

## B. HIV Care Continuum

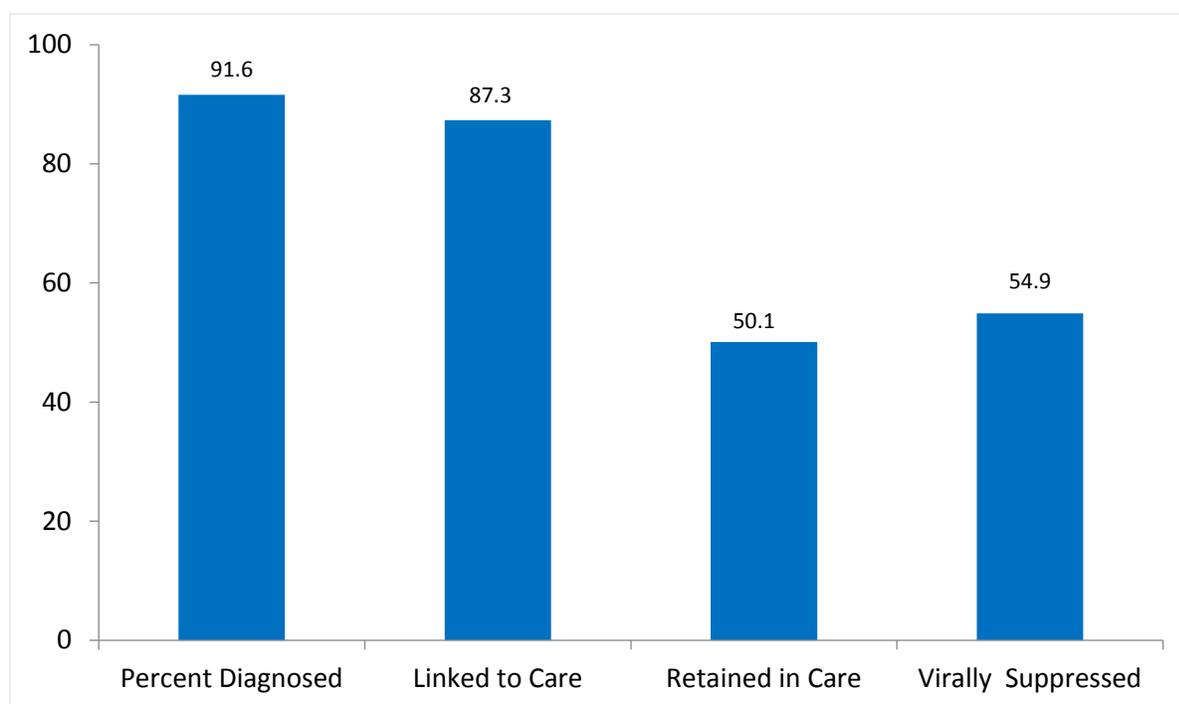
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The EMA has used a prevalence-based HIV Care Continuum for planning and evaluation purposes for over 5 years. The Philadelphia Integrated HIV Planning Council (HIPC) uses these data to make planning decisions about service priorities and allocations and service provision to reduce health disparities and improve health outcomes for vulnerable populations.

### HIV Care Continuum

According to the CDC HIV Care Continuum Fact Sheet, the national goal for people living with HIV aware of their status is 90%, 85% of newly diagnosed PLWH linked to care, and 80% of diagnosed PLWH virally suppressed<sup>1</sup>. The EMA exceeds these goals for diagnosed and linked to care. HIPC and the PDPH are working together to identify ways to improve retention in care and viral suppression. Those efforts are described in the following sections and in Section II.

Figure 1: Philadelphia EMA Prevalence-based HIV Care Continuum, 2016



### HIV Care Continuum Definitions

**HIV-Diagnosed** is defined as the number of people living with HIV/AIDS (PLWH) in the EMA who have been diagnosed with HIV regardless of AIDS status. The data source for this stage is EMA wide HIV/AIDS

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<sup>1</sup> For more information on how each step along the care continuum is measured, see CDC HIV Care Continuum Fact Sheet (2017) <https://www.cdc.gov/hiv/pdf/library/factsheets/cdc-hiv-care-continuum.pdf>

surveillance data for PLWH using the person's current address as of December 31, 2016. The numerator for this indicator is HIV-diagnosed individuals. The denominator for this indicator is the estimated number of PLWH within the EMA. These estimates were derived from CDC back calculation methods.

**Linkage to Care** is the number of PLWH in the EMA who have had a CD4 and/or a viral load test within three months after their diagnosis. The data source of this stage is City of Philadelphia HIV surveillance data. The denominator for this indicator is the number of newly diagnosed cases of HIV infection (regardless of AIDS status) in 2016 within the EMA.

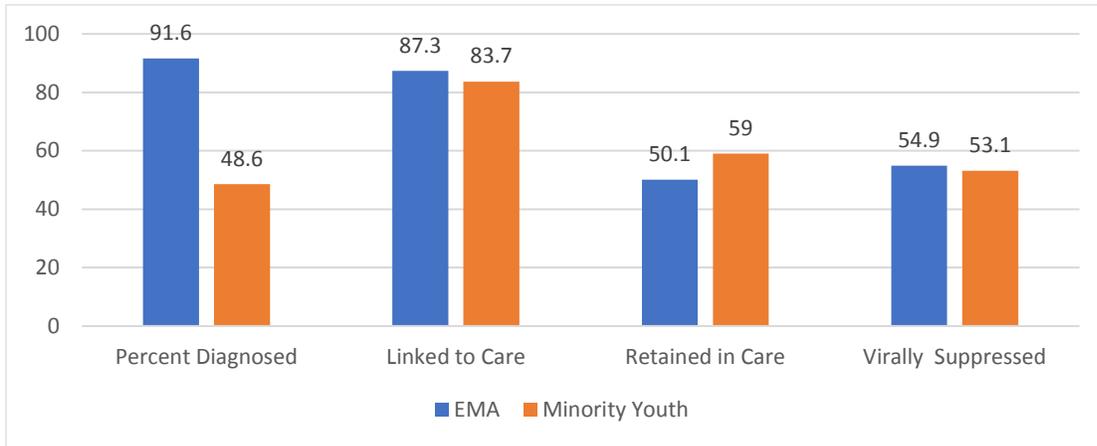
**Retained in Care** is the number of PLWH who received regular medical care in 2016. Regular medical care is defined as receipt of two or more CD4 counts and/or viral loads during 2016 within at least 90 days between the results. The data source for this indicator is City of Philadelphia, New Jersey and Pennsylvania State Health Department's HIV surveillance data. The denominator for this indicator is the estimated number of PLWH within the EMA.

**Virally Suppressed** is the number of PLWH whose most recent viral load in 2016 was below 200 copies/mL. The data source is City of Philadelphia, New Jersey and Pennsylvania State Health Department's HIV surveillance data. All persons without a viral load were classified as unsuppressed. The denominator for this indicator is the estimated number of PLWH within the EMA.

The graph on the previous page illustrates the Philadelphia HIV Care Continuum, which relies on the estimated number of PLWH within the EMA as its denominator for all points along the continuum (except linkage). Further discussion of the Continuum includes disparities by subpopulations, as well as, PDPH activities to improve outcomes along the Continuum. More information on programmatic objectives, strategies, and activities can be found in Section II A.

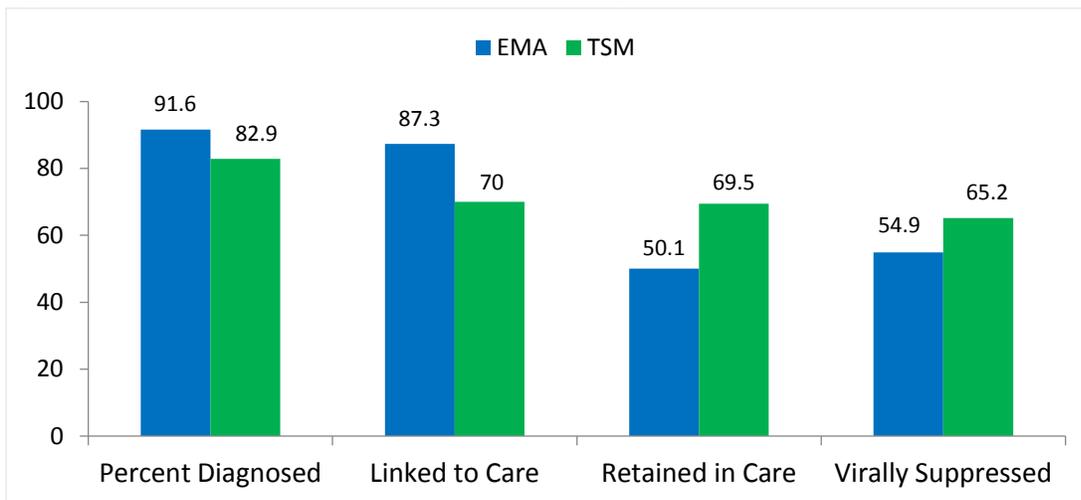
## Disparities Along the Continuum

Figure 2: Philadelphia HIV Care Continuum for Racial/Ethnic Minority Youth (ages 13-24), 2016



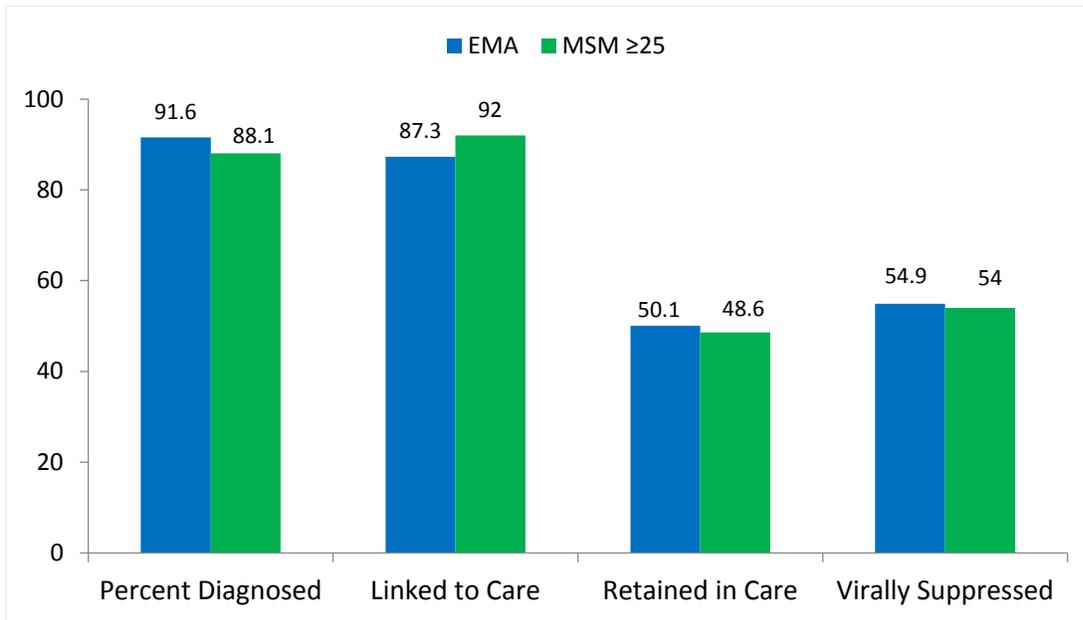
Unfortunately, racial/ethnic minority youth (ages 13-24) have high rates of new infections and very low rates of awareness. However, youth experience higher rates of retention because of excellent HIV clinical care and medical case management at specialty providers. The challenges of adolescence and young adulthood can be a barrier to treatment adherence and result in lower rates of viral suppression in this subpopulation.

Figure 3: Philadelphia HIV Care Continuum for Transgender persons who have sex with men (TSM), 2016



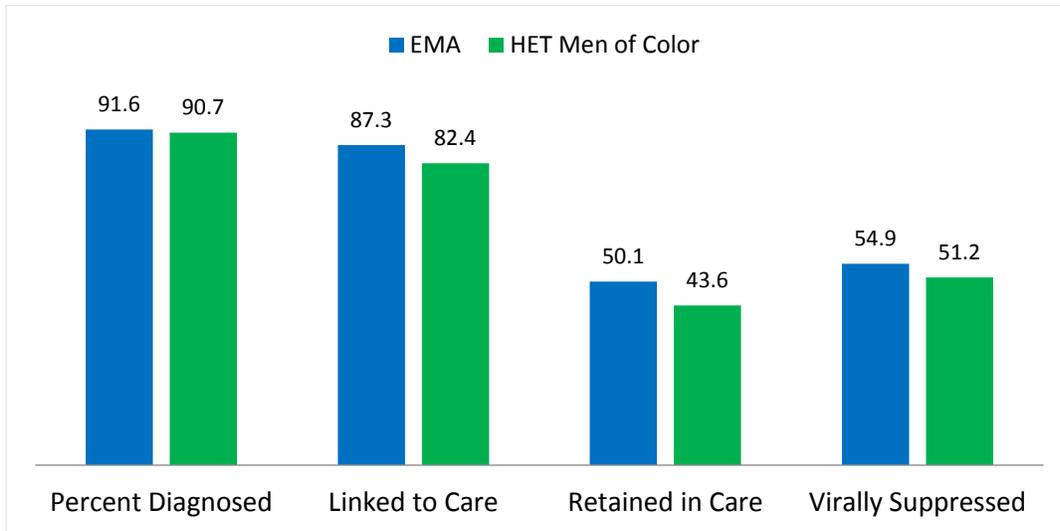
There are limited data for this subpopulation, but from what data are available we can see there are high rates of new infections and lower rates of awareness and linkage to care for trans persons who have sex with men. However, this subpopulation experiences higher rates of retention and viral suppression compared to the general PLWH population in the EMA.

Figure 4: Philadelphia HIV Care Continuum for MSM of color  $\geq 25$  years of age, 2016



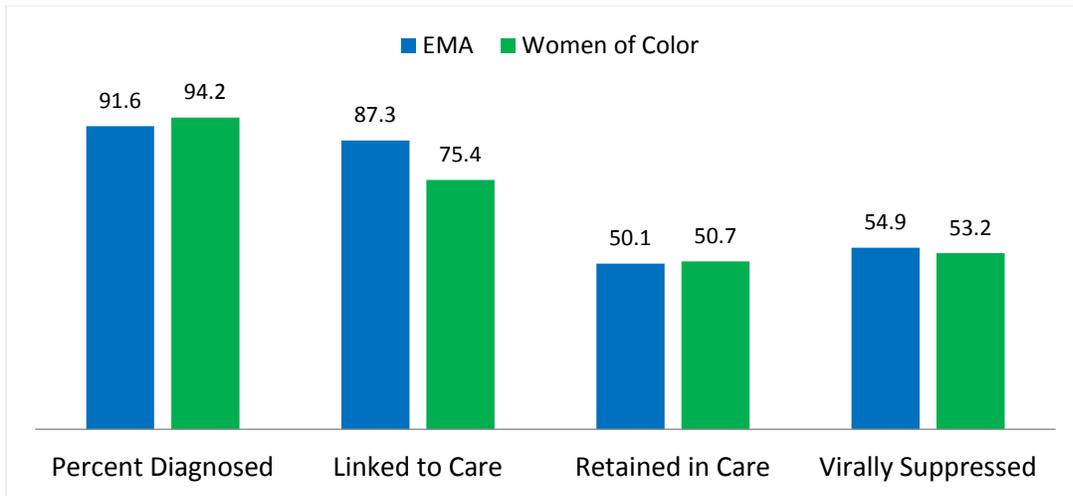
For MSM of color, there are high rates of new infections and lower rates of awareness of HIV status. As seen in the continuum above, there are no noted disparities in care retention or viral suppression.

Figure 5: Philadelphia HIV Care Continuum for Heterosexual men of color, 2016



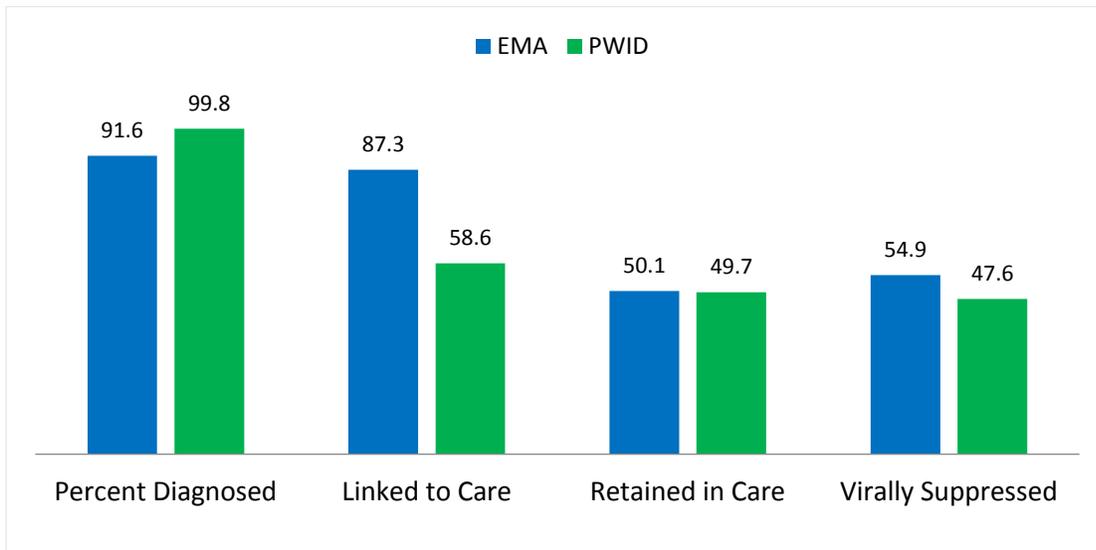
There is a disparity in rate of new HIV diagnoses for heterosexual men of color. We also see disparities in care with both lower rates of retention and viral suppression.

Figure 6: Philadelphia Care Continuum for Women of color, 2016



Women of color are more likely to know their status than the general population of PLWH in the EMA, however we see a disparity in rate of new HIV diagnoses and lower rates of linkage to care. Once in care, however, we do not see any disparities in retention in care or viral suppression.

Figure 7: Philadelphia Care Continuum for Persons who inject drugs (PWID), 2016



People who inject drugs have lower rates of diagnoses and high awareness of HIV status. However, linkage to care and viral suppression are lower compared to the EMA's PLWH population.

## Continuum Use in Planning and Monitoring

In the Philadelphia EMA, HIV care continuum data based on surveillance, are used to focus activities on select populations who are shown to exhibit greater disparities and poorer outcomes along each stage of the Continuum (as demonstrated in the figures above). Surveillance continuum data were used to determine MAI populations, emerging populations and EIIHA populations. Activities have been designed to address these specific populations with interventions at the stage of the continuum where greatest disparities occur. The EMA compares surveillance data with RW program data to analyze retained in care, on ART, and viral suppression between those in the RW care services and those likely out of care, see **Figure 10**, below. As expected, comparing surveillance data with RW program data shows that RW programs significantly improve a person’s health outcomes through viral suppression and eliminate disparities between subpopulations based on gender, race, ethnicity and mode of transmission. The EMA’s extensive use of testing, surveillance, and RW program data in its data-to-care strategy assures that resources are targeted at greatest need and data is collected and analyzed to assure improved outcomes are achieved.

The HIV care continuum is also utilized in the planning, prioritization, monitoring and targeting of resources (e.g. capacity building) through continuous quality improvement (CQI) initiatives to improve processes related to the delivery of high quality clinical services and consumer satisfaction. Low performance for an outcome on the HAB core measures for retention, prescription of ART, and viral suppression triggers the initiation of CQI projects by both the PDPH and subrecipients.

In 2016, as a result of analysis of HIV Care Continuum data that showed that retention in care presented a significant barrier to PLWH achieving and maintaining viral suppression, the PDPH began a redesign of Medical Case Management system to focus on Retention in Care. The new model was developed and provider staff began training in 2017 and it is scheduled for implementation in 2019.

Figure 8: Select Outcomes for MAI Populations, by Percent as of 12/31/2016

Continuum Stage	Entire EMA		Heterosexual Men of Color		Women of Color		Recently Released		Minority Youth	
	Surv <sup>1</sup>	RW <sup>2</sup>	Surv	RW	Surv.	RW	Surv	RW	Surv	RW
Retained in HIV care	45.5%	85.1%	43.6%	86.0%	50.7%	87.5%	56.6%	-	59.0%	83.2%
Viral suppression	49.4%	83.8%	48.8%	84.7%	53.2%	83.3%	27.0%	-	53.1%	71.2%

<sup>1</sup>“Surv” - HIV Surveillance data from the City of Philadelphia, State of Pennsylvania, and New Jersey  
<sup>2</sup> “RW” - Ryan White program data for the Philadelphia EMA

## Evaluating efforts to impact the HIV care continuum

PDPH relies on comprehensive and robust procedures for data matching to evaluate the effectiveness of Part A funding in impacting the HIV care continuum. The PDPH routinely matches testing and surveillance data in order to track linkage to care and partner services across all subpopulations and risk categories in Philadelphia.

PDPH evaluates efforts to impact the care continuum through the collection of the HAB core measures for retention, prescription of ART, and viral suppression from all O/AHS providers every two months. These outcomes are entered into a locally-developed data system that automatically generates provider feedback reports (“report cards”) highlighting performance trends, comparison to the regional aggregate, and ranking against other service providers in the EMA for each measure. These reports are used by subrecipients to identify and prioritize CQI initiatives. The PDPH monitors the impact of all formalized quality improvement projects directed at retention and viral suppression.

In addition, special studies and analysis are conducted periodically to gain further insight into specific subpopulations or identified problems in finding, referring, linking, and retaining people in care. Three examples of recent analyses include the following studies.

The first study matched data from the Philadelphia Department of Prisons with Philadelphia HIV surveillance data to 1) identify previous persons who were newly diagnosed with HIV at prison intake and evaluate the HIV care continuum after release; and 2) identify persons with known HIV infection who became incarcerated to evaluate the HIV care continuum after release. Results indicated that persons who were linked to the funded prison linkage program during incarceration were significantly more likely to re-engage in care within 90 days after release, be retained in care in the year after release and achieve viral suppression within 1 year after release compared to persons who were not linked to this program in both populations.

A second study matched Ryan White CAREWare service data with Philadelphia HIV surveillance data to determine predictors of viral suppression among patients in the Ryan White system who were retained in care. PDPH found that of 6,996 persons who were retained in care in the Ryan White system, 916 or 13.1% did not achieve viral suppression. Individuals who were black, female, age 13-24, diagnosed with HIV more than 3 years ago, diagnosed with AIDS, most recently in care at an inpatient facility, temporarily or unstably housed, and receiving food bank services were less likely to achieve viral suppression. The PDPH plans to expand data to care activities to include patients retained in care who are not achieving viral suppression to data to care activities.

A third study, also matched Ryan White CAREWare service data with Philadelphia HIV surveillance data to examine how utilization of Ryan White medical care, medical case management and other supportive services predicted long-term retention in care, viral suppression, and durable viral suppression over a 5-year period. PDPH found that persons engaged in care within the Ryan White system and persons engaged in medical case management were significantly more likely to achieve annual retention, annual viral suppression and durable viral suppression over the 5-year period. PDPH also looked at patients who received any service in the Ryan White system and found that persons who received 3 or more Ryan White services were also more likely to achieve the 3 outcomes. These findings show that the Ryan White system is an important facilitator of improvements of outcomes along the HIV care continuum.

Finally, the PDPH also continually updates the HIPC with performance outcomes along the care continuum for each funded service to ensure the Part A program effectively addresses gaps in engagement.