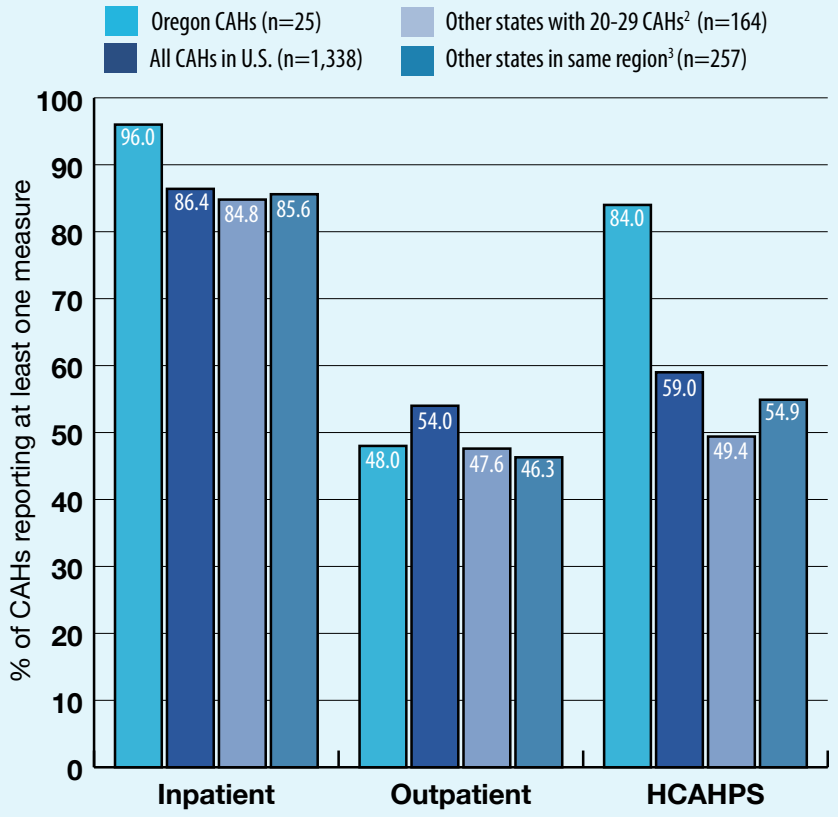
Hospital Compare CAH Quality Measure Results, Q2 2013 - Q1 2014

Flex Monitoring Team

Michelle Casey, MS; Peiyin Hung, MSPH; Alex Evenson, MA; Emma Distel, BS; Ira Moscovice, PhD
University of Minnesota Rural Health Research Center

KEY FINDINGS

CRITICAL ACCESS HOSPITAL PARTICIPATION RATES IN HOSPITAL COMPARE, Q2 2013-Q1 2014[1]



1. Hospital Compare Year 10 data spans April 2013 (Q2 2013) - March 2014 (Q1 2014).
2. Group includes AR (29), CO (29), ID (27), KY (29), LA (27), & NC (23).
3. HRSA Region E: AK (13), CO (29), ID (27), MT (48), ND (36), SD (38), UT (11), WA (39), & WY (16).

REPORTING RATES

Compared to all other CAHs nationally, Oregon's CAHs reported at a rate that was:

- HIGHER for inpatient measures (96% of CAHs vs. 86.4% nationally)
- LOWER for outpatient measures (48% of CAHs vs. 54.0% nationally)
- HIGHER for HCAHPS (84% of CAHs vs. 59.0% nationally)

STATE RANKINGS

Among the 45 states participating in the Flex Program, Oregon's CAHs rank:

- #17 for inpatient measure reporting
- #24 for outpatient measure reporting
- #10 for HCAHPS reporting

CARE QUALITY

Compared to process-of-care scores for all other CAHs nationally from Q2 2013 through Q1 2014, Oregon's CAHs have:

- Significantly BETTER scores on 6 measures
- Significantly WORSE scores on 7 measures
- No significant differences on 25 measures
- Insufficient data to compare 10 measures

Compared to HCAHPS scores for all other CAHs nationally, Oregon's CAHs have:

- Significantly HIGHER scores on 0 measures
- Significantly LOWER scores on 8 measures
- No significant differences on 3 measures

Flex Monitoring Team
University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine

The Flex Monitoring Team is a consortium of Rural Health Research Centers funded by the Federal Office of Rural Health Policy (PHS Grant No. U27RH0180) to evaluate the impact of the Rural Hospital Flexibility Grant Program. This is part of a series of 45 annual state-level reports that examine CAH participation in Hospital Compare, quality measure results, and trends.

www.flexmonitoring.org

TABLE OF CONTENTS

Introduction **4**

Data and Approach **4**

Process of Care Measures **7**

Figure 1. CAH Participation in Hospital Compare for Inpatient Discharges, 2010-Q1 2014 8

Figure 2. CAH Participation in Hospital Compare for Outpatient Discharges, 2010-Q1 2014 8

Figure 3. State Rankings of Reporting Rates among CAHs on Hospital Compare Inpatient and Outpatient Quality Measures, Q2 2013 - Q1 2014 9

Table 1. AMI/Chest Pain Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014 10

Table 2. Median Time to AMI/Chest Pain Patients Receiving Recommended Care for CAHs Reporting Any Data, Q2 2013 - Q1 2014 10

Table 3. Emergency Department Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014 11

Table 4. Median Time to Emergency Department Patients Receiving Recommended Care for CAHs Reporting Any Data, Q2 2013 - Q1 2014 11

Table 5. Pneumonia Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014 11

Table 6. Surgical Care Improvement Process of Care Result for Patients Discharged from CAHs, Q2 2013 - Q1 2014 12

Table 7. Heart Failure Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014 12

Table 8. Stroke Process of Care Results for Patients Discharged from CAHs, 2014 13

Table 9. Venous Thromboembolism (VTE) Process of Care Results for Patients Discharged from CAHs, 2014 13

Table 10. Immunization Process of Care Results for Patients Discharged from CAHs, Q4 2013 - Q1 2014 14

Table 11. Perinatal Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014 14

HCAHPS **15**

Figure 4. CAH Participation in HCAHPS, 2010-2013 15

Table 12. Number of Completed HCAHPS Surveys and Response Rates for CAHs in Oregon and Nationally, 2013 16

Table 13. HCAHPS Results for CAHs in Oregon and Nationally, 2013 16

Structural Measures **18**
Table 14. Structural Quality Measures Reported by CAHs in Oregon and Nationally, 2013 18

Outcome Measures **19**
Table 15. CMS 30-Day Risk-Adjusted Mortality Rates for CAHs in Oregon and Nationally, Q3 2010 - Q2 2013 19
Table 16. CMS 30-Day Risk-Adjusted Unplanned Readmission Rates for CAHs in Oregon and Nationally, 2010-2013 20

Key Points, Next Steps, and Additional Resources **22**

References **24**

Appendix A: Definitions of Measures **25**

Appendix B: Three-Year Trends **31**

Appendix C: List of Oregon CAHs Reporting Data **35**

INTRODUCTION

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 and Medicaid Services' (CMS) Hospital Compare website. Although Critical Access Hospitals (CAHs) do not face the same financial incentives as PPS hospitals to participate, the Hospital Compare initiative provides an important opportunity for CAHs to assess and improve their performance on national standards of care. As of March 2014, there were 1,338 CAHs in 45 states.

This report is part of a series of 45 annual state-level reports that examine CAH participation in Hospital Compare, quality measure results, and trends. Previous Flex Monitoring Team reports analyzed CAH participation and Hospital Compare results for 2004-Q1 2013.[1,2]

DATA AND APPROACH

This report used the following data sources:

- Publicly-available Hospital Compare data downloaded from the CMS Hospital Compare website on inpatient and outpatient process measures and Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey results for April 2013 through March 2014.
- Data for April 2013 through March 2014 on process measures for which CAHs reported ten or fewer cases, which CMS suppresses from the Hospital Compare website, but makes available to the Federal Office of Rural Health Policy for aggregate CAH analyses.
- Publicly-available Hospital Compare data downloaded from the CMS Hospital Compare website on Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey results for January 2013 through December 2013.
- Publicly-available Hospital Compare data downloaded from the CMS Hospital Compare website on Acute Myocardial Infarction, heart failure, pneumonia, chronic obstructive pulmonary disease (COPD), and stroke mortality and readmission rates for July 2010 through June 2013; hip/knee replacement complication and readmission rates for July 2010 through June 2013; and all-cause readmission rates for July 2012 through June 2013.
- Publicly-available Hospital Compare Data downloaded from the CMS Hospital Compare website on structural quality measures for 2012 and 2013.
- CAH Hospital Compare data for 2010-Q1 2013 and data on all CAHs maintained by the Flex Monitoring Team.

Since the last set of CAH state reports, one immunization and two pneumonia inpatient process measures were deleted due to their removal from Hospital Compare, and new inpatient, structural, outcome, and HCAHPS measures were added. New measures address

healthcare worker influenza vaccination, use of a safe surgery checklist, and stroke and COPD readmission and mortality. The new HCAHPS measure is a composite transition of care measure that addresses patient understanding of their care when they left the hospital.

The 45 process of care measures in this report include AMI, heart failure, pneumonia, surgical care improvement, stroke, venous thromboembolism (VTE), immunization, and perinatal measures for inpatients, and AMI/chest pain, surgical, and Emergency Department measures for outpatients. These measures were selected based on their potential relevance for CAHs and the availability of data for some CAHs nationally (some states do not have any CAHs reporting some of these measures).

HCAHPS is a national, standardized survey of patients' perspectives of hospital care. It was developed by the Agency for Healthcare Research and Quality and CMS to complement other hospital tools designed to support quality improvement. The survey is administered to a random sample of adult patients following discharge from the hospital for inpatient medical, surgical, or maternity care. The eleven HCAHPS measures in this report address how well doctors and nurses communicate with patients, responsiveness of hospital staff, pain management, communication about medicines, cleanliness and quietness of the hospital environment, provision of discharge information, patient understanding of their care when they left the hospital, an overall rating of the hospital, and a rating of the patient's willingness to recommend the hospital.

A Note on MBQIP and Hospital Compare Data in this report:

The Hospital Compare data in this report include several measures that have been Phase 1 and Phase 2 measures for the Medicare Beneficiary Quality Improvement Project (MBQIP). Data in this report may differ from MBQIP reports because some CAHs report data to MBQIP, but do not allow it to be publicly-reported to Hospital Compare. In addition, the publicly-reported HCAHPS data used in this report are adjusted by CMS for patient-mix, mode of data collection, and non-response bias.

For FY2015-17, State Flex Grantees are required to work with all CAHs on all Core Improvement Activities in each of four quality domains: patient safety, patient engagement, care transitions, and outpatient care. States may also choose to work on Additional Improvement Activities with CAHs based on need and relevance. This report includes Hospital Compare data reported by CAHs on several measures that are new MBQIP measures for FY2015-17, including new outpatient, patient safety and outcome measures. For a list of new MBQIP measures and information about the availability of data on these measures in MBQIP and FMT state quality reports, see http://bit.ly/1Gxxbir.

Thirteen 30-day risk-adjusted mortality, readmission, and complication measures include mortality rates for AMI, heart failure, pneumonia, stroke, COPD and hip/knee replacement complications and unplanned readmission rates for AMI, heart failure, pneumonia, hip/knee replacement, stroke, COPD, and hospital-wide all-cause. These measures are calculated by CMS using Medicare claims data.

Six structural measures are included in this report. Three measures address the hospital's participation in systematic databases for stroke care and nursing-sensitive care, and in a general surgery registry. Two measures indicate whether a hospital has the ability to receive laboratory data directly into its certified electronic health record (EHR) and to track

clinical results between visits. One measure addresses whether a hospital uses a safe surgery checklist. These measures are reported by hospitals to CMS.

Definitions of the measures used in the report are in Appendix A.

Approach

For this report, the percentages of patients that received recommended care for the inpatient and outpatient process of care quality measures were calculated by dividing the total number of patients in all CAHs in the state and all other CAHs nationally who received the recommended care by the total number of eligible patients in all CAHs in the state and all other CAHs nationally for each measure. One AMI/chest pain composite measure and two surgical infection composite measures were also created by combining data for individual measures that are used in both inpatient and outpatient settings.

CMS considers 25 patients to be the minimum number of patients necessary to reliably calculate the process of care measures. Therefore, the percent of CAH patients receiving recommended care was not calculated when the total number of CAH patients in a state (or nationally) with data on a measure was less than 25.

For each process measure, the percent of CAH patients receiving recommended care in each state was then compared to the percent of CAH patients that received recommended care in all other states combined. Chi-square tests were used to calculate whether these differences were statistically significant ($p<.05$, which means that at least 95% of the time, these differences did not occur by chance). For each state, the inpatient and outpatient measure scores were classified as: 1) insufficient data (less than 25 patients total); 2) not significantly different than CAHs in all other states; 3) significantly better than all other CAHs; or 4) significantly worse than all other CAHs. Median scores for the median time process measures were calculated by arranging the median times for all CAHs in the state and all other CAHs nationally from the lowest time to the highest time by hospital, and selecting the middle value. Wilcoxon-Mann-Whitney tests were used to compare the median times for CAHs in each state and all other CAHs.

For the HCAHPS measures, the percentages 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 other states. Two-sample t-tests were used to compare whether the mean scores on each HCAHPS measure are significantly different between CAHs in each state and all other CAHs.

The Hospital Compare readmission and mortality data for each hospital include its 30-day risk-adjusted readmission and mortality rates as calculated by CMS, the total number of eligible patients (denominator) for each measure, and whether the rate is significantly different than the rate for all US hospitals. Each CAH's risk-adjusted mortality and readmission rates were multiplied by the number of eligible patients to calculate the total risk-adjusted number of CAH patients with an unplanned readmission or death (numerator). Numerators for all CAHs in a state and nationally were then summed for each measure, and divided by the summed denominators for that measure to calculate state and national CAH rates.

PROCESS OF CARE MEASURES

Reporting in Oregon and All Other States

As in previous years, the percent of CAHs reporting inpatient and outpatient process of care data to Hospital Compare varied considerably across states. In Oregon, 24 of the 25 CAHs reported data to Hospital Compare on at least one inpatient process of care measure for Q2 2013 through Q1 2014 discharges.

Figures 1 and 2 (next page) compare the respective inpatient and outpatient reporting rates over time (2010 through Q1 2014) among CAHs in four groups: those in Oregon, all CAHs nationally, other states with a similar number of CAHs as Oregon, and other states located in the same geographic region as Oregon.

Figure 3 (page 9) compares the respective inpatent and outpatient reporting rates of CAHs in Oregon to those located in the other 44 states participating in the Flex Program as well as the rate for all CAHs nationally. The Oregon CAH inpatient reporting rate of 96% ranks #17 nationally; the Oregon CAH outpatient reporting rate of 48% ranks #24 nationally.

The number of CAHs reporting individual inpatient and outpatient process of care measures may differ by measure for several reasons. Some measures only apply to a portion of patients and several measures exclude patients with contraindications for receiving that type of medication. Small rural hospitals transfer many AMI patients seen in their emergency departments to larger hospitals, so they may have fewer eligible patients for the inpatient AMI measures. The surgical care improvement measures apply to selected surgeries; some (e.g., hysterectomies) are more commonly provided in CAHs than others (e.g., cardiac procedures).

(See Figures 1-2, next page, and Figure 3, page 9)

Figure 1. CAH Participation in Hospital Compare for Inpatient Discharges, 2010-2014

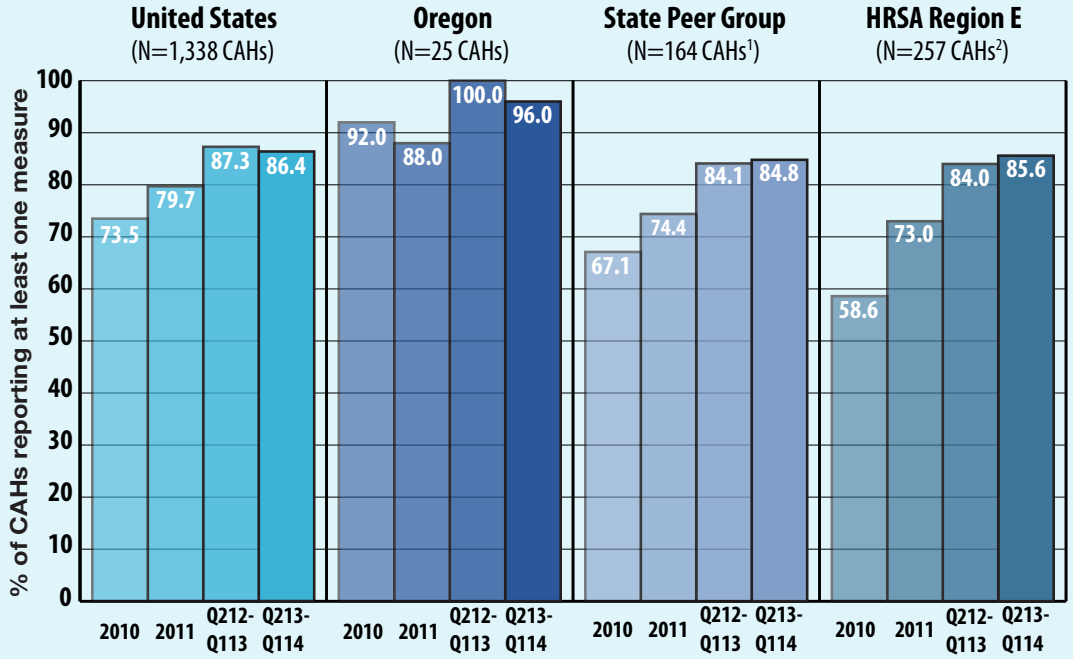
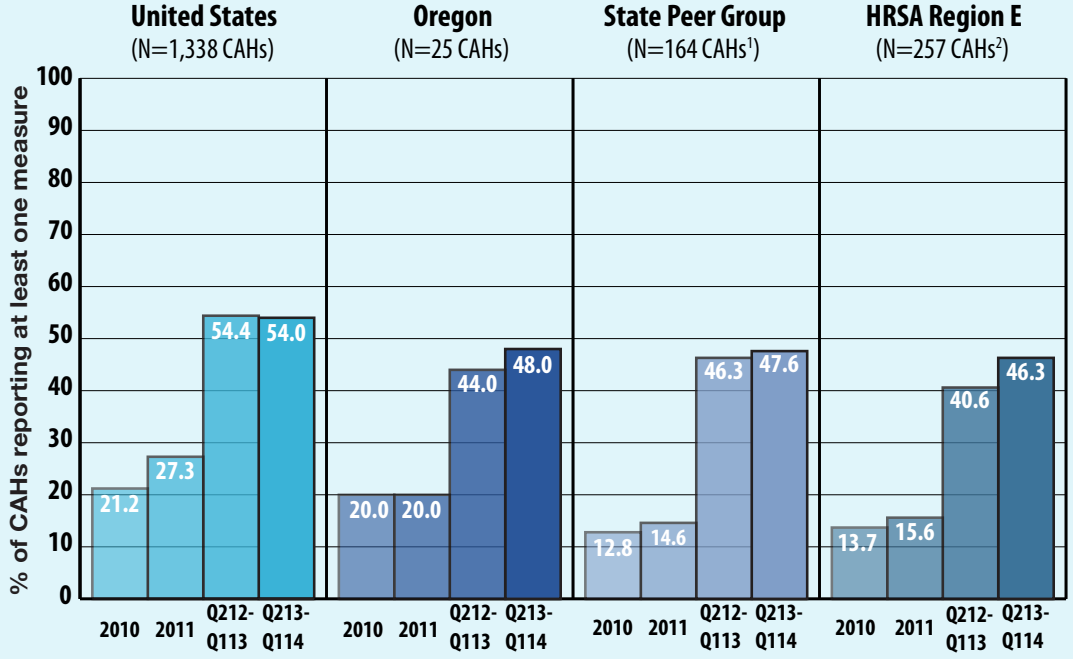
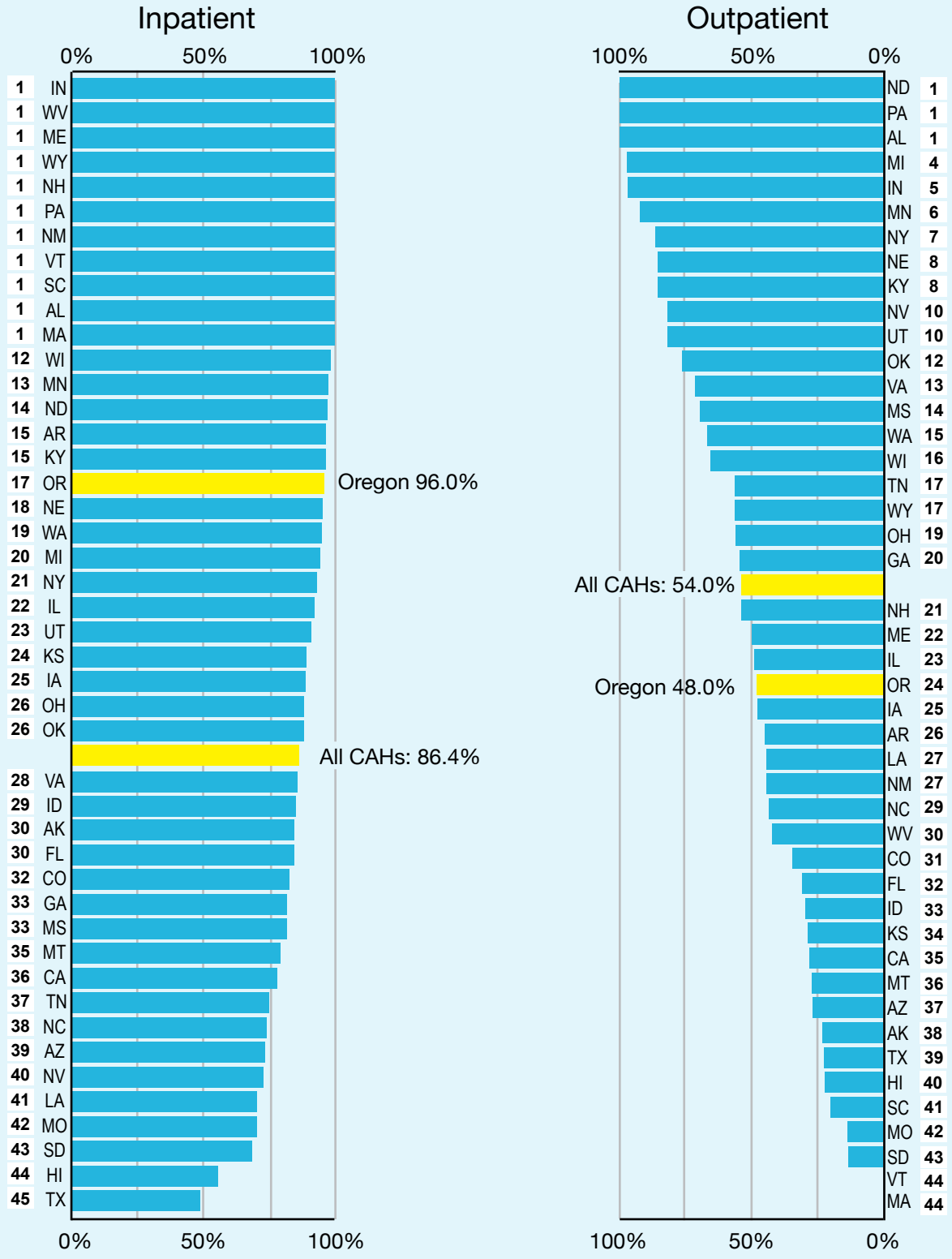


Figure 2. CAH Participation in Hospital Compare for Outpatient Discharges, 2010-2014



1. Group includes other states with 20-29 CAHs: AR (29), CO (29), ID (27), KY (29), LA (27), & NC (23).
2. Group includes other states in Region E: AK (13), CO (29), ID (27), MT (48), ND (36), SD (38), UT (11), WA (39), & WY (16).

Figure 3. State Rankings of Reporting Rates among CAHs on Hospital Compare Inpatient and Outpatient Quality Measures, Q2 2013 - Q1 2014



Process of Care Results for CAHs in Oregon and All Other States

Tables 1-11 display the results for inpatient, outpatient, and composite process of care results for Q2 2013 through Q1 2014 discharges for CAHs in Oregon and all other CAHs, organized by condition:

Table 1. AMI/Chest Pain Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)
Significantly worse than rate for all other CAHs nationally (p<.05)

		Oregon (n=25)		All Other CAHs (n=1,313)	
		CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Inpatient	AMI-2: Aspirin at discharge	13	*	526	93.7
	AMI-7a: Fibrinolytic within 30 mins. of arrival	15	*	557	23.1
	AMI-10: Statin at discharge	13	*	527	79.3
Outpatient	OP-4: Aspirin at arrival	12	98.6	622	96.1
	OP-2: Fibrinolytic within 30 mins. of arrival	12	*	593	49.3
Composite	Fibrinolytic within 30 mins. of arrival	18	*	820	48.4

* Insufficient data to calculate rate (<25 patients)

Table 2. Median Time to AMI/Chest Pain Patients Receiving Recommended Care for CAHs Reporting Any Data, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)
Significantly worse than rate for all other CAHs nationally (p<.05)

	Median minutes to receiving care[1] (lower is better)			
	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	Minutes	CAHs reporting	Minutes
OP-1: Time to fibrinolysis	12	*	593	28
OP-3: Time before patient with chest pain/AMI transferred	12	*	592	53.5
OP-5: Time before patient with chest pain/AMI receives ECG	12	6.5	622	7

* Insufficient data to calculate rate (<25 patients)
1. Rates with sufficient data but without highlights were not significantly different from rates in all other CAHs nationally.

Table 3. Emergency Department Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)
Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
OP-22: Patient left without being seen (lower is better)	5	1.5	337	1.1
OP-23: Received head CT scan interpretation within 45 minutes of arrival	10	67.7	285	50.4

1. Rates without highlights were not significantly different from rates in all other CAHs nationally.

Table 4. Median Time to Emergency Department Patients Receiving Recommended Care for CAHs Reporting Any Data, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)
Significantly worse than rate for all other CAHs nationally (p<.05)

	Median minutes to receiving care (lower is better)			
	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	Minutes	CAHs reporting	Minutes
ED-2: Time from ED arrival to departure for admitted ED patients	12	60.5	408	46.5
OP-20: Time from entrance to receiving a diagnostic evaluation by a qualified medical professional	9	21	279	18
ED-1: Time from admission decision to ED departure	12	198.5	408	194
OP-18: Time from ED arrival to departure for discharged ED patients	9	108	277	103
OP-21: Time to receiving pain medication for long bone fractures	9	38.5	271	45

1. Rates without highlights were not significantly different from rates in all other CAHs nationally.

Table 5. Pneumonia Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)
Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
PN-6: Most appropriate initial antibiotic(s)	23	94.1	1124	89.0

Table 6. Surgical Care Improvement Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

		Oregon (n=25)		All Other CAHs (n=1,313)	
		CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Inpatient	SCIP-Inf-1: Preventative antibiotic(s) 1 hour before incision	20	95.4	504	96.1
	SCIP-Inf-2: Received appropriate preventative antibiotic(s)	20	98.0	504	98.3
	SCIP-Inf-3: Preventative antibiotic(s) stopped within 24 hours after surgery	20	95.6	503	97.0
	SCIP-VTE-2: Received blood clot prevention treatment 24 hours pre/post surgery	19	96.4	500	97.4
	SCIP-Card-2: Beta blockers before/after surgery	20	94.9	497	94.4
	SCIP-Inf-10: Surgery patients with perioperative temperature management	19	99.7	481	99.2
	SCIP-Inf-9: Urinary catheter removed 1st / 2nd day after surgery	19	95.7	500	96.6
Outpatient	OP-6: Preventative antibiotic(s) 1 hour before incision	7	92.0	291	93.5
	OP-7: Received appropriate preventative antibiotic(s)	7	97.2	292	95.7
Composite	Preventative antibiotic(s) 1 hour before incision	20	95.2	564	95.7
	Received appropriate preventative antibiotic(s)	20	98.0	565	97.9

1. Rates without highlights were not significantly different from rates in all other CAHs nationally.

Table 7. Heart Failure Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
HF-1: Discharge instructions	23	85.9	1057	85.3
HF-2: Assessment of LVS	23	92.8	1081	87.8
HF-3: ACEI or ARB for LVSD	23	87.3	1057	89.3

1. Rates without highlights were not significantly different from rates in all other CAHs nationally.

Table 8. Stroke Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
STK-3: Anticoagulation therapy for atrial fibrillation / flutter	11	90.9	262	90.1
STK-5: Antithrombotic therapy by end of second hospital day	11	95.7	261	91.7
STK-10: Assessed for rehabilitation	11	93.9	262	94.4
STK-2: Discharged on antithrombotic therapy	11	99.3	262	93.3
STK-6: Discharged on statin medication	11	87.1	262	78.5
STK-8: Stroke education	11	83.8	262	71.4
STK-4: Thrombolytic therapy	11	*	262	8.5
STK-1: VTE prophylaxis	11	85.4	261	83.9

* Insufficient data to calculate rate (<25 patients)
1. Rates with sufficient data but without highlights were not significantly different from rates in all other CAHs nationally.

Table 9. Venous Thromboembolism (VTE) Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	% of patients[1]	CAHs reporting	% of patients
VTE-3: Anticoagulation overlap therapy	12	94.0	277	89.2
VTE-2: ICU venous thromboembolism prophylaxis	11	90.1	276	91.5
VTE-6: Incidence of potentially preventable VTE	12	*	277	12.5
VTE-4: Unfractionated heparin with dosages/platelet count monitoring	12	*	277	96.4
VTE-1: Venous thromboembolism prophylaxis	12	83.4	277	84.6
VTE-5: Warfarin therapy discharge instructions	12	77.6	277	86.0

* Insufficient data to calculate rate (<25 patients)
1. Rates with sufficient data but without highlights were not significantly different from rates in all other CAHs nationally.

Table 10. Immunization Process of Care Results for Patients Discharged from CAHs, Q4 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
IMM-2: Influenza vaccination	12	88.3	425	90.2
OP-27: Healthcare workers given influenza vaccination[1]	18	78.4	317	86.9

Table 11. Perinatal Process of Care Results for Patients Discharged from CAHs, Q2 2013 - Q1 2014

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

	Oregon (n=25)		All Other CAHs (n=1,313)[2]	
	CAHs reporting	% of patients	CAHs reporting	% of patients
PC-01: Deliveries scheduled 1-3 weeks early when not medically necessary (lower is better)	9	2.5	221	3.4

1. Rates without highlights were not significantly different from rates in all other CAHs nationally.
2. Data from 7 CAHs nationally was excluded due to concerns about the accuracy of the reported data.

Trends in Process Measure Results

The figures in Appendix B compare trends in performance on process measures for CAHs in Oregon and nationally for 2011, Q2 2012 through Q1 2013, and Q2 2013 through Q1 2014. The percentages of patients receiving recommended care for each measure for each year are based on all CAH patients for whom data were reported that year. Data are not shown for measures with fewer than 25 patients per year. These trend data can help states identify improvement in measures over time, keeping in mind that some states may have greater year-to-year fluctuation in results due to small sample sizes for some measures.

Summary:

Oregon's CAHs had insufficient data to compare 10 of the 48 process-of-care measures detailed in this report. Compared to all other CAHs nationally, Oregon CAHs' scores are significantly higher for 6 of the 48 measures, significantly lower for 7 of the 48 measures, and not significantly different for 25 of the 48 measures.

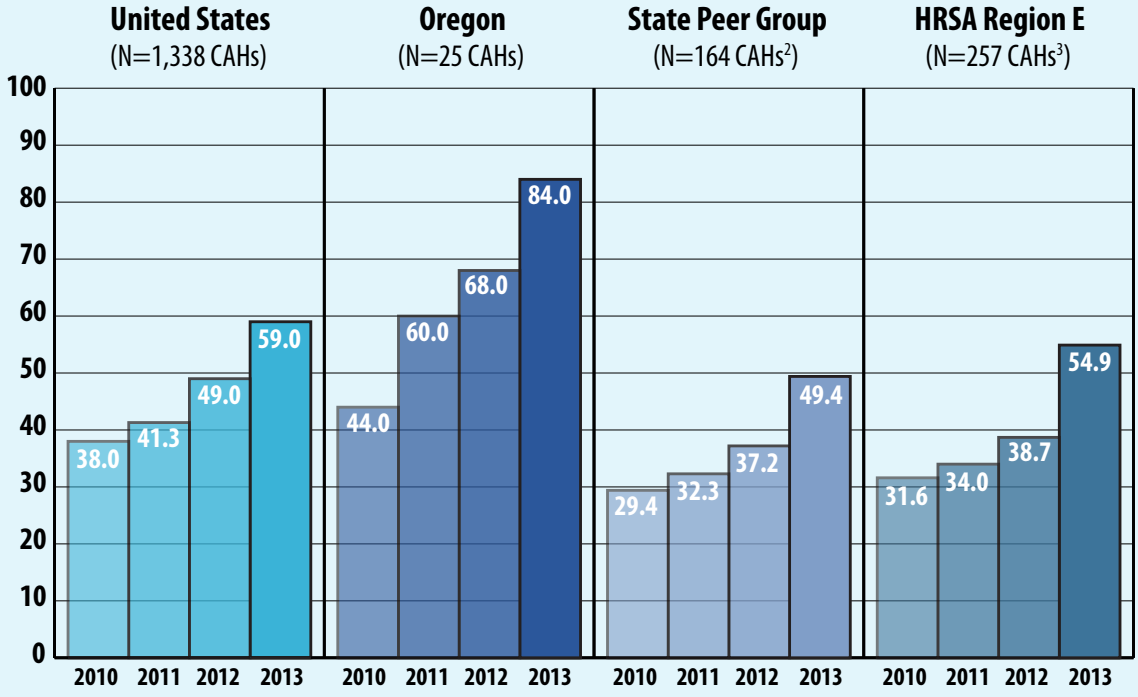
HCAHPS

Eleven HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) measures are publicly reported on Hospital Compare. 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.

HCAHPS Reporting

The number of CAHs in Oregon that reported HCAHPS data for 2013 discharges was 21, for an HCAHPS reporting rate of 84%. This rate was higher than the national HCAHPS reporting rate of 59.0% for CAHs. Figure 4 compares participation rates in HCAHPS over time (2010-2013) among four groups of CAHs: those located in Oregon, all CAHs nationally, those located in other states with a similar number of CAHs as Oregon, and those located in other states within the same geographic region as Oregon. Table 12 (next page) shows the number of completed HCAHPS surveys per CAH in Oregon and nationally, in the three categories reported by CMS.

Figure 4. CAH Participation in HCAHPS, 2010-2013[1]



1. Percentage of CAHs in each state or group of states reporting HCAHPS data.
2. Group includes other states with 20-29 CAHs: AR (29), CO (29), ID (27), KY (29), LA (27), & NC (23).
3. Group includes other states in Region E: AK (13), CO (29), ID (27), MT (48), ND (36), SD (38), UT (11), WA (39), & WY (16).

Table 12. Number of Completed HCAHPS Surveys and Response Rates for CAHs in Oregon and Nationally, 2013

	Total CAHs reporting	Number of completed HCAHPS surveys			HCAHPS survey response rates		
		<100	100-299	≥ 300	< 25%	25-50%	> 50%
All CAHs	790	336	373	80	78	638	18
Oregon CAHs	21	7	9	5	2	19	0

HCAHPS Results

Table 13 shows compares HCAHPS results for CAHs in Oregon to those of CAHs in all other states nationally.

Table 13. HCAHPS Results for CAHs in Oregon and All Other States Nationally, 2013

Significantly better than rate for all other CAHs nationally (p<.05)

Significantly worse than rate for all other CAHs nationally (p<.05)

	Mean (average) for CAHs in:	
	Oregon (n=21)[1]	All Other States (n=769)
Nurses always communicated well	80.3	82.9
Doctors always communicated well	83.0	85.7
Patient always received help as soon as s/he wanted	74.9	75.7
Pain was always well-controlled	73.3	73.2
Staff always explained about medications before giving them to patient	66.0	68.5
Yes, staff gave patient information about what to do during recovery at home	84.6	87.1
Patients who "strongly agree" they understood their care when they left the hospital	50.8	54.6
They gave an overall hospital rating of 9 or 10 (high) on 1-10 scale	70.0	74.6
Area around patient room was always quiet at night	57.7	65.8
Patient room and bathroom were always clean	76.0	80.2
They would definitely recommend the hospital to friends and family	66.9	73.2

1. Rates without highlights were not significantly different from comparable rates in all CAHs nationally.

Of the eleven measures, seven are composite measures that address how well doctors and nurses communicate with patients, the responsiveness of hospital staff, pain management, communication about medicines, and patient understanding of their care when they left the hospital. These, along with two individual measures addressing the cleanliness and quietness of the hospital environment, are reported in response categories of "always," "usually," and "sometimes/never." Additional measures address the provision of discharge information (reported as yes/no), an overall rating of the hospital on a 1-10 scale (reported as "high" (9 or 10), "medium" (7 or 8), or "low" (6 or below), and a rating of the patient's willingness to recommend the hospital (reported as "definitely would recommend," "probably would recommend," and "probably/definitely would not recommend.") CMS adjusts the publicly-reported HCAHPS results for patient-mix, mode of data collection, and non-response bias.

Summary:

Compared to all other states' CAHs nationally, CAHs in Oregon scored significantly higher on 0 of 11 HCAHPS measures, significantly lower on 8, and not significantly different on 3.

STRUCTURAL MEASURES

Structural Measure Reporting

Nationally, 30% of CAHs reported data on the structural measures addressing participation in systematic databases for stroke and nursing sensitive care and a general surgery registry; 31% of CAHs reported data on the electronic receipt of lab data and safe surgery checklist use, and 30% of CAHs reported data on their ability to track clinical results.

Structural Measure Results

In Oregon, 32% of CAHs participate in a stroke database (compared to 7.0% of CAHs nationally), 12% of CAHs participate in a nursing sensitive care database (compared to 4.3% of CAHs nationally), and 12% of CAHs participate in a general surgery registry (compared to 2.1% of CAHs nationally). Oregon CAHs are more likely to report having the ability to receive lab data directly into an EHR (40% vs. 21.4% nationally), more likely to track clinical data between visits (36% vs. 18.5% nationally), and more likely to use a safe surgery checklist (52% vs. 25.7% nationally).

Table 14. Structural Quality Measures Reported by CAHs in Oregon and Nationally, 2013

		Oregon CAHs (n=25)			All CAHs (n=1,338)		
		No data	No	Yes	No data	No	Yes
Participation in Systematic Databases	Stroke care	4.0	64.0	32.0	69.8	23.4	7.0
	Nursing-sensitive care	4.0	84.0	12.0	69.8	25.8	4.3
	General surgery registry	4.0	84.0	12.0	69.9	28.0	2.1
Health Information Technology	OP-12: Ability to receive lab data directly to certified EHR	44.0	16.0	40.0	69.1	9.5	21.4
	OP-17: Ability to track clinical results between visits	44.0	20.0	36.0	70.3	11.2	18.5
Safe Surgery	OP-25: Use of safe surgery checklist	44.0	4.0	52.0	68.8	5.5	25.7

Summary:

Oregon CAHs reporting these data are more likely to have implemented any of the structural quality measures than CAHs nationally.

OUTCOME MEASURES

Mortality and Readmission Rates

Table 15 compares mortality rate data for CAHs in Oregon to CAHs in all other states for six conditions: AMI, heart failure, pneumonia, COPD, stroke, and hip/knee replacement complications. For each condition and group, the table provides the number of CAHs with the minimum 25 cases for CMS to calculate 30 day risk-adjusted mortality rates; the number of eligible CAH patients included in each rate calculation; and the mortality rates.

Table 15. CMS 30-day Risk-Adjusted Mortality Rates for CAHs in Oregon and Nationally, Q3 2010 - Q2 2013[1]

		CAHs with ≥ 25 Cases	Total Cases	Mortality Rate
AMI	Oregon	2	56	17.4
	All Other States	66	2,405	15.4
Heart Failure	Oregon	19	849	13.0
	All Other States	696	37,135	12.4
Pneumonia	Oregon	24	1,764	12.7
	All Other States	1,026	86,121	12.6
COPD	Oregon	19	942	8.7
	All Other States	691	40,427	7.9
Stroke	Oregon	14	555	17.0
	All Other States	196	7,212	15.9
Hip/Knee Replacement Complication[2]	Oregon	11	760	3.5
	All Other States	222	16,594	3.3

1. Hip/Knee Replacement Complication rates are from Q22010-Q12013.
2. The hip/knee complication rate measures whether the patient had at least one of the following complications: AMI, pneumonia, or sepsis/septicemia/shock during the index admission or within 7 days of admission; surgical site bleeding, pulmonary embolism, or death during the index admission or within 30 days of admission; or mechanical complications or periprosthetic joint infection/wound infection during the index admission or within 90 days of admission.

Nationally, over half of CAHs had the minimum 25 cases over 3 years to reliably calculate mortality rates for pneumonia (78.3%), heart failure (53.3%), and COPD (52.9%). Fewer CAHs had enough cases to calculate mortality rates for hip/knee replacement complication (including mortality) (17.3%), stroke (15.5%), or AMI (5%).

Among CAHs with the minimum data to calculate mortality rates, very few CAHs had mortality rates that are better than the US rates for all hospitals (less than 1% for pneumonia) or worse than the US rates for all hospitals (less than 1% for heart failure and stroke, and 2.2% for pneumonia). None of the state-level differences in CAH mortality rates were statistically-significant.

Table 16 compares readmission rate data for CAHs in Oregon to those in all other states for seven categories or conditions: all causes hospital-wide, AMI, heart failure, pneumonia, stroke, COPD, and hip/knee replacement surgery. For each condition and group, the table provides the number of CAHs that had the minimum 25 cases over 3 years (1 year for all-cause readmissions) for CMS to calculate 30-day, risk-adjusted, unplanned readmission rates; the number of eligible CAH patients included in each rate calculation; and the readmission rates.

Table 16. CMS 30-Day Risk-Adjusted Unplanned Readmission Rates for CAHs in Oregon and Nationally, 2010-2013[1]

		CAHs with ≥ 25 Cases	Patients	Readmission Rate
Hospital-Wide All- Cause	Oregon	25	6,236	15.3
	All Other States	1,127	228,178	15.6
AMI	Oregon	0	*	*
	All Other States	27	945	17.6
Heart Failure	Oregon	20	1,056	22.3
	All Other States	768	45,145	22.5
Pneumonia	Oregon	24	1,913	16.7
	All Other States	1,037	91,268	17.1
COPD	Oregon	20	1,057	20.1
	All Other States	734	48,714	20.8
Stroke	Oregon	12	472	12.8
	All Other States	169	6,079	12.9
Hip/Knee Replacement	Oregon	11	789	5.1
	All Other States	228	17,430	5.1

1. Readmission rates are from Q32010-Q22013 except for the Hospital-Wide All Cause rates, which are from Q32012-Q2013.

Nationally, the majority of CAHs had a sufficient number of cases to reliably calculate hospital-wide all-cause (85.9%) and pneumonia (79.2%) readmission rates. Over half of CAHs had enough cases to reliably calculate heart failure (58.7%) and COPD (56.2%) readmission rates. Fewer CAHs had enough cases to calculate hip/knee replacement readmission (17.8%), stroke readmission (13.4%), or AMI readmission (1.9%) rates.

Among CAHs with the minimum data to calculate readmission rates, very few CAHs had readmission rates that were better than the US rates for all hospitals (less than 1% for hip/knee replacement surgery readmission) or worse than the US rates for all hospitals (less than 1% for pneumonia, COPD, or hospital-wide all-cause readmissions). None of the state-level differences in CAH readmission rates were statistically-significant.

Summary:

Small-volume issues limit the usefulness of condition-specific mortality and readmission measures at the individual CAH level; however, it is important to establish baseline data relevant to CAHs nationwide for these outcome measures, as they have received increasing attention among state and national policymakers. Many more CAHs have larger patient volumes for the new all-cause readmission measure; the Flex Monitoring Team is currently conducting additional analyses to asses the usefulness of this measure at the individual CAH level.

KEY POINTS, NEXT STEPS, AND ADDITIONAL RESOURCES

Key Points

- Quality measurement is an important component of health care reform efforts and the transition from volume-based to value-based payment systems. CAHs need to publicly report quality measures and demonstrate that they are providing high-quality care in order to justify the continuation of cost-based reimbursement, to demonstrate meaningful use of electronic health records (EHRs), and to participate in payment reform initiatives, such as Accountable Care Organizations.

- Not all quality measures in this report are relevant for all CAHs (for example, some CAHs do not provide inpatient surgery or obstetrics). However, some CAHs are reporting data on each of the measures, and most of the measures are relevant for the vast majority of CAHs. CAHs should publicly report those measures that are relevant to their patient population and service mix.

- Small volume is not a valid reason for not reporting quality data; it is important to provide evidence-based care for every patient. This report aggregates CAH data at the state level. Therefore, we are able to include data for hospitals with ten or fewer cases, which CMS suppresses from individual hospital reports on Hospital Compare. The aggregated data in this report gives a more complete picture of how CAHs are performing at the state level and nationally.

- The number of CAHs by state varies from 3 to 84, and State Flex Programs with a large number of CAHs face additional challenges in working with their hospitals on quality reporting and improvement. However, some states with many CAHs have higher quality reporting and performance rates than other states with few CAHs, and vice versa.

Next Steps

1. Examine the reporting and performance data presented earlier in this report along with the three-year performance trends in Appendix B to identify specific areas for improvement. Basic questions to ask include:

    - How do your state's CAHs compare to all other CAHs, to CAHs in states with a similar number of CAHs, and to CAHs in your region in terms of publicly reporting data for inpatient, outpatient, and HCAHPS measures?

    - How do your state's CAHs compare to all other CAHs in providing recommended levels of care for these measures? How have their performances for each measure changed over time?

- How are your state's CAHs doing in terms of reporting and performance on the quality measures in this report that are new MBQIP measures for FY2015-17?

2. In states where CAH quality reporting and/or performance are lower than in other states, additional initiatives may be necessary to encourage reporting and improve performance.

    - After you have identified opportunities for improvement, implement evidence-based quality improvement programs and strategies that have been successfully used by CAHs or can be adapted for CAHs.

    - Many State Flex Programs are already working with various partners on collaborative efforts to improve care for CAH patients, and several states have CAH networks working on quality improvement initiatives through the Medicare Beneficiary Quality Improvement Program (MBQIP). If your state is not already doing so, consider collaborating with organizations such as your State Hospital Association and Quality Innovation Network Quality Improvement Organization (QIN-QIO), or working with national organizations and State affiliates on QI efforts (for example, collaborating with the Heart Association on a heart failure initiative).

Additional Tools and Resources

The Flex Monitoring Team (FMT) provides free access to all publications and presentations on our website, www.flexmonitoring.org. The FMT has prepared a series of policy briefs on evidence-based QI programs and strategies that could be implemented by CAHs, which include links to tools and resources:

- Medication Safety
- Surgical Care
- AMI
- Heart Failure
- Falls Prevention
- Pneumonia

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 http://www.ruralcenter.org/tasc/flexprofile
- For resources focused onthe Medicare Beneficiary Quality Improvement Program (MBQIP), visit https://www.ruralcenter.org/tasc/mbqip

CMS redesigned its Quality Improvement Organization (QIO) Program in 2014. The new program structure separates case review from quality improvement. Beneficiary and Family Centered Care (BFCC)-QIOs handle case review, while Quality Innovation Network (QIN)-QIOs provide education and outreach, sharing practices that have worked in other areas, and using data to measure improvement. A list of QIN-QIOs, the states they serve, and their contact information is available at: http://bit.ly/QIN-QIO

REFERENCES

1. The Flex Monitoring Team has published national Hospital Compare reports since 2006. All are available for download at http://www.flexmonitoring.org/publications/annual-hospital-compare-results/
2. Previous state level reports are available on the Flex Monitoring Team website at http://www.flexmonitoring.org/data/state-level-data/.

For more information, please contact Michelle Casey at mcasey@umn.edu.

APPENDIX A: Definitions of Measures

PROCESS OF CARE MEASURES

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

Acute Myocardial Infarction (AMI) Inpatient Measures

- AMI-2: *Aspirin prescribed at discharge* – AMI patients without aspirin contraindications who were prescribed aspirin at hospital discharge.
- AMI-7a: *Fibrinolytic therapy received within 30 minutes of arrival* – AMI patients receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less.
- AMI-10: *Statin prescribed at discharge* - AMI patients who are prescribed a statin at hospital discharge.

AMI/Chest Pain Outpatient Measures

- OP-2: *Fibrinolytic therapy received within 30 minutes of arrival* – AMI patients receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less.
- OP-4: *Aspirin at arrival* – AMI patients without aspirin contraindications who received aspirin within 24 hours before or after hospital arrival.
- OP-1: *Median Time to Fibrinolysis* - median time from arrival to fibrinolysis for patients that received fibrinolysis. (A lower number is better.)
- OP-3: *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 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).

Emergency Department Inpatient Measures

- ED-2: *Median Time from ED Arrival to ED Departure for Admitted ED Patients* - median time from Emergency Department (ED) arrival to time of departure from the ED for patients admitted to the facility from the ED (A lower number is better.)
- ED-1: *Admit Decision Time to ED Departure Time for Admitted Patients* - median time from admit decision time to time of departure from the Emergency Department (ED) for ED patients admitted to inpatient status. (A lower number is better.)

Emergency Department Outpatient Measures

- OP-22: *Left Without Being Seen* - percent of patients who leave the Emergency Department (ED) without being evaluated by a physician/advanced practice nurse/physician's assistant (physician/APN/PA). (A lower number is better.)
- OP-18: *Median Time from ED Arrival to ED Departure for Discharged ED Patients* - median time from Emergency Department (ED) arrival to time of departure from the ED for patients discharged from the ED (a lower number is better).

- OP-21: *Median Time to Pain Management for Long Bone Fracture* - median time from Emergency Department (ED) arrival to time of initial oral or parenteral pain medication administration for ED patients with a principal diagnosis of long bone fracture (a lower number is better).
- OP-20: *Door to Diagnostic Evaluation by Qualified Medical Personnel* - median time from Emergency Department (ED) arrival to provider contact for ED patients (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 ED Arrival* - percentage of Emergency Department (ED) 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.

Heart Failure Measures

- HF-1: *Discharge Instructions* – heart failure patients discharged home with written instructions or educational material given to patient or care giver at discharge or during the hospital stay addressing all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen.
- HF-2: *Evaluation of LVS Function* – heart failure patients with documentation in the hospital record that an evaluation of the left ventricular systolic (LVS) function was performed before arrival, during hospitalization, or is planned for after discharge.
- HF-3: *ACE inhibitor or ARB for LVSD* – heart failure patients with left ventricular systolic dysfunction (LVSD) and without angiotensin converting enzyme inhibitor (ACE inhibitor) contraindications or angiotensin receptor blocker (ARB) contraindications who are prescribed an ACE inhibitor or an ARB at hospital discharge.

Pneumonia Measures

- PN-6: *Most Appropriate Initial Antibiotics* – immunocompetent patients with pneumonia who receive an initial antibiotic regimen that is consistent with current guidelines.

Immunization

- IMM-2: *Influenza Vaccination* – This prevention measure addresses acute care hospitalized inpatients age 6 months and older who were screened for seasonal influenza immunization status and were vaccinated prior to discharge if indicated. The numerator captures two activities: screening and the intervention of vaccine administration when indicated. As a result, patients who had documented contraindications to the vaccine, patients who were offered and declined the vaccine, and patients who received the vaccine during the current year's influenza season but prior to the current hospitalization are captured as numerator events.
- OP-27: *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.

Inpatient Surgical Care Improvement Measures

- SCIP-Inf-1: *Prophylactic Antibiotic Received within One Hour Prior to Surgical Incision* – surgical patients who received prophylactic antibiotics within 1 hour prior to surgical incision.
- SCIP-Inf-2: *Prophylactic Antibiotic Selection for Surgical Patients* – surgical patients who received the recommended antibiotics for their particular type of surgery.
- SCIP-Inf-3: *Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time* – surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time.
- SCIP-VTE-2: *Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis within 24 Hours Prior to Surgery to 24 Hours After Surgery* – surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to surgical incision time to 24 hours after surgery end time.
- SCIP-Card-2: *Surgery Patients on a Beta Blocker Prior to Arrival Who Received a Beta Blocker During the Perioperative Period* – surgery patients who were taking heart drugs called beta blockers before coming to the hospital, who were kept on the beta blockers during the period just before and after their surgery.
- SCIP-Inf-9: *Urinary Catheter Removed 1st/2nd Day After Surgery* – inpatients whose urinary catheters were removed within two days after surgery to reduce the risk of infections.
- SCIP-Inf-10: *Surgery Patients with Perioperative Temperature Management* - surgery patients for whom either active warming was used intraoperatively for the purpose of maintaining normothermia or who had at least one body temperature equal to or greater than 96.8° Fahrenheit/36°Celsius recorded within the 30 minutes immediately prior to or the 15 minutes immediately after anesthesia end time.

Outpatient Surgical Care Improvement Measures

- OP-6: *Prophylactic Antibiotic Received within One Hour Prior to Surgical Incision* – surgical patients who received prophylactic antibiotics within one hour prior to surgical incision.
- OP-7: *Prophylactic Antibiotic Selection for Surgical Patients* – surgical patients who received the recommended antibiotics for their particular type of surgery.

Perinatal Care Measures

- 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).

Stroke Measures

- STK-1: *Venous Thromboembolism (VTE) Prophylaxis* - ischemic and hemorrhagic stroke patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission.
- STK-2: *Discharged on Antithrombotic Therapy* - ischemic stroke patients prescribed antithrombotic therapy at hospital discharge.
- STK-3: *Anticoagulation Therapy for Atrial Fibrillation/Flutter* - ischemic stroke patients with atrial fibrillation/flutter who are prescribed anticoagulation therapy at hospital discharge.
- STK-4: *Thrombolytic Therapy* - acute ischemic stroke patients who arrive at this hospital within two hours of time last known well and for whom IV t-PA was initiated at this hospital within three hours of time last known well.
- STK-5: *Antithrombotic Therapy By End of Hospital Day 2* - ischemic stroke patients administered antithrombotic therapy by the end of hospital day two.

- STK-6: *Discharged on Statin Medication* - ischemic stroke patients with LDL greater than or equal to 100 mg/dL, or LDL not measured, or who were on a lipid-lowering medication prior to hospital arrival are prescribed statin medication at hospital discharge.
- STK-8: *Stroke Education* - ischemic or hemorrhagic stroke patients or their caregivers who were given educational materials during the hospital stay addressing all of the following: activation of emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke.
- STK-10: *Assessed for Rehabilitation* - ischemic or hemorrhagic stroke patients who were assessed for rehabilitation services.

Venous Thromboembolism (VTE) Measures

- VTE-1: *Venous Thromboembolism Prophylaxis* - the number of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after hospital admission or surgery end date for surgeries that start the day of or the day after hospital admission.
- VTE-2: *Intensive Care Unit Venous Thromboembolism Prophylaxis* - number of patients who received VTE prophylaxis or have documentation why no VTE prophylaxis was given the day of or the day after the initial admission (or transfer) to the Intensive Care Unit (ICU) or surgery end date for surgeries that start the day of or the day after ICU admission (or transfer).
- VTE-3: *Venous Thromboembolism Patients with Anticoagulation Overlap Therapy* - the number of patients diagnosed with confirmed VTE who received an overlap of parenteral (intravenous or subcutaneous) anticoagulation and warfarin therapy. Patients who received less than five days of overlap therapy should be discharged on both medications or have a reason for discontinuation of parenteral therapy. Overlap therapy should be administered for at least five days with an international normalized ratio (INR) greater than or equal to two prior to discontinuation of the parenteral anticoagulation therapy, discharged on both medications, or have a reason for discontinuation of parenteral therapy.
- VTE-4: *Venous Thromboembolism Patients Receiving Unfractionated Heparin with Dosages/ Platelet Count Monitoring by Protocol or Nomogram* - the number of patients diagnosed with confirmed VTE who received intravenous (IV) UFH therapy dosages and had their platelet counts monitored using defined parameters such as a nomogram or protocol.
- VTE-5: *Venous Thromboembolism Warfarin Therapy Discharge Instructions* - the number of patients diagnosed with confirmed VTE that are discharged to home, home care, court/law enforcement or home on hospice care on warfarin with written discharge instructions that address all four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions.
- VTE-6: *Hospital Acquired Potentially-Preventable Venous Thromboembolism* - 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).

For additional information:

- *Specifications Manual for National Hospital Inpatient Quality Measures* http://bit.ly/InpManual, accessed March 3, 2015
- *Specifications Manual for National Hospital Outpatient Quality Measures* http://bit.ly/OutpManual, accessed March 3, 2015
- *Prenatal measure specifications* http://bit.ly/PrenatalSpecs, accessed March 3, 2015

HCAHPS MEASURES

HCAHPS is a national, standardized survey of patients' perspectives of hospital care. It was developed by the Agency for Healthcare Research and Quality and CMS to complement other hospital tools designed to support quality improvement. The survey is administered to a random sample of adult patients following discharge from the hospital for inpatient medical, surgical, or maternity care.

Eleven HCAHPS measures are publicly reported on Hospital Compare. Seven composite measures address how well doctors and nurses communicate with patients, the responsiveness of hospital staff, pain management, communication about medicines, and patient understanding of their care when they left the hospital. These measures and two individual measures addressing the cleanliness and quietness of the hospital environment are reported in response categories of always, usually, and sometimes/never. Additional measures address the provision of discharge information (reported as yes/no), an overall rating of the hospital on a 1-10 scale (reported as high (9 or 10), medium (7 or 8), or low (6 or below), and a rating of the patient's willingness to recommend the hospital (reported as definitely would recommend, probably would recommend, and probably/definitely would not recommend.) CMS adjusts the publicly reported HCAHPS results for patient-mix, mode of data collection, and non-response bias.

For additional information, visit http://www.medicare.gov/hospitalcompare/Data/Overview.html

MORTALITY/READMISSION/COMPLICATION MEASURES

CMS calculates hospital-level 30-day risk-standardized mortality and readmission rates for pneumonia, heart failure, and AMI, as well as readmission and complication rates for hip or knee replacement, and hospital-wide all-cause unplanned readmission rates using Medicare fee-for-service claims and enrollment data and statistical modeling techniques. Rates are not calculated for hospitals that are not in the Hospital Compare database or that have less than 25 qualifying cases over the relevant time period (3 years for pneumonia, heart failure, AMI, stroke, and COPD mortality and readmissions; 2 years for hip/knee complications; and 1 year for all-cause readmissions).
The 30-day mortality measures are estimates of deaths from any cause within 30 days of a hospital admission, for patients hospitalized with AMI, heart failure, pneumonia, stroke, or COPD, regardless of whether the patient dies while still in the hospital or after discharge.

The hip/knee complication rate is an estimate of complications within an applicable time period, for patients electively admitted for primary total hip/knee replacement. CMS measures the likelihood that at least one of eight complications occurs within a specified time period: acute myocardial infarction (AMI), pneumonia, or sepsis/septicemia/shock during the index admission or within 7 days of admission; surgical site bleeding, pulmonary embolism, or death during the index admission or within 30 days of admission; or mechanical complication or periprosthetic joint infection/wound infection during the index admission or within 90 days of admission.

The 30-day readmission measures are estimates of unplanned readmission for any cause to any acute care hospital within 30 days of discharge. Hospital Compare reports the following 30-day readmission measures:

- 30-day readmission for heart attack (AMI) patients
- 30-day readmission for heart failure (HF) patients

- 30-day readmission for pneumonia patients
- 30-day readmission for hip/knee replacement patients
- 30-day hospital-wide all-cause rate of readmission (includes patients admitted for internal medicine, surgery/gynecology, cardiorespiratory, cardiovascular, and neurology services.)
- 30-day readmission for stroke patients
- 30-day readmission for COPD patients

The 30-day mortality and readmission measures include hospitalizations for Medicare beneficiaries aged 65 or older who were enrolled in traditional fee-for-service Medicare for the entire 12 months prior to their hospital admission (and for readmissions, for 30 days after their original admission). The AMI, heart failure, and pneumonia mortality and readmission measures also include patients aged 65 or older who were admitted to Veteran's Health Administration (VA) hospitals. Beneficiaries enrolled in Medicare managed care plans are not included. Readmission measures do not include patients who transferred to another hospital, or who left the hospital against medical advice.

The hip/knee complication measure includes Medicare beneficiaries aged 65 or older who were electively admitted for hip/knee replacement and enrolled in traditional fee-for-service Medicare for the entire 12 months prior to their hospital admission. Beneficiaries enrolled in Medicare managed care plans are not included.

For these measures, CMS compares the hospital's interval estimate to the national rates. If the interval estimate includes and/or overlaps with the national observed mortality or readmission rate, the hospital's performance is in the "No Different than U.S. National Rate" category. If the entire interval estimate is below the national observed mortality or readmission rate, then the hospital is performing "Better than U.S. National Rate." If the entire interval estimate is above the national observed mortality or readmission rate, its performance is "Worse than U.S. National Rate." Hospitals with fewer than 25 eligible cases are placed into a separate category that indicates that the hospital does not have enough cases to reliably tell how well the hospital is performing.

For additional information, visit http://www.medicare.gov/hospitalcompare/Data/30-day-measures.html

APPENDIX B: Three-Year Trends

These figures compare trends in performance on process measures for CAHs in <<state>> and nationally for 2011, Q2 2012 through Q1 2013, and Q2 2013 through Q1 2014 (labeled as "Q212-Q113" and "Q213-Q114, respectively, in each figure). The percentages of patients receiving recommended care for each measure for each year are based on all CAH patients for whom data were reported that year. Data are not shown for measures with fewer than 25 patients per year. These trend data can help states identify improvement in measures over time, keeping in mind that some states may have greater year-to-year fluctuation in results due to small sample sizes for some measures.

INPATIENT MEASURES

All CAHs Nationally
Oregon CAHs

Figure 1. AMI: Aspirin at Discharge

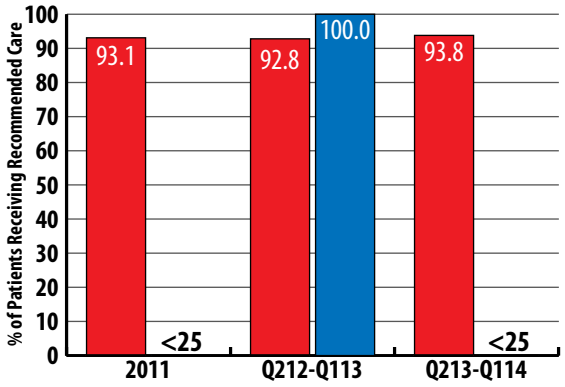


Figure 2. AMI: Statin Prescribed at Discharge

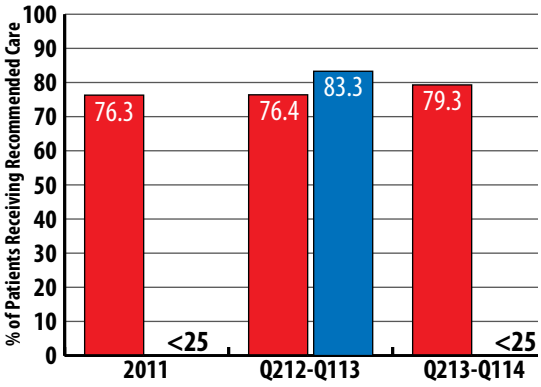


Figure 3. Heart Failure: Discharge Instructions Provided

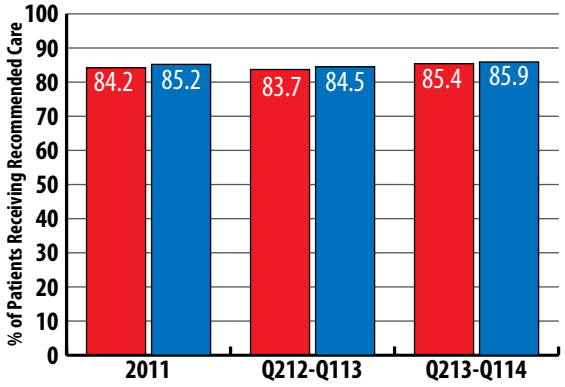
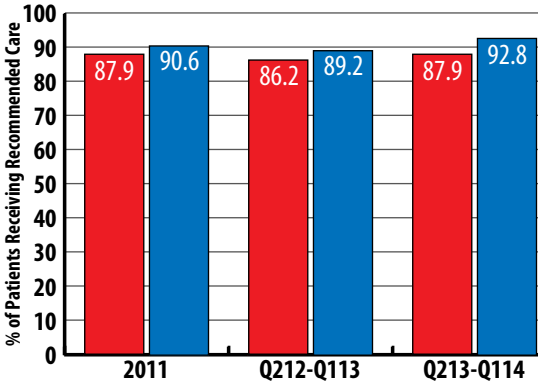


Figure 4. Heart Failure: Assessment of LVS Rate



Note: Data are not shown for measures with fewer than 25 patients per year.

All CAHs Nationally
Oregon CAHs

Figure 5. Heart Failure: ACEI or ARB for LVSD

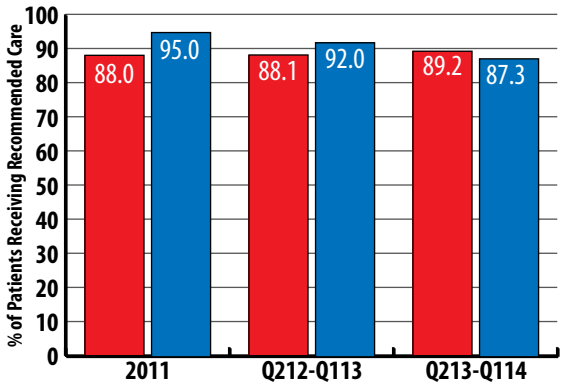


Figure 6. Pneumonia: Most Appropriate Initial Antibiotic(s)

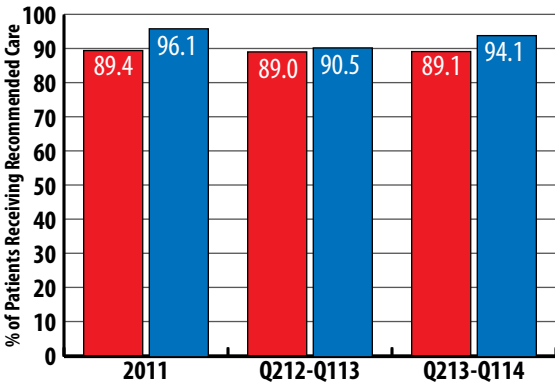


Figure 7. Surgery: Preventative Antibiotic(s) 1 Hour Before Incision

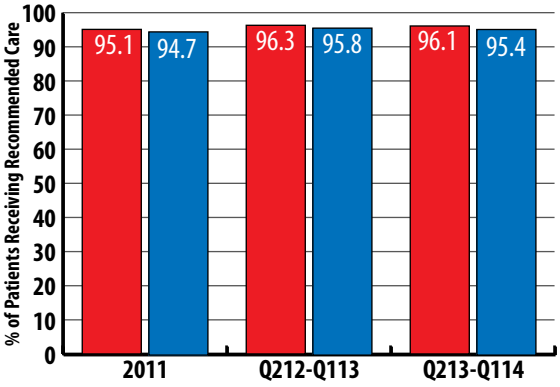


Figure 8. Surgery: Received Most Appropriate Preventative Antibiotic(s)

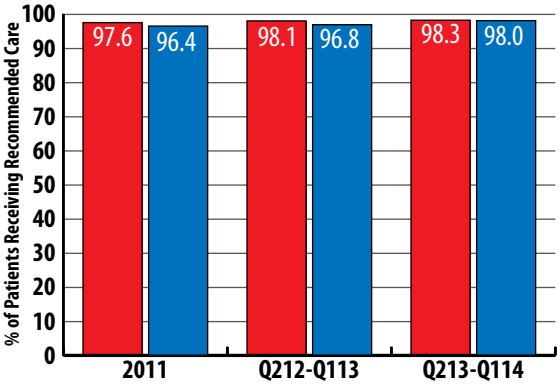


Figure 9. Surgery: Preventative Antibiotic(s) Stopped Within 24 Hours After Surgery

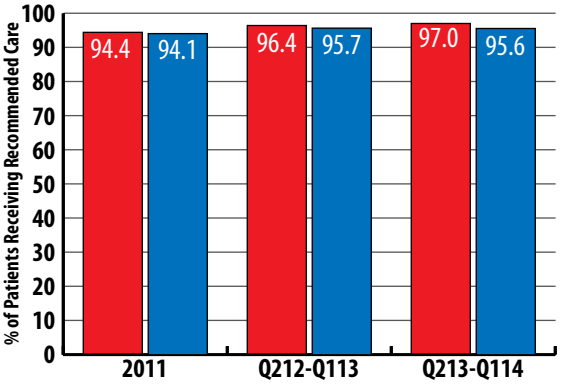
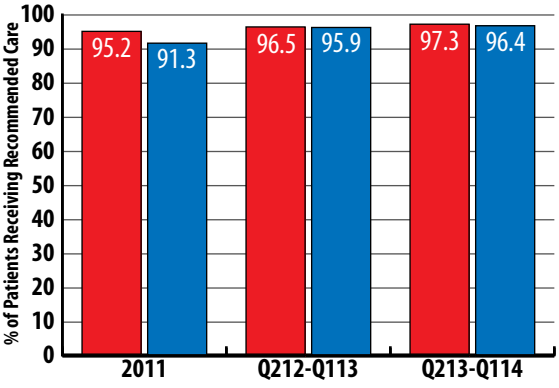


Figure 10. Surgery: Received Blood Clot Prevention Treatments 24 Hours Pre/Post Surgery



Note: Data are not shown for measures with fewer than 25 patients per year.

All CAHs Nationally
Oregon CAHs

Figure 11. Surgery: Beta Blockers Prior to Hospitalization and Before and After Surgery

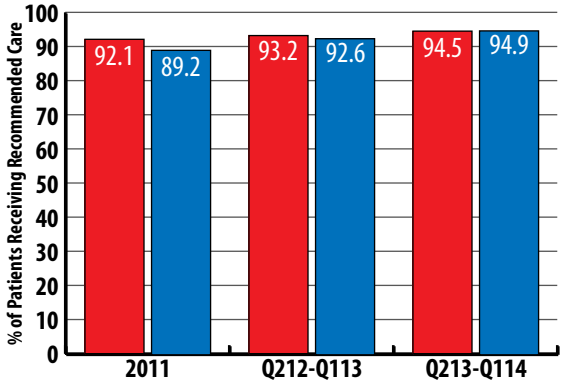


Figure 12. Surgery: Urinary Catheter Removed First or Second Day After Surgery

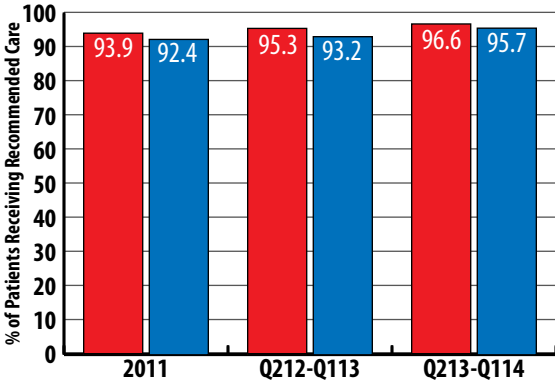
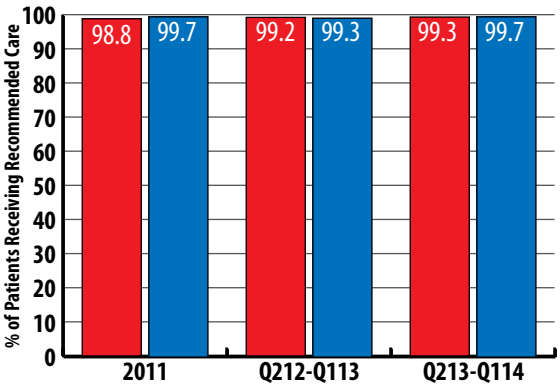


Figure 13. Surgery: Patients Received Perioperative Temperature Management



Note: Data are not shown for measures with fewer than 25 patients per year.

OUTPATIENT MEASURES

All CAHs Nationally
Oregon CAHs

Figure 14. Outpatient AMI / Chest Pain: Fibrinolytic Within 30 Minutes of Arrival

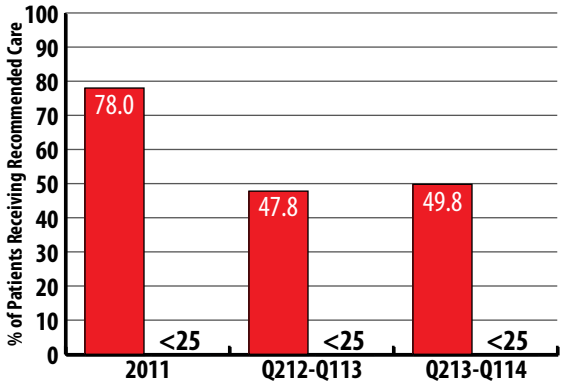


Figure 15. Outpatient AMI / Chest Pain: Aspirin at Arrival

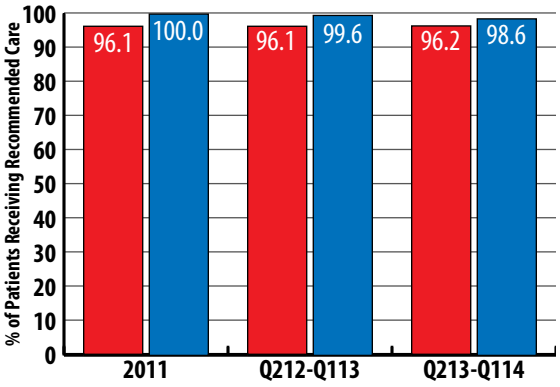


Figure 16. Outpatient Surgery: Preventative Antibiotic(s) Administered 1 Hour Before Incision

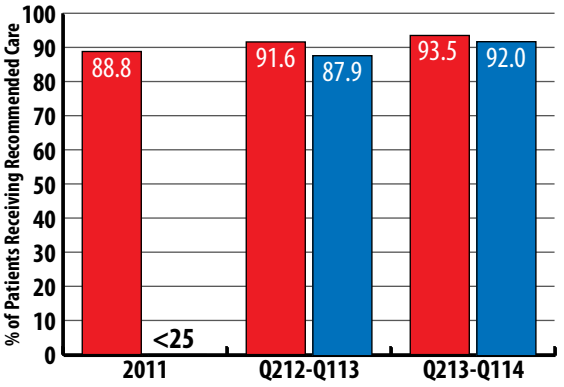
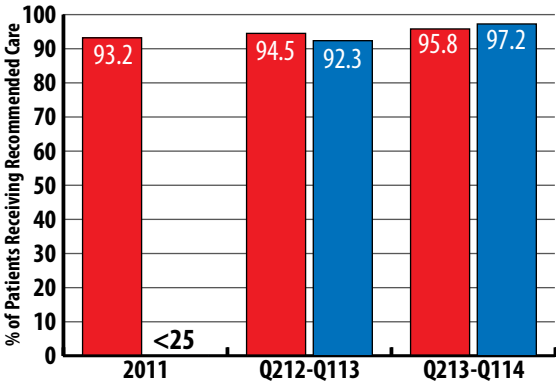


Figure 17. Outpatient Surgery: Received Appropriate Preventative Antibiotic(s)



Note: Data are not shown for measures with fewer than 25 patients per year.

APPENDIX C: Oregon CAHs Reporting Inpatient, Outpatient, and HCAHPS Data For At Least One Patient Per Category

Hospital Name	City	Inpatient	Outpatient	HCAHPS
Columbia Memorial Hospital	Astoria	X		X
St Alphonsus Medical Center - Baker City Inc	Baker City	X		X
Southern Coos Hospital & Health Center	Bandon	X		X
Harney District Hospital	Burns	X	X	
Coquille Valley Hospital District	Coquille	X	X	X
Peacehealth Cottage Grove Community Medical Center	Cottage Grove	X	X	X
West Valley Hospital	Dallas	X	X	
Wallowa Memorial Hospital	Enterprise	X		X
Peace Harbor Medical Center	Florence	X	X	X
Curry General Hospital	Gold Beach			X
Pioneer Memorial Hospital	Heppner	X	X	X
Good Shepherd Medical Center	Hermiston	X	X	X
Providence Hood River Memorial Hospital	Hood River	X	X	X
Blue Mountain Hospital	John Day	X		X
Grande Ronde Hospital	La Grande	X		
Lake District Hospital	Lakeview	X	X	X
Samaritan Lebanon Community Hospital	Lebanon	X		X
Samaritan North Lincoln Hospital	Lincoln City	X		X
St Charles - Madras	Madras	X		X
Samaritan Pacific Community Hospital	Newport	X		X
St Anthony Hospital	Pendleton	X		
Pioneer Memorial Hospital	Prineville	X	X	X
Lower Umpqua Hospital District	Reedsport	X	X	X

Hospital Name	City	Inpatient	Outpatient	HCAHPS
Providence Seaside Hospital	Seaside	X	X	X
Tillamook Regional Medical Center	Tillamook	X		X