Strengthening the Evidence for HIV Investments: Allocative Efficiency of HIV Responses: Results and Experiences

Presentation by: Dr Maxim Berdnikov, Global Fund
Importance of Evidence of Impact under the Global Fund Funding Model

- Investing for Impact: core of the Global Fund Strategy 2012-16
- Global Fund Funding Model

Sound Concept Note based on robust NSP

TRP Review
- Soundness of approach
- Feasibility
- Potential for sustainable outcomes
- Value for money

GAC Review
- NSP and targets alignment
- Investing strategically
- Sustainability
- Rigorous review of risk, financial management and operational issues
- Adequate investments to address human rights, gender, CSS and key populations as appropriate

Global Fund support to the ongoing strategic prioritization effort
Global Fund Experiences

Two case studies:

• Development of Sudan Concept Note- Sudan HIV Optimization Analysis (2014)

• The South Africa HIV/TB Investment Case-strengthening evidence for prioritization of the South Africa Concept Note (2015)
Sudan Optimization Analysis: Objectives

i) Minimizing HIV incidence by 2020

ii) Minimizing HIV-attributable DALYs by 2020

iii) Minimize spending commitments caused by new HIV infections occurring by 2020

iv) Optimal programmatic funding allocations to achieve specific impact and coverage targets at lowest costs by 2020

<table>
<thead>
<tr>
<th></th>
<th>Reduce incidence by 2020</th>
<th>Reduce AIDS deaths by 2020</th>
<th>ART coverage</th>
<th>PMTCT coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambitious</td>
<td>50%</td>
<td>50%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>Moderate</td>
<td>25%</td>
<td>25%</td>
<td>60%</td>
<td>60%</td>
</tr>
</tbody>
</table>

v) Minimize spending to achieve NSP impact targets of 25% reduction in HIV incidence and deaths by 2016
With the same $6.4 million in 2013, Sudan could avert an additional 19,000 infections (36% of cumulative HIV infections) from 2014–20 by reallocating funds from general population as follows:

**ART** 12%–22%

**SW clients** 4%–10%

**FSW** 4%–15%

**MSM** 2%–6%
Contextual analysis: Geographic heterogeneity of the epidemic
New Evidence Derived from Optima Application (1)

1. Need to focus limited HIV resources on populations with higher HIV incidence and driving HIV epidemic as “net transmitters”:
   - 1 incident infection in every ~200 FSW, every ~300 MSM and every ~1,000 SW client in 2013

2. General population interventions have extremely low cost-effectiveness;
   - 1 incident infection per ~5,000 females and per ~10,000 males in 2013)
   - KP focused spending provides important indirect benefits to general population
An increase in HIV incidence could be turned into a large reduction in KPs and secondary benefits in all the other populations.
New Evidence Derived from Optima Application (2)

3. Optimal HIV resource allocation is projected to have significant HIV incidence and AIDS mortality impact by 2016, 2020 and 2030, and all sub-populations benefit either directly or indirectly.

4. PMTCT program needs to be geographically focused, otherwise PMTCT resources would better be used for KP interventions (or other MNCH services like systematic syphilis screening).

5. HIV resource allocation and NSP target setting can be informed by Optima.
Sudan: Where was the money going?

2013 actual spending

- Strategic Information
- Other programs (infrastr., PLHIV, IGP, HIV/TB)
- PMTCT
- Gen. pop. prevention (condoms, SBCC, STIs)
- High-risk men programs (FSW clients)
- Management
- ART & care
- Gen. pop. prevention (HTC)
- MSM prevention
- FSW
Sudan: What did Optima recommend?

- Increase ART
- Increase prevention for KPs
- Reduce management cost

Same $ but reduce incidence by 37% by 2020

2013 actual spending vs. Optima - allocations to minimize new infections

- Strategic Information
- Other programs (infrastr., PLHIV, IGP, HIV/TB)
- PMTCT
- Gen. pop. prevention (condoms, SBCC, STIs)
- High-risk men programs (FSW clients)
- Management
- ART & care
- Gen. pop. prevention (HTC)
- MSM prevention
- FSW
Sudan: How did budgets actually change?

### 2013 Actual Spending

- Strategic Information
- Other programs (infrastr., PLHIV, IGP, HIV/TB)
- PMTCT
- Gen. pop. prevention (condoms, SBCC, STIs)
- High-risk men programs (FSW clients)

### Optima - Allocations to Minimize New Infections

- Reduce management cost
- Increase ART
- Increase prevention for KPs

### 2015-17 Budgets (Annual Average)

- Despite lower total budgets, more $ for programs
- ART ↑ from 12% to 18%
- KPs ↑ from 7% to 29%

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**Other programs (infrastr., PLHIV, IGP, HIV/TB)**

- Management
- ART & care
- Gen. pop. prevention (HTC)
- MSM prevention
- FSW
From improved allocations to increasing coverage of priority programs

Increase in coverage: Combined effects of allocative and technical efficiency

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2017 (GF allocation)</th>
<th>2017 (national – above GF allocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART</td>
<td>6.2%</td>
<td>23.6%</td>
<td>33.8%</td>
</tr>
<tr>
<td>MSM programs</td>
<td>19.6%</td>
<td>34.4%</td>
<td>49.2%</td>
</tr>
<tr>
<td>FSW programs</td>
<td>14.8%</td>
<td>24.3%</td>
<td>34.7%</td>
</tr>
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</table>

Scale up considering feasibility, capacity and resources

Focus on key locations: Urban settlements, Red Sea, Kassala States

Source: Sudan GF Concept Note 2015, Modular Template
What is the expected effect of the change in allocations for the National Strategy (2015 – 2017, annual spending of 10 million USD)?

Difference in impact between past and improved allocations is larger than between spending 0 $ and 10 million $

An additional 3,200 new infections averted (20 % reduction)

An additional 1,100 deaths averted (16 % reduction)

Number of new infections / deaths

Zero spending  Business as usual (as in 2013)  2015-17 "actual" allocations" (as per committed funds)

What is the projected long-term effect, if improved allocations are sustained (2015 – 2030)?

Effects of improved allocations are likely to further increase in the long-term

- An additional 49,000 new infections averted: 33% reduction
- An additional 14,000 deaths averted: 22% reduction
As a result of the allocative efficiency efforts, Sudan has adopted a better strategic thinking for its HIV national response.

**Game Changers**

**Better costing data**

- NASA
- Aligned HIV costing inputs (NSP, OHT, Optima)

**Better disease model**

- Spectrum
- OPTIMA
- OHT

- Comprehensive review resulted in strengthened NSP

**Better Value for Money**

- Optima directly:
  - Supported strategic thinking
  - Provided evidence for advocacy
  - Supported qualitative prioritization
  - Answered questions on optimal allocation of limited resources for NSP

**Tools**

**Actions**

- Re-allocate resources in the Global Fund concept note 2015-17 and the overall HIV response budget

- Identify opportunities to improve technical efficiency

- Analyze efficiency gains achieved through functional and institutional integration in health system
The South African Investment Case (IC) aims at informing and, if needed, changing national policy.

**Informing:**
- Relevant domestic budgets for HIV and TB
- Concept note for Global Fund
- Donor budgets (PEPFAR)

**Audience:** cabinet, national departments incl. Treasury, SANAC, premiers, provincial, district and local AIDS councils, civil society, private sector, development organisations

Source: Gesine Meyer-Rath
The IC’s objective is to optimise the allocative efficiency of the public HIV and TB programmes.

Impact and cost is being considered over 20 years (2015 to 2034) for HIV program under following scenarios:

1. **Baseline scenario**
   Keeps coverage of all interventions constant at 2014 levels

2. **Government targets scenario**
   Projects the epidemic under the current government targets

3. **Optimisation**
   Optimisation routine scales up interventions in order of their cost effectiveness (cost per life year saved)
   - A) without constraint
   - B) until current budget envelope is reached
   - C) until HIV 90/90/90 targets are reached

4. **Budget scenario**
   Maximises efficiency and feasibility

Source: Gesine Meyer-Rath
IC: Analysis of HIV Scenarios (1)

• Cost per life year saved:
  ✓ IC highlighted the cost-saving potential of adherence support and adherence clubs
  ✓ adherence was included as a core part of the Concept Note.

• 90-90-90 targets:
  ✓ IC suggested to move further down the list of interventions ranked by cost effectiveness and implement less cost effective interventions as well.

Source: Gesine Meyer-Rath
IC: Analysis of HIV Scenarios (2)

• All scenarios tested for effectiveness for reducing both incidence and HIV related mortality will cost more over the next 20 years
  ✓ the 90-90-90 scenario will yield the best outcomes especially over the next 5 years.

• 90-90-90 scenario has been endorsed by the Minister of Health and was used for the Concept Note.

Source: Gesine Meyer-Rath
### Results of key populations sub-analysis

<table>
<thead>
<tr>
<th></th>
<th>Young women package</th>
<th>PWID package</th>
<th>MSM package</th>
<th>SW package</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIV infections averted (% change on baseline)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015-2019</td>
<td>14.95%</td>
<td>1.72%</td>
<td>0.06%</td>
<td>0.81%</td>
</tr>
<tr>
<td>2015-2034</td>
<td>21.92%</td>
<td>3.29%</td>
<td>0.16%</td>
<td>1.65%</td>
</tr>
<tr>
<td><strong>Incremental cost of HIV programme (% change on baseline)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015-2019</td>
<td>16.32%</td>
<td>0.15%</td>
<td>0.44%</td>
<td>0.16%</td>
</tr>
<tr>
<td>2015-2034</td>
<td>20.64%</td>
<td>0.18%</td>
<td>0.55%</td>
<td>0.20%</td>
</tr>
<tr>
<td><strong>Cost per life-year saved</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015-2019</td>
<td>4,197</td>
<td>223</td>
<td>20,346</td>
<td>572</td>
</tr>
<tr>
<td>2015-2034</td>
<td>319</td>
<td>19</td>
<td>1,200</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: Gesine Meyer-Rath
### Key Populations Priorities in Investment Case, NSP and Concept Note

<table>
<thead>
<tr>
<th>Investment Case Recommended Intervention</th>
<th>NSP Link</th>
<th>Included in Request For Funding</th>
</tr>
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<tr>
<td><strong>Sex Worker Package:</strong> STI treatment, peer outreach and counselling, condom promotion, removing stigma and discrimination, elimination of gender-based violence, HIV testing and treatment, and programmes addressing clients</td>
<td>Strategic Objective 1, 2 and 4</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>MSM Package:</strong> Risk-reduction activities, outreach (including by peers), condom use, prevention and treatment of STIs), HCT, and initiatives to ensure that these groups are able to access these services</td>
<td>Strategic Objective 2 and 4</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>PWID Package:</strong> Harm reduction programmes (needle and syringe programmes), opioid substitution and peer outreach</td>
<td>Strategic Objective 2</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Young Women Package:</strong> PrEP, cash transfers, condom promotion and provision, HIV testing and counselling, school-based HIV and violence prevention, community mobilisation</td>
<td>Strategic Objective 1, 2 and 4</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Source: Gesine Meyer-Rath*
Conclusions (1)

In a world where the resources required to end the three epidemics are bigger than the need, allocative efficiency work will continue to assist the Global Fund in making **rational resource allocation decisions**.
Conclusions (2)

• This work has been embedded into the Global Fund grant-making process.
• Countries are now required to complete an epidemiological analysis to identify disease trends and data gaps prior to submitting their concept notes.

Case Study | November 2015
From analysis to action
A case study on how allocative efficiency analysis supported by mathematical modelling changed HIV investment in Sudan
Conclusions (3)

Through its targeted direct investments and through its ability to support countries to mobilize domestic resources, the Global Fund will continue to work together with all partners to ensure that all HIV, TB and malaria funding is optimally used to achieve transformative impact and to end the epidemics.
Acknowledgments:

Optima Study Team
South Africa Investment Case Team
Global Fund South Africa Country Team