Use of Multiple Rapid HIV Tests to Address False Positives and Increase Linkage to Care Within **ONE** Visit

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**2009 National HIV Prevention Conference**
Atlanta, GA
August 25, 2009
HIV Rapid Testing Algorithm (RTA) Study

- Centers for Disease Control and Prevention (CDC) funded study

- Goal: Evaluate the impact and feasibility of using a sequence of up to 3 HIV rapid tests, to provide clients with information about their HIV status within 1 hour and link into care

- Two study sites: Los Angeles and San Francisco

- Project period = August 2007 – March 2009
## RTA Study Cities

<table>
<thead>
<tr>
<th></th>
<th>Los Angeles</th>
<th>San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square Miles</td>
<td>4,086</td>
<td>47</td>
</tr>
<tr>
<td>Population</td>
<td>10.3 Million(^a)</td>
<td>744,041(^b)</td>
</tr>
<tr>
<td>Proportion of:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California AIDS Cases</td>
<td>36%(^c)</td>
<td>19%(^d)</td>
</tr>
<tr>
<td>U.S. AIDS Cases</td>
<td>5%(^c)</td>
<td>3%(^d)</td>
</tr>
</tbody>
</table>

Data Sources:
- \(^a\)United Way, Los Angeles (2008)
- \(^b\)US Census Bureau, 2006 Population Estimate
- \(^c\)Los Angeles County HIV Epidemiology Program (2008)
- \(^d\)San Francisco County HIV Epidemiology Program (2008)
HIV Rapid Testing Algorithm (RTA) at Intervention Sites

1st Test
Oral Fluid or Whole Blood
Oraquick

Non-Reactive (-)
Client considered HIV Negative

Reactive (+)
2nd Test Performed
Clearview Stat-Pak
Whole Blood

2nd Test Non-Reactive (+ -)
3rd Test Performed
Uni-Gold Recombigen
Whole Blood

3rd Test Non-Reactive (+ - -)
Client considered HIV Negative

3rd Test Reactive (+ - +)
Client considered HIV positive
Referred to medical care

2nd Test Reactive (+ +)
Client considered HIV positive

REFER TO CARE
Study Time Period:
August 1, 2007 – March 31, 2009

Results: RTA Intervention Sites

Los Angeles
10,857 Testers
263 OraQuick + (2.42%)
94 RTA + (0.87%)

San Francisco
7,165 Testers
153 OraQuick + (2.14%)
123 RTA + (1.72%)

163 did not participate in RTA

6 RTA – (0.06%)
30 RTA – (0.42%)

All (100%) Received Final Result Within the Same Visit
Results: RTA Intervention Sites

Continued

163 + OraQuick
RTA non-participants

- 37 (22.7%) Self-identified as previously HIV positive

106 (65.0%)
provided a specimen for confirmatory testing

- 29 (27.4%) False Positive
- 77 (72.6%) Confirmed True Positive

- 8 (27.6%) Received their final result
- 36 (46.8%) Received their final result and were linked to medical care

Receipt of final results = Median of 8 days (range = 4 – 54 days)

In Los Angeles:
- 62% did not participate in RTA
- Possible reasons:
  - Initial RTA eligibility criteria excluded self-reported HIV positive clients
  - Client refused to provide a whole blood specimen for additional testing
  - Phlebotomy capacity at site not consistently available
## Results: Comparison Sites

**Study Time Period:** August 1, 2007 – March 31, 2009

<table>
<thead>
<tr>
<th></th>
<th>Los Angeles N (%)</th>
<th>San Francisco N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong># Tested</strong></td>
<td>32,929</td>
<td>10,086</td>
</tr>
<tr>
<td><strong># Screened Reactive</strong></td>
<td>487 (1.48%)</td>
<td>271 (2.69%)</td>
</tr>
<tr>
<td><strong># False Positive</strong></td>
<td>41 (0.12%)</td>
<td>34 (0.34%)</td>
</tr>
<tr>
<td><strong># Received Confirmatory Test Results</strong></td>
<td>206 (42.3%)</td>
<td>149 (55.0%)</td>
</tr>
<tr>
<td><strong>Median # Days Referred to Medical Care (range)</strong></td>
<td>8 days (1 – 55 days)</td>
<td>7 days (1 – 137 days)</td>
</tr>
</tbody>
</table>

Note: HIV counseling and testing data are provisional due to reporting delays.
Linkage to Care

• Linkage to care defined as either a CD4 or viral load lab reported to HIV Surveillance System

• Preliminary analysis
  – Approximately 3 – 6 month delay in reporting to HIV Surveillance

• Excluded from analysis:
  – Anonymous testers
  – Out of jurisdiction testers
### Linkage to Care: Los Angeles

#### Preliminary Analysis
Time frame: August 1, 2007 – October 31, 2008 confidential testers

<table>
<thead>
<tr>
<th></th>
<th>RTA Participants</th>
<th>Comparison Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td><strong>Initial Screen Reactive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tested confidentially and resides in jurisdiction</td>
<td>53 (83%)</td>
<td>332 (62%)</td>
</tr>
<tr>
<td><strong>Linked into Care:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 3 months</td>
<td>15 (28%)</td>
<td>94 (28%)</td>
</tr>
<tr>
<td>Within 6 months</td>
<td>18 (34%)</td>
<td>103 (31%)</td>
</tr>
<tr>
<td>Within 12 months</td>
<td>19 (36%)</td>
<td>111 (33%)</td>
</tr>
<tr>
<td><strong>Had lab reported prior to HCT test date</strong></td>
<td>19 (36%)</td>
<td>172 (52%)</td>
</tr>
</tbody>
</table>

## Linkage to Care: San Francisco

### Preliminary Analysis

**Time frame:** August 1, 2007 – December 31, 2008

<table>
<thead>
<tr>
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<th>RTA Participants N (%)</th>
<th>Comparison Sites N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Screen Reactive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>True positive</td>
<td>117 (80%)</td>
<td>220 (87%)</td>
</tr>
<tr>
<td>Tested confidentially and resides in jurisdiction</td>
<td>93 (63%)</td>
<td>120 (47%)</td>
</tr>
<tr>
<td><strong>Linked into Care:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 3 months</td>
<td>57 (61%)</td>
<td>66 (55%)</td>
</tr>
<tr>
<td>Within 6 months</td>
<td>67 (72%)</td>
<td>73 (61%)</td>
</tr>
<tr>
<td>Within 12 months</td>
<td>69 (74%)</td>
<td>77 (64%)</td>
</tr>
<tr>
<td><strong>Had lab reported prior to HCT test date</strong></td>
<td>5 (5%)</td>
<td>8 (7%)</td>
</tr>
</tbody>
</table>

Data Source: HIV/AIDS Reporting System
Data Summary

• RTA Intervention Sites:
  – 100% RTA clients received their test results on the same day
  – All RTA reactive clients were referred to medical care on the same day
  – 35 false positive results resolved on the same day

• Comparison Sites:
  – 42% – 55% received confirmatory results
  – Median 7 – 8 days till referral to medical care

• Linkage to Care:
  – Preliminary analysis
  – 3% - 11% increase in proportion of clients linked to care within 6 months with the RTA
RTA Program Lessons Learned

• Implementation
  – Slow roll out important
  – In Los Angeles offering RTA to clients who were reconfirming a positive result

• Successful RTA sites
  – Sites with a good history of providing rapid testing more successful
  – The more technical assistance the more successful
  – Sustainable phlebotomy capacity

• Maintaining a third rapid test was not cost effective
Next Steps

• Linkage to care data analysis
• RTA continued to be offered at select POC sites post-study
• Modified RTA Algorithm – POC Algorithms* 2 and 3 using 2 types of rapid HIV test kits
• Potentially offer RTA at routine testing clinics

Thanks!

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Project Officer
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