Development of an Investment Case for Early Childhood Development in South Africa
Destinations and Pathways

- ECD is a recognized priority
  - The South African Government has committed to investing in Early Childhood Development.
  - Much has already been done to create an enabling environment for child development.
  - In December 2015 the Cabinet approved The National Integrated ECD Policy.
- The services outlined in the Policy cannot be rolled out all at once. Decisions will have to be made on what to prioritize. It is to this sequencing question that this analysis is addressed.
Our analysis is focused on the four largest components of the ECD Policy:

- Interventions to improve pregnancy outcomes;
- Home visits for at-risk mothers of children under 2 years of age;
- Play groups for mothers and children; and
- Centre-based services.

This simplification helps to draw attention to the major trade-offs. It should not be misinterpreted as implying that other components are not important.
Sequencing Questions

1. Should each of the components be rolled out simultaneously or should they be sequenced?
2. Should the roll-out of services focus on high-quality high-benefit services at the expense of coverage? Or should coverage come first and quality improvements follow?

• The answers to the above questions vary depending on the importance you attach to the different benefits which flow from investments in different ECD interventions.
Evaluation Framework

- For each component:
  - The evidence in favour of such interventions
  - An estimate of the benefits to children (short and long-term) and caregivers
  - The potential contribution to broader society (policy goals and social values)
  - The cost of implementing the interventions – per child and at scale
  - Constraints and enabling factors
Counter-intuitive Benefits

• Before examining the benefits, we must first address a problem.
• It may be that the obscured nature of a large proportion of ECD benefits leads to resistance to the findings of investment analyses.
• The improvements you see as a result of ECD interventions are often not as dramatic as those you see from subsequent investments, such as in university – yet you are asked to believe that ECD returns are higher?
• Must remind readers that costs are much lower, and also that ECD works through other investments, making the benefits it generates easy to attribute to subsequent investments.
Simple Model to Demonstrate the Point

• Simple models allow you to step back from the complexity of the real world and demonstrate the operation of specific mechanisms.

• What you see is not what you get - Model assumptions:
  • Composite measure of wellbeing
  • Four levels of investment: ECD, primary, secondary, and university
  • Each level costs twice as much as the one before
  • Each level has the same maximum benefit
  • Each level improves the level of returns of levels which follow it
What you see

- Development

- Base, ECD, Primary, Secondary, University

- Line graph showing progression from Base to University with the label "Everything"
Is not what you get
Nutrition interventions during pregnancy

- There is strong evidence that multiple-micronutrient (MMN) and food (balanced protein-energy) supplementation during pregnancy improves birthweight.
- There is also strong evidence that birthweight predicts later outcomes, such as performance at school and earnings in adulthood.
- A package of nutrition interventions for pregnant women could include MMN supplementation, food (balanced protein-energy) supplementation for undernourished pregnant women, and a mass media campaign to encourage optimum nutrition during pregnancy.
Nutrition in pregnancy: potential benefits

**SHORT TERM**
- Fewer low birthweight children
  - Around 12% reduction in LBW – roughly 9400 fewer LBW children per year
  - Drop in the prevalence of LBW from 15.1% to 14.2%

**LONG TERM**
- Better cognitive development
- Better school performance
- Better adult earnings
Home visiting

• For at-risk mothers of children aged 0-2
• There is strong evidence from developing country contexts of short and long term benefits of interventions to improve early stimulation, including interventions based on home visits.
• Home visits would involve a visit by community health workers demonstrating how to promote early learning and respond to children’s needs.
Home visiting: potential benefits

SHORT TERM
- Better developmental outcomes

LONG TERM
- Better mental health
- Better school performance

OTHER
- Reduced isolation for caregivers
  - This may improve caregivers’ mental health
Home visiting: benefits for learning

Baseline based on original analysis by Spaull and Kotzé (2015)
Play groups

- For children aged 0-3
- There is as yet no strong evidence on the impact of playgroups
- But there is strong evidence that interventions that promote stimulation early in life by improving caregivers’ knowledge have an impact on child development
Play groups: potential benefits

**SHORT TERM**
• Possible improvements in cognitive development

**LONG TERM**
• Possible improvements in school performance and earnings

**OTHER**
• Increased social support and networks for caregivers
  • This may improve caregivers’ mental health
Centre-based services

• For children aged 3-4.5
• Strong evidence from the developed world of the long-term impact of intensive high-cost interventions.
• Emerging evidence of the effectiveness of lower (but not low) intensity interventions from middle income countries
Centres: Childcare and early stimulation

- Centres can promote early stimulation and learning. This is where the long-term developmental benefits come from. It does not require a full day of activity.
- Centres can provide a safe place for children thereby freeing their caregivers (typically mothers) to engage in the labour market. This requires a full day.
- The state must choose between covering the cost of early stimulation and in doing so subsidize the cost of day care, and covering the cost of early stimulation and the full cost of day care.
- The choice has significant cost implications.
Centres: potential benefits

**SHORT TERM**
- Better cognitive skills
- Better non-cognitive skills

**LONG TERM**
- Better school performance
- Potentially better earnings and employment prospects

**OTHER**
- If centres operate for the full day, childcare is provided
  - Caregivers can participate in the labour market
Centres: benefits for learning

![Bar chart showing the comparison of Effective Grade between Original and With programme for Quintile 1 to Quintile 5. The chart indicates that the programme has a positive impact on learning for all quintiles.]
Component comparisons
Cost per child

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost per Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy (nutrition)</td>
<td>( \approx 1000 )</td>
</tr>
<tr>
<td>Home visits</td>
<td>( \approx 2000 )</td>
</tr>
<tr>
<td>Playgroups</td>
<td>( \approx 4000 )</td>
</tr>
<tr>
<td>Centres (ECD only)</td>
<td>( \approx 6000 )</td>
</tr>
<tr>
<td>Centres (full day care)</td>
<td>( \approx 8000 )</td>
</tr>
</tbody>
</table>
Total cost

- Pregnancy (nutrition)
- Home visits
- Playgroups
- Centres (ECD only)
- Centres (full day care)

Millions
Summary - costs

• Nutrition interventions during pregnancy have the lowest cost
• Home visits have a higher per child cost than playgroups because they are more intensive, but a lower total cost than playgroups because they are targeted at high-risk children
• Centres are by far the most expensive, both in terms of per child costs and total costs
Some cost comparisons

With R1 billion, you could provide roughly:

• Multiple micronutrient supplements for 20.4 million pregnant women (i.e. all pregnant women for 20 years), or

• Home visits for 385,000 children, or

• Playgroups for 667,000 children, or

• Centres (early stimulation and subsidized day care) for 120,000 children, or

• Centres (early stimulation and full day care) for 60,000 children
Summary – benefits

- Home visits are likely to have larger benefits for children than centres, even though they are much cheaper.
- Playgroups can reach a greater number of children at a lower cost than home visits, but have less evidence that they are effective.
- Centres have smaller benefits for children than home visiting despite being more expensive, but provide safe care for children, allowing mothers to engage in economic activity.
- Home visits and playgroups are more easily adapted to the needs of children with disabilities than are centres.
Constraints and enabling factors

• Nutrition interventions during pregnancy
  • Make use of an existing infrastructure and could be rolled out rapidly.

• Home visiting interventions
  • Could build on the existing health infrastructure.
  • Make use of CHWs who could be relatively easily trained.

• Playgroups
  • Slightly harder to roll out – it is not yet clear how exactly they would operate or that they would have the hoped-for outcomes

• Centres
  • Expanding access presents a substantial logistical challenge
  • Need high levels of investment in training, infrastructure and supervision.
Summary – main trade-offs

- Child development outcomes vs. child care
  - Home visits have the biggest benefits for children, but centres providing full day care have the greatest benefit in terms of providing child care and allowing mothers to work

- Equity (coverage) vs. quality
  - ECD interventions won’t benefit children unless they are of sufficient quality
  - But focusing on quality would lead to unequal access to services in the short to medium term
Research Team

- Chris Desmond (HSRC): Economic evaluation
- Linda Richter (CoE HUMAN, Wits University): Early Childhood Development and life course analysis
- Patricia Martin (Advocacy Aid): Policy analysis
- Taygen Edwards and Kate Rich (HSRC): Analysts
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