Partnerships to Increase Success in the Continuum of HIV Care in Houston, TX

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Key Personnel

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Jessica Davila, PhD
(Epidemiologist)

G. John Chen, MD, PhD
(Health Economist)

Monisha Arya, MD, MPH
(Routine HIV Testing)

City of Houston
Bureau of HIV/STD and Viral Hepatitis Prevention

Marlene McNeese-Ward
(Bureau Chief)

Camden Hallmark, MPH
(Data Analyst)

Christina Shaw
(Sr. Health Planner)
Aims

- Conduct a local resource capacity survey on HIV prevention and linkage to care activities
- Assess effectiveness and cost effectiveness of local HIV testing activities
- Establish a Scientific Advisory Council to advise the City of Houston (COH) on HIV activities
Local HIV Survey: Goals

Broad survey of organizations funded and **not** funded by COH

- Regional snapshot of testing and linkage to care activities
- Find out *how much* HIV testing is conducted
- Understand the *current methods* of HIV testing and linkage to care in a wide spectrum of organizations
  - Who tests with what kind of test, and where do they test?
  - How are positive patients linked to care?
  - Policies, procedures, protocols
- Identify possible *areas of further collaboration* to improve HIV Prevention and Care
  - Barriers in providing testing and linkage
Survey Methodology & Participants

- Organization identification
  - Exhaustive list of known HIV testing organizations, substance abuse treatment centers, homeless shelters, universities
    - List prioritized using stakeholder input

- Organizational-level survey participants
  - Included CBOs, clinics, hospitals, universities, substance abuse treatment centers, and homeless shelters
  - Private and public entities
  - Multiple funding sources:
    - COH, SAMHSA, DSHS, private grants, etc.

- In-person interviews using standardized survey tool with scripted probing
  - Initial contact was with HIV Program Directors, Nurse Managers, and/or Lab Directors
  - Phone as alternative to in-person interview
  - All surveys conducted by one interviewer
Goal 1: How Much Testing?

- Attempted to reach 84 organizations
- Survey completed by 55 organizations (65%) that represent at least 131 facilities
- 115 of 131 facilities (88%) conduct HIV testing
- 43 of 55 organizations (78%) conduct HIV testing

Number of HIV tests performed in 2011

- **210,565 total tests**
  - COH-funded organizations conducted **114,286 tests** (54% of all tests)
    - COH funded 94% (107,237) of these tests
  - Organizations not funded for testing by COH conducted **96,279 tests** (46% of total tests in survey)

- **40,910 rapid tests** (23 organizations; data from 21)
  - Mean= 1948.1 (min. 4, max. 9945)

- **169,635 standard tests** (36 organizations; data from 34)
  - Mean= 4989.3 tests (min. 1.5, max. 46590)
Goal 2: Current Methods of HIV Testing and Linkage

Approaches for Consent

- Opt-in only = 49%
- Both opt-in and opt-out = 44%
- Opt-out only = 7%

- 5 of 22 (23%) who use both opt-out and opt-in only use opt-out during pregnancy, as required by TX statute

- After reclassifying them as opt-in:
  - 40% use opt-out in non-pregnant populations
  - 60% use only opt-in approach
Goal 2: Current Methods of HIV Testing and Linkage

Facilitate linkage into HIV medical care?

- Active linkage = 50
- Passive linkage = 3
- No linkage = 2

60% of organizations use social workers/case managers to facilitate entry.

25 organizations (47%) have a standardized, written protocol for how to assist newly diagnosed get into care.
Goal 3: Possible Areas of Further Collaboration to Increase Testing

Barriers to Providing HIV Testing

<table>
<thead>
<tr>
<th>No barrier</th>
<th>Major barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Amount of dedicated funding</td>
<td>3</td>
</tr>
<tr>
<td>1b. Ability to charge/reimburse</td>
<td>4</td>
</tr>
<tr>
<td>1c. HIV not a problem in our client population</td>
<td>4</td>
</tr>
<tr>
<td>1d. Client refusal</td>
<td>4</td>
</tr>
<tr>
<td>1e. Facility doesn’t want to be known as HIV provider</td>
<td>4</td>
</tr>
<tr>
<td>1f. Facilities/space</td>
<td>4</td>
</tr>
<tr>
<td>1g. Availability of Laboratory services</td>
<td>4</td>
</tr>
<tr>
<td>1h. Leadership Resistance</td>
<td>4</td>
</tr>
<tr>
<td>1i. Unsure where to refer clients identified as HIV+</td>
<td>4</td>
</tr>
<tr>
<td>1j. Obtaining informed consent</td>
<td>4</td>
</tr>
<tr>
<td>1k. Negative experience with testing</td>
<td>4</td>
</tr>
<tr>
<td>1l. Requirement to provide counseling with testing</td>
<td>4</td>
</tr>
<tr>
<td>1m. Requirement to notify clients of results</td>
<td>4</td>
</tr>
<tr>
<td>1n. Staff time</td>
<td>4</td>
</tr>
<tr>
<td>1o. Staff size</td>
<td>4</td>
</tr>
<tr>
<td>1p. Staff knowledge/skill/experience</td>
<td>4</td>
</tr>
<tr>
<td>1q. Staff cultural competency/comfort with issue</td>
<td>4</td>
</tr>
<tr>
<td>1r. Staff resistance</td>
<td>4</td>
</tr>
<tr>
<td>1s. Other, specify _________________</td>
<td>5</td>
</tr>
</tbody>
</table>

Other barriers most frequently cited:

Managing data attached to grant funding, barriers for patients (stigma, demand for test), and training staff

(n= 55)
Goal 3: Possible Areas of Further Collaboration to Increase Testing

Barriers to Providing/Expanding Routine, Opt-Out HIV Testing

<table>
<thead>
<tr>
<th>No barrier</th>
<th>Major barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>11a. Amount of dedicated funding</td>
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</tr>
<tr>
<td>11r. Staff resistance</td>
<td>4</td>
</tr>
<tr>
<td>11s. Other, specify _________________________________________</td>
<td>(n= 13)</td>
</tr>
</tbody>
</table>

Other barriers most frequently cited:
Managing data attached to grant funding (tied to positivity rate, managing paperwork), organization focuses on something else that is higher priority (like mental health)
Goal 3: Possible Areas of Further Collaboration to Increase Linkage

Barriers to Facilitating Linkage to HIV Medical Care

<table>
<thead>
<tr>
<th>No barrier</th>
<th>Major barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>21a. Amount of dedicated funding for the facilitation process</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21b. Ability to charge/reimburse for the facilitation process</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21c. Client refusal</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21d. Facilities/space</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21e. Leadership Resistance</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21f. No place to refer clients identified as HIV+</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21g. No established procedure or protocol in place</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21h. Past negative experience with linking client to care</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21i. Requirement to notify clients of HIV+ result</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21j. Staff time</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>21k. Staff size</td>
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<tr>
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<td>2 3 4 5</td>
</tr>
<tr>
<td>21o. Other, specify ____________</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Other barriers most frequently cited:

Patient readiness for care (substance abuse, denial), transportation for clients, “chronically” out of care (retention), ability to contact client, issues with sites clients referred to (wait times, eligibility, quality of care)
Other Findings

- Procedures and protocols dynamic
- Some organizations have no desire for opt-out testing as it will necessitate policy and procedure change
  - Testing is important but not the agency’s focus
- Definitions of testing and care terminology
  - “Routine, opt-out”
    - Routine ≠ Everyone
    - Opt-out ≠ Mandatory
  - “Rapid testing”
    - Rapid testing (kits) ≠ results rapidly from lab
  - “High risk populations”
    - High risk populations ≠ all sexually active persons
  - “Pre/post-test counseling”
    - Pre/post-test counseling ≠ doctor answering patient questions
Survey Limitations

- **Convenience sample**
  - Attention given to large facilities, known HIV testing sites, and substance abuse treatment centers

- **Self-reported data**
  - Understanding of survey purpose and social desirability
    - Not an opportunity for COH funding or an audit of contractors
    - From the perspective of individual answering survey

- **Access to central contact for HIV testing and linkage activities**
  - Testing and linkage policies and procedures may vary physician to physician or department to department (or even for different funding streams!)

- **Willingness to participate**
  - 4 (5%) organizations declined: 2 major organizations, 2 small organizations
  - 25 (30%) organizations did not reply to outreach
Survey Benefits

- Extensive data collected
  - Obtained protocols and policies for 31% of organizations
- Snapshot of jurisdictional activities for those that are not the “usual suspects”
- Learn about current collaborations in community
  - Many sites bring in another organization to conduct testing in their facility
- Identified technical assistance needs
- Better understand barriers to HIV testing/linkage
- Stimulated discussion in facilities on HIV issues and HIV testing and linkage to care capacity
Effectiveness and Cost Effectiveness

- **Goal:** Inform local resource allocation
- **Data Source:** Summary data from COH-funded programs
- **Compared targeted, community-based outreach HIV testing programs to routine, opt-out HIV testing programs**
  - Effectiveness (i.e., yield of positives)
  - Cost per yield
- **Examined from public payer perspective (i.e., only considered COH costs, which represent CDC funds passed through COH and Texas DSHS).**
# Effectiveness and Cost Effectiveness

Average Testing Cost by Routine, Opt-out Providers, by Year

<table>
<thead>
<tr>
<th>Year</th>
<th># Tests</th>
<th># New Pos.</th>
<th>$/ Test</th>
<th>$/ New Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>17,670</td>
<td>170</td>
<td>$47</td>
<td>$4,892</td>
</tr>
<tr>
<td>2009</td>
<td>66,010</td>
<td>536</td>
<td>$10</td>
<td>$1,230</td>
</tr>
<tr>
<td>2010</td>
<td>91,679</td>
<td>582</td>
<td>$15</td>
<td>$2,329</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>175,359</strong></td>
<td><strong>1,315</strong></td>
<td><strong>$16</strong></td>
<td><strong>$2,190</strong></td>
</tr>
</tbody>
</table>

Average Testing Cost by Targeted Testing Providers, by Year

<table>
<thead>
<tr>
<th>Year</th>
<th># Tests</th>
<th># New Pos.</th>
<th>$/ Test</th>
<th>$/ New Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>4,821</td>
<td>52</td>
<td>$180</td>
<td>$16,713</td>
</tr>
<tr>
<td>2009</td>
<td>8,932</td>
<td>77</td>
<td>$97</td>
<td>$11,286</td>
</tr>
<tr>
<td>2010</td>
<td>4,853</td>
<td>74</td>
<td>$179</td>
<td>$11,744</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,606</strong></td>
<td><strong>203</strong></td>
<td><strong>$140</strong></td>
<td><strong>$12,843</strong></td>
</tr>
</tbody>
</table>
## Effectiveness and Cost Effectiveness

### Average Testing Cost of Routine, Opt-out Providers, by Site, 2010

<table>
<thead>
<tr>
<th>Site</th>
<th># Tests</th>
<th># New Pos.</th>
<th>$/Test</th>
<th>$/New Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1</td>
<td>60,881</td>
<td>240</td>
<td>$8</td>
<td>$2,111</td>
</tr>
<tr>
<td>Site 2</td>
<td>3,564</td>
<td>44</td>
<td>$59</td>
<td>$4,772</td>
</tr>
<tr>
<td>Site 3</td>
<td>27,234</td>
<td>298</td>
<td>$14</td>
<td>$1,285</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>91,679</strong></td>
<td><strong>582</strong></td>
<td><strong>$15</strong></td>
<td><strong>$2,329</strong></td>
</tr>
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### Average Testing Cost by Targeted Testing Providers, by Site, 2010

<table>
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<tr>
<th>Site</th>
<th># Tests</th>
<th># New Pos.</th>
<th>$/Test</th>
<th>$/New Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1</td>
<td>265</td>
<td>2</td>
<td>$209</td>
<td>$27,750</td>
</tr>
<tr>
<td>Site 2</td>
<td>617</td>
<td>21</td>
<td>$92</td>
<td>$2,695</td>
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<tr>
<td>Site 3</td>
<td>1010</td>
<td>5</td>
<td>$155</td>
<td>$31,392</td>
</tr>
<tr>
<td>Site 4</td>
<td>310</td>
<td>6</td>
<td>$242</td>
<td>$12,500</td>
</tr>
<tr>
<td>Site 5</td>
<td>839</td>
<td>19</td>
<td>$179</td>
<td>$7,895</td>
</tr>
<tr>
<td>Site 6</td>
<td>318</td>
<td>1</td>
<td>$236</td>
<td>$75,000</td>
</tr>
<tr>
<td>Site 7</td>
<td>743</td>
<td>9</td>
<td>$202</td>
<td>$16,667</td>
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<tr>
<td>Site 8</td>
<td>751</td>
<td>11</td>
<td>$200</td>
<td>$13,636</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td><strong>74</strong></td>
<td><strong>$179</strong></td>
<td><strong>$11,744</strong></td>
</tr>
</tbody>
</table>
Effectiveness and Cost Effectiveness

Limitations

- Any benefits of counseling provided in targeted testing are not captured
- Does not account for in-kind support (substantial at routine, opt-out sites)
- Routine, opt-out much higher volume than targeted sites, usually with greater staff support
- Only includes public payer costs

Data show relative differences in testing strategy and sites
Data show high yield and relative cost effectiveness of routine, opt-out approach
Prompted COH to prioritize subsequent studies on cost effectiveness and scalability using mathematical modeling
Scientific Advisory Council

- National HIV/AIDS Strategy demands comprehensive view of HIV prevention, diagnosis, and treatment
- Currently the COH has no regular access to outside scientific expertise
  - In-house expertise includes epidemiology, public health, and HIV prevention
- Recruited external advisors to offer informal advice monthly to the COH
Scientific Advisory Council

Council members are representatives of diverse specialties

City of Houston
- HIV Prevention (8)
- Laboratory Science (2)
- Epidemiology (1)

Academia
- Behavioral Science (7)
- Infectious Disease (4)
- Health Services Research (4)
- Epidemiology (4)
- Laboratory Science (2)
- Health Economics (1)
- Biostatistics (1)
- Emergency Medicine (1)

Other Partners
- Local HIV Service Provider (1)
- Local HIV Clinical Provider (1)
- Local Government Organization (1)
Scientific Advisory Council

- Council Activities
  - **HIP HOP for HIV**
    - Reviewed evaluation tool (pre/post-test of knowledge and attitudes)
    - Evaluated structure, consistency, and scales of questions on tool
    - Suggested modifications and sources for additional questions
  - **HIV Elimination Project**
    - Feedback on proposed revision to HIV diagnostic testing algorithm
    - Application of strategies for National Plan to Eliminate Syphilis
    - Provided guidance around future data analysis
  - **Enhanced Linkage to Care Initiative**
    - Helped define roles of new staff for project activities
    - Suggested models of system navigation to consider
  - **Syphilis Outbreak Response**
    - Shared ways to engage providers regarding outbreak
    - Proposed outreach and intervention activities for consumers (ads using social media; internet interventions; campaigns targeting MSM)
ECHPP-2
Key Personnel

Baylor College of Medicine  
Health Services Research and Development Center of Excellence

Tom Giordano, MD, MPH  
(Lead Investigator)

Jessica Davila, PhD  
(Epidemiologist)

Charlene Flash, MD, MPH  
(Underserved Populations)

Bich Dang, MD  
(Patient Satisfaction)

Siavash Pasalar, PhD  
(Data Analyst, Harris Health System)

City of Houston  
Bureau of HIV/STD and Viral Hepatitis Prevention

Marlene McNeese-Ward  
(Bureau Chief)

Camden Hallmark, MPH  
(Data Analyst)
Aims

- Examine temporal changes in linkage to care, retention in care, and viral suppression of HIV-infected persons identified by the Harris Health System routine, universal, opt-out HIV testing program
  - Hypothesis: the Harris Health System routine testing program will demonstrate improvements over time in linkage and retention in care rates for HIV-infected persons

- Assess determinants of poor retention in care among patients newly entering care at Thomas Street Health Center
  - Hypothesis: Patient satisfaction with the initial clinic visit will predict early retention in care

- Maintain the Scientific Advisory Council to advise COH HIV activities
Questions ?