Disparities in mortality and pre-death patterns of HIV care among HIV-positive New Yorkers who did or did not receive Ryan White Part A services

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**Introduction**

- Federal Ryan White Part A (RWPA) funds support medical and social services for low-income persons with HIV (PWH).
- The HIV Mortality Reduction Continuum of Care (HMRCC) describes pre-death patterns of HIV care among New York City (NYC) PWH\(^1\).
  - For this project, the HMRCC was applied to RWPA versus non-RWPA PWH in NYC.
  - Age-adjusted mortality rate disparities between RWPA and non-RWPA PWH were assessed by demographic subgroup.

**Methodology**

**Data Sources**
- The NYC HIV Surveillance Registry (the “Registry”)
  - Demographic, clinical, and vital status records of all NYC PWH
  - All HIV-related laboratory tests ordered by NYC clinical providers
  - The Electronic System for HIV/AIDS Reporting and Evaluation (eSHARE)
    - Services data for PWH served by RWPA in NYC since 2011

**Client Population**
- The broader population included 5,644 NYC residents who died in 2013-2016 and were diagnosed with HIV before death.
- 2,113 PWH (37% of all deaths) who received ≥2 RWPA service since 2011 were classified as RWPA PWH.
- PWH diagnosed at least 15 months prior to death were eligible for inclusion in the HMRCC analyses (N=5,421).

**HMRCC Measures**
- Intervenable Period (IP): The period between fifteen and three months prior to death, for which clinical outcomes were measured
- Ever linked to HIV care after diagnosis: Any CD4 or viral load test ≥8 days after HIV diagnosis
- Presumed ever on ART: Any viral load <200 copies/mL between 2001 (or HIV diagnosis date, if later) to 3 months prior to death
- Retained in care in IP: ≥2 CD4 or viral load tests ≥90 days apart
- Below transmission threshold in IP: Result ≤1500 copies/mL on most recent viral load
- Virally suppressed in IP: Result ≤200 copies/mL on most recent viral load

**Mortality Rate Disparities Measures**
- Average age-adjusted mortality rates per 1,000 PWH alive as of the end of 2014 (the middle of the analytic period) were calculated using all deaths 2013-2016 and age-adjusted to the NYC Census 2010 population.
- A “mortality disparity” metric was calculated by subtracting the age-adjusted mortality rate for RWPA PWH from the rate for non-RWPA PWH.

**Results- HMRCC**

**Characteristics of NYC decedents 2013-2016, diagnosed with HIV prior to death (N=5,644)**

<table>
<thead>
<tr>
<th>Sex at Birth</th>
<th>Race/Ethnicity</th>
<th>Age Group at Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Female</td>
<td>Black Latino/Hispanic White Other</td>
<td>13-19 20-29 30-39 40-49 50-59 60+</td>
</tr>
<tr>
<td>69.5% 30.5%</td>
<td>50.8% 35.0% 12.5% 1.7%</td>
<td>&lt;0.1% 2.1% 5.5% 17.2% 37.2% 38.0%</td>
</tr>
</tbody>
</table>

**Results- Mortality Rate Disparities**

- Age-adjusted mortality rate per 1,000 RWPA PWH = 14.75
- Age-adjusted mortality rate per 1,000 non-RWPA PWH = 7.70
- Overall mortality rate disparity = 7.05

**Conclusions**

- NYC RWPA and non-RWPA PWH experience between- and within-group disparities in mortality and pre-death care patterns.
- Although RWPA clients had higher treatment initiation and care retention than non-RWPA PWH, pre-death viral load outcomes were similar.
- Despite similar retention in care, a greater proportion of White PWH were virally suppressed compared to Black and Latino/Hispanic PWH in both RWPA and non-RWPA decedent groups.
- Females also had lower rates of viral suppression than males in both groups.
- Future research should incorporate cause of death data to examine patterns of pre-death care for HIV-related deaths among RWPA and non-RWPA PWH.
- This would allow for more focused identification of missed opportunities in HIV care and potential disparities in quality of care received.

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