9th International Conference on HIV Treatment and Prevention Adherence

jointly sponsored by

IAPAC
INTERNATIONAL ASSOCIATION OF PROVIDERS OF AIDS CARE

PIM
Postgraduate Institute for Medicine
Factors Associated with LTC in a Large HIV Care Center of NYC

Abstract 375

Rituparna Pati, MD, MPH
Director of Research
Spencer Cox Center for Health
Institute for Advanced Medicine
Mount Sinai St. Luke’s and Roosevelt Hospitals
Disclosures

Dr. Pati has no financial relationships with commercial entities to disclose
Loss to clinic is a national and regional problem

Gardener et al CID 2011; Torian et al *AIDS Patient Care and STDs* 2011; Shepard et al *AIDS* 2013
Clinic-based EMR Data is underutilized

Advantages of clinic-based data include

• Accessibility
• Real world context
• Connection with patients
Study Objectives

• Determine proportion of patients lost to clinic (LTC) from Spencer Cox Center for Health

• Describe factors associated with LTC
Setting: Spencer Cox Center for Health, NYC
Methods

• Retrospective cohort study of HIV-infected patients seen for at least one medical visit between January 1, 2010 and December 31, 2011
  – Outcomes: Retained versus Lost to clinic defined by at least one follow-up medical visit between January 1 and September 30, 2012

• Multivariable logistic regression analysis to identify factors associated with LTC
Study Population

5750 HIV-infected patients seen for at least one medical visit between January 1, 2010 and December 31, 2011

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age Group</th>
<th>Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>18-29</td>
<td>White 19%</td>
</tr>
<tr>
<td>Female</td>
<td>30-39</td>
<td>Hispanic 35%</td>
</tr>
<tr>
<td>Transgender</td>
<td>40-49</td>
<td>Black 43%</td>
</tr>
<tr>
<td></td>
<td>50-59</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60+</td>
<td>Asian 1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unknown/other 2%</td>
</tr>
</tbody>
</table>

- Female 22%
- Male 77%
- Transgender 1%
Results

5750 HIV-infected patients seen for at least one medical visit between January 1, 2010 and December 31, 2011

Jan 1 – Sept 30, 2012

4415 (76.8%) retained in care

1335 (23.2%) lost to clinic
Demographics of Retained vs LTC

### Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Retained</th>
<th>LTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>77%</td>
<td>75%</td>
</tr>
<tr>
<td>Female</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>Transgender</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Age Group

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Retained</th>
<th>LTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>30-39</td>
<td>30%</td>
<td>33%</td>
</tr>
<tr>
<td>40-49</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>50-59</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>60+</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Retained</th>
<th>LTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>37%</td>
<td>41%</td>
</tr>
<tr>
<td>Black</td>
<td>19%</td>
<td>17%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11%</td>
<td>2%</td>
</tr>
<tr>
<td>Asian</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Unknown/other</td>
<td>1%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Health indicators of Retained vs LTC

### CD4 Count
- **Retained**: 11% < 200, 44% 201-350, 19% 351-500, 14% >500, 11% Missing
- **LTC**: 18% < 200, 23% 201-350, 16% 351-500, 25% >500, 18% Missing

### Viral Load
- **Retained**: 20% Less than 200, 23% >200, 58% Missing
- **LTC**: 22% Less than 200, 45% >200, 33% Missing

### ART Prescription
- **Retained**: 93% No, 7% Yes
- **LTC**: 83% No, 17% Yes

### Median CD4 Count
- **Retained**: 465 cells/µL (IQR: 284.5-665.0)
- **LTC**: 338 cells/µL (IQR: 169-528)
Comorbidities of Retained vs LTC

Mental Health

- Retained:
  - No: 63%
  - Yes: 37%

- LTC:
  - No: 69%
  - Yes: 31%

Substance Use

- Retained:
  - No: 80%
  - Yes: 20%

- LTC:
  - No: 77%
  - Yes: 23%
Socioeconomic status of Retained vs LTC

### Housing

- Retained: 75%
  - Apartment/house: 26%
  - Other/unknown: 47%
- LTC: 53%
  - Apartment/house: 26%
  - Other/unknown: 47%

### Insurance

- Retained: 53%
  - Commercial: 11%
  - Medicare: 53%
  - ADAP: 56%
  - Other: 11%
- LTC: 19%
  - Commercial: 11%
  - Medicare: 53%
  - ADAP: 56%
  - Other: 11%

### Incarceration

- Retained: 14%
  - No: 59%
  - Yes: 10%
  - Unknown: 32%
- LTC: 19%
  - No: 60%
  - Yes: 10%
  - Unknown: 21%
Clinic Sites of Retained vs LTC

- Retained:
  - Lower Manhattan: 28%
  - Midtown Manhattan: 36%
  - Upper Manhattan: 35%

- LTC:
  - Lower Manhattan: 19%
  - Midtown Manhattan: 40%
  - Upper Manhattan: 41%
Health indicators associated with LTC

- **CD4** (ref: ≤ 200)
- **Viral Load** (ref: < 200)
- **ART Prescription** (ref: No)
- **Mental health ICD code** (ref: No)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4</td>
<td>≥ 200</td>
<td>0.4</td>
</tr>
<tr>
<td>CD4</td>
<td>&gt;500</td>
<td>2.1</td>
</tr>
<tr>
<td>CD4</td>
<td>351-500</td>
<td>0.5</td>
</tr>
<tr>
<td>CD4</td>
<td>201-350</td>
<td>0.7</td>
</tr>
<tr>
<td>Viral Load</td>
<td>≥ 200</td>
<td>0.5</td>
</tr>
<tr>
<td>Viral Load</td>
<td>&lt; 200</td>
<td>0.4</td>
</tr>
<tr>
<td>ART Prescription</td>
<td>Yes</td>
<td>0.5</td>
</tr>
<tr>
<td>Mental health ICD code</td>
<td>Yes</td>
<td>0.8</td>
</tr>
</tbody>
</table>
SES indicators associated with LTC

Insurance (ref: Medicaid/MMC)
Commercial
0.7

Housing (ref: Apt/Home)
Other/Unknown
1.7

History of Incarceration (ref: No)
Yes
1.9

Clinic Site (ref: Downtown)
Midtown
3.3
Conclusions

• Patients with lower CD4 counts and detectable viral loads and those not prescribed ART are more likely to be LTC

• Strategies to reduce LTC could lead to improvements in both individual and public health outcomes
Conclusions

- Patients who are underinsured, unstably housed and previously incarcerated appear to be at highest risk of LTC
- Further evaluation of the impact of mental health care and housing support integrated with outpatient HIV care is warranted
Next steps

• Analysis of outcomes for entire year 2012
• Match clinical data with NYC DOHMH surveillance registry to ascertain care and vital status of those LTC
### Results

5750 HIV-infected patients seen for at least one medical visit between January 1, 2010 and December 31, 2011

<table>
<thead>
<tr>
<th>Jan 1 – Sept 30, 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>4415 (76.8%) retained in care</td>
</tr>
<tr>
<td>1335 (23.2%) lost to clinic</td>
</tr>
</tbody>
</table>

Follow-up Needed
- No CD4 or VL in 2012
- Not documented as dead

No Follow-up Needed
- Dead
- Relocated
- Transferred Care
Acknowledgements

• Spencer Cox Center for Health
  – Christopher Beattie, MPH
  – Joyce Park, MA
  – Victoria Sharp, MD

• City University School of Public Health
  – Denis Nash, PhD
Beginning April 1, 2014, New York State Public Health Law allows for HIV-related information reported to the NYS Department of Health or a local department of health to be shared between authorized health department staff and medical providers treating the patient to promote linkage/retention in health care.