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PROGRAM FOR EDUCATION IN GLOBAL AND POPULATION HEALTH

Viral suppression among people living with HIV during the COVID-19 pandemic: preliminary findings from an NYC-based health information exchange

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Research Questions: Can health information exchange data provide a detailed view of HIV viral suppression over time? Did COVID-19 impact viral suppression among people living with HIV?

BACKGROUND

An estimated 78% of the >129,000 people living with HIV (PLWH) in New York City are virally suppressed, which means the quantity of virus circulating in the blood is low (<200 copies/mL).[1] HIV viral load suppression (VLS) is crucial for both keeping PLWH healthy and for preventing further HIV transmission.[2] Antiretroviral therapy is highly effective in achieving VLS but requires consistent engagement with the healthcare system.[2] The overall impact of the COVID-19 pandemic on PLWH remains unclear.[3] Health information exchanges (HIEs) collect data from multiple healthcare systems in a region, permitting large-scale analysis of questions related to HIV management. Healthix is a large HIE encompassing over 24 million patients and 8,000 healthcare facilities in the greater New York region.

METHODS

1. We requested data from all Healthix patients who received at least one chlamydia, gonorrhea, syphilis, Hep C, or HIV test between Jan 11, 2018 and July 14, 2022 (n = 5,307,133)

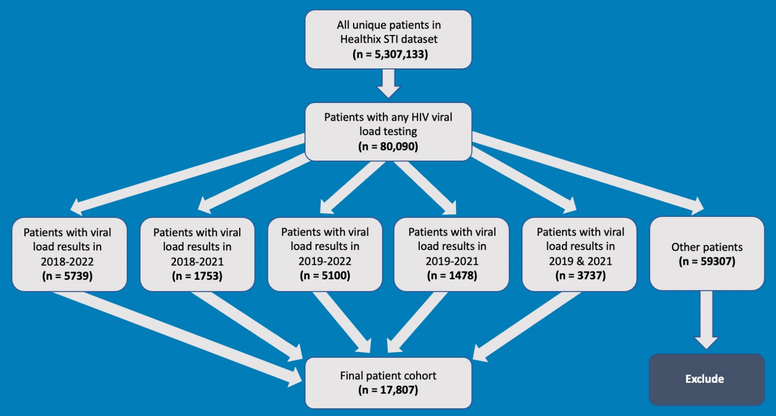
Table 1: Demographics of patients in Healthix database with at least one STI test result, January 1, 2018 – July 14, 2022

	Mean	SD
Age	52	19
Gender	**N**	**%**
Female (cisgender or transgender)	3,194,596	60%
Male (cisgender or transgender)	2,080,844	39%
Non-binary or transgender	131	0%
Other	57	0%
Unknown or declined	31,505	1%
Race/Ethnicity		
Asian	363,828	7%
Black or African American	547,222	10%
Hispanic or Latino	996,260	19%
Native American or Alaska Native	9,562	0%
Native Hawaiian or Other Pacific Islander	4,955	0%
More than one race	6,422	0%
White	1,232,250	23%
Other race	470,089	9%
Unknown or declined	1,676,545	31%
Home Residence		
Queens	1,181,264	22%
Brooklyn	1,104,183	21%
Manhattan	654,148	12%
Bronx	496,551	9%
Staten Island	203,023	4%
Unknown	1,667,964	31%

METHODS (CONTINUED)

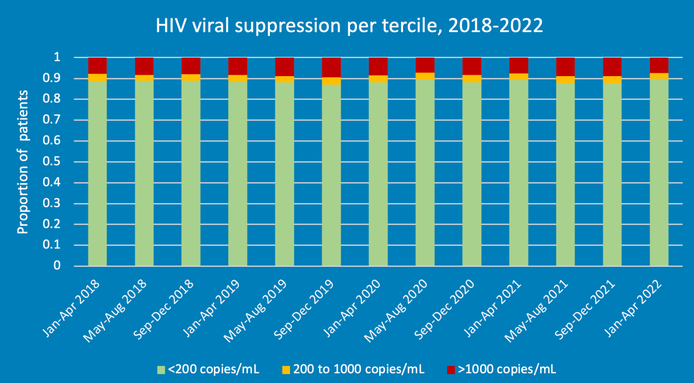
2. Out of 32,117 lab names included in the data delivery, we isolated 679 viral load lab names representing 715,084 viral load lab results and 80,090 distinct patients.

3. We established a cohort of patients (n = 17,807) with viral load testing across multiple years including both 2019 and 2021, as illustrated below.



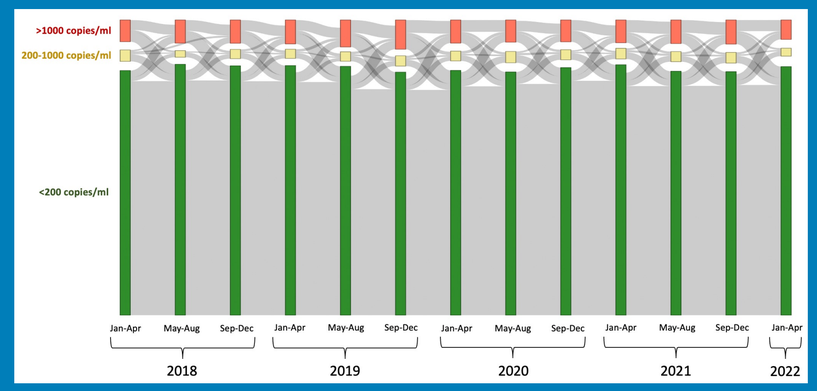
4. We sorted quantitative viral load results into three groups: <200 copies/mL, 200-1000 copies/mL, and >1000 copies/mL. The NYC Department of Health defines viral suppression as <200 copies/mL.

5. We divided each year into terciles to provide a more detailed picture of viral suppression during the pandemic.



PRELIMINARY RESULTS

2. We created a Sankey plot to visualize the movement of patients between viral load categories over time.



- We used Healthix data to create a retrospective cohort of 17,807 patients engaged in HIV viral load monitoring over multiple years
- Most patients with suppressed viral load remained suppressed over time
- Further analyses of the impact of COVID-19 on viral suppression are forthcoming

DISCUSSION

To our knowledge, this study represents the first use of Healthix data to study access to care and health outcomes among PLWH. While our current results are preliminary, we anticipate that using large-scale HIE data will help overcome the issue of data fragmentation that has historically hindered the evaluation of HIV care in urban areas. The ability to analyze viral suppression data at the tercile level instead of the annual level also opens the door to more detailed monitoring compared to what is currently made available by the NYC DOHMH.

REFERENCES

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