Millions Saved

New Cases of Proven Success in Global Health

Amanda Glassman
COO & Senior Fellow

September 28, 2017
1. Why Millions Saved
2. Millions Saved cases
3. Cost-effectiveness
4. Key messages
MILLIONS SAVED
WHY
In past 15 years, new HIV infections dropped from 3.1m to 2m
Deaths from malaria halved since 2000 across Africa
Child mortality rates halved since 1990

Low income

Lower middle income

Upper middle income

High income

<table>
<thead>
<tr>
<th>Year</th>
<th>Low income</th>
<th>Lower middle income</th>
<th>Upper middle income</th>
<th>High income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>187</td>
<td>119</td>
<td>90</td>
<td>4</td>
</tr>
<tr>
<td>1991</td>
<td>187</td>
<td>119</td>
<td>90</td>
<td>4</td>
</tr>
<tr>
<td>1992</td>
<td>149</td>
<td>92</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1993</td>
<td>149</td>
<td>92</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1994</td>
<td>119</td>
<td>92</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1995</td>
<td>119</td>
<td>92</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1996</td>
<td>92</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1997</td>
<td>92</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1998</td>
<td>73</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1999</td>
<td>73</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2000</td>
<td>73</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2001</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2002</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2003</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2004</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2005</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2006</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2009</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2010</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2012</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2013</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2014</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2015</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>
But there’s more to be done

• Need to know what works, why it works
• Landscape on aid and public spending is changing
• Mixed evidence on the effects of greater spending on health
Earlier volume of Millions Saved was a hit

Influence

- Used in more than 60 universities
- Inspired charity selection criteria
- Aid skeptics exempt global health citing Millions Saved
- Follow on: Millions Fed (IFPRI), Millions Learning (Brookings)
New volume builds on earlier and adds

- Policy question:
  - What kind of evidence does it take to declare success?
- More evidence available
- Strength of the evidence discussion
- Cost-effectiveness in implementation
- Disappointments
2

MILLIONS SAVED
CASES
Millions Saved criteria for case selection

**Important**
- A big problem defined by DALY or other health outcome measures
- Trouble: NTDs, vaccines

**Attributable impact**
- Positive, statistically significant, attributable impact on population health outcome using appropriate methods
- Trouble: elimination diseases; universal policies; average effects

**Scale and duration**
- Relatively large (> 80,000 beneficiaries, > 5 yrs)
- Trouble: most evals are based on small-scale programs

**Highly cost-effective**
- Less than a GDP per capita per DALY averted (WHO criteria)
- Trouble: most evals don’t calculate cost-effectiveness; cost effective ≠ affordable

**Generalizable**
- Trouble: omits pilots even if large? External validity – not formal

RELYING ON THE PUBLISHED AND GREY LITERATURE, WITH PREFERENCE TO PEER REVIEWED PUBLICATIONS, SYSTEMATIC REVIEWS
Choosing cases to highlight

Most based on RCT, quasi-experiments or related methods to allow for attribution

**BUT:**

Includes population-level policies where “enough” corroborating evidence and/or considered confounders

Includes some RCT / related pilots that were later scaled and health impact extrapolated to larger scale
- Sought across literatures and search engines for policies, programs and interventions
- Screened DCP3, Cochrane, J-PAL, IPA and 3iE, country evaluation councils
- Issued a public call for proposals, and received nominations and feedback
- Nominations called from DCP3 editors
- Asked colleagues and web readers
- Put together a long list of 150 and then a short list of 30
- Short list to econs
- Shorter list to Advisory Group
- Selection, posted on web for comment
- Blogged controversial or problematic areas
- Selected with Advisory Group
- Drafted cases and had expert peer reviewers or implementers for each case
18 cases of success at scale (* = USG support)

**Medicine & Technology Rollout**
- Expanding ART coverage in Botswana*
- Rolling out MenAfriVac*
- Hepatitis B Prevention in China
- School-based Deworming in Kenya
- Malaria Control in Zambia*
- Eradicating Polio in Haiti*
- Piso Firme in Mexico

**Targeted Transfers to Improve Health**
- Female School Stipend Program in Pakistan
- Child Support Grant in South Africa
- Social cash transfers for Orphans and Vulnerable Children in Kenya

**Behavior Change to Reduce Population Risk**
- Requiring Helmets for Motorcyclists in Vietnam
- Targeting HIV Prevention: Avahan in India
- Improving Rural Sanitation in Indonesia
- Tobacco Control in Thailand

**Increased Access to Health Care**
- Plan Nacer in Argentina
- Paying for Performance in Rwanda
- Thailand’s Universal Coverage Scheme
- Brazil’s Family Health Program
4 cases to learn from disappointment

- Medicine & Technology Rollout
  - Integrated Management of Childhood Illness in Bangladesh

- Targeted Transfers to Improve Health
  - Honduras’s Family Allowance Program

- Behavior Change to Reduce Population Risk
  - Promoting Handwashing in Peru

- Increased Access to Health Care
  - Promoting Hospital Deliveries in India

Key insights:
- Use rigorous impact evaluation methods
- Usually successfully implemented with utilization increases
- But no significant outcomes on health status, and some negative outcomes
AIDS related deaths in Botswana (in thousands)
An Outbreak Halted in its Tracks

Eliminating Polio in Haiti

Relying on proven tactics, Haiti goes school-to-school and house-to-house to vaccinate kids and halts a polio outbreak caused by the vaccine itself.

Image credit: Kendra Helmer/USAID
Argentina's Plan Nacer

Through a structured system of incentive payments, Argentina's national government tangos with provincial authorities to take on a spiraling newborn health crisis.
Impact but controversy: Indonesia sanitation

Reduce child deaths from diarrhea related to contaminated water and food
  • Latrine construction plus social marketing

38 million people
  • 20% total population

$14 million over three years (‘08-’10)
  • 72% paid by HH

30% drop in diarrhea prevalence
  • Evaluated in RCT using phased roll-out
Disappointment: Honduras PRAF

Image Source: http://www.povertyactionlab.org/evaluation/conditional-cash-transfers-honduras
MILLIONS SAVED
WHAT DO WE KNOW ABOUT COST-EFFECTIVENESS
Back out the cost-effectiveness: Did successes add up to a million lives saved?

Why desirable...

- Contrast rigorously evaluated experiences with earlier modeled estimates
- *In situ* important to understand benefits, costs and opportunity costs
- Give reader a sense of relative importance and impact of cases, potential generalizability

Why tough...

- Only two of the selected cases had studies that calculate cost-effectiveness estimates
- Reported outcomes not comparable
- Costs almost never reported (sometimes spending)
- Had to make lots of assumptions and model
- Had to omit multi-objective and multi-effect interventions
Short answer: Yes and much disability averted

Example: ART in Botswana

- Perspective: health system
- Modeling approach: simulated cohort of 2002 population
- Timeframe: 2002-2010
- HIV morbidity and mortality as outcomes converted into DALY
- No discounting

<table>
<thead>
<tr>
<th>Deaths Averted</th>
<th>DALY Averted</th>
<th>Budget/Cost (USD)</th>
<th>ICER ($/DALY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>143,637</td>
<td>8,116,079</td>
<td>$813 million</td>
<td>$475</td>
</tr>
</tbody>
</table>

Compare to:
- Laxminarayan et al 2006 (DCP2): $350-1494/DALY
- Kahn et al 2011 (S Africa): $200/DALY
- Granich et al 2012 (S Africa): cost saving to $1,400/DALY
KEY LESSON 1

Successful programs are evidence-based and evidence-generating
KEY LESSON 2

Smart programs are targeted and use appropriate incentives
KEY LESSON 3

What works:

efficacy is not the same as effectiveness
KEY LESSON 4

Evidence requires its own advocacy
The spread of Zika virus

Risk of local transmission of Zika virus
- Seasonal
- Year-round
- Travellers from Brazil

Cities with >1,000 travellers from Brazil: Sep 2014 - Aug 2015

Source: Dr K Khars, St Michael's Hospital, Toronto

Daily chart
The Economist

Development Assistance for Health

WORLD
WORLD HEALTH DAY: DIABETES SOARS IN DEVELOPING COUNTRIES AS POOR UNDERGO ‘RAPID URBANIZATION’

World Health Organisation says woman’s death is setback in country declared free from transmissions in January

Newsweek

IHME Institute for Health Metrics and Evaluation

New case of Ebola confirmed in Liberia

the guardian
Millions Saved

Millions Saved is a collection of success stories in global health—remarkable cases in which large-scale efforts to improve health in developing countries have succeeded.

See what works in global health

millionssaved.cgdev.org
theguardian.com/health-revolution
#millionsssaved