Impact of a Rapid HIV Testing Algorithm on Receipt of HIV Testing and Referral to Medical Care

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Presenter Disclosures

Jacqueline Rurangirwa

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose
HIV Rapid Testing Algorithm (RTA) Project

- Centers for Disease Control and Prevention (CDC) funded study
- Two study sites: Los Angeles and San Francisco
- 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
- Estimated positive tests at each study city
  - 100 to 150 at intervention sites
  - 100 to 150 at control sites
- Project period = 18 months
RTA Project Objectives

• Feasibility and cost of implementing a RTA in public point-of-care HIV testing settings

• Validate use of a RTA to provide accurate diagnosis of HIV infection

• Assess the impact of same-day diagnosis of HIV on the linkage to medical care

• Develop written protocols and best practices for implementation of a RTA
## RTA Study Cities

<table>
<thead>
<tr>
<th></th>
<th>Los Angeles</th>
<th>San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Square Miles</strong></td>
<td>4,086</td>
<td>47</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>10.3 Million⁹</td>
<td>744,041¹⁰</td>
</tr>
<tr>
<td><strong>Proportion of:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California AIDS Cases</td>
<td>36%³</td>
<td>19%⁴</td>
</tr>
<tr>
<td>U.S. AIDS Cases</td>
<td>5%³</td>
<td>3%⁴</td>
</tr>
</tbody>
</table>

Data Sources:

¹⁰US Census Bureau, 2006 Population Estimate
³Los Angeles County HIV Epidemiology Program (2008)
⁴San Francisco County HIV Epidemiology Program (2008)
RTA Project Structure

• Eligibility: All clients 12 years or older presenting for HIV rapid testing

• Standard HIV testing consent forms

• RTA intervention Sites
  – 9 publicly funded point-of-care settings
    • Jails, mobile testing units, clinics, store fronts

• Comparison Sites
  – 23 publicly funded sites providing standard rapid HIV testing
HIV Rapid Testing Algorithm (RTA) – 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
Current Rapid HIV Testing Standard – Control Sites

OraQuick HIV Rapid Test (Oral or finger stick)

- Negative
- Preliminary Positive

  Confirmatory Testing EIA/WB

    1 Week Later: Confirmatory Results

    - Negative/Inconclusive
    - Confirmed Positive

Follow-up/ additional Testing

REFER TO CARE
<table>
<thead>
<tr>
<th></th>
<th>Los Angeles N (%) (8/15/07 – 9/1/08)</th>
<th>San Francisco N (%) (8/1/07 – 7/31/08)</th>
</tr>
</thead>
<tbody>
<tr>
<td># Tested</td>
<td>5,187</td>
<td>5,511</td>
</tr>
<tr>
<td># Screened Reactive</td>
<td>127 (2.45%)¹</td>
<td>104 (1.89%)¹</td>
</tr>
<tr>
<td># RTA Positive</td>
<td>39 (0.75%)²</td>
<td>76 (1.38%)</td>
</tr>
<tr>
<td># False Positive</td>
<td>4 (0.08%)</td>
<td>24 (0.44%)</td>
</tr>
<tr>
<td>Mean # Days Referred to Medical Care</td>
<td>0 days</td>
<td>0 days</td>
</tr>
</tbody>
</table>

¹ 84 clients from Los Angeles and 4 clients from San Francisco with reactive screening did not proceed to RTA due to refusal of confirmatory testing or reported prior HIV positive result.

² 1 Western Blot Result did not match RTA reactive Results (EIA/WB negative).
## RTA Control Site Results

<table>
<thead>
<tr>
<th></th>
<th>Los Angeles N (%) (8/15/07 – 9/1/08)*</th>
<th>San Francisco N (%) (8/1/07 – 7/31/08)*</th>
</tr>
</thead>
<tbody>
<tr>
<td># Tested</td>
<td>16,495</td>
<td>7,829</td>
</tr>
<tr>
<td># Screened Reactive</td>
<td>320 (1.94%)</td>
<td>145 (1.85%)</td>
</tr>
<tr>
<td># False Positive</td>
<td>25 (0.15%)</td>
<td>27 (0.34%)</td>
</tr>
<tr>
<td># Received Confirmatory Test Results</td>
<td>135 (42.2%)</td>
<td>87 (60.0%)*</td>
</tr>
<tr>
<td>Mean # Days Referred to Medical Care (range)</td>
<td>11.3 days</td>
<td>7.6 days</td>
</tr>
<tr>
<td></td>
<td>(1 – 55 days)</td>
<td>(7 – 21 days)</td>
</tr>
</tbody>
</table>

* HIV counseling and testing data are provisional due to reporting delays.
† Estimate due to reporting delays.
RTA Data Summary

• Intervention Sites
  – All clients received their test results on the same day
  – All RTA reactive clients were referred to medical care on the same day
  – 28 individuals had a false positive result resolved on the same day
  – The number of false positive OraQuick results are within the limits of the FDA approved package insert
  – Out of over 10,000 screening tests, one anomaly (RTA +/- WB result - ) was observed
RTA Data Summary

• Control Sites
  – 42% – 60% of clients with initial reactive rapid HIV test returned for confirmatory test results
    • Intervention sites 100% of clients received final results
  – Mean 7.6 – 11.3 days before referred to medical care
    • Intervention sites mean 0 days
RTA Next Steps

• Complete study period

• Link HIV counseling and testing data to HIV/AIDS surveillance data to determine:
  – If and when client entered into care
  – Differences between control and intervention sites

• Perform cost analysis of RTA

• Share best practices and lessons learned
Thanks!

Kevin Delaney
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