CONFLICT OF INTEREST DISCLOSURE

Michael Stirratt, Ph.D.

Has no real or apparent conflicts of interest to report
RAPPORTUER CLUB
• 500+ delegates
• 450+ abstracts submitted
• More presentations than I can count
CONFERENCE THEME

ACTIONING THE VISION

#Adherence2017
THE VISION

#Adherence2017
90-90-90 and Continuum of Care Targets

- Know status: 90%
- On treatment: 81%
- Virally suppressed: 73%
ON THE FAST-TRACK TO ACCELERATE THE FIGHT AGAINST HIV AND TO END THE AIDS EPIDEMIC BY 2030

2016 Political Declaration

César A. Núñez
04 June 2017

Resolution adopted by the General Assembly on 8 June 2016

70/166. Political Declaration on HIV and AIDS: On the Fast Track to Accelerating the Fight against HIV and to Ending the AIDS Epidemic by 2030

The General Assembly
Adopts the political declaration on HIV and AIDS annexed to the present resolution.

Annex
Political Declaration on HIV and AIDS: On the Fast Track to Accelerating the Fight against HIV and to Ending the AIDS Epidemic by 2030

1. We, Heads of State and Government and representatives of States and Governments assembled at the United Nations from 8 to 10 June 2016, reaffirm our commitment to end the AIDS epidemic by 2030 as our legacy to present and future generations, to accelerate and scale up the fight against HIV and end AIDS to reach this target, and to seize the new opportunities provided by the 2030 Agenda for Sustainable Development. To achieve this, we must increase our efforts to end AIDS.
Building solid political commitment for ambitious prevention, testing, treatment and rights targets for 2020 and beyond. Set national and sub-national targets, informed by global targets.

Achieving detailed, localized understanding of country epidemics and drivers, and focus services and resources on locations and populations with the largest HIV burden.

Stopping what does not work. Quickly introduce new evidence-based approaches. Broaden options for service delivery to reduce the burden on strained health systems and extend the reach of services, including greater use of community-based approaches and new partnerships.

Drastically quickening the pace and accelerate the scale up of services over the next five years.

Delivering HIV services in the intensity and quality needed to reach the targets within the next five years. Implement the full complement of high-impact HIV services in prioritized locations and populations.

Ensuring that services are people-centred. Repeal laws, reform policies and end practices that hold back a more effective and equitable AIDS response.

THE CORE FAST-TRACK PRINCIPLES

#Adherence2017
FAST TRACK PANEL: MONDAY JUNE 5

#Adherence2017
MUGAVERO: PARTNERSHIPS ARE THE KEY

MUGAVERO: PARTNERSHIPS ARE THE KEY

FAMILY CLINIC

HIV Dx

Linkage to Care

ART Receipt

ART Adherence

Outcomes

Retention in Care

Re-engagement in Care
CASCADE
BRIGADE
Achieving Epidemic Control
Astounding Results from Zimbabwe, Malawi, and Zambia

HIV Continuum of Care
Louisiana, 2016

PEPFAR
U.S. President's Emergency Plan for AIDS Relief

Callen-Lorde Community Health Center
Live Cohort Cascade through March 2017

Treatment cascade: UK 2013

In UK, ~35,000 (32%) HIV infected people NOT on antiretroviral treatment
<table>
<thead>
<tr>
<th>Percentage of participants</th>
<th>Eligible for PrEP</th>
<th>Provider visit, past 6 months</th>
<th>Sexual hx and provider visit, past 6 months</th>
<th>Discussed PrEP with provider, past 6 months</th>
<th>On PrEP, past 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>83%</td>
<td>69%</td>
<td>53%</td>
<td>30%</td>
</tr>
</tbody>
</table>

**ORAL #270 (EDELSTEIN): HIV PREVENTION CONTINUUM AMONG MSM IN NEW YORK CITY, SPRING 2016**

#Adherence2017
Why construct an organizational cascade

**Ending the Epidemic**

- To assess how all PLWH who touch an institution are linked to ongoing care that results in achievement of viral load suppression.

- To identify areas of focus for reaching and engaging those patients in the community who are not connected to care and to spark associated improvement activities – within the community and in partnership with other agencies.

- To visually portray the success of agencies in achieving both patient and public health outcomes related to Ending the Epidemic.
## Cascade measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Calculation for newly diagnosed patients cascade</th>
<th>Calculation for established patients cascade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linkage to HIV medical care</td>
<td>Denominator: Number of patients newly diagnosed with HIV in the measurement year. Numerator: Number of patients who attended a routine HIV medical visit within 3 calendar days of diagnosis if linked to care within the organization, and within 5 calendar days of diagnosis if linked to care at an outside organization during the measurement year.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Prescription of ART</td>
<td>Denominator: Number of patients newly diagnosed with HIV in the measurement year. Numerator: Number of patients prescribed ART in the measurement year.</td>
<td>Denominator: Number of patients in active caseload. Numerator: Number of patients prescribed ART in the measurement year.</td>
</tr>
<tr>
<td>Viral load suppression</td>
<td>Denominator: Number of patients newly diagnosed with HIV in the measurement year. Numerator: Number of patients with an HIV viral load less than 200 copies/mL at last HIV viral load testing during the measurement year.</td>
<td>Denominator: Number of patients in active caseload. Numerator: Number of patients with an HIV viral load less than 200 copies/mL at last HIV viral load testing during the measurement year.</td>
</tr>
</tbody>
</table>

30 days will no longer be regarded as “timely” linkage to care.
HIV Treatment Cascade for Alabama (AL), 2016
Via Oral #185, Scott Batey

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-infected (est.)</td>
<td>15,306</td>
</tr>
<tr>
<td>HIV-diagnosed</td>
<td>84%</td>
</tr>
<tr>
<td>Linked to care</td>
<td>86%</td>
</tr>
<tr>
<td>Retained in care (last 12 mos)</td>
<td>59%</td>
</tr>
<tr>
<td>Suppressed viral load (≤200 copies/mL)</td>
<td>63%</td>
</tr>
</tbody>
</table>

Source: AL Department of Public Health (ADPH)
LET DATA LIGHT THE WAY
AMIT KAPLAN REITER MEMORIAL LECTURE

Data use in PEPFAR
Focusing programs on locations and populations for maximal impact and partner management to improve effectiveness

Ambassador Deborah L. Birx, MD
IAPAC
June 2017
AGE AND GENDER DISPARITIES IN THE CASCADE

Awareness of HIV positive status by age – those under 30 unaware they are HIV positive

Percent of HIV positive individuals aware of their HIV status, by age, Pooled data from Malawi, Zambia, and Zimbabwe, 2016

Unaware of HIV positive status
Aware of HIV positive status

N= 8,071 individuals

Prepared by ICAP on September 12, 2016 in response to request from OGAC Preliminary data, not cleaned, unweighted and subject to change
AGE AND GENDER DISPARITIES IN THE CASCADE

Namibia: National ART Gap by Age and Sex
Young men and women aren’t on treatment

Cesar Nunez, Opening Plenary
Ambassador Birx, Reiter/Kaplan Memorial Lecture

Source: PEPFAR Namibia & UNAIDS, 2017

#Adherence2017
Geographic Variability in Time from HIV Diagnosis to Viral Suppression in Alabama

Richard P Rogers,1 Tian Tang,2 D Scott Batey,3 Anthony Merriweather,1 H Irene Hall,4 Michael J Mugavero3

Results

Kaplan-Meier Plot

Proportion without viral suppression

diff_m

PHA

1 2 3 4 5 6 7 8 9 10 11

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Only 26% of all LHDs employ epidemiologists/statisticians, though this is higher among LHDs serving larger populations:
79% (250,000-499,999); 92% (500,000-999,999); 95% (1,000,000+)

Source: National Association of County and City Health Officials (NACCHO) 2016 National Profile of Local Health Departments

Only 18% of all LHDs employ information systems specialist, though LHDs serving larger populations are more likely to:
57% (250,000-499,999); 66% (500,000-999,999); 76% (1,000,000+)

Source: National Association of County and City Health Officials (NACCHO) 2016 National Profile of Local Health Departments
Detroit Background

- City privatized most public health programs in 2012
  - Ryan White & HOPWA remained with the HD
- City declared bankruptcy in 2013
- Services began transitioning back to the HD in 2015
  - HIV prevention funding returned in October 2016

Detroit Metro Area HIV Care Continuum, Improvements 2010-2015
Lagging behind is not fatal, remaining there is.
DIVERSIFYING REGIMENS
WHO OPTS FOR DAILY VERSUS ON-DEMAND PRE-EXPOSURE PROPHYLAXIS?

• Younger patients were more likely to receive daily PrEP, which may be explained by behaviour profiles in line with daily use, such as spontaneous sex with multiple partners.
• Older patients may tend to engage in planned sex, making on-demand PrEP an appropriate option.

Zoe Greenwald, Oral #227, Clinique médicale l’Actuel, Montréal, Québec, Canada

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REGIMEN PREFERENCE EVOLVES

Laurent Cotte, Intermittent PrEP Debate, Tuesday June 6

#Adherence2017
PSYCHOSOCIAL MOTIVATIONS AND BARRIERS FOR LONG-ACTING PREP AMONG CURRENT PREP USERS

Figure 1. Percent Ranking each option as #1 choice

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pills</td>
<td>32%</td>
</tr>
<tr>
<td>Shot</td>
<td>51%</td>
</tr>
<tr>
<td>IV</td>
<td>9%</td>
</tr>
<tr>
<td>Condom</td>
<td>9%</td>
</tr>
</tbody>
</table>

Figure 2. Motivators and Barriers associated with ranking LAI PrEP as #1 choice

**Motivators**

- **No Pill Burden**
  
  “I wouldn’t need to take a pill every day” (p < .05)

- **Early Adopter**
  
  “I’m the type of person who is always the first to try something new” (p < .01)

- **PrEP Pride**
  
  “People are proud of PrEP users for taking PrEP” (p < .02)

- **Risk Tolerance**
  
  “I’m the type of person who likes to take risks” (p < .05)

**Barriers**

- **Injection Concerns**
  
  “I would be worried about the pain during/after the shots” (p < .02)

- **Clinic Access**
  
  “It would be difficult to return to the clinic to get shots” (p < .01)

- **Lowered Sense of Control**
  
  “I would feel less in control of my HIV prevention because I’m not taking a pill every day” (p < .05)

- **Reliability Concerns**
  
  “I would be worried that the shot would stop working in my body and I wouldn’t know” (p < .02)
TECHNOLOGIC INTERVENTIONS
**SMS Support Increases PrEP Retention and Adherence among Young MSM and Transgender Women in Chicago**

A Liu, E Vittinghoff, P von Felton, KR Amico, Peter Anderson, R Lester, E Andrew, Ixchell Estes, P Serrano, J Brothers, S Buchbinder, S Hosek, J Fuchs

**Retention**

<table>
<thead>
<tr>
<th>Visit week</th>
<th>PrepMate</th>
<th>Standard of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>96%</td>
<td>88%</td>
</tr>
<tr>
<td>12</td>
<td>86%</td>
<td>75%</td>
</tr>
<tr>
<td>24</td>
<td>81%</td>
<td>66%</td>
</tr>
<tr>
<td>36</td>
<td>80%</td>
<td>57%</td>
</tr>
</tbody>
</table>

**Adjusted OR**

2.73 (95% CI 1.3-5.73)  
P=0.007

**Adherence**

<table>
<thead>
<tr>
<th>Visit week</th>
<th>PrepMate</th>
<th>Standard of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>90%</td>
<td>77%</td>
</tr>
<tr>
<td>12</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>24</td>
<td>66%</td>
<td>56%</td>
</tr>
<tr>
<td>36</td>
<td>67%</td>
<td>56%</td>
</tr>
</tbody>
</table>

**Adjusted OR**

2.06 (95% CI 1.07-3.99)  
P=0.03
SHORT MESSAGE SERVICE (SMS) REMINDERS IMPROVE PATIENT ON-TIME PILL PICK-UP OF THEIR ANTIRETROVIRAL MEDICINES IN NAMIBIA

SAMSON S. MWINGA

Results ... 

- By Dec 2016, on-time pill pickup had improved from 73% in the previous quarter to 89.4% for patients enrolled for the SMS reminder service.

- Between Oct – Dec 2016 more than 9,000 text messages were sent out.
- A strong correlation between patients picking up their ARVs on time and the density of SMS reminders was observed.
“POSITIVE LINKS” MOBILE APP TO SUPPORT PEOPLE LIVING WITH HIV

Design and Impact of Positive Links: A Mobile Platform to Support People Living with HIV in Virginia

Rebecca Dillingham, MD/MPH
Associate Professor of Medicine

The Positive Links Program resulted in significant increases in CD4 count (top) and in HIV viral load suppression (bottom) over one year of follow-up. (n=56)

Participation in PL Improved Engagement in Care

HRSA-1: % With at least 2 visits separated by 90 days within one year

Visit Constancy (per 4 month period)

P<0.001 (McNemar’s)

WATCH THIS SPACE:
https://www.positivelinks4ric.com/

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ORAL 276 EFFECTIVENESS OF A CELL PHONE COUNSELING INTERVENTION ON PMTCT RETENTION, ADHERENCE TO TREATMENT, AND UPTAKE OF EARLY INFANT DIAGNOSIS AND PREGNANCY RELATED SERVICES IN KISUMU, KENYA: A RANDOMIZED CONTROLLED STUDY

Effectiveness of cellphone counseling on PMTCT retention and uptake of early infant diagnosis in Kisumu, Kenya

Avina Sama, MD PhD; Jerry Okal, PhD, James Matheka, MA; Lopamudra Ray Saraswati, MSc Mphil; Nancy Reynolds, PhD; Sam Kalibala, MD

12th International Conference on HIV Treatment and Prevention Adherence
4–6 June 2017
Miami, Florida

The intervention improved retention in care

![Bar chart showing improvement in retention](image)

- Delivery: I: 197/207; C: 153/197
- 5 weeks postpartum: I: 183/195; C: 163/180
- 14 weeks postpartum: I: 159/192; C: 125/196

Still births and infant deaths have been excluded at 6 weeks (I: 9 still births and 3 infant deaths; C: 8 still births and 1 infant death) and 14 weeks (I: 2 infant deaths and 1 maternal death) postpartum.

*** p < 0.001

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#220 EFFECTS OF A REAL-TIME REMINDER INTERVENTION ON RETENTION IN HIV TREATMENT AMONG PREGNANT AND POSTPARTUM WOMEN IN A LOW-RESOURCE SETTING: THE UGANDA WISEMAMA STUDY

What happened in intervention arm?
1. SMS reminder to cell phone if WPC unopened within 1 hour of dose time
   • Subjects chose one of 10 possible reminders; examples:
     • Time for prayers
     • Hello, it’s time
     • Don’t forget to watch the news
2. WPC-generated data used in counseling sessions
   • At monthly clinic visits, WPC report given to subject
   • Subjects <95% adherence in previous month given counseling using report

What happened in comparison arm?
• No reminder messages
• WPC report NOT shared with subject

Why no improvement in retention?
Real-time feedback did not address structural and interpersonal barriers
• Quantitative analysis of retention barriers found two significant positive factors on retention:
  • Disclosure: having disclosed HIV status to partner increased attendance at scheduled visits by 8.6% overall and by 18.6% in the postpartum period
  • Education: women with secondary education or higher completed 13.3% more visits overall and 22.7% in postpartum period
• Qualitative analysis of post-intervention focus group discussions found more issues, suggests reasons for post-delivery decline:
  • Travel to hospital clinics: expensive, time-consuming, burdensome due to child-caring responsibilities
  • Motivation to stay on ART high during pregnancy: women wanted to avoid HIV transmission to child; became busier after delivery

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CHANGE CARE
NOT JUST PEOPLE
SANDI MCCOY, ORAL #278: CONDITIONAL INCENTIVES

- Oral 278 (McCoy): Conditional cash incentives or food supplementation (contingent on visit attendance) improved MPR and reduces LTFU

![Graph showing patient retention over time with different conditions: NAC Only, NAC+Cash, NAC+Food. The graph indicates a statistically significant difference (Log-rank p=0.0020) in retention rates among the groups. Number of patients at risk for each condition: NAC Only 112, NAC+Cash 346, NAC+Food 342.}]
• MSM in Kenya
• Substantial stigma/discrimination
• Multicomponent intervention:
  • MSM sensitivity training for medical providers
  • Modified Next Step adherence counseling
  • Peer Support (Washikaji)
  • Mental health screening and support (peer/provider)

In GEE analysis with adjustment for baseline suppression (<40 copies/mL), men in the intervention group had an increased odds of virologic suppression at months 3 and 6 (aOR, 5.7, 95% CI 1.1-30.7, p=0.04), as did men with virologic suppression at baseline (aOR 23.0, 95% CI 2.7-196.7, p=0.004)
• Culturally competent care for transgender individuals (Arianna Lint, Sunday Discussion Panel)
Same-Day Antiretroviral Therapy Initiation
How Do We Get There?
Should We Go There?

Thomas P. Giordano, MD, MPH
Baylor College of Medicine
IQuESt, DeBakey VA Medical Center
Houston, TX

Evidence summary

• 3 large randomized studies in different contexts with fairly consistent results: more suppression, same or better retention in care, same or better survival
  • Pre-ART care can be dramatically simplified
  • Even easier if CD4 count not needed

• Long-term safety and outcomes are not known
  • Concern about the strategy with NNRTI-based ART

• Promising but very limited data in high resource countries

• Emerging data for starting ART outside the HIV treatment clinic (Glass, abstract 201, Lesotho)
Same-day home-based ART start in Lesotho: lessons from the field

Tracy Glass

Acceptability

Readiness to start ART

137 (100%) said they understood implications of life-long AR

134 (98%) ready to start ART that day
2 (1.5%) in the next few days
1 (0.5%) did not want to start

Linkage to care

6-months: 72%

Time to linkage: median 15 days (IQR: 14-27)

14% presented at clinic >30 days after home visit

late start, inconsistent ART use, drug holidays

At first clinic visit, there were no reported side effects or ART regimen changes

Older individuals and those with a partner who knew their HIV status were more likely to link to care
An Internet Start-up Makes PrEP Easier:

1. Online history,
2. trip to a local lab,
3. PrEP delivered to home,
4. phone, email or SMS support throughout.
UNMET CHALLENGES
### STIGMA AND DISCRIMINATION

Worry, avoidance and discrimination in the last 12 months

<table>
<thead>
<tr>
<th>Have you worried about:</th>
<th>% of all who report experience due to HIV</th>
<th>% of all who answered yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gossip</td>
<td>28%</td>
<td>43%</td>
</tr>
<tr>
<td>Sexual rejection</td>
<td>24%</td>
<td>33%</td>
</tr>
<tr>
<td>Workplace rejection</td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>Excluded - social gatherings</td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>Job security</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Verbal harassment</td>
<td>12%</td>
<td>22%</td>
</tr>
<tr>
<td>Excluded - family gatherings</td>
<td>10%</td>
<td>18%</td>
</tr>
<tr>
<td>Physical assault</td>
<td>6%</td>
<td>8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you:</th>
<th>% of all who report experience due to HIV</th>
<th>% of all who answered yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided sex</td>
<td>29%</td>
<td>43%</td>
</tr>
<tr>
<td>Avoided social gatherings</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Avoided family gatherings</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>Avoided employment / promotion</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>Left a job / income source</td>
<td>4%</td>
<td>11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you experienced:</th>
<th>% of all who report experience due to HIV</th>
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<tr>
<td>Gossip</td>
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<td>16%</td>
</tr>
<tr>
<td>Verbal harassment</td>
<td>8%</td>
<td>15%</td>
</tr>
<tr>
<td>Excluded - family gatherings</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>Excluded - social gatherings</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Refused employment / promotion</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Job change - consensual</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Lost job</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Physical assault</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>Job change - against wishes</td>
<td>1%</td>
<td>3%</td>
</tr>
</tbody>
</table>

http://www.stigmaindexuk.org

Mark Nelson MD,
Plenary: Why are there still such large gaps in coverage in the test and treat era?

#Adherence2017
Association between Discrimination in Healthcare Settings and HIV Medication Adherence: Mediating Psychosocial Mechanisms


- Perceived discrimination in healthcare settings is associated with sub-optimal ART adherence
- Association mediated in a serial fashion by internalized stigma and by depressive symptoms, as hypothesized
Gaps that need to be addressed

**Geography** – vast difference in HIV prevalence within each country; investments must continue to be targeted for impact

**Populations** – significant age gap in those we have reached and not reached impacting epidemic control: we have successfully reached women > 25 and men > 35

**Epidemic continues unchecked in men <35 and women < 25**: focused prevention and treatment interventions must continue

**Testing without linking is a program failure**
PREP DISPARITIES

PrEP Awareness, Interest, and Use Among Women of Color in New York City, 2016

Anisha Gandhi1,4, Emily Appol1, Kathleen Scanlin1, Julie Myers1,4, Zoe Edelstein1
1New York City Department of Health and Mental Hygiene, Queens, NY
2Department of Sociomedical Sciences, Columbia University Mailman School of Public Health, New York, NY
3Division of Infectious Diseases, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY

Abstract #378

• Only one in four Black or Hispanic/Latina women in high-diagnosis NYC neighborhoods were aware of PrEP.

• In multivariable analysis, only income was significantly associated with PrEP awareness.

• In spite of 13% of respondents having indications for PrEP based on recent sexual behavior and partner characteristics, almost none had used it.

• Among those aware of PrEP, 19% reported interest in use.
ADVANCING PREP USE

Robert Grant
Plenary: PrEP 2.0

#Adherence2017
I think the apple doesn't fall far from the tree.
IN CONCLUSION
IN CONCLUSION,
FURTHER RESEARCH IS INDICATED