



# New York State HIV Quality of Care Program

## Annual Data Report Based on 2017 Performance Data

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## Background

The New York State Department of Health (NYSDOH) AIDS Institute HIV Quality of Care (QOC) Program, overseen by the Office of the Medical Director (OMD), is committed to promoting the quality of HIV clinical care and supportive services delivered to people with HIV in New York State (NYS). The program is dedicated to building capacity for quality management (QM) in HIV programs throughout the state. Program activities include performance measurement of clinical care and services, quality improvement (QI) coaching and consultation, peer learning, and collaborative participation of clinical experts and consumer representatives.

The Quality of Care Program is committed to ensuring that HIV patients receive the best care to achieve optimal health, including viral load suppression. Performance data focusing on viral suppression are a vital component of the Ending the Epidemic (EtE) metrics and drive actions by providers to achieve the goals set forth in the Governor's EtE Initiative.

The 2018 New York State HIV Quality of Care Program review of care provided in 2017 was developed using a treatment cascade approach focused on activities directly linked to the EtE Initiative. Providers were asked to measure linkage to care, ART prescription, viral load testing, and viral load suppression and to present their data in treatment cascade format. In addition, providers were asked to submit the following:

- Quality review methodology
- Data analysis
- Plans to improve aspects of HIV care as indicated by the cascades
- Consumer involvement in the cascade quality improvement plan

Providers used their data to focus on improving viral load suppression results for subgroups of patients identified in the review using case management, peer support, and ARV education interventions.

The review was initiated in January 2018 with an initial deadline for submission of May 30, 2018. Unlike some previous years, where providers could submit data on a random sample of eligible patients, each participating organization was asked to submit data on all their patients diagnosed with HIV. Also distinct from previous submission periods, providers were not asked to submit patient-level data for the review of care provided in 2017, submitting instead only aggregate data. Some organizations were granted extensions due to challenges in collecting the required data.

## Overview of Design and Methodology

NYS Totals (All Included Submissions: 64 out of 79 requested)	
All HIV+ Patients	86,152
Newly Diagnosed or New to Clinic	7,813
All HIV+ Patients except Newly Diagnosed or New to Clinic	78,339
Open Patients (after exclusion for death, incarceration, or external care)	69,852
Established Active Patients (ongoing enrollment in HIV ambulatory care)	53,272

Through review of previous submissions and correspondence with providers, OMD identified a total of 79 medical organizations, including community health centers, drug treatment centers, and hospitals, that provided clinical care to HIV-infected individuals in 2017. As of November 21, 2018, the final deadline for cascade submissions, cascade reviews were submitted for 65 organizations. Of these, 64 were approved by the Quality of Care Program as complete.

HIV provider organizations submitted their individually crafted cascade reviews, which contained no patient level data, to the Quality of Care program via email. Participating organizations abstracted, analyzed, and presented organization- and clinic-level data using various methods that they described in a written statement. Cascade graphs were used to display results for new to care, newly diagnosed, open, and established active patient populations. Additional aggregate patient characteristics data were presented as well in either graph or table format. Organizations also submitted their key findings and compared them to results from the previous quality review. In addition, they submitted a quality plan based on the results of their analysis and an explanation of how consumers are included in the quality improvement process. Coaches, program assistants and an OMD data analyst used a data abstraction template to calculate aggregate numbers for various patient groups, ensure accuracy (to the degree possible), and alert organizations when the data needed to be checked or resubmitted. In addition to checks for data integrity, the submissions were reviewed for the clarity of methodology and the viability and appropriateness of their quality improvement and consumer involvement plans.

## Eligibility Criteria

All people with HIV who received care of any kind anywhere in the organization between 1/1/2017 and 12/31/2017 were eligible to be included in the organizational treatment cascade review of care provided in 2017. Patients were eligible for the review whether the care they received was inpatient, outpatient or emergent. This included all newly diagnosed patients linked to care at the organization, all patients new to care in 2017 at the organization, all people with HIV who received care other than HIV care, and all patients who received HIV care. Patients who were deceased by the end of the review period and those who were incarcerated or receiving care externally by the end of the review period were excluded from most indicators. Since this was an aggregate review, no patient identifiers were included in the submission.

## Submission Process

Providers developed and implemented a process of extracting data from organizational charting systems such as electronic medical record systems. Data for newly diagnosed, new to care, open inactive and established active patients were organized by the providers into separate treatment cascades. Cascades for each of the patient populations were developed for the entire organization, and clinic-level cascades were also prepared for the established active patients. Data were submitted for ARV prescription, viral load test and viral load suppression. Additional data were presented using optional graphic displays for linkage to care, exposure risk factors, and patient demographics. These additional data were presented at the organizational level only.

A methodology section was included in the submission in which providers explained their process for extracting, analyzing, and presenting the data as well as for the development of a quality improvement plan and consumer involvement in the plan. The submission included a section in which the provider

offered an update of their previous cascade quality improvement plan, a section on data analysis, a quality improvement plan based on that analysis, and consumer involvement in the improvement plan.

Providers were able to submit these data in Word, PowerPoint, Excel or .pdf format, sending the completed aggregate review once completed to the program via email. These submissions were reviewed by the data analyst, program assistants, and quality coach using an Excel data abstraction template. If corrections were needed, the quality coach contacted the provider, who made the corrections and then resubmitted using the group email address for this project.

## Data Validation and Analysis

The Quality of Care Program (QOC) analyzed all reviews submitted by November 21, 2018, for completeness and data integrity. Indicator data from charts and graphs submitted by organizations were manually entered into data abstraction spreadsheets designed in Excel. Data were abstracted and organized under the following categories: new-to-care cascades, open patient cascades, open non-active patients by service, active patient cascades, and active patient demographic groups. Validation criteria comprised logic checks to ensure that totals matched across different cascades, denominators for all measures equaled total eligible patients, the number of patients suppressed did not exceed the number of patients tested, and so forth. Data that passed the logic checks were coded 'green'; data that failed the logic checks were coded 'red'; and missing data were coded 'yellow.' Quality program coaches contacted their sites to correct errors or request missing data so that their submissions could pass the data validation phase and move to the final stage of review: case conferencing with each site's respective coach and the medical director to assess the overall quality of the submission.

Submissions were then approved based on the thoroughness of sites' quality improvement plans in relation to the data presented. Some submissions which met core requirements were approved despite not providing all requested data elements: 8 organizations did not provide outcomes among active patients by some or all of the requested demographic groups; 8 organizations did not distinguish between internally diagnosed and externally diagnosed patients among those excluded from the review; and 10 organizations did not distinguish between internally and externally diagnosed patients when reporting ARV prescription rates, viral load testing, and suppression among newly diagnosed patients. By the end of the review process, 64 out of 79 requested submissions were approved for inclusion in the 2018 review of care provided in 2017. Denominators throughout the report reflect all available data from accepted submissions.

## Key Findings

### Newly Diagnosed Patients

#### Linkage to Care

The mean organization-level rate of patients newly diagnosed within the reporting organization who were linked within 3 days (or within 30 days for inpatients) was 64% (n=1,056 patients at 58 organizations; IQR=42%-100%). Some, but not all, organizations also provided data about linkage to care after 3 days.

### [Prescription of ARV](#)

ARV prescription benchmarks were calculated for newly diagnosed patients, where the mean organization-level rate for patients internally diagnosed was 83% (n=1,036 patients at 49 organizations; IQR=78%-100%) and the mean rate for patients externally diagnosed was 93% (n=434 patients at 30 organizations; IQR=93%-100%). Of note, however, we did not collect the diagnosis date (just the year), and some of these patients were likely diagnosed within the last few weeks of the review period.

### [Viral Load Testing](#)

Viral load testing benchmarks were calculated for newly diagnosed patients, where the mean organization-level rate for at least one test in 2017 among patients internally diagnosed in 2017 was 87% (n=1,036 patients at 49 organizations; IQR=86%-100%) and the mean rate for patients externally diagnosed in 2017 was 95% (n=434 patients at 30 organizations; IQR=98%-100%).

### [Viral Load Suppression](#)

Benchmarks for suppression on final viral load were calculated for newly diagnosed patients, where the mean organization-level rate for internally diagnosed patients was 56% (n=1,036 patients at 49 organizations; IQR=50%-91%) and the mean rate for externally diagnosed patients was 71% (n =434 patients at 30 organizations; IQR=51%-100%).

## Previously Diagnosed Patients

### [Established Active Patients](#)

#### [Prescription of ARV](#)

Antiretroviral therapy usage was measured for all patients. The mean clinic rate for ART prescription among active patients during the 2017 review period was 97% for all included clinics with eligible patients (n=53,272 patients at 165 clinics; IQR=97%-100%). Prescription rates are also characterized in this report by gender, race, risk factor, age, and housing status.

#### [Viral Load Testing](#)

The mean clinic rate for viral load testing among active patients was 95% for all included clinics with eligible patients (n=53,272 patients at 165 clinics; IQR=97%-100%).

#### [Viral Load Suppression](#)

A key HIV measure is the viral load suppression (VL<200 copies/mL) rate, as measured by the last viral load of the year. The mean clinic rate for all active patients who had at least one visit in 2017 was 81% for all included clinics with eligible patients (n=53,272 patients at 165 clinics; IQR=77%-91%). This value does not include patients who were new to the clinic and, like other summary statistics in this report, may be affected by missing data for 15 organizations. Suppression rates are also characterized by gender, race, risk factor, age, and housing status. Patients without a viral load value recorded during the 2017 review period were considered unsuppressed.

### [Other New-to-Care Patients](#)

#### [Prescription of ARV](#)

Antiretroviral therapy usage was measured for all patients. The organization-level rate for ART prescription among previously diagnosed but new-to-clinic patients during the 2017 review period was 90% for all included clinics with eligible patients (n=5,924 patients at 53 organizations; IQR=89%-100%).

### [Viral Load Testing](#)

The mean organization-level rate for testing of previously diagnosed but new-to-clinic patients was 94% (n=5,924 patients at 53 organizations; IQR=93%-100%).

### [Viral Load Suppression](#)

The benchmarks for new-to-clinic patients were calculated separately from other previously diagnosed patients. The mean organization-level rate for new-to-clinic patients was 68% (n=5,924 patients at 53 organizations; IQR=62%-80%). Patients without a viral load value recorded during the 2017 review period were considered unsuppressed.

### [Unknown Status Patients](#)

The data provided on ARV prescription, VL testing and viral suppression among “unknown status” patients (those neither enrolled in care nor known to be incarcerated, deceased, or receiving ongoing HIV care at another provider within NYS) may reflect limitations of documentation more than actual outcomes. However, they do provide a lower bound for these measures. Of the 64 organizations included in this report, 6 reported no unknown status patients, and one reported rates of ARV prescription, VL testing and suppression that exceeded 100%. Benchmarks for the remaining 57 organizations are provided here.

### [Prescription of ARV](#)

The mean organization-level rate of documented ARV prescription among unknown status patients was 24% (n=16,577 patients at 57 organizations; IQR=0%-39%).

### [Viral Load Testing](#)

The mean organization-level rate of documented VL testing among unknown status patients was 13% (n=16,577 patients at 57 organizations; IQR=0%-18%).

### [Viral Load Suppression](#)

The mean organization-level rate of documented VL suppression (on final test in 2017) among unknown status patients was 9% (n=16,577 patients at 57 organizations; IQR=0%-10%).

## Summary

NYS Totals (All Included Submissions: 64 Out of 79 Requested)	
All HIV+ Patients	86,152
Newly Diagnosed or New to Clinic	7,813
All HIV+ Patients Except Newly Diagnosed or New to Clinic	78,339
Open Patients (after exclusion for death, incarceration, or external care)	69,852
Active Patients (enrolled in HIV ambulatory care)	53,272

Patient Volume: Newly Diagnosed and Other New to Care Patients per Organization			
Benchmark	Internally Diagnosed in 2017	Externally Diagnosed in 2017	Other New-to-Clinic (Previously Diagnosed)
Average	16.5	6.8	98.7
90 <sup>th</sup> Percentile	23.4	19.7	218.1
75 <sup>th</sup> Percentile	14.0	11.0	81.5
Median	7.5	1.0	35.0
25 <sup>th</sup> Percentile	2.0	0.0	14.8
10 <sup>th</sup> Percentile	1.0	0.0	3.6

Previously Diagnosed Patient Volume: Organization-Level Statistics			
Benchmark	Total HIV+ Patients	Percent Excluded	Open-to-Active Ratio
Average	1224	15%	1.44
90 <sup>th</sup> Percentile	1872	42%	1.82
75 <sup>th</sup> Percentile	1064	20%	1.31
Median	438	8%	1.10
25 <sup>th</sup> Percentile	227	2%	1.03
10 <sup>th</sup> Percentile	100	0%	1.00

Active Patient Volume: Clinic-Level Statistics	
Benchmark	Number of Established Active Patients in Each Clinic (165 Clinics Included in the 64 Organizations)
Average	323
90 <sup>th</sup> Percentile	880
75 <sup>th</sup> Percentile	322
Median	92
25 <sup>th</sup> Percentile	22
10 <sup>th</sup> Percentile	4

2017 Established Active Patient Benchmarks: Clinic-Level Data			
Benchmark (n=165 clinics)	On ART	Tested for VL	Suppressed on Final VL
Average	97%	95%	81%
90 <sup>th</sup> Percentile	100%	100%	96%
75 <sup>th</sup> Percentile	100%	100%	91%
Median	99%	99%	86%
25 <sup>th</sup> Percentile	97%	97%	77%
10 <sup>th</sup> Percentile	92%	90%	63%

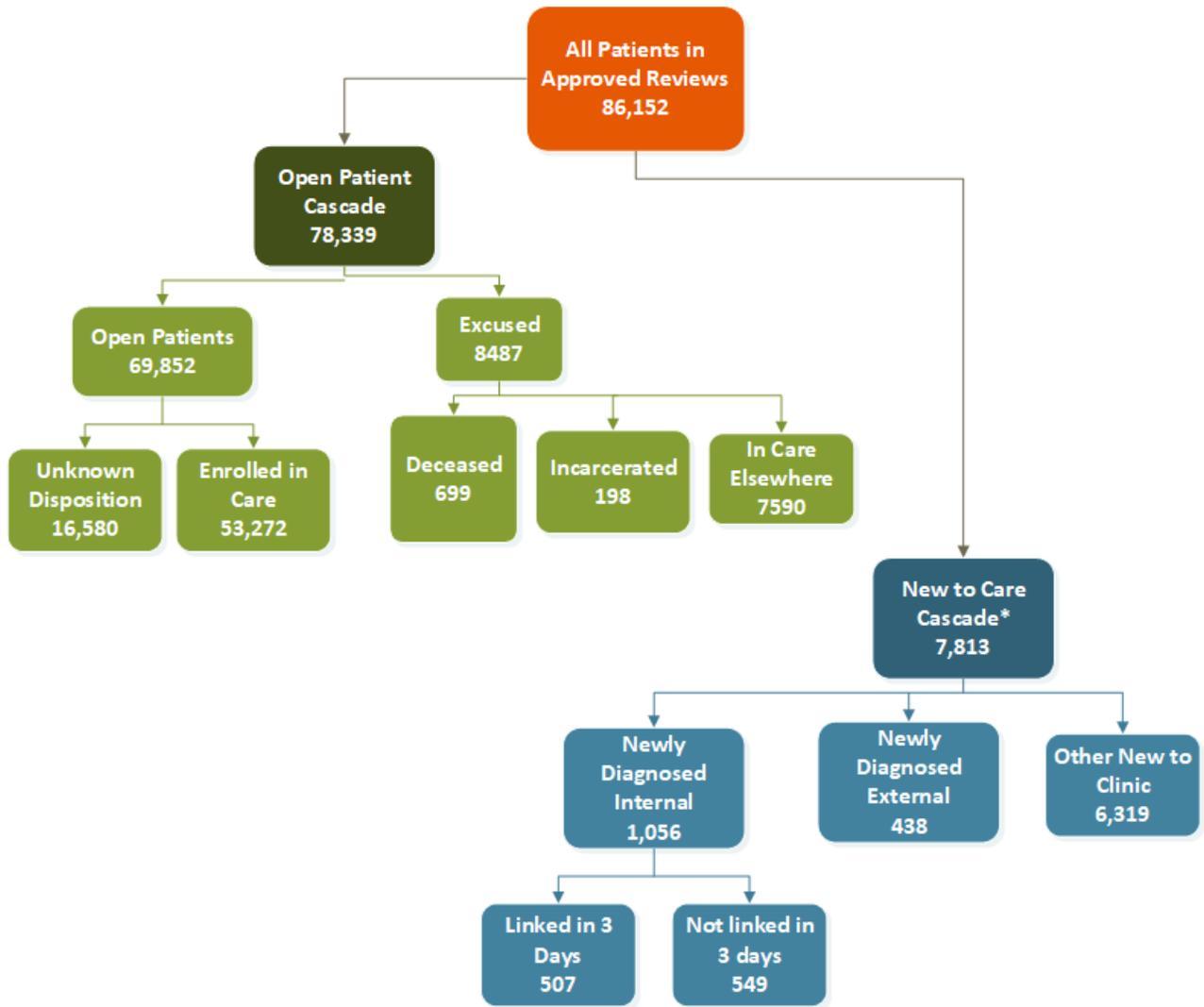
The data presented above cannot be compared precisely with results from previous years for a few methodological reasons:

- 1) Previous results were derived from patient-level data submitted through the eHIVQUAL web application while this year’s analysis was based on pre-aggregated results abstracted from written reports from the participating providers.
- 2) Successful participation in this year’s review was somewhat lower than usual at 81% (64/79), and some organizations that were approved only submitted some of the requested data.
- 3) Unlike previous reviews, in 2017 we did not ask for clinic-level attribution of either newly diagnosed or other new to care (transfer) patients, just those established in HIV care.

The results appear to be generally consistent with recent findings. In particular, the mean clinic suppression rate for previously diagnosed active patients in 2016, including “established” and “transfer” patients, was 80%; the 2017 rate excluding the “transfer” patients, who tend to have lower suppression rates, was 81%. We also still see variation in these outcomes by regions and among subpopulations. Among clinics in New York City, the average suppression rate was 78%; for clinics outside NYC, the average rate was 87%. While the total suppression rate among all active patients (which is higher than the clinic mean since smaller clinics more often have very low rates) was 91% for white patients, it was 83% for Black patients. Lower than average rates were also seen for transgender patients (77%), temporarily and unstably housed patients (59% and 77%, respectively), perinatally infected patients (73%), and younger patients generally (75%, 75%, 78%, and 83% for patients aged 13 to 19, 20 to 24, 25 to 29, and 30 to 39, respectively).

# Scope of Review

## 2017 Open vs. New to Care Patients

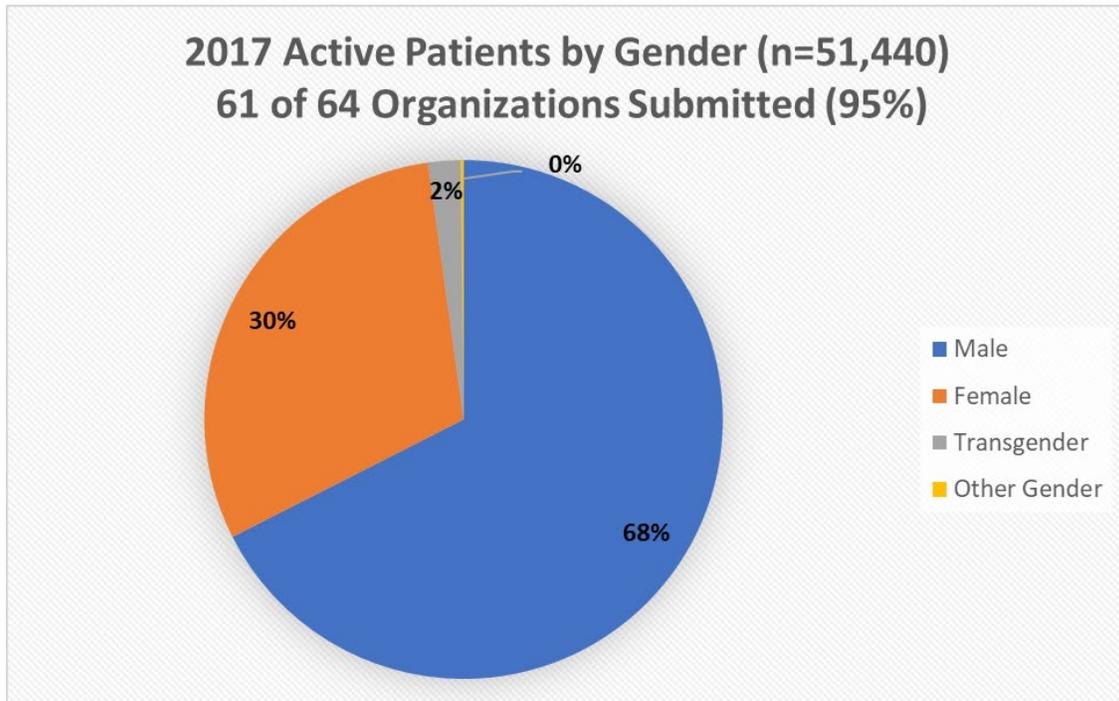


\*Of these patients, some were reported as either in care elsewhere (n=69) or deceased (n=4) without specifying when and how they were diagnosed. Additional exclusions were made for patients with reported diagnosis status: [a] newly diagnosed external: incarcerated (n=1), in care elsewhere (n=3); [b] newly diagnosed internal: deceased (n=2), in care elsewhere (n=18); [c] other new to clinic: deceased (n=5), incarcerated (n=2), in care elsewhere (n=7). These exclusions, along with others for separate methodological reasons, are reflected in the denominators for the new-to-care indicators presented in this report. All patients diagnosed internally in 2017 were eligible for the linkage indicator, regardless of exclusion for other indicators.

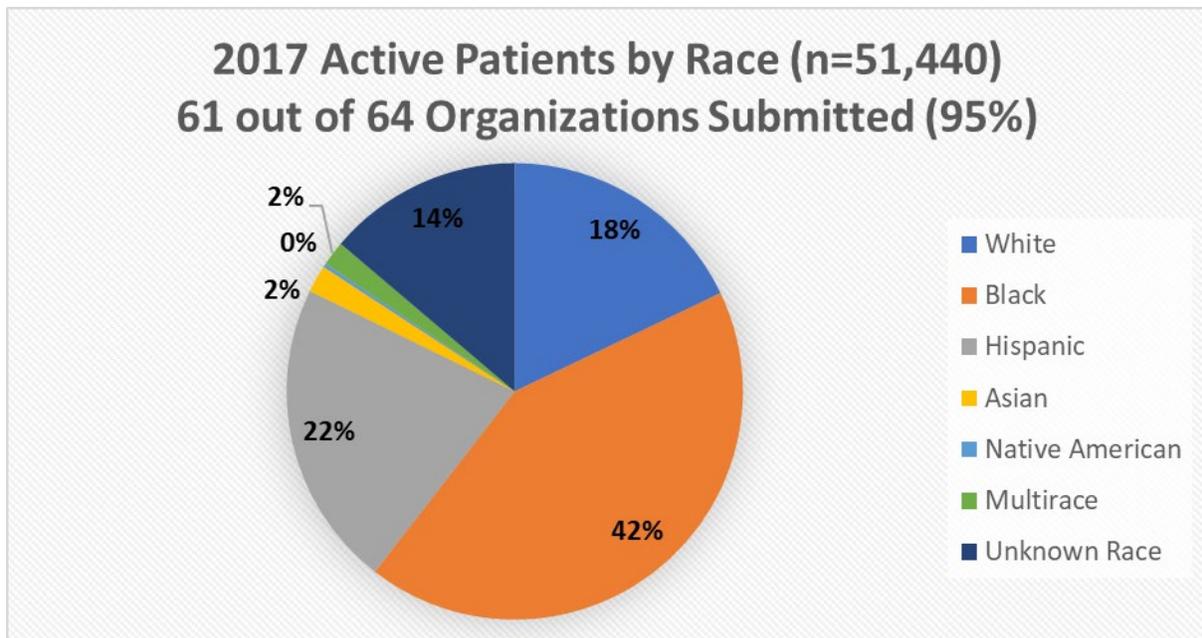
## Established Active Patient Characteristics

**NB:** Some accepted reviews did not have data reported by demographic characteristics and are not included in these charts.

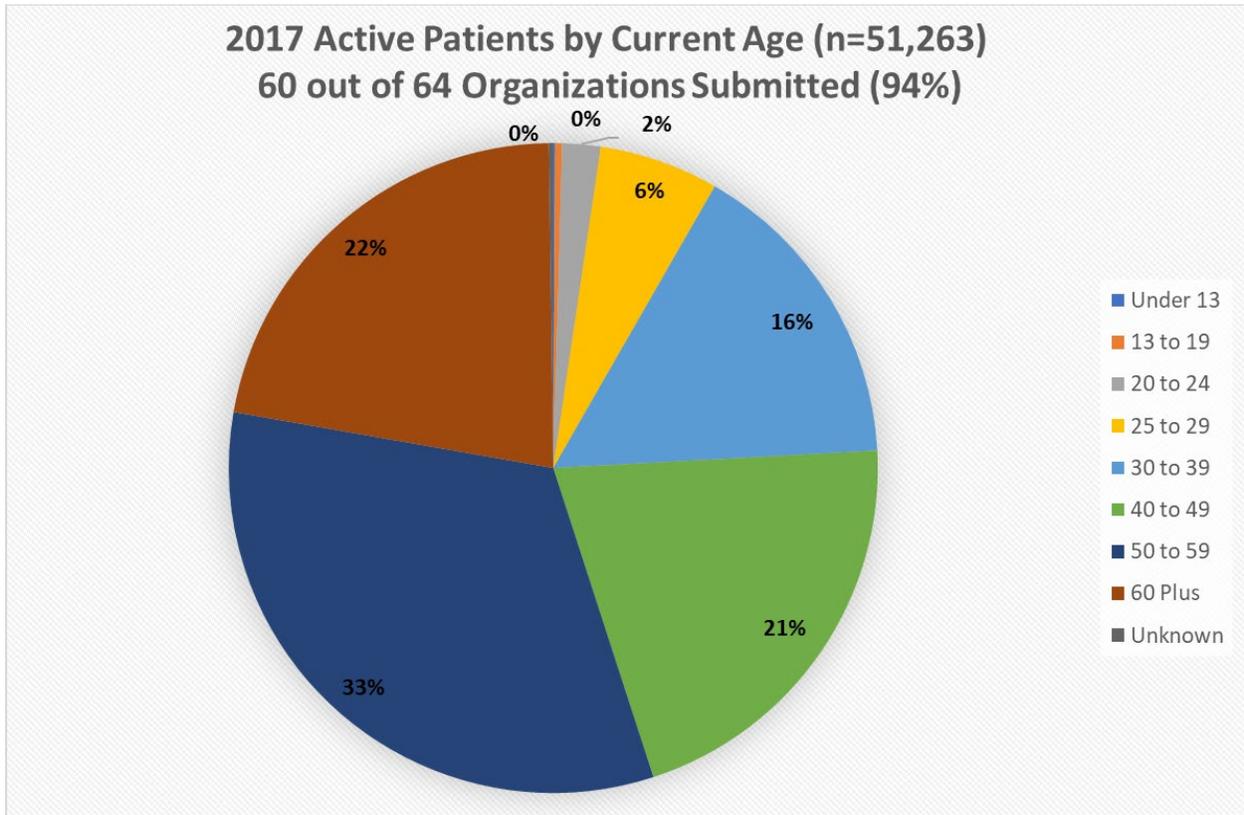
### By Gender



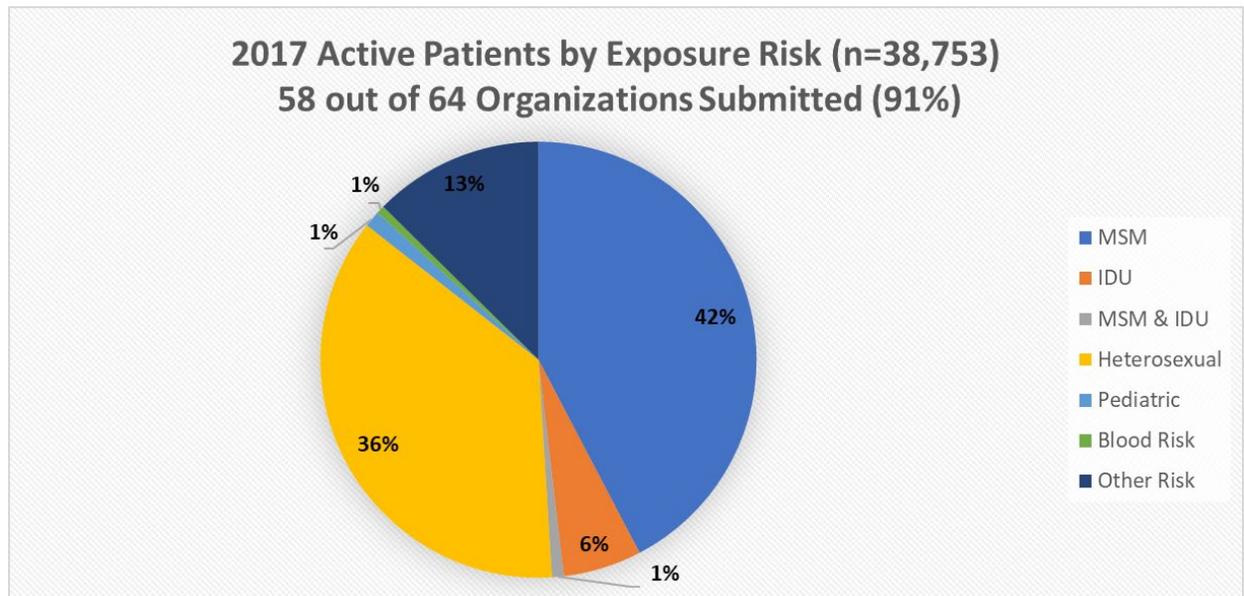
### By Race



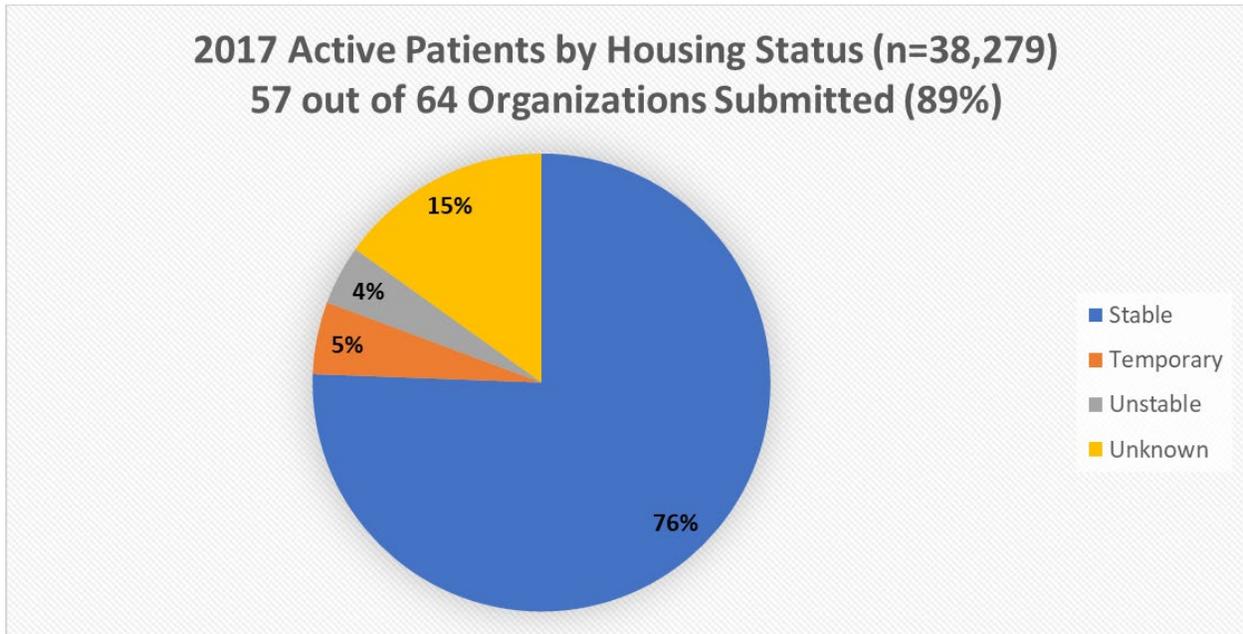
[By Current Age](#)



[By Risk Category](#)



By Housing Status



Newly Diagnosed and New to Care Patients

Patient Volume: Newly Diagnosed and Other New to Care Patients per Organization			
Benchmark	Internally Diagnosed in 2017	Externally Diagnosed in 2017	Other New-to-Clinic (Previously Diagnosed)
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10 <sup>th</sup> Percentile	1.0	0.0	3.6

Linkage of Newly Diagnosed Patients per Organization	
Benchmark	Percentage of Patients Diagnosed Internally Who Were Linked Within 3 Days (or 30 Days if Inpatient)
Average	64%
90 <sup>th</sup> Percentile	100%
75 <sup>th</sup> Percentile	100%
Median	65%
25 <sup>th</sup> Percentile	42%
10 <sup>th</sup> Percentile	10%

## Previously Diagnosed Patients

Previously Diagnosed Patient Volume: Organization-Level Statistics			
Benchmark	Total HIV+ Patients	Percent Excluded	Open-to-Active Ratio
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Active Patient Volume: Clinic-Level Statistics	
Benchmark	Number of Established Active Patients in Each Clinic (165 Clinics Included in the 64 Organizations)
Average	323
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Median	92
25 <sup>th</sup> Percentile	22
10 <sup>th</sup> Percentile	4

## Viral Load Suppression

### Last Viral Load of Review Period

**Last Viral Load Suppressed:** Percentage of patients who are considered suppressed as derived from the last recorded viral load of the review period; “suppressed” is defined as having a viral load of less than copies/mL (either detectable or undetectable).

**Exclusions:** None

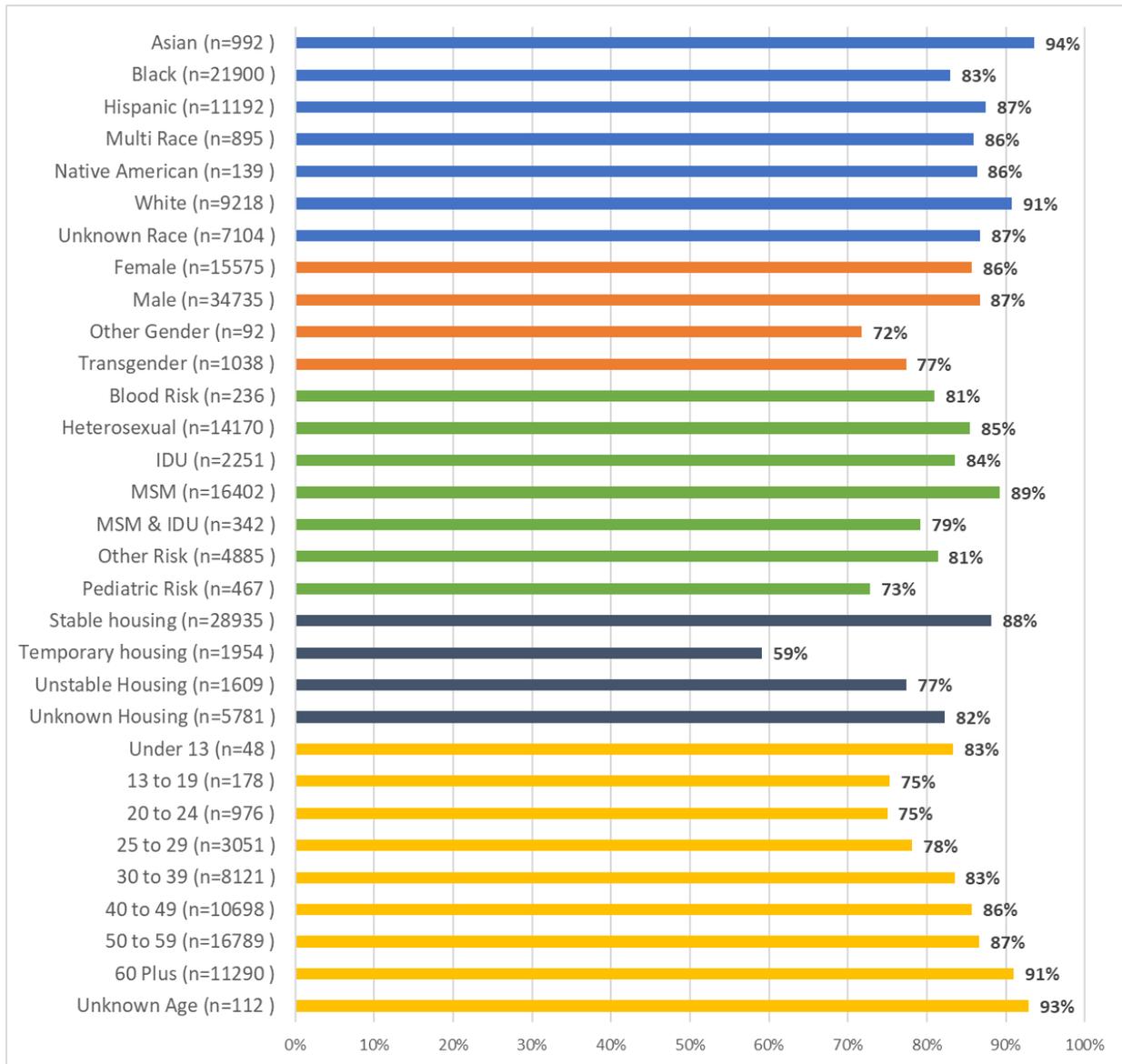
### Established Active Patients (n=53,272 Patients at 165 Clinics)

Suppression on Final Viral Load – Clinic-Level Benchmarks for Established Active Patients	
Benchmark	Suppressed on Final Viral Load
Average	81%
90 <sup>th</sup> Percentile	96%
75 <sup>th</sup> Percentile	91%
Median	86%
25 <sup>th</sup> Percentile	77%
10 <sup>th</sup> Percentile	63%

### Newly Diagnosed Patients

Suppression on Final Viral Load – Organization-Level Benchmarks for Newly Diagnosed Patients		
	Internally Diagnosed in 2017 (n=1036 Patients at 49 Organizations)	Externally Diagnosed in 2017 (n=434 Patients at 30 Organizations)
Benchmark	Suppressed on Final Viral Load	Suppressed on Final Viral Load
Average	56%	71%
90 <sup>th</sup> Percentile	91%	100%
75 <sup>th</sup> Percentile	91%	100%
Median	60%	74%
25 <sup>th</sup> Percentile	50%	51%
10 <sup>th</sup> Percentile	0%	44%

## Viral Load Suppression Rates by Established Active Patient Characteristics



# Antiretroviral Therapy Usage

## Antiretroviral Therapy

**Antiretroviral Therapy:** Percentage of patients with at least one ART drug prescribed at any time during or before the review period, and not ended before the review period.

**Exclusions:** None

### Established Active Patients (n=53,272 Patients at 165 Clinics)

Prescription of Antiretroviral Medication – Clinic-Level Benchmarks for Established Active Patients	
Benchmark	Suppressed on Final Viral Load
Average	97%
90 <sup>th</sup> Percentile	100%
75 <sup>th</sup> Percentile	100%
Median	99%
25 <sup>th</sup> Percentile	97%
10 <sup>th</sup> Percentile	92%

### Newly Diagnosed Patients

Prescription of Antiretroviral Medication – Organization-Level Benchmarks for Newly Diagnosed Patients		
	Internally Diagnosed in 2017 (n=1036 Patients at 49 Organizations)	Externally Diagnosed in 2017 (n=434 Patients at 30 Organizations)
Benchmark	On ART	On ART
Average	83%	93%
90 <sup>th</sup> Percentile	100%	100%
75 <sup>th</sup> Percentile	100%	100%
Median	90%	100%
25 <sup>th</sup> Percentile	78%	93%
10 <sup>th</sup> Percentile	50%	82%

## Antiretroviral Therapy Rates by Established Active Patient Characteristics

