

Quality Improvement Profile

The NYSDOH/AIDS Institute's HIV Quality of Care Program has compiled crucial information from your HIV quality improvement (QI) program into a single profile report.

This quality profile contains longitudinal performance data on key quality indicators derived from the organizational HIV treatment cascade self-review, such as viral load suppression. It highlights quality improvement plans developed by the organization based on results of the review, consumer involvement in this process, as well as feedback from the quality coach and contract manager. Capacity building information such as participation in a quality learning network or regional group is also included. Please use this report to review the HIV QM program's effectiveness and to make changes if needed. Also, please let us know if there is an update that should be made to the contact information. If you have any questions or would like to request technical assistance or coaching for your HIV QM program, please contact Dan Belanger at Daniel.Belanger@health.ny.gov.

Cascade Submission Date:
Review closed November 2022

QI Profile Completion Date:
February 2023

Last Revision Date:
October 27, 2023

Program Name: Mount Sinai Health System

Clinic Information

Type of Clinic	Clinic Name	Address	City	Zip
Hospital	Adolescent Health Center	312 East 94th Street	New York	10128
Hospital	Comprehensive Health Center	275 7th Avenue, 12th Floor	New York	10001
Hospital	FPA - Beth Israel	10 Union Square	New York	10003
Hospital	FPA - Mount Sinai Hospital	5 East 98th Street, 3rd Floor	New York	10029
Hospital	Jack Martin	17 East 102nd Street, 3rd Floor	New York	10029
Hospital	Morningside	390 West 114th St, Scrymser Building,	New York	10025
Hospital	Peter Krueger	275 Eighth Avenue	New York	10003
Hospital	Samuels	1000 10th Avenue, Suite 2T	New York	10019

Important Contacts

<i>HIV Medical Director</i>	Michael Mullen	michael.mullen@mountsinai.org	(212)-241-3150
<i>HIV Program Administrator</i>	April Browne	april.browne@mountsinai.org	(212) 604-1737
<i>Lead QI Contact</i>	April Browne	april.browne@mountsinai.org	(212) 604-1737
<i>Contract Manager</i>	N/A		
<i>NY Links Coach</i>	Susan Weigl	susan.weigl@health.ny.gov	(929) 318-3318

Regional Group/Learning Network Participation

Learning Network Affiliation: Community Health Center Quality Learning Network (CHCQLN), Adolescent Quality Learning Network (AQLN), New York Links

Participated in Group QI Project? Yes

Focus: Accessing Mental Health (2019), Sexual Health: Assessment, Receive Counseling, Testing and Treatment Indicators (2020 & 2021), Viral Load Suppression, Cascade Follow-up

Organizational HIV Treatment Cascade

Definitions of Key Indicators

On ARV Therapy: Documented prescription of one or more antiretroviral medications at any time during the review year.

Any VL Test: Documentation of at least one viral load test at any time during the review year.

VL Test within 91 Days (Newly Diagnosed Patients): Documentation of at least one viral load test performed within 91 days of initial HIV diagnosis.

Suppressed Final VL: A value of less than 200 copies/mL on the final viral load test during the review year. Patients with no documented viral load test during the review year are scored as unsuppressed.

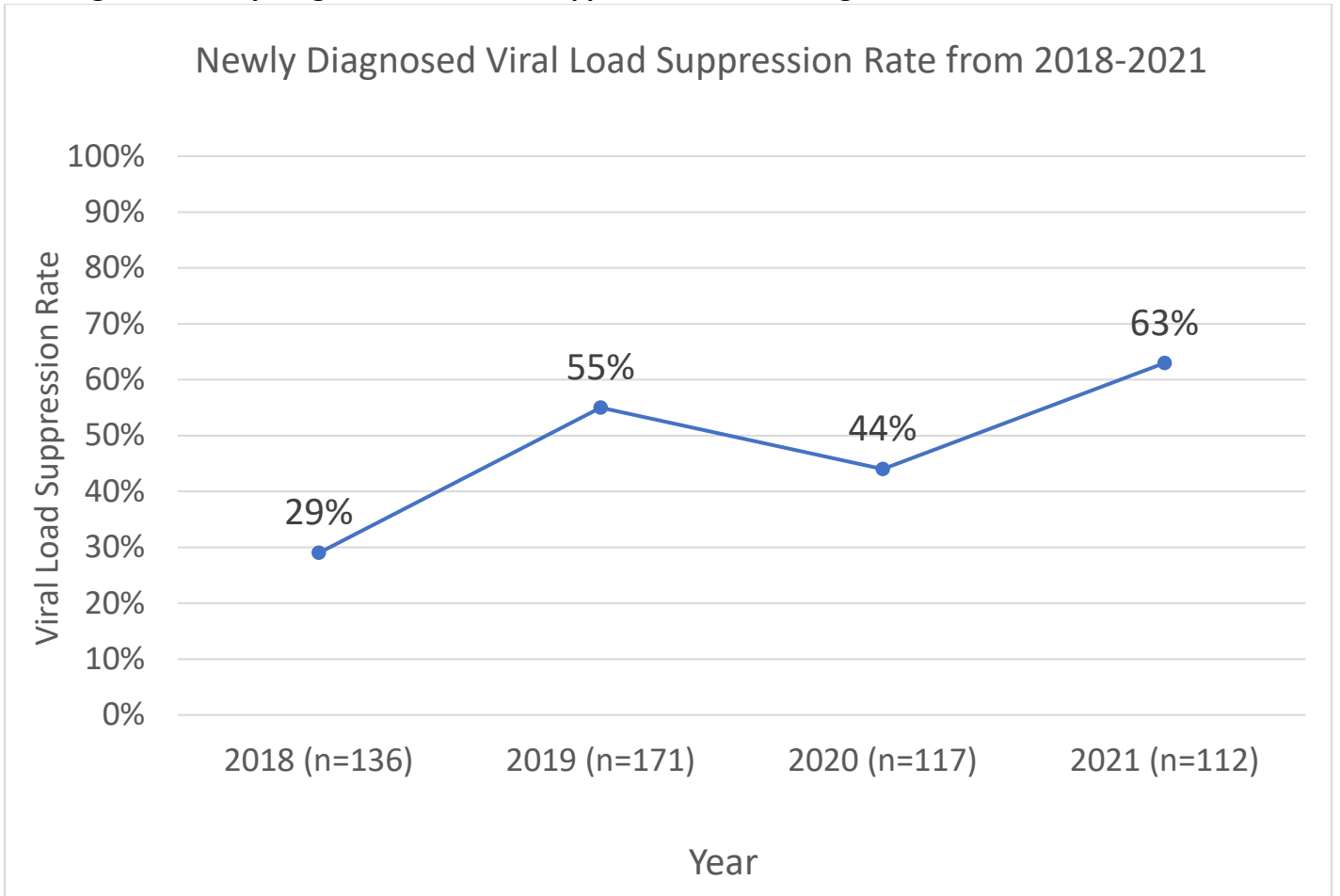
Suppressed within 91 Days (Newly Diagnosed Patients): A value of less than 200 copies/mL on any viral load test performed within 91 days of initial HIV diagnosis. Patients with no documented viral load test during this period are scored as unsuppressed.

3-day Linkage to Care (Patients Newly Diagnosed Within the Organization): A time interval of three days or less from initial HIV diagnosis to provision of HIV care. Prior to 2019, documentation of HIV care was based exclusively on visit history (seen by a provider who could prescribe ARVs, whether or not this was done), and an exception was made in 2017 (only) for individuals seen as inpatients (linkage within 30 days); beginning in 2019, documentation of first ARV prescription was also used for this, and there were no exceptions to the 3-day limit.

NOTE: Data are not reported for subpopulations of fewer than 10 patients. This is done to address any concerns about confidentiality and avoid possible misinterpretation of results based on small populations. For brevity, throughout the profile, the number of applicable patients is reported using the “n=x” convention with x being the number of patients eligible for an indicator or within a demographic subpopulation.

Key Indicators from 2017 to 2021

Figure 1. Newly Diagnosed Viral Load Suppression Rates at Organizational Level from 2018-2021



Note: Among newly diagnosed patients in 2017, the final VL suppression rate was reported as 59% (n=170).

Figure 2: New to Care (Other than Newly Diagnosed) Viral Load Suppression Rates at Organizational Level from 2017-2021

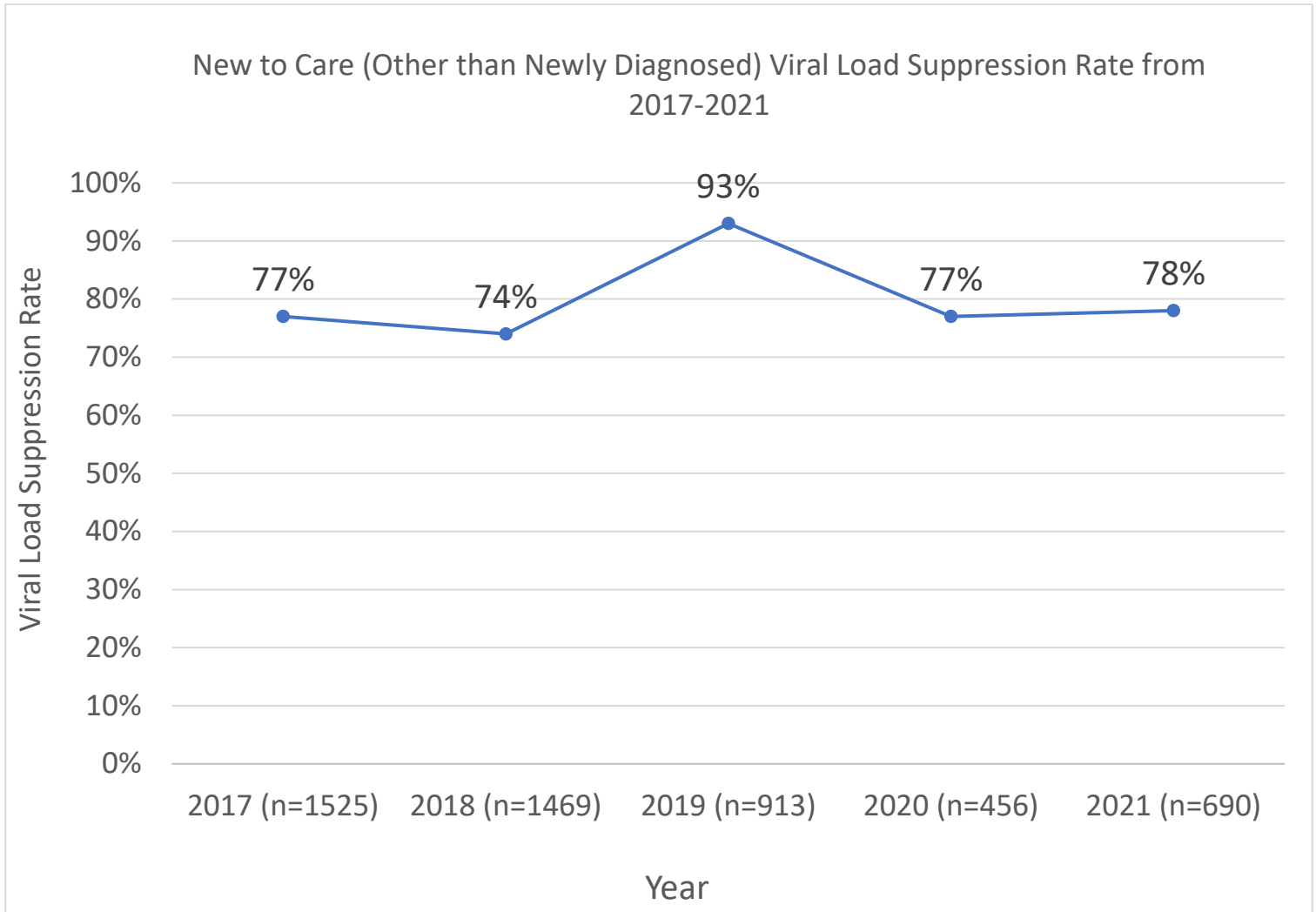


Figure 3: Established Active Viral Load Suppression Rates at Organizational Level from 2017-2021

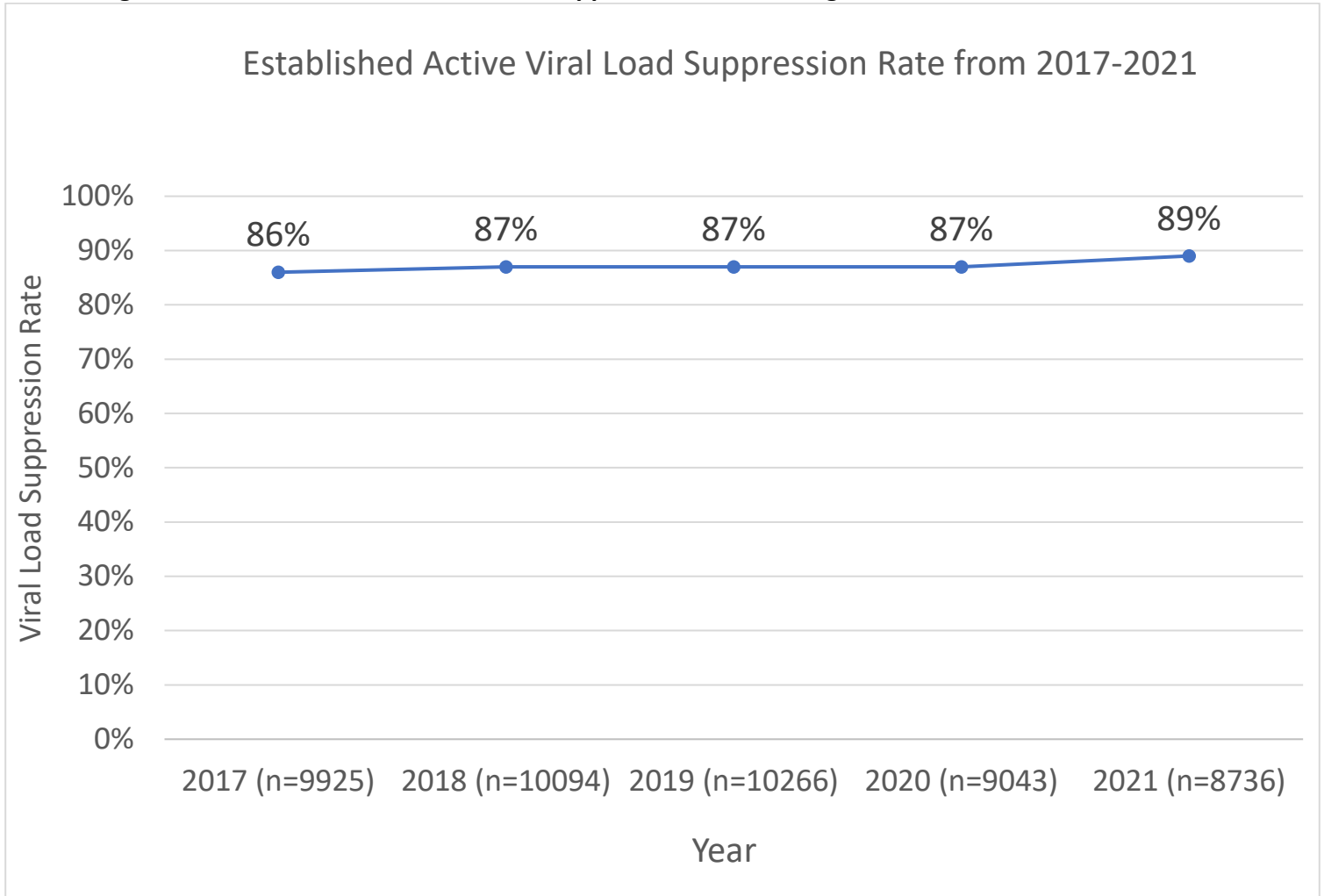


Figure 4. Time to Linkage Rates

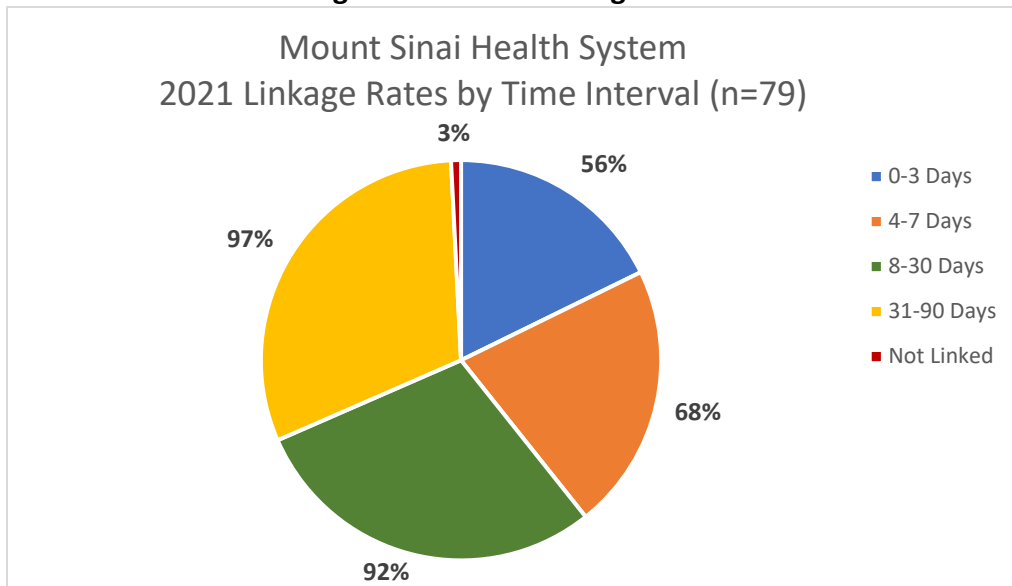


Figure 5. 2021 Viral Load Suppression Rates by Age at Organizational Level

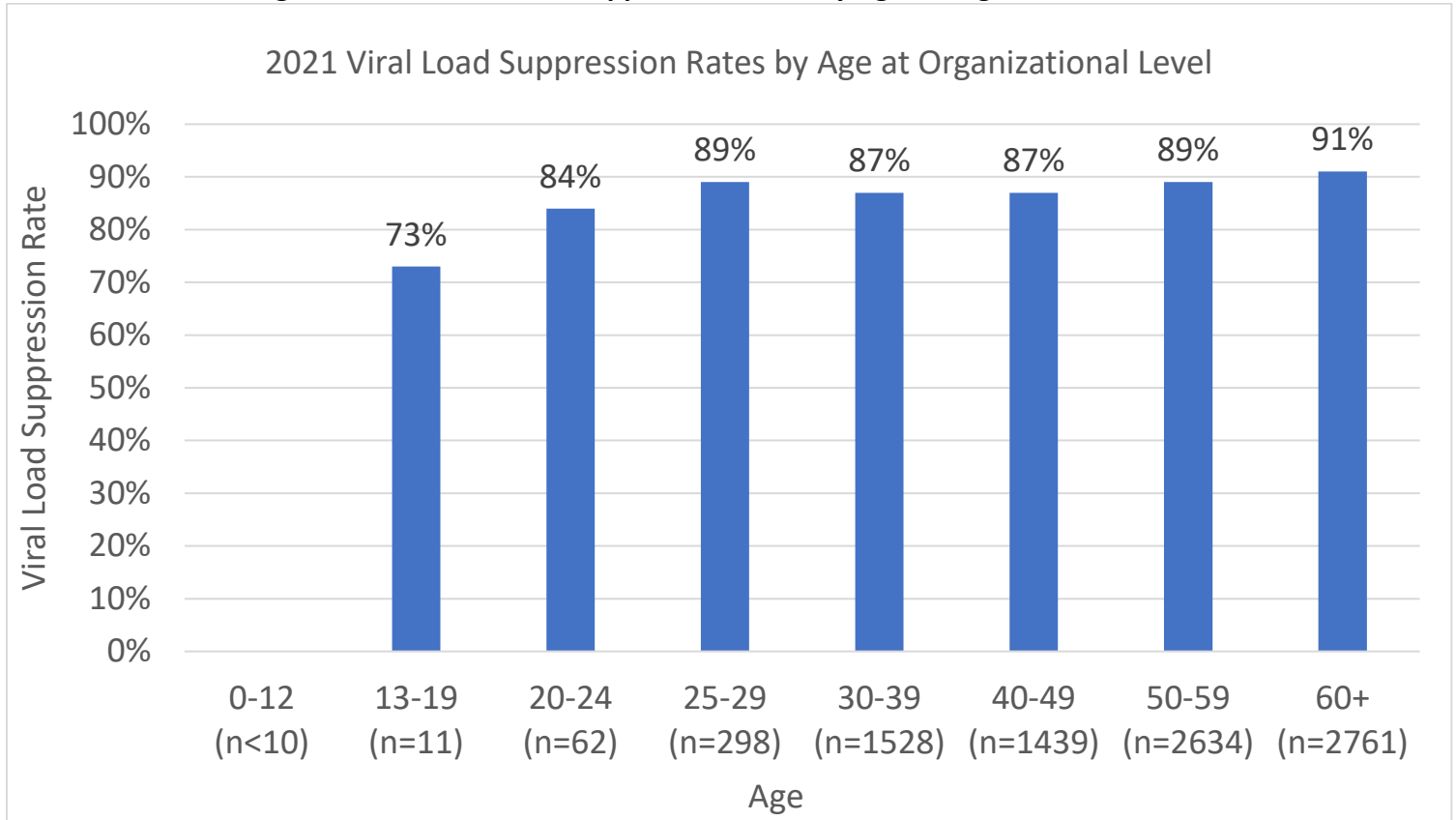
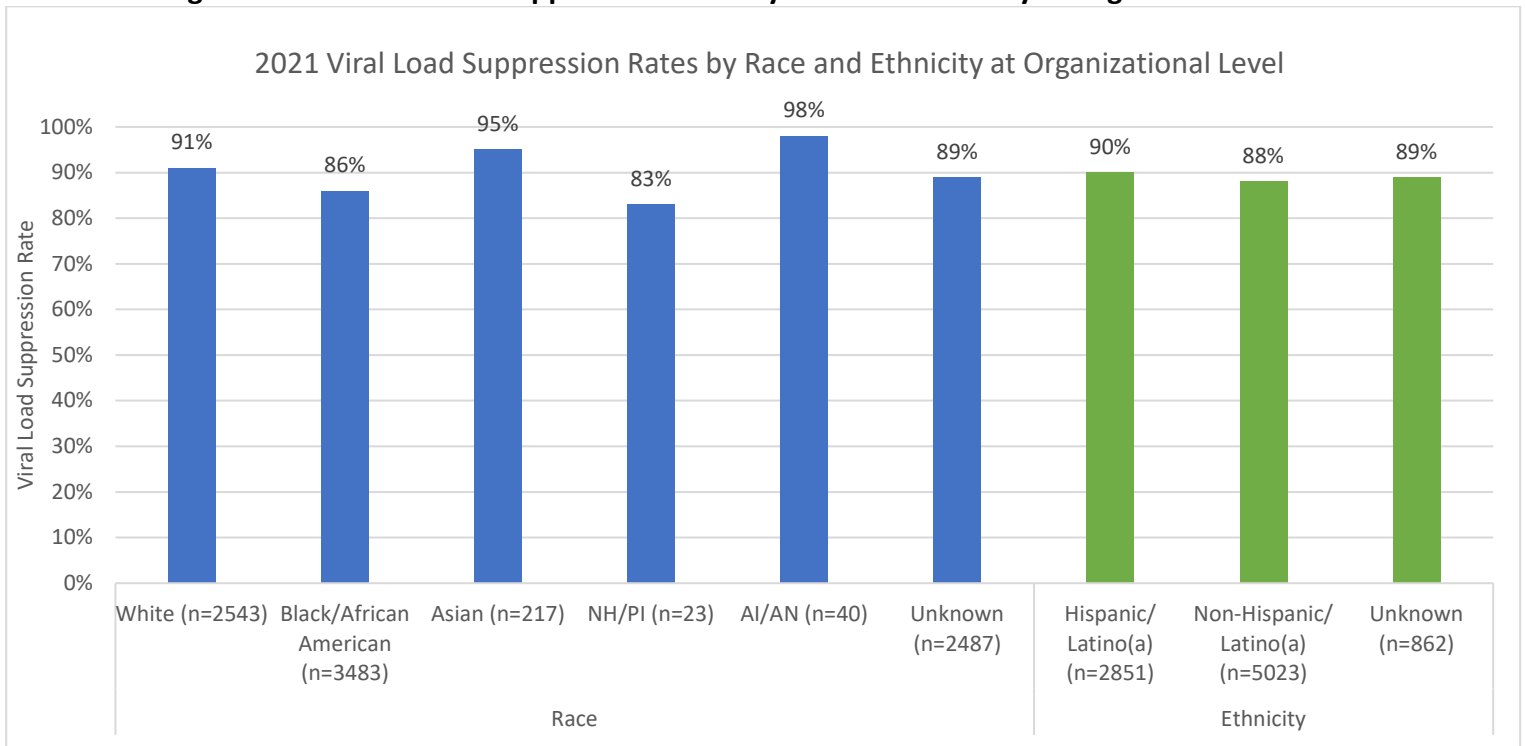


Figure 6. 2021 Viral Load Suppression Rates by Race and Ethnicity at Organizational Level



Note: NH/PI = Native Hawaiian/Pacific Islander; AI/AN = American Indian/Alaska Native.

NEW YORK STATE DEPARTMENT OF HEALTH AIDS INSTITUTE HIV QUALITY OF CARE PROGRAM

Table 1: Indicator Scores at Organization Level for 2017-2021

Patient Group	Indicator	2017		2018		2019		2020		2021	
		Org. Score	State Median	Org. Score	State Median	Org. Score	State Median	Org. Score	State Median	Org. Score	State Median
Newly Diagnosed	3-day Linkage to Care	56% (n=172)	65%	44% (n=104)	41%	52% (n=95)	52%	39% (n=72)	55%	56% (n=79)	61%
	On ARV Therapy	78% (n=170)	91%	93% (n=139)	96%	94% (n=171)	100%	87% (n=118)	100%	97% (n=112)	100%
	VL Test within 91 Days	*	*	93% (n=139)	93%	88% (n=171)	95%	80% (n=118)	95%	92% (n=112)	92%
	Suppressed Final VL	59% (n=170)	65%	*	*	*	*	*	*	*	*
	Suppressed within 91 Days	*	*	29% (n=136)	45%	55% (n=171)	50%	44% (n=117)	46%	63% (n=112)	50%
	Baseline Resistance Test	*	*	*	*	68% (n=169)	74%	41% (n=80)	80%	80% (n=111)	82%
Other New to Care	On ARV Therapy	76% (n=1525)	96%	96% (n=1469)	97%	89% (n=913)	100%	97% (n=456)	100%	94% (n=690)	100%
	Any VL Test	90% (n=1525)	97%	89% (n=1469)	99%	93% (n=913)	98%	92% (n=456)	100%	93% (n=690)	100%
	Suppressed Final VL	77% (n=1525)	70%	74% (n=1469)	74%	72% (n=913)	78%	77% (n=456)	77%	78% (n=690)	69%
Established Active	On ARV Therapy	96% (n=9925)	99%	98% (n=10094)	99%	97% (n=10266)	99%	99% (n=9043)	93%	99% (n=8736)	99%
	Any VL Test	96% (n=9925)	99%	95% (n=10094)	99%	97% (n=10266)	99%	96% (n=9043)	97%	97% (n=8736)	98%
	Suppressed Final VL	86% (n=9925)	88%	87% (n=10094)	88%	87% (n=10266)	89%	87% (n=9043)	87%	89% (n=8736)	88%
Open Previously Diagnosed (Active & Inactive)	On ARV Therapy	62% (n=17225)	92%	84% (n=15639)	95%	75% (n=16600)	96%	82% (n=15529)	96%	81% (n=17433)	97%
	Any VL Test	63% (n=17225)	92%	69% (n=15639)	93%	71% (n=16600)	93%	70% (n=15529)	90%	65% (n=17433)	94%
	Suppressed Final VL	55% (n=17225)	80%	62% (n=15639)	80%	61% (n=16600)	83%	63% (n=15529)	77%	58% (n=17433)	79%

* Data for this indicator were not requested for this review

Table 2: Viral Load Suppression by Established Active Patient Demographic Group at Organization Level for 2021

AGE															
0-12		13-19		20-24		25-29		30-39		40-49		50-59		60+	
n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
<10*	--	11	73%	62	84%	298	89%	1528	87%	1439	87%	2634	89%	2761	91%
GENDER															
Cis Male		Cis Female		Trans Male		Trans Female		Other Gender		Unknown Gender					
n	%	n	%	n	%	n	%	n	%	n	%				
5578	90%	1499	89%	<10*	--	199	88%	78	88%	1381	85%				
RACE															
White		Black/African American		Asian		Native Hawaiian/PI		American Indian/ AN		Unknown Race					
n	%	n	%	n	%	n	%	n	%	n	%				
2543	91%	3483	86%	217	95%	23	83%	40	98%	2487	89%				
ETHNICITY															
Hispanic, Latino, Latina		Non-Hispanic, Latino, Latina		Unknown Ethnicity											
n	%	n	%	n	%										
2851	90%	5023	88%	862	89%										
RISK FACTOR															
IDU Risk		Heterosexual Risk		MSM		Hemophilia or Coagulation		Blood Transfusion		Perinatal		Other Risk		Unknown	
n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
526	88%	2709	87%	4080	90%	<10*	--	92	90%	107	79%	146	82%	2011	87%
HOUSING STATUS															
Stable Housing		Unstably Housed		Temporarily Housed		Unknown Housing									
n	%	n	%	n	%	n	%								
5145	89%	45	58%	78	79%	3468	89%								
INSURANCE TYPE															
ADAP		Dual Eligible		Medicaid		Medicare		Private Insurance		Veteran's Admin		Other		No Insurance	
n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1107	94%	33	91%	3812	85%	1924	90%	1852	91%	<10*	--	<10*	--	<10*	--
Unknown															
n	%														
<10*	--														

* Data redacted due to small number of applicable patients (fewer than 10).

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Table 3: Indicator Scores at Clinic Level for 2017-2021

Year	Clinic	Newly Diagnosed	Other New to Care			Established Active		
		Baseline Resistance Test	On ARV Therapy	Any VL Test	Suppressed Final VL	On ARV Therapy	Any VL Test	Suppressed Final VL
2017	Mount Sinai Hospital	**	**	**	**	96% (n=5487)	95% (n=5487)	88% (n=5487)
	Beth Israel	**	**	**	**	94% (n=1412)	97% (n=1412)	88% (n=1412)
	St. Luke's	**	**	**	**	97% (n=1240)	98% (n=1240)	79% (n=1240)
	Mount Sinai West	**	**	**	**	97% (n=1677)	97% (n=1677)	87% (n=1677)
	Brooklyn	**	**	**	**	100% (n=109)	94% (n=109)	83% (n=109)
2018	Adolescent Health Center	**	84% (n=19)	79% (n=19)	63% (n=19)	89% (n=55)	89% (n=55)	62% (n=55)
	Comprehensive Health Center	**	97% (n=516)	94% (n=516)	79% (n=516)	98% (n=2967)	97% (n=2967)	90% (n=2967)
	Beth Israel	**	95% (n=138)	80% (n=138)	70% (n=138)	98% (n=828)	93% (n=828)	89% (n=828)
	Brooklyn	**	96% (n=24)	54% (n=24)	46% (n=24)	99% (n=113)	81% (n=113)	73% (n=113)
	Mount Sinai Hospital	**	97% (n=158)	85% (n=158)	78% (n=158)	97% (n=834)	88% (n=834)	84% (n=834)
	Jack Martin	**	94% (n=250)	83% (n=250)	66% (n=250)	97% (n=1552)	96% (n=1552)	84% (n=1552)
	Morningside	**	95% (n=142)	92% (n=142)	63% (n=142)	97% (n=1218)	96% (n=1218)	81% (n=1218)
	Peter Krueger	**	97% (n=166)	98% (n=166)	86% (n=166)	98% (n=983)	98% (n=983)	89% (n=983)
	Samuels	**	98% (n=56)	96% (n=56)	80% (n=56)	98% (n=1544)	98% (n=1544)	87% (n=1544)
2019	Adolescent Health Center	64% (n=11)	-- (n<10)*	-- (n<10)*	-- (n<10)*	90% (n=49)	92% (n=49)	71% (n=49)
	Comprehensive Health Center	63% (n=43)	83% (n=213)	96% (n=213)	72% (n=213)	99% (n=2984)	98% (n=2984)	90% (n=2984)
	Beth Israel	71% (n=18)	88% (n=104)	89% (n=104)	75% (n=104)	94% (n=882)	94% (n=882)	89% (n=882)
	Mount Sinai Hospital	-- (n<10)*	88% (n=84)	79% (n=84)	81% (n=84)	97% (n=935)	90% (n=935)	87% (n=935)
	Jack Martin	70% (n=37)	92% (n=191)	93% (n=191)	72% (n=191)	96% (n=1745)	97% (n=1745)	83% (n=1745)
	Morningside	57% (n=23)	91% (n=139)	94% (n=139)	71% (n=139)	97% (n=1143)	97% (n=1143)	79% (n=1143)
	Peter Krueger	60% (n=15)	96% (n=68)	99% (n=68)	66% (n=68)	99% (n=1038)	99% (n=1038)	89% (n=1038)
	Samuels	89% (n=18)	91% (n=113)	95% (n=113)	79% (n=113)	98% (n=1490)	99% (n=1490)	88% (n=1490)
2020	Adolescent Health Center	-- (n<10)*	-- (n<10)*	-- (n<10)*	-- (n<10)*	93% (n=40)	90% (n=40)	65% (n=40)
	Comprehensive Health Center	24% (n=25)	99% (n=155)	96% (n=155)	82% (n=155)	99% (n=2702)	96% (n=2702)	89% (n=2702)

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	Beth Israel	-- (n<10)*	97% (n=35)	97% (n=35)	91% (n=35)	99% (n=307)	94% (n=307)	89% (n=307)
	Mount Sinai Hospital	-- (n<10)*	94% (n=47)	74% (n=47)	68% (n=47)	98% (n=922)	90% (n=922)	88% (n=922)
	Jack Martin	60% (n=15)	99% (n=77)	94% (n=77)	79% (n=77)	98% (n=1521)	97% (n=1521)	84% (n=1521)
	Morningside	-- (n<10)*	95% (n=65)	94% (n=65)	71% (n=65)	98% (n=1123)	97% (n=1123)	83% (n=1123)
	Peter Krueger	-- (n<10)*	96% (n=25)	88% (n=25)	64% (n=25)	99% (n=1002)	98% (n=1002)	89% (n=1002)
	Samuels	67% (n=12)	96% (n=48)	96% (n=48)	79% (n=48)	98% (n=1426)	95% (n=1426)	87% (n=1426)
2021	Adolescent Health Center	**	**	**	**	100% (n=25)	96% (n=25)	72% (n=25)
	Comprehensive Health Center	**	**	**	**	99% (n=2669)	97% (n=2669)	91% (n=2669)
	Beth Israel	**	**	**	**	99% (n=295)	96% (n=295)	93% (n=295)
	Mount Sinai Hospital	**	**	**	**	99% (n=612)	90% (n=612)	87% (n=612)
	Jack Martin	**	**	**	**	99% (n=1585)	98% (n=1585)	87% (n=1585)
	Morningside	**	**	**	**	99% (n=1132)	98% (n=1132)	84% (n=1132)
	Peter Krueger	**	**	**	**	99% (n=966)	99% (n=966)	90% (n=966)
	Samuels	**	**	**	**	99% (n=1452)	98% (n=1452)	89% (n=1452)

* Data redacted due to small number of applicable patients (fewer than 10).

** Data for this indicator were not requested for this review.

Quality Improvement Interventions for 2022 (Self-Reported based on 2021 results)

Methodology

Populating the Patient Data Template was prepared and checked for accuracy by Saniya Khan, Data Coordinator for the Institute for Advanced Medicine (IAM), with guidance provided by Vince R Mojica, Data Director for IAM at the Mount Sinai Health System (MSHS). The IAM data team assisted with chart reviews. Data was extracted from the Epic and MEDITECH electronic health record (EHR) systems using dbForge for Oracle and MS Excel.

Data Sources: Data were primarily extracted from Epic, an EHR application used by our ambulatory clinics within MSHS, as well as all our inpatient departments. All our inpatient units have completed the transition from Prism to Epic as of September 2020. A small number of patients come from MEDITECH, the inpatient/outpatient EHR used by the New York Eye and Ear Infirmary of Mount Sinai. These two systems contained all patients seen within MSHS during the review period at all six hospitals and satellite ambulatory sites within MSHS: Mount Sinai Hospital (MSH), Mount Sinai Beth Israel (MSBI), Mount Sinai Morningside (MSM), formerly Mount Sinai St. Luke's (MSSL), Mount Sinai West (MSW), Mount Sinai Queens (MSQ), Mount Sinai Brooklyn (MSB), and New York Eye and Ear Infirmary of Mount Sinai (NYEE).

Patients/persons living with HIV/AIDS (PLWHA) who were seen across the MSHS in 2021 were identified via provider-entered diagnoses of HIV/AIDS in their problem list, medical history and/or visit diagnoses. Among the 18,394 PLWHA with visits recorded across the EHRs in 2021, 18,143 (99%) had a visit recorded in Epic; the remaining patients were identified solely through visits recorded in the MEDITECH EHR. A system wide, recognized MRN allowed for matching across EHRs; however, patients were duplicated within and across data systems. For example, some patients had records under different MRNs that had not yet been merged in our system. In order to create a de-duplicated patient list, MRNs were first merged across systems/EHRs to generate a comprehensive list. Next, duplicated patients were identified by creating a unique ID based on patient identifiers. All potential duplicate records were manually reviewed and de-duplicated. Since patient characteristics and data relevant to HIV Care outcomes for a unique patient may have been recorded under different MRNs, this final step of de-duplication was completed after data was extracted for all MRNs associated with that patient; data under the duplicated MRNs were merged. All data elements required for this review were not available in every data source. MEDITECH captured most demographic variables, insurance, inpatient and outpatient visit data, labs and ARVs, but did not include baseline resistance testing, housing, risk, or diagnosis data information.

Per guidance, patients' diagnosis statuses were defined as: new internally diagnosed in 2021 (NEWINT), new externally diagnosed in 2021 (NEWEXT), diagnosed prior to 2021 (PREV), or diagnoses dates unknown or inconclusive evidence of new or previous diagnoses (UNK). Data from the EHRs, including provider diagnoses and HIV test and viral load results, as well as data from prior reports were used systematically to identify evidence of diagnosis status prior to or during the review period. Where the diagnosis status was still unknown, a manual chart review was employed to ascertain diagnosis date through chart documentation, where possible. Manual chart review was completed for 524 patients; of those 80 were identified as newly diagnosed in 2021. While we were able to verify HIV diagnosis prior to 2021 for 352 of the 524, we were unable to confirm whether diagnosis was prior to or during the review period for 5 patients. Additionally, we were unable to verify an HIV diagnosis in our system for 87 patients and thus they were removed from our submission.

Demographic Information: All patients across EHRs exist in Epic, though the degree to which extractable demographic information was available varied. Demographic information was pulled for all patients from Epic and these data were accepted as gold standard as Epic is our main system of record. Insurance information for 525

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patients in MEDITECH was compared against the Epic record to select the most recent on file in the reporting year. For the 6,970 patients where data on race and/or ethnicity were missing, we used existing finalized reports to lookup information where possible. Age is reliably documented for all patients, and no patients were found to have this demographic missing. Consistent with our approach last year, birth sex and gender were extracted directly from Epic. This was documented for more than 75% (~13,900) of the patients in this report, however, where birth sex and gender identity were not available, legal sex was used to define birth sex and gender was coded as UK. If a patient identified as TGM or TGF or if birth sex and gender differed, patients were coded as TGF and TGM, accordingly. Even after review of previous reports, we were unable to determine demographic information for some categories, which resulted in missing/UK information for about 15% (2,790) for ethnicity and 30% (5,659) overall for race. As in previous years, risk category and housing status was not documented consistently, with around 57% of patients with unknown risk category and almost 70% unknown housing status.

Newly Diagnosed Patients: The process of identifying newly diagnosed patients was completed in steps like those used for previous Treatment Cascade reporting. First, we removed patients with an HIV/AIDS diagnosis prior to 2021 already confirmed through other finalized reporting (e.g., previous Treatment Cascades, IRPO, and/or RSR reports). For patients whose diagnosis could not be confirmed through that review, we queried the Epic EMR to identify any evidence of diagnosis or positive testing prior to the review period, including any provider diagnoses, confirmatory HIV testing, and/or viral loads prior to 2021. Where this did not provide us with definitive information, we completed manual chart review to gather additional information through provider notes, scanned copies of medical records, etc. As mentioned previously, manual chart review was completed for 524 patients. As part of this review, all data for newly diagnosed patients were manually reviewed and entered by our data team since many of the required data elements could not be reliably extracted via structured fields and often require review of provider notes to ascertain accurate information. Provider documentation and records from external sites scanned into patient charts were used to ascertain the date of diagnosis, whether a patient was internally or externally diagnosed, and to confirm whether resistance testing was completed. In the absence of documented evidence of an external positive confirmatory test result (by provider documentation and/or scanned lab results), patients were considered diagnosed within the organization on the date of the positive confirmatory test result conducted internally. In cases where a provider note indicated a definitive HIV diagnosis externally (i.e., “patient diagnosed in Feb 2021 and started on Biktarvy 3/1/2021”), this date or approximated date was used as the diagnosis date. Of the 112 newly diagnosed patients, 79 (71%) were found to be diagnosed internally and 33 (29%) externally. We reviewed patients where first viral load suppression date or ARV initiation date were flagged as a warning in the template and performed additional chart review to clear warnings. In those cases, we often found patients were previously on PrEP/PEP medication and had viral load tests as part of protocol monitoring while on PrEP/PEP.

Previously Diagnosed Patients: As described above, we identified previously diagnosed first by identifying all patients confirmed to be previously diagnosed in the 2018, 2019, and 2020 Treatment Cascades and RSRs, or the 2018 IPRO report since these reports only contain HIV+ patients. Secondly, we queried the Epic EHR for previous provider diagnoses, confirmatory HIV testing, and detectable viral loads prior to the review period, then completed manual chart review to confirm previous diagnosis where necessary and possible.

Clinic Assignments: Using all the visit data, patients were assigned to the MSHS clinic where they had one or more HIV primary care visits in the review period. Where a patient had HIV primary care visits in two or more MSHS clinics in the review period, the clinic with the greatest number of visits was assigned to the patient. Where the greatest number of HIV primary care visits were equal for two or more clinics, the last clinic visited was assigned.

Active patients (both established and new to care) were assigned to one of eight HIV primary care clinics: Adolescent Health Center (AHC), Comprehensive Health Center (DOWNTOWN), FPA – Beth Israel (FPABI), FPA –

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Mount Sinai Hospital (FPSMSH), Jack Martin (JACKMARTIN), Morningside (MORNING), Peter Krueger (KREUGER [sic]), and Samuels (SAMUELS). FPA - Brooklyn (FPAMSB) did not see patients for HIV care in 2021, and thus there are no patients assigned to this clinic.

Enrollments: Due to current extractable documentation practices, the only categories of non-active patients that could be identified from the open patient panel were patients who expired (DEC) in the review period and patients not enrolled in care at our organization (OTH). Deceased patients were identified by a documented patient status in Epic and/or diagnosis codes. Incarceration and care at outside organizations are not captured in our EHRs in an extractable format, if at all. For active patients, enrollment status was defined per guidance: active, new to clinic (ACTNEW), active, seen prior to the review period and continuing at the clinic (ACTEST). From 2019 through 2021, the earliest and most recent HIV ambulatory care visits and viral load tests were extracted from our Epic EHR. If a patient had a visit or viral load in 2019 and/or 2020, and a visit in 2021, the patient identified as active-established and continuing in care with our HIV clinics. If a patient did not have a visit or any viral load testing completed in 2019 or 2020, but had a visit in 2021, he or she was identified as active-newly established in HIV care in our HIV clinics. All patients who did not have a visit in our HIV clinics in 2021 were categorized as other status (OTH).

Service lines: Service lines for open, non-active patients were summarized across the 2 EHRs. All visits were categorized using data confirming department specialty, patient visit classification (i.e., emergency, inpatient), visit type and/or reason for visit (Epic). For MEDITECH, inpatient visits were determined using CPT codes and length of stay. These coded visits were then aggregated and reported as unique service line types per patient. The QI team analyzed these results, using the data, graphics and charts populated in the template. By fourth quarter of 2022, the IAM QI team will present existing HIVQUAL data to Medical Directors, staff, and leadership from IAM's HIV Prevention programs and other relevant stakeholders to gain buy-in and added interest to participate in ongoing QI projects developed based on these results. Consumers have not had an opportunity to review these findings or weigh in on the creation of quality improvement projects given the late start and short turnaround of this year's Treatment Cascade. IAM does meet quarterly with its Consumer Advisory Board where these findings and subsequent next steps will be shared. Monitoring Project There are several demographic data points that continuously fail to come in below HRSA's ten percent ceiling threshold for missing values.

The 2021 HIV Treatment Cascade identified four demographic data points that exceeded the maximum ten percent threshold for missing values: namely, gender (5,299 pts. with missing values or 28.8%), race (2,729 pts. with missing values or 14.8%), housing (4,031 pts. with missing values or 21.9%), and risk (2,488 pts. with missing values or 13.5%). We will be implementing a monitoring project for the gender and housing data points, which have the two highest missing value rates to determine whether: 1) patients are being asked for gender and housing information at least once annually; 2) are templates used to capture these data points uniformly accessible to providers within their workflow; 3) are patients refusing to answer gender and housing questions? The gender and housing questions have a long history of non-compliance with HRSA's missing values threshold, so a monitoring project to determine whether training or processes can correct this trend is needed.

Key Findings

The continuation of the COVID-19 pandemic from 2020 into 2021 certainly presented continued challenges that health systems were still required to address. As healthcare systems were forced to continue to reallocate resources to meet the very specific needs of their burgeoning patient pool, timely access to care, routine and otherwise, continued to be interrupted. This was further exacerbated by many more needs around social determinants of health around this time with domains like income, social needs, and housing heavily affected by the pandemic. 2021 saw a 12% increase in open patients, up to 17,433 in 2021 from 15,529 in 2020 possibly

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attributed to some societal reopening post the peak of the pandemic. Despite increased patient volume, there were still some declines in performance of some indicators as outlined below:

Declines in system wide indicators:

- Viral load testing among open patients, down 5% (70% to 65%) from 2020.
- Viral load suppression among open patients, down 5% (63% to 58%) from 2020.

Various needs around social determinants of health specific to, and exacerbated by the pandemic, could explain these decreases despite having more patients enter the system. Despite the aforementioned declines in measure performance, it should be noted that, overall, viral load suppression among established active patients across the system increased 2% from 87% in 2020 to 89% in 2021; above the ETE 2021 target of 85%.

There were also some successes and improved system wide outcomes that deserve recognition as outlined below.

- ARV therapy among newly diagnosed patients; up 10% from 2020 from 87% to 97%.
- VL testing among newly diagnosed patients: up 8% from 2020 from 80% to 92%.
- VL suppression among newly diagnosed patients; up 19% from 2020 from 44% to 63%.
- 3-day linkage of internally diagnosed patients; up 17% from 2020 from 39% to 56%.
- Resistance testing for active newly diagnosed patients; up 39% from 2020 from 41% to 80%.

These increases in performance are a testament to the wonderful work done by our collective treatment teams despite the challenges presented by the continued pandemic. Though it is enlightening to analyze performance of these indicators across the entire Mount Sinai Health System, it is important to note the differences in performance when solely examining patients specifically attributed to the Institute for Advanced Medicine. The team runs reports the exact report, with the exact metrics, isolating just IAM from the larger system, as well as identical reports for each of the 5 clinics so they may each individually assess their performance. When examining that population across the 5 clinic sites, only 1 clinic did not meet the ETE 2020 target of 85% for virally suppressed patients: Morningside clinic at 84%.

More specific information, with notable differences, between IAM as opposed to the full system is as follows:

- ARV therapy among open patients; IAM at 99% vs MSHS at 82% (99% vs 81% respectively in 2020).
- VL testing among open patients; IAM at 98% vs MSHS at 65% (97% vs 70% respectively in 2020).
- Viral Load suppression among open patients; IAM at 89% vs MSHS at 58% (87% vs MSHS at 63% respectively in 2020).

This difference in system wide vs Institute specific performance is, again, a testament to the positive outcomes obtained by providing pointed, holistic, patient centered care to this priority population. Meetings already have, and will continue, to be held with the IAM Medical Director Team so that they may both review their individual clinic reports and determine a pointed approach to addressing noted performance discrepancies at the clinic level.

Specific to the goal of suppression, there were some notable findings that will require additional attention:

- Specific to race, there was 7% discrepancy (86% vs 92%, respectively) between those who identified as Black vs White respectively, despite the Black population being a) 56% larger than the white population and b) VL tested at a higher rate than their white counterparts.
- Those with transient or unstable housing (temporary, unstable, or unknown housing status) were much less likely to be virally suppressed (79%, 58%, and 89% respectively) than their stably housed counterparts (89%). The team will utilize internal resources to begin to address these issues. The teams have already begun conversations to develop plans regarding race related health equity issues and how they can best be addressed. Those plans, and associated workflows, will continue to be fleshed out by the clinical team in

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the coming months. Similarly, our eD2C program (Enhanced Data to Care), does the work necessary to enable those who are tenuously housed to obtain the resources and support necessary to re-engage in care with the goal of viral suppression. Leveraging these will enable us to better address gaps identified through this reporting and analysis.

It is also important to examine any notable difference in performance across the clinics from 2020 to 2021. Those changes are noted below:

- Viral Load suppression among newly diagnosed patients; up 7% to 63% from 56% in 2020.
- Resistance testing for active newly diagnosed patients; up 39% to 79% from 40% in 2020.

For the purposes of our proposed quality improvement projects, we will only focus on and utilize IAM specific data. Outcomes of these projects will be disseminated system wide, as appropriate, with the hope that IAM's focused activities and developed best practices have a positive effect on system wide outcomes for PLWH receiving care outside of our clinics.

QI Projects

QI Project #1

Indicator: VL suppression among established active patients

2021 rate for this indicator: 89%

Overall 2022 goal for this indicator: 90%

Description: For the purposes of our proposed quality improvement projects, we will only focus on and utilize IAM specific data. Outcomes of these projects will be disseminated system wide, as appropriate, with the hope that IAM's focused activities and developed best practices have a positive effect on system wide outcomes for PLWH receiving care outside of our clinics. To increase the overall rate of viral suppression to 90% (currently 89% in 2021, was 87% in 2020) across the Institute by June 2023, the IAM Quality Team will begin planning and implementing standardized, but clinic tailored VLS PDSA cycles across all 5 IAM clinics with a targeted completion date of May 2023. Following the Q4 CQI Committee Meeting in November 2022, and with a targeted completion date of May 2023, Medical Directors and their teams will be expected to choose and outline a VLS QI Project as well as identify and begin tracking various process and outcome measures. Given the noted disparities around race and housing, the team will utilize internal resources to begin to address these issues. The teams have already begun conversations to develop plans regarding race related health equity issues and how they can best be addressed. Those plans, and associated workflows, will continue to be fleshed out by the clinical team in the coming months. Similarly, our eD2C program (Enhanced Data to Care), does the work necessary to enable those who are tenuously housed to obtain the resources and support necessary to re-engage in care with the goal of viral suppression. The IAM Quality Team still aims to create and develop a learning collaborative partnering with both NYLinks which provides pointed technical assistance to HIV Treatment providers, and the LEAD Initiative that provides structured assistance for a duration of 12 months with the goal of aiding providers plan and implement pointed CQI initiatives focused on PLWH. With input and buy-in from Senior Leadership and Clinical Leads, IAM aims to achieve and ultimately share the results of this QI project with the IAM CQI Committee, any applicable internal and external stakeholders, and also disseminate lessons learned and best practices to other sites across the MSHS.

QI Project #2

Indicator: 3-day linkage of internally diagnosed patients

2021 rate for this indicator: 56%

Overall 2022 goal for this indicator: 68%

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Description: Mount Sinai IAM clinics aim to increase the internal Linkage of New Diagnosed Patients in 3 days, from 55% to 68% (was 58% in 2020) by December 2023, compared to state indicators and benchmarks. To reach this goal, Mount Sinai IAM clinic's current workflow is to have an HIV care appointment at one of MSHS's HIV Programs within three days of diagnosis. By November 2022, the IAM QI team will present existing HIVQUAL data to Medical Directors, staff, and leadership from IAM's HIV Prevention programs and other relevant stakeholders to gain buy-in and added interest to participate in an ongoing QI project. Proceeding this meeting, by March 2023, Medical Directors will be instructed to conduct a workflow analysis of each clinic's current workflow as a root cause analysis exercise and identify opportunities for enhancement to test as potential change ideas with the Model of Improvement PDSA cycle. By July 2023, clinics will begin implementing at least one change idea as a QI-focused project on immediate LTC and treatment at IAM. Data evaluation of this measure will be on a continuous basis.

QI Project #3

Indicator: VL suppression among newly diagnosed patients

2021 rate for this indicator: 63%

Overall 2022 goal for this indicator: 75%

Description: Mount Sinai IAM clinic aims to increase VLS within 91 days of diagnosis among newly diagnosed patients from 65% to 75% (unchanged since 2020) by December 2023. Mount Sinai IAM clinics will follow their organization's protocol to guide best practices for viral load suppression in newly diagnosed patients. In addition, a three-month follow-up visit is scheduled to assess medication adherence via viral load testing. By December 2022, IAM clinics will implement several PDSA cycles for newly diagnosed patients' suppression within 90 days to evaluate critical principles of the protocol, such as prescribing ARV medication to support medication adherence with this patient population. The QI team will share improvement strategies and evaluation data with all IAM clinics.

Consumer Involvement

Though no consumers have yet been given the opportunity to review these findings, IAM does have quarterly Consumer Advisory Board CQI Committee meetings at each clinic site where these findings and subsequent next steps will be shared.

Coach's Feedback and Updates on Cascade QI Plan

Mount Sinai's methodology and analysis is robust the team has acknowledged the disparities related to race and housing status. Given the high VLS rate across IAM the QI project plan at each clinic focused on Health Equity is a commendable and critical area to address. Also of note is the difference in VLS among Medicaid beneficiaries when compared to other payors (Medicaid = 85% VLS; ADAP = 94%; Private Insurance = 90%; Veterans = 91%; Medicare = 90%). The QI plan, including a learning collaborative as a centralized mechanism for the individual IAM clinics to share best practices, learn QI tools and methodology, and build momentum will be another new and important element toward reaching and sustaining IAM's stated goals. Coach notes that the clinics have not merged and moved as of yet. So, implementation may be challenging. Looking forward to the team reengaging with LEAD and NYLinks coach to implement a learning collaborative among its clinics.