



# Hospital Compare Quality Measure Results for CAHs, 2018

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## KEY FINDINGS

- The percent of CAHs reporting inpatient measures increased from 89.2% in 2017 to 92.9% in 2018, and the percent of CAHs reporting outpatient measures increased dramatically from 65.1% in 2017 to 87.4% in 2018.
- Nineteen states had all of their CAHs reporting inpatient measures, and 13 states had all of their CAHs reporting outpatient measures.

## BACKGROUND

Since 2004, acute care hospitals paid under the Medicare Prospective Payment System (PPS) have had a financial incentive to publicly report quality measure data on the Centers for Medicare & Medicaid Services' (CMS) Hospital Compare website. Although Critical Access Hospitals (CAHs) do not have the same financial incentives as PPS hospitals to participate, the Hospital Compare initiative provides an important opportunity for CAHs to publicly report, assess, and improve their performance on national standards of care. The Flex Monitoring Team's annual reports summarize CAH reporting and performance for these quality improvement measures.

In 2018, the Federal Office of Rural Health Policy (FORHP) began requiring CAHs to report antibiotic stewardship measure data as a part of their Medicare Beneficiary Quality Improvement Project (MBQIP). Antibiotic stewardship data are reported to the Centers for Disease Control and Prevention's (CDC's) National Healthcare Safety Network (NHSN) and not to Hospital Compare. Antibiotic stewardship can be a critical component of hospital quality improvement strategy and these NHSN data are now included as an inpatient measure in the Flex Monitoring Team's annual reports and analysis.

This report summarizes reporting rates and performance among all U.S. CAHs on inpatient, outpatient, and structural quality measures for calendar year 2018. The Flex Monitoring Team also produces state-specific quality measure reports with more detailed results.

## DATA AND APPROACH

Data from the following sources were included in this report:

- Publicly-available Hospital Compare data downloaded from the CMS Hospital Compare website on inpatient and outpatient process of care measures, healthcare-associated infection (HAI) measures, and structural measures for 2018.
- Suppressed Hospital Compare data for 2018 for which CAHs reported 10 or fewer cases, made available by FORHP for this aggregate analysis.



- Antibiotic stewardship measures data for 2018 from the CDC's NHSN Patient Safety Component—Annual Hospital Survey, made available by FORHP.

Since the last national report, one inpatient measure, four outpatient measures, and three structural measures were removed from Hospital Compare. Reports this year have added HAI data that have been reported in Hospital Compare previously, and antibiotic stewardship data from the CDC. This report includes 13 process of care measures, six HAI measures, two structural measures, and one antibiotic stewardship measure that are potentially relevant to CAHs and for which some CAHs nationally have reported data; some states do not have any CAHs reporting some of these measures. Definitions of the measures used in this report are provided on page 6–8.

### *Reporting*

The number of CAHs reporting any inpatient quality measure, any outpatient quality measure, and each individual quality improvement measure were assessed. CAHs were considered reporting for inpatient or outpatient process of care measures or HAI measures if they reported data for that measure with a denominator of one or more. Data submitted with a zero or null response were not considered reporting. To be included as reporting for antibiotic stewardship, CAHs had to respond yes to one or more questions in the NHSN survey related to antibiotic stewardship. CAHs that answered no or left all of the antibiotic stewardship questions blank were not counted for antibiotic stewardship. Antibiotic stewardship and HAI measure data were included in inpatient reporting calculations for the first time in this report.

### *Performance*

For the inpatient and outpatient process of care measures (except the median time process of care measures), performance was measured as the percentage of patients that received recommended care which was calculated by dividing the total number of patients in all CAHs nationally who received the recommended

care by the total number of eligible patients in all CAHs nationally for each measure.

Antibiotic stewardship performance was 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.

Median scores were calculated for median time process of care measures by first arranging the median time from all available quarterly data together from all CAHs nationally. Then, the middle value was selected. On the median time measures, lower scores, indicating shorter median times, are better. For each structural measure, the percentages of CAHs that reported no data and those that reported yes or no on each measure were calculated.

Performance for each HAI measure was calculated using Standardized Infection Ratios (SIRs). SIRs are a ratio of the total number of infections observed in 2018 divided by the predicted number of annual infections. Predicted number of infections data are calculated and made available by the CDC. SIRs can only be calculated when there are one or more predicted infections for the time period. A lower SIR indicates better performance.

The quality improvement data in this report include several measures that are also measures for MBQIP. Although the majority of CAHs report data on these measures to both Hospital Compare and MBQIP, the data in this report may differ from MBQIP reports because some CAHs only report data to one of these programs.

## **RESULTS**

For 2018, 92.9% of CAHs reported quality improvement data on at least 1 inpatient measure, while 87.4% of CAHs reported data on at least 1 outpatient measure (Figure 1). The inpatient reporting percentage represents a slight increase, while the outpatient reporting percentage represents a much larger increase from the



previous reporting period. Tables 1 and 2 show state rankings on inpatient and outpatient reporting rates. Table 3 displays the number of CAHs reporting and national performance on each of the inpatient and outpatient process of care measures (except the median time process measures) for 2018. It also includes the number of CAHs reporting antibiotic stewardship data to NHSN nationally and the percentage of CAHs fulfilling all seven core elements of an antibiotic stewardship program. Table 4 displays the national results for the median time measures. Table 5 provides results for CAHs nationally that reported data for structural quality measures in 2018; nationally, at least 65% of CAHs did not report these data.

Finally, national SIR performance results for the six HAI measures are shown in Table 6.

## TOOLS AND RESOURCES

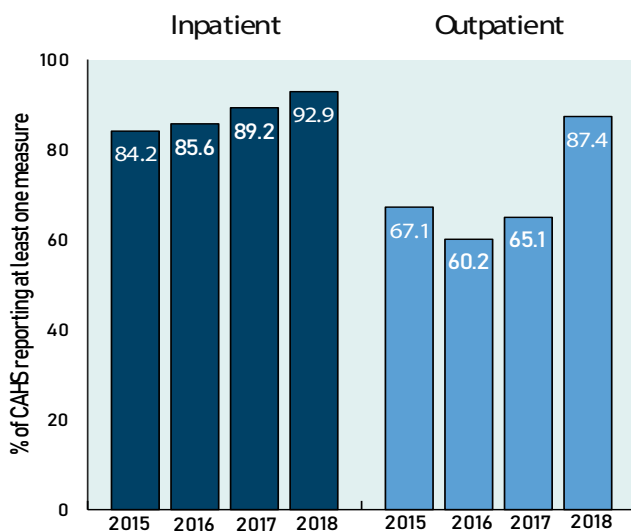
The Flex Monitoring Team provides free access to all publications and presentations on our website, [www.flexmonitoring.org](http://www.flexmonitoring.org), including a series of policy briefs on evidence-based QI programs and strategies

that could be implemented by CAHs. National quality improvement reports from 2006 to present are available for download at [www.flexmonitoring.org/publications](http://www.flexmonitoring.org/publications).

The Technical Assistance Services Center (TASC) provides resources for State Flex Programs and CAHs on their website. For profiles of State Flex Programs, state contacts, and examples of Flex activities to support quality improvement, visit [www.ruralcenter.org/tasc/flexprofile](http://www.ruralcenter.org/tasc/flexprofile).

For resources focused on the Medicare Beneficiary Quality Improvement Program (MBQIP), visit [www.ruralcenter.org/tasc/mbqip](http://www.ruralcenter.org/tasc/mbqip).

**FIGURE 1.** CAH Participation in Hospital Compare, 2018 (N=1,351<sup>1</sup>)



1. N value refers to most recent data (2018). Prior years' N values are as follows: 2015: 1,331; 2016: 1,343; 2017: 1,348



## Hospital Compare Quality Measure Results for CAHs, 2018

**TABLE 1.** State Ranking of CAH Reporting Rates for Inpatient Quality Measures, 2018

Rank	State	CAHs reporting	% of CAHs
1	Minnesota	78	100.0
1	Wisconsin	58	100.0
1	Illinois	51	100.0
1	South Dakota	38	100.0
1	North Dakota	36	100.0
1	Georgia	30	100.0
1	Arkansas	29	100.0
1	Oregon	25	100.0
1	West Virginia	20	100.0
1	Maine	16	100.0
1	Wyoming	16	100.0
1	Pennsylvania	15	100.0
1	Alaska	14	100.0
1	New Hampshire	13	100.0
1	Vermont	8	100.0
1	Virginia	7	100.0
1	Alabama	4	100.0
1	South Carolina	4	100.0
1	Massachusetts	3	100.0
20	Nebraska	63	98.4
21	Washington	38	97.4
22	Michigan	35	97.2
23	Indiana	34	97.1
24	Kansas	81	96.4
25	Kentucky	26	96.3
26	Iowa	78	95.1
27	North Carolina	19	95.0
28	California	32	94.1
29	Ohio	31	93.9
30	Colorado	30	93.8
30	Tennessee	15	93.8
	<b>All CAHs</b>	<b>1,255</b>	<b>92.9</b>
32	Idaho	25	92.6
33	Utah	12	92.3
34	New Mexico	9	90.0
35	New York	16	88.9
36	Montana	42	87.5
37	Nevada	11	84.6
38	Mississippi	26	83.9
39	Missouri	30	83.3
40	Oklahoma	33	82.5
41	Florida	9	75.0
42	Texas	62	72.9
43	Louisiana	18	66.7
43	Arizona	10	66.7
45	Hawaii	5	55.6

**TABLE 2.** State Ranking of CAH Reporting Rates for Outpatient Quality Measures, 2018

Rank	State	CAHs reporting	% of CAHs
1	Minnesota	78	100.0
1	Nebraska	64	100.0
1	Michigan	36	100.0
1	Georgia	30	100.0
1	Arkansas	29	100.0
1	Idaho	27	100.0
1	Pennsylvania	15	100.0
1	New Hampshire	13	100.0
1	Nevada	13	100.0
1	Hawaii	9	100.0
1	Virginia	7	100.0
1	Alabama	4	100.0
1	South Carolina	4	100.0
14	Wisconsin	57	98.3
15	Washington	37	94.9
16	Missouri	34	94.4
16	New York	17	94.4
18	Indiana	33	94.3
19	Maine	15	93.8
19	Tennessee	15	93.8
21	Kansas	78	92.9
22	Oklahoma	37	92.5
23	Utah	12	92.3
24	North Dakota	33	91.7
25	North Carolina	18	90.0
25	West Virginia	18	90.0
27	Ohio	29	87.9
28	Montana	42	87.5
	<b>All CAHs</b>	<b>1,181</b>	<b>87.4</b>
29	Arizona	13	86.7
30	Colorado	27	84.4
31	South Dakota	31	81.6
32	Wyoming	13	81.3
33	Iowa	66	80.5
34	Oregon	20	80.0
34	New Mexico	8	80.0
36	Mississippi	23	74.2
37	Texas	61	71.8
38	Illinois	36	70.6
38	California	24	70.6
40	Florida	8	66.7
40	Massachusetts	2	66.7
42	Alaska	9	64.3
43	Louisiana	17	63.0
44	Kentucky	16	59.3
45	Vermont	3	37.5



**TABLE 3.** Inpatient and Outpatient Process of Care Results for Patients Discharged from CAHs, 2018

	Code	Description	CAHs reporting	CAH performance <sup>1</sup>
Inpatient	OP-27/IMM-3 <sup>†</sup>	Healthcare workers given influenza vaccination	984	90.4
	PC-01 <sup>‡</sup>	Early elective delivery (lower is better)	206	3.2
	VTE-6	Incidence of potentially-preventable VTE (lower is better)	127	11.0
	ABX <sup>†</sup>	Fulfills antibiotic stewardship core elements	1,080	74.1
Outpatient	OP-2 <sup>†</sup>	Fibrinolytic therapy received within 30 minutes	486	51.3
	OP-22 <sup>‡</sup>	Patient left without being seen (lower is better)	800	1.0
	OP-23	Received head CT scan interpretation within 45 minutes	688	61.5
	OP-29 <sup>^</sup>	Appropriate follow-up interval, colonoscopy, average-risk patients	220	89.6
	OP-30	Appropriate follow-up interval, colonoscopy, patients with polyps	219	93.3

1. Expressed as a percentage of patients receiving recommended care (lower is better for PC-01, VTE-6, and OP-22), except for OP-27/IMM-3, which is the percentage of healthcare workers immunized.

<sup>†</sup> MBQIP core measure, FY 2018-21 (this table shows Hospital Compare data)

<sup>‡</sup> MBQIP additional measure, FY 2018-21 (this table shows Hospital Compare data)

<sup>^</sup> One CAH from Oregon reported data that were not within reasonable statistical bounds for measure OP-29, so the data from this hospital were excluded for that measure.

**TABLE 4.** Median Time to Patients Receiving Recommended Care at CAHs, 2018

Code	Description	CAHs reporting	Median minutes <sup>1</sup>
ED-1b	Median time from ED admission to ED departure for admitted patients	1,002	192.5
ED-2b <sup>†</sup>	Admit decision time to ED departure time for admitted patients	992	44.0
OP-3b <sup>†</sup>	Median time to transfer to another facility- acute coronary intervention	600	69.0
OP-5 <sup>‡</sup>	Median time to ECG	1,086	7.5.0
OP-18b <sup>†</sup>	Median time from ED arrival to ED departure for discharged patients	1,082	106.0

1. Median number of minutes to receiving recommended care (lower is better for all median time measures)

<sup>†</sup> MBQIP core measure, FY 2018-21 (this table shows Hospital Compare data)

<sup>‡</sup> MBQIP additional improvement measure, FY 2018-21 (this table shows Hospital Compare data)

**TABLE 5.** Structural Quality Measures Reported by CAHs, 2018

Code	Description	No data		No		Yes	
		#CAHs	%	#CAHs	%	#CAHs	%
OP-12	Ability to receive lab data directly to certified EHR	888	65.7	25	1.9	438	32.4
OP-17	Ability to track clinical results between visits	897	66.4	26	1.9	428	31.7



**TABLE 6.** Healthcare-Associated Infection Measures Reported by CAHs, 2018

Code	Description	CAHs reporting	SIR
HAI-1 <sup>‡</sup>	Central-line associated bloodstream infections (CLABSI)	605	0.9
HAI-2 <sup>‡</sup>	Catheter-associated urinary tract infections (CAUTI)	738	0.8
HAI-3 <sup>‡</sup>	Surgical site infections from colon surgery (SSI:C)	279	0.7
HAI-4 <sup>‡</sup>	Surgical site infections from abdominal hysterectomy (SSI:H)	200	0.6
HAI-5 <sup>‡</sup>	Methicillin-resistant Staphylococcus Aureus (MRSA) blood infections	665	0.5
HAI-6 <sup>‡</sup>	Clostridium difficile (C.diff) intestinal infections	754	0.6

1. SIRs are a ratio of the total number of infections observed in 2018 divided by the predicted number of annual infections

‡ MBQIP additional improvement measure, FY 2018-21 (this table shows Hospital Compare data)

## DEFINITIONS OF MEASURES

Note: higher numbers reflect better performance, except where indicated below.

- **ED-1b, Admit Decision Time to Emergency Department (ED) Departure Time for Admitted Patients:** Median time from admit decision time to time of departure from the ED for patients admitted to inpatient status (a lower number is better).
- **ED-2b, Median Time from Emergency Department (ED) Arrival to ED Departure for Admitted Patients:** Median time from ED arrival to time of departure from the ED for patients admitted to the facility from the ED (a lower number is better).
- **OP-2, Fibrinolytic therapy received within 30 minutes of arrival: Acute Myocardial Infarction (AMI)** patients receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less.
- **OP-3b, Median Time to Transfer to Another Facility for Acute Coronary Intervention:** Median number of minutes before outpatients with heart attack who needed specialized care were transferred to another hospital (a lower number is better).
- **OP-5, Median Time to echocardiogram (ECG):** Median number of minutes before outpatients with heart attack (or with chest pain that suggests a possible heart attack) got an ECG (a lower number is better).
- **OP-12, Ability to Receive Lab Data Directly to Electronic Health Record (EHR):** The ability for providers with Health Information Technology (HIT) to receive laboratory data directly into their ONC-certified EHR system as discrete searchable data.
- **OP-17, Ability to Track Clinical Results between Visits:** The ability for a facility to track pending laboratory tests, diagnostic studies, or patient referrals through the ONC-certified Electronic Health Record (EHR) system.
- **OP-18b, Median Time from Emergency Department (ED) Arrival to ED Departure for Discharged Patients:** Median time from ED arrival to time of departure from the ED for patients discharged from the ED (a lower number is better).



- **OP-22, Left Without Being Seen:** Percent of patients who leave the Emergency Department (ED) without being evaluated by a physician, advanced practice nurse (APN), or physician's assistant (PA) (a lower number is better).
- **OP-23, Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation Within 45 Minutes of Emergency Department (ED) Arrival:** Percentage of acute ischemic stroke or hemorrhagic stroke patients who arrive at the ED within 2 hours of the onset of symptoms who have a head CT or MRI scan performed during the stay and have interpretation of the CT or MRI scan within 45 minutes of arrival.
- **OP-27 / IMM-3, Health Care Workers Given Influenza Vaccination:** Facilities must report vaccination data for three categories of Healthcare Personnel (HCP): employees on payroll; licensed independent practitioners (who are physicians, advanced practice nurses, and physician assistants affiliated with the hospital and not on payroll); and students, trainees, and volunteers aged 18 or older. Only HCP physically working in the facility for at least one day or more between October 1 and March 31 should be counted. Data on vaccinations received at the facility, vaccinations received outside of the facility, medical contraindications, and declinations are reported for the three categories of HCP.
- **OP-29, Appropriate Follow-up Interval for Normal Colonoscopy in Average Risk Patients:** Percentage of patients aged 50 to 75 years of age receiving a screening colonoscopy without biopsy or polypectomy who had a recommended follow-up interval of at least 10 years for repeat colonoscopy documented in their colonoscopy report.
- **OP-30, Colonoscopy Interval for Patients with a History of Adenomatous Polyps:** Percentage of patients aged 18 years and older receiving a surveillance colonoscopy, with a history of a prior colonic polyp(s) in previous colonoscopy findings, who had a follow-up interval of 3 or more years since their last colonoscopy.
- **PC-01, Elective Delivery:** Patients with elective vaginal deliveries or elective cesarean sections at greater than or equal to 37 and less than 39 weeks of gestation completed (a lower number is better).
- **VTE-6, Hospital Acquired Potentially-Preventable Venous Thromboembolism (VTE):** The number of patients diagnosed with confirmed VTE during hospitalization (not present at admission) who did not receive VTE prophylaxis between hospital admission and the day before the VTE diagnostic testing order date (a lower number is better)
- **Antibiotic stewardship program:** Hospital-based program intended to increase appropriate antibiotic use and reduce microbial resistance. Antibiotic stewardship is measured using data from the NHSN Patient Safety Component Annual Hospital Survey and data are included in annual quality improvement reports as an inpatient measure.
- **HAI-1:** A central line-associated bloodstream infection (CLABSI) is a bloodstream infection in a patient with a central line. CLABSIs are measured using SIRs with the reported number of CLABSIs annually as the numerator and the predicted number of infections as the denominator.
- **HAI-2:** A catheter-associated urinary tract infection (CAUTI) is an infection of the bladder, kidneys, ureters, urethra, or any other part of the urinary system that are associated with the use of a catheter. CAUTIs are measured using SIRs with the reported number of CAUTIs annually as the numerator and the predicted number of infections as the denominator.



- **HAI-3:** A surgical site infection from colon surgery (SSI:C) is an infection that occurs in patients after they have colon surgery. SSI:C infections are measured using SIRs with the reported number of SSI:C infections annually as the numerator and the predicted number of infections as the denominator.
- **HAI-4:** A surgical site infection from abdominal hysterectomy (SSI:H) is an infection that occur in patients after they have abdominal hysterectomies. SSI:H infections are measured using SIRs with the reported number of SSI:H infections annually as the numerator and the predicted number of infections as the denominator.
- **HAI-5:** Methicillin-resistant Staphylococcus aureus (MRSA) infections are a type of bacterial infection that are resistant to common antibiotics and can infect many parts of the human body. MRSA infections can occur in patients several ways including after surgery or after the placement of intravenous tubing. MRSA infections are measured using SIRs with the reported number of MRSA infections annually as the numerator and the predicted number of infections as the denominator.
- **HAI-6:** A Clostridium difficile infection (CDI), also known as C. diff, is a bacterial infection resulting in diarrhea caused by C. difficile bacterium. CDIs are measured using SIRs with the reported number of CDIs annually as the numerator and the predicted number of infections as the denominator.

For more information on this study, please contact Megan Lahr at [lahrx074@umn.edu](mailto:lahrx074@umn.edu).

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