# Characterizing Mortality among HIV-positive clients in New York's Ryan White Part A program

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## Background

- Federal Ryan White Part A (RWPA) funds support medical and social services for low-income persons with HIV (PWH).
- Age-adjusted mortality among RWPA clients in New York City (NYC) consistently exceeds that among NYC PWH overall.
- This project sought to evaluate client characteristics and service utilization patterns associated with mortality in RWPA by comparing those who died to those who left RWPA services for other reasons, in order to facilitate focused service delivery efforts and earlier identification of clients at risk of preventable mortality.

## Methodology

### Client Population

- This analysis included 8,123 clients who died or left the RWPA program for other reasons in 2013-2015 and were served by a long-term RWPA service category in the year prior.
  - Of these, 767 clients (9.4%) were deceased.
  - Long-term RWPA service categories include Medical Case Management, Food and Nutrition, Harm Reduction, Mental Health, and Supportive Counseling.

### Data Sources & Measures

- **The NYC HIV Surveillance Registry (the "Registry")**
  - Viral load laboratory results, HIV diagnosis date, demographics, vital status, and date of death
- **The Electronic System for HIV/AIDS Reporting and Evaluation (eSHARE)**
  - Psychosocial and demographic characteristics, health and behavioral information, and RWPA service utilization in the year prior to death

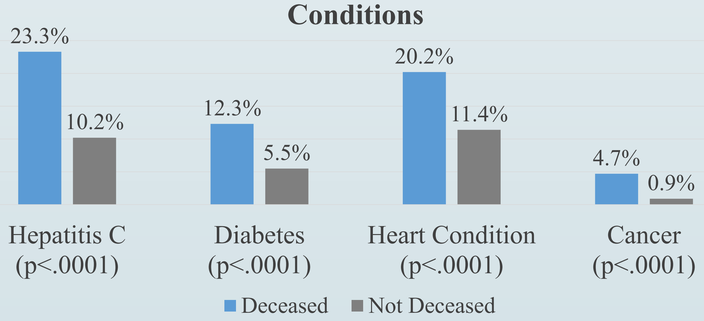
### Data Analysis

- Chi-square tests were used to examine bivariate relationships between mortality status and all sociodemographic, clinical, behavioral, and service utilization covariates.
- All covariates with a significant bivariate relationship with mortality, in addition to race/ethnicity and gender, were included in a multivariate logistic regression model to obtain adjusted odds ratios.

## Selected Results- Bivariate Analyses

| Characteristic | Percent of Deceased | Percent of Not Deceased | P-Value |
|---|---|---|---|
| **Race/Ethnicity** | | | |
| White | 9.3% | 10.2% | .0768 |
| Black | 52.5% | 51.6% | |
| Hispanic | 37.4% | 36.1% | |
| Other/Multiracial | 0.8% | 2.1% | |
| **Gender** | | | |
| Male | 64.9% | 66.1% | .0696 |
| Female | 34.0% | 31.7% | |
| Transgender | 1.0% | 2.2% | |
| **Year of HIV Diagnosis** | | | |
| 1996 or earlier | 45.6% | 27.6% | **<.0001** |
| 1997-2005 | 40.9% | 40.7% | |
| 2006 or later | 13.4% | 31.7% | |
| **Country of Birth** | | | |
| United States | 78.0% | 68.2% | **<.0001** |
| US territory/dependency | 9.4% | 5.8% | |
| Other country | 9.3% | 17.3% | |

**Self-Reported Diagnoses of Other Health Conditions**




| Characteristic | Percent of Deceased | Percent of Not Deceased | P-Value |
|---|---|---|---|
| Ever Incarcerated | 45.1% | 33.1% | **<.0001** |
| Ever Used Tobacco | 75.0% | 66.9% | **.0014** |
| Ever Used Hard Drugs | 56.6% | 47.1% | **<.0001** |
| Virally Unsuppressed (>200 copies/mL) | 42.8% | 28.2% | **<.0001** |

## Results- Multivariate Model

| Covariate | Adjusted Odds Ratio (95% Confidence Interval) |
|---|---|
| Medical Case Management Activity | **2.003 (1.408-2.849)** |
| Food and Nutrition Activity | **1.690 (1.182-2.417)** |
| Harm Reduction Activity | 0.699 (0.480-1.020) |
| Supportive Counseling Activity | 0.874 (0.495-1.542) |
| ≥1 Active Service Categories | **1.566 (1.052-2.330)** |

- Odds ratios were adjusted for: age, gender, race/ethnicity, year of HIV diagnosis, education level, poverty, country of birth, borough of residence, insurance status, incarceration history, transmission risk factor, tobacco use history, hard drug use history, viral suppression status, and reported diagnosis of: hepatitis C, diabetes, heart condition, or cancer.

## Conclusions

- In our cohort of clients who had recently exited RWPA services, mortality was associated with unsuppressed viral loads, co-morbidity with other health conditions, and earlier diagnosis years.
- Clients who received services from medical case management or food and nutrition programs were significantly more likely to be deceased.
  - Clients in these programs may be particularly vulnerable, as they serve those who struggle with treatment adherence or are food insecure.
- Those receiving services from multiple long-term service categories were also significantly more likely to have died.
  - This suggests that clients most at risk of death may have complex needs requiring cross-program coordination.

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