Cascading to the End of the Epidemic: 2018 Review

Courtney Ahmed, Daniel R. Belanger, Charles Gonzalez, Olajumoke Odedele, Laura O'Shea, Steven V. Sawicki, Susan Weigl, Chris Wells

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Overview

An important part of the New York State Department of Health's Ending the Epidemic Initiative is to improve HIV viral load suppression rates since undetectable viral load has been shown to improve health outcomes and prevent the transmission of HIV. To this end, the Office of the Medical Director's Quality of Care Program asks all HIV medical providers in New York State to perform an annual quality of care review. In 2019, providers were asked to review care provided for people living with HIV who were seen at their organizations in 2018.

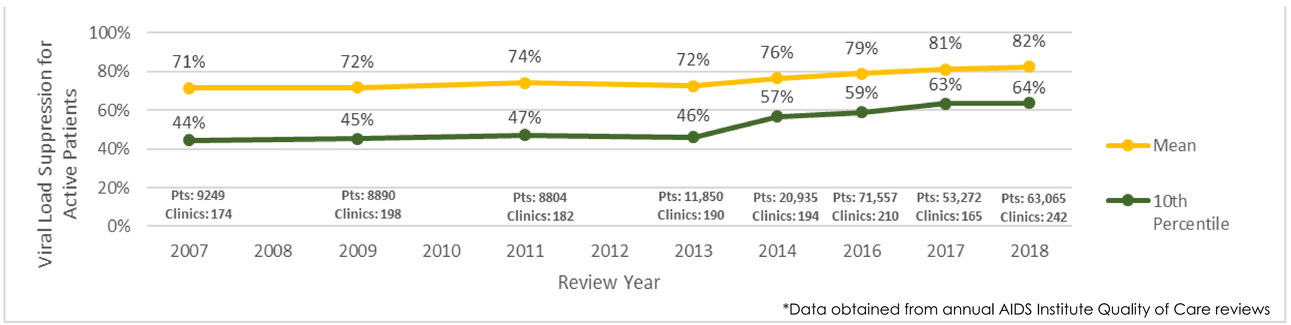
Using an Excel spreadsheet submitted through the State's Health Commerce System, organizations reported data along a continuum of care beginning with linkage to care and culminating in viral load suppression. The data submission template is comprised of multiple functional sections. These include a worksheet for providers to input patient-level data, a sheet for visualizing cascade indicator results as charts, and a sheet with tables automatically generated from the patient-level data. There is also a worksheet for organizations to record their review methodology, key findings, and quality improvement plan. That sheet contains an area for organizations to provide detail on consumer involvement and another for updates on the previous year's cascade improvement plan.

Data were submitted for all HIV+ patients seen in 2018, who were then separated by the template into distinct cohorts of patients. These included patients who were newly diagnosed in 2018, previously diagnosed patients new to HIV care at the organization in 2018, and all other patients with at least one HIV care visit at the organization in the year. This latter cohort is referred to as active patients. A final cohort included all PLWH who received any other type of care or service at the organization but not HIV care (open, non-active patients). Open patients who were known to be in care elsewhere (and those who relocated or died during the review period) were excluded from most analyses.

Key indicators:

- Prescription of ART during the review period
- Viral load test within the review period
- Suppression on final viral load during the review period (previously diagnosed patients)
- Suppression within 91 days of diagnosis (all newly diagnosed patients)
- Linkage to care within 3 days of diagnosis (patients newly diagnosed within the organization)

Ending the Epidemic: Active Patient VLS Rates* from 2007-2018



*Data obtained from annual AIDS Institute Quality of Care reviews

Eligibility and Scoring for Viral Load Suppression Indicator (Final VL of Review Period)

Year	Review	Numerator	Denominator
2007	HIVQUAL	Last viral load during the review period was < 400 cells/mL (either detectable or undetectable).	Patients with at least one visit in each half of the review period who had at least two viral loads during the review period and who were on ART at any time during the review period.
2009	eHIVQUAL	Last viral load during the review period was < 400 cells/mL (either detectable or undetectable).	Patients with at least one visit in each half of the review period who had at least two viral loads during the review period and who were on ART at any time during the review period.
2011	eHIVQUAL	Last viral load during the review period was < 200 copies/mL (detectable) or undetectable using an assay with a sensitivity of 400 copies/mL or less.	Patients with at least one visit during each half of the review period who were on ART for a minimum of 12 weeks by the end of the review period.
2013	eHIVQUAL	Last viral load during the review period was < 200 copies/mL (detectable) or undetectable using an assay with a sensitivity of 200 copies/mL or less.	All patients in the review (at least one HIV primary care visit during the year). Clinics had the option of submitting all eligible patients or a random sample.
2014	eHIVQUAL	Last viral load during the review period was < 200 copies/mL (detectable) or undetectable using an assay with a sensitivity of 200 copies/mL or less.	All patients in the review. For 66 of 193 participating clinics, this inlcuded HIV+ individuals seen in clinic exclusively for non-HIV-specific care. All other clinics submitted either a sample or the entire caseload of enrolled patients seen at least once during the review period.
2016	eHIVQUAL	Last viral load during the review period was < 200 copies/mL (detectable) or undetectable (threshold not specified).	All active patients (enrolled in HIV care) seen at least once during the review period.
2017 & 2018	Cascade	Last viral load during the review period was < 200 copies/mL (detectable) or undetectable using an assay with a sensitivity of 200 copies/mL or less.	"Established" active patients (all active patients seen at least once during the review year except those newly diagnosed or otherwise new to care during review year).

Statewide Cascade Results for 2018

Clinic-level Results

Indicator	Number of Clinics	Number of Clinics with No Applicable Patients	Total Eligible Patients	Minimum	Maximum	Mean	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Ppercentile
ARV therapy among established active patients	242	8	63,065	0%	100%	97%	95%	98%	99%	100%	100%
VL suppression among established active patients	242	8	63,065	0%	100%	82%	64%	79%	87%	93%	100%

Organization-level Results

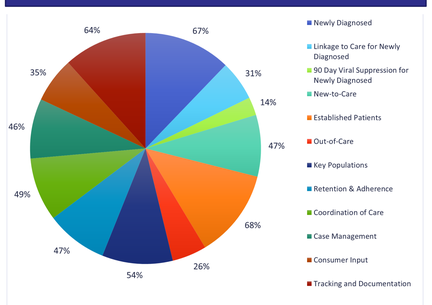
Indicator	Number of Organizations	Number of Organizations with No Applicable Patients	Total Eligible Patients	Minimum	Maximum	Mean	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
VL suppression among newly diagnosed patients	65	24	1,211	0%	100%	44%	0%	29%	45%	55%	72%
ARV therapy among newly diagnosed patients	81	8	1,523	0%	100%	88%	70%	83%	96%	100%	100%
3-day linkage of internally diagnosed patients	78	11	1,107	0%	100%	43%	0%	20%	41%	60%	100%
7-day linkage of internally diagnosed patients	78	11	1,107	0%	100%	57%	13%	34%	58%	83%	100%
30-day linkage of internally diagnosed patients	78	11	1,107	0%	100%	82%	57%	70%	86%	100%	100%
90-day linkage of internally diagnosed patients	78	11	1,107	50%	100%	88%	63%	82%	95%	100%	100%

Participating Organizations

Organization	Newly Diagnosed	Linkage to Care for Newly Diagnosed	90-day Suppression for Newly Dx	New-to-Care	Established Patients	Out-of-Care	Key Populations	Retention & Adherence	Coordination of Care	Case Management	Consumer Input	Tracking and Documentation
Acacia Network				•	•	•					•	•
Albany Medical Center	•	•	•			•					•	
Apicha Community Health Center	•	•	•			•				•	•	•
Arnot Health					•	•	•	•				•
Bedford Stuyvesant Family Health Center, Inc.				•	•	•	•	•	•		•	
Betances Health Center	•		•	•		•		•		•		
Brightpoint Health	•			•	•		•	•	•	•		•
BronxCare Health System - Department of Family Medicine	•	•		•	•	•			•	•		•
Brookdale University Hospital Medical Center	•	•	•	•	•	•			•			•
Brooklyn Plaza Medical Center, Inc.					•				•			•
Brownsville Community Development Corporation	•					•	•		•			•
Care for the Homeless	•			•	•			•				
Center for Comprehensive Health Practice						•						•
Community Health Project, Inc.						•		•	•	•		•
Cornerstone Family Healthcare	•	•						•				
Crystal Run Healthcare												•
Damian Family Care Centers		•					•			•	•	
East Harlem Council for Human Services, Inc.	•	•		•			•		•	•		
Ellis Medicine	•	•			•	•				•	•	
Erie County Medical Center			•	•			•		•	•	•	
Harlem United				•			•			•		•
Housing Works	•					•	•			•		
HRHCare Community Health	•						•			•	•	•
Hudson Headwaters Health Network					•		•		•			•
Institute for Family Health	•				•							•
Interfaith Medical Center	•			•	•			•				
Jamaica Hospital Medical Center	•			•	•	•						•
Jordan Health	•			•	•		•				•	
Joseph P. Addabbo Family Health Center				•	•			•			•	•
Kingsbrook Jewish Medical Center	•			•	•	•	•	•	•	•		•
Maimonides Medical Center	•	•										
Medalliance Medical Health Services	•			•	•						•	•
Mohawk Valley Health System	•					•	•	•	•			
Montefiore Health System	•			•	•	•	•	•	•			•
Montefiore Mount Vernon Hospital	•											
Morris Heights Health Center	•			•	•			•				•
Mount Sinai Health System	•			•	•	•	•		•		•	•
Mount Vernon Neighborhood Health Center Network	•			•	•	•						
New York-Presbyterian - Queens	•	•							•			
NewYork-Presbyterian - Brooklyn	•	•	•									
NewYork-Presbyterian - East	•				•	•				•		•
NewYork-Presbyterian - West		•		•		•			•			•
Northwell Health - CART	•						•	•	•	•	•	•
Northwell Health - CYAAPH	•			•	•		•	•	•	•		•
Northwell Health - Lenox Hill	•	•	•									
Northwell Health - SIUH	•			•	•		•	•	•	•		•
Nulhealth					•	•	•	•		•	•	•
NYU Langone Health - FHC	•	•					•		•			•
Open Door Family Medical Centers and Foundation												
Project Renewal	•		•	•	•			•		•		•
Richmond University Medical Center					•			•	•	•		•
Rochester Regional Health	•	•		•	•			•		•		•
Ryan Network	•			•	•			•				•
Samaritan Health Systems	•	•		•	•			•				
Settlement Health	•			•	•					•	•	•
St. John's Riverside Hospital					•	•				•		
START Treatment and Recovery Centers				•					•	•	•	•
Stony Brook Medicine					•		•	•	•	•		
SUNY Downstate	•			•	•		•	•		•	•	•
SUNY Upstate Medical University				•	•		•	•	•			•
Syracuse Community Health Center, Inc.	•	•			•		•				•	•
The Brooklyn Hospital Center	•	•		•						•	•	•
The Evergreen Association	•			•	•	•		•				
Trillium Health	•			•	•						•	•
UHS	•			•	•				•		•	•
University of Rochester Medical Center	•				•	•	•		•			
Urban Health Plan	•			•	•		•	•	•	•		
VIP Community Services				•	•			•				•
West Midtown Medical Group							•	•				
Westchester Medical Center Health Network	•	•	•									
Whitney Young Health					•		•					
Wyckoff Heights Medical Center	•	•		•			•	•	•	•	•	•

Areas of Focus

2019 QI Plan Areas of Focus



Using QI to Overcome Obstacles to Suppression

Name of Organization	2017 Quality Improvement Activities	2017 VLS	2018 VLS
Albany Medical Center	Advertising HIV testing to patients with STI testing, implementing same-day appointment policy, trauma informed care committee, enrolling unsuppressed in case management	91.0%	92.7%
Apicha Community Health Center	Real-time data tracking system, evaluating clinical workflows, hiring more medical providers, establishing patient panel, lost-to-care outreach	89.0%	93.1%
Bedford Stuyvesant Family Health Center, Inc.	Case conferencing with MSM, 20-24, and 30-39 age groups	86.0%	89.2%
Brookdale University Hospital Medical Center	Expanded access to patient navigation, case management, and educational support services	86.0%	89.7%
Cornerstone Family Healthcare	Text messaging outreach, capturing PCP information	84.8%	88.1%
East Harlem Council for Human Services, Inc.	Case conferencing, care coordination between medical team and social worker, monitoring HIV registry	79.0%	84.5%
Ellis Medicine	Quarterly meetings with community partners, behavioral health social worker, text messaging outreach, peer support	88.4%	92.2%
Hudson River Healthcare	Stigma reduction plan, adherence education, expanded provider availability, expanded RAP program, improved accuracy and usability of Spotfire, text messaging outreach	85.6%	89.6%
Institute for Family Health	Increased adherence services and peer support, consumer input in HIV QI committee, monthly chart review conducted by HIV medical director	80.2%	90.3%
Joseph P. Addabbo Family Health Center	Phone calling, patient education on preventative services	86.5%	87.6%
New York-Presbyterian - Brooklyn	Daily reporting of HIV screening results to Infectious Diseases Division	89.3%	97.9%
New York-Presbyterian - Queens	Identifying and discussing barriers to care, increasing active patient outreach	93.0%	96.0%
New York-Presbyterian - West	Institutional HIV dashboard, linkage team	85.0%	87.9%
NYU Langone Health - FHC	Disparities report, interdisciplinary case conferencing, monthly monitoring of VLS, discussions with CAB	87.6%	88.8%
Settlement Health	Regular appointment reminders, organization-wide quarterly QI reports, monitoring patient compliance, pre-visit planning	84.0%	86.1%
START Treatment and Recovery Centers	Monthly multidisciplinary assessments by a RAP counselor, continuing medical education on HIV for HIV team members	82.0%	87.5%
Trillium Health	Rapid Start program, increasing clinic access, obtaining VL reports from outside labs	90.0%	92.2%
Urban Health Plan	Patient feedback through quality of care evaluations and Healthy Cooking Kitchen, HIV-focused training for clinical social workers and social service support staff	83.6%	84.7%

Results/Current Work

- The cascade review engages providers in reviewing and improving processes for engaging patients and increasing viral suppression rates.
- No major changes will be made to the current indicators for the 2019 Organizational HIV Treatment Cascades.
- Strategies are currently being discussed to improve the submission process.
- We are pursuing options to enhance providers' ability to identify open patients within the organization.

Acknowledgements

- Thank you to all 72 organizations that participated and to all coaches that worked diligently with their respective sites. Their hard work made for a successful 2018 review!

- Ikeda DJ, Hollander L, Weigl S, Sawicki SV, Belanger DR, West NY, Magnani NB, Wells CG, Gordon P, Morne J, et al. The Facility-Level HIV Treatment Cascade: Using a Population Health Tool in Health Care Facilities to End the Epidemic in New York State. *Open Forum Infectious Diseases*. 2018;5(10). doi:10.1093/ofid/ofy254

Using Quality Improvement Data to Address Disparities in Healthcare Outcomes

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Overview

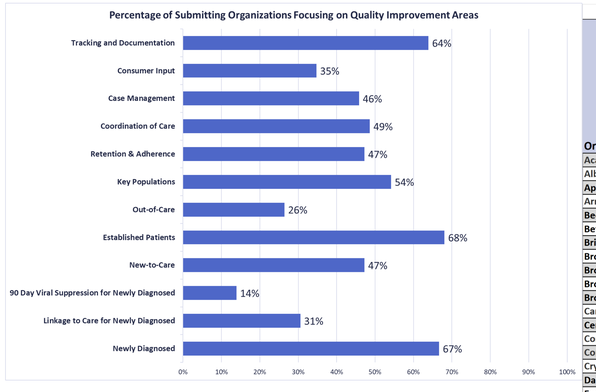
An important part of the New York State Department of Health's Ending the Epidemic Initiative is to improve HIV viral load suppression rates since undetectable viral load has been shown to improve health outcomes and prevent the transmission of HIV. To this end, the Office of the Medical Director's Quality of Care Program asks all HIV medical providers in New York State to perform an annual quality of care review. As part of the 2019 annual HIV Quality of Care Program Review, organizations were expected to complete the Organizational HIV Treatment Cascade Data Submission Excel Template for care provided in 2018. The results of their submission show improved rates of viral load suppression (VLS) on average. Benchmark reports created for established HIV care patients show clinic averages for anti-retroviral (ARV) prescription at 97%, viral load testing at 95%, and suppression on final viral load at 82%. Quality improvement (QI) data suggest a link between these outcomes and QI activities, simultaneously submitted through the Data Submission Excel Template.

The Data Submission Excel Template included a section to input patient-level data, a section for visualizing cascade indicator results as charts and tables (automatically generated from the provided patient-level data), and a section for the organization's methodology, key findings, and quality improvement plan, including consumer involvement and updates on recent QI projects and stigma reduction activities. Using the template, providers were able to access results by age, sex, gender, race/ethnicity, risk factor and housing status presented in graphic form to illuminate areas for additional improvement focus. After analyzing review results, providers then developed QI plans in collaboration with consumers and submitted them as part of the review. Their planned quality improvement activities are categorized and presented in aggregate. Targeted QI activities implemented in 2017 to address disparities in specific subpopulations are also presented in conjunction with improved VLS rates for those subpopulations in 2018.

Key indicators:

- Prescription of ART during the review period
- Viral load test within the review period
- Suppression on final viral load during the review period (previously diagnosed patients)
- Suppression within 91 days of diagnosis (all newly diagnosed patients)
- Linkage to care within 3 days of diagnosis (patients newly diagnosed within the organization)

2019 QI Plan Areas of Focus



Participating Organizations

Organization	Newly Diagnosed	Linkage to Care for Newly Diagnosed	90 Day Viral Suppression for Newly Dx.	New-to-Care	Established Patients	Out-of-Care	Key Populations	Retention & Adherence	Coordination of Care	Case Management	Consumer Input	Tracking and Documentation
	Areas of Focus											
Acacia Network					+	+	+			+		+
Albany Medical Center	+	+	+				+				+	
Apicha Community Health Center	+	+	+				+			+	+	+
Arnot Health						+	+	+	+			+
Bedford Stuyvesant Family Health Center, Inc.					+	+	+	+	+	+		+
Betances Health Center	+		+	+	+			+		+		
Brightpoint Health	+			+	+		+	+	+	+		+
BronxCare Health System - Department of Family Medicine	+	+		+	+	+			+	+		+
Brookdale University Hospital Medical Center	+	+	+	+	+	+	+		+			+
Brooklyn Plaza Medical Center, Inc.					+		+		+			+
Brownsville Community Development Corporation	+					+	+		+			+
Care for the Homeless	+			+	+			+				
Center for Comprehensive Health Practice							+					+
Community Health Project, Inc.					+		+		+	+		+
Cornerstone Family Healthcare	+	+							+			
Crystal Run Healthcare												+
Damian Family Care Centers		+				+					+	+
East Harlem Council for Human Services, Inc.	+	+		+			+		+	+	+	
Ellis Medicine	+	+		+	+		+		+		+	
Erie County Medical Center			+		+			+	+	+		+
Harlem United				+			+			+		+
Housing Works	+					+	+		+	+		+
HRHCare Community Health	+						+			+	+	+
Hudson Headwaters Health Network					+		+	+		+		+
Institute for Family Health	+				+		+				+	
Interfaith Medical Center	+			+	+			+				
Jamaica Hospital Medical Center	+				+	+	+					+
Jordan Health	+				+	+			+			
Joseph P. Addabbo Family Health Center				+	+				+		+	+
Kingsbrook Jewish Medical Center	+				+	+	+	+	+	+		+
Maimonides Medical Center	+	+										
Medaliance Medical Health Services	+			+	+						+	+
Mohawk Valley Health System	+				+		+	+	+		+	+
Montefiore Health System	+			+	+		+	+	+	+		
Montefiore Mount Vernon Hospital	+			+	+							+
Morris Heights Health Center	+			+	+			+			+	
Mount Sinai Health System	+			+	+	+	+		+		+	+
Mount Vernon Neighborhood Health Center Network	+		+	+	+							
New York-Presbyterian - Queens	+	+								+		
NewYork-Presbyterian - Brooklyn	+	+	+									
NewYork-Presbyterian - East		+			+	+	+			+		+
NewYork-Presbyterian - West		+		+		+			+			+
Northwell Health - CART	+					+	+	+	+	+	+	+
Northwell Health - CYAAPH	+			+	+		+	+	+	+		+
Northwell Health - Lenox Hill	+	+	+									
Northwell Health - SIUH	+	+		+	+		+	+	+	+		+
NuHealth					+	+	+	+			+	+
NYU Langone Health - FHC	+	+					+		+			+
Open Door Family Medical Centers and Foundation	+											
Project Renewal	+		+	+	+			+		+		+
Richmond University Medical Center					+			+	+	+		+
Rochester Regional Health	+	+		+	+	+		+	+	+		+
Ryan Network		+			+			+				+
Samaritan Health Systems	+			+	+			+		+		
Settlement Health	+			+	+						+	+
St. John's Riverside Hospital					+	+				+		
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SUNY Upstate Medical University					+		+	+	+		+	+
Syracuse Community Health Center, Inc.	+	+			+		+				+	+
The Brooklyn Hospital Center	+	+		+	+					+	+	+
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Trillium Health	+			+	+						+	+
UHS	+			+	+				+		+	+
University of Rochester Medical Center	+				+	+	+	+		+		
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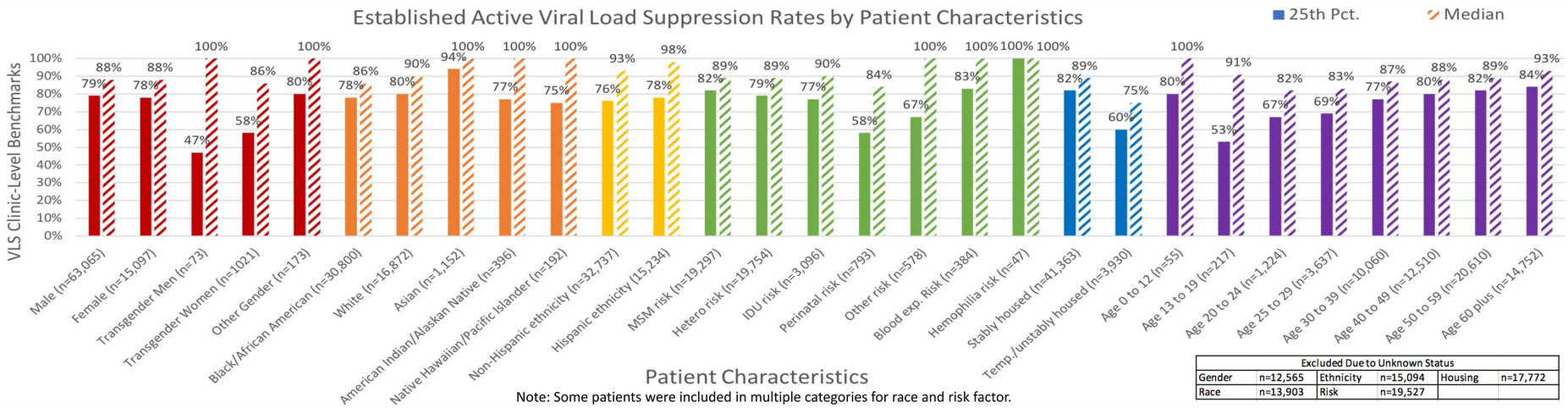
West Midtown Medical Group							+	+				
Westchester Medical Center Health Network	+	+	+				+					
Whitney Young Health					+		+	+				
Wyckoff Heights Medical Center	+	+		+			+	+	+	+	+	+

2018 Viral Load Suppression Rates* by Patient Characteristics

*Data obtained from annual AIDS Institute Quality of Care reviews



Excluded Due to Unknown Status					
Gender	n=12,565	Ethnicity	n=15,094	Housing	n=17,772
Race	n=13,903	Risk	n=19,527		

Note: Some patients were included in multiple categories for race and risk factor.

Impact of Targeted QI Activities* on Disparities in Viral Load Suppression Rates

*Selected from sites' quality improvement plan submissions

Organization	Subpopulation Targeted	2017 QI Activities	Established Active VLS from 2017-2018 for Subpopulation
Brightpoint Health (currently known as Hudson River Healthcare's NYC Division)	Unstably housed	Referring and enrolling patients in care coordination and care management services	+27% points (33% to 60%)
Housing Works	20-29 year-olds	Conducting targeted outreach via Youth and Prevention Services	+18% points (60% to 78%)

Organization	Subpopulation Targeted	Planned QI Activities	Goals for Subpopulation Established Active VLS in 2019
Brightpoint Health (currently known as Hudson River Healthcare's NYC Division)	Transgender patients	Increased referral and enrollment into Undetectables Program and RAP; partnership with CK Life to address barriers and social determinants of health for trans population	Increase from 46% to 51%
Northwell CART	Black/African American and Latina women	Develop U=U educational tool and measure patient understanding; monitor viral loads; create dashboard with metrics	Increase to 93%
SUNY Upstate Medical University	Hispanic/Latino patients	Referral to Spanish-speaking provider; switching patients to Upstate pharmacy to allow close care coordination and enhanced services	Increase by 5% points
University of Rochester Medical Center	Ages 20-29	Multidisciplinary team meetings to discuss efforts to help reduce barriers to visit and medication adherence; reminder phone calls one day prior to scheduled appointments; quarterly outreach calls for patients not seen in over 6 months	Increase from 79% to 83%

Conclusion and Next Steps

Organizational treatment cascades can help to identify disparities in healthcare outcomes. When combined with quality improvement methodology, and technical assistance coaching, significant improvements in crucial health outcomes such as HIV viral load suppression can be achieved for specific subgroups of patients. This can help to mitigate and potentially eliminate disparities in health outcomes. Organizations will continue to measure and revise process changes. The 2020 review of care provided in 2019 will reveal whether improvements made in 2018 have had the desired impact for specific patient subgroups. The 2020 cascade review will also suggest if improvement activities have had an organizational as well as a statewide impact on viral load suppression outcomes.