to be an obstacle to scaling up ECD services (Van Ravens [2010] in Indonesia; Stoney [1998] and Lombardi [2008] in USA). Bennett et al. (2006) argue, based on OECD studies, that integration of ECD under a single ministry can be more efficient because it removes any duplication of administrative and regulatory frameworks.

In South Africa, the scaling up of reception grade has been entirely the responsibility of the Department of Education, meaning there was no need to draw in stakeholders with different service mandates. Biersteker (2010) argues that this is among the factors explaining the success of the programme.

The EYC programme in Cuba exists within a larger network of services, and universities, teaching institutes, scientific research institutes, and community organisations are all part of the National Child Development System. EYC was expanded through a multisector approach: representatives of health, education and other sectors participated in coordinating groups at all levels from the start. Coordinating groups were created to implement the programme within different jurisdictions. At the local level groups had annual action plans including awareness raising, carrying out a census of the population aged under 6 and a development profile, organizing different forms of care for children and families, and monitoring and evaluating the programme (Tinajero, 2010).

The Primeira Infancia Melhor programme in Rio Grande do Sul, Brazil, is operated by the State Health Secretariat, but managed by a technical group which includes staff from the secretariats of health, education, culture, justice, and social development; regional coordinators; and others. Municipal level technical groups, also with representatives from different sectors, run the programme at the local level (Evans and Kosec, 2012).

Some countries have used a competitive process, inviting public and/or private organisations to bid to provide services. For example, in Ecuador, this process led to resources being transferred to organisations to provide services under five different models, covering over 100,000 children in total (Tinajero, 2010).

The *Chile Crece Contigo* programme is coordinated through local networks with representatives from local health and education institutions and the community (Delpiano and Vega, 2011). Each sector has a specific mission; for example, the primary education sector is charged with ensuring access to crèche care and nursery school for children from low-income families. The national Ministry of Planning coordinates the system as a whole through a committee of ministers from different sectors. The programme's logo was used by diverse organisations alongside their own brands, and served as a badge of quality. A single information system was developed to track children from birth to school age.

As well as coordinating different government departments and institutions, scaling up ECD to reach the whole population often means coordinating among multiple types of service, each of which may target a particular section of the population. As already noted, several countries combine relatively costly early childhood or pre-school education programmes in schools or ECD centres, using trained and salaried teachers, with a larger scale, cheaper programme of parental support through home visits, often relying on community volunteers. However, multiple services managed by different institutions can be difficult for families to negotiate. In the USA, initiatives have arisen such as Cuyahoga County Invest in Children (IIC), with an explicit aim of helping families to manage relationships with different service providers. It tries to integrate publicly and privately provided services, providing a single point of entry for the families who need them; the aim is that families served by one component service will find it easy to access other components (Fischer et al., 2008).

Community involvement is often cited as an important factor in scaling up. Okengo (2011) argues that community involvement is one of the main factors that allowed rapid scaling up of early childhood services in Kenya, where community provision comprises 70% of the total number of ECD services. Communities identify suitable locations, mobilise resources, identify teachers and pay their salaries, and establish management teams to oversee the running of the centres. Andalakshmy (2011) attributes the success of SEWA in Gujarat, India, to community engagement. Communities may play a role in decision-making and governance of ECD services; may provide a volunteer workforce; and (as noted in section 4 above) communities and parents may provide some or all of the funding. There is little evidence to clarify which of these forms of community involvement is most important.

As programmes scale up they may move from working mostly with NGOs or community-based organisations (CBOs), towards greater government involvement, and need to secure and maintain political support to do this. Branker, Wilson and Eyben (2011) describe such a process in the case of the Caribbean Child Support Initiative in Jamaica, Dominica, Grenada, St Lucia, St Vincent and the Grenadines, Tobago and Belize. The public sector came to be seen as the most likely source of financial sustainability. In Macedonia, the Open Society Foundation introduced Step by Step, a programme for improving quality of preschools. Designed from the outset to be rolled out on a large scale, the Step by Step methodology became a standard part of pre-service teacher training, and the government was persuaded to cover recurrent costs (Velkovski and Misik, 2011). In Malawi, the rapid growth of ECD has been achieved through childcare centres being set up by CBOs, but government has also played a large role in encouraging communities to start such organisations (Drouin and Heymann, 2013).

5.5 Summary

Many ECD studies are based on small-scale pilot studies and their success may be difficult to replicate on a larger scale. A number of cases of ECD successfully being scaled up are described in the literature, although most are from middle-income countries in Latin America and the Caribbean rather than in low-income countries. Few describe systematically the factors underlying success of scaling up, and no studies were found of failure to scale up, which makes it difficult to isolate the factors which might lead to success or failure. Nevertheless, some common characteristics of countries that developed ECD to a large scale can be identified. They have often been able to draw on existing capacity in the shape of physical infrastructure such as school buildings, a good supply of trained personnel, and a history of cooperation between government departments. Countries that have scaled up have adopted a wide variety of institutional and governance models. ECD service providers may be entirely managed by national government, private companies, or non-governmental or community-based organisations. There is currently little evidence to support preferring one model over another, and the choice is likely to depend on contextual factors such as the level of development of existing governmental and private institutions and the ability of parents to pay for services.

6 Research gaps

The research literature on financing and scaling up of ECD in developing countries is, arguably, still at an early stage. Policy makers wishing to understand these issues have to turn to studies from a small number of high- and middle-income countries, or to a limited number of mainly descriptive studies from low-income countries. Research on scaling up remains particularly underdeveloped. There is a continued reliance on impact studies of pilot programmes, even though the latter are recognised as working in different ways than scaled-up programmes, including in terms of management, monitoring, and quality assurance.

There are very few studies tracing longer-term effects of ECD programmes in developing countries. It is consequently difficult to calculate benefit-cost ratios accurately. Nevertheless, cost-benefit ratios can be estimated by examining the short-run effects of ECD, for example on cognitive development at age 6, and deriving plausible ranges for the long-run effects such as adult earnings. Even this has rarely been done, so that most cost-benefit ratios continue to come from developed countries, with very different education systems and labour markets.

Low-cost programmes often involve home visits or community-based parental support. While studies have suggested that these can be effective, there is little developing country evidence comparing these to higher cost, centre-based programmes. Evidence from the USA has suggested that, although a wide range of programme types have high benefit-cost ratios, the best value for money may come from the most intensive, and expensive, programmes. Governments of low- and middle-income countries currently lack a sound evidence base for deciding whether to settle for low cost programmes or aim for higher-cost, and potentially higher-benefit, programmes.

In scaling up, only one study (Bouguen et al., 2013) has attempted to compare scaling up of different types of programme, with results that were not very encouraging. Inconsistent implementation of the programmes as they were scaled up made the comparison difficult, and little evidence was found for impact of the scaled-up programmes. Few studies have systematically looked at whether scaled-up programmes are implemented as intended, maintain the same quality levels as in pilots, and continue to have impact over time. Randomised studies such as that attempted by Bouguen et al. (2013) are likely to be difficult for political reasons in some countries. While pilot programmes can be managed by NGOs, scaled-up services usually become the responsibility of national governments, who may resist demands from evaluators to scale up in some (randomly selected) parts of the country and not others. Even under such constraints, there are many research areas that could be explored, including basic analysis of the implementation and quality of scaled-up programmes; qualitative studies of the institutional processes involved in scaling up; and benefit-incidence analysis. The latter could answer questions such as whether scaled-up programmes are really reaching the poorest, or disproportionately benefitting families who are relatively rich.

7 Conclusion

This literature review has found that:

- The cost of ECD varies enormously between, and in some cases, within, countries. Home visit programmes and community-based parental support are usually much cheaper than programmes where children are cared for and educated in ECD centres.
- Pilot programmes are often funded at levels which would not be affordable if scaled up to a large proportion of the total population of children in the relevant age range.
- Staff salaries are usually the main component of costs, and low cost programme often rely on volunteers or staff paid only a small stipend. Retaining trained volunteers may be a challenge during scaling up.
- The benefits of ECD usually greatly outweigh the costs, although the developing country evidence for this is limited.
- Countries which have developed their ECD systems to a large scale have often been able to draw on existing capacity in the shape of physical infrastructure such as school buildings, a good supply of trained personnel, and a history of cooperation between government departments.
- Countries that have scaled up have adopted a wide variety of institutional and governance models. ECD service providers may be entirely managed by national government, private companies, or non-governmental or community-based organisations. There is little evidence to support preferring one model over another.

Arguably, the benefits of ECD are quite well established and the aim for most governments should be to scale up until they reach universal coverage. For example Neumann and Devercelli (2013) point to the evidence that the returns to education investments are highest at the early years and preschool stages. But pragmatic strategies for scaling up need to consider how the greatest number of children can be reached with effective programmes in a short space of time. In most cases this involves a range of different services with some form of central coordination. Public provision, publicly-subsidised private provision, and private provision with government grants to parents or communities, are all arrangements that have succeeded in some contexts.

Case studies of countries that have scaled up suggest that a number of prerequisites have made scaling up possible: existing networks of health providers and government agencies were already cooperating; a preschool system already exists, even if it is not yet accessible to most children; enough teachers have been trained in advance of any scaling up. In countries that do not have these prerequisites in place, a more targeted approach may be necessary while the broader bottlenecks are addressed.

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