

# NATIONAL QUALITY CENTER (NQC) IMPACT EVALUATION REPORT

*Making a Mark:  
Demonstrating Health Impacts among  
RWHAP Recipients Utilizing NQC*

HIV CROSS-PART CARE CONTINUUM  
COLLABORATIVE (H4C)

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**IN COLLABORATION WITH:** NATIONAL QUALITY CENTER (NQC)

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## INTRODUCTION

The *National HIV/AIDS Strategy* (NHAS), released in 2010, identified the need for an increase in the number of HIV-infected individuals with viral suppression to ultimately reduce HIV transmission, serving as a foundation for the national response to the epidemic and a primary goal for Ryan White HIV/AIDS Program (RWHAP) recipients.<sup>1</sup> On July 15, 2013, the U.S. President signed an Executive Order<sup>2</sup> to accelerate improvements in HIV prevention and care in the United States through the application of the HIV Care Continuum. This model “outlines the sequential steps or stages of HIV medical care that people living with HIV (PLWH) go through from initial diagnosis to achieving the goal of viral suppression and shows the proportion of individuals living with HIV who are engaged at each stage.”<sup>3</sup> The continuum begins with HIV testing, followed by early linkage to care for newly diagnosed, retention in care, adherence to ART and finally, viral suppression.

In 2013, the National Quality Center (NQC) in partnership with Health Resources and Services Administration (HRSA) HIV/AIDS Bureau (HAB) undertook a large-scale quality improvement (QI) collaborative, HIV Cross-Part Care Continuum Collaborative (H4C), to affect measurable improvements in broad geographic regions utilizing the HIV Care Continuum. The NHAS priorities of increasing access to HIV care and viral suppression were the focus of the H4C, a peer learning opportunity of regional HIV providers across RWHAP funding streams in select jurisdictions to increase their potential to build capacity and improve the overall quality of HIV care.

The goals of H4C were to:

1. Build regional capacity to close gaps across the HIV Care Continuum to ultimately increase viral suppression rates for people living with HIV (PLWH) within H4C jurisdictions;
2. Align clinical quality management (CQM) goals across all RWHAP Parts and with jurisdictional or state goals to jointly meet the legislative CQM mandates; and
3. Implement joint quality improvement activities to advance the quality of care for PLWH within a state and to coordinate HIV services seamlessly across RWHAP Parts.

HAB and NQC invited five regional state teams – Arkansas (AR), Missouri (MO), Mississippi (MS), New Jersey (NJ), and Ohio (OH) – to participate in H4C based on the potential for measurable improvements in retention and viral suppression in these states. NQC and HAB reviewed potential participants and the final decision was made by HAB. The five states were selected based on convenience sampling, lower rates of viral suppression, and readiness for technical assistance. The teams were comprised of RWHAP-funded recipients across all RWHAP Parts. Additionally the teams were asked to consider including state Medicaid, Epidemiology/Surveillance, existing HIV networks, consumers, and local and regional public health leaders. The Collaborative ran from January 2014 through January 2016 (24 months). The number of recipients and clients served by the RWHAP stratified by participating state are indicated in Table 1.

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<sup>1</sup> The President of the United States and the White House Office of National AIDS Policy, “National HIV/AIDS Strategy,” (July 2010): p. ix. <<http://www.whitehouse.gov/administration/eop/onap/nhas>>

<sup>2</sup> <<http://www.whitehouse.gov/the-press-office/2013/07/15/executive-order-hiv-care-continuum-initiative>>

<sup>3</sup> AIDS.gov. <https://www.aids.gov/federal-resources/policies/care-continuum/>

**Table 1: Recipients and clients served by states participating in H4C<sup>4</sup>**

State	# Recipients	# Clients
AR	6	2,207
MS	9	4,343
MO	9	7,464
NJ	18	19,601
OH	13	10,349
<b>Total</b>	<b>55</b>	<b>43,964</b>

The following expectations were outlined for state participation in H4C:

- Establishment of a statewide Response Team (RT), representative of the various RWHAP Parts and jurisdictions;
- Bi-monthly reporting of identified Collaborative performance measures (based on established HAB measures) by all RWHAP recipients in the state;
- Bi-monthly reporting of QI activities by the RT with input/feedback by their assigned QI coach;
- Annual reporting of cohort data to assess the number of patients virally suppressed;
- Development of a statewide HIV Care Continuum, as well as ‘local’ continua, to maximize the use of these regional data by HIV providers;
- At least one annual statewide quality improvement training or a series of local QI trainings to build capacity for QI among HIV providers;
- At least one annual quality improvement training for consumers to increase the number of HIV-infected individuals actively participating in CQM committees/teams;
- Initiation of a statewide QI project focusing on a key aspect of the HIV Care Continuum, such as viral suppression or retention;
- Development of an aim statement at the kick-off of the Collaborative by each state team to outline individualized QI objectives and measurable goals; and
- Development of a written, statewide CQM plan (and related implementation work plan) to describe the CQM infrastructure, the involvement of key stakeholders (including RWHAP recipients and consumers), and the roles and responsibilities of the RT members.

Further, to achieve the aims of H4C, NQC conducted the following activities:

- Vanguard Meeting: A meeting was held before the selection of the H4C participants with key stakeholders including representatives from HAB, NQC, and other stakeholders with relevant experience to assess the needs and priorities and to finalize the TA strategies for the Collaborative. The Vanguard meeting was held on September 24, 2013 in Rockville, MD.
- Learning Sessions (LS): Participating RTs met with the H4C faculty every 4-6 months during the Collaborative to learn from each other, share experiences, receive coaching from assigned QI coaches, and develop new plans for action and tests for change. The final meeting was used to transition H4C to community leadership and review progress made, lessons learned and best practices revealed during the HAB/NQC management phase to share with other grant recipients. Five LSs, each lasting two days, were conducted during H4C. Dates of the LSs were as follows: March 31, 2014; August 26, 2014; February 4, 2015; June 9, 2015; and January 13, 2016. Each

<sup>4</sup> Ryan White HIV/AIDS Program State Profiles (2013). <http://hab.hrsa.gov/stateprofiles/Default.aspx>

participating RT worked with an NQC QI coach to coordinate the Collaborative efforts. At each LS, each RT completed an H4C assessment in order to track changes within each state RT.

- Planning Group: The Planning Group, which met routinely throughout the collaborative to provide guidance, included NQC staff, NQC coaches and HAB staff, including branch chiefs and project officers.
- Webinars: Webinars were held between LS on an as needed basis as determined by RTs or planning group. These calls allowed the faculty to communicate with the teams, ensure progression and discuss arising issues. A total of 19 webinars were conducted from April 2014 to December 2015.
- Regional QI Trainings: As needed, NQC visited Collaborative RTs and trained participants on pertinent QI. Each state was visited by NQC staff at least once.
- Reporting: Participating RTs were responsible for tracking and reporting data bi-monthly on a uniform set of outcome and process measures in addition to the individual measures that each RT wished to track. A standard reporting template, provided by NQC, included performance data, data follow-up activities, QI projects, CQM infrastructure updates, and offers or requests for assistance. The Planning Group met jointly to review all reports submitted and send individual feedback and aggregate findings each reporting period.
- Online Forum: NQC launched a password-protected online forum (Glasscubes) for registered users of the Collaborative to share H4C resources, post project-specific messages, and maintain a library of documents relevant to the Collaborative. In addition, each regional team managed their own Glasscubes space and posted documents relevant to their work and jurisdiction.

## METHODS

The ultimate aim of the H4C Collaborative was to use the HIV Care Continuum as a framework for increasing the number of HIV-infected individuals with viral suppression, thus improving the quality of HIV care and related health outcomes. JSI implemented a mixed method evaluation to evaluate the H4C Collaborative. The quantitative and qualitative data came from a variety of sources, including:

- 1) Bi-monthly performance measure data submitted by participating H4C states (H4C performance measures)
- 2) Bi-monthly progress reports submitted by participating H4C states
- 3) Viral suppression cohort data
- 4) H4C Assessment data, collected at the individual LS over the course of the Collaborative
- 5) Key informant interviews with members of the H4C state RTs, NQC staff, coaches, and H4C faculty
- 6) Survey data collected from consumers participating the Training of Consumers on Quality (TCQ)
- 7) Other materials that were produced as part of the Collaborative, including state and local HIV Care Continua

The *H4C Performance Measures* were collected bi-monthly (every two months) from states. NQC requested that states engage recipients and subrecipients from all Parts in the state in the performance measure data collection and reporting for the collaborative. The core HAB performance measures<sup>5</sup> used included:

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<sup>5</sup> U.S. Department of Health and Human Services. Health Resources and Services Administration. HIV/AIDS Bureau Performance Measures. <http://hab.hrsa.gov/deliverhivaidscare/coremeasures.pdf>

- **HIV Viral Load Suppression [VLS]:** Percentage of patients, regardless of age, with a diagnosis of HIV with a HIV viral load less than 200 copies/mL at last HIV viral load test during the measurement year.
- **Prescription of HIV Antiretroviral Therapy [ARV]:** Percentage of patients, regardless of age, with a diagnosis of HIV prescribed antiretroviral therapy for the treatment of HIV infection during the measurement year.
- **HIV Medical Visit Frequency [MVF]:** Percentage of patients, regardless of age, with a diagnosis of HIV who had at least one medical visit in each 6-month period of the 24-month measurement period with a minimum of 60 days between medical visits.
- **Gap in HIV Medical Visits [GAP]:** Percentage of patients, regardless of age, with a diagnosis of HIV who did not have a medical visit in the last 6 months of the measurement year.

Additionally, states reported these measures stratified by race/ethnicity, gender, and age using the H4C performance data reporting template below. The first round of submission started in April 2014 and the last submission round was in December 2015 for a total number of 11 submissions. The number of RWHAP recipients submitting data is reported in Table 2.

H4C performance data reporting template													
Name of State Team: Team Data Liaison: Measurement Period: Reporting Date: Data Source(s): Grantees	# of Agencies Submitting Data	HIV Viral Load Suppression			Rx of ARV Therapies			HIV Medical Visit Frequency			Gap in HIV Medical Visits		
		Num.	Denom.	%	Num.	Denom.	%	Num.	Denom.	%	Num.	Denom.	%
<b>Total</b>	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Race/ethnicity: Black	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Race/ethnicity: Latino	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Race/ethnicity: White	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Race/ethnicity: Other (including missing & unknown)	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Race/ethnicity: Total	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Gender: Male	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Gender: Female	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Gender: Transgender	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Gender: Total	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 0-12	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 13-18	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 19-24	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 25-34	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 35-44	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 45-54	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 55-64	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
Age: 65 and older	0	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!

**Table 2: Number of RWHAP recipients submitting data in the H4C Collaborative by Part<sup>6</sup>.**

	AR		MS		MO		NJ		OH		Total	
	Total # in state	# (%) in H4C	Total # in state	# (%) in H4C	Total # in state	# (%) in H4C	Total # in state	# (%) in H4C	Total # in state	# (%) in H4C	Total # in state	# (%) in H4C
<b>Part A</b>	0	-	0	--	2	2 (100%)	4	4 (100%)	2	2 (100%)	8	8 (100%)
<b>Part B</b>	1	1 (100%)	1	1 (100%)	1	1 (100%)	1	1 (100%)	1	1 (100%)	5	5 (100%)
<b>Part C*</b>	3	3 (100%)	7	7 (100%)	4	3 (75%)	10	10 (100%)	8	8 (100%)	34	33 (97%)
<b>Part D*</b>	2	2 (100%)	1	1 (100%)	2	2 (100%)	1	1 (100%)	2	2 (100%)	8	8 (100%)
<b>Total*</b>	6	6 (100%)	9	9 (100%)	9	8 (89%)	18	18 (100%)	13	13 (100%)	55	54 (98%)

\* Grant recipients can be dually funded (receive both Part C and D funds).

The *Bimonthly Progress Reports* were completed by states using a Word template provided by NQC (See Appendix A). Each state's RT discussed progress with the Coach during the monthly coaching calls and a State Team Progress Report was completed and submitted to NQC. This progress report documented activities completed or findings related to each reporting period. Notes on issues with the data collection systems, achievements or successes, and challenges or barriers were recorded. These reports provided context or background information that helped explain the observed change in performance measures, as well as the work undertaken to build and improve the quality and data management infrastructure and capacity. A qualitative review of these reports was conducted bimonthly to understand progress on the key objectives of the collaborative and specific examples of activities.

The *Viral Suppression Cohort Reports* were completed by states using an Excel template provided by NQC. States reported baseline number of individuals that met eligibility for inclusion in the cohort. Eligibility was defined as patients with a HIV viral load greater or equal to 200 copies/mL at last viral load between July, 1 2013 and June 30, 2014. In October 2015 and again in October 2016, states reported the number of individuals from this cohort who became suppressed, as well as the number that could no longer be tracked because they moved or became incarcerated.

The *H4C Collaborative Assessment* was used to assess state-level infrastructure for CQM and QI by examining several key aspects related to the goals of the Collaborative including: cross-Part infrastructure; communication strategies; cross-Part CQM plan; measures and data systems; data collection; priority goals; QI projects; and training/TA. Each domain was scored from 0 (no competency) to 5 (maximum competency) with a score of 3 representing an acceptable level of collaboration. Participating state teams completed assessments at each LS with assistance from the state's assigned NQC coach and reported the data to the NQC. A copy of the HAB/NQC H4C Collaborative Assessment is attached in the Appendix B. The Collaborative Assessment was completed at each LS. For this report, assessment scores from the first LS were compared to scores from the last LS across states. Further, the median Collaborative assessment score for each domain was compared across all 5 LS. The median was selected over the mean given the small sample size (n=5 states).

<sup>6</sup> Ryan White HIV/AIDS Program State Profiles (2013). <http://hab.hrsa.gov/stateprofiles/Default.aspx>

*Key Informant Interviews* were conducted with H4C faculty (HAB staff and NQC staff and coaches) and RT members to understand the overall experience of participating in H4C, including successes and challenges associated with the various H4C activities. Representatives from the RTs were identified by NQC and were invited by JSI to participate in an hour-long phone interview. An interview guide, which was developed by JSI in consultation with NQC, was shared with interviewees prior to the actual interview (see Appendix C). The interviews were led by JSI and notes were taken; the interview notes were synthesized to identify key themes. A total of 20 interviews were conducted. Ten interviews were conducted with H4C faculty, of which two were HAB staff, two were from NQC, and six were coaches. Ten interviews were conducted with representatives of the state RTs (Table 2). JSI conducted the interviews with H4C staff in person at the final LS and interviews with state RTs were conducted by phone after the final LS. All Parts of the RWHAP program and consumers of RWHAP services were represented by the interviews.

**Table 3: H4C Collaborative Key Informant Interviews: numbers of H4C faculty by type and number of RT representatives by state interviewed.**

H4C Faculty	# Interviewed	State RTs	# Interviewed
HAB staff	2	AR	2
NQC staff	2	MO	2
Coaches	6	MS	3
		NJ	2
		OH	1
<b>Total</b>	<b>10</b>	<b>Total</b>	<b>10</b>

*Survey data were also collected from consumers who participated in H4C and the Training of Consumers on Quality (TCQ) quality improvement training.* The purpose of the TCQ is to build the capacity of PLWH to be active partners in the planning, implementation, and evaluation of QI efforts at both the clinical and system levels. Consumers participating in H4C and TQL were surveyed about any QI activities they implemented at their organization after finishing the TCQ training.

Finally, JSI reviewed *other materials that were produced for the Collaborative*, including PowerPoint slides for LS and webinars, storyboards, and other state-produced materials. HIV Care Continua – if developed by the states during the Collaborative – were generally shared in Excel files or storyboards.

The results from JSI's qualitative and quantitative review of the data are presented below, outlined by Collaborative aim along with aim-specific objectives and benchmarks.

## RESULTS

**Aim #1: Build regional capacity for closing gaps across the HIV Care Continuum to ultimately increase viral suppression rates for PLWH.**

Table 4 outlines the progress of the five states in meeting the objectives and benchmarks for H4C Collaborative Aim #1. States experienced varied success in meeting the objective of establishing state and local HIV Care Continua. All states made progress towards accomplishing this goal; however, not all were able to produce these continua during the 24 months of the Collaborative. NJ was successful in developing state-level and agency-level continua. Other states such as AR and OH were able to engage staff from Surveillance to begin to develop data sharing agreements so they would be able to access the required data to produce continua. States also engaged in peer-to-peer learning and training to establish progresses for building the Continua in support of improving quality of HIV care. For example, MS consistently engaged in peer-to-peer learning and capacity building planning during H4C, including participating in lightning rounds and simulations. MO produced regionalized and disparity-specific data charts that were shared to guide discussions. NJ provided data examples and technical assistance to other states to complete their requirements.

Bi-monthly performance measure collection and reporting was nearly complete across all grant recipients in the five states, with a few exceptions (e.g., one OH site did not submit data and one AR site experienced data loss). Through adopting this process, states uncovered data quality issues that were addressed over the 24 months of the Collaborative. All participating recipients received a benchmarking report after each reporting cycle, which allowed them to track their progress and compare their performance to state performance on measures. Generally, states reported improvement in performance across the four measures over time. However, it is unclear whether the improvement was partially due to improvements in data completeness or actual changes in quality of care (discussed in more detail later in the report).

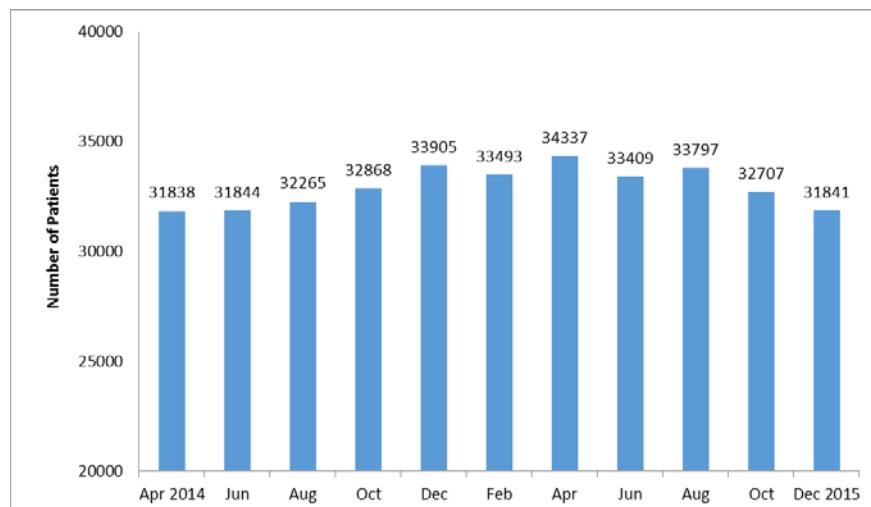
**Table 4: State achievement in meeting H4C Aim #1 (build capacity for closing gaps across the Continuum) objectives and benchmarks.**

Objective	Benchmark	AR	MO	MS	NJ	OH
Regional HIV care Continuum routinely available to local HIV providers to identify gaps in HIV care	Local Care Continuum shared with grant recipients to inform them about patient retention and viral suppression in their regions	No; Surveillance at the table to help develop statewide Continuum. Developing a data sharing agreement with Surveillance.	Yes; State and regional continua created by state; Wash U created their agency continua. MOCAN established a guide for agency-level continua	No; Working with STD/HIV epidemiologist to estimate RWHAP Continuum using CAREWare, matched with eHARS to fill in gaps	Yes; RWHAP level continua complete, agency level continua fed back to each agency; working on six regional continua	No; Development of RWHAP Care started; all labs started to be reported in 2014 so only recent data available; discussed the Continuum with surveillance
	Training provided to grant recipients on how to effectively interpret data from local Care Continua to improve HIV care	No	No	No	No	No
HIV providers routinely measuring key HIV metrics and using the findings for prioritizing QI activities	Grant recipients submitted Collaborative performance measures after the second reporting cycle and by the close of the Collaborative	Partial; although, data quality and reporting challenges. One agency lost all CAREWare data. These were addressed and improved over the Collaborative.	Yes	Yes	Yes	Partial; all but one site reported performance measures data
	Grant recipients received a statewide benchmarking report after each reporting cycle	Yes	Yes	Yes	Yes	Yes
	Improved performance among participating sites from baseline to follow up	Unclear given data quality issues	Yes	Yes	Yes	Yes

### *Collection and Reporting of H4C Collaborative Performance Measures*

Performance data for four measures and stratifications were submitted by grant recipients and subrecipients on a bi-monthly basis over the 24-months of the Collaborative. The total number of clients reported on in April 2014 was 31,838 and generally increased in each submission round thereafter. The highest number of patients captured was 34,337 in April 2015. Note that one state (AR) did not submit any data in the October 2015 round. In terms of agencies, 14 grant recipients and subrecipients reported performance data from OH, 7 from MO, 11 from MS, 23 from NJ, and 4 from AR, for a total of 59 data submitters.

**Figure 1: Number of patients captured by H4C bi-monthly performance measure reporting: April 2014 to December 2015.**



The state median percentages for the four measures improved between the start of the Collaborative (first submission April 2014) and the last submission round (December 2015) for ARV (a 9.2% increase), medical visits frequency (13.2% increase), and VLS (6.6% increase). The gap measure also improved with a reduction of 24.2%. The estimated population effect based on these percentage changes is provided in Table 5.

**Table 5: Change in H4C performance measures over time (first submission in April 2014 to last submission in December 2015).**

	First Submission 4/1/2014			Last Submission 12/1/2015			% change in mean	% change in median	Estimated # patients impacted*
	Denominator	Mean of 5 States %	Median of 5 States %	Denominator	Mean of 5 States %	Median of 5 States %			
<b>ARV</b>	29,703	83.8%	86.0%	32,111	86.3%	93.9%	2.5%	7.9%	2954
<b>GAP</b>	25,800	19.8%	20.4%	25,734	20.8%	15.5%	1.0%	-4.9%	6228
<b>MVF</b>	21,963	59.4%	57.3%	27,265	57.2%	64.9%	-2.2%	7.6%	3599
<b>VLS</b>	31,838	73.1%	73.9%	31,841	74.5%	78.8%	1.4%	4.9%	2102

\*Estimates based on the percentage changes in state medians multiplied by the denominator in the last collection cycle (e.g. for ARV 9.2% of 32,111= 2,954).

There was some variability in performance over time within and across states. Both the state mean and median are shown in the graphs, to illustrate skew. The median is a better measure of central tendency and is not influenced by skewed data. Because of data quality issues in one state (AR) and its decreasing performance observed, the median is a better reflection of the gains made by all other states. Statistical tests cannot be performed due to the small sample size with, only five states or observations.

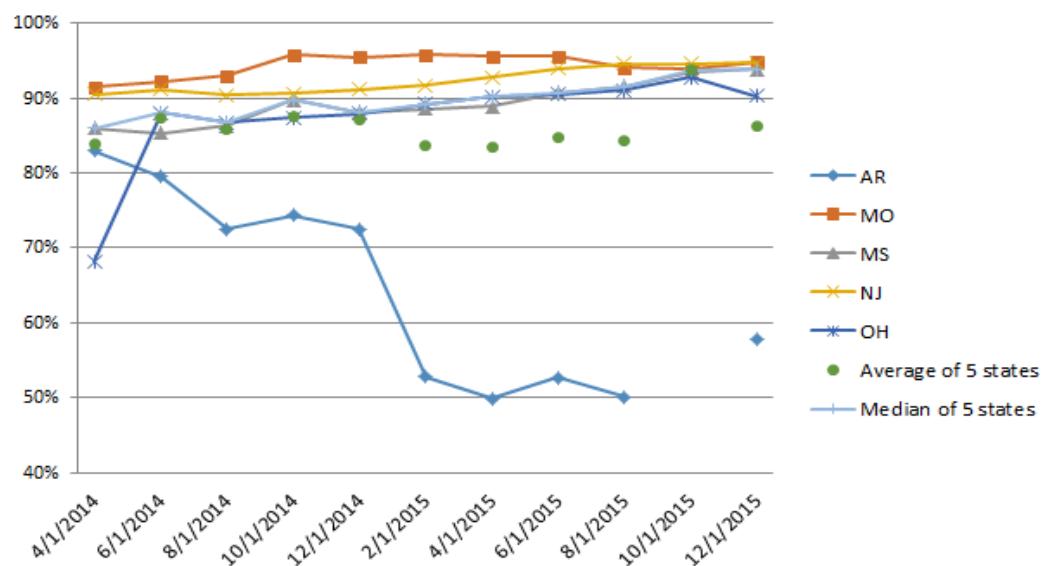
Overall, there was an increase or improvement in the ARV, medical visits frequency, and VLS measures. An example of variability across states is that while there was an increasing trend for the medical visits frequency measure in AR and MS, the trend was decreasing in the other states. Also in AR, the medical visits frequency fluctuated from 32.7% in the first submission, to 40.3% in the third round, decreasing to 27.1% in round 6, and back up to 36.7% in August 2014. This fluctuation was likely due to the data quality issues identified in AR. (See Figures 2-5).

The ARV measure steadily increased over time ranging from 85% to 96% for MO, MS, and NJ. In OH, the ARV measure was 68.2%, which then increased to 89.2% in round 2 and remained fairly constant thereafter, reaching 90.3% by the last round. Only in AR was the ARV measure trending downward; again, this state had some data system issues that may have affected the data quality. (See Figures 2-5).

The VLS measure generally improved over time for four of the five states, except for AR, which showed a decline from 68.7% in April 2014 to 59.0% in August 2014 to 52.4% in December 2015. The largest increase was seen in MS, from 66.1% in the first round to 74.7% in the last round (NJ: 76.1% to 78.8%; OH: 73.9% to 80.8%; MO: 80.7% to 85.9%). (See Figures 2-5).

The change in the five state average percentages was smaller for the gap measure, compared to the other measures. AR and OH showed an increasing trend in the percentage of patients with a gap in medical visits. See Figures 2-5 for aggregated performance measures data for each state over time.

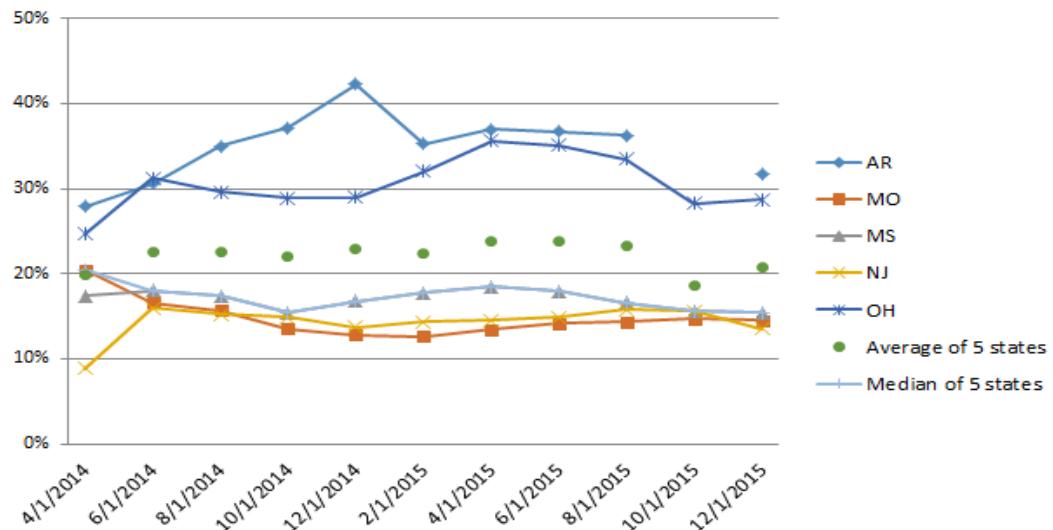
**Figure 2: Prescription of HIV ART across reporting periods of the H4C Collaborative by state, and average and median values of 5 states.**



ARV	4/1/2014	6/2/2014	8/1/2014	10/1/2014	12/1/2014	2/1/2015	4/1/2015	6/1/2015	8/1/2015	10/1/2015	12/1/2015
AR	82.9%	79.5%	72.5%	74.4%	72.5%	52.8%	49.9%	52.6%	50.1%		57.8%
MO	91.5%	92.2%	93.0%	95.8%	95.5%	95.7%	95.6%	95.5%	94.1%	94.0%	94.8%
MS	86.0%	85.3%	86.3%	89.8%	88.1%	88.6%	88.9%	90.7%	91.6%	93.5%	93.9%
NJ	90.5%	91.1%	90.4%	90.6%	91.1%	91.7%	92.7%	94.0%	94.6%	94.6%	94.7%
OH	68.1%	88.0%	86.7%	87.3%	88.0%	89.3%	90.2%	90.5%	91.0%	92.8%	90.3%
Average of 5 states	83.8%	87.2%	85.8%	87.6%	87.0%	83.6%	83.5%	84.7%	84.3%	93.7%	86.3%
Median of 5 states	86.0%	88.0%	86.7%	89.8%	88.1%	89.3%	90.2%	90.7%	91.6%	93.7%	93.9%
Denominators (# of patients)	29703	30955	32308	32876	33913	33502	34343	33364	33854	32751	32111
Population Average	82.9%	89.2%	88.6%	89.6%	89.8%	89.7%	90.2%	91.3%	91.6%	93.9%	92.3%

\*Data not submitted by AR in October 2015

**Figure 3: Gaps in HIV medical visits across reporting periods of the H4C Collaborative by state, and average and median values of 5 states.**

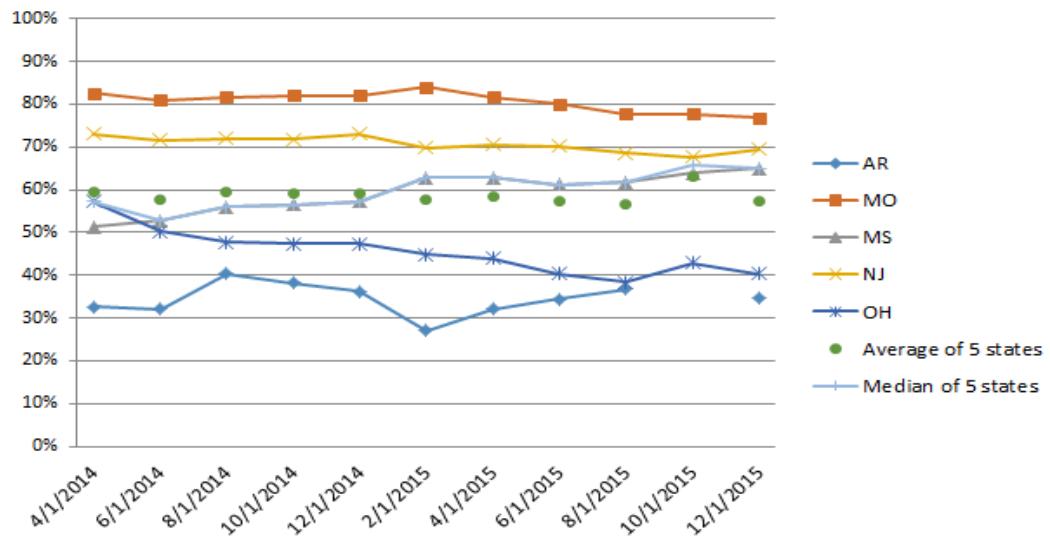


\*The gap measure is defined as the percentage of patients who did not have a medical visit in the last 6 months of the measurement year; therefore, a smaller percentage is better.

GAP	4/1/2014	6/2/2014	8/1/2014	10/1/2014	12/1/2014	2/1/2015	4/1/2015	6/1/2015	8/1/2015	10/1/2015	12/1/2015
AR	27.9%	30.6%	35.0%	37.2%	42.3%	35.3%	37.0%	36.7%	36.2%		31.6%
MO	20.4%	16.6%	15.7%	13.5%	12.8%	12.6%	13.4%	14.2%	14.3%	14.7%	14.5%
MS	17.4%	18.0%	17.4%	15.4%	16.7%	17.8%	18.5%	17.9%	16.6%	15.6%	15.5%
NJ	8.9%	16.0%	15.3%	14.9%	13.7%	14.4%	14.5%	14.9%	15.7%	15.6%	13.6%
OH	24.7%	31.2%	29.6%	28.9%	29.0%	32.1%	35.7%	35.1%	33.5%	28.3%	28.7%
Average of 5 states	19.8%	22.5%	22.6%	22.0%	22.9%	22.4%	23.8%	23.8%	23.3%	18.6%	20.8%
Median of 5 states	20.4%	18.0%	17.4%	15.4%	16.7%	17.8%	18.5%	17.9%	16.6%	15.6%	15.5%
Denominators (# of patients)	25800	26746	25806	26699	27594	27287	28209	27781	27094	26331	25734
Population Average	15.8%	21.0%	19.6%	19.3%	18.9%	20.1%	21.2%	21.0%	20.6%	18.7%	17.8%

\*Data not submitted by AR in October 2015

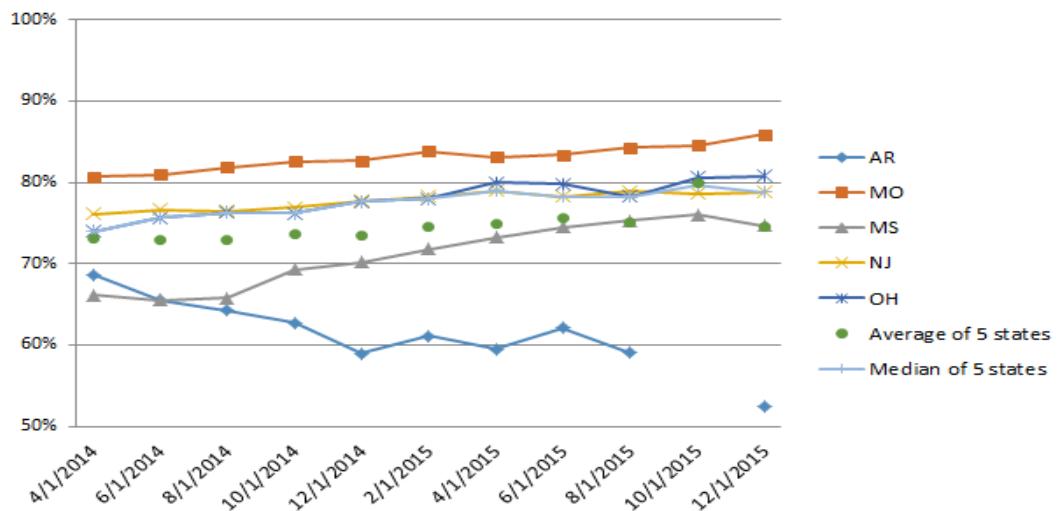
**Figure 4: Medical visits frequency across reporting periods of the H4C Collaborative by state, and average and median values of 5 states.**



MVF	4/1/2014	6/2/2014	8/1/2014	10/1/2014	12/1/2014	2/1/2015	4/1/2015	6/1/2015	8/1/2015	10/1/2015	12/1/2015
AR	32.7%	32.2%	40.3%	38.1%	36.2%	27.1%	32.1%	34.4%	36.7%		34.7%
MO	82.6%	80.9%	81.7%	82.1%	82.0%	84.0%	81.7%	80.0%	77.6%	77.6%	76.7%
MS	51.3%	52.7%	56.0%	56.5%	57.2%	62.8%	62.8%	61.2%	61.7%	63.8%	64.9%
NJ	73.1%	71.6%	71.9%	71.8%	73.0%	69.8%	70.6%	70.1%	68.6%	67.6%	69.4%
OH	57.3%	50.3%	47.8%	47.4%	47.4%	44.8%	43.9%	40.4%	38.4%	43.0%	40.3%
Average of 5 states	59.4%	57.5%	59.5%	59.2%	59.2%	57.7%	58.2%	57.2%	56.6%	63.0%	57.2%
Median of 5 states	57.3%	52.7%	56.0%	56.5%	57.2%	62.8%	62.8%	61.2%	61.7%	65.7%	64.9%
Denominators (# of patients)	21963	24669	23616	23957	25177	25216	26108	27418	27380	26730	27265
Population Average	66.8%	63.2%	64.8%	64.4%	65.3%	63.2%	63.6%	61.4%	60.2%	61.6%	61.2%

\*Data not submitted by AR in October 2015

**Figure 5: VS across reporting periods of the H4C Collaborative by state, and average and median values of 5 states.**



VLS	4/1/2014	6/2/2014	8/1/2014	10/1/2014	12/1/2014	2/1/2015	4/1/2015	6/1/2015	8/1/2015	10/1/2015	12/1/2015
AR	68.7%	65.5%	64.3%	62.7%	59.0%	61.1%	59.5%	62.1%	59.0%		52.4%
MO	80.7%	81.0%	81.8%	82.6%	82.6%	83.8%	83.1%	83.3%	84.3%	84.5%	85.9%
MS	66.1%	65.5%	65.8%	69.3%	70.2%	71.8%	73.2%	74.5%	75.3%	76.0%	74.7%
NJ	76.1%	76.6%	76.5%	76.9%	77.7%	78.3%	79.0%	78.3%	78.9%	78.6%	78.8%
OH	73.9%	75.7%	76.3%	76.2%	77.6%	78.0%	79.9%	79.7%	78.2%	80.6%	80.8%
Average of 5 states	73.1%	72.8%	72.9%	73.6%	73.4%	74.6%	75.0%	75.6%	75.1%	79.9%	74.5%
Median of 5 states	73.9%	75.7%	76.3%	76.2%	77.6%	78.0%	79.0%	78.3%	78.2%	79.6%	78.8%
Denominators (# of patients)	31838	31844	32265	32868	33905	33493	34337	33409	33797	32707	31841
Population Average	74.4%	75.0%	75.1%	75.9%	76.7%	77.3%	78.2%	78.2%	78.2%	79.6%	78.8%

\*Data not submitted by AR in October 2015

In addition to reporting aggregate measures, H4C participants also reported data by gender, race/ethnicity, and age. Performance measures stratified by gender, race/ethnicity, and age are provided in Appendix D. Four of the five states were able to report disparity data by the first submission, and all five states reported by reporting round 2.<sup>7</sup> Examining disparity data helped identify priorities and subpopulations for targeting QI efforts. For example, one of MOCAN's initiatives was to focus on viral suppression in the Black population, which had a lower VS rate at 77.0% in round 1 (versus 81.3% Latino, 86.0% White). By the last submission in December 2015, the VS rate increased to 84.5% for this group (and 90.3% Latino, 88.5% White). Also in MO, the percentage of Latino patients with a gap in medical care decreased from 17.9% to 11.6%. Mississippi saw improvements in all four measures among Black patients (ARV: 86.0% to 93.5%; MVF: 51.0% to 64.7%; VS: 64.3% to 73.6%; gap measure decreased from 17.7% to 15.3%) and similar improvements among Latinos (ARV: 84.8% to 95.9%, MVF: 64.4% to 74.1%; VS: 73.9% to 75.3%). In NJ, there were improvements in both the Black (ARV: 92.7% to 94.3%; GAP:

<sup>7</sup>NJ submitted only aggregate data in round 1 and started reporting disparity data in the second submission (6/1/2014); AR did not report any data in the 10/1/2015 round, but did submit data in the last round (December 2015). All five states reported performance measures overall and by age, gender, race/ethnicity, in rounds 2-9.

20.6% to 13.9%; VS: 73.1% to 75.9%) and Latino (93.4% to 95.8%; GAP: 14.6% to 12.5%; VS: 80.2% to 81.5%) populations: Additionally, improvements were seen in Ohio among both Black (MVF: 65.2% to 92.3%; VS: 69.1% to 76.5%) and Latino (MVF: 51.9% to 91.6%; VS: 73.4% to 86.0%) patients.

Coaches reported in interviews that it was enlightening for states to see their data and for some states this was the strongest benefit of participation. Variability was noted with regard to state's experience working with data and level of staffing to support data-related activities. Pivot tables were most beneficial to states with higher capacity for working with data (See examples of pivot tables and charts in Appendix E). States with less experience with Excel faced a higher learning curve for this activity. Data quality was a challenge for several states, however improvements were observed overtime. For states looking at data for the first time, it was noted that improving data completeness was required before the data could be reliably applied to QI efforts. For states with lower capacity, it was noted that completing the HIV Care Continuum and viral suppression cohort were challenging given the length of the Collaborative. Recommendations for improvement included more time dedicated to application of data collected for quality management. While participants were familiar with Plan-Do-Study-Act (PDSA) Cycles, the high level of effort required by some states to create the Continuum, took away from time to act on the data.

During the key informant interviews states indicated that they came to the Collaborative with varied baseline capacity for data collection, performance measurement, and QI. States with higher baseline capacity reported in interviews few barriers in working with data and using data to inform CQM and QI initiatives. States with less experience prior to the Collaborative reported dedicating substantial time to developing relationships with Surveillance or training on CAREWare. States that were able to develop a statewide HIV Care Continuum and participate in the viral suppression cohort reported that it has been helpful for their work and rewarding to see improvements in performance over time.

#### *Viral Suppression Cohort*

During the first LS, participants discussed the need for methods to more directly measure the impact of the Collaborative. To this end, NQC developed the viral suppression cohort activity after the Collaborative had started. The goal of this activity was to increase viral suppression for this previously un suppressed group by 20%, based on NHAS goals.

#### **TIMELINE AND MILESTONES FOR H4C SUPPRESSION COHORT**

*Apr 2014:* Cohort concept discussed with states  
*Jun-Jul 2014:* Cohort activity developed by HAB and NQC  
*Aug 2014:* Cohort study announced to all H4C teams  
*Oct 2014:* H4C teams submit cohort baseline data  
*Dec 2014:* H4C teams submit complete baseline data  
*Oct 2015:* H4C teams submit cohort update #1  
*Oct 2016:* H4C teams submit cohort update #2

States were asked to establish a cohort of patients that were un suppressed at the start of the collaborative and to assess the viral suppression of this cohort annually. The cohort was defined as the group of patients (all ages) living with HIV that had a viral load greater than or equal to 200 copies/ mL at last viral

load between July 1, 2013 and June 30, 2014. Individuals that were documented during the measurement year as deceased, incarcerated for more than 6 months, relocated out of the care site's geographic catchment area, and/or transferred HIV medical care were excluded.

By June 2015, all three states that participated in the cohort activity (AR and MS chose not to participate in the activity) increased viral suppression among their original cohort, surpassing the 20% goal. A total of 1,451 patients across the three states (or 43% of 3,353) were additionally suppressed (Table 6). Viral suppression was defined as a HIV viral load less than 200 copies/ml at last measurement between July 1,

2014 and June 30, 2015. Qualitatively, participants in key informant interviews reported that this activity gave them a subgroup of patients to which they could focus their QI efforts. Further, achieving the viral suppression goal fostered feelings of pride and accomplishment. Another round of suppression data on the cohort (update #2) will be reported in October 2016.

**Table 6: H4C viral suppression cohort by state: number of agencies participating, number of patients unsuppressed at start and number of patients in cohort suppressed by June 2015.**

	# of Agencies	Total # Eligible	Goal - 20% increase in suppression (as # of patients)	# of patients suppressed as of 6/15	Goal achieved
<b>AR Achievers</b>	NA	NA	NA	NA	NA
<b>MO CAN</b>	6	481	96	223	Yes
<b>MS Southern Hospitality</b>	NA	NA	NA	NA	NA
<b>NJ CPC</b>	43	2489	498	1042	Yes
<b>OH Quality Crusaders</b>	2	383	77	186	Yes
<b>TOTAL</b>	<b>51</b>	<b>3353</b>	<b>671</b>	<b>1451</b>	<b>Yes</b>

\*AR and MS did not participate and did not provide a 2015 update; not all agencies within a state participated.

**Aim #2: Align CQM goals across all RWHAP Parts to jointly meet legislative CQM mandates.**

Table 7 outlines the progress of the five states in meeting the objectives and benchmarks for H4C Collaborative Aim #2. All five states established RTs, which met on a monthly basis (over the phone or in person) throughout the Collaborative and reported activities to NQC using bi-monthly progress reports. Seventy-one individuals participated in state RTs and LS: 12 from AR, 16 from MO, 14 from MS, 12 from NJ, and 17 from OH. All Parts were represented on RTs and all included at least one consumer.

**Statewide CQM plans adopted:** All states adopted written statewide CQM plans to guide and coordinate regional CQM activities. States also began discussing and/or planning for sustainability of activities during the active phase of the Collaborative, although to varying degrees. AR and OH reported holding initial discussions, while MO and NJ reported that they finalized their sustainability plans.

**Sustainability of CQM activities post-Collaborative:** In the months following the last LS, state interviewees reported sustainment of activities, such as RT meetings. All states reported discussions around strategies to sustain activities beyond the Collaborative and that they intended to continue most or all activities; some state interviewees noted that they planned to expand upon activities or engage other key players in the state in current efforts. Coaches and NQC and HAB staff also expressed optimism in interviews that all states were likely to sustain their activities. While it was believed that most activities would sustain, some coaches and interviewees anticipated that data reporting would become less frequent in the post-Collaborative period.

**Consumer involvement in CQM:** Consumer trainings were held in the five states with a total of 78 consumers (range: 5-25 consumers participating per state) participating in these trainings. In interviews, most states reported high levels of consumer involvement. Consumer involvement included participation in the H4C LS and the Training of Consumers on Quality (TCQ) program; engagement of consumers on topics such as quality, medication adherence, and active participation in care; and

providing the consumer perspective at CQM/QI meetings and inform decision-making at the program level. Consumers reported in interviews that their first-hand experiences as consumers of services opened up communication channels with other consumers in the state. State RT members acknowledged that consumer involvement deepened their understanding of issues faced by consumers, including challenges with viral suppression and retention in care. Several state interviewees reported that consumer involvement was challenging; however, a number of other state interviewees described increasing involvement over time.

NQC staff, coaches and HAB reported in interviews a high level of consumer involvement in H4C, noting that each state had a consumer at nearly every LS. Structuralizing and formalizing consumer participation in the Collaborative was described as a big achievement toward setting the standard for inclusion of consumers in such activities going forward. Recommendations for the future included ensuring a mechanism to fund consumer costs from the start, responsivity to consumer needs when expressed by consumers, and pressing states to engage consumers if they report lack of interest.

**Provider engagement in CQM:** States did not provide a great deal of information about provider trainings in progress reports. AR discussed the difficulty of engaging providers in Collaborative activities. The AETC held a webinar for AR designed to encourage provider engagement in H4C priority activities. All states held activities to educate providers about H4C Collaborative activities. NJ held a statewide training the Annual HIV Clinical Update, and a second training focused on “drilling down data.” OH sent multiple representatives to other NQC-sponsored training programs, such as Training-of-Trainers (TOT) and Training on Coaching Basics (TCB).

**Table 7: State achievement in meeting H4C Aim #2 (cross-Part alignment of CQM goals) objectives and benchmarks.**

Objective	Benchmark	AR	MO	MS	NJ	OH
RTs actively coordinating and aligning statewide CQM activities	RT in place after LS1 to foster cross-Part alignment, partnership and collaboration among regional RWHAP grant recipients	Yes	Yes	Yes	Yes	Yes
	Improvement activities reported by states every other month	Yes	Yes	Yes	Yes	Yes
	RTs convened monthly with their assigned QI coaches	Yes	Yes	Yes	Yes	Yes
	Sustainment of RTs three months after official closing of the Collaborative to indicate a sustainable QI infrastructure	Yes	Yes	Yes	Yes	Yes
	Sustainability plan in place prior to the LS5 that describes how the activities will occur beyond the formal Collaborative	No; As of Dec 2015, RT discussions about adding sustainability section to CQM plan	Yes; Finalized formal sustainability plan in summer 2015	Partial; Sustainability logic model developed for LS4	Yes; Sustainability plan developed for LS4	No; Began discussions about sustainability
HIV providers work together and articulate regional QI strategies	Written statewide CQM plan established with the participation and agreement of regional grant recipients to actively guide and coordinate regional CQM activities	Yes	Yes	Yes	Yes	Yes
HIV providers have the capacity for QI	Increased QI capacity among HIV providers by successfully attending a QI training session	No; Clinician buy-in a challenge; AETC webinar designed to encourage engagement in the H4C priority activities			Yes; Staff training at Annual HIV Clinical Update; statewide training on “drilling down data”	Yes; Participated in NQC-sponsored trainings (TOT, TCB); Plans for capacity building at statewide Consortia meetings; Provided CAREWare training
Increased consumer capacity to be meaningfully involved in quality activities	Consumers of HIV services have been trained on QI	Yes; 5 consumers trained in 2014 TCQ	Yes; 16 consumers trained in 2014 TCQ	Yes; 25 consumers trained in 2014 TCQ	Yes; 21 consumers trained in 2014 TCQ	Yes; 11 consumers trained in 2014 TCQ
	Consumer training participants rated the QI training as informative and practical	No; Not collected/no data	Yes; 8 consumers responded	No; Not Collected/no data	Yes; 2 consumers responded	Yes; 4 consumers responded

<b>Objective</b>	<b>Benchmark</b>	<b>AR</b>	<b>MO</b>	<b>MS</b>	<b>NJ</b>	<b>OH</b>
	Consumers involved in some QI aspects	No; Ongoing challenge but RT conducted statewide patient survey to understanding reasons for missed appointments (to inform QI work)	Yes; Developed "consumer involvement matrix" tool to display consumer involvement (formal and informal) and location within state	Yes; Consumer attends statewide CQM Group that meets quarterly; consumer RT representative involved in planning of TCQ in MS	Yes; Consumers planning webinars/conferences; consumers involved in CPC statewide committee	Yes; Four consumers statewide are participating in QI at their home agencies; Consumer (that participated in TCQ) attended statewide Consortia meeting
	States have at least one active consumer representative on their RTs	Yes; although ongoing consumer involvement has been challenging	Yes; Sustainability plan calls for at least one consumer liaison on RT	Yes	Yes; Two consumers on RT	Yes

**Aim #3: Implement joint QI activities to advance the quality of care for PLWH within a region and to coordinate HIV services seamlessly across Parts.**

Finally, Table 8 outlines the progress of the five states in meeting the objectives and benchmarks for H4C Collaborative Aim #3. All five states developed written aim statements at the start of the Collaborative to guide their CQM/QI work. Three of the five states included quantifiable goals for viral suppression in their aim statements. According to H4C performance measure data, MO met its goal of 85% by December 2015, reporting 85.9% suppressed; MS reported 74.7% suppressed by December 2015 and only one site reached the state goal of 80%. AR had set a goal of 88% suppressed and reported 62% suppressed in the June 2015 reporting cycle.

For monitoring QI activities, only MO noted in progress reports that it had specifically identified QI project coordinators to oversee QI at the recipient level. Other states did not specifically address whether a QI coordinator was established to improve viral suppression and retention rates. They more generally discussed it as a responsibility of the RT.

#### **H4C STATE AIM STATEMENTS**

**Arkansas** will improve our HIV Continuum to provide improved care for PLWH. Through patient retention in care, we will focus on increasing viral suppression in our state from the current rate of 68% to 88% by March 31, 2015.

**Missouri** will use heroic efforts to improve the HIV Care Continuum to provide high quality care for PLWH. We will initially focus on viral suppression, as evidenced by: at least 85% of patients in all race/gender/age categories will be virally suppressed by June 2015 from the baseline of 80.7% in December of 2013.

**Mississippi** will improve its HIV Care Continuum to provide improved health outcomes for PLWH. We will focus initially on improving our State's quality and data management infrastructure and capacity by standardizing data entry in CAREWare, integrating surveillance data, increasing capacity for CQM at RWHAP sites through training, increasing collaboration, and updating RWHAP CQM plans. We will also collaborate to implement at least one statewide and one site-specific QI project focused on viral suppression to increase suppression rates at each participating RWHAP clinic from their respective baselines to 80%.

**New Jersey** will encourage RWHAP grant recipients to adopt a strategy (e.g., use a checklist); engage a spectrum of NJ HIV agencies to participate; update CQM plan and add communication plan; engage all RWHAP funded medical providers in submitting data on H4C measures every 2 months, conduct consumer training, focusing on H4C goals; and conduct staff training through Clinical Update and through communication with each clinic.

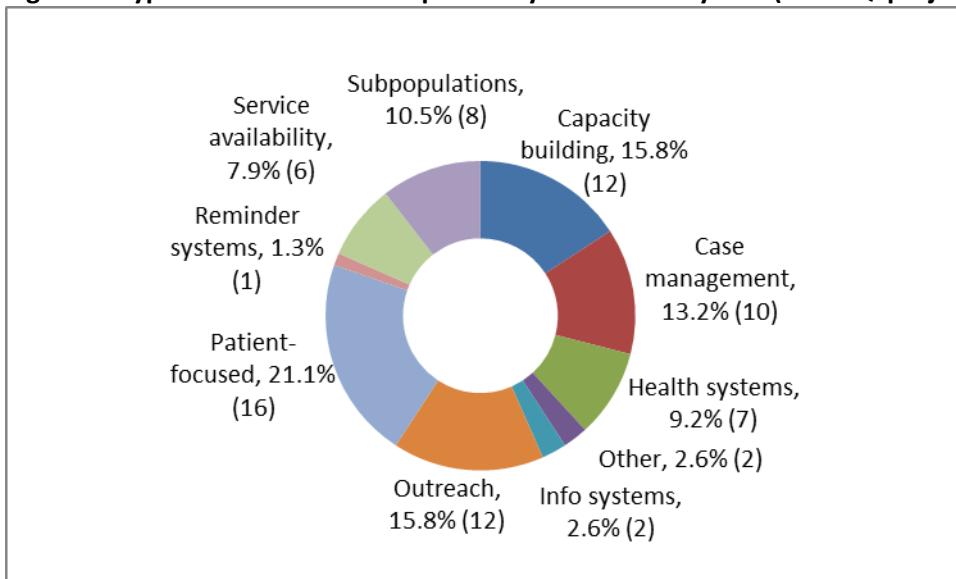
**Ohio** will revisit and reconfigure team membership; engage a spectrum of OH HIV agencies in H4C; create a CQM plan with a communication plan; engage all RWHAP-funded HIV medical providers in submitting data on H4C measures every 2 months; conduct a consumer QI training.

**Table 8: State achievement in meeting H4C Aim #3 (joint QI projects) objectives and benchmarks.**

Objective	Benchmark	AR	MO	MS	NJ	OH
Joint QI projects conducted to foster active and effective regional collaborations	States established a written aim statement for participation in the Collaborative	Yes	Yes	Yes	Yes	Yes
	States established a QI team to improve viral suppression and retention rates across local grant recipients	No; Not addressed specifically in progress reports; discussed more generally as RT responsibility	Yes; two QI project coordinators to oversee and track implementation	No; Not addressed specifically in progress reports; discussed more generally as RT responsibility	No; Not addressed specifically in progress reports; discussed more generally as RT responsibility	No; Did not address in progress reports
	QI teams report measurable improvements for their projects at the end of the Collaborative	Yes; all agencies working on a QI project to improve retention with end goal of improving viral suppression; reported that "VLS numbers looking much better"	Yes; PDSA worksheets adopted to report quarterly on agency QI projects, which all focused on viral suppression; at least 3 agencies increased viral suppression as a result by Sep 2015	Yes; PDSA worksheet used to plan and track PDSAs and for cross-agency sharing; reported as "some increase in viral suppression rates"	Partial; Feedback forms used to track progress of grant recipient QI projects; 15 QI projects reported by Jan 2015; Did not report numbers (demonstrate improvement) as a result of QI work	No;Not addressed in progress reports
Grant recipients across state better aligning their QI goals and efforts	States report improvement in the collaboration between RWHAP grant recipients across the state	Yes	Yes	Yes	Yes	Yes

With respect to QI projects, the five states reported a total of 76 QI projects during the Collaborative. As of LS 4, NJ and OH reported the largest number of QI projects (25 and 22, respectively), followed by MS (12), AR (10), and MO (7). The majority of the reported QI projects were patient-focused (21.1%), following by outreach related (15.8%) and capacity building 15.8% (Figure 6). Further, 14.5% were focused on the diagnosis component of the Continuum, 13.2% were focused on the linkage piece of the Continuum, 39.5% were focused no retention, 11.8% were focused on ARV prescribing, and 21.1% were focused on viral suppression.

**Figure 6: Types of interventions reported by H4C states by LS 4 (N=76 QI projects).**



Three of the five states used PDSA/QI project tracking forms to collect information on agency QI projects during the Collaborative. OH and AR did not address tracking of QI projects in their states in the progress reports. States also provided example QI projects in their bi-monthly progress reports. For example, grant recipients in MO focused on medication adherence. Three grant recipients using monthly lists from the State Pharmacist of AIDS Drug Assistance Program (ADAP) patients who were about to be late or were actually late to pick up their ARV medications. The grant recipients reported to the state that the lists were extremely helpful in contacting patients to ensure they pick up their meds on time. Other grant recipients in MS were using “teach back” tools to increase viral suppression rates.

One grant recipient in AR was contacting private doctors for labs of clients and educating clients about ARV. Another agency initiated a viral suppression competition among their case workers as they work on ensuring ARV adherence and timely medical visits. The MS RT adopted a client survey that helped identify systems issues, as well as individual barriers, to medication adherence to help inform QI efforts.

Three of the five states reported an increase in viral suppression as a result of the QI work; however, actual numbers and percentages (i.e., magnitude of change) were not reported in progress reports. Anecdotal evidence also indicated that sharing of resources and tools for QI occurred across the states. States shared QI intervention materials on Glasscubes, which were accessed, downloaded, updated and implemented by other states.

### *Improvements in Cross-Part Collaboration per Collaborative Assessment*

State RTs completed collaborative assessments at each LS to assess state-level infrastructure for CQM and QI. This assessment asked participants to score themselves in eight domains: cross-Part infrastructure; communication strategies; cross-Part CQM plan; measures and data systems; data collection; priority goals; QI projects; and training/TA. High assessment scores indicate improvements in collaboration and alignment across participating grant recipients across the state.

Collaborative assessment scores across all domains increased from the first LS to the last LS (Table 9). Median scores across the five states were calculated and compared across learning sessions. The highest baseline scores were in measures and data systems (3) and communication strategies (2). The remainder of the domains scored 0s and 1s. By the end of the Collaborative, scores in these domains had increased substantially with scores of 4 in all domains but communication strategies, which had a score of 5. All domains had scores of greater than 3 by the end of the Collaborative, which demonstrates surpassing the pre-established thresholds for CQM competency in all areas of the Collaborative Assessment. The greatest improvement in scores was seen for cross-Part CQM plan (L1, 0; L5, 4) and priority goals (L1, 0; L5, 4).

**Table 9: Median H4C Collaborative Assessment scores for each domain across the five participating states across the five learning sessions.**

	LS1	LS2	LS3	LS4	LS5
<b>A1: Cross-Part infrastructure</b>	1	4	4	4	4
<b>A2: Communication strategies</b>	2	4	4	4	5
<b>A3: Cross-Part CQM plan</b>	0	4	3	4	4
<b>B1: Measures and data systems</b>	3	3	3.5	3.5	4
<b>B2: Data collection</b>	1	3	4	4	4
<b>C1: Priority goals</b>	0	4	4	4	4
<b>C2: QI projects</b>	1	3	5	3	4
<b>D1: Training/TA</b>	1	3	3	3	4

Table 10 shows Collaborative Assessment data from the first learning session (LS 1) to the last learning session (LS 5) by state. At baseline, MO and OH generally had the lowest scores across the five states; however, these two states also saw the greatest gains in Collaborative Assessment scores from LS 1 to LS 5 and generally had the highest scores of any of the states by the last learning session. Every state showed significant improvement from baseline, and all states improved in all domains during the Collaborative, with the exception of NJ, which scored the highest at the first learning session.

**Table 10: H4C Collaborative Assessment scores by state for each domain from LS 1 to LS 5.**

	AR		MS		MO		NJ		OH	
	LS1	LS5								
A1: Cross-Part infrastructure	3	4	1	4	1	4	4	5	0	4
A2: Communication strategies	2	5	3	4	0	5	3	5	2	4
A3: Cross-Part CQM plan	0	4	0	2	0	4	4	5	0	4
B1: Measures and data systems	3	4	3	4	0	3	5	4	0	4
B2: Data collection	1	4	2	4	0	4	5	4	0	4
C1: Priority goals	0	3	4	4	0	4	4	4	0	4
C2: QI projects	1	5	4	4	0	4	4	5	0	3
D1: Training/TA	1	4	1	3	0	3	3	4	2	4

### Recommendations for Future NQC Collaboratives

Recommendations for improvement span several aspects of the Collaborative. Recommendations from H4C Faculty were to:

- Describe selection criteria so that participation does not seem punitive;
- Conduct a readiness assessment prior to the start of the Collaborative to ensure that states have the capacity to successfully complete the required activities (e.g. experience with CAREware and baseline capacity for working with data);
- Set clear expectations from the start regarding requirements for participation in H4C and stay with those expectations throughout the Collaborative such that requirements are not a moving target;
- Continue engagement of southern states and awareness of the unique issues faced by the RWHAP staff and consumers in the region;
- Provide more opportunity for free-flowing conversation during calls with the team leaders for greater opportunity to discuss challenges and support one another;
- Awareness of time demands and the tension between H4C requirements and other work responsibilities such participants are not required to choose between fulfilling H4C requirements and their ongoing responsibilities;
- Build on the momentum of the Collaborative by transitioning into a campaign to continue building a group of experts; and
- Vet state participants, including preparedness to participate in the Collaborative and identification of potential challenges such that coaches could prepare themselves accordingly.

### Additional Feedback from State RT Members

Interviewees described the face-to-face learning sessions as valuable for getting people focused as compared to webinars where multi-tasking is common. LS in general were described as informative by most states, but less helpful to some states with higher baseline capacity. States with higher capacity expressed that some LSs focused on areas of familiarity therefore the learning session was not an efficient use of their time. Recommendation for improvement were to excuse states from participation if they already know the subject area or to assess state capacity prior to the start of the Collaborative to ensure that all states have a capacity that will allow them to fully participate in the activities. Over time, relationships developed between states and certain states served as technical assistance providers for other states. Discussions with other states and breakout discussion within state teams were seen as valuable for generating ideas and strategies.

Interviewees reported that they enjoyed learning about other states' progress through presentations and it was exciting to see everything come together in the final learning session. Travel to the LS was considered a drawback by a few interviewees and some said that the amount of information presented during the learning session was overwhelming, but it was acknowledged that this is part of the learning process.

*"...working together as a collaborative developed a collective wisdom"*

Interview participants overwhelmingly said that coaching was valuable and a key factor in their success. Coaching support was described by one interviewee as a safe relationship to help breakdown requirements when it felt overwhelming. Coaches were described as dedicated, encouraging, always available, and a resource for connections to other states or information. One recommendation was for additional training for coaches to understand the local context.

Several challenges were reported. Interviewees said they were "volun-told" to participate and the reasons they were selected to participate were unclear. One state reported that states were not held to the same expectations and level of accountability. Many interviewees reported that participation was extremely time consuming and challenging to balance with other workplace demands, however all participants noted important improvements to their programs as a result of their participation.

### **Limitations**

There are some limitations to the performance measure data. For each reporting period, the bi-monthly data submitted were based on the preceding year or preceding two years (for the medical visits frequency measure), and did not capture the impacts of activities that occurred within the states during the timeframe of the Collaborative. For example, data reported for 10/1/2014 were for the prior year (6/1/2013-5/31/2014) or prior two years (6/1/2012-5/31/2014). Changes in outcomes due to QI activities during the Collaborative may not be captured by the data until the later reporting periods. Variability in the data may also have been due to data reporting or data quality issues versus actual changes in performance. For example, some states noted that decreasing performance for some measures in the early submission rounds were due to data cleaning, rather than an actual reflection of worsening quality. Over the course of the Collaborative, data quality improved. Additionally, during the initial data submission phases, some states were setting up their CAREWare systems to support the data reporting; there were some changes in the personnel responsible for the data; one site had a data loss issue – all of which were challenges that the RT had to work together with the H4C participants to overcome.

Another limitation is that several activities that were under consideration during the planning stage of the Collaborative were included in the concept paper; however they were intentionally not adopted as requirements. The activities included: 1) establishing a statewide educational plan for advanced CQM competencies for providers and consumers; 2) surveying participants of the advanced CQM trainings with regard to utility and application of the training to their work; and 3) determining whether the participants applied the training content to their HIV programs. These activities were not evaluated in this report because there was no intention to implement the activities.

Further, the Collaborative Assessment scores were self-reported by states and based on their perceptions of capacity and infrastructure. Information included in this report was reported by states in

progress reports and storyboards, etc. Lack of documentation of an activity can mean either the activity did not occur or it occurred but was not documented by the state.

## CONCLUSIONS

At the end of the H4C Collaborative, the following benefits were achieved:

- **Aim #1: Build capacity for closing gaps across the Continuum**
  - Steps toward being able to produce state and local HIV Care Continua data and share these data with local/regional HIV providers and constituencies. Two of five states were able to produce state and local HIV Care Continua by the end of the Collaborative and all states took steps toward achieving this goal by engaging State Surveillance in activities, discussing definitions and data availability, and developing data sharing agreements with Surveillance.
  - Routine measurement of viral suppression and retention performance measures for strategic planning and QI processes; data routinely collected based on standardized data collection methodologies and used for QI. A total of 54 grant recipients and subrecipients from the five states reported H4C performance measure data, using the HAB definitions for measures (13 from OH, 8 from MO, 9 from MS, 18 from NJ, and 6 from AR). This represents 98% (54/55) of all recipients across the five states; four of the five states had 100% participation. The total number of clients reported on in April 2014 was 31,838 and generally increased in each submission round thereafter. The highest number of patients captured was 34,337 in April 2015.
  - Improvements in viral suppression and retention rates, as demonstrated by Collaborative performance data. The state median percentages for the four measures improved between the first submission and the last submission round for ARV (a 9.2% increase), medical visits frequency (+13.2%), and viral suppression (+6.6%). The gap measure also improved with a reduction of 24.2%. Four states saw improvements in the ARV and viral suppression measures and two states saw improvements in the gap and medical visits frequency measures between the first and last submissions. The ARV, medical visits frequency measures also improved for Blacks; the ARV measure improved for Hispanics/Latinos.
- **Aim #2: Cross-Part alignment of CQM goals**
  - A unified, regional cross-Part CQM plan for each Collaborative state. All states developed and adopted a cross-Part CQM plan by the end of the Collaborative.
  - Creation of a state RT comprised of local quality champions formed in each participating state to guide viral suppression efforts. All states created a cross-Part RT with participation from agencies throughout the state, including at least one consumer liaison.
  - Strengthened partnerships across Parts in participating states as evidenced by: A sustainable infrastructure for the purpose of collaboration for CQM; region-wide CQM priorities; joint training opportunities; and improved working relationships across grant recipients in the state. Collaborative assessment scores across all domains increased from the first LS to the last LS, indicating improved collaboration and infrastructure to support statewide CQM/QI.

- *Increased buy-in and capacity of HIV providers and consumers:* Each state held a TCQ with a total of 78 consumers participated in trainings and each state RT included at least one consumer representative. Trainings and activities occurred in the states to also increase provider buy-in.
- **Aim #3: Implement joint QI projects**
  - *At least one formal QI project on viral suppression in each state.* All five states adopted viral suppression as the initial focus of their QI activities. A total of 93 QI projects were reported by state RTs during the Collaborative.

## NEXT STEPS

Continue to follow the sustainment of H4C activities in the five participating states, including monthly meetings, submission of performance measure data, and development of state and local HIV Care Continua. See Table 10 below for a timeline of July-December 2016 H4C activities:

	JUL	AUG	SEP	OCT	NOV	DEC
PM Reporting Cycles						
Progress Reports						
Closed cohort reporting						
Care Continuum Reporting						
Improvement Sharing						
Final Report						

## **APPENDIX A: BI-MONTHLY PROGRESS REPORT TEMPLATE**

### **H4C State Team Progress Report Form--Date**

#### **Guidance for completing this Progress Report Form:**

- This reporting template should grow cumulatively over time. Fill in as you go to chronicle your improvement journey.
- An updated version of this form is submitted every other month, with deadlines that coincide with performance measurement data submissions: June 2, August 1, October 1, December 1, February 2, April 1, June 1, August 3.
- This form is completed by your Coach in collaboration with the Response Team, and the monthly coaching calls provide a routine forum to discuss the content to complete this form.
- After the Response Team reviews the form, the Coach submits the form in the “H4C Planning Group” Glasscubes and the H4C Faculty provides a written response each reporting period.
- Each cell does not need to be completed each period; only include activities/findings related to that reporting period.
- For each strategy, report the number of the Collaborative goal and/or letter of the State Team aim (listed below) that corresponds. Not all strategies must be associated with a goal or aim.

**State Name:** \_\_\_\_\_

**Response Team Leader Name:** \_\_\_\_\_

**Response Team Leader Phone / Email:**

**Coach Name:** \_\_\_\_\_

#### **Collaborative Goals:**

When reporting your activities, specify towards which goal(s) the strategy works.

**#1 Capacity Goal:** Build regional capacity for closing gaps across the HIV Care Continuum to ultimately increase viral suppression rates for individuals living with HIV

**#2 Quality Management Goal:** Align quality management goals across all Ryan White HIV/AIDS Program Parts to jointly meet legislative quality management mandates

**#3 Quality Improvement Goal:** Implement joint quality improvement activities to advance the quality of care for people living with HIV within a region and to coordinate HIV services seamlessly across Parts

#### **State Team Aims:**

When reporting your activities, specify towards which aim(s) the strategy works.

- A) Aim A
- B) Aim B
- C) Aim C

**Activities:**

1. How have you strengthened and sustained your quality management infrastructure?

Aim#	Goal#	Month/Year	Describe your strategies

2. How have you established and maintained the performance measurement structure to receive, analyze and report statewide H4C data?

Aim#	Goal#	Month/Year	Describe your strategies

3. What steps have you taken toward the development of regional and local HIV Care Continua?

Aim#	Goal#	Month/Year	Describe your strategies

4. What steps have you taken to draft, revise, or finalize your quality management plan, and what have you done to implement it and establish buy-in?

Aim#	Goal#	Month/Year	Describe your strategies

5. What steps have you taken to plan and implement your quality improvement project? What are your major accomplishments, lessons learned, and/or challenges?

Aim#	Goal#	Month/Year	Describe your strategies

6. What actions have you taken to build capacity for both providers and consumers?

Aim#	Goal#	Month/Year	Describe your strategies

**7. How have you engaged and used patient voice for improvement?**

Aim#	Goal#	Month/Year	Describe your strategies
			*Press tab for another row

**8. Describe your major accomplishments this reporting period.**

Aim#	Goal#	Month/Year	Describe your strategies
			*Press tab for another row

**9. Describe your major challenges this reporting period.**

Aim#	Goal#	Month/Year	Describe your strategies
			*Press tab for another row

**10. How can the H4C faculty help you with your technical assistance needs?**

Aim#	Goal#	Month/Year	Describe your strategies
			*Press tab for another row

**11. Other?**

Aim#	Goal#	Month/Year	Describe your strategies
			*Press tab for another row

## **APPENDIX B: COLLABORATIVE CROSS-PART ASSESSMENT**

A1. Is there an HIV-specific CQM infrastructure in place to engage all RWHAP agencies within your state?

A2. Are cross-Part communication strategies in place to solicit feedback from all RWHAP agencies and to promote QI activities across the state?

A3. Is a comprehensive CQM plan written to guide the cross-Part CQM activities?

B1. Are appropriate performance and outcome measures selected, and methods outline to collect and analyze statewide performance data across all Parts?

B2. Are performance data collected to assess the quality of HIV care and services across all Parts across the state?

C1. Are statewide QI goals developed in collaboration with RWHAP agencies of all Parts?

C2. Are joint QI projects conducted with the engagement of RWHAP agencies across all Parts?

D1. Are QI training and TA on QI offered to HIV providers and consumers across the state and across Parts?

## APPENDIX C: H4C KEY INFORMANT INTERVIEW GUIDES

### For State RTs

#### Background

- What was your role in the H4C collaborative?
  - *Probe:* What were your responsibilities related to the collaborative?
  - *Probe:* Have you been involved since the start of the collaborative? Did you attend every learning session?

#### Participation in the collaborative

- What did your state hope to achieve with the H4C collaborative participation?
- What were the major goals in your initial statewide aim statement?
- How did you select members of your RT?
- How much did time did you spend working on collaborative activities per month?
- Did you participate in all face-to-face learning sessions? Did you find them helpful?
  - *Probe:* If yes, in what ways were they helpful? What were the pros and/or cons to having other states present during these sessions?
  - *Probe:* Did you find the training provided by NQC useful? In what areas was training most helpful?
- Did you interact with NQC, HAB and/or coaches between learning sessions?
  - *Probe:* On what topics/activities? Was the assistance provided by these staff helpful?
- How would you rate your coach?
  - *Probe:* What were the benefits of having an assigned coach working with you?
- Did you interact with other states between learning sessions?
  - *Probe:* On what topics? Did you find this level of interaction helpful?
- How did you share what you learned at the collaborative with others back at your state?
  - *Probe:* What topics/information did you share?
- What was the topic of your joint QI project?
  - *Probe:* Why did you choose this topic? What were the challenges with implementing the joint QI project? What was the outcome of this QI project?
- Did your state construct a formal written state cross-Part CQM plan? Briefly describe your state's plan and any challenges you experienced implementing the plan.
  - *Probe:* Were these challenges overcome?
- Since the start of the collaborative, have you seen a change in your state's re-engagement, retention and/or viral suppression rates?
  - *Probe:* If yes, please describe the change (i.e., increase, decrease) and the factors that led to this change.
- Did you engage consumers in the collaborative?
  - *Probe:* If yes, in what ways did the consumers engage in the collaborative? Has consumer engagement been sustained throughout the life of the collaborative? How has consumer participation impacted your work?
- Did you participate in any other NQC activities during or after the collaborative, such as Regional Groups, advanced QI trainings, etc.?
  - *Probe:* Were you aware of NQC/use NQC resources before this collaborative? Do you intend to use NQC TA/training resources in the future?

### Data Collection and Reporting

- Did you experience any difficulties reporting collaborative performance measures? If yes, what were the challenges?
  - *Probe:* Please comment on the quality of these data. Did the quality of the data change over the life of the collaborative?
  - *Probe:* Was the reporting of these data helpful to your work? What were the benefits of routinely collecting and reporting performance measures?
  - *Probe:* Will you continue this activity post-collaborative? What did you learn from your experience or other states' experience in completing this exercise?
- A key activity of this collaborative was estimating your state and local HIV Care Continua. What were the benefits and challenges of this activity?
  - *Probe:* Please comment on the quality of these data submissions. Did the quality of the data change over the life of the collaborative?
  - *Probe:* Will you continue this activity post-collaborative? What did you learn from your experience or other states' experience in completing this exercise?
- Another collaborative activity involved submitting data to the H4C collaborative viral suppression cohort. What were the benefits and challenges of this activity?
  - *Probe:* Please comment on the quality of these data submissions. Did the quality of the data change over the life of the collaborative?
  - *Probe:* What did you learn from your experience or other states' experience in completing this exercise?

### Sustainability

- Did your state begin to consider sustainability before the end of the collaborative?
  - *Probe:* What types of activities related to sustainability did you work on before the end of the collaborative?
- Does your state intend to continue activities of the collaborative after it has ended? For example:
  - Do you intend to continue collecting/reporting performance measures?
  - Do you intend to continue estimating state and local HIV Care Continua?
  - Do you intend to continue to engage consumers in these activities?
  - Did you include plans for sustainability in your CQM plan?
  - Do you intend to continue implementing statewide QI projects? In what areas?
  - Do you intend to continue regular cross-Part meetings in your state?
  - *Probe:* What will be the challenges in sustaining these activities?
- At this point, do you have any suggestions or recommendations for NQC on how to support states in sustainment of cross-Part collaborative activities statewide? This might be a suggestion from your own experience or something you wish had been a part of your own experience.
  - *Probe:* What could have been done differently to foster sustainability?
  - *Probe:* What would help you the most to sustain collaborative activities?

### Closing

- In your opinion, did your state achieve its initial aim statement?
- Overall, what have been the biggest successes of the collaborative? What have been the biggest challenges? Were you able to overcome these challenges?
- In general, what recommendations do you have for NQC to improve future collaboratives?

## **For HAB and NQC staff**

### Background

- What was your role in the H4C collaborative? Have you been involved since the start of the collaborative?
- What were your responsibilities related to the collaborative?

### For NQC staff

- What were HAB's goals/objectives with this collaborative? Were they achieved?
- What were the major accomplishments of this collaborative from HAB's perspective?
- Were the H4C goals and accomplishments widely communicated within HAB? Why? Why not?
- How were the five states selected to participate?
  - *Probe:* Did any of these states participate in prior collaboratives? If yes, did that have any impact on their level of success in this collaborative?
  - *Probe:* What were their initial aim statements? Do you think these aim statements were achievable?

### For HAB

- What were HAB's goals/objectives with this collaborative? Were they achieved?
- What were the major accomplishments of this collaborative from HAB's perspective?
- Were the H4C goals and accomplishments widely communicated within HAB? Why? Why not?
- How were the five states selected to participate?
  - *Probe:* Did any of these states participate in prior collaboratives? If yes, did that have any impact on their level of success in this collaborative?
  - *Probe:* What were their initial aim statements? Do you think these aim statements were achievable?

### Collaborative Activities

- Who was represented on your state response team (number of individuals, job titles/roles)? Were any key members not included from your state?
  - *Probe:* Do you have recommendations for who should represent the state in the collaborative on the response team? Does NQC/HAB provide guidance on who from the state should participate? If key members were not included, why were they not included?
- What challenges (if any) did states face in staying engaged and participating in the collaborative? (e.g., staff turnover, state engagement, data collection/reporting capacity, etc.)
  - *Probe:* Were all states represented at all learning sessions? Did the same staff come to every session? What were the benefits and challenges of the learning sessions?
  - *Probe:* In what areas was the need for training and technical assistance the greatest? In what areas did states benefit the most from training/TA?
- Did all states draft formal statewide cross-Part CQM plans?
  - *Probe:* What were the biggest challenges with developing these plans?
  - *Probe:* Did the states revisit these CQM plans over the course of the collaborative?
- What QI projects were selected by states?
  - *Probe:* Did most select retention or viral suppression?
  - *Probe:* What were the successes and challenges of implementing these projects?
- Were consumers actively engaged in the H4C collaborative and in the various state QI activities?

### Data Collection and Reporting

- Did all states routinely collect and report performance measure data?
  - *Probe:* What were the biggest benefits and challenges? Do you think this activity met its intended goal?
  - *Probe:* Do you have confidence in the quality of these data? Did the quality of the data change from the start to the end of the collaborative?
  - *Probe:* Was there anything that you learned from the states as they implemented this activity?
- States were expected to produce state and local HIV Care Continua. Were they successful in calculating and reporting these continua?
  - *Probe:* Where there any challenges producing and interpreting the state and local care continuums? Do you think this activity met its intended goal?
  - *Probe:* Do you have confidence in the quality of these data? Did the quality of the data change from the start to the end of the collaborative?
  - *Probe:* Was there anything that you learned from the states as they implemented this activity?
- States were expected to submit data to the H4C viral suppression cohort. Did this happen?
  - *Probe:* Where there any challenges producing and interpreting the viral suppression cohort? Do you think this activity met its intended goal?
  - *Probe:* Do you have confidence in the quality of these data? Did the quality of the data change from the start to the end of the collaborative?
  - *Probe:* Was there anything that you learned from the states as they implemented this activity?

### Sustainability

- Based on your experience, do you think H4C states will sustain activities after the collaborative transitions after the last learning session?
  - *Probe:* What state collaborative activities are most likely to be sustained and which are least likely in the post-collaborative phase? Which states will most likely continue activities and which will likely cease activities?
  - *Probe:* What is needed to get states to sustain collaborative activities?
  - *Probe:* What could NQC/HAB have done differently to foster sustainability?

### Closing

- Now, at the end of the collaborative, can you describe the states in terms of their engagement in the collaborative and any changes observed in their capacity and/or knowledge as a result of this collaborative?
  - *Probe:* Where were they when they came, where are they now, and what has happened along the way?
  - *Probe:* Did states achieve their initial aim statements? If no, why not?
  - *Probe:* Were states receptive to feedback from HAB, NQC staff and coaches?
- In your opinion, were the goals of this collaborative achieved?
  - *Probe:* What were the biggest benefits and biggest challenges of the H4C collaborative? What are the lessons learned for future collaboratives?
  - *Probe:* Did states understand the goals and the value of the different collaborative activities? If no, why not?
- In general, what recommendations do you have for improvement?

- What is one question that you would like us to ask the states?

## **For Coaches**

### Background

- What was your role in the H4C collaborative? Have you been involved since the start of the collaborative?
- What were your responsibilities related to the collaborative?
- Which state(s) did you primarily support?
  - *Probe:* What were their initial aim statements? Do you think these aim statements were achievable?
  - *Probe:* What were the states' TA/training needs upon entering the collaborative? How were those needs assessed?
- What were the major accomplishments of this collaborative from your perspective?  
What were the major challenges of this collaborative from your perspective?

### Collaborative Activities

- Who was represented on your state response team (number of individuals, job titles/roles)? Were any key members not included from your state?
  - *Probe:* Do you have recommendations for who should represent the state in the collaborative on the response team? Does NQC/HAB provide guidance on who from the state should participate? If key members were not included, why were they not included?
- What challenges (if any) did states face in staying engaged and participating in the collaborative? (e.g., staff turnover, state engagement, data collection/reporting capacity, etc.)
  - *Probe:* Were all states represented at all learning sessions? Did the same staff come to every session? What were the benefits and challenges of the learning sessions?
  - *Probe:* In what areas was the need for training and technical assistance the greatest? In what areas did states benefit the most from training/TA?
- Did all states draft formal statewide cross-Part CQM plans?
  - *Probe:* What were the biggest challenges with developing these plans?
  - *Probe:* Did the states revisit these CQM plans over the course of the collaborative?
- What QI projects were selected by states?
  - *Probe:* Did most select retention or viral suppression?
  - *Probe:* What were the successes and challenges of implementing these projects?
- Were consumers actively engaged in the H4C collaborative and in the various state QI activities?

### Data Collection and Reporting

- Did all states routinely collect and report performance measure data?
  - *Probe:* What were the biggest benefits and challenges? Do you think this activity met its intended goal?
  - *Probe:* Do you have confidence in the quality of these data? Did the quality of the data change from the start to the end of the collaborative?
  - *Probe:* Was there anything that you learned from the states as they implemented this activity?
- States were expected to produce state and local HIV Care Continua. Were they successful in calculating and reporting these continua?

- *Probe:* Where there any challenges producing and interpreting the state and local care continuums? Do you think this activity met its intended goal?
  - *Probe:* Do you have confidence in the quality of these data? Did the quality of the data change from the start to the end of the collaborative?
  - *Probe:* Was there anything that you learned from the states as they implemented this activity?
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  - *Probe:* Where there any challenges producing and interpreting the viral suppression cohort? Do you think this activity met its intended goal?
  - *Probe:* Do you have confidence in the quality of these data? Did the quality of the data change from the start to the end of the collaborative?
  - *Probe:* Was there anything that you learned from the states as they implemented this activity?

### Sustainability

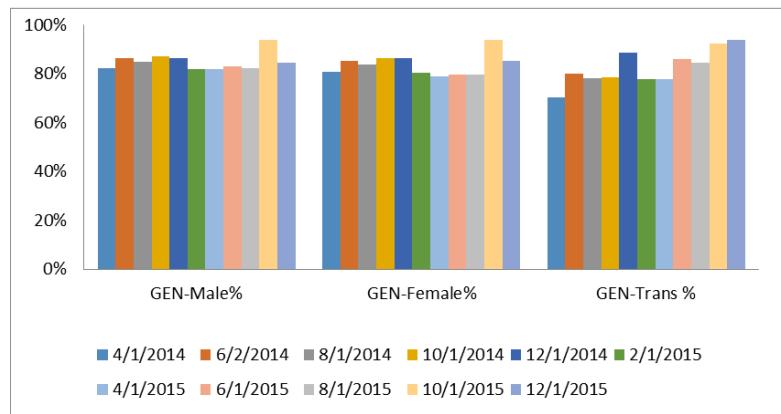
- Based on your experience, do you think H4C states will sustain activities after the collaborative transitions after the last learning session?
  - *Probe:* What state collaborative activities are most likely to be sustained and which are least likely in the post-collaborative phase? Which states will most likely continue activities and which will likely cease activities?
  - *Probe:* What is needed to get states to sustain collaborative activities?
  - *Probe:* What could NQC/HAB have done differently to foster sustainability?

### Closing

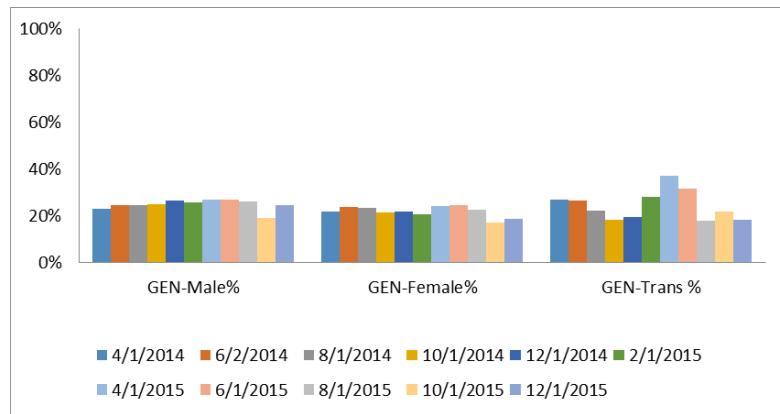
- Now, at the end of the collaborative, can you describe the states in terms of their engagement in the collaborative and any changes observed in their capacity and/or knowledge as a result of this collaborative?
  - *Probe:* Where were they when they came, where are they now, and what has happened along the way?
  - *Probe:* Did states achieve their initial aim statements? If no, why not?
  - *Probe:* Were states receptive to feedback from HAB, NQC staff and coaches?
- In your opinion, were the goals of this collaborative achieved?
  - *Probe:* What were the biggest benefits and biggest challenges of the H4C collaborative? What are the lessons learned for future collaboratives?
  - *Probe:* Did states understand the goals and the value of the different collaborative activities? If no, why not?
- In general, what recommendations do you have for improvement?
- What is one question that you would like us to ask the states?

## APPENDIX D: H4C PERFORMANCE DATA STRATIFIED BY GENDER, RACE/ETHNICITY, AND AGE

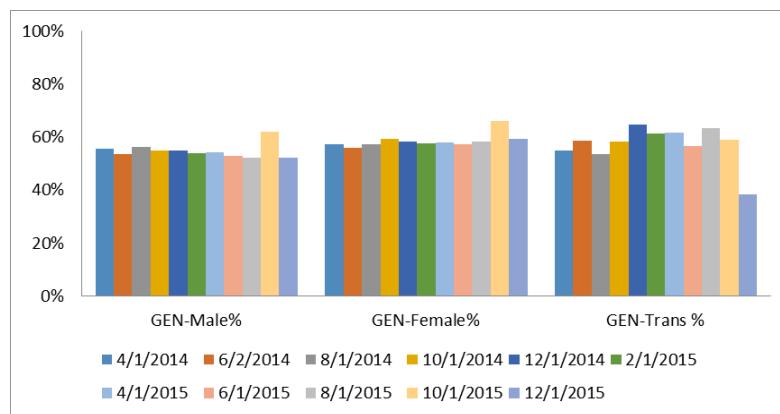
**Figure D-1: Prescription of HIV antiretroviral therapy across reporting periods of the H4C Collaborative, means of 5 state percentages by gender.**



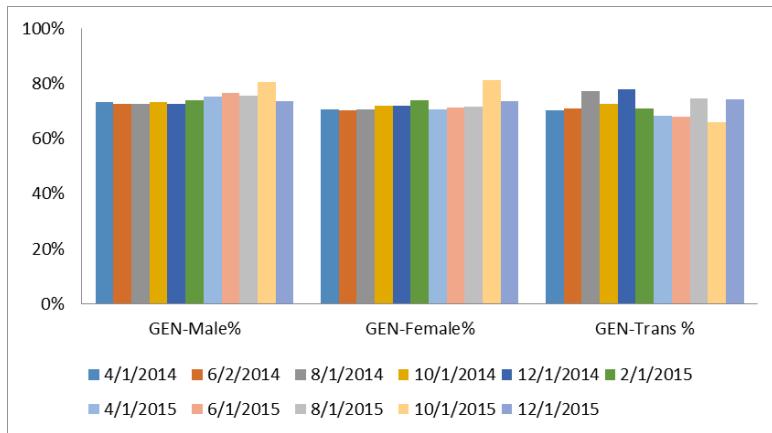
**Figure D-2: Gaps in HIV medical visits across reporting periods of the H4C Collaborative, means of 5 state percentages by gender.**



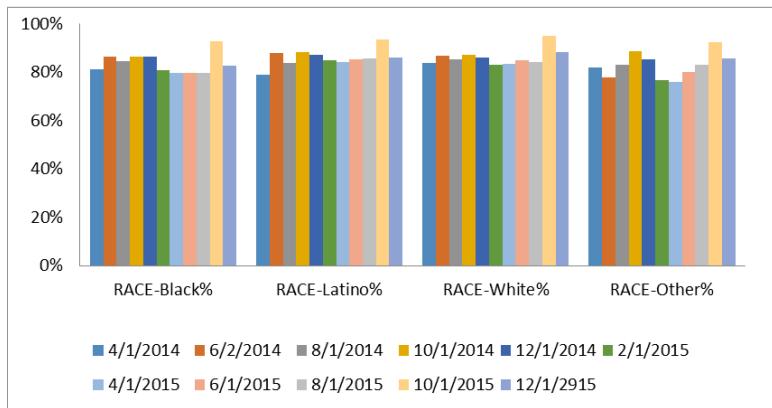
**Figure D-3: Medical visits frequency across reporting periods of the H4C Collaborative, means of 5 state percentages by gender.**



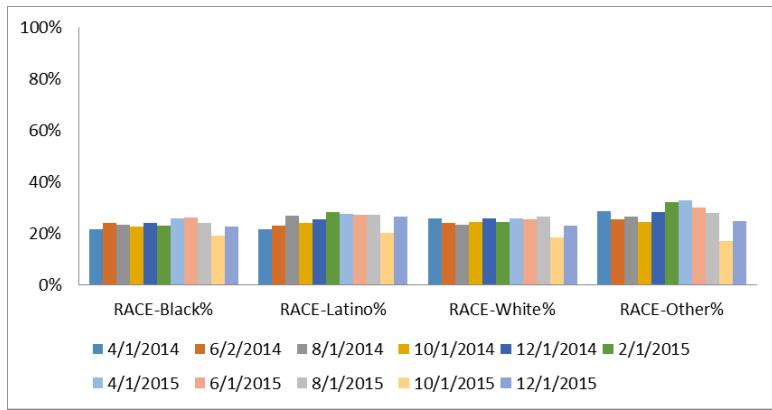
**Figure D-4: VLS across reporting periods of the H4C Collaborative, means of 5 state percentages by gender.**



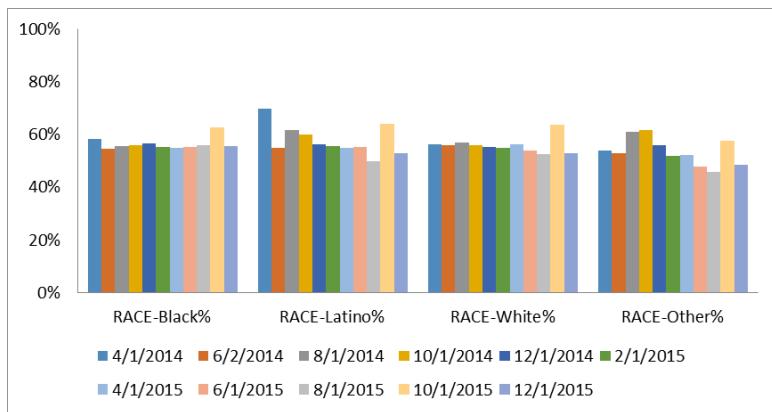
**Figure D-5: Prescription of HIV antiretroviral therapy across reporting periods of the H4C Collaborative, means of 5 state percentages by race/ethnicity.**



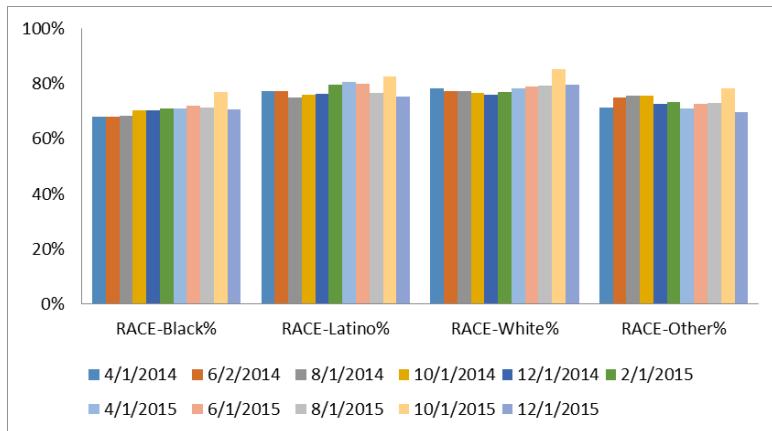
**Figure D-6: Gaps in HIV medical visits across reporting periods of the H4C Collaborative, means of 5 state percentages by race/ethnicity.**



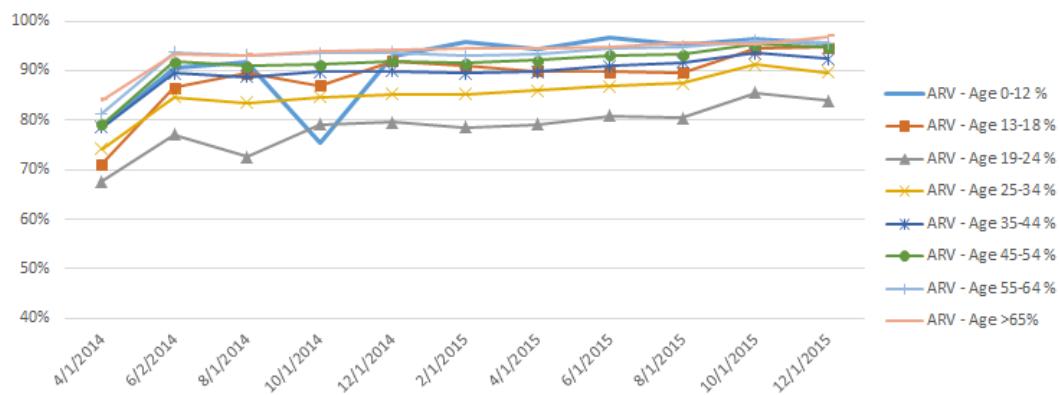
**Figure D-7: Medical visits frequency across reporting periods of the H4C Collaborative, means of 5 state percentages by race/ethnicity.**



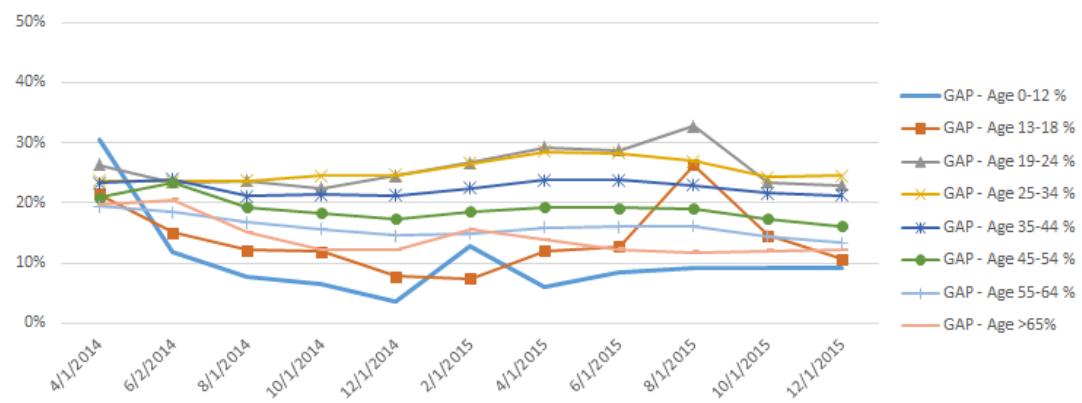
**Figure D-8: VLS across reporting periods of the H4C Collaborative, means of 5 state percentages by race/ethnicity.**



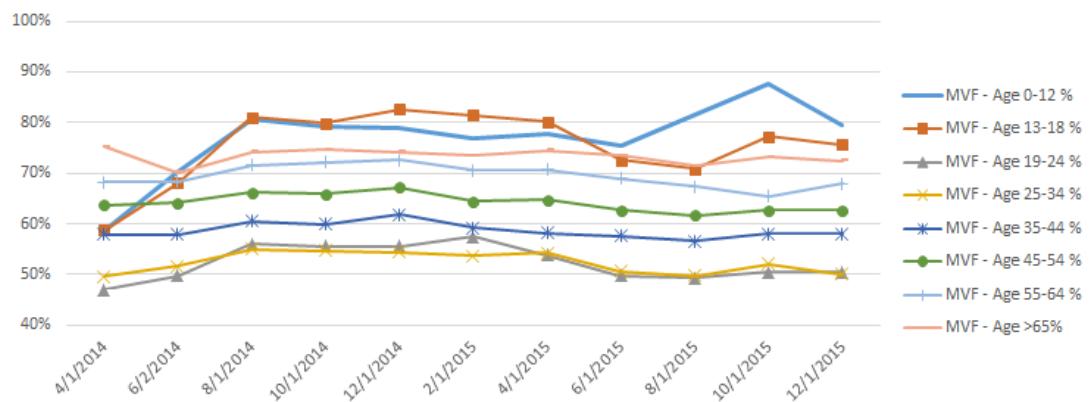
**Figure D-9: Prescription of HIV antiretroviral therapy across reporting periods of the H4C Collaborative, means percentages by age.**



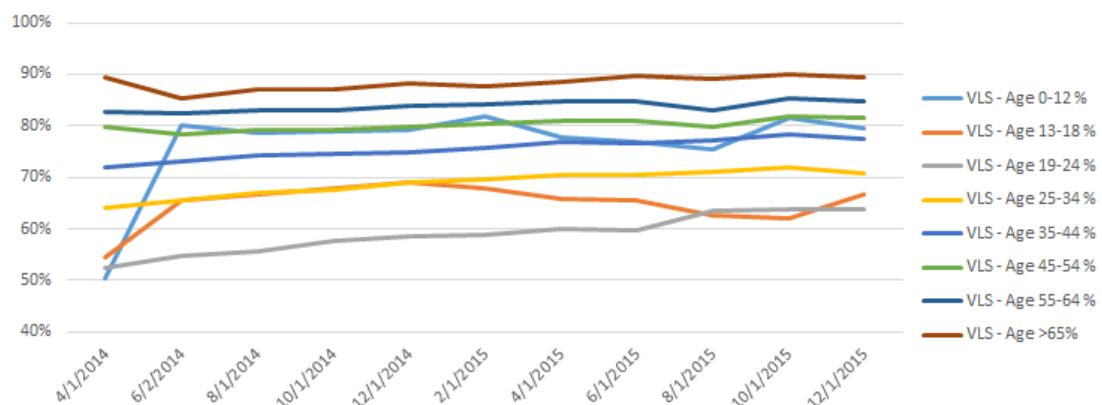
**Figure D-10: Gaps in HIV medical visits across reporting periods of the H4C Collaborative, means percentages by age.**



**Figure D-11: Medical visits frequency across reporting periods of the H4C Collaborative, means percentages by age.**



**Figure D-12: VLS across reporting periods of the H4C Collaborative, means percentages by age.**



## APPENDIX E: EXAMPLES OF EXCEL PIVOT TABLES & CHARTS

*Performance data entered into tables*

Measure	ARV											
	4/1/2014	5/2/2014	6/1/2014	10/1/2014	12/1/2014	2/1/2015	4/1/2015	6/1/2015	8/1/2015	10/1/2015	12/1/2015	
<b>AR</b>												
TOTAL-Numer	851	818	881	732	698	580	658	629	562	573		
TOTAL-Denom	1038	1025	935	384	363	1028	1319	1125	1181	992		
Total %	82.95%	79.49%	72.52%	74.39%	72.48%	52.82%	49.89%	52.64%	50.13%	57.76%		
<b>MO</b>												
TOTAL-Numer	2992	3037	3048	3183	3788	3187	5940	3521	3791	3833	3753	
TOTAL-Denom	3270	3259	3278	3334	3969	3329	4121	4104	4030	4166	3962	
Total %	91.50%	92.21%	92.00%	96.82%	96.48%	45.73%	45.61%	95.54%	94.07%	93.00%	91.28%	
<b>MS</b>												
TOTAL-Numer	3513	3503	3793	3725	3916	3968	4047	4098	4142	4127	3873	
TOTAL-Denom	4005	4126	4286	4151	4445	4478	4552	4520	4522	4618	4125	
Total %	85.98%	85.51%	86.28%	89.76%	88.68%	88.81%	88.91%	90.66%	91.00%	93.50%	91.80%	
<b>All</b>												
GEN-Male-Numer	2188	2205	2219	2331	2770	2302	2834	2831	2728	2772	2701	
GEN-Male-Denom	2394	2403	2392	2430	2892	2393	2969	2966	2902	2957	2845	
GEN-Male%	91.40%	91.70%	92.77%	95.93%	95.78%	96.20%	95.45%	95.45%	94.00%	93.74%	94.94%	
GEN-Female-Numer	780	813	810	810	810	810	810	810	810	810	810	
GEN-Female-Denom	851	869	870	870	870	870	870	870	870	870	870	
GEN-Female%	92.36%	93.56%	93.10%	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	
GEN-Trans-Numer	22	44	18	18	18	18	18	18	18	18	18	
GEN-Trans-Denom	25	48	18	18	18	18	18	18	18	18	18	
GEN-Trans %	88.00%	91.67%	100.00%	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	

*Selections by performance measure (ARV, GAP, MVF, VLS)*

*Performance over time can be shown by race, gender, age*