ASSOCIATION BETWEEN HIV CLINIC CASELOADS AND VIRAL LOAD SUPPRESSION IN NEW YORK CITY

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BACKGROUND

- New York State's Ending the HIV/AIDS Epidemic (EIE) Initiative aims to achieve 95% viral load suppression (VLS) among people living with HIV (PLWH) in care by 2020.
- Characteristics, capacity, and practices among HIV clinics in New York City (NYC) must be explored to identify and replicate evidence-based findings associated with optimal VLS outcomes.
- The relationship between HIV patient caseload and VLS was examined due to the rising integration of HIV care into primary care clinics, shortage of primary care physicians (PCPs), and inconclusive literature on the association between HIV patient caseloads and HIV patient outcomes.

OBJECTIVES

- The NYC Department of Health's Clinical Operations and Technical Assistance Program surveyed clinics to examine the following:
  - Clinic Information (e.g., clinic classification, on-site medical services, funding sources, etc.);
  - Staffing (e.g., full-time equivalents (FTE) of clinic and non-clinical staff);
  - HIV Patient Caseload and Characteristics;
  - Clinic Accessibility;
  - Retention and Adherence Practices;
  - Data-to-Care Practices; and
  - Challenges and Effective Strategies to Achieve VLS.

METHODS

- A multiple logistic regression was calculated to examine the association between clinics' HIV patient caseload and clinics achieving a VLS of at least 85%. Adjustments were made for clinic population characteristics (i.e., age, sex, ethnicity, and race).
- Chi-square, Fisher's exact, and Mann-Whitney U tests were performed to identify clinic characteristics, capacity, and practices unique to clinics with the HIV patient caseload associated with the greatest likelihood of achieving 85% VLS.

RESULTS

Table 1. Main Effects of HIV Caseload on Achieving ≥85% Viral Load Suppression (VLS) in HIV Clinics

<table>
<thead>
<tr>
<th>HIV Patient Caseload</th>
<th>% of patients with VLS ≥85%</th>
<th>Crude Odds Ratio</th>
<th>95% CI</th>
<th>Adjusted Odds Ratio</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: 1-60</td>
<td>22%</td>
<td>0.43 (0.16 - 1.2)</td>
<td>0.20 (0.056 - 0.68)*</td>
<td>0.20 (0.050 - 0.80)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2: 61-200</td>
<td>45%</td>
<td>0.34 (0.13 - 0.92)*</td>
<td>0.34 (0.083 - 1.3)</td>
<td>0.22 (0.035 - 1.3)</td>
<td></td>
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<tr>
<td>Q3: 201-450</td>
<td>11%</td>
<td>0.17 (0.021 - 1.5)</td>
<td>0.008 (0.006 - 1.4)</td>
<td>0.007 (0.006 - 1.8)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4: ≥451</td>
<td>0%</td>
<td>1 (Reference)</td>
<td>1 (Reference)</td>
<td>1 (Reference)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Mean Proportion of Patient Population (PPP) by Selected Demographics for each HIV Patient Caseload Clinic Quartile

<table>
<thead>
<tr>
<th>PPP Characteristics</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of Patient Population (PPP) &gt;50 years of age</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>PPP Male</td>
<td>70%</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
</tr>
<tr>
<td>PPP White</td>
<td>80%</td>
<td>70%</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>PPP Hispanic</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>PPP Black</td>
<td>70%</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- Q2 clinics were more likely to be community-based clinics than other clinic classifications.
- Q2 clinics had significantly higher FTEs of PCPs, Social Workers, and Nutritionalists per 100 HIV patients than Q1, Q3, and Q4 clinics combined.
- Q2 clinics reported conducting patient engagement and retention practices at greater frequencies than Q1, Q3, and Q4 clinics combined.

- To achieve local and national EIE goals, additional research is needed to identify and expand clinic practices that are associated with high VLS.

REFERENCES


METHODS

- Sample
  - Purposive sampling was used to administer a survey to 154 HIV clinics providing primary care.
  - To be eligible, clinics had to be located in NYC and provide HIV primary care.
  - 110 eligible clinics (71%) submitted completed surveys.

- Analysis
  - Clinics were dichotomized based on achievement of the 2016 EIE VLS goal (i.e., ≥85% VLS).
  - Clinics’ HIV patient caseload was defined as the number of all HIV positive patients with at least one HIV medical visit in 2016.
  - Clinics were categorized into four quartiles (Q1-Q4) based on their HIV patient caseload: Q1: 1-60 HIV patients; Q2: 61-200 HIV patients; Q3: 201-450 HIV patients; Q4: ≥451 HIV patients.
  - A multiple logistic regression was calculated to examine the association between clinics’ HIV patient caseload and clinics achieving a VLS of at least 85%.
  - Adjustments were made for clinic population characteristics (i.e., age, sex, ethnicity, and race).

- Clinc characteristics, capacity, and practices among HIV clinics in New York City (NYC) must be explored to identify and replicate evidence-based findings associated with optimal VLS outcomes.

- The relationship between HIV patient caseload and VLS was examined due to the rising integration of HIV care into primary care clinics, shortage of primary care physicians (PCPs), and inconclusive literature on the association between HIV patient caseloads and HIV patient outcomes.

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- **Results**

- **Table 1. Main Effects of HIV Caseload on Achieving ≥85% Viral Load Suppression (VLS) in HIV Clinics**
  - Q2 clinics (HIV patient caseload of 61-200) were most likely to achieve ≥85% VLS, followed by Q3 and Q4 clinics.
  - Q1 clinics had the least likelihood of achieving ≥85% VLS.
  - The association between HIV patient caseload and VLS was examined due to the rising integration of HIV care into primary care clinics, shortage of primary care physicians (PCPs), and inconclusive literature on the association between HIV patient caseloads and HIV patient outcomes.

- **Figure 1. Mean Proportion of Patient Population (PPP) by Selected Demographics for each HIV Patient Caseload Clinic Quartile**
  - PPP characteristics were compared across HIV patient caseload quartiles (Q1-Q4).
  - PPP characteristics (e.g., proportion of patient population >50 years of age, proportion of male patients, proportion of Black patients, proportion of Hispanic patients, etc.) were compared across HIV patient caseload quartiles (Q1-Q4).

- **Conclusions**

- **Clincs with HIV patient caseloads of 61-200 patients within primary care clinics in NYC may allow clinics to best plan and execute practices that can improve patients VLS, particularly among patient populations that face significant barriers to achieving VLS.**
  - Greater frequencies than Q1, Q3, and Q4 clinics combined.
  - To achieve local and national EIE goals, additional research is needed to identify and expand clinic practices that are associated with high VLS.

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