HIV Treatment as Prevention: How Clinical and Public Health Priorities are in Sync

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(Unite For Sight)
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REF: Perriat D, et al. Comparative assessment of five trials of universal HIV testing and treatment in sub-Saharan Africa. JIAS 2018
Zambian discordant couples (linked tx only)

No transmissions at <3000 VL/mL

Selected studies for TasP - I

• HTPN 052
### Partner Infections (ITT)

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<tr>
<td></td>
<td>PY f/u</td>
<td>All partner infections # (rate)</td>
<td>Linked partner infections # (rate)</td>
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<tr>
<td>Total</td>
<td>3482</td>
<td>46 (1.32)</td>
<td>37 (1.06)</td>
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<td>Early arm</td>
<td>1751</td>
<td>4 (0.23)</td>
<td>1 (0.06)</td>
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<tr>
<td>Delayed arm</td>
<td>1731</td>
<td>42 (2.43)</td>
<td>36 (2.08)</td>
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<tr>
<td>Rate ratio</td>
<td>0.09</td>
<td>0.03</td>
<td>0.86</td>
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<tr>
<td>Risk reduction</td>
<td>91%</td>
<td>97%</td>
<td>14%</td>
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**Rate** = # of events / 100 PY  
**Linked** = index-to-partner transmission likely  
**Risk reduction** = 1 – rate ratio
Selected studies for TasP - II

• ANRS TasP (South Africa)

• Search Study (Kenya, Uganda)

• Botswana Combination Prevention Project (Ya Tsie):
  Botswana MoH, Harvard School of Public Health, CDC

• Project Shikamana (Iringa, Tanzania)

• Max ART (Swaziland)
HPTN 052 – Enrollment, 9 sites, 4 continents

10,838 Individuals Screened

1763 Couples (3526 Individuals) Randomized

Immediate Arm 886 Couples
Delayed Arm 877 Couples

Major reasons for exclusion:
3058 HIV+ but CD4 count out of range
2565 HIV- but HIV+ partner ineligible
308 Seroconcordant couples
155 Ineligible due to sexual history
Selected studies for TasP - III

HPTN 071 / PopART

Can we increase HIV testing and ART coverage/adherence enough to actually drop community-level HIV transmission?

– WHO/UNAIDS 90-90-90 goal by 2020

A cluster randomized trial, but in real world conditions
3 arm cluster-randomised trial with 21 communities

- **Arm A**
  - Full PopART intervention
  - including immediate ART irrespective of CD4 count

- **Arm B**
  - PopART intervention except ART initiation according to current national guidelines

- **Arm C**
  - Standard of care at current service provision levels including ART initiation according to current national guidelines

7 communities per arm (N=21)

**PopART intervention package**
- Annual rounds of Home Based Voluntary HIV Testing by Community HIV-care Providers (CHiPs)
- Health promotion, Active Referral and/or Retention in Care support by CHiPs for the following:
  - Voluntary Medical Male Circumcision (VMMC) for HIV negative men
  - Prevention of Mother to Child Transmission (PMCT) for HIV positive women
  - HIV treatment and care for all HIV positive individuals
  - Promotion of sexual health and TB services
  - Condom provision

- ART irrespective of CD4-count or immune-status provided at the local health centre in Arm A

**Total Population ~ 1M**

~ 2,000 random sample from each community:
- Population Cohort
  - N ~ 42,000

Primary outcome:
- HIV incidence at 36 months

12 in Zambia
9 in S. Africa

12 in Zambia
9 in S. Africa

N ~ 42,000

Primary outcome:
- HIV incidence at 36 months
Electronic data capturing (EDC) by CHiPs (Community HIV-care Providers)

- Enumerate households
- HIV education
- Self-reported status/ART-number
- Offer HIV testing
- Condom Provision
- Referral for care at clinic
  - HIV/ART
  - PMTCT
  - TB
  - STI
  - VMMC
- Active follow-up
A to C arm: No difference seen

B to C arm: Highly significant 30% decrease in new HIV infections with a prevention strategy where HIV treatment was started according to in-country guidelines

The HPTN 071 (PopART) study involved >1 M people living in 21 communities in Zambia and South Africa, making it the largest HIV prevention trial to date. The study measured the effects of two HIV combination prevention strategies offering HIV testing to people in their homes annually, with linkage to HIV care and treatment at the local health facility for those living with HIV.
Where are the men? -- not home during the day

16% MORE MEN (25 TO 34 YRS) & 29% MORE MEN (35 TO 44 YRS) ARE REACHED DURING 11AM - 7PM COMPARED TO 9AM - 5PM

Blia Yang: HPTN071
SA PEPFAR meeting
Find men at a time and day that suits them………

56% MORE (25 TO 34 YRS) & 39% MORE (35 TO 44 YRS) ARE REACHED ON A SATURDAY
Community outreach: What worked…..what didn’t?

• Lots of people came
• Accessed many health services
• Registration of people into their households very challenging and time consuming
• Very costly
• Few additional men and households ……but is value in numbers or in reaching the “last 20%”
Challenges in keeping people retained in care

Challenges

- Long waiting times for clinical review and pharmacy for refills
- Pharmacy capacity; storage space and staffing issues
- Stigma, attitudes especially towards adolescents and men
- Migration in and out of communities

Lessons

- Explore alternative ART delivery for stable clients
- Enhanced staff provision & storage space
- Staff training, adolescent “spaces” & times in clinic
- Higher than anticipated (~20%) change in address, need for repeat household visits
The bottom line

Four community-randomized trials (CRTs) in sub-Saharan Africa addressed these questions with HIV endpoints

• TasP and SEARCH reported no impact of UTT on HIV incidence
  – Havlir D, et al. (SEARCH). 22nd IAS 2018; Abstr. no WEAX0106LB

• Ya Tsie (BCPP) reported a 30% reduction in incidence, of borderline statistical significance.
  – Makhema MJ, et al. (Ya Tsie-Botswana). 22nd IAS 2018; Abstract no WEAX0105LB.

• HPTN 071 (PopART) results suggested no effect in one comparison arm, but 30% protection in another
Questions and comments?

Thanks to Drs. Aliyu, Allen, Cohen, & Hayes.

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