Flex Monitoring Team
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MBQIP Quality Measures Annual Report

Pennsylvania - 2020

Key Findings

- **Patient Safety/Inpatient Measures:** The Patient Safety/Inpatient reporting rate of 93.8% for Pennsylvania in 2020 was higher than the national reporting rate of 91.9%. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 1 measure, significantly worse on 0 measures, and did not have significantly different performance on 1 measure.
- **Outpatient Measures:** The Outpatient reporting rate of 93.8% for Pennsylvania in 2020 was higher than the national reporting rate of 86.5%. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 1 measure, significantly worse on 0 measures, and did not have significantly different performance on 2 measures.
- **Patient Engagement Measures:** The HCAHPS reporting rate of 87.5% for Pennsylvania in 2020 was lower than the national reporting rate of 89.8%. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 1 measure, significantly worse on 2 measures, and did not have significantly different performance on 7 measures.
- **Care Transitions Measures:** The EDTC reporting rate of 100.0% for Pennsylvania in 2020 was higher than the national reporting rate of 92.0%. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 9 measures, significantly worse on 0 measures, and did not have significantly different performance on 0 measures.

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Background

The Medicare Beneficiary Quality Improvement Program (MBQIP) focuses on quality improvement efforts in the 45 states that participate in the Medicare Rural Hospital Flexibility (Flex) Program. Through Flex, MBQIP supports more than 1,350 small hospitals certified as rural Critical Access Hospitals (CAHs) in voluntarily reporting quality measures that are aligned with those collected by the Centers for Medicare and Medicaid Services (CMS) and other Federal programs. The Flex Monitoring Team (FMT) has been producing state-level annual reports on quality measures for over a decade, and this annual report from the FMT focuses specifically on MBQIP measures using data collected under the four MBQIP domains: Patient Safety/Inpatient, Outpatient, Patient Engagement, and Care Transitions.

Data and Approach

The data used for this report are reported to CMS and extracted from QualityNet, or to the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN) annual survey. Emergency Department Transfer Communication (EDTC) data used for this report are from the Federal Office of Rural Health Policy (FORHP) as reported by CAHs to State Flex Programs. The data values in this report only include CAHs with a signed MBQIP Memorandum of Understanding (MOU).

Quality measures included in this report are limited to MBQIP measures, including: eight Patient Safety/Inpatient measures (HCP/IMM-3; Antibiotic Stewardship; CLABSI; CAUTI; SSI:C; SSI:H; MRSA; CDIFF), four Outpatient measures (OP-2; OP-22; OP-3b; OP-18b), ten Patient Engagement measures (from the Hospital Consumer Assessment of Healthcare Providers and Systems, or HCAHPS survey), and the Care Transitions (EDTC) measure. The six Healthcare-Associated Infections (HAI) measures (CLABSI; CAUTI; SSI:C; SSI:H; MRSA; CDIFF) are part of the MBQIP program, but not in the "core" measure set, and instead are a part of the "additional" measures set which is not required.

For each of the four domains, there are two sections of analyses: reporting and performance. Data are aggregated to the state and national levels. In all domains, data are not displayed for measures where the aggregated state or national data include fewer than 25 patients/cases/surveys.

Reporting identifies the number of CAHs reporting in each domain, and CAHs were considered reporting for any domain if they reported data in any quarter for any one measure with a denominator of one or more for that domain (indicating they had at least one patient, case, or survey for the applicable measure). Due to a lack of population and sampling data, these analyses for Q1-Q3 2020 did not include CAHs that may have reported a zero, since there is no way to determine if the zero was due to non-reporting or to a lack of an applicable population for a given measure. Beginning in Q4 2020, this data was included for measures OP-2, OP-3b, and OP-18b which may affect the number of CAHs reporting for those measures and/or Outpatient reporting totals. Analysis for the HAI measures also included data reported for these 6 measures where CAHs indicated they had a 0 denominator (0 patients in 2020 that would fall under any of these HAI categories). The reporting denominator of all CAHs in the U.S. for 2020 is 1,353 CAHs (the total number of CAHs designated on December 31, 2020), and the reporting numerator includes all CAHs with a signed MBQIP MOU reporting for the specific domain or measure. Please see the Appendix for additional information about the calculation for performance score values and statistical testing in each domain.

Missing or excluded data are indicated in trend figures by a missing data point, and a missing line indicates data are not available for any of the previous three years or the current year. Trend figures are not included for OP-22 (due to low annual variation), HAI measures (due to concerns with SIR calculation for CAHs), or the EDTC measure (due to a lack of multiple years' data for this measure). For measures OP-2, OP-3b, and OP-18b, in instances where states do not have any hospitals reporting data values greater than 0 (shown by an * in the tables), the trend figures will also have a missing data point for that year.

Benchmarks are included for all measures in this report except the six HAI measures. Benchmarks for HCP/IMM-3, Antibiotic Stewardship, and the EDTC measure are set at 100% to align with the benchmarks used in FORHP's MQBIP Performance Score (https://www.ruralcenter.org/resource-library/mbqip-performance-score). Benchmarks for OP-2, OP-22, OP-3b, and OP-18b are set at the national 90th percentiles of CAHs with MOUs during 2020. Benchmarks used for the HCAHPS measures come from the benchmarks selected for CMS' Hospital Value-Based Purchasing Program in 2021. HCAHPS Question 19 (patient recommendation) does not have a benchmark as part of these standards, and HCAHPS questions 8 and 9 (quietness and cleanliness) receive a joint benchmark.

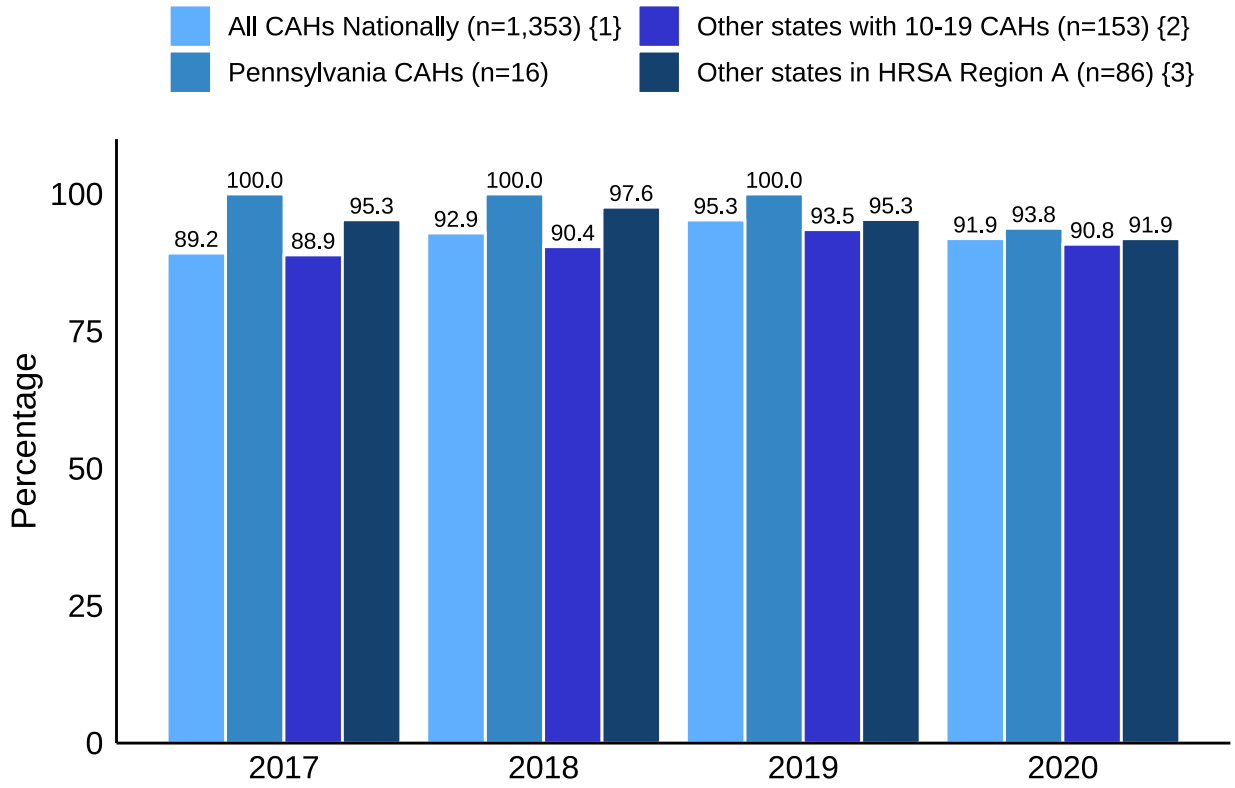
Patient Safety/Inpatient Domain

Patient Safety/Inpatient CAH Reporting

Results

The percent of CAHs reporting Patient Safety/Inpatient quality data varied considerably across states. In Pennsylvania, 93.8% of 16 CAHs reported data on at least one Patient Safety/Inpatient quality measure in 2020, and Figure 1 displays data for 2017-2020 among CAHs in four groups: those in Pennsylvania, all CAHs nationally, other states with a similar number of CAHs as Pennsylvania, and other states located in the same Health Resources and Services Administration (HRSA) geographic region as Pennsylvania. Table 1 compares the Patient Safety/Inpatient reporting rates of CAHs in Pennsylvania to those located in the other 44 states participating in the Flex Program as well as the rate for all CAHs nationally. The Pennsylvania CAH Patient Safety/Inpatient reporting rate of 93.8% ranks #27 nationally. The number of CAHs reporting individual quality measures may differ by measure for several reasons. Some measures only apply to a portion of patients; others exclude patients with contraindications, or only apply to conditions not treated or procedures not performed in some CAHs.

Figure 1: Percentage of CAHs Reporting at Least One Patient Safety/Inpatient Measure



Footnotes:

{1} Listed n values refer to most recent data (2020) only
{2} Group includes states with 10-19 CAHs: AK(13), AZ(15), FL(10), ME(16), NH(13), NM(11), NV(13), NY(18), TN(15), UT(13), WY(16)
{3} HRSA Region A includes: MA(3), ME(16), NH(13), NY(18), VA(7), VT(8), WV(21)

Table 1: State Ranking of CAH Reporting Rates for Patient Safety/Inpatient Quality Measures, 2020

Rank	State	CAHs reporting	% of CAHs	Rank	State	CAHs reporting	% of CAHs
1	Wisconsin	58	100.0	**24**	Missouri	33	94.3
1	North Dakota	36	100.0	**25**	Iowa	77	93.9
1	Indiana	35	100.0	**25**	Ohio	31	93.9
1	Colorado	32	100.0	**27**	Nebraska	60	93.8
1	Arkansas	28	100.0	**27**	Pennsylvania	15	93.8
1	Oregon	25	100.0	**29**	Kentucky	26	92.9
1	Maine	16	100.0	**30**	Idaho	25	92.6
1	Wyoming	16	100.0		National	1,243	91.9
1	Tennessee	15	100.0	**31**	Montana	45	91.8
1	Alaska	13	100.0	**32**	West Virginia	19	90.5
1	New Hampshire	13	100.0	**33**	Mississippi	28	90.3
1	Utah	13	100.0	**34**	Michigan	33	89.2
1	Vermont	8	100.0	**35**	California	32	88.9
1	Virginia	7	100.0	**35**	Hawaii	8	88.9
1	Alabama	5	100.0	**37**	Oklahoma	35	87.5
1	South Carolina	4	100.0	**38**	Arizona	13	86.7
1	Massachusetts	3	100.0	**39**	Nevada	11	84.6
18	Illinois	50	98.0	**40**	North Carolina	16	80.0
19	Georgia	29	96.7	**40**	Florida	8	80.0
20	Kansas	79	96.3	**42**	New Mexico	8	72.7
21	Minnesota	74	96.1	**43**	New York	13	72.2
22	Washington	37	94.9	**44**	Louisiana	18	66.7
23	South Dakota	36	94.7	**45**	Texas	57	65.5

Patient Safety/Inpatient CAH Performance

Results

Table 2 displays the results for performance of CAHs on core Patient Safety/Inpatient measures for Pennsylvania and all CAHs nationally. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 1 measure, significantly worse on 0 measures, and did not have significantly different performance on 1 measure. Figures 2 and 3 show the performance trends for HCP/IMM-3 and Antibiotic Stewardship for Pennsylvania and all CAHs nationally between 2017 and 2020.

Table 2: Patient Safety/Inpatient Quality Measure Results in Pennsylvania and All CAHs Nationally, 2020

Significantly better than all CAHs nationally Significantly worse than all CAHs nationally

Measure	Description	PA CAHs (n=16)		All CAHs (n=1,353)		
		CAHs reporting	Performance (%) {1}{2}	CAHs reporting	Performance (%) {2}	Benchmark (%)
HCP/IMM-3	Healthcare workers given influenza vaccination	11	88.5	903	87.0	**100.0**
Antibiotic Stewardship	Fulfill antibiotic stewardship core elements	15	80.0	1,118	83.0	**100.0**

Footnotes:

{1} Rates without highlights were not significantly different from comparable rates in all CAHs nationally.
{2} HCP/IMM-3 is expressed as the percentage of health care workers immunized, and Antibiotic Stewardship is the percentage of CAHs fulfilling all antibiotic stewardship core elements.
† Indicates insufficient data to calculate rate (<25 patients)

Figure 2: HCP/IMM-3 Trends in Pennsylvania and All CAHs Nationally

Healthcare workers given influenza vaccination

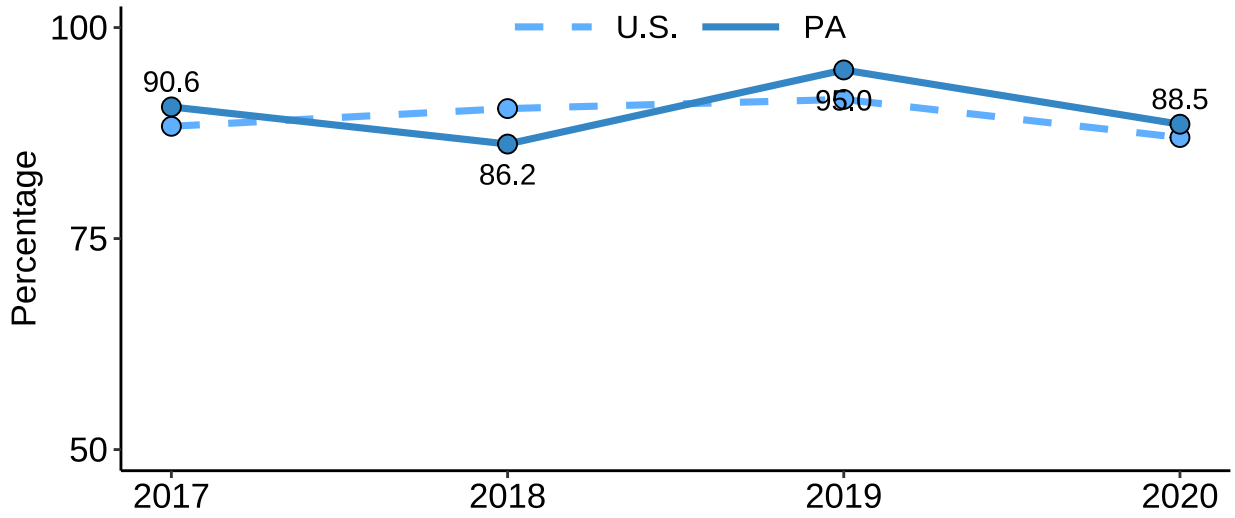


Figure 3: Antibiotic Stewardship Trends in Pennsylvania and All CAHs Nationally

CAHs fulfilling the seven antibiotic stewardship core elements

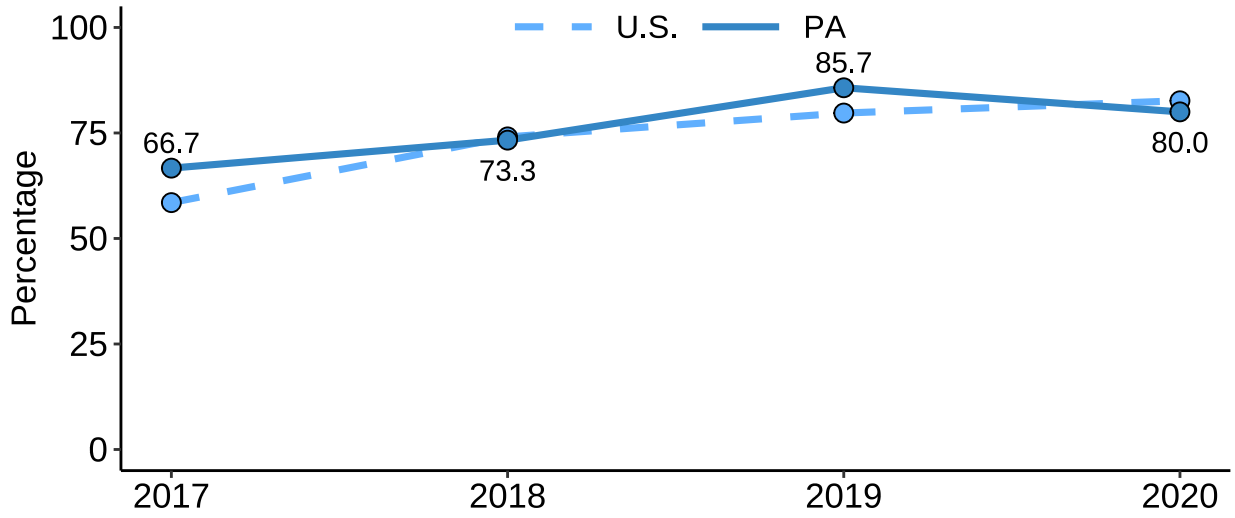


Table 3 displays HAI measures, including SIR performance results. Comparisons to other states are not provided for HAI measures because the majority of states did not meet the conditions for statistical comparisons. Performance trends for HAI measures are also not tracked due to concerns with SIR calculation for CAHs.

Table 3: Healthcare-Associated Infection Measures Results in Pennsylvania and All CAHs Nationally, 2020

		PA CAHs (n=16)		All CAHs (n=1,353)	
Measure	**Description**	**CAHs reporting**	**SIR {1}**	**CAHs reporting**	**SIR**
HAI-1	Central-line-associated bloodstream infections (CLABSI)	14	1.0	1,037	0.9
HAI-2	Catheter-associated urinary tract infections (CAUTI)	14	1.1	1,108	0.6
HAI-3	Surgical site infections from colon surgery (SSI:C)	12	0.9	432	0.8
HAI-4	Surgical site infections from abdominal hysterectomy (SSI:H)	12	†	414	1.7
HAI-5	Methicillin-resistant Staphylococcus Aureus (MRSA) infections	12	†	714	0.6
HAI-6	Clostridium difficile (C.diff) intestinal infections	12	0.5	805	0.7

Footnotes:

{**1**} SIRs are a ratio of the total number of infections observed in 2020 divided by the predicted number of annual infections.
† Indicates insufficient data to calculate SIR
– Indicates no data available for this measure

Note: Significance tests for HAI Measures are not included as statistical tests are not able to be performed on these data.

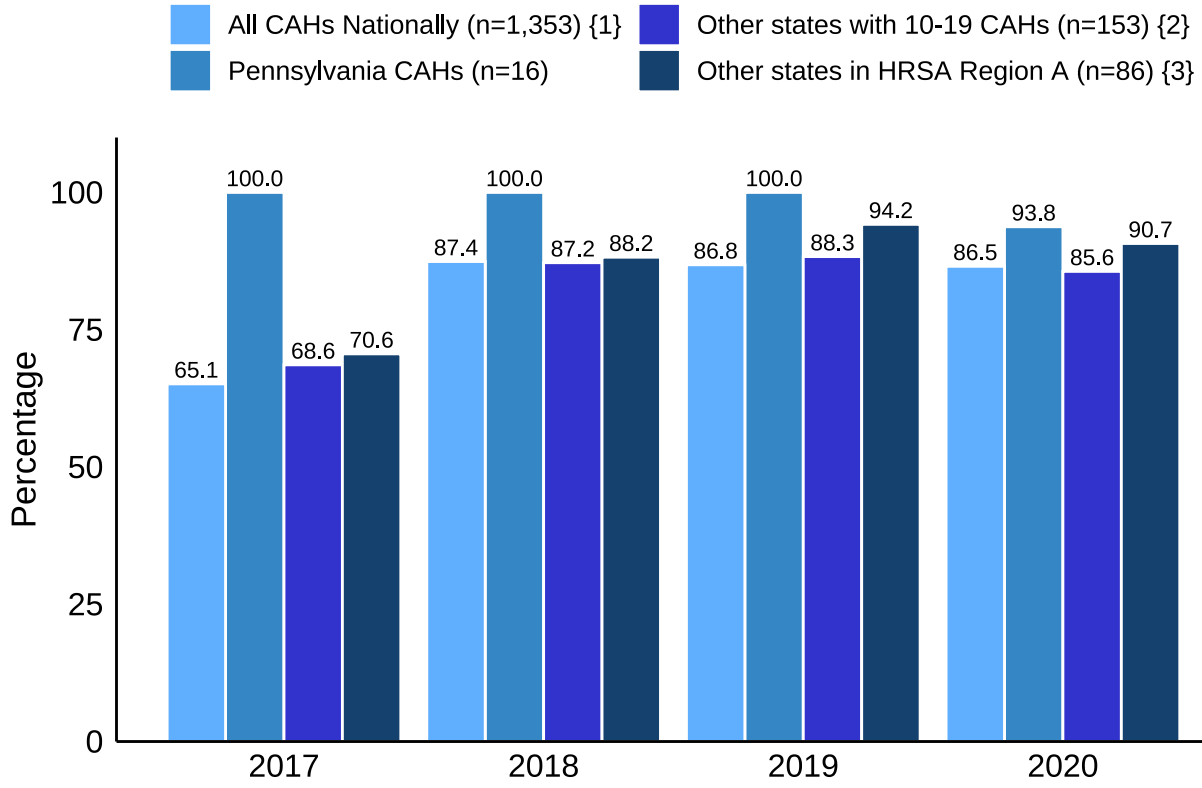
Outpatient Domain

Outpatient CAH Reporting

Results

The percent of CAHs reporting Outpatient quality data varied considerably across states. In Pennsylvania, 93.8% of the 16 CAHs reported data on at least one Outpatient quality measure in 2020, and Figure 4 displays data for 2017-2020 among CAHs in four groups: those in Pennsylvania, all CAHs nationally, other states with a similar number of CAHs as Pennsylvania, and other states located in the same HRSA geographic region as Pennsylvania. Table 4 compares the Outpatient reporting rates of CAHs in Pennsylvania to those located in the other 44 states participating in the Flex Program as well as the rate for all CAHs nationally. The Pennsylvania CAH Outpatient reporting rate of 93.8% ranks #15 nationally. The number of CAHs reporting individual quality measures may differ by measure for several reasons, other than missing data. Some measures may only apply to a portion of patients; others exclude patients with contraindications, or only apply to conditions not treated or procedures not performed in some CAHs.

Figure 4: Percentage of CAHs Reporting at Least One Outpatient Measure



Footnotes:

{1} Listed n values refer to most recent data (2020) only
{2} Group includes states with 10-19 CAHs: AK(13), AZ(15), FL(10), ME(16), NH(13), NM(11), NV(13), NY(18), TN(15), UT(13), WY(16)
{3} HRSA Region A includes: MA(3), ME(16), NH(13), NY(18), VA(7), VT(8), WV(21)

Table 4: State Ranking of CAH Reporting Rates for Outpatient Quality Measures, 2020

Rank	State	CAHs reporting	% of CAHs	Rank	State	CAHs reporting	% of CAHs
1	Michigan	37	100.0	**24**	Colorado	28	87.5
1	Georgia	30	100.0	**25**	Tennessee	13	86.7
1	Arkansas	28	100.0		National	1,171	86.5
1	New Hampshire	13	100.0	**26**	Montana	42	85.7
1	Hawaii	9	100.0	**27**	Oklahoma	34	85.0
1	Virginia	7	100.0	**27**	North Carolina	17	85.0
1	Massachusetts	3	100.0	**29**	Oregon	21	84.0
8	Nebraska	62	96.9	**30**	Washington	32	82.1
9	Wisconsin	56	96.6	**30**	Kentucky	23	82.1
10	Idaho	26	96.3	**32**	Wyoming	13	81.2
11	Minnesota	74	96.1	**33**	Alabama	4	80.0
12	West Virginia	20	95.2	**34**	Iowa	65	79.3
13	Kansas	78	95.1	**35**	South Dakota	30	78.9
14	North Dakota	34	94.4	**36**	California	28	77.8
15	Maine	15	93.8	**37**	Alaska	10	76.9
15	Pennsylvania	15	93.8	**38**	South Carolina	3	75.0
17	Nevada	12	92.3	**39**	Arizona	11	73.3
17	Utah	12	92.3	**40**	Illinois	37	72.5
19	Indiana	32	91.4	**41**	Texas	62	71.3
20	New Mexico	10	90.9	**42**	Louisiana	19	70.4
21	New York	16	88.9	**43**	Mississippi	20	64.5
22	Missouri	31	88.6	**44**	Florida	6	60.0
23	Ohio	29	87.9	**45**	Vermont	4	50.0

Outpatient CAH Performance

Results

Tables 5 and 6 display the results for performance of CAHs on Outpatient measures for Pennsylvania and all CAHs nationally. Table 6 displays results for median time measures (lower scores, indicating shorter median times, are better). Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 1 measure, significantly worse on 0 measures, and did not have significantly different performance on 2 measures.

Table 5: Outpatient Quality Measure Results in Pennsylvania and All CAHs Nationally, 2020

Significantly better than all CAHs nationally Significantly worse than all CAHs nationally

		PA CAHs (n=16)		All CAHs (n=1,353)		
Measure	**Description**	**CAHs reporting**	**% of patients {1}**	**CAHs reporting**	**% of patients**	**Benchmark (%)**
OP-2	Fibrinolytic therapy received within 30 minutes	13	†	958	48.4	**100.0**
OP-22	Patients left without being seen (lower is better)	11	0.5	797	0.9	**0.0**

Footnotes:

{1} Rates without highlights were not significantly different from comparable rates in all CAHs nationally.
† Indicates insufficient data to calculate rate (<25 patients)
* Indicates that no CAHs in the state submitted data values for eligible patients, but that one or more CAHs in the state either reported a population of 0 or submitted eligible cases to CMS that were excluded for the measure.

Table 6: Outpatient Median Quality Measure Results in Pennsylvania and All CAHs Nationally, 2020

Significantly better than all CAHs nationally Significantly worse than all CAHs nationally

		PA CAHs (n=16)		All CAHs (n=1,353)		
Measure	**Description**	**CAHs reporting**	**Minutes {1}**	**CAHs reporting**	**Minutes**	**Benchmark (minutes)**
OP-3b	Median time to transfer to another facility - acute coronary intervention	12	67.5	950	70.0	**35.0**
OP-18b	Median time from ED arrival to ED departure for discharged patients	15	112.0	1,098	111.0	**81.0**

Footnotes:

{1} Median minutes to receiving care. Lower is better for all measures. Rates without highlights were not significantly different from comparable rates in all CAHs nationally.
† Indicates insufficient data to calculate rate (<25 patients)
* Indicates that no CAHs in the state submitted data values for eligible patients, but that one or more CAHs in the state either reported a population of 0 or submitted eligible cases to CMS that were excluded for the measure.

Figures 5-7 show the performance trends for the Outpatient measures for Pennsylvania and all CAHs nationally between 2017 and 2020. The OP-22 trend is not displayed due to the measure's low annual variation.

Figure 5: OP-2 Trends in Pennsylvania and All CAHs Nationally

Fibrinolytic therapy received within 30 minutes

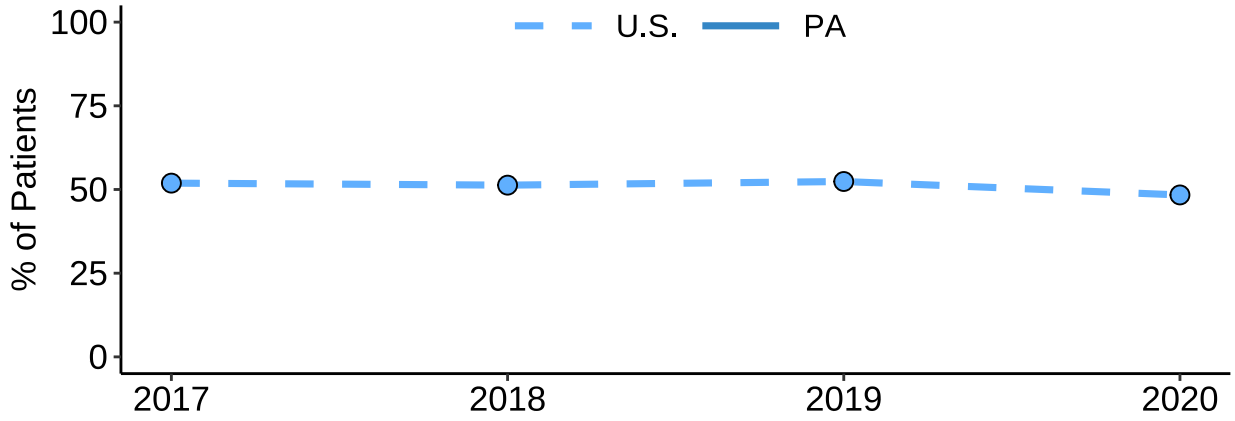


Figure 6: OP-3b Trends in Pennsylvania and All CAHs Nationally

Median time to transfer to another facility - acute coronary intervention (lower is better)

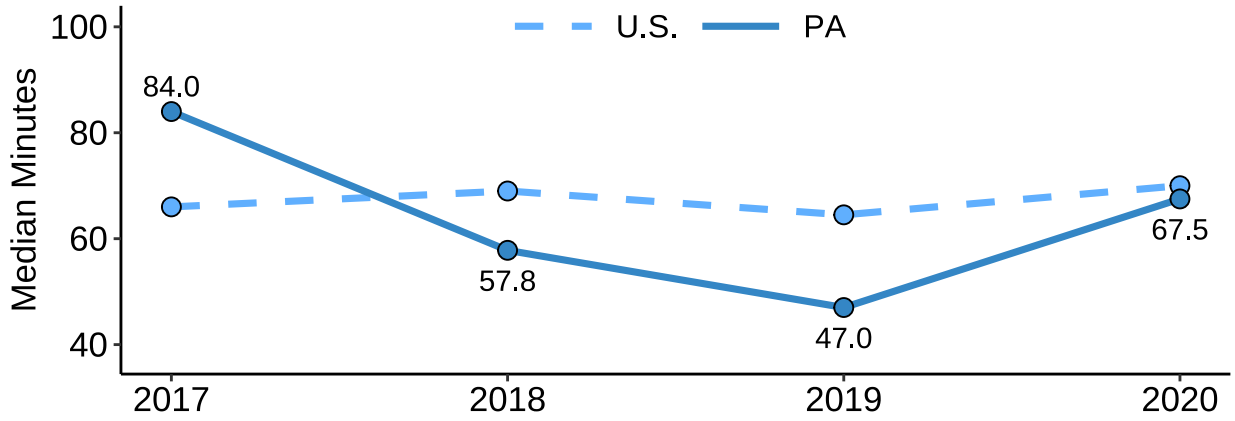
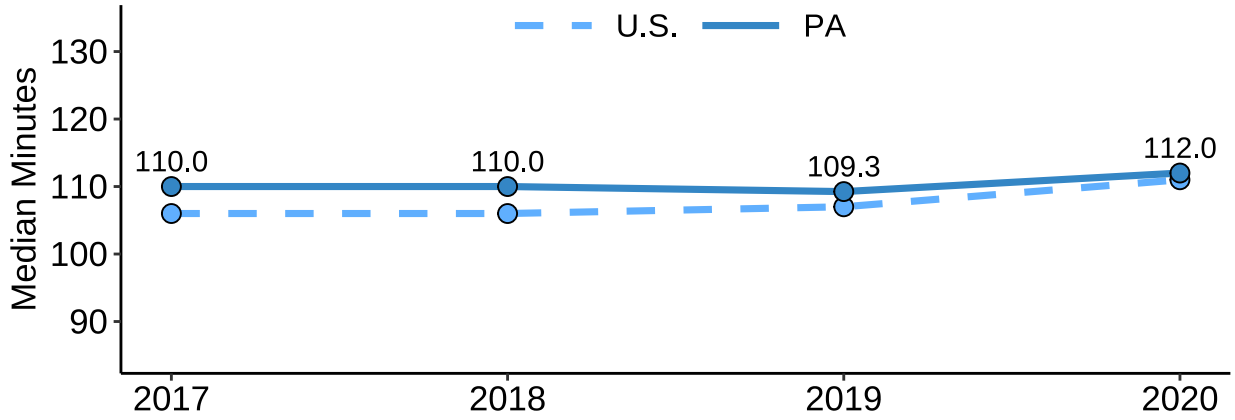


Figure 7: OP-18b Trends in Pennsylvania and All CAHs Nationally

Median time from ED arrival to ED departure for discharged patients (lower is better)



Patient Engagement Domain

HCAHPS CAH Reporting

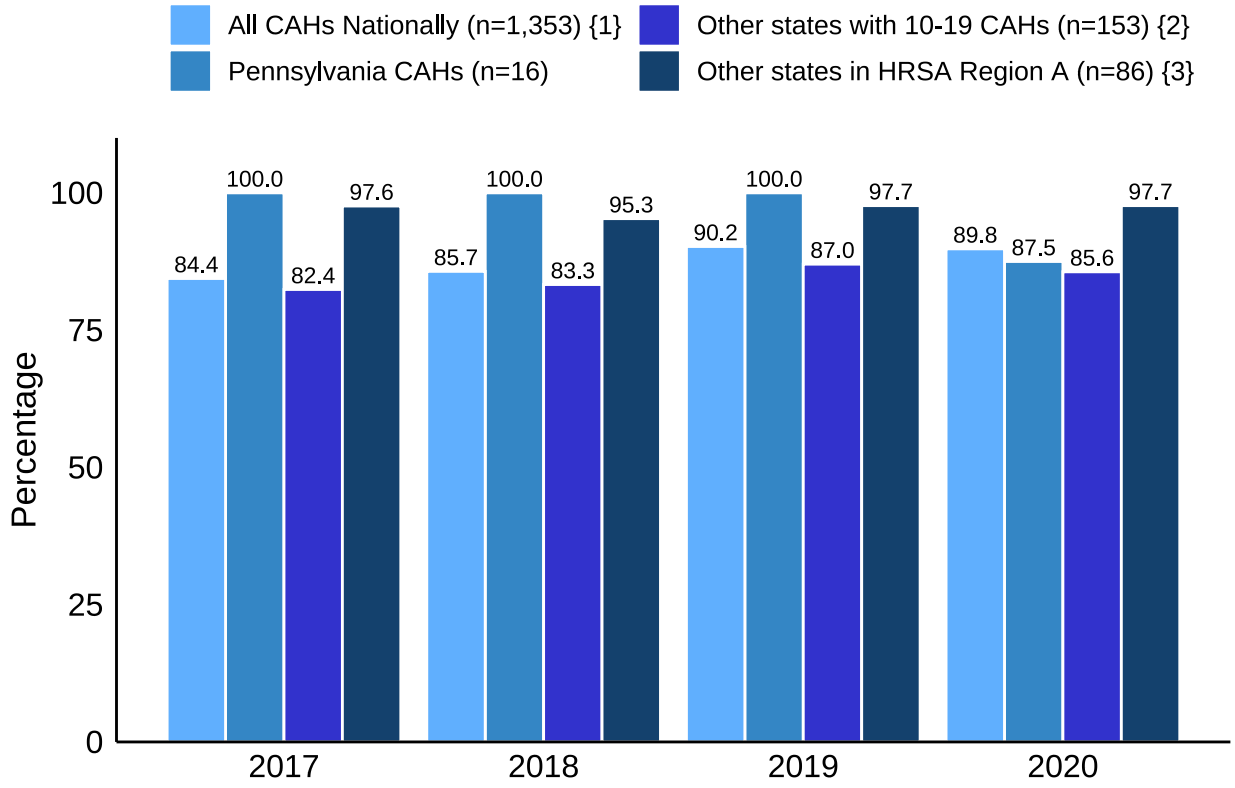
Results

The HCAHPS reporting rate for Pennsylvania was 87.5% in 2020. Figure 8 compares reporting rates from 2017-2020 in the Patient Engagement domain (HCAHPS) over time among four groups of CAHs: those in Pennsylvania, all CAHs nationally, those located in other states with a similar number of CAHs, and those located in the same HRSA geographic region as Pennsylvania.

The number of completed HCAHPS surveys per CAH in Pennsylvania and nationally in the five survey completion and three survey response rate categories reported by CMS are shown in Table 7. Hospitals with 100 or more completed HCAHPS surveys over a four-quarter period receive HCAHPS Star Ratings from CMS. CMS recommends that each hospital obtain 300 completed HCAHPS surveys annually, in order to be more confident that the survey results are reliable for assessing the hospital's performance. However, some smaller hospitals may sample all of their HCAHPS-eligible discharges and still have fewer than 300 completed surveys. Caution should be exercised in comparing HCAHPS results for states that have few CAHs reporting results and/or CAHs whose results are based on fewer than 100 completed surveys. In 2020, HCAHPS data only included two rolling quarters (Q3 2020 and Q4 2020) instead of the typical four, and as a result CAHs submitted fewer completed surveys that year.

Table 8 compares the HCAHPS reporting rates of CAHs in Pennsylvania to those located in the other 44 states participating in the Flex Program as well as the rate for all CAHs nationally. The Pennsylvania HCAHPS reporting rate of 87.5% ranks #31 nationally.

Figure 8: Percentage of CAHs Reporting at Least One Patient Engagement Measure (HCAHPS)



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{3} HRSA Region A includes: MA(3), ME(16), NH(13), NY(18), VA(7), VT(8), WV(21)

Table 7: Number of Completed HCAHPS Surveys and Response Rates in Pennsylvania and All CAHs Nationally, 2020

		Number of Completed HCAHPS Surveys					HCAHPS Survey Response Rates		
	Total CAHs reporting	<25	25-49	50-99	100-299	300+	<25%	25-50%	>50%
National	1,215	528	330	236	121	0	498	683	34
Pennsylvania	14	1	7	2	4	0	0	14	0

Table 8: State Ranking of CAH Reporting Rates for HCAHPS Quality Measures, 2020

Rank	State	CAHs reporting	% of CAHs	Rank	State	CAHs reporting	% of CAHs
1	Illinois	51	100.0	**24**	Nevada	12	92.3
1	South Dakota	38	100.0	**25**	Minnesota	71	92.2
1	West Virginia	21	100.0	**26**	North Dakota	33	91.7
1	Maine	16	100.0	**27**	Oklahoma	36	90.0
1	New Hampshire	13	100.0	**27**	North Carolina	18	90.0
1	Utah	13	100.0		National	1,215	89.8
1	New Mexico	11	100.0	**29**	Michigan	33	89.2
1	Vermont	8	100.0	**30**	Missouri	31	88.6
1	South Carolina	4	100.0	**31**	Pennsylvania	14	87.5
1	Massachusetts	3	100.0	**32**	Mississippi	27	87.1
11	Colorado	31	96.9	**33**	Virginia	6	85.7
12	Wisconsin	56	96.6	**34**	Washington	32	82.1
13	Arkansas	27	96.4	**35**	California	29	80.6
13	Kentucky	27	96.4	**36**	Texas	70	80.5
15	Kansas	79	96.3	**37**	Arizona	12	80.0
15	Idaho	26	96.3	**37**	Alabama	4	80.0
17	Oregon	24	96.0	**39**	Montana	39	79.6
18	Nebraska	61	95.3	**40**	Indiana	26	74.3
19	Iowa	78	95.1	**41**	Tennessee	11	73.3
20	New York	17	94.4	**42**	Louisiana	19	70.4
21	Ohio	31	93.9	**43**	Florida	5	50.0
22	Wyoming	15	93.8	**44**	Alaska	6	46.2
23	Georgia	28	93.3	**45**	Hawaii	3	33.3

HCHAPS CAH Performance

Results

Table 9 displays the results for performance on Patient Engagement (HCAHPS) measures for Pennsylvania and all CAHs nationally. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 1 measure, significantly worse on 2 measures, and did not have significantly different performance on 7 measures.

Table 9: HCAHPS Results for CAHs in Pennsylvania and All CAHs Nationally, 2020

Significantly better than all CAHs nationally

Significantly worse than all CAHs nationally

HCAHPS Measure	Percentage of patients that gave the highest level of response (e.g., "always")		
	PA CAHs (n=16)	**All CAHs (n=1,353)**	**Benchmark (%)**
CAHs Reporting	n=14	n=1,215	
Nurses always communicated well	85.1	84.0	**87.4**
Doctors always communicated well	84.2	84.6	**88.1**
Patients always received help as soon as wanted	77.7	75.0	**81.1**
Staff always explained medications before giving them to patients	68.3	67.1	**74.8**
Staff always provided information about what to do during recovery at home	91.7	88.6	**92.2**
Patients strongly understood their care when they left the hospital	55.5	55.7	**63.3**
Patient's room and bathroom were always clean	80.6	78.5	**79.6**
Area around patient's room was always quiet at night	63.7	67.9	**79.6**
Patient gave a rating 9 or 10 [high] on a 1-10 scale	76.1	77.9	**85.7**
Patient would definitely recommend the hospital to friends and family	70.2	76.1	**NA**

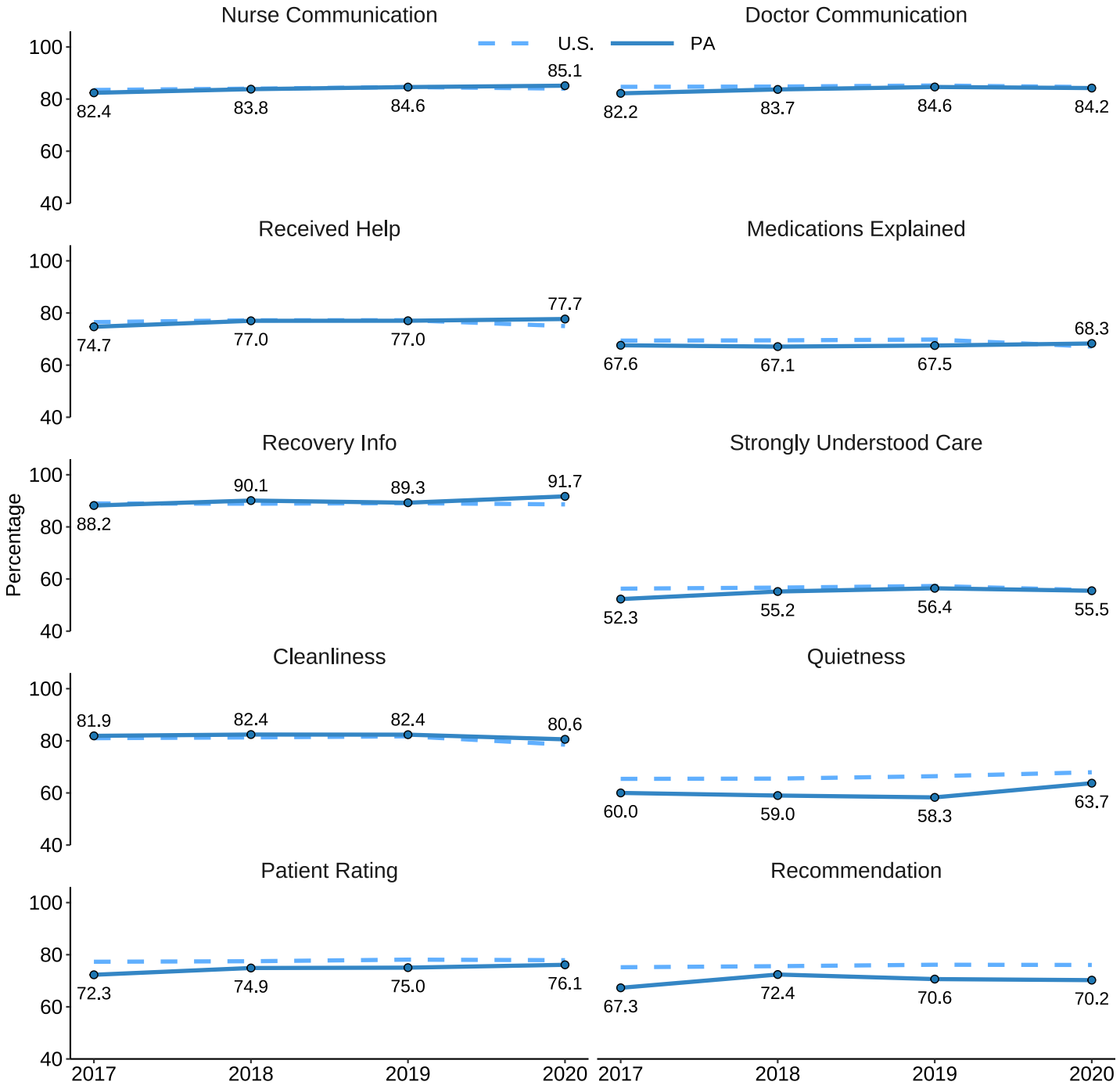
Footnotes:

† Indicates insufficient data to calculate rate (<25 surveys)

Figure 10 shows the trends for each HCAHPS measure for Pennsylvania and all CAHs nationally between 2017 and 2020.

Figure 10: HCAHPS Trends for CAHs in Pennsylvania and All CAHs Nationally

Percentage of respondents that gave the highest level of response (e.g. "always")



Care Transitions Domain

EDTC CAH Reporting

Results

Figure 11 compares reporting in the Care Transitions domain (EDTC) for Pennsylvania and all CAHs nationally for 2020. 100.0% of Pennsylvania CAHs reported the EDTC measure. Collection and reporting procedures for the EDTC measure changed beginning in 2020. This and future reports only include data for the new measure. Table 10 compares the EDTC reporting rates of CAHs in Pennsylvania to those located in the other 44 states participating in the Flex Program as well as the rate for all CAHs nationally. The Pennsylvania EDTC reporting rate of 100.0% ranks #1 nationally.

Figure 11: Percentage of CAHs Reporting Care Transitions Measure (EDTC), 2020

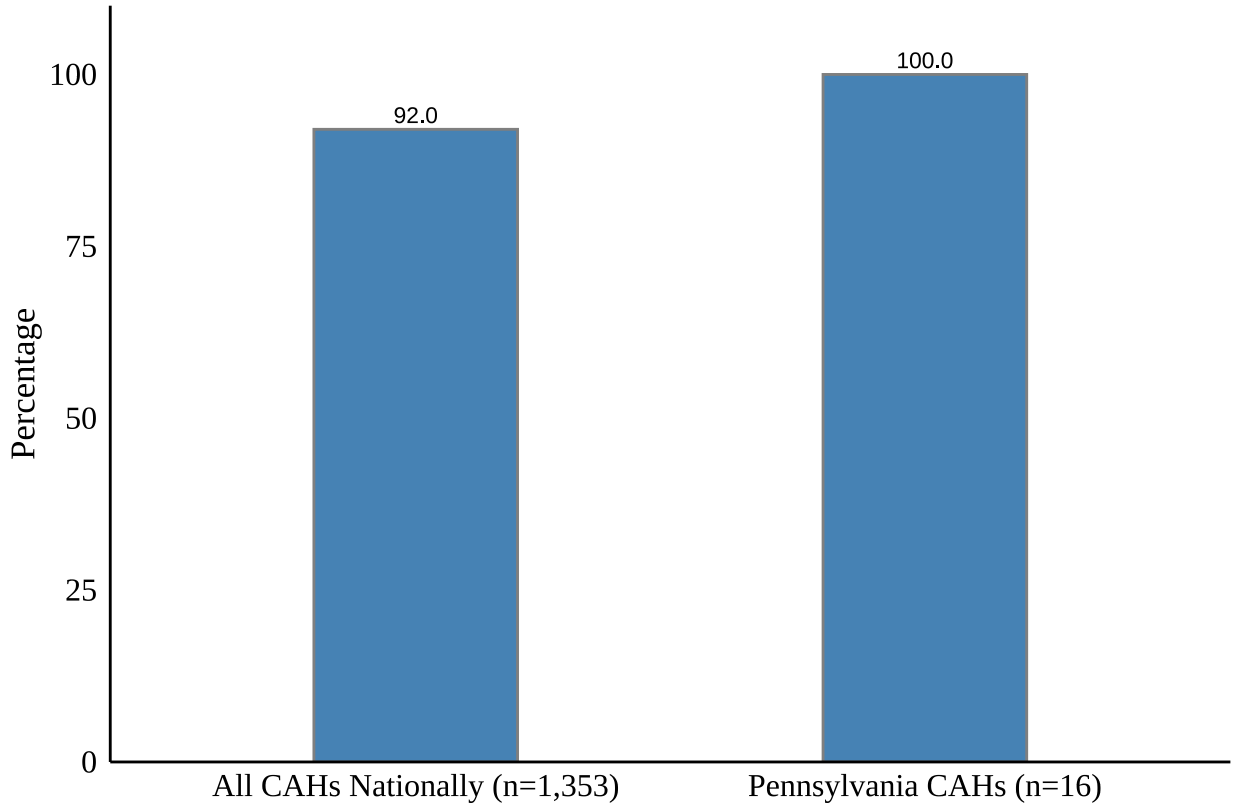


Table 10: State Ranking of CAH Reporting Rates for EDTC Quality Measure, 2020

Rank	State	CAHs reporting	% of CAHs	Rank	State	CAHs reporting	% of CAHs
1	Oklahoma	40	100.0	**24**	New York	17	94.4
1	South Dakota	38	100.0	**25**	Maine	15	93.8
1	North Dakota	36	100.0	**25**	Wyoming	15	93.8
1	Georgia	30	100.0	**27**	Mississippi	29	93.5
1	Arkansas	28	100.0	**28**	Tennessee	14	93.3
1	Idaho	27	100.0	**29**	Kentucky	26	92.9
1	West Virginia	21	100.0	**30**	Louisiana	25	92.6
1	Pennsylvania	16	100.0	**31**	Washington	36	92.3
1	Nevada	13	100.0	**31**	Alaska	12	92.3
1	Utah	13	100.0	**31**	New Hampshire	12	92.3
1	Hawaii	9	100.0		National	1,245	92.0
1	Virginia	7	100.0	**34**	New Mexico	10	90.9
1	Alabama	5	100.0	**35**	Florida	9	90.0
1	South Carolina	4	100.0	**36**	Missouri	31	88.6
1	Massachusetts	3	100.0	**37**	Arizona	13	86.7
16	Kansas	81	98.8	**38**	Iowa	69	84.1
17	Minnesota	76	98.7	**39**	Oregon	21	84.0
18	Nebraska	63	98.4	**40**	Illinois	42	82.4
19	Wisconsin	57	98.3	**41**	Colorado	26	81.2
20	Michigan	36	97.3	**42**	Montana	39	79.6
21	California	35	97.2	**43**	Texas	67	77.0
22	Indiana	34	97.1	**44**	Ohio	23	69.7
23	North Carolina	19	95.0	**45**	Vermont	3	37.5

EDTC CAH Performance

Results

Table 11 displays the results for performance on the Care Transitions (EDTC) measure for Pennsylvania and all CAHs nationally. Compared with all CAHs nationally, CAHs in Pennsylvania scored significantly better on 9 measures, significantly worse on 0 measures, and did not have significantly different performance on 0 measures. A figure for the EDTC trend is not displayed due to a lack of multiple years' data for this measure.

Table 11: EDTC Results for CAHs in Pennsylvania and All CAHs Nationally, 2020

Significantly better than all CAHs nationally

Significantly worse than all CAHs nationally

EDTC Measure	Average Percentage		
	Pennsylvania CAHs (n=16)	All CAHs (n=1,353)	Benchmark (%)
CAHs Reporting	n=16	n=1,245	
EDTC-All: Composite	97.7	90.2	**100.0**
Home Medications	99.1	95.2	**100.0**
Allergies and/or Reactions	99.6	96.5	**100.0**
Medications Administered in ED	99.8	96.7	**100.0**
ED Provider Note	99.3	94.9	**100.0**
Mental Status/Orientation Assessment	99.4	95.9	**100.0**
Reason for Transfer and/or Plan of Care	99.4	97.1	**100.0**
Tests and/or Procedures Performed	99.7	96.9	**100.0**
Tests and/or Procedures Results	99.4	96.2	**100.0**

Footnotes:

† Indicates insufficient data to calculate rate (<25 patients)

Appendix

This appendix includes additional detailed information regarding the methods and data used in this report. Performance for each measure is shown in a variety of ways depending on the measure.

Percentages were calculated using the number of patients (or healthcare workers for the measure HCP/IMM-3) who met the measure criteria, divided by the number of patients or workers in the measure population, which are specifically defined for each measure. For antibiotic stewardship measures, this report showed the percentage of CAHs in your state that met the seven elements individually, as well as the percentage that met all elements. Values were rounded to the nearest decimal place. State performance was compared to the performance for all CAHs nationally using Chi-square tests ($p < 0.05$). The results of the state performance comparisons were classified as: 1) insufficient data (less than 25 total patients); 2) not significantly different that all CAHs nationally; 3) significantly better than all CAHs nationally; or 4) significantly worse than all CAHs nationally.

Median time includes the median number of minutes until the specified event occurs among patients who meet certain criteria, which are specifically defined for each measure. For median time measures, lower scores, indicating shorter median times, are better. Wilcoxon-Mann-Whitney tests were used to compare the median times for CAHs in each state to all CAHs nationally.

Antibiotic stewardship performance were measured as the percentage of CAHs that fulfilled all seven core elements of an antibiotic stewardship program. The questions in the NHSN address different activities CAHs can participate in to fulfill the core elements. For all years, antibiotic stewardship values only include data submitted by the March 31 NHSN deadline. The state-level performance on antibiotic stewardship was compared to the performance of all other CAHs nationally using Fisher's exact test.

Performance for each HAI measure was calculated using Standardized Infection Ratios (SIRs). SIRs are a ratio of the total number of infections observed in 2020 divided by the predicted number of annual infections. Predicted number of infections data were calculated and made available by the CDC. SIRs could only be calculated when there were one or more predicted infections for the time period. A lower SIR indicates better performance. Significance tests comparing state HAI performance to the performance all CAHs nationally were not performed because the majority of states did not meet the conditions for statistical comparisons: at least one predicted infection and the state's predicted number of infections multiplied by the SIR of all other CAHs must be equal to or greater than one.

For each **HCAHPS measure**, the percentage of patients reporting the highest response (e.g., "always") on each measure were summed and averaged across all reporting CAHs within a state and all CAHs nationally. HCAHPS data for 2020 only include two rolling quarters (Q3 2020 and Q4 2020) instead of the typical four quarters, as a result of CMS reporting changes due to the COVID-19 pandemic. Two-sample t-tests were used to compare whether the mean scores on each measure are significantly different between CAHs in each state and all CAHs nationally.

Performance for the EDTC measure was calculated as the percentage of patients that met all of the seven data elements. State performance was compared to the performance for all CAHs nationally using Chi-square tests ($p < 0.05$). Changes to the EDTC measure in 2020 focused on adjustments to help streamline and modernize the measure, including a reduction in the total number of data elements from 27 to 8 and clarifications to specific definitions of individual data elements.

All statistical analysis was carried out using R 4.0.3 (R Core Team, 2020) and the Tidyverse (Wickham et al., 2019), rmarkdown (Allaire et al., 2020), kableExtra (Zhu, 2020), and knitr (Xie, 2020) packages.

For more information on this report, please contact Megan Lahr at lahrx074@umn.edu.

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