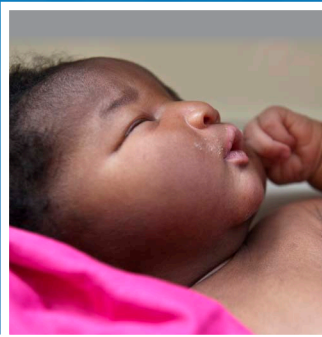


# Stepping up Early Childhood Development

*Investing in  
Young Children  
for High Returns*



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October 2014

## **Acknowledgements**

This report was prepared by the authors in the Human Development Network at the World Bank under the guidance of Harry Patrinos (Manager, Education), Elizabeth King (Acting Vice President, Human Development Network), as well as Claudia Costin (Senior Director for Education), Arup Banerji (Senior Director, Social Protection and Labor) and Timothy Grant Evans (Senior Director, Health, Nutrition, and Population). Guidance from Nicole Klingen (Manager, Health, Nutrition, and Population), Anush Bezhanyan (Manager, Social Protection and Labor) is also much appreciated. The task manager was Quentin Wodon.

Financial support from the Children's Investment Fund Foundation is gratefully acknowledged. The authors are also grateful to Sachiko Kataoka (Education) and Peter Holland (Education) who served as peer reviewers and provided valuable comments and suggestions. Members of the World Bank Early Childhood Development Community of Practice also provided valuable inputs, including Amanda Devercelli (Education) and Julieta Trias (Human Development Network), as well as Robin Horn (Director, Education, Children's Investment Fund Foundation) and Ruslan Yemtsov (Social Protection and Labor). Finally, members of the Institute of Medicine Forum on Investing in Young Children Globally also provided valuable comments.

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# Preface

Investing in young children is not only the right thing to do from an ethical point of view, but it is also the smart thing to do from an economic point of view for the children, as well as for their families, their communities, and society at large.

Early Childhood Development (ECD) interventions are essential for a child's growth and development. The returns to those interventions also tend to be higher than the returns to investments in human capital taking place later in life.

Today ECD is increasingly recognized as one of the most important investments that countries and families can make to prosper and help all children lead productive lives.

In recognition of the strong evidence on the positive impact of ECD interventions on young children, investments in ECD projects at the World Bank (grants and loans) as well as in analytical and capacity building work related to ECD have increased considerably in the last few years. But more can and has to be done to convince policy makers and practitioners to truly place ECD policies and programs at the core of their national development strategies.

This document provides a simple guide for policy makers and practitioners about how to invest in young children. It identifies 25 essential ECD interventions that can be delivered through five integrated packages at different stages in a child's life, spanning the education, health, nutrition, water, sanitation, and social protection sectors. These five packages of interventions are: (i) the family support package, (ii) the pregnancy package, (iii) the birth package, (iv) the child health and development package, and (v) the preschool package.

The document also lays out four simple principles that countries can follow to design and implement successful ECD strategies: (i) prepare an ECD diagnostic and strategy; (ii) implement widely through coordination; (iii) create synergies and cost savings through integrated interventions; and (iv) monitor, evaluate, and scale up successful interventions.

We hope this document will prove to be a valuable reference to policy makers and practitioners in our client countries as well as for all those interested in giving every child the opportunity to fulfill their full potential.

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# Stepping up Early Childhood Development

## Investing in Young Children for High Returns

Investing in young children is one of the best investments that countries can make. A child's earliest years present a unique window of opportunity to address inequality, break the cycle of poverty, and improve a wide range of outcomes later in life. Recent brain research suggests the need for holistic approaches to learning, growth, and development, recognizing that young children's physical and intellectual well-being, as well as their socio-emotional and cognitive development, are interrelated.<sup>1</sup> To fully benefit from future opportunities in life and become productive members of society, by the end of early childhood, young children must be: healthy and well-nourished; securely attached to caregivers; able to interact positively with families, teachers, and peers; able to communicate in their native language; and ready to learn throughout primary school<sup>2</sup>.

Early gaps in childhood development jeopardize a child's capacity to reach these important milestones and achieve full potential in life. Interventions in the early years have the potential to offset negative trends and provide young children with more opportunities for optimal quality learning, physical growth and health, and eventually increased productivity in life. New biological and social science evidence provides a wealth of resources to inform innovative strategies that promote optimal child growth and development. Programs that combine services (such as nutrition and psychosocial stimulation) can have especially large beneficial impacts and rates of return.<sup>2</sup> Unfortunately, most countries fall short in their delivery of essential services for young children and their families. The challenge ahead is to develop scalable, cost-effective models for delivering these services in low- and middle-income countries.

While various definitions of early childhood development (ECD) have been proposed, in this document, ECD refers to a child's growth and development starting from a woman's pregnancy through the child's entry to primary school. ECD interventions therefore include services for pregnant

and lactating mothers, as well as young children and their families. These services are meant to address the health, nutritional, socio-emotional, cognitive, and linguistic needs during this age period. They are essential because a child's early life forms the basis for future learning, good health, and well-being, as well as the ability of the child to work well with others in adulthood.

There is an emerging consensus that investments in ECD should be a priority and could also have very high returns. A growing body of literature demonstrates that the returns on investments in young children are substantial, particularly when compared to investments made at later stages in life. By contrast, failure to invest can lead to long-term and often irreversible costs not only for individuals and their families, but also for communities and society at large.

Why are countries falling short in their investments in ECD? One factor is the fact that countries usually operate under strict budgetary constraints. But experience also suggests that another factor is related to the fact that ECD is highly complex and multi-sectoral. There is still lack of awareness of the benefits of ECD and how countries can design successful policies and scalable programs in this area.

Several development partners have introduced comprehensive frameworks to address the holistic needs of young children. UNICEF focuses on key areas of intervention for ECD, including basic health, nutrition, HIV/AIDS, education, and protection





services<sup>3</sup>. The World Health Organization (WHO) has established specific guidelines for each developmental phase, including pregnancy, postnatal, baby, infant, and young child health care. These guidelines assist service professionals in delivering improved health outcomes for the intended beneficiaries during the specific sub-periods. Additionally, the Partnership for Maternal, Newborn, and Child Health (PMNCH), led by the WHO and Aga Khan University, provides policy-makers with specific information on the essential health interventions to address the main causes of maternal, newborn, and child deaths<sup>4</sup>. At the World Bank, the *Early Childhood Development Guide for Policy Dialogue and Project Preparation*<sup>2</sup> presents strategic entry points for effective ECD program implementation in countries, including center-based programs, home-based programs, and conditional cash transfer and communication and media campaigns targeting families with young children.



Building on a review of the research evidence and practical experiences, in 2010 the World Bank developed the STEP<sup>5</sup> framework as a simple way to think about how countries can help individuals to lead productive lives. STEP stands for *Skills Toward Employment and Productivity*. The framework identified five steps through which individuals can progress and learn throughout their life. This document elaborates on ECD, the first of those five steps.

This document draws on these existing frameworks and broad evidence on the impacts of ECD interventions. It summarizes some of the existing literature on this topic with the aim to identify key interventions needed for children. The document is intended to provide an easily accessible introduction

to interventions and integrated services that could help policymakers and practitioners think about how to effectively invest in ECD.

In addition to identifying key interventions, the document outlines four principles that can help countries design and implement strong ECD policies and programs. Countries should: (i) prepare an ECD diagnostic and strategy; (ii) implement widely through coordination; (iii) create synergies and cost savings through integrated interventions; and (iv) monitor, evaluate, and scale up successful interventions.

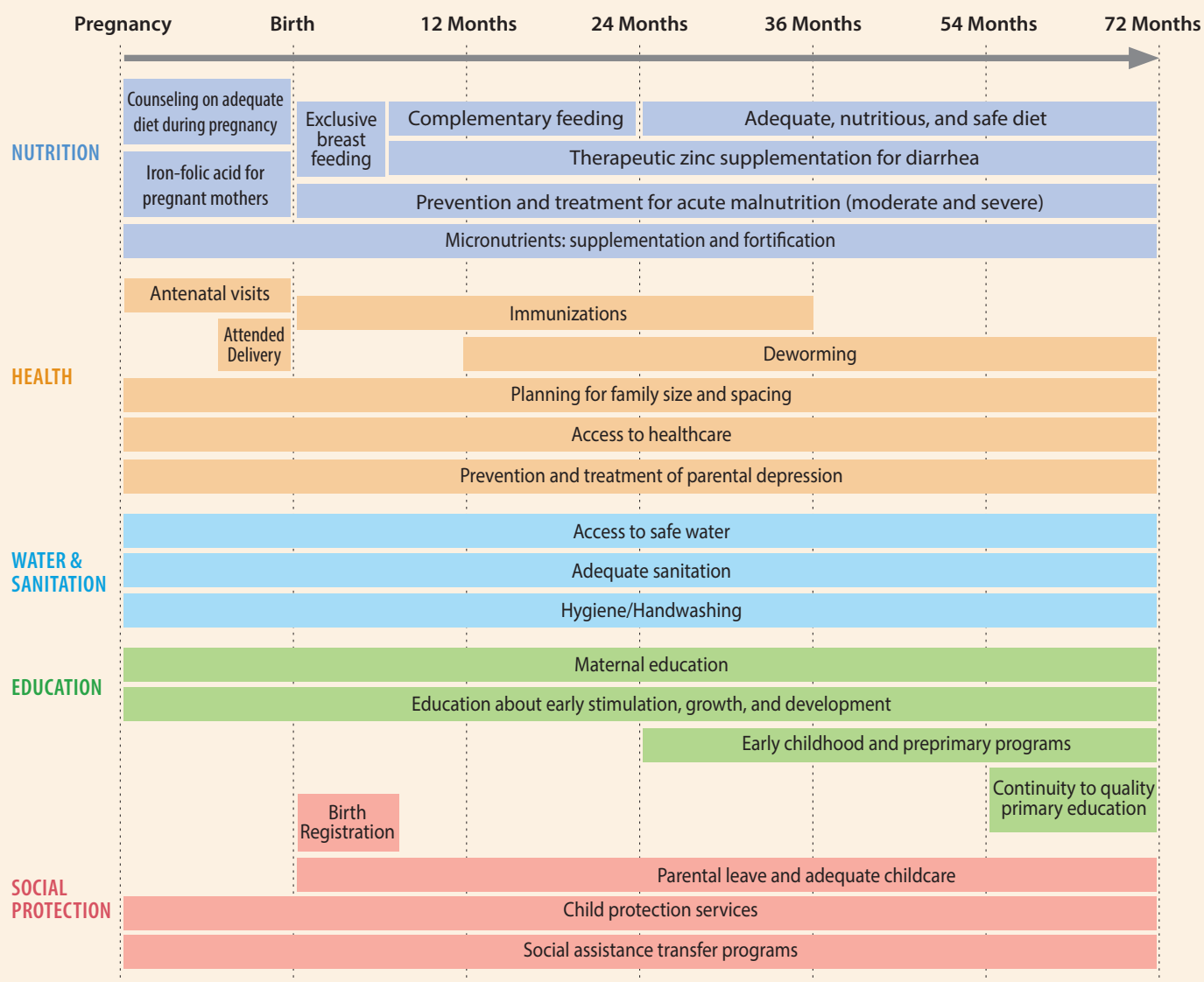
In terms of interventions, within the ECD period, 25 key interventions are identified as essential for a child's growth and development (summarized in Figure 1). For each intervention, illustrative costs and impacts are provided. These are based on existing evidence and are only intended to be indicative.

The document suggests that these interventions can be delivered through five integrated packages at different stages in a child's life. The five packages of interventions include: (i) the family support package, which should be provided throughout the ECD period, (ii) the pregnancy package, (iii) the birth package (from birth to six months), (iv) the child health and development package, and (v) the preschool package.

We hope that the approach suggested in this document for investments in integrated ECD interventions will be useful to policymakers and practitioners by providing them with a set of simple yet powerful messages so that all young children will reach their full potential and have the chance to live healthy and productive lives.



**FIGURE 1: 25 Key Interventions for Young Children and their Families**



Source: Authors. Note: The idea of presenting interventions by sector and/or age has been used by a number of previous authors.

# Family Support Package

## Conception to 6 Years



### **Major gains: improved physical, socio-emotional, and cognitive development**

The family is the very first and most effective support system to ensure young children's healthy growth and development.

The wellbeing and involvement of families play a critical role in addressing children's holistic

development needs because young children depend entirely on their families and spend the most time with them in the home environment. While a range of ECD interventions are age-specific, many are necessary throughout the early years. Based on a two-generation approach<sup>6</sup> creating opportunities for, and addressing the needs of, both parents and children, the family support package consists of 12 different clusters of interventions and services provided to support both young children and their families.

### **Parental support for vulnerable families**

**1. Maternal education:** Evidence demonstrates the importance of girls' education for ECD. When girls attain a higher level of education, it can have a powerful influence on their future children.<sup>6,7</sup>

**2. Planning for family size and spacing:** Planning for family size and spacing allows parents to anticipate and attain their desired number of children and the spacing and timing of their births. It is achieved through use of contraceptive methods and the treatment of infertility. According to the WHO, a woman's ability to space and limit her pregnancies has

a direct impact on her health and well-being as well as on the outcome of each pregnancy.<sup>8</sup>

**3. Education about early stimulation, growth, and development:** Reaching parents and caregivers through parenting support and home-visiting can promote early stimulation, optimal caregiving, and healthy feeding practices and thereby improve outcomes for children. Home visiting programs can deliver messages to parents about the health, growth, and overall development of young children. Parenting support programs can improve responsiveness in feeding<sup>9,10</sup> and early stimulation.<sup>11,12</sup> "Serve-and-return" interactions between parents and young children can enhance physical development as well as development of cognitive and socio-emotional skills<sup>13</sup>, which influence academic achievement and employment later in life.<sup>14</sup> In addition to home visits, social networks of support and community education campaigns about ECD can be an effective strategy to reach parents and caregivers with messages on young children's growth, development, and safety.

**4. Social assistance transfer programs** can help parents provide for their children's needs and invest in their children's nutrition, health, and education. These programs are often targeted to poor and vulnerable families, providing a gateway to reaching those most in need and a corresponding entry point for coordinated service provision, including for ECD. Social protection programs can also serve as vehicles for counter-cyclical crisis response, helping to protect families from income shocks and children from a range of consequences including toxic stress. In addition to supporting income, social protection programs often leverage investments in human capital. For example, conditional cash transfers (CCTs) incentivize parents to invest in the health and education of their children, and safety net programs in very low income settings are increasingly combining cash or food assistance with capacity building for parents in core areas of health, nutrition, and education.

## **5. Prevention and treatment of parental**

**depression:** Maternal and paternal depression is also likely to have adverse effects on ECD and quality of parenting.<sup>15</sup> Where feasible, prevention and treatment of parental depression is important, beginning with prevention during pregnancy, and prevention and treatment throughout the early years of parenthood.<sup>16,17</sup>

**6. Parental leave and adequate child care:** Without sufficient income and adequate flexibility, vulnerable parents are unable to cater to the needs of their children.<sup>18</sup> Where feasible, families with young children should benefit from income support programs, and parental leave and adequate child care should be available for working parents. According to the OECD, well-structured child care support policies can pay for themselves<sup>19</sup> since without support, parents face obstacles to labor force participation which can lead to higher welfare expenditure, lost tax revenues, inhibited growth, and wasted human capital.

**7. Child protection services:** Domestic violence during pregnancy is associated with low birthweight, and exposure to violence in early childhood negatively affects a young child's socio-emotional development.<sup>20</sup> The effect of violence exposure can be reduced through supportive parental reactions and positive family routines.<sup>16</sup> Child protection provisions within law enforcement and judicial systems can protect children from violence and exploitation.

## ***Health, nutrition, and sanitation for families***

**8. Access to health care** contributes to achieving universal health coverage for a population regardless of income or social status. Equitable access to health services increases the demand for care, especially among the poor, by making those services more affordable. Health services such as malaria prevention and treatment are critical for reducing the risk of childhood mortality.

## **9. Micronutrient supplementation and fortification:**

Deficiencies in micronutrients such as vitamin A, iodine, iron, and zinc can cause irreversible deficits in physical and mental development. Micronutrient supplementation and fortification of staple foods can prevent and/or treat micronutrient deficiencies. Universal salt iodization is an especially cost-effective way to deliver iodine to the population.<sup>21</sup>

## **10. Access to safe water; 11. Adequate sanitation; and 12. Hand washing:**

Nearly nine out of ten diarrheal deaths among young children are linked to poor hygiene practices, unsafe drinking water, and inadequate access to sanitation.<sup>22</sup> One-third of the world's population lacks access to basic sanitation and more than one billion people defecate in the open. Latrines can reduce health risks for pregnant women and young children. Adequate hygiene and hand washing can significantly reduce the incidence of diarrhea.

### **Investing in Young Children for High Returns:**

In Africa and Asia, access to safe water in rural areas can have a 3.4:1 benefit-to-cost ratio, and basic sanitation can have a 5-8:1 benefit-to-cost ratio.<sup>23</sup> In Africa, South America, Europe, and Southeast Asia regions, food fortification with iron and other micronutrients can have a benefit-to-cost ratio as high as 37:1.<sup>24</sup> Estimates from Africa, East Asia and the Pacific, and South Asia regions indicate that salt iodization can have a benefit-to-cost ratio as high as 30:1.<sup>21</sup> In these same regions, vitamin A can cost \$3-16 per DALY<sup>a</sup> saved<sup>25,26,27</sup>

a The disability-adjusted life year (DALY) is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death. It is estimated as the sum of the present value of future years of lifetime lost through premature mortality.

Intervention	Illustrative Costs	Illustrative Impacts
1. Maternal education	Vary substantially by country	Maternal education is a significant predictor of children's enrollment in early childhood care and education (ECCE) programs with the highest enrollment found among those children whose mothers were more highly educated <sup>6</sup> .
2. Planning for family size and spacing	Vary substantially by country	Family planning services decrease likelihood of death due to maternal causes: control over fertility decisions, indicated by desire for pregnancy, can lead to reduced risk of maternal mortality <sup>23</sup> .
3. Education about early stimulation, growth, and development	\$13 (Mauritania)-\$1,393 (Qatar) per child per year for home-visiting program <sup>24</sup> \$4 (Bangladesh)-\$10 (India) per child per year for national community-based programs <sup>25</sup>	Increased parenting knowledge leads to more home stimulation and learning activities for children (effect size from 0.32 to 0.86), and in turn higher child development outcomes, including higher cognitive and language development (effect size from 0.32 to 0.97). <sup>26</sup>
4. Social assistance transfer programs	\$156-432 per household per year for CCT programs with nutrition component (Latin America) <sup>27</sup>	Targeted income support through CCTs may reduce poverty; increase household food consumption and dietary diversity <sup>28</sup> ; yield higher rates of school attendance, birth registration, access to health services, and parental concern about the health and education of their children; they also have been found to reduce child labor and domestic violence. <sup>29</sup>
5. Prevention & treatment of parental depression	Vary substantially by country	Community-based interventions with paraprofessionals can reduce depressive symptoms (effect size from 0.21 to 0.62), improve maternal sensitivity and infant attachment, infant health, and time spent playing with infants. <sup>15</sup>
6. Parental leave & child care	Vary substantially by country	Parental leave for 10 weeks is associated with a reduction in rates of neonatal mortality, infant mortality and under-five mortality <sup>30</sup> ; Government-supported childcare provision is associated with higher rates of women's labor force participation and lower gender inequality. <sup>17</sup>
7. Child protection services	Vary substantially by country	Violence-prevention interventions can reduce stress reactions in young children (effect size from 0.56 to 0.91); Improving institutional environment of non-parental group residential care can lead to significant benefits in child cognitive and social-emotional competence. <sup>15</sup>
8. Access to healthcare	Vary substantially by country	Access to healthcare and health insurance that covers basic services positively affects the health and nutritional status of children. <sup>31</sup>
9. Micronutrient supplementation & fortification	\$0.20 per person per year for flour fortification with iron, folic acid, zinc <sup>32</sup> ; \$1.20 per child per year for vitamin A supplementation <sup>33</sup> ; \$0.05 per person per year for salt iodization <sup>20 b</sup>	Micronutrient supplementation for pregnant women can reduce risk of low birthweight babies by 88% and preterm births by 97% <sup>34</sup> ; Vitamin A supplementation can reduce risk of child mortality (6-59 months) by 24% <sup>20</sup> ; Children whose mothers consumed iodized salt may have 10-20% higher developmental scores and higher birth weight (3.82-6.3) <sup>38</sup> ; Iodine supplementation for pregnant mothers can reduce risk of cretinism (severely stunted physical/ mental growth) at 4 years by 27% <sup>38</sup> .
10. Access to safe water	\$2 per household per month for rural water interventions in Africa and Asia <sup>22</sup> ; \$20-80 per household for water piping network <sup>35</sup>	In Latin America and Africa, improved water quality may reduce the risk of diarrhea in children under 5 years old by 60%. <sup>36</sup>
11. Adequate sanitation	\$3-5 per person for community led sanitation program; \$20-50 for community toilets- \$100-200 per household per year for sewerage systems with treatment (South-East Asia) <sup>22</sup>	Adequate sanitation may reduce open defecation by 20% and is associated with a 0.1 standard deviation increase in child height. <sup>37</sup>
12. Hygiene and hand washing	Negligible additional cost if included in community nutrition programs	Hygiene and hand washing may reduce incidence of diarrhea by 30%-47%. <sup>38,40</sup>

b These illustrative costs have derived from experience in South Asia, East Asia and the Pacific, and Africa regions.



# Pregnancy Package

## Conception to Birth

### **Major gains: prevention of maternal and neonatal mortality, reduced risk of anemia and low birthweight**

If they are not provided with a prenatal package of essential services during pregnancy, women and their newborns face several risks, including maternal and neonatal mortality, anemia, and low birthweight, as well as the associated impact on the child's future growth and development. The pregnancy package consists of a number of key services.

**13. Antenatal care:** Antenatal care visits provide opportunities for healthcare providers to deliver a package of services including screening tests, counseling on reduced workload, treatment for identified complications and behavior change communication to increase women's skills in identifying danger signs and potential complications. UNICEF and WHO recommend a minimum of four antenatal care visits during pregnancy. Parenting education for expectant mothers is also important to provide future mothers with key parenting skills to improve outcomes for newborns.

**14. Iron and folic acid supplementation for pregnant mothers:** Nearly one-quarter of maternal

deaths are caused by hemorrhages, which are closely linked to anemia during pregnancy.<sup>44</sup> Iron and folic acid supplementation for pregnant women can reduce anemia as well as the risk of low birthweight babies.

### **15. Counseling on adequate diets for pregnant mothers:**

Undernutrition during pregnancy can affect fetal growth and development. An estimated 800,000 newborn deaths each year can be attributed to the increased risk associated with fetal growth restriction.<sup>44</sup> Counseling women on healthy diets and lifestyles during pregnancy can help to ensure that they have an adequate diet, including nutrient-rich food.



### **Investing in Young Children for High Returns:**

Iron supplementation for pregnant mothers costs from \$66 (African sub-region with very high rates of adult and child mortality) - \$115 (Southeast Asian sub-region with high rates of adult and child mortality) per disability-adjusted-life-year (DALY) saved.<sup>45</sup>

Intervention	Illustrative Costs	Illustrative Impacts
13. Antenatal care	\$6.70–7.34 per pregnancy (Uganda) <sup>41</sup>	Antenatal visits reduce the risk of maternal and neonatal death. <sup>21</sup>
14. Iron and folic acid supplementation for pregnant mothers	\$3.00 (Indonesia, Kenya, and Mexico) per pregnancy <sup>23</sup>	Iron and folic acid for pregnant mothers can yield a gain of 58 g in birthweight and reduce the risk of anemia at term by 21%. <sup>38</sup>
15. Counseling on adequate diet for pregnant mothers	Vary substantially by country	Counseling on adequate diet for pregnant mothers reduces the risk of low birth weight and stillbirths. <sup>38</sup>

# Birth Package

## Birth to 6 Months



### **Major gains: prevention of infant morbidity and mortality, and maternal mortality**

The ECD birth package covers the first critical post-natal stage of the 'window of opportunity' in ECD, i.e. from birth to six months.

In the absence of the provision of this package, newborns and mothers may face increased risks of morbidity and mortality.

Beyond survival, ensuring optimal growth and development is necessary. The birth package consists of three main sets of activities and services.

**16. Skilled attendance at delivery:** Most of the direct causes of maternal mortality related to obstetric complications can be addressed if skilled health

personnel are present during delivery and referral facilities equipped with quality emergency obstetric care are available. Skilled attended delivery can address the risks of birth defects and maternal mortality.

**17. Birth registration:** Worldwide, as many as one in three children below the age of five are not currently recorded.<sup>51</sup>

Birth registration is a first step to reach children with the services they need to fully develop. Some form of birth registration is generally required for children to obtain a birth certificate and access to services, protection and opportunities throughout life.

**18. Exclusive breastfeeding:** Following early initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first six months contributes to a child's short and long-term health and development through the provision of rich nutritional inputs and positive socio-emotional interaction between mother and child,<sup>52</sup> as well as avoiding diseases caused by contact with contaminated food or water. Promotion of exclusive breastfeeding is one of the most promising interventions for improving child survival in the first six months of life.

### **Investing in Young Children for High Returns:**

In South Asia and sub-Saharan Africa, a package of maternal and neonatal health services costs \$3,337-\$6,129 per death averted and \$92-\$148 per DALY averted.<sup>48</sup> Breastfeeding promotion programs cost \$527-\$2,000 per DALY.<sup>52</sup>

Intervention	Illustrative Costs	Illustrative Impacts
16. Skilled attendance at delivery	Costs of attended delivery vary substantially by country; \$1.67 for clean birthing kits for women <sup>45</sup>	Clean delivery practices can prevent infections (which account for approximately 35 percent of newborn deaths). Institutional/skilled attended delivery can prevent asphyxia (which causes 23 percent of newborn deaths) <sup>21</sup> .
17. Birth registration	\$0.23 (Tanzania)-\$0.83 (India) per event of civil registration <sup>42</sup>	Birth registration protects children's right to identity and access to services including access to immunizations and healthcare, education, and social assistance. Identification can safeguard children's rights and help protect against violation of rights, such as child labor or early marriage. <sup>43</sup>
18. Exclusive breastfeeding	\$0 to breastfeed; \$0.30-0.40 per birth to promote breastfeeding <sup>20</sup>	Infants who are breastfed are six times more likely to survive, six times less likely to die from diarrhea, and 2.4 times less likely to die from acute respiratory infections in the first six months <sup>44</sup> ; breastfeeding is also associated with higher intelligence scores (mean difference: 4.0 points). <sup>45</sup>

# Child Health and Development Package

## Birth to 5-6 Years

**Major gains: prevention of child mortality, reduced risk of stunting and anemia, improved cognitive development**

The third package of ECD services covers the period from birth<sup>c</sup> to 5-6 years. The main risks of not providing essential services during this period are stunted growth, anemia, impaired cognitive development, and child mortality. This package consists of six main interventions/services.

**19. Immunizations:** Starting at birth, a complete course of childhood immunizations is essential in reducing child morbidity and mortality. According to the WHO, increasing coverage of PCV, Rota, and Hib vaccine could have prevented 1.5 million deaths of children under 5 in 2002.<sup>54</sup> According to the Copenhagen Consensus, expanded immunization coverage for children is among the top ten most productive investments for countries.

**20. Adequate, nutritious, and safe diet:** After six months of exclusive breastfeeding, mothers should continue to breastfeed through 24 months while providing complementary feeding with age-appropriate amounts, frequency, consistency and variety of safely prepared foods. Responsive feeding practices are important, as is adequate feeding during and after illness. After two years, young children continue to need adequate, nutritious, and safe diets. Undernutrition leads to weakened immune systems of babies and young children, putting them at a greater risk of falling sick from preventable illnesses like pneumonia and diarrhea. Nearly one-fifth of under-five deaths could be prevented with optimal feeding.<sup>22</sup>

**21. Therapeutic zinc supplementation for diarrhea:** Approximately 1.5 million children in the developing world die from diarrhea each year. Therapeutic zinc

supplementation can reduce deaths from diarrhea by almost one quarter.<sup>22</sup>

### **22. Prevention and treatment of acute malnutrition:**

Proven interventions include complementary and therapeutic feeding to provide micronutrient-fortified and/or enhanced complementary foods for the prevention and treatment of moderate malnutrition among children 6–23 months of age, and community-based management of severe acute malnutrition among children under five years of age. Community-based management of acute malnutrition includes (a) in-patient care for children with severe acute malnutrition with medical complications and infants under six months of age with visible signs of severe acute malnutrition; (b) outpatient care for children with severe acute malnutrition without medical complications; and (c) community outreach.<sup>43</sup>

**23. Deworming:** Worm infections are a chronic condition that affect children's health, nutrition, and development, and as a consequence, limit their ability to access and benefit from education. Worms can cause children to become anemic and malnourished and can impair their mental and physical development.<sup>59</sup> Deworming is simple, safe, inexpensive, and has beneficial effects on educational outcomes.



<sup>c</sup> Zinc supplementation and optimal feeding should start at 6 months. Children typically receive their first deworming at one year (pregnant women should also receive deworming interventions when necessary).

## Investing in Young Children for High Returns:

Immunizations can have a benefit-to-cost ratio up to 20:1<sup>53</sup> Zinc supplementation for diarrhea management may cost \$73 (Tanzania) per DALY saved.<sup>55</sup> Estimates from Africa, East Asia and Pacific, and South Asia regions indicate that optimal feeding may cost \$500-\$1,000 per DALY saved<sup>42</sup> and deworming can have a benefit-to-cost ratio as high as 6:1.<sup>20</sup>

Intervention	Illustrative Costs	Illustrative Impacts
19. Immunizations	\$30 (low income countries) per live birth <sup>50</sup>	Immunization reduces child morbidity and mortality. <sup>53</sup>
20. Adequate, nutritious, and safe diet	\$40-80 per child per year <sup>42</sup>	Optimal feeding practices can reduce stunting (height-for-age Z score) by 0.25 (without food supplements/cash transfers) to 0.41 (with food supplements/cash transfers). <sup>51</sup>
21. Therapeutic zinc supplementation for diarrhea	\$1 (India) per child per year <sup>59</sup>	Therapeutic zinc supplementation can lead to 14% fewer episodes of diarrhea and 15% fewer episodes of severe diarrhea or dysentery; 25% fewer episodes of persistent diarrhea; 9% reduced risk of mortality. <sup>20</sup>
22. Prevention and treatment of acute malnutrition	\$200 per child for treatment of severe acute malnutrition through community-based approach <sup>42</sup>	Treatment of acute malnutrition is associated with a 55% reduction in mortality. <sup>52</sup>
23. Deworming	\$0.25 (developing countries globally) per child/year <sup>53</sup>	Deworming is associated with a 5-10% reduction in anemia in populations with high rates of intestinal worms; one-dose of deworming drugs may increase weight by 0.58 kg. <sup>38</sup>



# Preschool Package

## 3 to 6 Years

### **Major gain: early learning**

The fourth package of ECD services covers the period from 3 to 6 years. A broad range of evidence has demonstrated that the quality of a child's early learning experience makes a significant difference to school preparation, participation, completion, and achievement. Without adequate early childhood education, young children do not have the necessary skills to fully benefit from the education they receive at the primary level. The preschool package consists of two main interventions.

**24. Preprimary education:** Young children need sustained access to supportive, nurturing environments that provide a high degree of cognitive stimulation and emotional care throughout the early years.<sup>61</sup> Compared to children who attend quality preprimary programs, children who enter school without adequate preparation are more likely to have poor academic performance, repeat grades, and drop out of school.<sup>62,63,64,65</sup> Beyond access, quality in preprimary education is equally critical. Children will only benefit from increased access to ECCE if the services being provided meet core quality standards. Box 1 defines quality in ECCE.<sup>61</sup> Quality preprimary programs are linked to life-long benefits for individuals and society at large. They reduce the need for remedial education or rehabilitative actions later on, including in terms of reducing the risk of incarceration and improving welfare in adulthood.<sup>66</sup>

### **25. Continuity to primary:**

During the period of time when children move from either home or an early childhood program into primary school, they experience demanding changes.<sup>67,68</sup> For the transition to be smooth, children need to be ready for school and, equally important, schools need to be ready for children.<sup>69,70</sup> Evidence suggests that failure in the first year or two of schooling to establish basic literacy skills creates inefficiencies that reverberate through a child's progression through the education system.<sup>71</sup> Young children should possess the school readiness skills necessary - physical health and well-being, social competence, emotional maturity, language and cognitive development, communication skills and general knowledge - in order to be able to learn effectively in school.<sup>72</sup> Ensuring continuity between early childhood and primary years is important to counter potential fade-out of the impact of preschools in primary school. Quality improvement in early primary grades (integrating ECCE/early primary



### **BOX 1: Definition of Quality Early Childhood Care and Education (ECCE)**

UNESCO defines the quality of the ECCE learning environment as well as the broader regulatory system. Quality in the learning environment includes various aspects such as the tone and content of teacher-child interactions, the range of play materials available, the safety and atmosphere of the physical space, the attention paid to health and nutrition, the child-centered approaches to learning, and the level of parental engagement. In addition to the learning environment itself, policies and regulations related to child-adult ratios, class or group size, teacher qualifications and training, inclusive education, and ECCE funding also are linked to ECCE quality.

*Adapted from UNESCO (2014)*

experience, teacher training on classroom strategies for young children, smaller class size, etc.) can improve learning outcomes, school attendance, pass rates, and reduce dropout and repetition rates.<sup>73</sup> Well-trained and

high-quality experienced teachers in the early grades of primary school can help close the readiness gaps that young children may face.<sup>73,74</sup>

### Investing in Young Children for High Returns:

Increasing preschool enrollment to 50 percent of all children in low- and middle-income countries could result in lifetime earnings gains of \$14-\$34 billion.<sup>31</sup> High quality ECD programs targeting vulnerable groups in the United States have an annual rate of return of 7-16%.<sup>75,76</sup>

Intervention	Illustrative Costs	Illustrative Impacts
24. Preprimary education	\$58 (Mauritania) to \$3482 (Qatar) per child per year for ECCE for 3-5 year- olds <sup>29</sup>	Quality early childhood education programs increase child development scores on one or more measures of child development (literacy, vocabulary, math, quantitative reasoning) with an effect size ranging from 0.13 to 1.68; Preschool is associated with improved school performance in second and third grades and effects can be even larger in adolescence. <sup>31</sup>
25. Continuity to primary	Vary substantially by country	Quality improvement in early primary grades (integrating ECCE/early primary experience, teacher training on classroom strategies for young children, smaller class size, etc.) can improve learning outcomes, school attendance, pass rates, and reduce dropout and repetition rates. <sup>73</sup>

## Summary of Integrated Packages

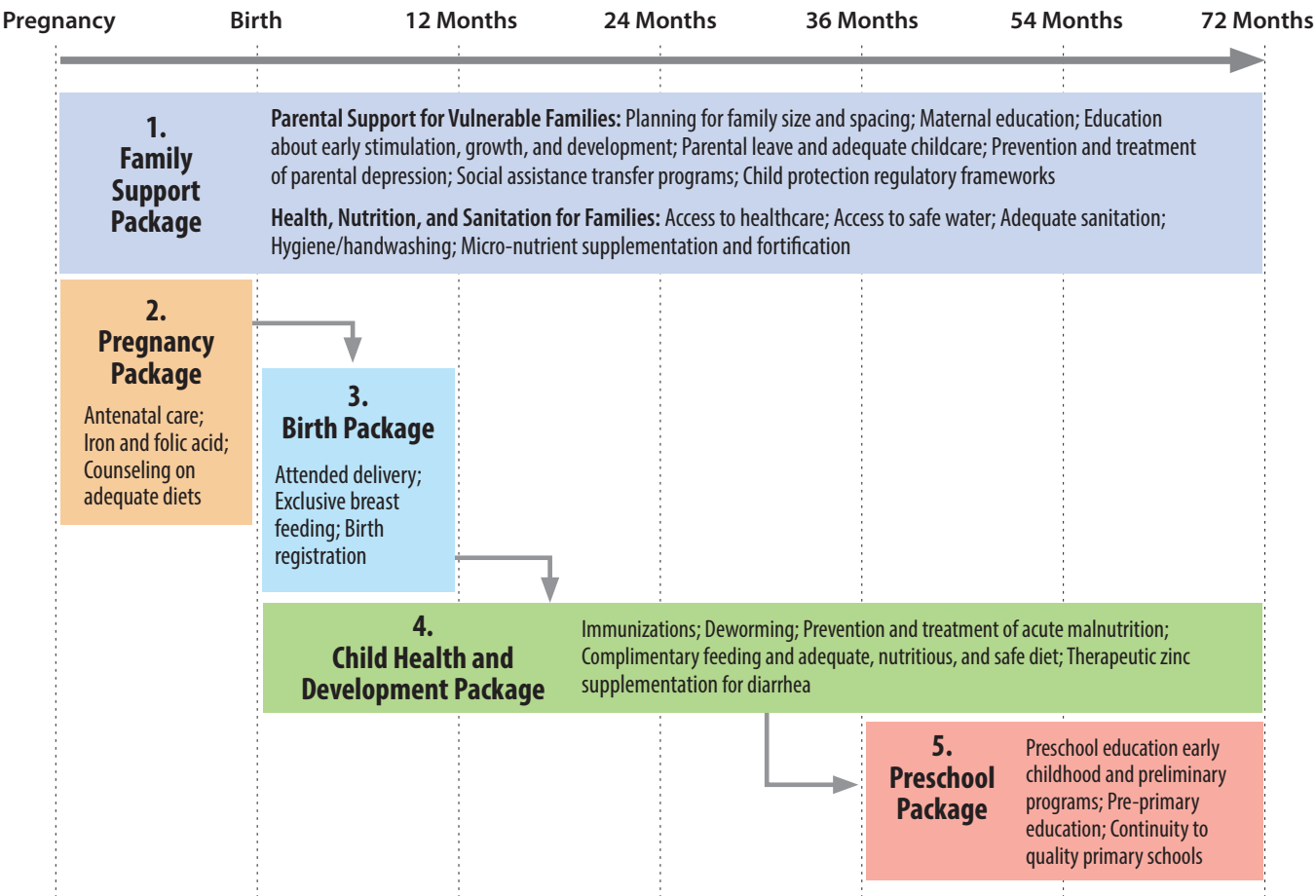
### 25 Key Interventions

Development in early childhood is a multi-dimensional and sequential process, with progress in one domain acting as a catalyst for development in other domains. While development across the four interrelated domains of physical, cognitive, socio-emotional, and linguistic development is cumulative throughout early childhood, some interventions are critical during specific age sub-periods or windows of opportunity.

The five packages presented above combine a total of 25 essential interventions during specific age sub-

periods as well as throughout a child’s early years that yield high returns and generate positive impacts on the child’s growth and development. The ability of countries to implement all 25 interventions will vary, but ideally in order to address the needs of young children and their families, a well-developed ECD system should combine those 25 interventions which require the contribution of multiple sectors. Figure 2 shows how the five packages of essential interventions and services should be provided at different stages in a child’s life.

**FIGURE 2: Five Packages of Essential Interventions for Young Children and Families**



# Key ECD Policy Principles

While these interventions can be delivered by individual sectors, packaging several interventions together can often be more efficient and it may yield greater impact. The entry points to influence young children’s development are diverse and involve multiple stakeholders. Interventions in a variety of sectors and areas affect ECD outcomes, including: health care and hygiene, nutrition, education, child protection, social protection, and poverty alleviation. These programs can be aimed at the pregnant woman, the child, the caregiver or the family as a whole. In addition, interventions can take place in a variety of environments, including: the home, at a preschool or child care center, a hospital or health post, or a community center.

Given the holistic needs of young children and the variety of settings and services in which these needs can be met, thinking multi-sectorally in policy design and coordinating interventions between sectors improves service delivery. The following section of this document outlines four key principles that can help countries design and implement strong ECD policies and programs. Countries should (1) Prepare a multisectoral ECD diagnostic and strategy; (2) Implement widely through effective coordination mechanisms; (3) Create synergies and cost savings among interventions; and finally (4) Monitor, evaluate, and scale up successful interventions.

# Principle 1

## Conduct an ECD Diagnostic and Establish a Comprehensive Strategy

In order to create well performing ECD systems, countries should be mindful of four policy principles.

The first principle highlights the need to build an ECD strategy from the ground up by conducting a diagnostic of existing ECD programs and policies in order to identify gaps. As part of the *Systems Approach for Better Education Results* (SABER), the World Bank has recently developed the SABER-ECD tool to help countries conduct such diagnostics. The tool is structured around three policy goals:

(1) *Establishing an Enabling Environment*; (2) *Implementing Widely*; and (3) *Monitoring and Assuring Quality*. For each goal, three policy levers are analyzed (see Box 2), ranging from the legal framework for ECD services to the extent to which service providers such as care centers or pre-schools comply with national standards.<sup>77</sup> On the basis

of the ECD diagnostic and taking into account costs and funding, countries should prioritize interventions with three considerations in mind:

- **Start early:** The needs of the very young are key, especially during the first 1,000 days of life between conception and 24 months. Interventions during that period have lifelong impacts on a child's ability to grow, learn, and rise out of poverty.
- **Address risk factors for poor growth and development:** Four main risk factors affecting at least 20-25 percent of infants and young children in developing countries are: (1) stunting and wasting; (2) inadequate cognitive stimulation; (3) iodine deficiency; and (4) iron-deficiency anemia.<sup>78</sup> Other priority risk factors include malaria, intrauterine growth restriction, lead exposure, maternal depression, and exposure to violence.<sup>16</sup>
- **Target the most vulnerable:** While a system providing universal coverage for ECD interventions is ideal, under budget constraints countries should first target the most vulnerable.<sup>79</sup> For example, home visiting programs could focus on households with stunted children and those facing higher risks of delayed cognitive development.



### BOX 2: SABER-ECD

#### ECD Policy Diagnostic Tool

The Systems Approach for Better Education Results (SABER) was launched to help countries systematically examine their education policies. One of the domains within this initiative is SABER-Early Childhood Development (SABER-ECD), which is designed to present countries with a holistic multi-sectoral assessment of programs and policies which affect young children's development. SABER-ECD presents three core policy goals: Establishing an Enabling Environment, Implementing Widely, and Monitoring and Assuring Quality. For each policy goal, based on evidence from impact evaluations and a benchmarking exercise of top-performing systems, a set of policy levers are presented that decision-makers can act upon in order to strengthen ECD. These policy goals and levers address the range of issues that generally constrain ECD outcomes and form a coherent package that all countries should address to improve ECD outcomes and services. Since SABER-ECD was launched in 2010, more than 35 countries have participated in the initiative. SABER-ECD has allowed Bank staff and policymakers in each of these countries to view the respective ECD system through a comparative lens and discern policy options to strengthen ECD at the national and sub-national level. In some cases, SABER-ECD analysis has led to new Bank and government investments in a country's ECD system.



### BOX 3: Multiple Entry Points to Reach ECD Beneficiaries

#### *Multiple entry points to reach pregnant women, children, and their families*

A diverse range of entry points exist to influence young children's development. Policies and programs in a variety of sectors and areas affect early childhood outcomes in nutrition, health care and hygiene, education, child protection, social protection, and poverty alleviation. These policies and programs can be aimed at the pregnant woman, the beneficiary child, the caregiver, or the family as a whole. Multiple stakeholders and service providers are involved in providing the 25 key interventions listed previously. In addition, early childhood interventions can take place in a variety of environments, including: the home, a preschool or child care center, a health post or hospital, or a community center.

While each country may have its own multi-sector approach and established institutional arrangements and coordination mechanisms, it is important to strategically identify existing service delivery entry points to synergistically address young children's development needs. Typically, young children can be reached through different channels and, depending on the context and age group, ECD interventions can be provided in a range of environments: center-based programs mostly focus on children ages 4 and 5 (just before their entry into primary school) and can be provided in classrooms, community centers, religious establishments, private homes, or even under a tree. Home-based ECD interventions focus on services delivered to mothers and young children to promote behavior change in health, nutrition, and parenting within the home environment. Communication campaigns targeting families with young children can also be effective strategies to influence behavior change for parents and caregivers to enhance children's growth and development.

*Adapted from Nadeau et al. (2011).*

## Principle 2

### Coordinate and Implement Widely

Given that children's growth and development cannot be adequately addressed through interventions in a single sector, the ECD policy framework must involve multiple ministries and agencies. Recognizing the holistic needs of young children and the variety of settings and services in which these needs can be met, thinking multi-sectorally in policy design and coordinating interventions between stakeholders is key to ensure effective and comprehensive ECD service delivery. Coordination must be maintained both horizontally between sectors and vertically between the central government and local authorities.

Typically, a Ministry of Health may be responsible for the earliest years of life and a Ministry of Education may take over the role from preschool through basic education. Institutional arrangements may vary, but each country must take a pragmatic approach to work through existing entry points. Clear roles

and responsibilities are key to avoid inefficiencies and duplication.

The most efficient way to achieve intersectoral coordination is to have a contextualized and country-specific approach in accordance with the existing institutional arrangements. While there is no one-size-fits-all approach to coordination, some clearly defined coordination mechanisms across sectors and institutions are essential. The



intersectoral ECD commission in Jamaica illustrates how coordination mechanisms can work (see Box 4).

While education or health ministries often have the lead in coordinating ECD policies, other agencies can also play a leading and coordinating role. For example, integrated programs can be spearheaded by social protection agencies targeting vulnerable families. Social welfare programs such as conditional cash

transfers can provide a unique bridging function across sectors. These programs not only provide income support to disadvantaged families but also empower them to break the cycle of poverty and disadvantage by improving their children's health, education, and development. One example of this approach is *Programa Juntos* (see Box 5) in Peru which reaches vulnerable families with a package of multisectoral services that has reduced child malnutrition.<sup>80</sup>

#### **BOX 4: Early Childhood Coordination in Jamaica**

##### ***Multisectoral institutional arrangements for ECD***

In 2003, the government of Jamaica established the Early Childhood Commission (ECC) as an official agency to govern the administration of ECD programs and policies. Operating under the Ministry of Education, the ECC assists in the preparation, monitoring, and evaluation of ECD plans and programs. It acts as a coordinating agency to streamline ECD activities, manages the national ECD budget, and supervises and regulates early childhood institutions. The ECC is supervised by a Board of Commissioners, and it operates with seven subcommittees representing governmental and non-governmental organizations. All relevant sectors, including education, health, local government and community development, labor, finance, protection, and planning are represented on the Board of Commissioners. The seven subcommittees that provide technical support to the ECC board are comprised of 50 governmental and non-governmental agencies.

#### **BOX 5: Coordination of Targeted Interventions in Peru**

##### ***The catalyzing role of the social protection sector in ECD***

Social protection agencies can help coordinate targeted interventions for vulnerable children and families. In Peru, the *Juntos* ("together") program launched in 2005 now reaches more than half a million disadvantaged families. The program provides conditional cash transfers worth US\$38 per month (15 percent of household consumption) to mothers to help them access health, nutrition, and education services. Pregnant and breastfeeding mothers are expected to attend antenatal and postnatal check-ups (tetanus vaccination, folic acid, iron supplementation, and anti-parasite checks) and have a medically-assisted delivery. Families with under-five children must have regular check-ups for growth monitoring, receipt of fortified complementary food and vitamin supplements, vaccinations, and deworming. An evaluation suggests that the program has improved the nutritional status of children.<sup>70</sup> Part of *Juntos'* success has been credited to *Grupo Apurimac*, a multisectoral inter-agency working group that coordinates the delivery of transfers and packages of health and nutrition services.

# Principle 3

## Integrate Services to Achieve Synergies and Cost Savings

In order to ensure that the appropriate package of ECD interventions is delivered to families, it is important to take advantage of every contact with mothers and young children, and to build synergies between various types of interventions. Integrated ECD interventions that address multiple needs of young children are likely to yield the greatest results.<sup>13</sup> For example, cognitive benefits tend to be larger with interventions combining stimulation or learning components as compared with education or economic assistance interventions only.<sup>81</sup> In Jamaica, stunted children who received nutritional supplements and psychosocial stimulation scored higher on developmental tests than children who received only one or neither.<sup>82</sup> While the positive effect of the nutrition-only intervention faded out after age 7, children who received both stimulation and nutrition maintained cognitive and educational gains over time.<sup>13</sup> Box 6 describes the Care for Development approach for integrated ECD services adopted by WHO and UNICEF.

ECD interventions are among the most cost-effective investments a country can make in its population. The evidence suggests high annual rates of return to many

of these interventions, often of the order of 7% to 16%.<sup>75,76</sup> Not only do quality ECD investments have a high benefit-cost ratio, but they also have a higher rate of return than interventions directed at older children and adults.<sup>83,84</sup> However, investments in ECD remain limited today. The OECD suggests that countries should spend at least one percent of GDP on ECCE to ensure quality services, but most countries fall short.

In a context of tight budgets, integrated or co-located services can help reduce the unit cost of providing services, among others by reducing the time and travel costs needed to reach beneficiaries.<sup>79</sup> Synergies through integrated service delivery are particularly important in contexts where mothers and young children are difficult to reach, for example, because they live in remote areas.



### BOX 6: Care for Child Development Approach

#### *Coordinated efforts to address health, education, and nutrition*

The Care for Child Development (CCD) approach considers health care encounters with young children and women as opportunities to strengthen families' efforts to help their children grow. The CCD package provides guidance to health workers, other counselors, and community service providers on how they can help parents and other caregivers in caring for their children at home. The CCD package provides simple recommendations that health workers can share with families, for example on: 1) how to improve play, communication, and responsive feeding activities that stimulate learning of their children; and 2) how to be sensitive to the needs of children and respond appropriately. Advice is also given on how to provide targeted social support to vulnerable families to help them solve problems related to the care of young children. Advocacy materials and guidance on monitoring and evaluation are also available. An assessment of the implementation of the CCD module of Integrated Management of Childhood Illness in Central Asia led to higher developmental scores for children in intervention districts as compared to control. Improvements were also noted in parental activities with children and in health worker recommendations. In addition, two studies assessed the CCD module and identified substantial effects on home stimulation and child development. The most effective parenting programs had a well-developed curriculum, adequate training of workers, a balance of health, nutrition, and early child development components, and they benefitted from community and governmental (local or national) support.<sup>2</sup>

# Principle 4

## Monitor, Evaluate, and Scale Up



Comprehensive monitoring and evaluation (M&E) systems help track ECD investments and assess performance, thereby supporting effective program management and policymaking.

Collecting high quality data across sectors on young children's needs, their access to ECD services, the delivery and performance of those services, and the results of ECD investments provides valuable information to program managers and policymakers as they adjust and adapt policies and programs.

Monitoring systems should include data from multiple sources. Household and child surveys are needed to assess the overall well-being of young children, their home environment, and their health, nutritional, and cognitive development. National administrative data must also be compiled on levels of service delivery and unit costs, ideally for various population groups.

Information is needed on the volume and allocation of public financing, staff recruitment and training, as well as quality and adherence to standards. Integrated systems that track vulnerable children are especially useful to promote effective targeting, referrals, and follow-up. The *Chile Crece Contigo* program is an example of a comprehensive monitoring and referral system that tracks every child in the country and facilitates the delivery of targeted health, nutrition, education, and family support services to vulnerable families (see Box 7).

In addition to monitoring, evaluations can provide an objective assessment of a project, program, or policy.<sup>85</sup> Evaluations may generally address three types of questions: descriptive, normative, and cause-and-effect.<sup>86</sup> Descriptive questions assess processes and are useful in identifying areas for improvement in program design. Normative questions assess implementation, determining whether input, activity, and output targets are met. Both normative and descriptive assessments can take into account variables such as adult-child ratios, program intensity, caregiver training, curriculum, or caregiver-child interactions, to inform improvements in the quality of ECD program design and implementation.<sup>2</sup> Finally, cause-and-effect questions can be answered by impact evaluations, which determine the impact a particular ECD intervention

### BOX 7: The National Monitoring and Referral System in Chile

*Chile Crece Contigo* (Chile Grows with You or CCC) is a comprehensive child protection system to provide intersectoral support to children from 0 to 4 years. One innovative component of CCC is the Biopsychosocial Development Support Program which tracks the individual development of children with an online monitoring system that follows each child through the CCC system. The system tracks the child's eligibility for and receipt of services, as well as his or her developmental outcomes. It allows service providers and policymakers to monitor the delivery of benefits and assess program impacts. Tracking starts during the mother's initial prenatal check-up, at which point an individual scorecard is created for the child. Each of the primary actors within the CCC service network – including the family support unit, public health system, public education system, and other social services – have access to the child's file and are required to update it as the child progresses through the different ECD services. If there is a risk of vulnerability, such as inadequate nutrition, the system identifies the required service to address the risk. Through the integrated approach to service delivery and information management, services are delivered efficiently and in time in function of each child's needs.



has on outcomes. Impact evaluations are particularly useful when a model (or alternative design) is being developed and needs to be evaluated with respect to its cost-effectiveness or cost-benefit.

Evidence suggests that the benefits of ECD interventions may be large, but if programs are not of high quality, the benefits may be negligible and the programs may even be detrimental. Robust M&E systems based on the regular collection and analysis of high quality data are particularly important both in tracking program quality and in informing the potential

scalability of programs. Program outcome data and impact evaluations help in understanding what works and therefore what should be scaled up. This analysis of outcomes is particularly useful when combined with relevant cost-effectiveness and cost-benefit analysis. For example, M&E systems in many CCT programs have played an important role in informing the scale up of CCTs and in increasing the focus of CCT programs on ECD.<sup>87</sup> The World Bank's Strategic Impact Evaluation Fund is one of the funds that support impact evaluations for ECD (see Box 8).

### **BOX 8: ECD in the World Bank's Strategic Impact Evaluation Fund**

The Strategic Impact Evaluation Fund (SIEF), launched with funding from the UK's Department for International Development, invests in impact evaluations of innovative human development programs, and works with governments to use the findings for more effective policymaking. The fund focuses on four areas critical to healthy human development, including early childhood development programs affecting the nutritional status and cognitive, physical, and socio-emotional development of children aged 0-2 in low income countries. Supporting more than a dozen early childhood development impact evaluations across Africa, South Asia, and Latin America, the SIEF portfolio emphasizes integrated at-scale programs that package nutrition and stimulation interventions, as well as multi-sectoral programs that combine ECD interventions with existing health, social protection, and sanitation programs.

# Conclusion



The earliest years of a child's life represent a unique window of opportunity to improve individual and societal outcomes in the future. For the reduction of extreme poverty and for shared prosperity, investments in ECD are among the best investments that countries can make. When young children and their families

have access to essential health, nutrition, education, and protection services, they are afforded the opportunity to learn and lead healthy and productive lives. Programs combining services can have especially large beneficial impacts.

The returns to many interventions for young children have repeatedly been shown to be larger than those taking place later in a child's life. This is in part because

failure to invest early can lead to irreversible damage for children. Unfortunately, most countries today fall far short of commonly accepted targets for investments in ECD. Despite investments in the early years of life bringing the highest returns, this is typically the period with the lowest level of budget allocations.

This document has provided a simple framework for thinking about ECD investments. Five packages of interventions have been identified: the family support, pregnancy, birth, child health and development, and preschool packages. Together they comprise 25 essential interventions for optimal growth and development.

In addition to these interventions, four principles have been outlined to help countries implement their ECD strategies: (1) Prepare an ECD diagnostic and strategy; (2) Coordinate and implement widely; (3) Integrate services to achieve synergies and cost savings; and finally (4) Monitor, evaluate, and scale up successful interventions. By following this step-by-step approach for ECD interventions, policymakers and practitioners will ensure that all young children will reach their full potential.

# Acronyms

CCC	Chile Crece Contigo
CCD	Care for Development
CCT	Conditional Cash Transfer
DALY	Disability-Adjusted-Life-Year
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
GDP	Gross Domestic Product
GMP	Growth Monitoring and Promotion
M&E	Monitoring and Evaluation
OECD	Organization for Economic Cooperation and Development
SABER	Systems Approach for Better Education Results
SIEF	Strategic Impact Evaluation Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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