Disclosure

• I have no financial conflicts of interest
Learning Objectives

• The Good News and Bad News –
  – The impact of ART in Sub-Saharan Africa
  – The gaps and losses in care throughout the care continuum

• Improving linkage and retention

• The Wave of the future
The Good News
Antiretroviral therapy coverage among people living with HIV, by region, 2010–2015

Sources: GARPR 2018; UNAIDS 2018 estimates.
KNOWLEDGE OF HIV STATUS, ANTIRETROVIRAL THERAPY COVERAGE AND VIRAL SUPPRESSION AMONG PEOPLE LIVING WITH HIV, EASTERN AND SOUTHERN AFRICA, 2015 AND 2016

Source: UNAIDS special analysis, 2017; see annex on methods for more details.
The Bad News
KNOWLEDGE OF HIV STATUS, ANTIRETROVIRAL THERAPY COVERAGE AND VIRAL SUPPRESSION AMONG PEOPLE LIVING WITH HIV, EASTERN AND SOUTHERN AFRICA, 2016

Source: UNAIDS special analysis, 2017; see annex on methods for more details.

1 2016 measure derived from data reported by 17 countries, which accounted for 99% of people living with HIV in western and central Africa.

2 2016 measure derived from data reported by 11 countries. Regionally, 37% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.
<table>
<thead>
<tr>
<th>Country</th>
<th>First 90: Knowledge of status among all people living with HIV</th>
<th>2nd 90: Percentage of PLWH who know their status and are on treatment</th>
<th>3rd 90: Percentage of PLWH on ART who are virally suppressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>40%</td>
<td>55%</td>
<td>72%</td>
</tr>
<tr>
<td>Botswana</td>
<td>85%</td>
<td>&gt;89%</td>
<td>&gt;89%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>67%</td>
<td>88%</td>
<td>86%</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
<td></td>
<td>79%</td>
</tr>
<tr>
<td>Lesotho</td>
<td>72%</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>Malawi</td>
<td>70%</td>
<td>&gt;89%</td>
<td>89%</td>
</tr>
<tr>
<td>Mauritius</td>
<td></td>
<td></td>
<td>58%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>61%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>Namibia</td>
<td>77%</td>
<td>84%</td>
<td></td>
</tr>
<tr>
<td>Rwanda</td>
<td>87%</td>
<td>&gt;89%</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>86%</td>
<td>65%</td>
<td>81%</td>
</tr>
<tr>
<td>Swaziland</td>
<td></td>
<td></td>
<td>86%</td>
</tr>
<tr>
<td>Uganda</td>
<td>74%</td>
<td>&gt;89%</td>
<td></td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>70%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>66%</td>
<td>&gt;89%</td>
<td>89%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>75%</td>
<td>&gt;89%</td>
<td>81%</td>
</tr>
<tr>
<td>Eastern and Southern Africa</td>
<td>76%</td>
<td>79%</td>
<td>83%</td>
</tr>
</tbody>
</table>

**KEY**

- **85% and above**
- **70-84%**
- **50-69%**
- **Less than 50%**

A New HIV Care Cascade and Opportunities to Become Lost to Care After Moving to Treatment for All

Stage 1: Testing to linkage to care

Stage 2: Linkage to care to treatment initiation

Stage 3: Early retention in care

Stage 4: Lifelong retention in care

Stage 1: How are we doing in Testing? #ADHERENCE2018

Median CD4 cell count in adults at the start of combination antiretroviral therapy (cART) by sex and country income group.

The IeDEA and COHERE Cohort Collaborations, CID, 2018
Stage 2: How are we doing in linkage to Care and Treatment Initiation? – Linkage to care after Community and Facility HIV Testing

Stage 3: How are we doing in early Retention in Care?  
Attrition in the care cascade in South Africa

**Low CD4 (<350 cells/μl)**
- 2323 ART – eligible PLWH underwent testing
- 1924 (90.6%) initiated ART
- 199 (9.4%) lost before ART initiation

**High CD4 (<500 cells/μl)**
- 1902 ART eligible PLWH underwent testing
- 1716 (90.2%) initiated ART
- 1806 (9.85) lost before ART initiation

- 1577 (82.0%) in care through 16 wks
- 305 (15.9%) stopped care < 16 wks
- 42 (2.2%) died <=16 wks

- 1361 (79.3%) in care through 16 wks
- 339 (19.8%) stopped care <16 wks
- 16 (0.9%) died <= 16 wks

http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002434
Stage 4: How are we doing in lifelong retention in care?

- 500 ART-eligible PLWH recruited (75%)
- 308 (62%) initiated ART within six months of testing
- 125 (41%) had achieved viral load suppression within 9 months of testing
- 192 (38%) did not initiate ART within six months of testing
- 183 (59%) had no evidence of viral load suppression
- 9 (5%) died before ART initiation
- 183 (95%) alive but not on ART at 9 months post-testing

Attrition Within the Care Cascade

Katz et al, Under Review, AIDS
Improving Linkage and Retention
Moving the Needle

- **Stage 1: TESTING**
  - Moving VCT closer to patients’ homes
  - Self-Testing

- **Stage 2: Linkage**
  - Employing behavioral economics techniques (e.g., noncash financial incentives)
  - Refining and simplifying pre-ART screening
  - Same Day ART
  - Peers providing support and navigation
  - Tailored service delivery models for diverse groups (Differentiated Care)

- **Stage 3 and 4: Early and long-term retention**
  - Poverty alleviation and addressing food insecurity
  - Addressing concomitant mental health and adherence training
  - Adherence Clubs
Examples

- **Stage 1: TESTING**
  - CASCADE – Lesotho – Labhardt et al, JAMA 2018

- **Stage 2: Linkage**
  - Treatment Ambassador Program – South Africa - Katz et al, In Progress
  - Sizanani – South Africa – Bassett et al, JAIDS, 2016
  - Differentiated ART services (DARTS) - Wafaa El Sadr et al
  - Testing and Linkage to Care – Bogart et al, Springer 2017

- **Stage 3 and 4: Early and long-term retention**
  - Differentiated Care is Adherence Clubs – Lynne Wilkinson and Anna Grimsrud
  - Savings-led economic interventions – Ssewamala – Aids and Behavior 2018
  - Wisepill feedback – Haberer, Sabin, and Orrell
The Wave of the Future
More Results to come...

- **Strategies to Improve Efficiency of ART Initiation:**
  - RapIT Study – Rosen et al – South Africa;
  - DoART – Barnabas – Uganda and South Africa

- **Addressing Mental Health and Adherence Training:**
  - Nurse-Delivered CBT for Depression-Adherence in HIV Primary Care - Safren and O’Cleirigh – South Africa
  - Comparative Trial of Antidepressant Treatment Models in HIV Care in Uganda - Wagner - Uganda

- **Community Mobilization:**
  - TasP through Community Mobilization – Pettifor – South Africa
More Results to come...

- **Behavioral Economics Incentives:**
  - Lottery prizes based on clinic attendance or wisepill usage - Linnemayr et al - Uganda

- **Adaptive Strategy:**
  - SMS/Peer/Voucher – re-randomized based on outcome - Geng et al – Kenya

- **Poverty Alleviation and Addressing Food Insecurity:**
  - Shamba Maisha: Pilot agricultural intervention for food security and HIV health outcomes in Kenya: design, methods, baseline results and process evaluation of a cluster-randomized controlled trial - Weiser and Cohen - Kenya
Thank You

- **Treatment Refusal Research (K23 MH097667):** David Bangsberg, Glenda Gray, Norma Ware, Laura Bogart, Ingrid Bassett, Janan Dietrich

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