The economic rationale for investing in stunting reduction

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Abstract

About 175 million preschool children are stunted, primarily in South Asia and Sub-Saharan Africa. Early-life stunting is linked to a number of adverse outcomes over the life cycle. This study estimates economic benefit/cost ratios for a number of severely-burdened countries, arguably under conservative assumptions. These benefit/cost estimates range from 3.8 (DRC) to 34.1 (India), with a median of 18 (Bangladesh). These results suggest that rates of return to investments in reducing stunting are comparable to or better than many other uses of public resources, particularly because there are distributional gains in terms of reducing poverty in the next generation as well as non-economic gains such as reducing child suffering.

Introduction

- ~175 million preschool children stunted.
- Stunting usually develops < 2-3 y of age.
- Marker of systemic dysfunction during sensitive phase of child development.
- Linked to many adverse outcomes related to later developments over life.
- To assess economic benefits relative to costs (B/C ratio) need value impacts and costs over life cycle.

Figure 1: A lifecycle approach to investments in the First 1000 days

Methods

- Benefits and costs over life cycle (Fig. 1)
- Individual stunted at age 36m has 66% lower per capita income when age 25-42 y (INCAP Guatemalan data, Photo 1) if stunting treated as endogenous (Hoddinott et al); assume half income gains are realized.
- Costs of intervention (Table 1).
- Intervention package estimated to reduce stunting by 36% (Bhatta et al).
- Predicted increase income 11.4%.
- Apply to predicted per capita incomes for 2036-2050 (i.e., first 15 y of working lives if born in 2015 and start work only effects for young adults 21-35 y of age – not when younger or older).
- Estimated average benefit/cost estimates between 3.8 (DRC) and 34.1 (India), with median of 18 (Bangladesh).
- Benefits and costs; assumptions probably conservative (e.g., half of INCAP effect, only income/consumption and not other effects, only effects for young adults 21-35 y of age – not when younger or older).

Results

Benefits/costs in selected high-burden countries substantially exceed one (Figure 2).

Conclusions

- In countries in which stunting widespread, primarily in South Asia and Sub-Saharan Africa, our estimates of benefit/cost ratios are substantially above one in terms of economic benefits alone.
- This suggests that investments in reducing stunting have rates of return comparable to or better than many other uses of public resources, particularly because there are distributional gains in terms of reducing poverty in the next generation as well as non-economic gains such as reducing child suffering.

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