Background

- CDC estimates that in 2006 21% of persons infected with HIV had never been tested or diagnosed and were not aware of their infection (MMWR 2008)
- As of December 31, 2010, 1.4% of the NYC population (110,736 persons) had been diagnosed, reported and is living with HIV/AIDS.
- How many in NYC are undiagnosed?
  - Citywide 2003: 26%
  - Rikers Island 2006: 27%
  - NHANES 2005: 5%

Setting

- A high volume emergency room in the Bronx (N~56,000 per year, 8,347 Dec→Jan)
- Has proactive voluntary rapid testing program
- All patients who are cognitively and clinically eligible are offered HIV rapid testing by a cadre of counselors that works all shifts seven days per week
- RT program reached 21% of persons presenting to ER
- How many in NYC are undiagnosed?
  - Citywide 2003: 26%
  - Rikers Island 2006: 27%
  - NHANES 2005: 5%
  - RT program reached 21% of persons presenting to ER
  - What about the other 80%?
  - What is the true prevalence of HIV in this ER?

Objectives and Methods

- Conduct blinded HIV serosurvey using leftover specimens of persons having blood drawn for hematology (CBC) or chemistry in ER (43% of patients)
- Match RT accepters and specimens to HIV surveillance
- Remove all identifiers from specimens
- Conduct blinded HIV serosurvey using leftover specimens
- What is the true prevalence of HIV in this ER?

Who accepted RT, who had blood drawn?

Table 1: HIV Serostatus and Diagnosis Status in the ER by Demographics

<table>
<thead>
<tr>
<th>Serostatus</th>
<th>Diagnosis Status of Seropositives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undiagnosed</td>
<td>Diagnosed</td>
</tr>
<tr>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Total</td>
<td>8347</td>
</tr>
<tr>
<td>No blood / QNS</td>
<td>3.3%</td>
</tr>
<tr>
<td>Male</td>
<td>4528</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>3811</td>
</tr>
<tr>
<td>Black</td>
<td>2539</td>
</tr>
<tr>
<td>White</td>
<td>1069</td>
</tr>
<tr>
<td>Age group (years)</td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>1577</td>
</tr>
<tr>
<td>25-34</td>
<td>1908</td>
</tr>
<tr>
<td>35-44</td>
<td>1481</td>
</tr>
<tr>
<td>45-54</td>
<td>915</td>
</tr>
<tr>
<td>55-64</td>
<td>915</td>
</tr>
<tr>
<td>65+</td>
<td>982</td>
</tr>
</tbody>
</table>

Results

- 2.4% of patients presenting to ER matched to surveillance registry before binding and testing
- After blinded testing, 3.3% (111/3373) were found to be positive
- Among the 111 positives, 14 (13.5%) were not previously diagnosed, not in surveillance, and not diagnosed by RT during the serosurvey
- Most undiagnosed were black and Hispanic, but largest percentages undiagnosed were among persons aged 65+ and whites

Conclusions

- HIV prevalence in this ER was 11 times higher in persons undergoing blood draw than persons accepting RT
- People with blood drawn had a high rate of undiagnosed HIV infections
- The majority of undiagnosed infections were among young black and Hispanic persons
- However, the largest proportions of undiagnosed did not fit any age, race, or risk (as measured by chief complaint) stereotype

Limitations

- RT was able to reach 19% of persons presenting to ER
- Testing all those with blood drawn added another 31%
- Overlap of RT and blood draw was 10%
- Thus, even adding routine testing to all blood draws would have covered only 40% of the ER
- Need to consider other opportunities, e.g., saving admissions bloods and getting consent from patients after they have stabilized – this would add another 15% to the coverage

Recommendations

- Test everyone who comes in the door
- During ER visit
- Later, after admitted and stabilized (use admission blood)
- Don’t rely on stereotypes (young, minority) for patient selection – largest percentages of undiagnosed persons did not fit “standard” risk profile
- Take every opportunity to offer testing
- RT for those who accept
- Consent for testing for all patients getting blood drawn
- Later testing for admissions

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