

Interventions

Disease Control Priorities, 3rd Edition

&

Global Partnership for Education

Optimizing Education Outcomes 2018

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DISEASE CONTROL PRIORITIES • THIRD EDITION

8

Child and Adolescent Health and Development

Optimizing Education Outcomes:
High-Return Investments in School Health for
Increased Participation and Learning



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DCP³

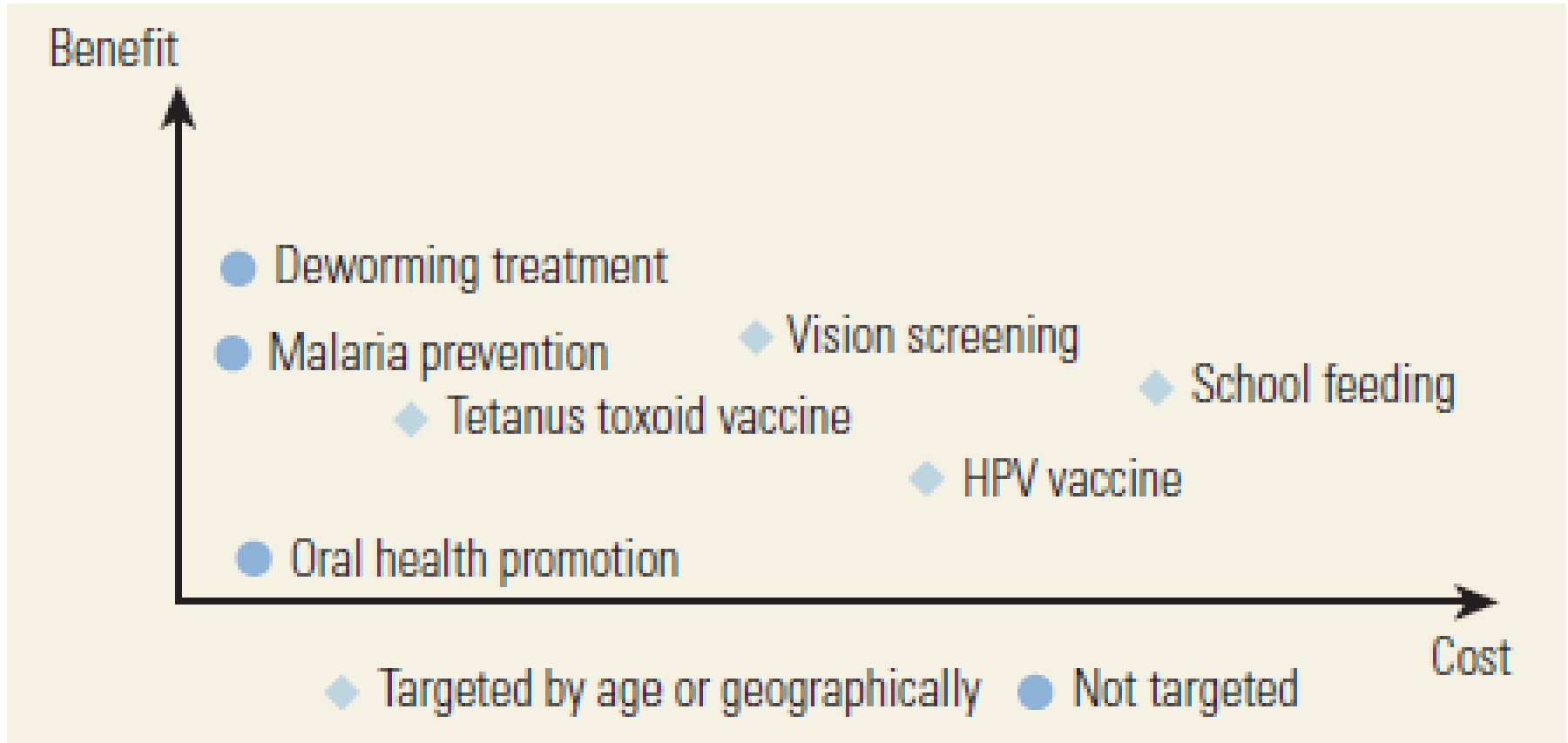
Disease
Control
Priorities

economic evaluation for health

Two essential packages (5-19 years)

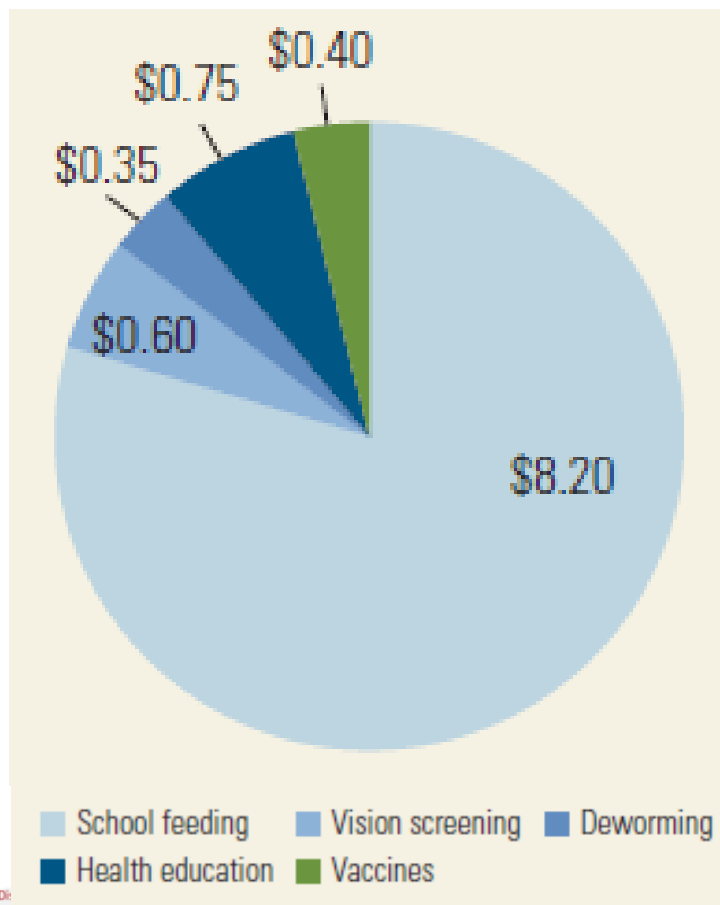
- The volume proposes two essential packages for ages 5-19 years:
 - School-age package (5-14 years): utilizes pre-primary and primary schools to address health needs in middle childhood and early adolescence
 - Adolescent package (15-19 years): utilizes a mixed approach involving the community, secondary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

Cost:Benefit Ratios for the School-Age Essential Package

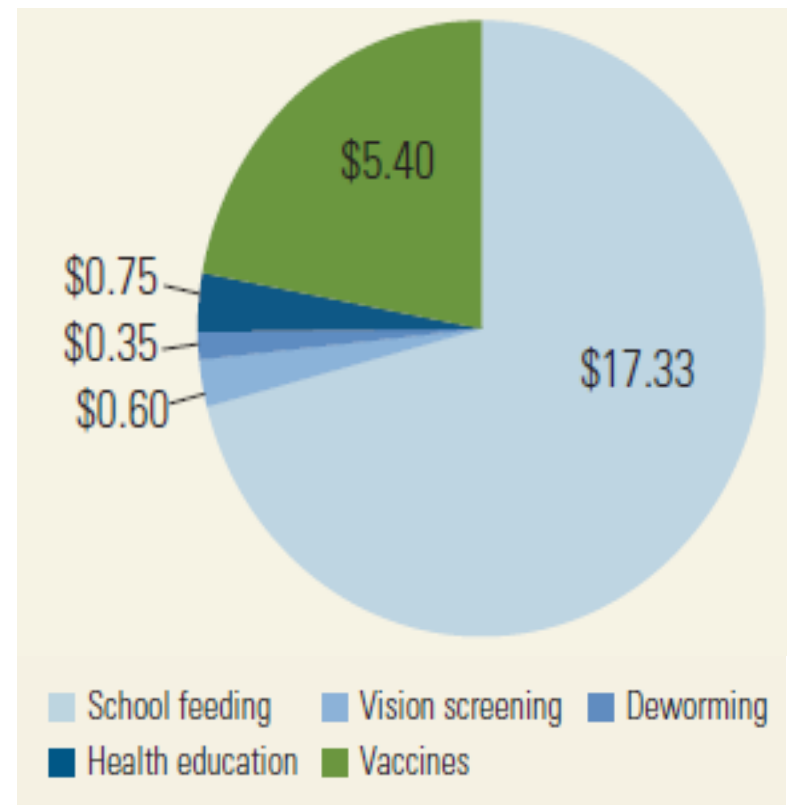


Cost Share of the School-Age Essential Package

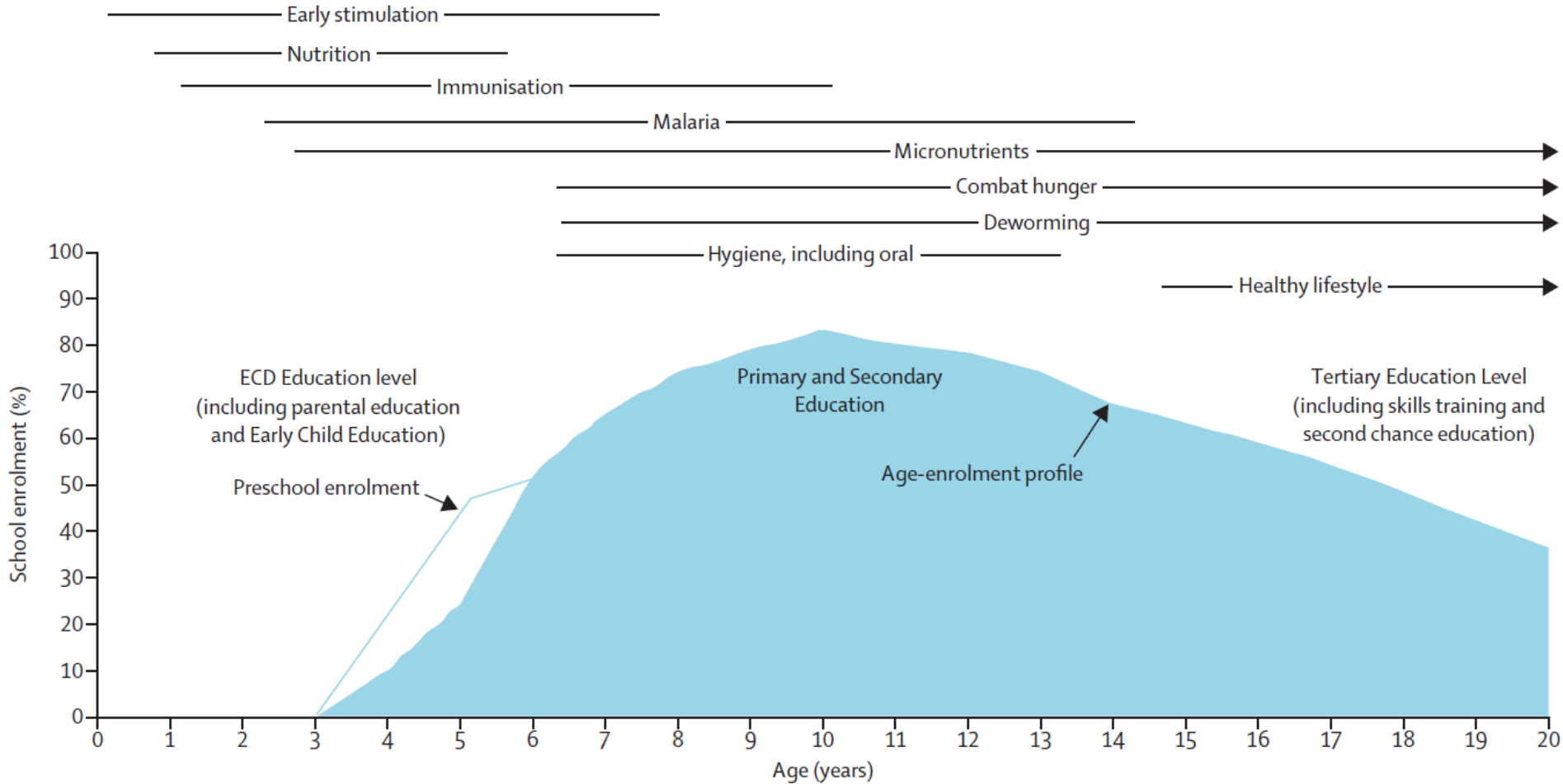
Low-Income Countries



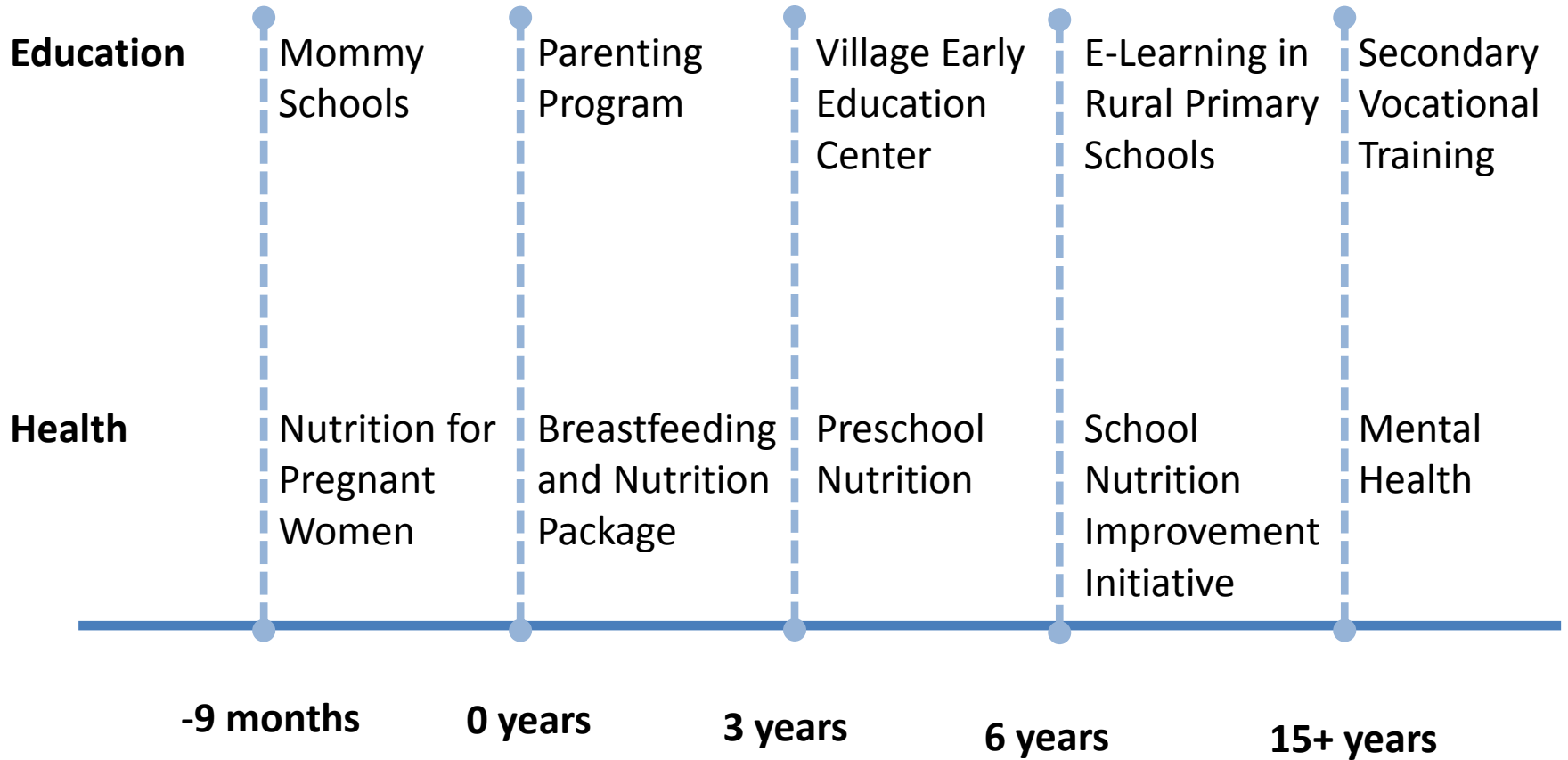
Lower-Middle Income Countries



Interventions across the life course in low and middle-income countries



Programs in China Across the 8,000 Days



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

Adolescent Essential Package (15-19 years)

| Intervention | Mode of Delivery | Est. Cost/Child who Benefits (\$USD) in LLMICs | Est. Cost/Child (\$USD) in Relevant Age Group | Aggregate Cost/Child (\$USD Millions/Year) in LICs | Aggregate Cost/Child (\$USD Millions/Year) in LMICs |
|--|--|--|---|--|---|
| Media Messages or National Policy Regarding Health | Messages concerning use of tobacco, alcohol, and illicit drugs; sexual and reproductive health; mental health; healthy eating or physical activity | 1 per adolescent | 1 per adolescent aged 10-19 | -- | -- |
| Health Education in Schools | Education for targeted age groups | 9 per year per adolescent aged 14-16 years | 3 per adolescent aged 10-19 | 90 | 450 |
| Adolescent-Friendly Health Services | Health services offering respectful and confidential access for adolescents | 5 per adolescent | 5 per adolescent aged 10-19 | 790 | 2300 |

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



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Social Protection

Social Safety Nets

**Human Capital
Development:**
Health and Education



School
Feeding
Programmes

Rural Economies

Small-holder Agriculture

Peace Building

Stability and growth

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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



Menstrual hygiene management



Ages 15-early 20s

Brain restructuring and initiation of behaviors are lifelong determinants of health

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.

Invest in Peace-Building

- 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

| | Google Scholar | | | | | | PubMed | | | | | |
|-------------|----------------|-------|----------------|-------|-----------|-------|-----------|-------|----------------|-------|---------|-------|
| | Mortality | | Cause of death | | Health | | Mortality | | Cause of death | | Health | |
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % |
| <5 years* | 939 400 | 98.81 | 55 900 | 94.62 | 2 705 100 | 99.17 | 59 836 | 93.95 | 8 374 | 94.29 | 129 332 | 95.33 |
| 5-9 years | 1 520 | 0.16 | 405 | 0.69 | 3 240 | 0.12 | 3 262 | 5.12 | 383 | 4.31 | 4 751 | 3.50 |
| 10-14 years | 2 760 | 0.29 | 784 | 1.33 | 6 120 | 0.22 | 333 | 0.52 | 65 | 0.73 | 750 | 0.55 |
| 15-19 years | 7 050 | 0.74 | 1 990 | 3.37 | 13 300 | 0.49 | 261 | 0.41 | 59 | 0.66 | 829 | 0.61 |
| Total | 950 730 | 100 | 59 079 | 100 | 2 727 760 | 100 | 63 692 | 100 | 8 881 | 100 | 135 741 | 100 |