TEST AND TREAT: INNOVATIVE WAYS FORWARD

AIDS 2018 POST-CONFERENCE WORKSHOP

Indonesia, 8-9 December 2018
Key Messages from AIDS 2018

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Topics

- Test and Treat and the decline in HIV incidence → Undetectable = Untransmittable
- Innovative ways to deliver HIV testing
- Innovative ways to initiate ART
- Sustainability of HIV programs
- PrEP delivery and emerging issues
Epidemiology

HIV incidence

- Southern Africa:
  - Temporal trends of HIV parameters including incidence, population viral load and viral load suppression were presented
  - Decline in HIV incidence in men but this is not consistent for women
- Zimbabwe, Zambia and Malawi:
  - every 1% increase in viral load suppression in decreased the predicted probability of one recent infection by 8%

[Graph showing incidence rates]
Epidemiology

HIV incidence

• Australia: Melbourne
  – increased testing and declines in time from diagnosis to viral suppression were associated with reduced HIV incidence

• USA: San Francisco
  – from 2008 to 2016 there were declines in the time to ART initiation and the duration in which individuals had elevated viral loads
  – not consistent across all populations (i.e. youth, African women, PWID)
Test and treat

PARTNER2 study

- Estimate transmission risk in 972 gay male sero-discordant partnerships
- Zero phylogenetically-linked transmissions during 1600 couple-years of follow up and 77000 condomless sex acts with undetectable viral load
- Supports treatment as prevention and U=U
- Limitations relate to generalizability
  - 89% were white European males and heterosexuals and trans people only accounted for 1.1% of participants
Estimated new HIV infections by sub-population, 2000-2030, Indonesia
Innovations:
Online reach to offline HIV testing

- Philippines: online campaign, offline events and gay-networking apps to promote testing
  - Testing increased more than 60% after campaign at 8 MSM-friendly clinics

- Vietnam: Facebook community that used online influencers and online booking for HIV testing (provided by lay testers)
  - 77% linked from online to offline testing
  - 12% HIV-positive, higher than 6% in routine lay or self-testing
Innovations: Self-testing through online platforms

- Technology-based interventions prove to be acceptable to ‘hard to reach’ populations including young MSM and trans women

- Thailand: online, supervised, HIV self-testing for MSM and TGW
  - 47% never tested, 16% HIV-positive, 53% linked
  - Higher positive yield but lower rates of linkage to ART, compared to offline or online-to-offline groups

- China: internet-based HIV self-testing request and support model
  - Cover 14 of 31 provinces in China
  - 52% never tested, 78% sent results, 14% HIV-positive, 72% linked
HIV testing

Self-testing

• Self-testing with friends among MSM and TGW
  – US: Training with a trusted friend and provision of HIVST kits made testing less stressful regardless of results
• HIVST kits to young women
  – Kenya: increased male partner and couples testing
• Pharmacists as partners in HIVST kit distribution
  – French pharmacists show interest but low sales and lack of discrete location for counselling
• Community distribution
  – Zambia: community-based oral HIVST distribution found no difference in time linked to care (64% in non-HIVST zone vs. 65% in HIVST zone)
  – Malawi: increased likelihood of testing uptake for communities randomized to community-based HIVST vs. clinic-based testing

Paige THPDC0106  Floyd THPDC0102  Champenois THPDC0101  Agot THPDC0104  Indravudh THPDC0103
Universal test and treat

Self-testing

- Malawi: facility-based HIV self-testing
  - increased uptake of HIV testing among outpatients compared to provider-initiated HIV testing
  - Good HIV-positive testing yield

Testing uptake by sex and age across arms (n=5,885+)

<table>
<thead>
<tr>
<th>Category</th>
<th>Standard PITC</th>
<th>Optimized PITC</th>
<th>Facility-based HIVST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>AOR:1.19</td>
<td>AOR:1.52*</td>
<td>AOR:7.39**</td>
</tr>
<tr>
<td>Youth (15-24 yrs)</td>
<td>ref</td>
<td>ref</td>
<td>AOR:8.24**</td>
</tr>
<tr>
<td>Men (25+ yrs)</td>
<td>AOR:1.24</td>
<td>ref</td>
<td>AOR:5.73**</td>
</tr>
<tr>
<td>Women (25+ yrs)</td>
<td>ref</td>
<td>AOR:0.89</td>
<td>AOR:7.83**</td>
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</table>

Dovel TUAE0105
Innovative models

Key population-led health services

- Peer-engagement and services led by KP CBOs increased access to HIV testing, prevention and treatment for KPs
- Malaysia: peer case management and sensitivity training for healthcare providers works in Muslim majority setting where non-binary gender and sex acts are crime
  - 51% (of reached) tested, 9% positive, 56% were non-PWID KPs (MSM, TGW, sex workers)
Innovative models

KP-led testing and linkage to care

• KP-led interventions are appropriate, effective, sustainable, acceptable

• Vietnam: HIV testing by KP lay providers
  – 67% first-time testers and 90% of those diagnosed enrolled in treatment
  – Policy support and guidelines moved fast from pilot in October 2016 to MOH approval for national HIV community testing guidelines in April 2018

• Thailand: Tangerine Clinic
  – TGW accessing gender-affirming hormone therapy were more likely to repeatedly test for HIV and syphilis and to access PrEP
Treatment

Same-day ART initiation

- Uganda:
  - Lay testers (HIV + POC CD4/Cr/preg) and nurse-initiated ART in community (home and workplace)
  - 80% eligible for same-day ART

- Thailand:
  - Same-Day ART Initiation Hub in the largest HIV testing clinic in Bangkok
  - 79% received same-day ART (97% within a week)
  - 2.2 times as likely to be virally suppressed (vs. standard of care)
  - 88% successfully referred to long-term ART hospitals
Treatment

Same-day ART initiation

TRCAC
ART initiation hub (2-10 weeks)

First Visit
- Readiness assessment and counseling (30 mins)
- Blood collection and chest x-ray (2hrs)
- Medical history and physical exam (30 mins)
- ART initiation

Follow-up Visit
- Notify baseline lab results
- Assess potential side effects from ART
- If normal, prescribe ART for 2 months

Seekaew THAC0403
Same-day ART initiation

- 90% were successfully referred to long-term ART site
  - Median (days) IQR: 56 (38-70)
- 92% retention at month 3 and 91% retention at month 6 after ART initiation

<table>
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<tr>
<th>ART Initiation Time Periods at TRCAC Same-Day ART Initiation Hub</th>
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<tbody>
<tr>
<td>Same day</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>MSM (n=874)</td>
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<tr>
<td>TGW (n=56)</td>
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<tr>
<td>GEN POP (n=286)</td>
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</tbody>
</table>

(TRC Anonymous Clinic, Jul 2017 – April 2018, Unpublished)
Treatment

Same-day ART initiation

Successful ART Initiation at TRCAC Same-Day ART Initiation Hub

- PLHIV initiating Same-Day ART were 3.9 times more likely to start ART when compared to standard of care arm (HR: 3.9; 95%CI: 3.7-4.2; p<0.001).
Same-day ART initiation

VL suppression after referral from TRCAC Same-Day ART Initiation Hub

- 93.9% of clients who received VL testing were virally suppressed
- Median (days) IQR: 162.5 (130-188)
- PLHIV initiating Same-Day ART were 2.2 times more likely to be virally suppressed when compared to standard of care arm (HR: 2.2; 95%CI: 1.9-2.6; p<0.001).

(TRC Anonymous Clinic, Jul 2017 – April 2018)
Rapid ART initiation

• Swaziland:
  – PLWH peer ‘re-engaged’ out-of-care clients to mobile CD4/clinical assessment/co-trimoxazole provided by nurses in the community
  – 96% ART initiation (73% rapid ART initiation)

• Botswana:
  – Fast-track ART initiation improved median time from linkage to first viral suppression from 210 to 104 days
  – 63% rapid ART initiation (73% within 30 days)
Sustainability

- To ensure financially sustainable service delivery modalities that do not leave anyone behind, a sustainability tower consisting of proven strategies, guidelines, products, tools and interventions will be critical.

- Brazil: 500,000 people are on ART on 100% Federal Government funding
  - to offer Integrase Inhibitor without significantly increasing the budget
  - price negotiation through bidding processes (DTG 50mg vs. RAL 400mg) and reorganization of the guideline drug portfolio.
Funding

Sustainability

- To ensure financially sustainable service delivery modalities that do not leave anyone behind, a sustainability tower consisting of proven strategies, guidelines, products, tools and interventions will be critical.

- Vietnam: sustainable financing of the HIV response by integration of donor-funded treatment facilities into the public health system.
  - Social Health Insurance scheme ART coverage increased from 36% in 2016 to 73% in 2017.
Thailand: key population-led initiatives have largely contributed to increased PrEP uptake (dispensed by lay providers) among MSM and TGW.
PrEP Dispensing to KPs by KP Lay Providers

KP-LED HEALTH SERVICES

TO BE A KP LAY PROVIDER

NOMINATION
The CBOs will nominate their staff, who are members of KPs and experienced in providing counseling, to be trained.

MODULES
The trainee must complete 4 core modules in order to dispense PrEP
1. Gender sensitivity
2. Basic HIV knowledge
3. HIV counseling
4. ART and PrEP dispensing

EXAMINATION
After complete the required modules, the trainee must pass the test at 80% and complete 90 days of practicum.

CERTIFICATION
The certification will be granted after the test and practicum complete. The first year certificate will be valid for one year. The second year certificate will be valid for two years.

FINANCING MECHANISM FOR SUSTAINABILITY
Certification is used as part of eligibility criteria for domestic/international funding agencies to support services provided by KP lay providers and CBOs.
PrEP Delivery

- Sub-Saharan Africa: integration with family planning clinics
  - Kenya and Zimbabwe show successful delivery alongside birth control and FP clinics could be key access points for women to obtain PrEP

Facility Experience

- Assess PrEP uptake trends
- Evaluate HCW readiness and attitudes on PrEP acceptability

Client Experience

- Understand client perspectives on PrEP regarding:
  - Uptake
  - Adherence and continuation
  - Risk compensation

Pintye TUAC0304  Gombe TUAC0307LB
PrEP Delivery

• Brazil: looked at the association between three adherence drug measures in relation to protective drug levels at 48 weeks in public health context
  – 83% of participants retained through 48 weeks with high adherence (74%)
  – all adherence measures, including self-report, were able to identify participants without protective drug levels

• Senegal: efforts to deliver PrEP in MOH clinics for FSW
  – increased to 75% by end of first year
  – older women were better at retention and had no new infection
PrEP Delivery

- USA: young people had lower utilisation compared to older adults
  - 86% of adolescents were females, mainly from pediatricians (32%), emergency medicine (23%), and family medicine (12%)
Sexual health in the PrEP era

- Australia: STI incidence increased among MSM using PrEP in Melbourne
  - the majority of this increase was due to repeated STIs among a small proportion (13%) of participants

- USA: PrEP-using MSM had more condomless sex while on PrEP
  - Rectal STI incidence didn't increase during PrEP and was lowest after discontinuation

- Netherlands: elevated risk of Hepatitis C and reinfections among PrEP users
  - incidence of initial (1/100PY) and re-HCV infection (25/100PY) among HIV-negative MSM on PrEP was comparable to HIV-positive MSM
ANRS Prévenir

- Multicenter, open-label, prospective cohort study in Paris

**Beginning of Study**
May 3, 2017

**Current Analysis**
July 2, 2018

**End of Study**
May 31, 2020

HIV-negative adults at high risk of HIV infection with inconsistent condom use; CrCl ≥ 50 mL/min; HBsAg negative in on-demand arm (N = 1594)*

- Predominantly MSM (98.8%), white (85.2%); median age: 36 yrs
- Primary endpoint: ≥ 15% reduction in new HIV diagnoses among MSM in Paris vs rate reported by National Surveillance network in 2016
- Secondary endpoints: PrEP adherence, sexual behavior, safety

*Participants enrolled in arm of their choice with ability to switch
†Plus condoms, gels, risk reduction and adherence counseling, questionnaire on sexual behavior.
Follow-up every 3 mos with STI and/or HIV testing, plasma creatinine measurement.
**ANRS Prévenir**

**Primary Endpoint**

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<tbody>
<tr>
<td>HIV incidence/100 PY (95% CI)</td>
<td>0 (0-0.8)</td>
<td>0 (0-0.7)</td>
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*On-demand PrEP strategy not FDA approved.

- Mean follow-up: 7 mos
- Overall HIV infections averted, n = 85
  - Assuming incidence of 9.17/100 PY as reported for IPERGAY study in Paris
- High incidence of STI and new HCV infection (1.2/100 pt-year)
- Overall incidence of study discontinuation: 3.3/100 PY, including PrEP discontinuations of 1.5/100 PY
  - No participant discontinued PrEP due to drug-related adverse events.
- Study planned to enroll 3,000 participants and F-U of 3 years
  - Objective: reduction of HIV incidence of 15% in Paris
PrEP

Emerging issue

- Thailand: iFACT study
  - 20 TGW who never underwent orchiectomy (removal of testicles) and had not received injectable feminizing hormone therapy (FHT) were enrolled within 6 months
  - Demonstrated lower plasma TFV exposure (13%) when daily oral feminizing hormones are used along with daily PrEP in the iFACT study

(FHT only) (PrEP+FHT) (PrEP only)

Wk0 Wk3 Wk5 Wk8 Wk15

- Intensive pharmacokinetic of E2 and $C_{\text{trough}}$ testosterone measurement
- Intensive pharmacokinetic of TFV measurement

At pharmacokinetic day, plasma was collected at $t=0$ (pre-dose), 1, 2, 4, 6, 8, 10, 12, and 24 hours after directly observed medication ingestion with a standardized meal (a total of 9 samples)
Key Messages

- TEST AND TREAT + PrEP to end the HIV epidemic
- As many (innovative) ways of HIV testing need to be implemented
- Meaningful engagement of key populations/communities in the design and delivery of services are crucial to efficiently implement HIV testing, treatment and prevention programs
- ‘Same-Day ART’ concept can be used to revolutionize ART service delivery practice to achieve the 2nd 90 target
- Country’s genuine and pro-active actions have been demonstrated to successfully get us closer to full domestic financing for HIV prevention and treatment programs
THANK YOU VERY MUCH