Cost and cost-effectiveness of nutrition programs

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Evidence for Decision making

- Burden of Disease
- Intervention Efficacy & Effectiveness
- Cost-effective
- Feasible and acceptable?
- Affordable & Financially sustainable
Economic Evaluations of nutrition

1. Costs and cost-effectiveness
2. Economic burden of malnutrition (or the economic payoff of investing in nutrition)
3. Country level costing for SUN countries
4. Global costs of an essential package of nutrition interventions
Costs of direct nutrition interventions

- Micronutrients and deworming  $ (LT $1.00 per person)
- Behavior change interventions to promote breast and complementary feeding  $$ ($10 to $200 per person)
- Complementary and therapeutic feeding interventions  $$$ ( $50- $1,300 per person)
Global costs of scaling up direct nutrition interventions - $9.6 billion/year

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Salt iodisation</td>
<td>$68</td>
</tr>
<tr>
<td>Multiple micronutrient supplementation in pregnancy (includes iron-folate)</td>
<td>$472</td>
</tr>
<tr>
<td>Calcium supplementation in pregnancy</td>
<td>$1914</td>
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<tr>
<td>Energy-protein supplementation in pregnancy</td>
<td>$972</td>
</tr>
<tr>
<td>Vitamin A supplementation in childhood</td>
<td>$106</td>
</tr>
<tr>
<td>Zinc supplementation in childhood</td>
<td>$1182</td>
</tr>
<tr>
<td>Breastfeeding promotion</td>
<td>$653</td>
</tr>
<tr>
<td>Complementary feeding education</td>
<td>$269</td>
</tr>
<tr>
<td>Complementary food supplementation</td>
<td>$1359</td>
</tr>
<tr>
<td>SAM management</td>
<td>$2563</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9559</strong></td>
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</tbody>
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Data are 2010 international dollars, millions.

Source: Bhutta et al. Lancet 2014
What do we know about CE of Nutrition Interventions?

• Strong evidence that direct nutrition interventions are cost-effective.
  – DCP systematic review of costs and cost-effectiveness of nutrition interventions

• Less evidence on ‘nutrition’ sensitive interventions related to some sectors—especially those that require integration either across different sectors, or different levels of the service delivery.
Conceptual Framework

**Child Survival**

- **Dietary Intake**
  - Household food security

- **Disease**

- **Care for Children and Women**

- **Health Services & Unhealthy Environment**

**Immediate Causes**

**Underlying Causes**

**Basic Causes**

**Resources and Control**
- Human, economic and organizational resources

**Political and Ideological Structures**

**Economic Structure**

**Potential Resources**

**Interventions at this level:**
- Breastfeeding, complimentary feeding, Micronutrient supplementation, hygiene, diarrhea control, vaccination

**Interventions at this level:**
- Agriculture, microcredit, income generation, Education, Water and sanitation Health system strengthening, women's employment Link agriculture and health interventions

**Global WACH**

**Department of Global Health, University of Washington**
Challenges in capturing full benefits of nutrition investments

- Nutrition sensitive programs have multiple objectives, including food security, income generation, women’s empowerment and nutrition.
- Difficult to fully capture benefits in a single measure.
- Difficult to measure associated death and disability associated with micronutrient malnutrition (small translation to DALY).
Current work: Costs and benefits of an integrated agriculture and health project to maximize nutrition

- Introduce new variety of vitamin A rich orange fleshed sweet potato into existing health project
- Estimating financial and economic costs of integrated program
- $155 per beneficiary
- $30 per contact
Future Directions

• Improve the guidelines for collecting data, conducting economic evaluations and standard reporting of results.

• Promote implementation of cost and cost-effectiveness studies as part of broader monitoring and evaluations strategy.

• Capture full benefits of nutrition interventions that captures integrated services/programs across sectors.
Reading recommendations

• Lancet series on maternal and child undernutrition 2008 and 2013