Improving the impact of HIV testing through better linkage and more timely viral suppression

Roundtable Session at the 2016 HIV Diagnostics Conference
Kevin P. Delaney, Eugene Martin, Joanne Stekler, Chris Pilcher
Figure 1: 2014 King County HIV Care Cascade as of June 30, 2015

- **Est. People living with HIV/AIDS**: 100%
- **Diagnosed and presumed living in King County**: 92%
- **Linked to care**: 86%
- **One or more care visit**: 82%
- **Viral suppression**: 72%

- **94% of diagnosed**
- **89% of diagnosed**
- **79% of diagnosed**
<table>
<thead>
<tr>
<th>Model Scenario</th>
<th>Value</th>
<th>New Infections/100 Person Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Median IQR</td>
</tr>
<tr>
<td>Baseline(^a)</td>
<td></td>
<td>2.87</td>
</tr>
<tr>
<td>Increasing test frequency</td>
<td>Test every</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 d</td>
<td>2.63</td>
</tr>
<tr>
<td></td>
<td>90 d</td>
<td>2.57</td>
</tr>
<tr>
<td></td>
<td>180 d</td>
<td>2.80</td>
</tr>
<tr>
<td></td>
<td>365 d</td>
<td>2.98</td>
</tr>
<tr>
<td></td>
<td>1095 d</td>
<td>3.27</td>
</tr>
<tr>
<td>Reduce the proportion of MSM who have never tested for HIV (baseline 20%)</td>
<td>7%</td>
<td>2.67</td>
</tr>
<tr>
<td></td>
<td>0.2%</td>
<td>2.60</td>
</tr>
<tr>
<td>Increasing viral suppression through linkage to care and treatment (baseline 43%)</td>
<td>68.5%</td>
<td>2.19</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>1.43</td>
</tr>
<tr>
<td>Using tests with different sensitivity for early infection (baseline 45 d)</td>
<td>70 d</td>
<td>2.89</td>
</tr>
<tr>
<td></td>
<td>22 d</td>
<td>2.68</td>
</tr>
<tr>
<td></td>
<td>0 d</td>
<td>2.84</td>
</tr>
</tbody>
</table>
This mornings panel

• Eugene Martin, Rutgers University School of Medicine
  • How has New Jersey been able to improve linkage to HIV care?

• Chris Pilcher, UCSF Medical School
  • How has SF General been able to dramatically reduce time to viral suppression?

• Joanne Stekler, University of Washington School of Medicine
  • Why is Seattle’s Care Continuum SOOO much better than the US “average”?
Hand in Hand: Diagnostics & Linkage

“Linkage to Care on the Same or Next Business Day”

Eugene Martin
TAKE HOME MESSAGE:
Test-and treat interventions may increase the numbers of patients initiating ART early BUT without stabilizing the back end of treatment continuum (i.e., care retention and ART adherence), test-and-treat strategies fall short of their potential.

New HIV infections over 20 years for MSM in New York City

Sorensen et al, A Mathematical Model of Comprehensive Test-and-Treat Services and HIV Incidence among Men Who Have Sex with Men in the United States
DOI: 10.1371/journal.pone.0029098
A Statewide, Comprehensive, Collaborative, Approach to Linkage

Three components, all essential to linkage to care on the same or next business day:

1) Implementation of statewide rapid testing using a common set of procedures for testing: two-test RTA
2) Formation and maintenance of local Linkage to Care Collaboratives
3) Embedding HIV Prevention Patient Navigators in large HIV clinics in the state to initiate, monitor and follow-up with newly engaged clients
• DHSTS – Role: Facilitate initial formation of collaboratives in each of the 21 NJ counties: TGAs, EMAs, FQHCs, CBOs

• CENTERPIECE of each regional collaboration – HIV specialty care clinic or practice.

• ACCESS:
  • Agencies using an RTA identify a single + rapid test or discover an out of care HIV+ patient can immediately access care
  • Those using a Rapid to Rapid (R2R) algorithm (CBOs and non clinical testing sites) are able to rapidly link to care and actively participate in re-engagement with their partnering medical sites.
New Jersey Rapid HIV Testing

- 102 RWJ sites – 88 sites plus 14 mobile vans
- 64 Non-RWJ sites – Hospitals, etc.
- Total sites: 166

- 83 are Rapid-Rapid Testing sites (incl. Mobile Vans)
- 83 sites perform a single Rapid test and verify by a Rapid-2-Rapid (Confirmation & Linkage) strategy

Venues:

- COMMUNITY BASED ORGANIZATIONS: 18
  - MOBILE VANS: 11
- CORRECTIONS: 4
- FQHC: 24
  - MOBILE VANS: 1
- HEALTH DEPARTMENTS: 18
  - MOBILE VANS: 4
- UNIVERSITY: 4
- HOSPITALS: 8
- FAMILY PLANNING: 17 - non-RWJMS licensure
- ADDICTIONS: 21 Sites: 2 mobile counselors
Patient Navigator Core Functions

Provide 2nd rapid test for patients testing + on their 1st rapid test at CBOs or other non RTA test sites – same or next business day

Immediately enroll confirmed +s into care so that client sees Nurse or Doctor for initial work-up CD4, VL on same day as 2nd rapid test – If p24 Ag+, or symptomatic (AHI or AIDS) MD must see that day too.

Partner Services for new and existing clinic patients using Contact Elicitation and Social Networking

Re-engagement of HIV practice patients lost to care

Treatment adherence and prevention counseling

Local Linkage to Care Collaborative Point Person and MOA Manager
• By focusing attention on RTA screen positives the HPPN program has dramatically reduced the time to linkage to care in New Jersey

1. STATEWIDE: Adjusted to remove non-NJ residents at the time of diagnosis; and anyone lacking evidence of being in NJ for the past 10 years (no entry into eHARS)

2. While time to linkage has dramatically improved (previous slide), retention in care and viral suppression was achieved in only about half of all NJ residents living with HIV as documented in 2013

3. This data preceded expansion of our collaborative network and understates the success in improving linkage (currently 80-85%) are being linked.

4. Last two cylinders may also be slightly underestimated because electronic lab reporting may not be accounting for the full set of patients in care [failure of some labs to report], thus missing some in-care patients and some who are suppressed.

5. NJ DHSTS QA efforts underway
Providing same day, observed ART to newly diagnosed HIV+ outpatients is associated with improved virologic suppression

Christopher D. Pilcher
University of California, San Francisco
San Francisco General Hospital
Rapid Initiation of ART

• Delivering ART as early as possible after diagnosis:
  • improves morbidity and mortality in all stages of infection
  • reduces transmission
  • in acute HIV infection: limits reservoirs and hyper-infectivity

Can ART be begun at the moment of diagnosis?

Pilcher CD, Hatano HH, Dasgupta A, et al. Providing same day, observed ART to newly diagnosed HIV+ outpatients is associated with improved virologic suppression. IAS 2015.
Milestones of care:
San Francisco General Hospital

<table>
<thead>
<tr>
<th>HIV+ Diagnosis</th>
<th>1st Clinic Visit</th>
<th>1st PCP Visit</th>
<th>ART Prescribed</th>
<th>Viral load suppressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Disclosure</td>
<td>• Registered</td>
<td>• Medical evaluation</td>
<td>• ART taken</td>
<td>• Adherence</td>
</tr>
<tr>
<td>• Referral</td>
<td>• Insured</td>
<td>• ART criteria met</td>
<td></td>
<td>• Retention</td>
</tr>
<tr>
<td>• Scheduling</td>
<td>• Housing/SU/MH</td>
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<tr>
<td></td>
<td>• Counseling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Labs</td>
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</tbody>
</table>

Time from diagnosis →
### The SFGH RAPID Model – Streamlined Care and Treatment Initiation

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<thead>
<tr>
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<th>1st Clinic Visit</th>
<th>1st PCP Visit</th>
<th>ART start</th>
<th>Viral load suppressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Disclosure</td>
<td>• Registered</td>
<td>• Medical evaluation</td>
<td>• Pills taken</td>
<td>• VL monitoring</td>
</tr>
<tr>
<td>• Referral</td>
<td>• Insured</td>
<td>• ART criteria met</td>
<td></td>
<td>• Adherence</td>
</tr>
<tr>
<td>• Scheduling</td>
<td>• Housing/SU/MH</td>
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<td></td>
<td>• Retention</td>
</tr>
<tr>
<td>• Counseling</td>
<td>• Counseling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Labs</td>
<td>• Labs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Counseling</td>
<td>• Medical eval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 5 day starter pack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Recommend 1st dose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>taken observed in the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>clinic</td>
<td></td>
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</tr>
</tbody>
</table>

**RAPID visit: ART start**
- Disclosure, counseling
- Registration
- Insurance
- Housing/SU/MH
- Labs
- Counseling
- Medical eval
- 5 day starter pack
- Recommend 1st dose taken observed in the clinic

**PCP Visits**
- VL monitoring
- ART mgmt
- Adherence
- Retention
Engagement Timeline, SFGH

- Referral
- 1st Clinic Visit
- 1st PCP Visit
- ART Prescribed
- Viral load suppressed

CD4-guided (2006-9)
- 1st Clinic Visit: 128
- Viral load suppressed: 218

Universal (2010-3)
- 1st Clinic Visit: 37
- Viral load suppressed: 132

Non-RAPID
- 1st Clinic Visit: 22
- Viral load suppressed: 79

RAPID
- 1st Clinic Visit: 1
- Viral load suppressed: 56
It's a Jungle out there!

Ed was unlucky enough to find the needle in the haystack!

Hagen Cartoons: http://www.hagencartoons.com
It's a Jungle out there!

Ed was unlucky enough to find
the needle in the haystack!
Synergistic effects of human immunodeficiency virus (HIV) testing frequency, test sensitivity, and viral suppression among the diagnosed population on 3-year HIV incidence across 20 simulations of a population of 5250 men who have sex with men in the United States.

Kevin P. Delaney et al. Open Forum Infect Dis 2015;2:ofv153

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- 79% of diagnosed
Seattle is realizing this synergy

54% of MSM with a new diagnosis of HIV had tested within the last 6 months

Need most sensitive tests in this situation BECAUSE of high treatment coverage and frequent testing!
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