Challenges and Opportunities to Optimizing the HIV Care Continuum – Can We Test and Treat Enough People to Make a Seismic Difference by 2030?

Reuben Granich, MD, MPH
Strategic and Scientific Advisor
International Association of Providers of AIDS Care
Yes, of course

Next question?
Outline

• Current situation
• Challenges and **solutions**
  – Re-framing the HIV response
  – HIV testing gap
  – M and E and the care continua
  – Policy
  – Global financial situation
  – Leadership
Yes ..and we still have a significant problem

- Significant public health threat (2015):
  - 36.7 million people globally were living with HIV
  - 2.1 million people became newly infected with HIV
  - 1.1 million people died from AIDS-related illnesses

- Devastating impact:
  - 78 million people have become infected with HIV since the start of the epidemic
  - 35 million people have died from AIDS-related illnesses since the start of the epidemic

UNAIDS 2016 report on 2015 data
Dramatic impact of HIV response on life expectancy

World Bank life expectancy data
Smallpox eradication 1796 to 1977: Edward Jenner to Merca Town, Somalia
Preventable blindness
Re-framing our HIV response: endless struggle vs winnable public health victory by 2030

- Elimination of HIV
- End of AIDS
- Epidemic control
- 90-90-90
- Fast Track Cities initiative
- Zero stigma
- Getting to zero
- Cure
- Vaccine
90-90-90 and Continuum of Care Targets

- Know status: 90%
- On treatment: 90%
- Virally suppressed: 90%

- 90% on treatment
- 81% virally suppressed
- 73%
Global HIV testing gap

Figure 15
Global results: HIV treatment cascade, 2015

- 90%
- 81%
- 73%

57% (53–62%)
46% (43–50%)
38% (35–41%)

Percentage of people living with HIV who know their HIV status
Percentage of people living with HIV who are on antiretroviral treatment
Percentage of people living with HIV who are virally suppressed

*See explanatory notes

UNAIDS 2016
Free drink for answer to question: Why are they waiting in line?

Mikkel is not allowed to answer...
Counseling and testing is feasible and works in a wide variety of settings—need to go to scale.
Global access to HIV treatment, 2010-2015

- On ART: Treatment gap
  - 2010: 8 million
  - 2015: 17 million

- 81% of people living with HIV on ART as of 2015.
Reported and projected people on ART

- **Reported number on ART**
  - 8 mn (23%) in 2010
  - 17 mn (46%) in 2015
- **Trendline for treatment expansion using 2013-15 average**
- **People on ART to achieve 2020 target (81% ART coverage)**
  - 27 mn (67%) in 2019
  - 33 mn (81%) in 2020
Mapping on ART and viral suppression

Global HIV 90-90-90 Watch

53 countries with complete care continua
Proportion of people living with HIV on ART and with viral suppression

UNAIDS target: 73%

TARGET

53 countries with complete care continua
Key Population Continua: top 5 countries with >53% viral suppression (2010-2016)

<table>
<thead>
<tr>
<th>Country</th>
<th>Key Population</th>
<th>Diagnosed</th>
<th>On ART</th>
<th>Virally suppressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>France (PWID)</td>
<td></td>
<td>96%</td>
<td>80%</td>
<td>68%</td>
</tr>
<tr>
<td>France (MSM)</td>
<td></td>
<td>83%</td>
<td>63%</td>
<td>55%</td>
</tr>
<tr>
<td>Denmark (MSM)</td>
<td></td>
<td>79%</td>
<td>73%</td>
<td>72%</td>
</tr>
<tr>
<td>Netherlands (MSM)</td>
<td></td>
<td>75%</td>
<td>62%</td>
<td>58%</td>
</tr>
<tr>
<td>UK (MSM)</td>
<td></td>
<td>74%</td>
<td>59%</td>
<td>53%</td>
</tr>
</tbody>
</table>

Legend: Diagnosed, On ART, Virally suppressed
Documenting and grading care continua methods

<table>
<thead>
<tr>
<th>Country</th>
<th>Data Sources</th>
<th>Methods/Calculations</th>
<th>ART Coverage Estimate</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Registers of AIDS Direction (Ministry of Health), registrations in semiprivate and private health subsystems</td>
<td>VL &lt;50 copies/mL Data from AIDS Direction. Calculated using a sample of people on ART receiving VL.</td>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td>Armenia</td>
<td>National Center for AIDS Prevention (NCAP), Ministry of Health</td>
<td>VL &lt;250 copies/mL Based on data from NCAP laboratory</td>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td>Australia</td>
<td>National registration of new diagnosis</td>
<td>ART coverage is estimated as average of 4 approaches: ARV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>National cohort data</td>
<td>UNAIDS estimate National registration of new diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>Country presentation</td>
<td>Sistema de Informacoes de Agravos de Notificacoes or System for reportable diseases information (SINAN) and Sistema de Informacoes de Mortalidade System on Information on Mortality (SIM)</td>
<td>SINAN and SIM</td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>PEPFAR Country Operational Plan</td>
<td>UNAIDS estimate Calculated as: # of pre-ART + ART patients at end of 2014 plus new positive diagnoses in 2015 minus deaths in 2015 from pre-ART and ART</td>
<td>National Centre for HIV/AIDS, Dermatology and STIs (NCHADS) program data</td>
<td>Medium</td>
</tr>
<tr>
<td>China</td>
<td>PEPFAR Regional Operational Plan</td>
<td>UNAIDS estimate National Center for AIDS/STD Control and Prevention (NCAIDS) program data</td>
<td>NCAIDS program data</td>
<td>High</td>
</tr>
</tbody>
</table>

NCAIDS: National Center for AIDS/STD Control and Prevention
NCHADS: National Centre for HIV/AIDS, Dermatology and STIs
VL: Viral Load
What is going on here?
ART initiation for asymptomatic people

2015 WHO Recommendation: Irrespective of CD4 count

N = 30 (40% HIV burden) Countries Test and Treat

Source: published policy
www.HIVpolicywatch.org
ART initiation criteria in Africa

2015 WHO Recommendation: Irrespective of CD4 count

Source: published policy
www.HIVpolicywatch.org
## Policy Lag in Sub-Saharan Africa (33 countries)

<table>
<thead>
<tr>
<th></th>
<th>WHO 2009 guidelines</th>
<th>WHO 2013 guidelines</th>
<th>WHO 2015 guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date of publication</strong></td>
<td>October, 2009</td>
<td>June, 2013</td>
<td>June, 2013</td>
</tr>
<tr>
<td><strong>ART eligibility criteria</strong></td>
<td>&lt;350 cells/mm³</td>
<td>&lt;500 cells/mm³</td>
<td>&lt;500 cells/mm³</td>
</tr>
<tr>
<td><strong>Countries that adopted the recommendation</strong></td>
<td>33 (97% regional burden)</td>
<td>24 (86% regional burden)</td>
<td>33* (97% regional burden)</td>
</tr>
<tr>
<td><strong>Average time to adopt the WHO guidelines</strong></td>
<td>24 [3-56] months</td>
<td>10 [0-36] months</td>
<td>18 [0-39] months</td>
</tr>
<tr>
<td><strong>Countries yet to adopt the recommendation</strong></td>
<td>9 (11% regional burden)</td>
<td>28 (57% regional burden)</td>
<td></td>
</tr>
</tbody>
</table>

### Source
Gupta, Granich (2016)

* Assumption: 10 remaining countries move to CD4 <500 or earlier in September 2016
Good news: WHO status report (2016)
Answer:
One policy for polio eradication using tOPV

Source: MMWR July 3, 2015
UNAIDS Fast Track needs assessment: prioritization and efficiency: ~$25BN
Funding is flat-lined
A high-level estimate suggests that universal access is affordable, with facility-level ART costs requiring 45-55% of available HIV funding (Ripin, CHAI).

- The funding required to maintain people on treatment does not appear prohibitive: universal access under 2013 guidelines would require ~46% of available HIV funding.
- Moving to the more aggressive goal of 90-90-90 only adds 1.4B more, reaching ~53% of HIV funding.
- Annual testing costs will vary significantly depending on level of targeting and timeline to reach targets.

---

1. Defined as 81% PLHIV
2. Also includes implementation of Option B+ and treatment for serodiscordant couples.
Expanding treatment can save millions of lives and billions of dollars.

Potential lives and cost saved by expanding ART in South Africa

Global proportion of HIV spending on care and treatment in 39 low- and middle-income countries, 2009-2013
### Partnership and prioritization

#### Partnership between Funders:

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Total Expenditure</th>
<th>% PEPFAR</th>
<th>% GF</th>
<th>% GOL</th>
<th>% Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical care, treatment and support</td>
<td>$32,428,092</td>
<td>19%</td>
<td>26%</td>
<td>47%</td>
<td>9%</td>
</tr>
<tr>
<td>Community-based care</td>
<td>$1,258,380</td>
<td>40%</td>
<td>0%</td>
<td>0%</td>
<td>60%</td>
</tr>
<tr>
<td>PMTCT</td>
<td>$4,275,162</td>
<td>70%</td>
<td>6%</td>
<td>0%</td>
<td>23%</td>
</tr>
<tr>
<td>HTC</td>
<td>$4,743,193</td>
<td>73%</td>
<td>23%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>VMMC</td>
<td>$6,693,824</td>
<td>97%</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Priority population prevention</td>
<td>$6,866,831</td>
<td>60%</td>
<td>23%</td>
<td>2%</td>
<td>16%</td>
</tr>
<tr>
<td>OVC</td>
<td>$19,533,391</td>
<td>21%</td>
<td>24%</td>
<td>40%</td>
<td>15%</td>
</tr>
<tr>
<td>Other impact mitigation</td>
<td>$1,465,418</td>
<td>0%</td>
<td>16%</td>
<td>0%</td>
<td>84%</td>
</tr>
<tr>
<td>Laboratory</td>
<td>$4,819,401</td>
<td>40%</td>
<td>27%</td>
<td>24%</td>
<td>9%</td>
</tr>
<tr>
<td>SI, Surveys and Surveillance</td>
<td>$1,206,908</td>
<td>53%</td>
<td>18%</td>
<td>0%</td>
<td>29%</td>
</tr>
<tr>
<td>HSS</td>
<td>$7,719,016</td>
<td>6%</td>
<td>61%</td>
<td>21%</td>
<td>13%</td>
</tr>
</tbody>
</table>

47,524,228 (52%) care, treatment, PMTCT, HTC and laboratory
Apollo 13 strategy: “Working the problem”

- Set clear and shared goals
- Identify bottlenecks
- Change business as usual—democratize test and treat
- Establish accountability and use open data
  - Use standard continua to measure 90-90-90 progress
- Accelerate pace of translating science to service delivery
- Budget for success
  - Determine costs and benefits of achieving 90-90-90
  - Improve efficiency
- Leadership on goals, priorities, execution and accountability
  - Failure is not an option
Thank you
Uganda: Focusing on Core with Flat Budget

Treatment Results

PEPFAR Uganda COP Budget & Current on Treatment
2008 - 2013

Uganda Program Review

Budget

Current on ART
Top 7 countries with >63% viral suppression (2010-2016)

- Sweden: 90%, 86%, 78%
- Cambodia: 83%, 75%, 70%
- UK: 83%, 74%, 70%
- Switzerland: 81%, 71%, 68%
- Denmark: 95%, 69%, 67%
- Rwanda: 74%, 64%
- Namibia: NA, 70%, 63%

53 countries with complete care continua.
## ART initiation for asymptomatic people

<table>
<thead>
<tr>
<th>ART initiation criteria</th>
<th>No. of Countries</th>
<th>People with HIV (2015)</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrespective of CD4 count</td>
<td>30</td>
<td>14,537,000 (40%)</td>
<td>Argentina, Australia, Austria, Botswana, Brazil, British Columbia (Canada), China, Denmark, France, Germany, Italy, Japan, Kenya, Korea (Republic), Lesotho, Malawi, Maldives, Mexico, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, South Africa, Spain, Sweden, Thailand, Turkey, United Kingdom, United States</td>
</tr>
<tr>
<td>Consider for &gt;500</td>
<td>5</td>
<td>284,000 (0.8%)</td>
<td>Colombia, Greece, Guyana, Hong Kong, Venezuela</td>
</tr>
<tr>
<td>≤500</td>
<td>39</td>
<td>13,110,000 (36%)</td>
<td>Algeria, Bangladesh, Bhutan, Bolivia, Burundi, Cambodia, Cameroon, Chile Democratic Republic of Congo, Ecuador, El Salvador, Ethiopia, Fiji, Gabon, Haiti, Honduras, Madagascar, Mali, Mauritania, Moldova, Myanmar, Namibia, Nepal, Nigeria, Oman, Pakistan, Rwanda, South Sudan, Sri Lanka Sudan, Swaziland, Tanzania, Tunisia, Uganda, Ukraine, Uruguay, Viet Nam, Zambia, Zimbabwe</td>
</tr>
<tr>
<td>≤350 (consider for CD4 ≤ 500)</td>
<td>4</td>
<td>136,000 (0.4%)</td>
<td>Belize, Costa Rica, Finland, Guinea</td>
</tr>
<tr>
<td>≤350</td>
<td>32</td>
<td>6,153,600 (17%)</td>
<td>Afghanistan, Angola, Benin, Burkina Faso, Canada, Cote d'Ivoire, Croatia, Djibouti, Dominican Republic, Ghana, Guatemala, India, Indonesia, Jamaica, Kazakhstan, Latvia, Malaysia, Marshall Islands, Morocco, Mozambique, Nicaragua, Niger, Panama, Papua New Guinea, Paraguay, Peru, Samoa, Sierra Leone, Switzerland, Timor-Leste, Tuvalu, Vanuatu</td>
</tr>
<tr>
<td>≤300</td>
<td>1</td>
<td>200 (&lt;0.1%)</td>
<td>Macedonia</td>
</tr>
<tr>
<td>≤200 (consider for CD4 ≤ 350)</td>
<td>6</td>
<td>1,466,000 (4%)</td>
<td>Belarus, Cape Verde, Cuba, Estonia, Hungary, Russia</td>
</tr>
<tr>
<td>≤200</td>
<td>5</td>
<td>130,000 (0.4%)</td>
<td>Comoros, Lao PDR, Liberia, Philippines, Senegal</td>
</tr>
</tbody>
</table>

**Source**: published policy
ART eligibility criteria for children <15 years

WHO 2015 Guidelines: ART irrespective of CD4 count

Source: published policy