Economic evaluation of delivering integrated school-based health programmes in Cambodia and Ghana

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Background

In 2016, the SHIP (School Health Integrated Programming) project screened schoolchildren for health problems such as poor vision and worm infections, and distributed spectacles and treatments in Cambodia, Ethiopia, Ghana and Senegal.

Children with poor vision face multiple barriers to learning – around 80% of all learning during the first 12 years of life occurs through vision. But scarcity of information on the cost and affordability of school health programmes prevents governments from implementing or scaling up school-based vision screening.

SHIP aimed to build the awareness, capacity, and operational and technical resources to support the countries to include school-based vision screening into their Education Sector Plans.

Screening and referral procedure for SHIP project

- Teacher conducts test for every student using the E-chart
- Teacher does test for every student using the E-chart
- Problems with the test
- Student gets a referral form for the eye doctor
- Examination by eye doctor
- Normal vision
- Low vision that can be corrected with glasses
- Low vision that can not be corrected with glasses
- Student receives ready-made or a prescription/referral for custom-made spectacles (depending on diagnosis)
- Student gets a referral to Health Clinic or Eye Hospital

Cost analysis

Incremental cost per child screened, actuals and projected (including multivariate sensitivity analysis)

<table>
<thead>
<tr>
<th>Incremental Cost</th>
<th>Actuals</th>
<th>Projected</th>
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</thead>
<tbody>
<tr>
<td>US$5.00</td>
<td>4.91</td>
<td>6.07</td>
</tr>
<tr>
<td>US$7.00</td>
<td>1.09</td>
<td>1.9</td>
</tr>
<tr>
<td>US$11.00</td>
<td>1.9</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Main parameters: Number of schools covered in a day by optometrists, Coordination (salaries) and accommodation costs.

Budget impact analysis

Budget for five-year vision screening programme represents:

- 0.5% of the combined (health and education) budget in Cambodia ($1.333 billion in 2018)
- 0.5% of the combined budget in Ghana ($3.065 billion 2018)

Objective

To generate evidence on the cost of including vision screening in integrated school health programmes and to build an innovative, user-friendly costing model to help future implementation of similar programmes by governments and partners.

Methods

Three sets of cost estimates were calculated:

- Pilot incremental costs – based on pilot cash expenditure from Cambodia and Ghana
- Standard costs – derived from standard SHIP guidelines
- Projected incremental cost – Cost of a five-year school-based vision screening programme at the national scale in Cambodia and Ghana estimated. Actual costs and education data flow model (repetition, drop-out and completion rate) used to increase accuracy

Conclusion

- Schools are an effective platform for health delivery, particularly identifying and treating visual impairment
- School-based programmes must align with existing policies, systems and infrastructure to support ownership and sustainability
- Integrating vision screening with other school-based interventions and delivering this at scale can maximise both the economies of scale and economies of scope
- The results and the costing tool will help policymakers and planners when planning and budgeting school health interventions at scale

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