Using NYC Surveillance data to improve HIV care outcomes

The HIV Care Status Reports System

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NYC DOHMH
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“Data to care”

• Emphasis on the use of HIV Surveillance and other PH data to improve and monitor HIV care outcomes¹
  – National HIV/AIDS Strategy, DHAP’s Strategic Plan

• Locally, NYC has been on the cutting edge of using data to inform program and field activities

The Evolution of HIV/AIDS Surveillance in NYC

- **1981**: First cases of PCP, KS
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- **2000**: HIV surveillance expanded to include incidence and resistance testing
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HIV testing to be offered to all persons between the ages of 13 and 64 receiving hospital or primary care services with limited exceptions
  – included a requirement for written informed consent except in the case of rapid testing
• Providers must proactively link to care all newly diagnosed persons
• Permitted limited sharing of data on individual patients
  – Can tell providers ‘follow-up is needed’ vs. ‘no follow-up is needed’
THE IDEA
Develop an electronic system to enable provider-initiated queries against the Surveillance registry to determine the current HIV care status of their out-of-care patients
HIV Care Status Reports System
Limited amount of patient-specific data from the New York City HIV Registry can be disclosed to a provider regarding the overall care status (e.g. “receiving care” or not) of a person living with HIV who is out of HIV medical care

- Provider: physician or other person whose facility is located in New York City and is authorized to:
  - Order diagnostic HIV tests to make a confirmed diagnosis of HIV
  OR
  - Provide regular medical care for persons living with HIV
- Out of care: no medical care visit for at least past 12 months
CSR patient eligibility

• Patient with a new, confirmed HIV diagnosis who did not link to HIV-related medical care in the past 12 or more months at the facility of diagnosis

OR

• Patient previously diagnosed with HIV who was in care but has not returned for HIV-related medical care at the same facility in the past 12 or more months
CSR outcomes

- **Follow-up needed:** the provider will need to continue efforts to return the patient to care as the queried patient **DID NOT** meet the DOHMH HIV Epidemiology and Field Service Program’s criteria for being in care in NYC and is not known to have died.

- **No additional follow-up needed:** the provider does not need to continue efforts to return the patient to care as the queried patient **DID** meet the DOHMH HEFSP’s criteria for being in care in NYC or is deceased.

- **Non-case:** unable to establish that the patient has ever been diagnosed with HIV and reported to the NYC DOHMH.
Criteria for “no follow-up needed”

• No follow-up needed/In care:
  – Lab based: ≥2 HIV-related laboratory tests (CD4/VL) ordered and reported to DOHMH by the same NYC facility ≥90 days apart in the 12 months from the date of the care status match

  OR

• No follow-up needed/Deceased:
  – Matched to a death reported to the DOHMH Bureau of Vital Statistics or national data sources of death information, according to the most recent NYC HIV Registry data
Request for access to web-based CSR application

How to use Care Status Reports:

1. If you are interested in access to Care Status Reports, please go the Register tab for more information.

If you have access to Care Status Report and

Individual patient information submitted

Information on patients’ care status returned
Request for access to web-based CSR application

- Eligible provider must:
  - Have a NYCMED account
  - Be located in NYC
  - Conduct confirmatory testing or provide HIV-related care
- Submit the following info:
  - Clinical site location
  - Medical director
  - CSR designee: submit/retrieve patient data
- Access granted to CSR Designee once information provided is confirmed
To request access (1)

- To be eligible to request access:
  - Provider must be a NYC provider who either performs diagnostic, confirmatory testing for HIV or prescribes antiretroviral therapy as a part of on-going medical care

- To request access:
  - Complete all fields
  - Only one person per clinical site will be approved for access - Care Status Report (CSR) Designee

<table>
<thead>
<tr>
<th>All Fields Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NYCMed User Name</strong></td>
</tr>
<tr>
<td><strong>Clinical Site</strong></td>
</tr>
<tr>
<td><strong>Name of clinic/site</strong></td>
</tr>
<tr>
<td><strong>Type of clinic</strong></td>
</tr>
<tr>
<td><strong>Street Address /Street Name /Suite</strong></td>
</tr>
<tr>
<td><strong>Borough / Zip /City</strong></td>
</tr>
</tbody>
</table>
To request access (2)

### Clinical Site

- **Name of clinic/site**
- **Type of clinic**: Diagnosing only, Diagnosing/care provider
- **Street Address /Street Name /Suite**
- **Borough / Zip /City**: BRONX

### Medical Director / Program Manager

- **Last/first name**
- **Provider type**: Physician, Physician assistant, Nurse practitioner
- **NYS License number**
- **Work Email**

### CSR Designee

- **Same as above Medical Director / Program Manager**
- **Last/First name** (Person requesting access)
- **Work Email**
- **Work Phone**
- **Degree**

[Submit, Reset]
Request for access to web-based CSR application

Patient information submitted

- Patient information includes:
  - Demographics
  - Date of last HIV-related laboratory at site
  - Date of last HIV medical visit (MD, DO, PA, NP) at site
  - Patient/provider verification conducted on each patient
  - If automated verification fails, additional investigation required before care status match can proceed
Entering patient information

Once submitted, patient information cannot be reviewed or changed
CSR outcomes

- Look-up view limited to:
  - MRN/facility identifier
  - Care status match outcomes
  - Date request submitted
  - Date care status match was run
- Not a direct query of the Registry
- Printing rights NOT given

Follow-up or No Add’l Follow-up
## Process results

### Care Status Reports

**Status** | **MRN/facility identifier** | **Submitted From** | **Match Care Status Date** | **Comment**
--- | --- | --- | --- | ---
All | | 09/01/2013 | | TEST MESSAGE TO PROVIDER

1 records found

<table>
<thead>
<tr>
<th>MRN/facility identifier</th>
<th>Process Status</th>
<th>Submitted Date</th>
<th>Match Care Status Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRN001</td>
<td>Pending</td>
<td>09/19/2013</td>
<td></td>
<td>TEST MESSAGE TO PROVIDER</td>
</tr>
</tbody>
</table>

© 2013 - NYC Department of Health & Mental Hygiene, BHIV HIV Epidemiology and Field Services Program, Care Status Reports

**Provider NOT given printing rights**
### Care Status Summary

You can click following items to view care status detail

<table>
<thead>
<tr>
<th>Status</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait for Process</td>
<td>0</td>
</tr>
<tr>
<td>Pending</td>
<td>4</td>
</tr>
<tr>
<td>Non-Case</td>
<td>0</td>
</tr>
<tr>
<td>UTBD-lab outside window by HN</td>
<td>1</td>
</tr>
<tr>
<td>UTBD-no lab by HN</td>
<td>0</td>
</tr>
<tr>
<td>UTBD-HN mismatch</td>
<td>1</td>
</tr>
<tr>
<td>In progress</td>
<td>0</td>
</tr>
<tr>
<td>Follow-up needed</td>
<td>2</td>
</tr>
<tr>
<td>No additional follow-up needed</td>
<td>0</td>
</tr>
</tbody>
</table>

### Batch Process Log
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<table>
<thead>
<tr>
<th>Date Time</th>
<th>Total Load</th>
<th>Status</th>
<th>Process</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/06/2013 09:50</td>
<td>8</td>
<td>Success</td>
<td>CityNo Match</td>
<td>Match: 4 ; Not Match: 4</td>
</tr>
<tr>
<td>12/06/2013 09:51</td>
<td>4</td>
<td>Success</td>
<td>Patient/Provider Match</td>
<td>Match: 2 , UTBD-no lab by HN:0 , UTBD-lab outside window by HN:1 , HarsName mismatch: 1</td>
</tr>
<tr>
<td>12/06/2013 09:51</td>
<td>2</td>
<td>Success</td>
<td>Care Status Match</td>
<td>No additional followup:0 , Followup needed:2</td>
</tr>
</tbody>
</table>
CSR security features: Application

- All providers must register for NYCMED and request access to the CSR
- Authenticates provider with username/password via DIITT Identity Management web service after user logs in to NYCMED
- Records full audit trails and web events for user login, usage, and exceptions
- All users must go through DOHMH web service (Tier 2) to access CSR database (Tier 3) – firewall between two tiers, Tier 3 is closed
- Two-way system: providers enter patient data (secure), we return care status on *those* patients only back to providers
- Designed to prevent injection, cross-site request forgery, and other high and medium security risks
- System was reviewed by the DIITT security office and passed all tests with IBM Security AppScan (a security scanning tool to reduce likelihood of web application attacks and data breaches by automating application vulnerability testing)
CSR security features: Hardware

• HTTPS encryption is provided through NYCMED for the production environment
• DIITT hosts production web servers in Tier 2 for CSR application
• BHIV surveillance system’s web servers and database servers are in higher security Tier 3 subdomain (closed)
• For CSR case management and provider management in Care Status Admin (CSA) application, HEFSP staff must log in via Citrix server to access
• CSA is hosted in HEFSP Tier 3 web server; CSA records full audit trails for user login and usage
Purpose: provide direct feedback on the CSR interface and submit out-of-care patients for testing

Jan-March 2014: 27 sites
- NYC Care Coordination Programs
- HIV Care Continuum Dashboard receipts

21 sites participated
- 16 sites submitted 273 patients

Feedback was positive
Test patient outcomes (N=273)

<table>
<thead>
<tr>
<th></th>
<th>No follow-up</th>
<th>Follow-up</th>
<th>Non-case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab</td>
<td>126 (84%)</td>
<td>120 (44%)</td>
<td>2 (0.7%)</td>
</tr>
<tr>
<td>Died</td>
<td>25 (16%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total*</td>
<td>151 (55%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Represents 272 unique individuals (one patient submitted by 2 different sites)
CSR development timeline

- Feb 2012: NYS HIV law regulations released
- Apr 2012: Initial CSR protocol drafted
- Oct 2013: Web application developed
- Nov 2013: Application placed on internal web server for test list pilot and QA checks
- Jan 2014: Conducted demonstration of beta application with key members of 16 facilities who provided out-of-care patient lists
- Nov 2014: Application placed on NYCMED for final testing with 21 clinical sites
- Mar 2015: Citywide launch!
What made CSR possible in NYC?

- Legal context that enables data sharing at multiple levels
- Comprehensive electronic laboratory reporting
- High-quality facility/provider data (hospitals and other large clinics)
- Dedicated and well-trained staff (analysts, staff with clinical connections)
- Qualified and willing IT staff, systems
- High-level internal support (BHIV, DOH)
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• NYS HIV Public Health law: April 2014 Amendment
  – “When used for purposes of patient linkage and retention in care, patient-specific identified information may be shared between local and state health departments and health care providers currently treating the patient”

• Provides the legal context to expand data sharing through the CSR for the purpose of promoting linkage and retention in care (e.g., date and type of recent HIV-related laboratory testing, ordering provider/facility of the most recent lab test, recent contact information)
Benefits to the community

• Empowers providers to direct efforts to persons who are truly out of care; improves resource utilization

• Re-engagement of out-of-care patients will improve their health outcomes and decrease risk for onward transmission
Thank you!

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