Identifying real-world strategies to optimize the HIV care continuum

Gary S. Reiter, MD & Andrew Kaplan, MD - Memorial Lecture

Quarraisha Abdool Karim, PhD
Associate Scientific Director: CAPRISA
Professor in Clinical Epidemiology, Columbia University
• Drs Gary Reiter and Andy Kaplan were front line clinicians who focused on under-served populations

• Dr Reiter practiced in Springfield, Massachusetts, with several IDU patients - he was a major force in advocating for harm reduction

• Dr Kaplan, from the University of North Carolina was actively involved in developing treatment programs for poor, mostly black, AIDS patients

• Deeply honoured to deliver this lecture as a tribute to such compassionate “doctor’s doctors”, as Ken Mayer described these two great clinicians
Overview

- HIV care and the global epidemic
- The HIV Care Continuum: ... gaps & challenges
- Strategies to optimize implementation of the HIV care continuum – ... from “leaky” cascades to improved models of care
- Conclusion
In 2013, worldwide there were:

1.5 million HIV deaths

35 million living with HIV

2.1 million new infections

Source: UNAIDS Global Report 2014
Top 10 countries: People living with HIV

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>% of people with HIV in the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>South Africa</td>
<td>18%</td>
</tr>
<tr>
<td>2</td>
<td>Nigeria</td>
<td>9%</td>
</tr>
<tr>
<td>3</td>
<td>India</td>
<td>6%</td>
</tr>
<tr>
<td>4</td>
<td>Kenya</td>
<td>5%</td>
</tr>
<tr>
<td>5</td>
<td>Mozambique</td>
<td>4%</td>
</tr>
<tr>
<td>6</td>
<td>Uganda</td>
<td>4%</td>
</tr>
<tr>
<td>7</td>
<td>Tanzania</td>
<td>4%</td>
</tr>
<tr>
<td>8</td>
<td>Zimbabwe</td>
<td>4%</td>
</tr>
<tr>
<td>9</td>
<td>USA</td>
<td>4%</td>
</tr>
<tr>
<td>10</td>
<td>Zambia</td>
<td>3%</td>
</tr>
</tbody>
</table>

Remaining countries: 39%

Source: UNAIDS Global Report 2014
Increasing number eligible for ART: Progressing to test-and-treat

Estimated millions of people eligible for ART in LMIC in 2012:

11 m  15 m  17.6 m  28.6 m  33 m

1. CD4 ≤ 200
   Recommended since 2003

2. CD4 ≤ 350
   Recommended since 2010

3. CD4 ≤ 350
   + TB/HIV
   HBV/HIV

4. CD4 ≤ 500
   + TB/HIV
   HBV/HIV

5. All HIV+
   “Test & treat”

Initiate ART regardless of CD4 count for:
   Serodiscordant couples, Pregnant women & Children < 5

Source: WHO 2013
Globally - great progress on increasing ART coverage...

Number of people receiving antiretroviral therapy, by WHO region, 2003–2013

Great progress on increasing ART coverage…

People receiving ART globally rose from ~2 million in 2005 to ~13 million in 2013

…but

35 million people are living with HIV At 15 million on ART, we are still below 50%

Much has been done – but even more still needs to be done!

And even more challenging…

6,000 new HIV infections each day
HIV Care Continuum

Not in care

Fully engaged in care

Goal of the HIV care continuum:
Maximal viral suppression

UNAIDS Target: 73% viral suppression
HIV care continuum: sub-Saharan Africa

<table>
<thead>
<tr>
<th>Stage</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>People (≥15 years) living with HIV (PLWH)</td>
<td>100%</td>
</tr>
<tr>
<td>PLWH who know their HIV status (HIV Testing)</td>
<td>45%</td>
</tr>
<tr>
<td>PLWH receiving ART (ART initiated in Eligibles)</td>
<td>39%</td>
</tr>
<tr>
<td>PLWH with suppressed viral load (Retained in care/good adherence)</td>
<td>29%</td>
</tr>
</tbody>
</table>

71% of HIV+ in Africa are not virally suppressed

Source: Global AIDS report, 2014, UNAIDS
HIV Care Continuum in the US

72% of HIV+ in US are not virally suppressed

<table>
<thead>
<tr>
<th>Level of engagement in HIV care</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>HIV-infected</td>
<td>100%</td>
</tr>
<tr>
<td>HIV-diagnosed</td>
<td>80%</td>
</tr>
<tr>
<td>Linked to care</td>
<td>62%</td>
</tr>
<tr>
<td>Retained to HIV care</td>
<td>41%</td>
</tr>
<tr>
<td>On ART</td>
<td>36%</td>
</tr>
<tr>
<td>Suppressed viral load (≤200 copies/mL)</td>
<td>28%</td>
</tr>
</tbody>
</table>

Source: MMWR (60), 2011
WHO advice on improving HIV care

Alternate models of care

Simplified tools & approaches to decision making

Simplified treatment protocols
Improving the HIV Care Continuum

Not in care  ➔  Fully engaged in care
Impacting the HIV care continuum with Implementation Science

• Implementation science is *research to promote the integration of research findings and evidence into healthcare policy and practice*

• The intent of implementation science is to:
  – investigate & address major bottlenecks (eg. social, behavioral, management) impeding effective implementation,
  – test new approaches to improve health programming, &
  – determine a causal relationship between the intervention and its impact.

• Below I draw upon 4 examples of implementation science to identify real-world strategies to help optimize each of the 5 key steps in the HIV care continuum
Strategies to promote: “Know your HIV status”

- HIV Self Testing
- Home Based HIV VCT
- Peer support
- User-friendly HIV tests
HIV self-testing practices among Health Care Workers: feasibility and options for accelerating HIV testing services in Ethiopia

Bekana Kebede1, Tatek Abate2, Desalew Mekonnen3

1Department of Health Services Management, Institute of Public Health, University of Gondar, Ethiopia, 2 Department of Midwifery, College of Medicine and Health Sciences, University of Gondar, Ethiopia, 3Department of Medicine, College of Medicine and Health Sciences, University of Gondar, Ethiopia

70.5% accepted self-testing

Increasing Uptake of HIV Testing and Counseling Among the Poorest in Sub-Saharan Countries Through Home-based service provision

Stéphane Helleringer, Hans-Peter Kohler, Jemima A. Frimpong, James Mkandawire

87% men & 89% women accept HTC

Technical Guidance Series Number 6
HIV Prevention Among Vulnerable Populations: The Pathfinder International Approach

Carlos Laudari, MD, MPH
Director, Pathfinder do Brasil Association

Peer support reduces fear & stigma

Introducing rapid oral–fluid HIV testing among high risk populations in Shandong, China: feasibility and challenges

Gifty Marley1, Dianmin Kang2, Erin C Wilson3, Tao Huang2, Yuesheng Qian3, Xiufang Li4, Xiaorun Tao2, Guoyong Wang3, Huanmiao Xun1 and Wei Ma1

> 70% accept oral fluid test
Improving linkage to care for HIV+

Call centre approach

Quality improvement interventions

Point of care CD4 test

Text messages & non-cash incentives
Using a call center to encourage linkage to care following mobile HIV counseling and testing
Michiel Adriaan van Zyl, Leslie Lauren Brown & Kathryn Pahl

Patient and provider perspectives on improving the linkage of HIV-positive pregnant women to long-term HIV care and treatment in eastern Uganda
Haneefa Saleem, Robert Kyeyagaliire and Sarah Smith

Effect of point-of-care CD4 cell count tests on retention of patients and rates of antiretroviral therapy initiation in sub-Saharan African countries: a systematic review protocol
Garumma Tolu Feyissa MPH & Tariku Dejene Demissie MSc

A combination strategy for enhancing linkage to and retention in HIV care among adults newly diagnosed with HIV in Mozambique: study protocol for a site-randomized implementation science study
Batya Elul, Maria Lahuent, Fatima Abacassamo, Matthew R Lamb, Laurence Ahoua, Margaret L Mhango, Maria Torno, Deborah Horowitz, Roberta Sutton, Antonio Mussa, Danielle Gunn and Ilesh Jan

Call centre linkage to care
QI linkage in pregnancy
PoC CD4 care
Text messages, non-cash incentives + other linkage to care
Strengthening engagement in care, ART initiation & retention in care

Family involvement

Addressing psycho-social barriers

Home-based HCT

Cellphones in youth
Engagement in care high from home HCT

Successful antiretroviral therapy delivery and retention in care among asymptomatic individuals with high CD4⁺ T-cell counts above 350 cells/μl in rural Uganda

Initiation of antiretroviral therapy and viral suppression after home HIV testing and counselling in KwaZulu-Natal, South Africa, and Mbarara district, Uganda: a prospective, observational intervention study

The Use of Cell Phone Support for Non-adherent HIV-Infected Youth and Young Adults: An Initial Randomized and Controlled Intervention Trial

Family involvement had 5-fold lower loss from care

Addressing psycho-social barriers ↑ initiation & retention

Engagement in care high from home HCT

Cellphones ↑ adherence in youth
High adherence for viral suppression

- Adherence support groups
- Service Quality Interventions
- Lower Pill Burden, FDCs & no stockouts
- Illustrated medicines information

#ADHERENCE2015

ACHIEVED VIRAL SUPPRESSION
Support groups improve adherence

Service quality improvement improves adherence

FDCs improve adherence

Medicine info ↑ patient self-efficacy
A call to science:
More research for policy & implementation

AIDS research must link to local policy

HIV research in South Africa is world class. To halt the country’s epidemic, scientists need to shift focus from global problems to priorities at home, say Salim Abdool Karim and Quarraisha Abdool Karim.

Despite being Africa’s scientific powerhouse, 16 years on from the end of apartheid South Africa has failed to make the most of its well-established clinical and research infrastructure and its rich tradition of scientific excellence in curbing the HIV epidemic. More than one in ten South Africans are infected; 17% of all people living with HIV are in South Africa, even though it has only 0.7% of the world’s population; and the rates at which people are catching the virus and dying from AIDS are unacceptably high (see graph, below).
Adherence is critical !!!

Look at: The March of Tuberculosis Resistance

Susceptible TB
TB that is totally susceptible or has limited resistance manageable with 4 drug regimen

Multi-drug Resistance
Resistant to 2 key TB drugs – INH and Rifampin
Treatable with 2nd line drugs

Extensively drug-resistant
Resistance to 2nd line drugs
Treatment options seriously restricted

Totally drug-resistant
Resistance to all available drugs
No treatment options
Early evidence of the looming problem:

HIV drug resistance among people with treatment failure at 12 months

Source: WHO HIV Drug Resistance Report 2012
Stigma: Major impediment to care

Stigma impedes AIDS prevention

Medical advances cannot help those who deny they are at risk of HIV and avoid HIV tests. Salim S. Abdool Karim describes how such attitudes may be overcome.

Source: UNAIDS Together we will end AIDS, 2012
Overall, 3 main challenges remain

How to increase HIV testing?
How to link HIV+ patients to care?
How to maintain high adherence?

UNAIDS targets (by 2020) of

90 – 90 - 90

• 90% of all people living with HIV know their HIV status
• 90% of all HIV+ people are on ART
• 90% of all people on ART will have viral suppression
Acknowledgements

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