Interventions

Disease Control Priorities, 3rd Edition
&
Global Partnership for Education
Optimizing Education Outcomes 2018

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Volume 8 Lead Editor
Child and Adolescent Health and Development

Optimizing Education Outcomes: High-Return Investments in School Health for Increased Participation and Learning
Two essential packages (5-19 years)

- The volume proposes two essential packages for ages 5-19 years:
  - School-age package (5-14 years): utilizes pre-primary and primary schools to address health needs in middle childhood and early adolescence
  - Adolescent package (15-19 years): utilizes a mixed approach involving the community, secondary schools, media and health systems
Cost:Benefit Ratios for the School-Age Essential Package
Cost Share of the School-Age Essential Package

Low-Income Countries

Lower-Middle Income Countries

- School feeding
- Vision screening
- Deworming
- Health education
- Vaccines

$8.20

$17.33

$5.40
Interventions across the life course in low and middle-income countries
Programs in China Across the 8,000 Days

Education
- Mommy Schools
- Parenting Program
- Village Early Education Center
- E-Learning in Rural Primary Schools
- Secondary Vocational Training

Health
- Nutrition for Pregnant Women
- Breastfeeding and Nutrition Package
- Preschool Nutrition
- School Nutrition Improvement Initiative
- Mental Health

-9 months 0 years 3 years 6 years 15+ years
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Mode of Delivery</th>
<th>Est. Cost/Child who Benefits ($USD) in LLMICs</th>
<th>Est. Cost/Child ($USD) in Relevant Age Group</th>
<th>Aggregate Cost/Child ($USD Millions/Year) in LICs</th>
<th>Aggregate Cost/Child ($USD Millions/Year) in LMICs</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Feeding</td>
<td>Meals (fortified) provided at school</td>
<td>41 (targeted to 20% of population in most food insecure areas)</td>
<td>8.20</td>
<td>340</td>
<td>2400</td>
</tr>
<tr>
<td>Health education (oral health and ITN use)</td>
<td>ITN education delivered only in endemic areas</td>
<td>0.50 per educational message (assume 50% of children in endemic areas in LLMICs)</td>
<td>0.75</td>
<td>31</td>
<td>110</td>
</tr>
<tr>
<td>Vision screening</td>
<td>Screening by teachers and provision of ready made glasses by eye specialists</td>
<td>3.60 to screen and provide glasses to fraction of age group needing glasses</td>
<td>0.60</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>Deworming</td>
<td>Medication for STH/SCH delivered by teachers in endemic areas</td>
<td>0.70 in endemic areas (50% of areas endemic)</td>
<td>0.35</td>
<td>14</td>
<td>52</td>
</tr>
<tr>
<td>TT booster</td>
<td>Single dose booster administered in one grade by nurse</td>
<td>2.40</td>
<td>0.40</td>
<td>16</td>
<td>59</td>
</tr>
<tr>
<td>HPV vaccination</td>
<td>(DCP3 Cancer volume)</td>
<td>1 per fully vaccinated girl (GAVI eligible countries)</td>
<td>0.83</td>
<td>43</td>
<td>74</td>
</tr>
</tbody>
</table>
## Adolescent Essential Package (15-19 years)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Mode of Delivery</th>
<th>Est. Cost/Child who Benefits ($USD) in LLMICs</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Media Messages or National Policy Regarding Health</td>
<td>Messages concerning use of tobacco, alcohol, and illicit drugs; sexual and reproductive health; mental health; healthy eating or physical activity</td>
<td>1 per adolescent</td>
<td>1 per adolescent aged 10-19</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Health Education in Schools</td>
<td>Education for targeted age groups</td>
<td>9 per year per adolescent aged 14-16 years</td>
<td>3 per adolescent aged 10-19</td>
<td>90</td>
<td>450</td>
</tr>
<tr>
<td>Adolescent-Friendly Health Services</td>
<td>Health services offering respectful and confidential access for adolescents</td>
<td>5 per adolescent</td>
<td>5 per adolescent aged 10-19</td>
<td>790</td>
<td>2300</td>
</tr>
</tbody>
</table>
Child and Adolescent Health and Development

Re-Imagining School Feeding:
A High Return Investment in Human Capital and Local Economies

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WITH A FOREWORD BY
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WITH A PREFACE BY
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WITH A PROLOGUE BY
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School Feeding Programmes

Social Protection
Social Safety Nets

Human Capital Development:
Health and Education

Peace Building
Stability and growth

Rural Economies
Small-holder Agriculture

DCP³ Disease Control Priorities
economic evaluation for health
HEALTH INTERVENTIONS DURING SCHOOL YEARS

Ages 5-9
- Infections and malnutrition are key constraints on development
- Tetanus toxoid and HPV vaccination
- Oral health promotion
- Vision screening and treatment
- Insecticide-treated mosquito net promotion and use
- Deworming
- School meals and school feeding fortified with micronutrients

Ages 10-14
- Significant physiological and behavioral changes are associated with puberty
- Healthy lifestyle education
- Comprehensive sexuality education
- Adolescent-friendly health services within schools
- Nutrition education
- Mental health education and counseling

Ages 15-early 20s
- Brain restructuring and initiation of behaviors are lifelong determinants of health
- Menstrual hygiene management
Invest in people: Human Capital

• 70% vs 40%: a missed opportunity for nations and individuals.
• Misaligned investment: $210B in education, $4B in health and nutrition.
• Invest in the learner as well as in the system: demand as well as supply.
• World Bank/Malala Fund: if all girls completed secondary education: return would be $30 trillion.
Invest in Communities: Social Safety Nets

• School meals programmes are often the main safety net for poor children: in the financial crisis of 2008; in Syria and Yemen today.

• They Reach into the heart of communities and benefit children and adolescents directly.

• They provide a non-cash transfer worth around 10% of annual income, per child.

• And a strong incentive to keep girls in schools and avoid harmful alternatives; they prevent early marriage and delay first pregnancy.
Invest in Local Economies: Create Macroeconomic Returns

• School meals programmes create large scale and predictable demand for local food: 6.8 million eggs a week in Nigeria; locally produced snacks in Syria.

• Predictable demand stimulates local macroeconomics.

• Provides a predictable income for small-holder farmers: 70% of whom are women.

• Incentivizes new small and medium sized enterprises: 95,000 informal traders in Nigeria have become full-time caterers, all women.
In this document, the recommendation is to "Invest in Peace-Building". Here are the key points:

- Half a billion people today live in conflict zones and are hungry.
- School meals programmes, even in informal education settings, meet children’s basic needs and help stabilize lives and rebuild communities.
- Creating structured communities mitigates the human rights violations that arise in conflicts and fragility, and especially helps to protect girls.
- The costs of peace-building are insignificant against the trillion dollar costs of war.
THANK YOU

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Research disparity in health and development after age 5

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Google Scholar</th>
<th></th>
<th>PubMed</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mortality</td>
<td>Cause of death</td>
<td>Health</td>
<td>Mortality</td>
</tr>
<tr>
<td></td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
</tr>
<tr>
<td>&lt;5 years*</td>
<td>939,400 (98.81%)</td>
<td>55,900 (94.62%)</td>
<td>2,705,100 (99.17%)</td>
<td>59,836 (93.95%)</td>
</tr>
<tr>
<td>5–9 years</td>
<td>1,520 (0.16%)</td>
<td>405 (0.69%)</td>
<td>3240 (0.12%)</td>
<td>3,262 (5.12%)</td>
</tr>
<tr>
<td>10–14 years</td>
<td>2,760 (0.29%)</td>
<td>784 (1.33%)</td>
<td>6,120 (0.22%)</td>
<td>333 (0.52%)</td>
</tr>
<tr>
<td>15–19 years</td>
<td>7,050 (0.74%)</td>
<td>1,990 (3.37%)</td>
<td>13,300 (0.49%)</td>
<td>261 (0.41%)</td>
</tr>
<tr>
<td>Total</td>
<td>950,730 (100%)</td>
<td>59,079 (100%)</td>
<td>27,277,600 (100%)</td>
<td>63,692 (100%)</td>
</tr>
</tbody>
</table>