Why it pays off to invest in ECD

COSTS AND BENEFITS OF ECD INTERVENTIONS

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1. Introduction

Early childhood development (ECD) is a holistic concept that refers to the physical, cognitive, linguistic, and socio-emotional development of young children until they transition to primary school.
Children are well nourished, especially in the first 1,000 days
- Good nutritional status of mothers (& mothers-to-be)
- Exclusive & continued breastfeeding
- Proper feeding of <5s + micronutrients
- Immunization + Rx of childhood illnesses
- Good hygiene practices

Children receive early stimulation and learning opportunities from birth onwards
- Positive and engaging interactions with parents/caregivers
- Opportunities for age-appropriate and play-based learning through quality preschool programs

Children are nurtured and protected from stress
- Avoid/mitigate household and community stressors (neglect, violence, displacement, household shocks)
- Positive emotional connections with parents/caregivers
- Supportive discipline

SUCCESSFUL EARLY DEVELOPMENT REQUIRES A MULTISECTORAL EFFORT

- Quality, diverse & affordable food (AGR, T&C, GCC)
- Quality health care & reproductive health services (HNP)
- Water & sanitation (WTR)
- Educated & empowered women (GEN, EDU, HNP, SPLJ, T&C, F&M)
- Family leave & quality, affordable childcare (EDU, SPL, GEN)
- Reduced income poverty (POV, MFM, SPLJ)
- Safety nets & response to shocks (SURR, Climate, FCV, SPLJ)
2. Why Investing in the Early Years Matters

- The impact of **malnutrition** between conception and age 2 (the First 1,000 days) has drastic negative consequences – it **impairs brain and cognitive development and reduces lifetime learning and earning**

- In addition, **cognitive/linguistic delays can accumulate early on** in the lives of young children living in poverty and/or in less educated households due to lack of early stimulation/early learning opportunities; these gaps do not narrow by themselves.

- The **socio-emotional (or “non-cognitive”) skills** acquired in early childhood are predictive of individuals’ success and productivity in adult life.

- Evidence from both developed and developing countries suggests a **potential annual rate of return of 7–16%** from high-quality ECD and nutrition programs targeting vulnerable groups (due to positive impacts in education and health, reduced risky behaviors in adolescence, and increased productivity in adulthood).
Physical stunting by age 2 years seriously hampers brain and cognitive development

Malnutrition in early childhood significantly impairs proper development of the immune system, making children more vulnerable to infectious diseases (e.g. diarrhea, acute respiratory infections, malaria)

→ Contributing cause of almost half of under-five mortality
  (Black et al, 2013)

Childhood morbidity and malnutrition significantly impair cognitive development and earning potential in adulthood.

→ Stunted children under the age of 24 months earn significantly lower incomes throughout their productive lives: 10-20% lower wages in adulthood
  (Hoddinott, 2003; World Bank, 2006; Quisumbing, Gillespie and Haddad, 2003; Alderman Hoddinott and Kinsey, 2002; Ross and Horton, 2003; Granthan-McGregor et al, 2007)
Lack of early stimulation can also lead to Important cognitive/linguistic delays early on.
Source: Schady et al. (2014)
Gaps in performance do not narrow by themselves over time

Source: Schady et al. (2014)
And, if not addressed in time, these gaps translate into costly inefficiencies for individuals and societies.

Young children who are not developmentally ready for their age (i.e., children who are physically stunted and/or who are falling behind in their cognitive, linguistic, and socio-emotional development) are more likely to:

- enter first grade late
- score poorly in school
- repeat grades
- drop out of school before they complete primary school
- Experience poor physical and mental health throughout their life
- Engage in high-risk behavior (particularly in adolescence)
- Be less productive and have lower earnings

(See Naudeau et al. 2011, for a review).
Early childhood is the best period to narrow these developmental gaps as it is a highly sensitive period for brain development.
As a result, interventions in early childhood have a high cost-benefit ratio.

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost</th>
<th>Total Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIDI</td>
<td>$1</td>
<td>$3.7</td>
</tr>
<tr>
<td>PEIP (high risk)</td>
<td>$1</td>
<td>$5.1</td>
</tr>
<tr>
<td>Head Start*</td>
<td>$1</td>
<td>$8.74</td>
</tr>
<tr>
<td>Abecedarian</td>
<td>$1</td>
<td>$4</td>
</tr>
<tr>
<td>Chicago Child-Parent Center</td>
<td>$1</td>
<td>$7.14</td>
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<tr>
<td>Perry Preschool</td>
<td>$1</td>
<td>$17</td>
</tr>
</tbody>
</table>


...And the highest rates of returns to human development across all ages

3. International evidence: the impact (benefits) of various types of interventions in the Early Years
3.a. Programs to improve nutrition/prevent stunting

- **SCHOOLING:** Early nutrition programs can increase school completion by one year

- **EARNINGS:** Early nutrition programs can raise adult wages by 5-50%

- **POVERTY:** Children who escape stunting are 33% more likely to escape poverty as adults

- **ECONOMY:** Reductions in stunting can increase GDP by 4-11% in Asia & Africa
3.b. Programs to improve early stimulation by parents/caregivers and other family members

- The early cognitive and linguistic gaps documented earlier happen in large part because poorer and/or less educated parents engage in less early stimulation with their young children from birth onwards (Fernald, 2009).

- Many children do not have access to quality center-based care (i.e. daycare of preschool), so the only stimulation they are exposed to (or not) comes from the family/immediate environment.
Integrating early stimulation with nutrition pays off

- Programs that focus on both early stimulation and nutrition are more likely to generate long-lasting impacts than nutrition alone (for a review, see Annals of the NY Academy of Sciences, special issue on “Integrating nutrition and early childhood development interventions,” 2014).

- For example, a systematic review and meta-analysis of 21 interventions aimed at enhancing stimulation and 18 interventions that provided better nutrition revealed that stimulation had a medium effect size of 0.42 and 0.47 on cognitive and language development, respectively, whereas nutrition by itself had a smaller effect size of 0.09 (Aboud & Yousafzai, 2015)
Integrating Early Nutrition and Stimulation: The example of Jamaica

A follow up when beneficiary children reached age 22 found significant long term labor market returns (earnings 25% higher) in the group that had received early stimulation (with or without nutrition) compared to the group that had received nutrition only or no intervention at all (Gertler et al., 2014)
Promoting early stimulation can take different forms (all with documented positive impacts)

- Parenting information in the context of Maternal and Child Health/Growth monitoring Visits (on site at health facilities)
- Home visits for the most “at-risk” families
- Parenting meetings at community level
- Use of technologies (e.g. cell phones, TV, radio, etc.) to reach both children and parents with educational messages.
- Combined approaches mixing two or more of the above.
3.c. Center-based programs for young children

Longitudinal evidence from the United States show positive impacts of preschool on a range of outcomes:

![Chart showing major findings of the High/Scope Perry Preschool Study at various ages.](chart.png)

Evidence on the positive impacts of preschool is now increasingly available in LICs and MICs as well

- A recent review of ECD interventions (Engle et al. Lancet, 2011) shows that preschools can have significant positive effects on a child’s development and readiness for primary school in a range of LICS and MICs, including in: Bangladesh; Kenya, Uganda, Zanzibar; Chile; Uruguay; Colombia; Argentina; China; and Costa Rica.

- The same review includes a simulation model of the potential long-term economic effects of increasing preschool enrolment to 25% or 50% in every LIC and MIC and estimates very high benefit-to-cost ratios (6.4 to 17.6), depending on the specific enrollment rate and discount rate.

- Since then additional evidence continues to emerge (e.g. Indonesia, Mozambique, etc.)
Most of this evidence highlights that the poorest/most vulnerable benefit the most: **Example of Indonesia**

Impact of a community ECD preschool on the overall development of all participating children (4 year-olds scores on Early Development Index):
Results are larger for the poorest participants:

- Physical Health & Well-Being
- Social Competence
- Emotional Maturity
- Language & Cognitive Development
- Communication & General Knowledge

Impact in standard deviations

Source: Brinkman et al., 2015
Interesting spill-over effects can happen among family members in addition to positive impacts for the child.

- Increased participation in the labor force and/or productivity among parents (evidence from Argentina and Mozambique, among others).

- Increased likelihood that older siblings will focus on their own education instead of caring for younger children (particularly relevant where secondary school completion is low, including among specific sub-groups).
However, scaling up can be challenging, and low quality can jeopardize impact.

- Scaling up center-based care (including daycares and preschool) can promote children’s development while at the same time freeing up parents’ (and especially women’s) time for engaging in further education or income-generating activities.

- Yet, the former will not materialize if the quality of care is below certain standards: Evidence shows that poor quality preschools do not translate into positive outcomes for children.

- Quality includes a range of aspects of service delivery, including structural quality (i.e. infrastructure, toys and books, furniture, etc.) and process quality (i.e. interactions between children and teachers and among children).
3.d. Cash transfers for families with young children

For the poorest families, simply providing information (on improved parenting/stimulation and health and nutrition) and/or increasing access to quality preschools may not be sufficient to ensure behavior change and generate lasting impact if other key constraints (such as cash and/or time) prevent families from using these services effectively.

Providing cash transfers to families is an effective complementary intervention to enhance the well being and development of the poorest children.
4. Challenges (and cost implications) at scale

- A large and growing body of evidence exists across regions on what works well at small scale, but much less is known in MICs and LICs at large/country-level scale.

- Ensuring the necessary synergies across relevant interventions (nutrition, early stimulation/learning, protection, etc.) is challenging when Government services (and support from partners) tend to be delivered in silos.

- Good implementation at scale requires strong quality assurance mechanism and Gov. systems in place, even if/when part of the service delivery can be contracted out to non-state providers.

- Cost-effective does not mean cheap, especially at scale. Unit cost/child can be higher for pre-primary than for primary education. Also, the unit cost/child is likely to be higher at scale than in the pilot phase, at least in the initial period of the scale up, because:
  (a) Reaching the most vulnerable (e.g. remote areas; disabilities) can be more expensive
  (b) Some system building is necessary in the scaling up process (to ensure quality and sustainability)
Thank You!

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