Optimization: Cross-Cutting Lessons from Interventions to Improve Engagement in HIV Care

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Status Neutral Continuum of HIV Prevention and Care

https://www.nastad.org/domestic/hiv-prevention-health-equity

Status neutral continuum slide courtesy of Hyman Scott
Blueprint for HIV Treatment Success: ‘Dynamic’ Engagement in HIV Care

1. HIV Dx
2. Linkage to Care
3. Re-engagement in Care

- Retention in Care
- ART Receipt
- ART Adherence
- Outcomes

Ulett et al. *AIDS Pt Care STDS* 2009;23:41-49
Mugavero et al. *Clin Infect Dis* 2011;52(S2)
‘Fast Track,’ Rapid Start Programs
Early Steps on the Care Continuum: Historical Impact on ART Start & VS

Test Positive → Linkage to Care → Start ART

Screen Test Positive: 0-(5)-14 Days
Confirmatory HIV Test: 0-(14)-30 Days
Get to Treatment Site: 0-(5)-30 Days
Financial Eligibility for Care: 0-(5)-30 Days
Pre-care (counseling, labs, etc): 0-(14)-30 Days
Clinician Visit (prescribe ART): 0-(14)-60 Days
ART Dispensed: 0-(14)-60 Days

Historical Delays in ART Start up to 194 Days

Public Health Approach: SF RAPID

Time to HIV RNA <200 copies/mL

- Same-Day (2013-14) (median: 1.8 months)
- Universal ART (2010-13) (median: 4.3 months)
- CD4-Guided ART (2006-09) (median: 7.2 months)

Proportion With Viral Suppression

Time From Clinic Referral (months)

All comparisons to same-day ART (P<0.0001)

Pilcher et al. JAIDS 2017;74
Clinic-Based Approach: CCSI

- Crescent Care Start Initiative (CCSI): FQHC, NOLA, LA
  - LTC & ART w/in 72 hrs
  - 24-hr LTC coordinators
  - Primary provider visit
    - Labs & DTG+TAF/FTC
    - 1st ART dose in clinic
  - HIV specialist w/in 4 wks

- CCSI Results
  - 92% LTC & ART in 72 hrs (n=71/77)
  - All 71 CCSI patients achieved VS
    - Median time = 30 days
Combination Intervention Strategies (CIS)
Link4Health for Linkage & Retention in Adult HIV Care

Cluster RCT (10 clusters) in Swaziland, n=2197

- 2 study arms (1:1)
- Combination Intervention Strategy (CIS)
  - Point-of-care CD4 testing
  - Accelerated ART
  - Mobile phone appt reminders
  - Health education packages
  - Non-cash financial incentives
- Standard of Care (SOC)

Primary outcome: 1 mo LTC + 12 mo RiC


<table>
<thead>
<tr>
<th></th>
<th>CIS</th>
<th>SOC</th>
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<tbody>
<tr>
<td>Tested HIV+</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>(Study Enrollment)</td>
<td>1,096</td>
<td>1,101</td>
</tr>
<tr>
<td>Linked within 1 month</td>
<td>92%</td>
<td>83%</td>
</tr>
<tr>
<td>N = 1,010</td>
<td>N = 918</td>
<td></td>
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<tr>
<td>Retained until ART eligible</td>
<td>76%</td>
<td>65%</td>
</tr>
<tr>
<td>N = 835</td>
<td>N = 721</td>
<td></td>
</tr>
<tr>
<td>Initiated ART</td>
<td>65%</td>
<td>58%</td>
</tr>
<tr>
<td>N = 710</td>
<td>N = 635</td>
<td></td>
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<tr>
<td>Retention 12 months after HIV testing</td>
<td>65%</td>
<td>45%</td>
</tr>
<tr>
<td>N = 720</td>
<td>N = 498</td>
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</table>

- 12% Pre-ART
- 53% on ART
- 39% on ART

P = 0.14
P = 0.04
P = 0.12
P = 0.002
A CIS Strategy for Linkage & Retention in Mozambique

<table>
<thead>
<tr>
<th>Category</th>
<th>Outcome</th>
<th>CIS $N = 744$</th>
<th>CIS+ $N = 493$</th>
<th>SOC $N = 767$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary outcome</td>
<td></td>
<td>$N$</td>
<td>Percent</td>
<td>$N$</td>
</tr>
<tr>
<td>At diagnosing facility</td>
<td>Linked to care within 1 month of diagnosis and retained 12 months after diagnosis</td>
<td>425</td>
<td>57%</td>
<td>273</td>
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<tr>
<td>At any health facility</td>
<td>Linked to care within 1 month of diagnosis and retained 12 months after diagnosis</td>
<td>547</td>
<td>74%</td>
<td>360</td>
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Retention (RiC) & Re-engagement in Care Interventions
Retention via Enhanced Personal Contact (REPC): Clinic-Based Approach

- RCT at 6 U.S. HIV clinics, n=1838
- 3 study arms (1:1:1)
  - Enhanced Personal Contact (EPC)
  - EPC + skills (EPC+)
  - Standard of Care (SOC)

- Outcomes @ 12-months:
  - Visit adherence
  - 4-month visit constancy

Gardner LI et al. *Clin Infect Dis* 2014;59
Shrestha RK et al. *JAIDS* 2015;68

Bar chart showing:
- Overall: 72% (SOC: 67%, Intervention: 72%)
- Black/AA: 70% (SOC: 66%, Intervention: 70%)
- Female: 70% (SOC: 65%, Intervention: 70%)
- Medicare: 74% (SOC: 65%, Intervention: 74%)
- Medicaid: 71% (SOC: 66%, Intervention: 71%)

CDC Retention through Enhanced Personal Contacts: Evidence-Based for Retention in HIV Care
Project HOPE (CTN049): Patient Navigation +/- Financial Incentives

<table>
<thead>
<tr>
<th></th>
<th>No./Total (%)</th>
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<th>Navigation Only</th>
<th>Navigation + Incentives</th>
<th>Usual Treatment</th>
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<tr>
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<tr>
<td>HIV treatment</td>
<td></td>
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<td>Visited an HIV specialist</td>
<td></td>
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<tr>
<td>Self-report</td>
<td>177/225 (78.7)</td>
<td>208/240 (86.7)</td>
<td>155/232 (66.8)</td>
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<tr>
<td>Medical records</td>
<td>92/131 (70.2)</td>
<td>103/125 (82.4)</td>
<td>88/151 (58.3)</td>
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<td>Secondary Outcomes at 6 Months(^1)</td>
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<tr>
<td>Treatment success</td>
<td>97/248 (39.1)</td>
<td>120/260 (46.2)</td>
<td>89/253 (35.2)</td>
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<tr>
<td>Viral suppression (success)(^c)</td>
<td>97/225 (43.1)</td>
<td>120/238 (50.4)</td>
<td>89/233 (38.2)</td>
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<tr>
<td>Deaths (failure)(^d)</td>
<td>23/248 (9.3)</td>
<td>22/260 (8.5)</td>
<td>20/253 (7.9)</td>
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Metsch et al. JAMA 2016;316(2)
Lessons learned...

- Effective engagement in care interventions are incredibly time & resource intensive
- ‘Fast track’ programs show promise...will long-term engagement & VS be sustained?
- Combination intervention strategies work...but which components? Need all of them??
- Mixed findings for conditional incentives
- Effect sizes of engagement interventions are relatively modest...no “silver bullet”
- Even when improve engagement outcomes...challenging to improve VS
"The scientific evidence is clear. Someone whose HIV is undetectable does not pose an infection risk to their sexual partners."

For information on HIV, you can rely on: www.aidsmap.com

https://www.preventionaccess.org/about,
https://www.health.ny.gov/diseases/aids/ending_the_epidemic/,
HIV VS Trends Over Time:
CNICS Clinical Cohort, 1997-2015

Engagement in HIV Care: A Dynamic Behavior & Indicator(s)

“Consistently High” (26%)

“Steadily Declining” (16%)

“Early Increasing” (17%)

“Late Increasing” (15%)

“Consistently Low” (26%)

Powers et al. JAIDS 2017; 74(S2)
Going forward...