Global Health Investments
Improving laboratory systems

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Presentation outline

Strengthening public health laboratory systems in limited resources countries

• Context / Perspective
• High-level view global health funding
• Challenges and successes
  – One example LIC laboratory capabilities
  – One example of success
• Partners (for APHL?)
• How can APHL members engage in GH?
STRENGTHENING LABORATORIES IN
low and middle income countries LMICs
WE CAN DO BETTER
Global HEALTH FUNDING

• The next three slides present data from *Past, present and future of global health funding*. Prepared by the Global Burden of Disease Collaborative Network, published 2019, and funded by Bill and Melinda Gates Foundation.
## HEALTH SPENDING BY SOURCE IN 2016 IN US$

<table>
<thead>
<tr>
<th>Source</th>
<th>Per Capita Total</th>
<th>% GDP</th>
<th>Government</th>
<th>Out of Pocket</th>
<th>Develop. Assist. Health</th>
<th>Annual Rate of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Income</td>
<td>$40</td>
<td>5%</td>
<td>26%</td>
<td>42%</td>
<td>25%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>$80</td>
<td>4%</td>
<td>37%</td>
<td>32%</td>
<td>14%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Upper Middle Income</td>
<td>$491</td>
<td>5%</td>
<td>54%</td>
<td>35%</td>
<td>0.2%</td>
<td>1.1%</td>
</tr>
<tr>
<td>South Africa</td>
<td>$512</td>
<td>5.6%</td>
<td>53.5%</td>
<td>7.8%</td>
<td>2.3%</td>
<td>3%</td>
</tr>
<tr>
<td>USA</td>
<td>$10,271</td>
<td>17%</td>
<td>82%</td>
<td>11%</td>
<td>0%</td>
<td>2.4%</td>
</tr>
</tbody>
</table>
Health spending per capita in 2016 ($)

[Map showing health spending per capita across countries]
SPENDING BY SOURCE OF FUNDS

Composition of health spending by source:
- Government spending
- Prepaid private spending
- Out-of-pocket spending
- Development assistance for health

DAH
OUT-OF-POCKET
GOVERNMENT
PRIVATE

Gross domestic product per capita (US$)
DEVELOPMENT ASSISTANCE FOR HEALTH 2018 ESTIMATE $38.9 B

- USA 13.2B
- UK 3.3B
- BMGF 3.2B
- GLOBAL FUND 3.2B
- WHO 2.6B
- UNICEF 1.9B
- CHINA 645M

- GROWTH
  - 1990-2000 5.7%
  - 2000-2010 10.6%
  - 2010 – 2018 LEVEL
SUSTAINABILITY REQUIRES LONG-TERM COMMITMENT FROM DAH

SELF-SUSTAINABILITY IS DECADES OR MORE AWAY FOR LICs -
CHALLENGES AND SUCCESSES

• EXAMPLE OF A CHALLENGE
CHALLENGE EXAMPLE

More difficult than pairing socks from washer
CHALLENGES AND SUCCESSES

• EXAMPLE OF A SUCCESS

*Figure 1*: Early survival of infants with HIV diagnosed by conventional or POC testing at age 6 weeks in Zimbabwe. The timepoints at which infants receive their test results and initiate antiretroviral therapy are indicated by the lack arrows for each scenario. POC=point-of-care.
CHALLENGES AND SUCCESSES

• EXAMPLE OF THE WIDE-RANGING CHALLENGES
WHO Joint External Evaluation (JEE)

- Prevent and reduce the likelihood of outbreaks and other public health hazards
- Detecting threats early can save lives.
- Rapid, effective response requires multi-sectoral, national and international coordination and communication
JEE Evaluation Criteria

- **LEVEL 1 – NO CAPACITY**
- **LEVEL 2 - LIMITED**
- **LEVEL 3 - DEVELOPED**
- **LEVEL 4 - DEMONSTRATED**
- **LEVEL 5 - SUSTAINABLE**
Example results for laboratory from one JEE report

- **NO CAPACITY FINDINGS** *(Not all)*
  - AMR detection & surveillance
  - Laboratory quality system

- **LIMITED CAPACITY FINDINGS** *(Not all)*
  - Legislation to implement IHR
  - Healthcare infection prevention/control
  - Lab testing for priority diseases
Evaluations can be useful
But without action are worthless
How might we do better?
Partnerships? Why? Reality of KSAs

YOU

EVERYONE
ELSE
Partners - Associations

- APHL
- CLSI
- ASM
- ASCP
YES! With guidelines, agreements
GLOBAL HEALTH TOOLS AND RESOURCES

Laboratory Facility Construction and Major Renovations Guidelines

Ventilated Workstation Manual for AFB Smear Microscopy

APHL 2019

APHL MEMBERS AND LABS CAN
Initiate Community of practice for Global NPHL
Provide library of training programs on line and coordinated with CDC
Create needed training programs using inexpensive video and artificial reality
Partnering

• Must define goals and incorporate within mission
• Must have an active outreach based on a business plan and process for formal partnerships
• Seek long term partnerships
With Who(m) should we partner?
A Few thoughts for change
Define success in terms that drive sensible planning

Accept change / Share & Adopt

Reduce cost of assistance

Honest and open discussion of challenges and solutions

Learn from failure (CQI model)
UNDERSTAND THE OBJECTIVE AND ORGANIZE FOR SUCCESS