Interventions to foster early childhood development: evaluation, sustainability and scalability

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UCL & IFS & NBER

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Co-authors and research projects

Most work I will refer to derives from joint projects and discussions with:
Raquel Bernal, Sarah Cattan, Costas Meghir, Sally Grantham McGregor, Pamela Jervis, Sonya Krutikova, Marta Rubio-Codina.

The various Colombian projects included as co-coauthors:
Raquel Bernal, Helen Henningham, Lina Cardona, Camila Fernández, Sonya Krutikova, Costas Meghir, Emla Fitzsimmons, Michele Giannola and Alison Andrew.

For the projects in India co-authors include:
Alison Andrew, Britta Augsburg, Jere Behrman, Monimalika Day, Pamela Jervis, Costas Meghir, Fardina Mehri, Smriti Pahwa and Angus Phimister.

For the projects in Ghana co-authors include:
Sarah Cattan, Bet Cayers, Sonya Krutikova, Peter Leighton, Alison Naftalin.
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2. Scalable interventions
   2.1 Examples
   2.2 Scalability

3. Some current studies
   3.1 Stimulation via Home Visits
   3.2 Stimulation via group interventions

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The issue is particularly relevant in developing countries as disadvantaged children in those countries appear particularly vulnerable to many environmental risks.

But many of the issues are also relevant in developed countries where human capital accumulation might play an important role in:

- Inequality;
- Lack of social mobility;
- Intergenerational transmission of poverty.
In studying human development and in designing policies to improve it, we need to understand the biology and the psychology of the process.

- Multidimensionality;
- Dynamics;
- Windows of opportunities.
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- Multidimensionality;
- Dynamics;
- Windows of opportunities.

We also need to understand the role played by various actors and inputs in the process:

- Parents;
- Communities, social norms;
- Schools.
Introduction

- Why economics?
Why economics?

Many key insights come from different disciplines.
Why economics?

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However, it may be useful to think of the process as a whole.

Individual choices and their drivers.

- Resources;
- Attitudes, tastes, beliefs;
- Interactions.
Introduction

- Why economics?
- Many key insights come from different disciplines.
- However, it may be useful to think of the process as a whole.
- Individual choices and their drivers.
  - Resources;
  - Attitudes, tastes, beliefs;
  - Interactions.
- Genuine interdisciplinarity is key.
Introduction

The early years are very important for policy.

- What happens in the early years has long run consequences;
- The early years are malleable.
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  - What happens in the early years has long run consequences;
  - The early years are malleable.

- To design effective interventions it is necessary:
  - To understand the process of human development;
  - To face the challenge of scalability.
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Much has been learned on the process of human development but much remains to be learned;

We know very little on the issue of scalability:

- Sustainability and affordability;
- Logistics;
- Community ownership.
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4. Conclusions
Several early interventions have been proved to be effective and successful.

Impacts have been shown to persist into adulthood.

This has been shown both in developed and developing countries:
Successful interventions

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  - The Perry Pre-School Program;
  - The Abecedarian Program;
  - The Nurse Family Partnership;
Successful interventions

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  - The Perry Pre-School Program;
  - The Abecedarian Program;
  - The Nurse Family Partnership;
  - The Jamaica Study;
  - Several studies in Bangladesh.
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58 of 123 high risk children aged 3 and 4 were assigned to a high quality preschool program in the early 1960s.

These children were followed into adulthood.
The Perry Pre-School program in Ypsilanti, Michigan.

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- These children were followed into adulthood.

### Major Findings: High/Scope Perry Preschool Study at 40

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<thead>
<tr>
<th>Category</th>
<th>Program group</th>
<th>No-program group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrested 5+ times by 40</td>
<td>36%</td>
<td>55%</td>
</tr>
<tr>
<td>Earned $20K+ at 40</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Graduated regular high school</td>
<td>45%</td>
<td>65%</td>
</tr>
<tr>
<td>Basic achievement at 14</td>
<td>15%</td>
<td>49%</td>
</tr>
<tr>
<td>Homework at 15</td>
<td>38%</td>
<td>61%</td>
</tr>
<tr>
<td>IQ 90+ at 5</td>
<td>28%</td>
<td>67%</td>
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The Carolina Abecedarian Project (ABC)

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- ABC was designed as a social experiment to test the impacts of high quality early years education.
- 111 disadvantaged children in Chapel Hill randomly assigned between treatment (57) and control (54).
- Two stages: early years (0 to 5) and school age years (6-8).
- Very intense early: cognitive and stimulation activities as well as supervised playing for a full 8-hours day!
- Emphasis on language, cognitive skills and self-regulation.
The ABC impacts on health: Biomedical Sweep (Mid 30s)


<table>
<thead>
<tr>
<th>Variable</th>
<th>Control Mean</th>
<th>Treatment Mean</th>
<th>Condit. TE</th>
<th>Blk. IPW P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic Blood Pressure (mmHg)</td>
<td>143.333</td>
<td>125.789</td>
<td>24.828</td>
<td>0.018</td>
</tr>
<tr>
<td>Diastolic Blood Pressure (mmHg)</td>
<td>92.000</td>
<td>78.526</td>
<td>19.220</td>
<td>0.024</td>
</tr>
<tr>
<td>Hypertension (S.&gt;140 &amp; D.&gt;90)</td>
<td>0.444</td>
<td>0.105</td>
<td>0.537</td>
<td>0.010</td>
</tr>
<tr>
<td>Hypertension (S.&gt;140 or D.&gt;90)</td>
<td>0.556</td>
<td>0.211</td>
<td>0.404</td>
<td>0.038</td>
</tr>
<tr>
<td>Obesity &amp; Hypertension</td>
<td>0.500</td>
<td>0.111</td>
<td>0.529</td>
<td>0.016</td>
</tr>
<tr>
<td>Severe Obesity &amp; Hypertension</td>
<td>0.375</td>
<td>0.000</td>
<td>0.502</td>
<td>0.005</td>
</tr>
<tr>
<td>Hypertension &amp; Dyslipidemia</td>
<td>0.333</td>
<td>0.000</td>
<td>0.435</td>
<td>0.006</td>
</tr>
<tr>
<td>Metabolic Syndrome (NCEP Def.)</td>
<td>0.250</td>
<td>0.000</td>
<td>0.465</td>
<td>0.007</td>
</tr>
<tr>
<td>Framingham Risk Score</td>
<td>7.043</td>
<td>4.889</td>
<td>3.253</td>
<td>0.038</td>
</tr>
</tbody>
</table>

Notes: The fourth column “Condit. TE” presents the conditional treatment effect controlling for cohort, number of siblings, mother’s IQ and high-risk index at birth, and accounting for attrition using IPW.
The Jamaica study.

- 129 stunted children, aged between 9 and 24 months at baseline were randomly divided into 4 groups:
  - Stimulation group;
  - Nutrition group;
  - Nutrition + Stimulation group;
  - Control group.
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- The intervention lasted 2 years and the children were observed:
  - at the end of the intervention;
  - at age 7-8;
  - at age 11-12;
  - at age 17-18;
  - at age 22-23.

At the end of the intervention, the children were observed at the following ages:
- at age 7-8;
- at age 11-12;
- at age 17-18;
- at age 22-23.

A follow up at age 30 is currently going on.
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The results were stunning:

(Grantham Mc Gregor et al., Lancet 1991)
The Jamaica study.

The results were stunning: (Walker et al., Lancet 2005)
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- To better understand how findings from these studies can form the basis of policy, we need to implement and evaluate scalable versions.

- Scalability is a difficult issue that involves:
  - understanding the mechanisms through which a program works;
  - understanding changes in parental behavior;
  - understanding how the ideas propagate and take root in a community;
  - understanding the political economy of an intervention and the available resources.
Some Important Questions

- The **key presumption** of such interventions is that directly targeting families with parenting interventions is more effective than some kind of transfer program...
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- What kind of spillovers do these interventions have in the family and the broader community/network?
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- Can they be scaled up?
What makes an intervention scalable?

- Available financial resources;
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- Available financial resources;
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- Available financial resources;
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- Ownership and community participation.
What makes an intervention scalable?

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In this lecture I will talk of some studies that have tried to evaluate scalable interventions.
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We have either worked within existing welfare programmes, or proposed programmes that could be implemented at scale.
Scalability

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We have either worked within existing welfare programmes, or proposed programmes that could be implemented at scale.

Often we refrained from the use of excessive resources to preserve scalability.
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Our Interventions - Scaling Up

Child Stimulation and Early Education studies by our group.
All Interventions are cluster randomized at the community level

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<th>Sample Size</th>
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<tbody>
<tr>
<td>Colombia</td>
<td>Home Visiting Yes 18 m 12-24m 96 Towns CCT Beneficiaries Published</td>
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<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Colombia</td>
<td>Play groups Yes 10 m 0-12m 87 towns Lowest two SE strata Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India/Odisha</td>
<td>Home Visiting Yes 24 m 7-16m 192 Villages Rural Completed and Playgroups 1400 children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>India/Odisha</td>
<td>Daycare centers No 24 m 31-40m as above Rural Starting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ghana</td>
<td>Child care centres No 24 m 36 m 80 villages Rural Running</td>
<td></td>
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ECD Interventions

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Some current studies

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<td>54 slums 378 children</td>
<td>Migrants in slums</td>
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<tr>
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<td>87 towns 1456 children</td>
<td>Lowest two SE strata</td>
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<td>India/Odisha</td>
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<td>Yes</td>
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<td>192 Villages 1400 children</td>
<td>Rural</td>
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</tr>
<tr>
<td>India/Odisha</td>
<td>Daycare centers</td>
<td>No</td>
<td>24 m</td>
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</table>
## Child Stimulation and Early Education studies by our group.

All Interventions are cluster randomized at the community level

<table>
<thead>
<tr>
<th>Country</th>
<th>Intervention</th>
<th>Nutrition</th>
<th>Duration</th>
<th>Start Age</th>
<th>Sample Size</th>
<th>Population</th>
<th>Status</th>
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<tr>
<td>Ghana</td>
<td>Child care centres</td>
<td>No</td>
<td>24 m</td>
<td>36 m</td>
<td>80 villages 1600 children</td>
<td>Rural</td>
<td>Running</td>
</tr>
</tbody>
</table>
Outline

1. Introduction

2. Scalable interventions
   2.1 Examples
   2.2 Scalability

3. Some current studies
   3.1 Stimulation via Home Visits
   3.2 Stimulation via group interventions

4. Conclusions
The basic structure of the stimulation studies:

Colombia and India

- The basic structure was guided by the Jamaica experiment by Sally Grantham-McGregor et al. 1991 - Lancet (SGM)
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  - **Research Design**: collect detailed household data to allow modeling the behavioral impact of the intervention to identify mechanisms.
Reach up and Learn : the Grantham-McGregor Curriculum

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  - Developmental activities to be done during home visit and practised between visits.
  - Materials needed for these activities left with mother for the week. Use recycled materials to make toys.
Types of Activities – Culturally adapted

- Picture Books
- Pictures to stimulate conversation
- Puzzles
- Cubes/Blocks and patterns
- Toys from recycled material
- Language games and songs.
Home visits in Odisha
Conversation Scenes and Puzzles
Home Visits in Odisha
Home Visits in Colombia
Home Visits in Odisha
Home Visits in Odisha
Some current studies

Stimulation via Home Visits

Pictures for Language
Conversation Scenes - example from Colombia

Material from Attanasio, Fernandez, Fitzsimmons, Grantham McGregor, Meghir and Rubio Codina
Toys made from waste materials
Home Made Toys by Mothers
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- The delivery of the curriculum relied on:
  1. **Home visitors**: Women from the local community who are trained by the mentors.
  2. **Mentors**: College graduates that would supervise the implementation;
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- They solve the HR problem of who will deliver the intervention.
Mentors.

- Mentors play a crucial role as they train the Home Visitors.
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- After training, the mentors kept going to the communities on a regular basis for monitoring the implementation, giving feedback and counseling.
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- Mentors play a crucial role as they train the Home Visitors.

- After training, the mentors kept going to the communities on a regular basis for monitoring the implementation, giving feedback and counseling.

- The mentors were constantly in touch with the Home Visitors and helped them solve problems with the visits.

  - In Colombia the Mentors would visit the village every 5/6 weeks.
  - In Cuttack and in Odisha the mentors would meet the HV weekly.
The Intervention

- Each Home Visitor visited the household once a week for one hour approximately;
The Intervention

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- The session began with a review of the activities from the previous week;
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- Materials were then replaced with those supporting the new set of activities;
- The emphasis is on involving mothers and child in the activities, hopefully changing parental practices.
- In the HV experiments, randomization is at the community level, to avoid contamination estimating the impacts.
- In the case of the rural Odisha intervention we will be able to assess spill-over effects.
When is the optimal age to start?

- In Colombia and in Cuttack the target children had 12-24 months at the beginning of the intervention.
- In rural Odisha the target children had 7-16 months at the beginning of the intervention.
Research questions

- **When is the optimal age to start?**
  - In Colombia and in Cuttack the target children had 12-24 months at the beginning of the intervention.
  - In rural Odisha the target children had 7-16 months at the beginning of the intervention.

- **How long should the intervention be?**
  - In Colombia and in Cuttack it was 18 months.
  - In rural Odisha it was 24 months.
### Characteristics of the population in small-town Colombia

**Table: Child and Maternal characteristics**

<table>
<thead>
<tr>
<th>Child Characteristics</th>
<th>Control</th>
<th>Stimulation</th>
<th>Supplementation</th>
<th>Both Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in months</td>
<td>18.3</td>
<td>18.1</td>
<td>18.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Male</td>
<td>49.7%</td>
<td>46.9%</td>
<td>53.9%</td>
<td>51.1%</td>
</tr>
<tr>
<td>Birthweight in g</td>
<td>3,222</td>
<td>3,267</td>
<td>3,245</td>
<td>3,247</td>
</tr>
<tr>
<td>Stunted: Z-score height-for-age &lt; -2SD</td>
<td>15.9%</td>
<td>13.6%</td>
<td>10.5%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Anaemic</td>
<td>46.1%</td>
<td>47.5%</td>
<td>45.6%</td>
<td>44.6%</td>
</tr>
<tr>
<td>First-Born</td>
<td>42.1%</td>
<td>35.9%</td>
<td>42.2%</td>
<td>36.1%</td>
</tr>
</tbody>
</table>

| Maternal Characteristics | | | | |
|---------------------------| | | | |
| Age                       | 27.6 | 28.3 | 27.5 | 27.9 |
| Education in years        | 7.7  | 7.2  | 7.4  | 7.5  |
| Married                   | 68.6%| 70.1%| 69.5%| 65.8%|
| Depression Score: CES-D 10 | 9.4  | 8.4  | 9.5  | 8.8  |
| Sample (towns/children)   | 24/318| 24/318| 24/308| 24/319|
### Table: Odisha: Child and Maternal characteristics

<table>
<thead>
<tr>
<th></th>
<th>Control Mean</th>
<th>Treatment Mean</th>
<th>P-value</th>
<th>Stepdown P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in months</td>
<td>15.1</td>
<td>14.7</td>
<td>0.22</td>
<td>0.88</td>
</tr>
<tr>
<td>Male (%)</td>
<td>48.7</td>
<td>56.0</td>
<td>0.24</td>
<td>0.82</td>
</tr>
<tr>
<td>Firstborn %</td>
<td>46.5</td>
<td>47.6</td>
<td>0.82</td>
<td>1.00</td>
</tr>
<tr>
<td>Length-for-age WHO Z-score</td>
<td>-1.14</td>
<td>-0.87</td>
<td>0.07</td>
<td>0.32</td>
</tr>
<tr>
<td>Weight-for-length WHO Z-score</td>
<td>-0.58</td>
<td>-0.46</td>
<td>0.33</td>
<td>0.83</td>
</tr>
<tr>
<td><strong>Parental Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother’s years of education</td>
<td>6.8</td>
<td>8.02</td>
<td>0.03</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Sample size 54 slums, 378 children
### Results of the Stimulation Interventions - Main Outcomes

**Table: Impacts of child stimulation**

<table>
<thead>
<tr>
<th></th>
<th>Odisha</th>
<th></th>
<th>Colombia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment Effect</td>
<td>Stepdown</td>
<td>Treatment Effect</td>
<td>Stepdown</td>
</tr>
<tr>
<td></td>
<td>P-value</td>
<td>P-Value</td>
<td>P-value</td>
<td>P-Value</td>
</tr>
<tr>
<td>Bayley-III Z-Scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognition</td>
<td></td>
<td>0.26</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Receptive language</td>
<td></td>
<td>0.22</td>
<td>0.032</td>
<td></td>
</tr>
<tr>
<td>Expressive language</td>
<td></td>
<td>0.084</td>
<td>&gt;0.50</td>
<td></td>
</tr>
<tr>
<td>Fine motor</td>
<td>0</td>
<td>0.122</td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td>Factor Index</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
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</table>
Some current studies

Stimulation via Home Visits

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<tr>
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<td>-</td>
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<td>-</td>
<td>-</td>
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</tbody>
</table>

- No impact of micronutrient supplementation (Colombia)
Heterogeneity of Impacts: who benefits most
### First Hint at Mechanisms: Increased Parental Investment in Children

<table>
<thead>
<tr>
<th></th>
<th>Home Made Toys</th>
<th>Bought Toys</th>
<th>Play Materials</th>
<th>Play Activities (previous 3 days)</th>
<th>Books for Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulation</strong></td>
<td>0.914**</td>
<td>0.284*</td>
<td>0.556**</td>
<td>0.564**</td>
<td>0.0188</td>
</tr>
<tr>
<td></td>
<td>(0.180)</td>
<td>(0.134)</td>
<td>(0.128)</td>
<td>(0.152)</td>
<td>(0.081)</td>
</tr>
<tr>
<td><strong>Stim + Micronutr</strong></td>
<td>0.719**</td>
<td>0.167</td>
<td>0.452**</td>
<td>0.731**</td>
<td>0.140</td>
</tr>
<tr>
<td></td>
<td>(0.189)</td>
<td>(0.133)</td>
<td>(0.137)</td>
<td>(0.153)</td>
<td>(0.087)</td>
</tr>
<tr>
<td><strong>Micronutrients</strong></td>
<td>0.0886</td>
<td>0.337*</td>
<td>0.213</td>
<td>0.217</td>
<td>0.104</td>
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<tr>
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<td>(0.151)</td>
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n = 1329; *significant at 5%; **significant at 1%

Stars based on Standard p-values for separate hypotheses.
Mechanisms: Odisha
The Cost

- **India**: $170 per year per child.

- GDP per capita US$1,700 at the time.
The Cost

- **India**: $170 per year per child.
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- **Colombia**: $500 per year and child
- GDP per capita $6,300 (2010)
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- **India**: $170 per year per child.
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- GDP per capita $6,300 (2010)
- 50% of cost is monitoring and supervision.
- At scale it can be reduced.
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- We have also been experimenting with playgroups in two contexts:

  1. Introduce structured curriculum in local day-care centers (using existing infrastructure);

  2. Create weekly playgroups in villages.
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- The advantages of groups are that they are likely to be cheaper;
- By fostering the creation of networks they may help sustain the practices propagated by interventions;
- Some mothers can provide role models and support to the person running the group;
- On the other hand the one-on-one support for the mothers is weakened;
- In some situations there might be social conflict among different ethnic groups.
Play Groups - FAMI Intervention, Colombia

- We implemented an intervention for groups in Colombia.
- We used an existing ECD infrastructure and intervention, which ensures our program is fully scalable.
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- We also implemented a monthly home visit.
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- We also implemented a monthly home visit.

- The intervention also included offering food intended for the children.
Play Groups - Intervention

- Intervention lasted about 10 months

- It involved 87 towns and a total of 1456 children.

- The children were 0-1 years of age at baseline
### FAMI Intervention: Main Outcomes

**Table: Main Outcomes**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Beta (95% CI)</th>
<th>Stepdown P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Bayley (Factor of Z-Scales)</td>
<td>0.152 (0.030, 0.274)</td>
<td>0.048**</td>
</tr>
<tr>
<td>ASQ:SE Total Score (Z)</td>
<td>0.060 (-0.067, 0.187)</td>
<td>0.346</td>
</tr>
<tr>
<td>Height for age Z-Score</td>
<td>0.093 (-0.045, 0.230)</td>
<td>0.330</td>
</tr>
</tbody>
</table>
FAMI Intervention: Further Outcomes

- To put things in context:
  - 74% of the children measured participated at least once
  - 28/55 sessions attended on average
  - In our home-visiting intervention we get about 55/72 sessions with near full participation
  - Depending on definition of compliance TOT is 0.3SD-0.4SD
FAMI Intervention: Further Outcomes

Table: Long term nutrition - Effects on height

<table>
<thead>
<tr>
<th></th>
<th>Beta (95% CI)</th>
<th>RW</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height-for-age between -5 SD and -1 SD</td>
<td>-0.058</td>
<td>0.098*</td>
<td>(-0.115, 0.000)</td>
</tr>
<tr>
<td>Height-for-age between -1 SD and 1 SD</td>
<td>0.068</td>
<td>0.046**</td>
<td>(0.012, 0.124)</td>
</tr>
<tr>
<td>Height-for age between 1 SD and 5 SD</td>
<td>-0.011</td>
<td>0.39</td>
<td>(-0.035, 0.014)</td>
</tr>
</tbody>
</table>

- The nutritional subsidy did stick with the children. Not (all) crowded out
A large Clustered RCT where we have tried groups is in rural Odisha, India, in 192 villages in 3 districts.
Some current studies  Stimulation via group interventions

**S&NE + Enhanced Preschool Program**

- A large Clustered RCT where we have tried groups is in rural Odisha, India, in 192 villages in 3 districts.

- In addition to groups this experiment has another important innovation:
  1. 24 month stimulation program up to age 3 (groups and individual visits);
  2. 18 month follow up Enhanced Preschool Program.
Some current studies

Stimulation via group interventions

S&NE + Enhanced Preschool Program

- This study, for the first time, studies a combination of early and late investment;
S&NE + Enhanced Preschool Program

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- Cross randomization after first phase allows direct testing on the timing and interaction of interventions;
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Cross randomization after first phase allows direct testing on the timing and interaction of interventions;

Same principle of scalability throughout:

- In the case of the EPP we are working in collaboration with ICDS and the Government of Odisha to improve the existing working of the Anganwadi Centres.
- We provide, for a relatively short amount of time, a trainer to work with the AW.
Some current studies

Stimulation via group interventions

Design

192 Villages

48 Control

48 Nutritional Education (NE)

48 Individual Stimulation+NE

48 Group Stimulation+NE

24 EPP

24 Control

24 EPP

24 Control

24 EPP

24 Control

24 EPP

24 Control

24 EPP

24 Control
Some current studies
Stimulation via group interventions

Phase 1: Group Delivery

- Same curriculum as individual visits, with changes to make workable in group setting
- Up to 8 children per group, with both children and mothers attending
- Materials given to mother pilot and in same way as g stimulation arm
Outcome Measures

- Child Cognitive, Language and fine motor and gross motor development, again measured with Bayley III
- Socioemotional development measured with the Social Difficulties Questionnaire
- Anthropometrics as measured as height for age Z scores and weight for age Z scores
- Secondary outcomes: Maternal depression, HOME, FCI, Maternal Knowledge of Child Development, McArthur measure of child vocabulary
Phase 1 Results
Phase 2: Enhanced Preschool Program

- Fade out in previous programs associated with poor quality preschool institutions
- Second phase intervention is implementation of a high quality preschool program
- Entirely delivered within existing infrastructure - retaining principle of scalability and reproducibility
**Enhanced Preschool Program**

- Treatment AWC visited twice a week by Pratham mentor (most recruited from previous treatments along same criteria)
- Additional training given to Anganwadi workers and helpers on child development
- Materials to implement curriculum provided to centres
- Bi-monthly visiting days with parents and caregivers

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*Attanasio (UCL, IFS) ECD Interventions*
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The intervention establishes child centres run by a local volunteers, who deliver a well developed curriculum to local children.
Child Care centres in Ghana

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We have midline data collected after only 6 months of interventions.
Child Care centres in Ghana

Ghana: preliminary impacts

Figure 1: ITT impacts
1. Introduction

2. Scalable interventions
   2.1 Examples
   2.2 Scalability

3. Some current studies
   3.1 Stimulation via Home Visits
   3.2 Stimulation via group interventions

4. Conclusions
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  • What do parents do and why?
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A research agenda:

- Better measurement tools.
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  - This is instrumental to the design of effective policies.

- This research agenda is key for the design of scalable policies.

- Scalability is a difficult issue that needs to be studied and considered in its own right.