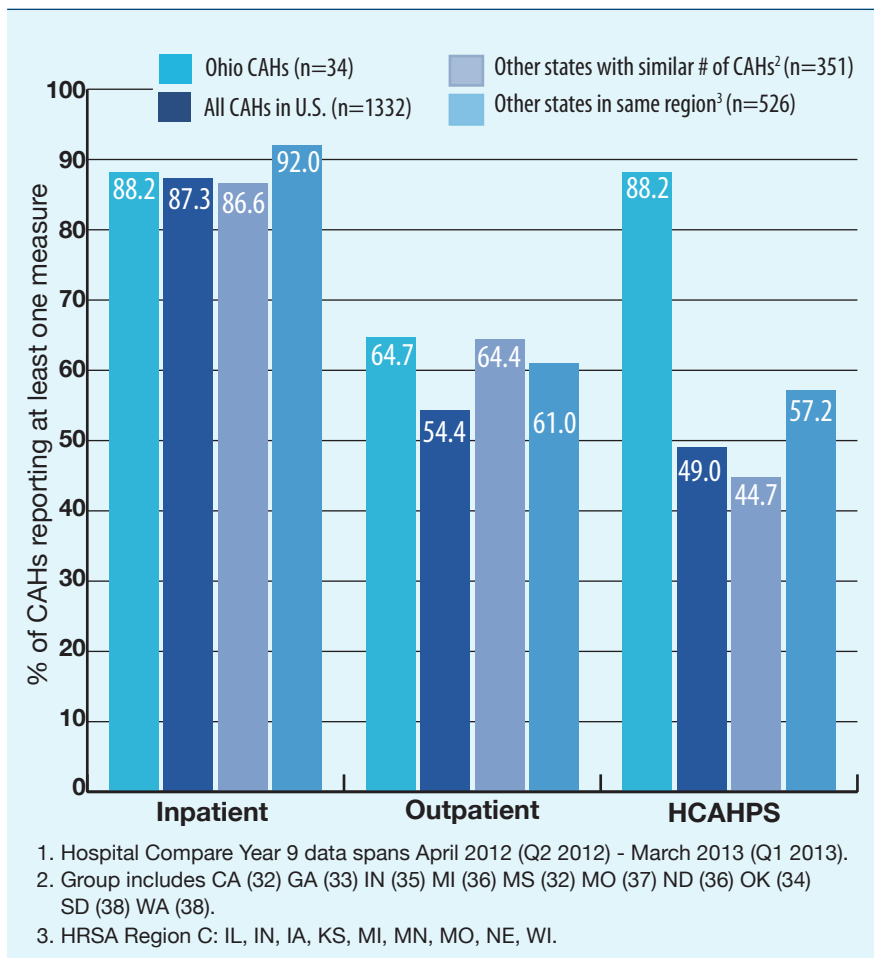# Hospital Compare CAH Quality Measure Results, Q2 2012 - Q1 2013

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Flex Monitoring Team

KEY FINDINGS

CRITICAL ACCESS HOSPITAL PARTICIPATION RATES IN HOSPITAL COMPARE, Q2 2012-Q1 2013[1]

Legend:
- Ohio CAHs (n=34)
- All CAHs in U.S. (n=1332)
- Other states with similar # of CAHs[2] (n=351)
- Other states in same region[3] (n=526)

Inpatient: 88.2, 87.3, 86.6, 92.0
Outpatient: 64.7, 54.4, 64.4, 61.0
HCAHPS: 88.2, 49.0, 44.7, 57.2

Y-axis: % of CAHs reporting at least one measure

1. Hospital Compare Year 9 data spans April 2012 (Q2 2012) - March 2013 (Q1 2013).
2. Group includes CA (32) GA (33) IN (35) MI (36) MS (32) MO (37) ND (36) OK (34) SD (38) WA (38).
3. HRSA Region C: IL, IN, IA, KS, MI, MN, MO, NE, WI.

REPORTING RATES

Compared to all other CAHs nationally, Ohio's CAHs reported at a rate that was:
- HIGHER for inpatient measures (**88.2%** of CAHs vs. **87.3%** nationally)
- HIGHER for outpatient measures (**64.7%** of CAHs vs. **54.4%** nationally)
- HIGHER for HCAHPS (**88.2%** of CAHs vs. **49.0%** nationally)

STATE RANKINGS

Among the 45 states participating in the Flex Program, Ohio's CAHs rank:
- **#27** for inpatient measure reporting
- **#15** for outpatient measure reporting
- **#5** for HCAHPS reporting

CARE QUALITY

Compared to process-of-care scores for all other CAHs nationally from Q2 2012 through Q1 2013, higher's CAHs have:
- Significantly HIGHER scores on **12** measures
- Significantly LOWER scores on **4** measures
- No significant differences on **16** measures
- Insufficient data to compare **17** measures

Compared to HCAHPS scores for all other CAHs nationally, Ohio's CAHs have:
- Significantly HIGHER scores on **0** measures
- Significantly LOWER scores on **1** measure
- No significant differences on **9** measures

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TABLE OF CONTENTS

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3

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 2013, there were 1,332 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 nationally for 2004-2011 and at the state level for 2006-2011.[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 2012 through March 2013.[i]

- Data for April 2012 through March 2013 on process measures for which CAHs reported ten or fewer cases, which CMS suppresses from the Hospital Compare website, but makes available to the Office of Rural Health Policy for aggregate CAH analyses.

- Publicly-available Hospital Compare data downloaded from the CMS Hospital Compare website on AMI, heart failure, and pneumonia mortality and readmission rates for July 2009 through June 2012; hip/knee replacement complication and readmission rates for July 2009 through June 2012; all-cause readmission rates for July 2011 through June 2012; and Healthcare-Associated Infection measures for April 2012 through March 2013 or January through March 2013.

- Publicly-available Hospital Compare Data downloaded from the CMS Hospital Compare website on structural quality measures for 2012.

- CAH Hospital Compare data for 2007-2011 and data on all CAHs maintained by the Flex Monitoring Team.

Since the last set of CAH state reports, several inpatient process measures were removed from Hospital Compare or had data collection suspended, and new inpatient, outpatient, and outcome measures were added. CMS retired inpatient pneumonia (initial antibiotic timing, smoking cessation advice, and influenza and pneumococcal vaccination), heart

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i. Due to the federal government shutdown in October 2013, data for calendar year 2012 was not available for this report. The most current data available (April 2012 through March 2013) was used.

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4

failure (smoking cessation advice), and AMI measures (smoking cessation advice) and suspended data collection for the inpatient AMI aspirin at arrival, ACEI/ARB for LVSD, and beta blocker at discharge measures. New measures that were added relate to Emergency Department, global immunization, stroke, venous thromboembolism (VTE), perinatal, Healthcare-Associated Infection, readmission, and mortality/complication.

The 49 process of care measures in this report include, AMI, heart failure, pneumonia, surgical care improvement, stroke, VTE, immunization, and perinatal measures for inpatients, and AMI/chest pain, surgical, and Emergency Department measures for outpatients. These 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 ten 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, an overall rating of the hospital, and a rating of the patient's willingness to recommend the hospital.

A Note on the Differences Between MBQIP and Hospital Compare Data:

The Medicare Beneficiary Quality Improvement Project (MBQIP) was created by the Federal Office of Rural Health Policy (ORHP) as a Flex Grant Program activity within the core area of quality improvement. The primary goal of MBQIP is for CAHs to implement quality improvement initiatives to improve their patient care. The MBQIP Phase 1 and Phase 2 quality measures are a subset of the Hospital Compare measures, and include inpatient pneumonia and heart failure, outpatient AMI/chest pain and surgical care, and HCAHPS measures.

Data in this report may differ from the data in 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, while the HCAHPS data in MBQIP reports are unadjusted.

Nine 30-day risk-adjusted mortality, readmission, and complication measures include AMI, heart failure, and pneumonia mortality; AMI, heart failure, pneumonia, hip/knee replacement, and all-cause unplanned readmission rates; and hip/knee replacement complication rates. These measures are calculated by CMS using Medicare claims data.

Healthcare-Associated Infection (HAI) measures indicate how often patients in a hospital contract certain infections during the course of their medical treatment, when compared to similar hospitals. These infections can often be prevented when healthcare facilities follow guidelines for safe care. The six HAI measures in the report include central line-associated

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5

bloodstream infections (CLABSI); catheter-associated urinary tract infection (CAUTI); surgical site infections (SSI) from colon surgery; SSI from abdominal hysterectomy; methicillin-resistant staphylococcus aureus (MRSA) blood infections; and *clostridium difficile* infections. Hospitals report these measures to the Centers for Disease Control (CDC) through the National Healthcare Safety Network (NHSN), and CDC provides the data to CMS.

Five 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. 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. Two-sample t-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 used to compare whether the mean scores on each HCAHPS measure are significantly different between CAHs in each state and all other CAHs.

For the risk-adjusted mortality and readmission rates, the number and percent of CAHs

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6

for which CMS did not calculate rates were determined. The number and percent of CAHs whose rates for each condition were not different than, better than, or worse than the national rates (as determined by CMS) were summed by state and nationally.

For the HAI rate measures, CAHs that reported data on one or more procedures (the denominator for the SSI infection rates), patient days (the denominator for *colostridium difficile* and MRSA blood infection measures), or device days (the total number of days that all patients had a central line or urinary catheter, the denominator for the CLABSI and CAUTI measures) were counted as reporting that measure. CDC considers the minimal denominator requirements for calculating infection rates to be at least 50 device days or 25 procedures. The majority of CAHs did not have the minimum 50 device days or 25 procedures; thus, risk-adjusted infection rates for individual CAHs were not calculated, since the standardized infection ratio would not be precise.

PROCESS OF CARE MEASURES

Reporting in Ohio 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 Ohio, 30 of the 34 CAHs reported data to Hospital Compare on at least one inpatient process of care measure for Q2 2012 through Q1 2013 discharges.

Figures 1 and 2 (next page) compare the respective inpatient and outpatient reporting rates over time (2009 through Q1 2013) among CAHs in four groups: those in Ohio, all CAHs nationally, other states with a similar number of CAHs as Ohio, and other states located in the same geographic region as Ohio.

Figure 3 (page 9) compares the respective inpatent and outpatient reporting rates of CAHs in Ohio to those located in the other 44 states participating in the Flex Program as well as the rate for all CAHs nationally. The Ohio CAH inpatient reporting rate of 88.2% ranks #27 nationally; the Ohio CAH outpatient reporting rate of 64.7% ranks #15 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).

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7

Figure 1. CAH Participation in Hospital Compare for Inpatient Discharges, 2009-2013[1]
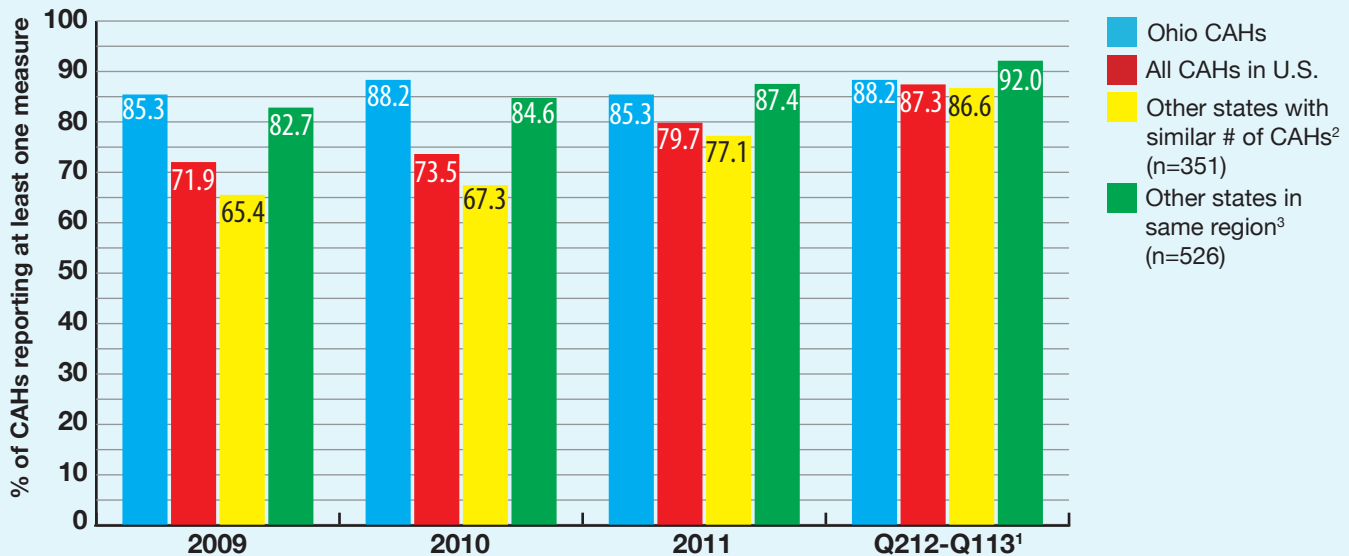
Legend:
- Ohio CAHs
- All CAHs in U.S.
- Other states with similar # of CAHs[2] (n=351)
- Other states in same region[3] (n=526)

Y-axis: % of CAHs reporting at least one measure

	Ohio CAHs	All CAHs in U.S.	Other states similar #	Other states same region
2009	85.3	71.9	65.4	82.7
2010	88.2	73.5	67.3	84.6
2011	85.3	79.7	77.1	87.4
Q212-Q113[1]	88.2	87.3	86.6	92.0

1. Hospital Compare Year 9 data spans April 2012 (Q2 2012) - March 2013 (Q1 2013).
2. Group includes CA (32) GA (33) IN (35) MI (36) MS (32) MO (37) ND (36) OK (34) SD (38) WA (38)
3. HRSA Region C: IL, IN, IA, KS, MI, MN, MO, NE, WI

Figure 2. CAH Participation in Hospital Compare for Outpatient Discharges, 2009-2013[1]
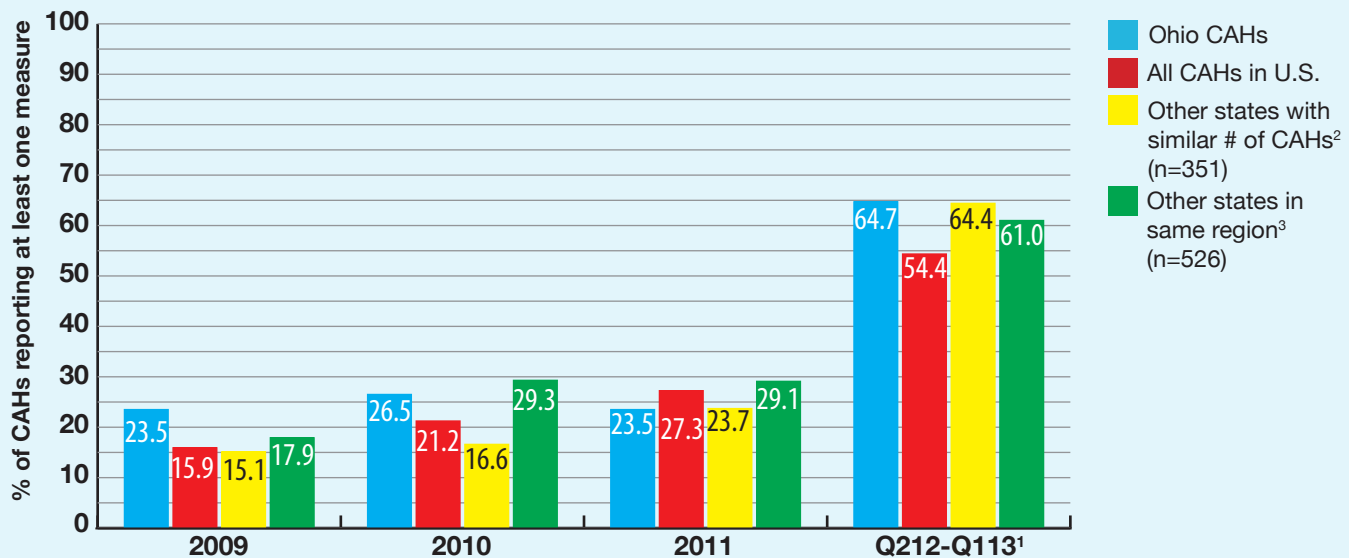
Legend:
- Ohio CAHs
- All CAHs in U.S.
- Other states with similar # of CAHs[2] (n=351)
- Other states in same region[3] (n=526)

Y-axis: % of CAHs reporting at least one measure

	Ohio CAHs	All CAHs in U.S.	Other states similar #	Other states same region
2009	23.5	15.9	15.1	17.9
2010	26.5	21.2	16.6	29.3
2011	23.5	27.3	23.7	29.1
Q212-Q113[1]	64.7	54.4	64.4	61.0

1. Hospital Compare Year 9 data spans April 2012 (Q2 2012) - March 2013 (Q1 2013).
2. Group includes CA (32) GA (33) IN (35) MI (36) MS (32) MO (37) ND (36) OK (34) SD (38) WA (38)
3. HRSA Region C: IL, IN, IA, KS, MI, MN, MO, NE, WI

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8

Figure 3. State Rankings of Reporting Rates among CAHs on Hospital Compare Inpatient and Outpatient Quality Measures, Q2 2012 - Q1 2013

Inpatient

Rank	State	
1	IN	
1	KY	
1	AR	
1	OR	
1	WV	
1	WY	
1	PE	
1	NY	
1	NH	
1	NV	
1	NM	
1	VT	
1	SC	
1	MA	
1	AL	
16	MN	
17	WA	
18	MI	
18	ND	
18	OK	
18	NE	
22	WI	
23	ME	
24	FL	
25	UT	
26	IL	
27	OH	OH 88.2%
28	GA	
28	IA	All CAHs: 87.3%
30	KS	
31	VA	
32	AK	
33	MT	
34	NC	
35	ID	
35	TN	
37	MS	
37	CA	
39	MO	
40	CO	
41	AZ	
42	LA	
43	SD	
44	TX	
45	HI	

Outpatient

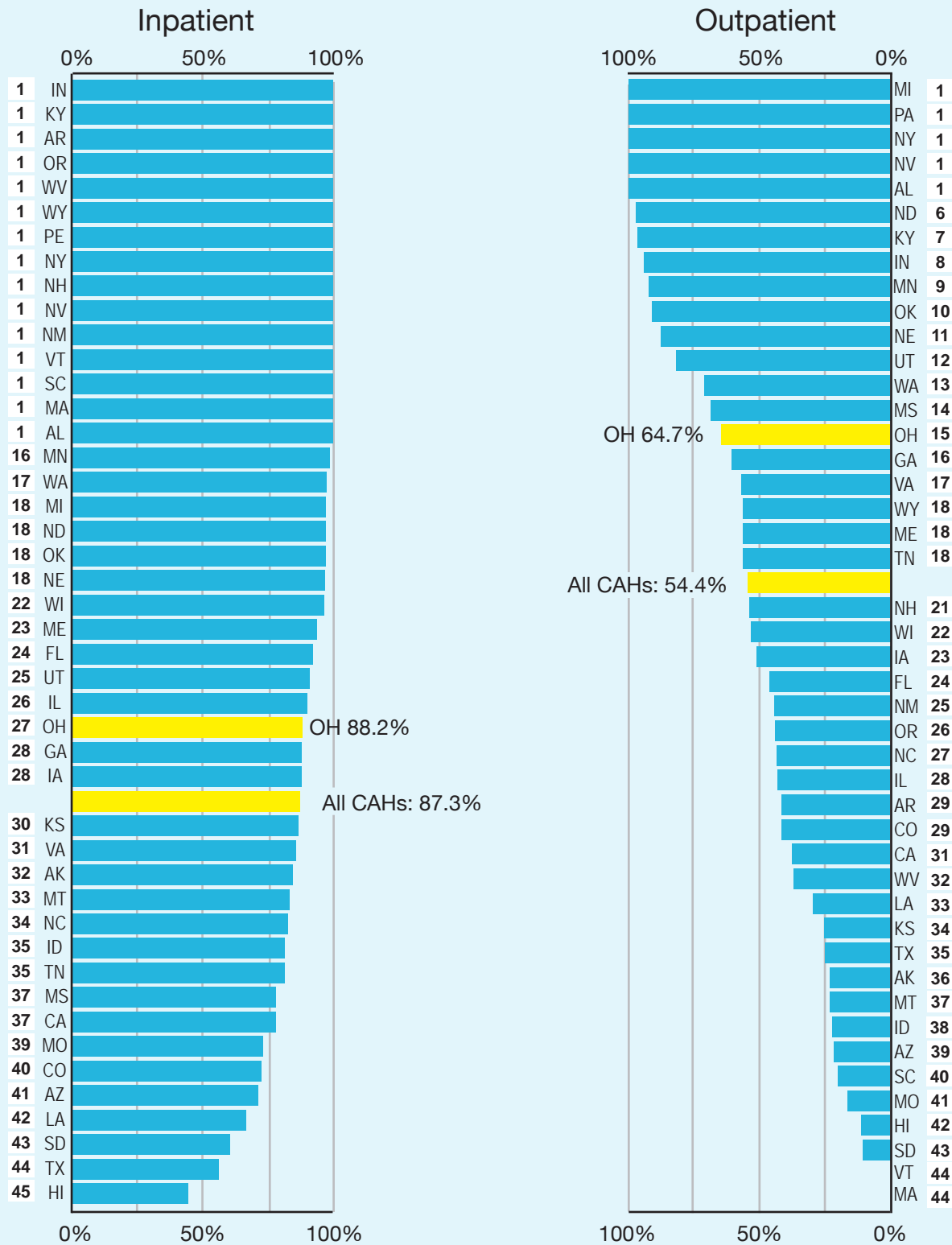|	State	Rank
	MI	1
	PA	1
	NY	1
	NV	1
	AL	1
	ND	6
	KY	7
	IN	8
	MN	9
	OK	10
	NE	11
	UT	12
	WA	13
	MS	14
OH 64.7%	OH	15
	GA	16
	VA	17
	WY	18
	ME	18
	TN	18
All CAHs: 54.4%		
	NH	21
	WI	22
	IA	23
	FL	24
	NM	25
	OR	26
	NC	27
	IL	28
	AR	29
	CO	29
	CA	31
	WV	32
	LA	33
	KS	34
	TX	35
	AK	36
	MT	37
	ID	38
	AZ	39
	SC	40
	MO	41
	HI	42
	SD	43
	VT	44
	MA	44

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9

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

Tables 1-11 display the results for inpatient, outpatient, and composite process of care results for Q2 2012 through Q1 2013 discharges for CAHs in Ohio and all other CAHs, organized by condition:

Table 1. AMI/Chest Pain Process of Care Results for Patients Discharged from CAHs, Q2 2012 - Q1 2013

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

		Ohio (n=34)		All Other CAHs (n=1298)	
		CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Inpatient	Aspirin at discharge	15	82.9	438	93.1
Inpatient	Fibrinolytic within 30 mins. of arrival	2	*	16	31.8
Inpatient	Statin at discharge	15	87.8	423	76.1
Outpatient	Aspirin at arrival	14	96.6	599	96.1
Outpatient	Fibrinolytic within 30 mins. of arrival	4	*	288	47.7
Composite	Fibrinolytic within 30 mins. of arrival	6	*	295	47.2

* 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 2. Median Time to AMI/Chest Pain Patients Receiving Recommended Care for CAHs Reporting Any Data, Q2 2012 - Q1 2013

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)			
	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	Minutes	CAHs reporting	Minutes
Time to fibrinolysis	0	*	4	22
Time before patient with chest pain/AMI transferred	2	58	25	56
Time before patient with chest pain/AMI receives ECG	10	7	376	8

* 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.

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

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Patient left without being seen (lower is better)	15	1.1	397	1.1
Received head CT scan interpretation within 45 minutes of arrival	8	49.1	214	39.9

* 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 4. Median Time to Emergency Department Patients Receiving Recommended Care for CAHs Reporting Any Data, Q2 2012 - Q1 2013

	Median minutes to receiving care[1] (lower is better)			
	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	Minutes	CAHs reporting	Minutes
Time from admission decision to ED departure	8	52	341	47
Time from entrance to receiving a diagnostic evaluation by a qualified medical professional	9	15	234	19
Time from ED arrival to departure for admitted ED patients	9	202	350	190
Time from ED arrival to departure for discharged ED patients	8	84	228	101
Time to receiving pain medication for long bone fractures	5	45	158	45

* 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.

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11

Table 5. Pneumonia Process of Care Results for Patients Discharged from CAHs, Q2 2012 - Q1 2013

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

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Blood culture prior to first antibiotic	30	95.6	1024	95.2
Most appropriate initial antibiotic(s)	30	92.2	1082	88.9

* 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 6. Surgical Care Improvement Process of Care Results for Patients Discharged from CAHs, Q2 2012 - Q1 2013

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

		Ohio (n=34)		All Other CAHs (n=1298)	
		CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Inpatient	Preventative antibiotic(s) 1 hour before incision	25	96.3	467	96.3
	Received appropriate preventative antibiotic(s)	25	98.7	466	98.0
	Preventative antibiotic(s) stopped within 24 hours after surgery	25	96.5	465	96.4
	Received blood clot prevention treatment 24 hours pre/post surgery	24	98.0	468	96.4
	Beta blockers before/after surgery	24	95.1	412	93.0
	Surgery patients with perioperative temperature management	25	99.9	484	99.1
	Urinary catheter removed 1st / 2nd day after surgery	24	93.7	442	95.4
Outpatient	Preventative antibiotic(s) 1 hour before incision	11	92.5	265	91.6
	Received appropriate preventative antibiotic(s)	11	95.0	258	94.5
Composite	Preventative antibiotic(s) 1 hour before incision	25	95.9	519	95.6
	Received appropriate preventative antibiotic(s)	25	98.2	516	97.4

* 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 7. Heart Failure Process of Care Results for Patients Discharged from CAHs, Q2 2012 - Q1 2013

<table>
<tr><td></td><td style="background:green"> </td><td>Significantly better than rate for all other CAHs nationally (p<.05)</td><td style="background:yellow"> </td><td>Significantly worse than rate for all other CAHs nationally (p<.05)</td></tr>
</table>

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients[1]	CAHs reporting	% of patients
Discharge instructions	29	88.8	1027	83.5
Assessment of LVS	29	93.9	1056	85.9
ACEI or ARB for LVSD	26	88.4	847	88.1

* 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 8. Stroke Process of Care Results for Patients Discharged from CAHs, Q1 2013

<table>
<tr><td></td><td style="background:green"> </td><td>Significantly better than rate for all other CAHs nationally (p<.05)</td><td style="background:yellow"> </td><td>Significantly worse than rate for all other CAHs nationally (p<.05)</td></tr>
</table>

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
Anticoagulation therapy for atrial fibrillation / flutter	1	*	47	93.8
Antithrombotic therapy by end of second hospital day	6	*	103	89.9
Assessed for rehabilitation	7	*	120	91.0
Discharged on antithrombotic therapy	6	*	113	93.0
Discharged on statin medication	5	*	110	74.0
Stroke education	4	*	91	71.6
Thrombolytic therapy	2	*	27	5.9
VTE prophylaxis	7	*	119	81.6

* 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, Q1 2013

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients[1]	CAHs reporting	% of patients
VTE prophylaxis	9	90.8	167	79.9
Intensive Care Unit VTE prophylaxis	6	94.5	74	86.3
Anticoagulation overlap therapy	6	*	127	88.9
Unfractionated heparin with dosages / platelet count monitoring	4	*	52	96.6
Warfarin therapy discharge instructions	5	*	109	79.1
Incidence of potentially preventable VTE (lower is better)	0	*	22	24.0

* 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, Q2 2012 - Q1 2013

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
Influenza vaccination	10	87.0	396	87.5
Pneumococcal vaccination	12	88.2	414	88.5

* 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 11. Perinatal Process of Care Results for Patients Discharged from CAHs, Q1 2013

	Ohio (n=34)		All Other CAHs (n=1298)	
	CAHs reporting	% of patients	CAHs reporting	% of patients
Deliveries scheduled 1-3 week early when not medically necessary (lower is better)	3	*	48	8.8

* 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.

Trends in Process Measure Results

The figures in Appendix B compare trends in performance on process measures for CAHs in Ohio and nationally for 2010, 2011, and Q2 2012 through Q1 2013. 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:

Of the 49 process-of-care measures detailed in this report, Ohio's CAHs had insufficient data to compare 17 measures. Compared to all other CAHs nationally, Ohio CAHs' scores are significantly higher for 12 measures, significantly lower for 4 measures, and not significantly different for 16 measures.

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15

HCAHPS

Ten 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 Ohio that reported HCAHPS data for Q2 2012 through Q1 2013 discharges was 30, for an HCAHPS reporting rate of 88.2%. This rate was higher than the national HCAHPS reporting rate of 49.0% for CAHs. Figure 4 compares participation rates in HCAHPS over time (2009-2012) among four groups of CAHs: those located in Ohio, all CAHs nationally, those located in other states with a similar number of CAHs as Ohio, and those located in other states within the same geographic region as Ohio.

Figure 4. CAH Participation in HCAHPS,[1] 2009-2012
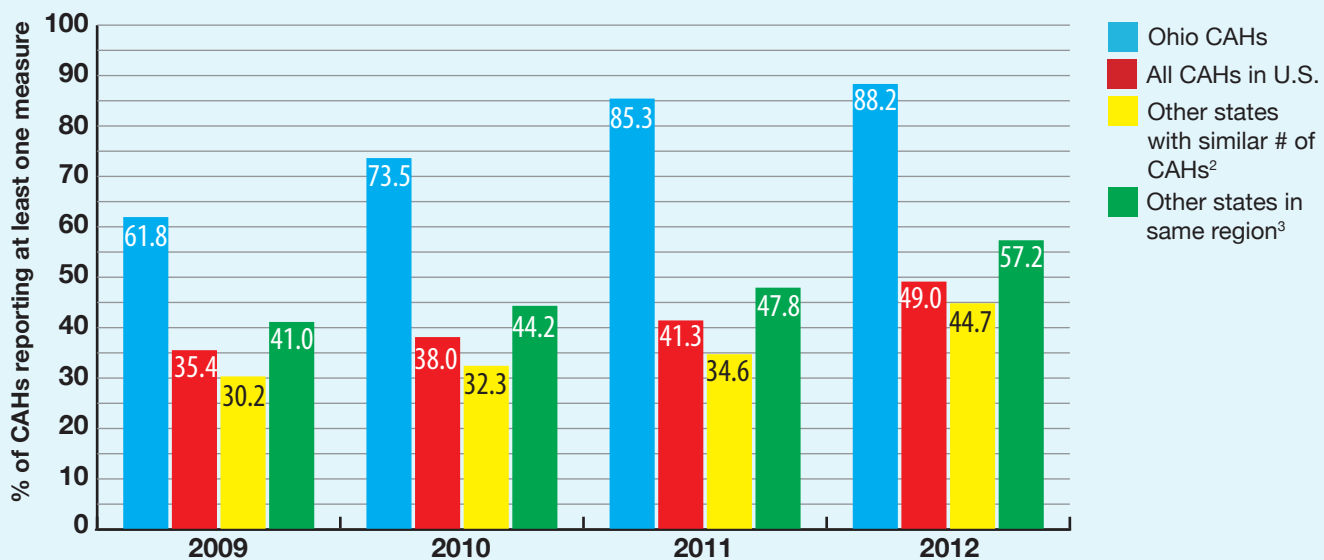
1. Percentage of CAHs in each state or group of states reporting HCAHPS data.
2. Group includes CA (32) GA (33) IN (35) MI (36) MS (32) MO (37) ND (36) OK (34) SD (38) WA (38)
3. HRSA Region C: IL, IN, IA, KS, MI, MN, MO, NE, WI

Table 12 (next page) shows the number of completed HCAHPS surveys per CAH in Ohio and nationally, in the three categories reported by CMS.

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16

Table 12. Number of Completed HCAHPS Surveys and Response Rates for CAHs in Ohio and Nationally, Q2 2012 - Q1 2013

	Total CAHs reporting	Number of completed HCAHPS surveys			HCAHPS survey response rates		
		<100	100-299	≥ 300	< 25%	25-50%	> 50%
All CAHs	653	226	337	90	48	580	24
Ohio CAHs	30	2	21	7	2	28	0

HCAHPS Results

Table 13 shows compares Ohio's CAH HCAHPS results to those of CAHs in all other states nationally.

Table 13. HCAHPS Results for CAHs in Ohio and All Other States Nationally, Q2 2012 - Q1 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:	
	Ohio (n=30)[1]	All Other States (n=623)
Nurses always communicated well	82.5	82.1
Doctors always communicated well	83.6	85.3
Patient always received help as soon as s/he wanted	75.4	75.3
Pain was always well-controlled	74	72.7
Staff always explained about medications before giving them to patient	66.9	68.6
Yes, staff gave patient information about what to do during recovery at home	87.2	86.4
Area around patient room was always quiet at night	61.4	65.2
Patient room and bathroom were always clean	80.8	79.7
They gave an overall hospital rating of 9 or 10 (high) on 1-10 scale	74.9	74.1
They would definitely recommend the hospital to friends and family	72.7	73.1

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

Of the ten measures, six are composite measures that address how well doctors and nurses communicate with patients, the responsiveness of hospital staff, pain management, and communication about medicines. 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

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17

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 CAHs nationally, Ohio's CAHs scored significantly higher on 0 of 10 HCAHPS measures, significantly lower on 1 measure, and not significantly different on 9 measures.

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18

🌀 STRUCTURAL MEASURES

Structural Measure Reporting

Nationally, 31% of CAHs reported data on the structural measures addressing participation in systematic databases for stroke and nursing sensitive care and a general surgery registry; 42% of CAHs reported data on the electronic receipt of lab data, and 40% of CAHs reported data on their ability to track clinical results.

Structural Measure Results

In Ohio, 0% of CAHs participate in a stroke database (compared to 6.3% of CAHs nationally), 11.8% of CAHs participate in a nursing sensitive care database (compared to 3% of CAHs nationally), and 0% of CAHs participate in a general surgery registry (compared to 2% of CAHs nationally). Ohio CAHs are more likely to report having the ability to receive lab data directly into an EHR (32.4% vs. 26.7% nationally) and more likely to track clinical data between visits (26.5% vs. 21.8% nationally).

Table 14. Structural Quality Measures Reported by CAHs in Ohio and Nationally, 2012

		% Ohio CAHs (n=34)			% All CAHs (n=1332)		
		No data	No	Yes	No data	No	Yes
Participation in Systematic Databases	Stroke care	70.6	29.4	0.0	69.3	24.4	6.3
	Nursing-sensitive care	70.6	17.7	11.8	69.3	27.7	3.0
	General surgery registry	70.6	29.4	0.0	69.2	28.8	2.0
Health Information Technology	Ability to receive lab data directly to certified EHR	44.1	23.5	32.4	58.0	15.4	26.7
	Ability to track clinical results between visits	64.7	8.8	26.5	59.8	18.4	21.8

Summary:

Ohio CAHs are less likely than CAHs nationally to report data on the systematic database participation measures as well as the use of HIT to track clinical data between visits measure, but more likely to report data on the HIT use for lab data measure.

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19

OUTCOME MEASURES

Healthcare-Associated Infection Reporting

Nationally, between 11% and 17.6% of CAHs reported data on the six HAI measures to the CDC NHSN (Table 15). CAHs in Ohio were less likely than CAHs nationally to report data on three measures and more likely than CAHs nationally to report data on three measures.

Risk-adjusted infection rates for individual CAHs were not calculated since the vast majority of CAHs did not have the minimum 50 device days or 25 procedures necessary to

Table 15. Healthcare Associated Infection Reporting by CAHs in Ohio and Nationally, Q2 2012 - Q1 2013[1]

	% of OH CAHs (n=34) Reporting Data	% of All CAHs (n=1332) Reporting Data
CLABSI (Central Line-Associated Bloodstream Infection)	14.7	11.4
CAUTI (Catheter-Associated Urinary Tract Infection)	20.6	11.5
Surgical site infections from colon surgery	5.9	13.0
Surgical site infections from hysterectomy	11.8	11.0
MRSA (Methicillin-Resistant Staphylococcus Aureus) blood infections[1]	11.8	14.3
Clostridium difficile infections[1]	11.8	17.6

1. MRSA and *Colostridium difficile* measure data pertain only to Q1 2013 (Jan-Mar).

calculate the rates.

Mortality and Readmission Rates

Table 16 (next page) displays the number of CAHs in Ohio and nationally: 1) that did not have data in Hospital Compare for the 30 day risk-adjusted AMI, heart failure, and pneumonia mortality, and hip/knee replacement surgery complications and mortality rates; 2) those that did not have the minimum 25 eligible cases per condition to reliably calculate a rate; and 3) those that had rates that were not different from, better than, or worse than the US rates for all hospitals.

Nationally, 94.2% of CAHs either were missing AMI mortality data or had too few cases to reliably calculate a rate, while 5.7% of CAHs did not have an AMI mortality rate that is different from the US rate for all hospitals. Similarly, 83.6% of CAHs either were missing data or had too few cases to calculate the hip/knee surgery complications and mortality rate, and 16.3% did not have rate that is different from all US hospitals. The percent of CAHs with missing data or too few cases to calculate a mortality rate were lower for heart failure (42%) and pneumonia (19.4%).

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20

Few CAHs had mortality rates that are were 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 AMI,

Table 16. Percent of CAHs in Ohio and Nationally in 30-Day Risk-Adjusted Mortality Rate Categories, Q3 2009 - Q2 2012

		Percentage of CAHs with ...		Compared to rate for all US hospitals, % of CAHs with rates that are....		
		No rate data	Not enough cases	Not significantly different	Better	Worse
AMI	OH	8.8	76.5	14.7	0.0	0.0
	US	17.9	76.3	5.7	0.0	0.1
Heart failure	OH	5.9	14.7	79.4	0.0	0.0
	US	8.6	33.4	57.7	0.0	0.2
Pneumonia	OH	5.9	0.0	91.2	0.0	2.9
	US	8.0	11.4	78.5	0.2	1.9
Hip/knee replacement surgery complications including mortality	OH	26.5	32.4	38.2	0.0	2.9
	US	67.6	16.0	16.3	0.0	0.1

heart failure and hip/knee replacement, and 1.9% for pneumonia).

Table 17 (next page) shows the 30 day risk-adjusted readmission rates for AMI, heart failure, pneumonia, hip/knee replacement surgery, and hospital-wide all-cause unplanned readmissions for CAHs in Ohio and nationally. Nationally, 97.9% of CAHs either were missing AMI readmission data or had too few cases to reliably calculate a rate, and the remaining 2.1% of CAHs did not have a rate that is different from the US rate for all hospitals. Similarly, 82.9% of CAHs either were missing data or had too few cases to calculate a hip/knee surgery readmission rate, while 17.1% had a rate that was not different from all US hospitals. The percent of CAHs with missing data or too few cases to calculate a readmissions rate were lower for heart failure (37.3%), pneumonia (18.9%), and hospital-wide all-cause readmissions (12.4%).

Few CAHs had readmission rates that were better than the US rates for all hospitals (less than 1% for hospital-wide all-cause readmissions) or worse than the US rates for all hospitals

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21

Table 17. Percent of CAHs in Ohio and Nationally in 30-Day Risk-Adjusted Readmission Rate Categories, Q3 2009 - Q2 2012[1]

		Percentage of CAHs with…		Compared to rate for all US hospitals, % of CAHs with rates that are….		
		No rate data	Not enough cases	Not significantly different	Better	Worse
AMI	OH	14.7	82.4	2.9	0.0	0.0
	US	22.9	75.0	2.1	0.0	0.0
Heart failure	OH	5.9	8.8	85.3	0.0	0.0
	US	8.6	28.7	62.6	0.0	0.1
Pneumonia	OH	5.9	0.0	94.1	0.0	0.0
	US	8.0	10.9	80.9	0.0	0.0
Hip/knee replacement surgery	OH	26.5	32.4	41.2	0.0	0.0
	US	67.5	15.4	17.1	0.0	0.0
All cause hospital-wide[1]	OH	5.9	0.0	94.1	0.0	0.0
	US	8.1	4.3	86.9	0.1	0.6

1. All-cause hospital-wide readmission data pertain only to Q3 2011 - Q2 2012.

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; over the next year, the Flex Monitoring Team will be conducting additional analyses to assess the usefulness of this measure at the individual CAH level.

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22

🌊 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 83, 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?

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23

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 intiatives 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 Improvement Organization (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 (May 2013: http://www.flexmonitoring.org/publications/pb33/)
- Surgical Care (Aug 2012: http://www.flexmonitoring.org/publications/pb29/)
- AMI (Aug 2012: http://www.flexmonitoring.org/publications/pb28)
- Heart Failure (Mar 2012: http://www.flexmonitoring.org/publications/pb26/)
- Falls Prevention (Dec 2011: http://www.flexmonitoring.org/publications/pb24/)
- Pneumonia (Jun 2011: http://www.flexmonitoring.org/publications/pb22/)

The Technical Assistance Services Center (TASC) provides resources for State Flex Programs and CAHs on their website, http://www.ruralcenter.org/tasc, including information about other states' Flex Program and quality improvement activities.

- For profiles of State Flex Programs and State Contacts, visit: http://www.ruralcenter.org/tasc/flexprofile/2011
- For examples of Flex activities to support quality improvement by state, visit: http://www.ruralcenter.org/tasc/flexprofile/2011/responses/core1

Find your state's Quality Improvement Organization (QIO): visit www.qualitynet.org and select "QIO Directory" from the drop-down menu under "Quality Improvement."

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24

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/.

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25

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

Aspirin prescribed at discharge – AMI patients without aspirin contraindications who were prescribed aspirin at hospital discharge.

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.

Statin prescribed at discharge - AMI patients who are prescribed a statin at hospital discharge.

AMI/Chest Pain Outpatient Measures

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.

Aspirin at arrival – AMI patients without aspirin contraindications who received aspirin within 24 hours before or after hospital arrival.

Median Time to Fibrinolysis - median time from arrival to fibrinolysis for patients that received fibrinolysis. (A lower number is better.)

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.)

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

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.)

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

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.)

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26

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).

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).

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).

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

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.

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.

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

Blood Culture Prior to First Antibiotic – pneumonia patients whose initial emergency room blood culture was performed prior to the administration of the first hospital dose of antibiotics.

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

Immunization

Pneumococcal Immunization Overall Rate – this prevention measure addresses acute care hospitalized inpatients 65 years of age and older and inpatients aged between 5 and 64 years who are considered high risk and were screened for receipt of pneumococcal vaccine and were vaccinated prior to discharge if indicated. Patients who had documented contraindications to pneumococcal vaccine, patients who were offered and declined pneumococcal vaccine, and patients who received pneumococcal vaccine anytime in the past are captured as numerator events.

Influenza Immunization - this prevention measure addresses acute care hospitalized inpatients age 6 months and older who were screened for seasonal influenza immunization status and were

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27

vaccinated prior to discharge if indicated. 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.

Inpatient Surgical Care Improvement Measures

Prophylactic Antibiotic Received within One Hour Prior to Surgical Incision – surgical patients who received prophylactic antibiotics within 1 hour prior to surgical incision.

Prophylactic Antibiotic Selection for Surgical Patients – surgical patients who received the recommended antibiotics for their particular type of surgery.

Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time – surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time.

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.

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.

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.

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

Prophylactic Antibiotic Received within One Hour Prior to Surgical Incision – surgical patients who received prophylactic antibiotics within one hour prior to surgical incision.

Prophylactic Antibiotic Selection for Surgical Patients – surgical patients who received the recommended antibiotics for their particular type of surgery.

Perinatal Care Measures

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

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.

Discharged on Antithrombotic Therapy - ischemic stroke patients prescribed antithrombotic therapy at hospital discharge.

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28

Anticoagulation Therapy for Atrial Fibrillation/Flutter – ischemic stroke patients with atrial fibrillation/flutter who are prescribed anticoagulation therapy at hospital discharge.

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.

Antithrombotic Therapy By End of Hospital Day 2 – ischemic stroke patients administered antithrombotic therapy by the end of hospital day two.

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.

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.

Assessed for Rehabilitation – ischemic or hemorrhagic stroke patients who were assessed for rehabilitation services.

Venous Thromboembolism (VTE) Measures

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.

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).

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.

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.

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

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29

issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions.

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://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228772433589 (Accessed January 15, 2014).

Specifications Manual for National Hospital Outpatient Quality Measures
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FSpecsManualTemplate&cid=1228771828064 (Accessed January 15, 2014).

Prenatal measure specifications
http://manual.jointcommission.org/releases/archive/TJC2012A/rsrc/Manual/TableOfContentsTJC/PC_v2012A.pdf (Accessed January 15, 2014).

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.

Ten HCAHPS measures are publicly reported on Hospital Compare. Six composite measures address how well doctors and nurses communicate with patients, the responsiveness of hospital staff, pain management, and communication about medicines. 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:
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

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30

hospitals that are not in the Hospital Compare database or for hospitals with less than 25 qualifying cases over the relevant time period (3 years for pneumonia, heart failure and AMI 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 or pneumonia, regardless of whether the patient dies while still in the hospital or after discharge.

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.)

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 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:
http://www.medicare.gov/hospitalcompare/Data/30-day-measures.html

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31

HEALTHCARE-ASSOCIATED INFECTION MEASURES

The Healthcare-Associated Infection (HAI) measures show how often patients in a particular hospital contract certain infections during the course of their medical treatment, when compared to like hospitals. These infections can often be prevented when healthcare facilities follow guidelines for safe care. Hospitals report the data to the Centers for Disease Control and Prevention's National Healthcare Safety Network, which shares it with CMS.

The HAI measures apply to all patients treated in acute care hospitals, including adult, pediatric, neonatal, Medicare, and non-Medicare patients. Calculations for the HAI measures adjust for differences in the characteristics of patients at a hospital using a Standardized Infection Ratio (SIR). The SIR is a summary measure that compares the actual number of HAIs in a facility or state to a national benchmark based on previous years of reported data and adjusts the data based on several factors. The SIR may take into account the type of patient care location, procedure, number of patients admitted with MRSA or *C. difficile*, laboratory methods, hospital affiliation with a medical school, and bed size of the patient care location.

For additional information:
http://www.medicare.gov/hospitalcompare/Data/Healthcare-Associated-Infections.html

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32

APPENDIX B:
Three-Year Trends

These figures compare trends in performance on process measures for CAHs in Ohio and nationally for 2010, 2011, and Q2 2012 through Q1 2013 (labeled as "Q212-Q113" 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.

■ **All CAHs Nationally**

■ **Ohio CAHs**
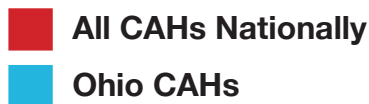
Figure 1. AMI: Aspirin at Discharge
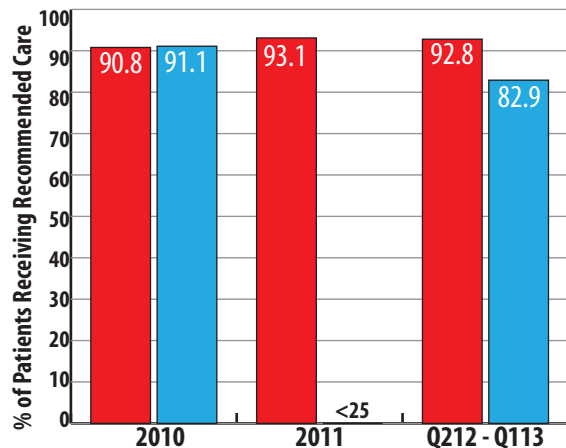
Figure 2. Heart Failure: Discharge Instructions
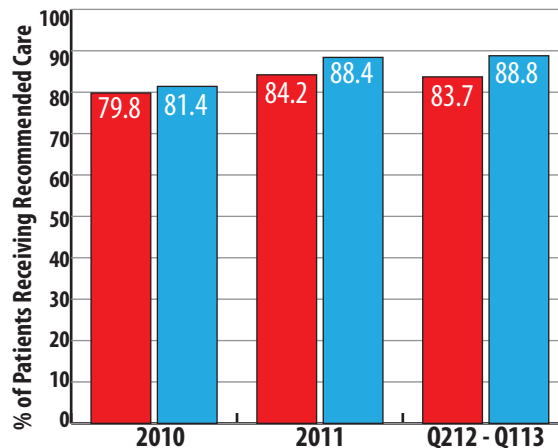
Figure 3. Heart Failure: Assessment of LVS
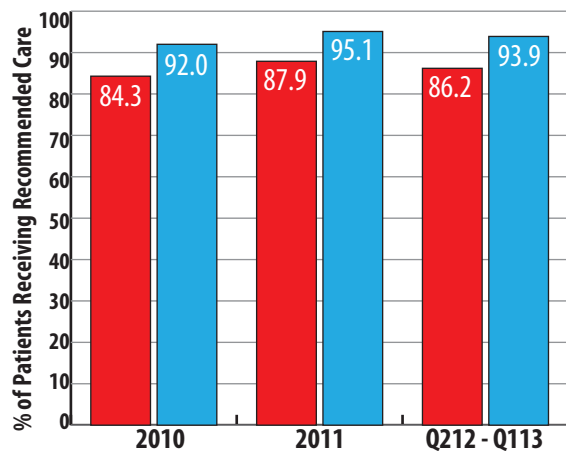
Figure 4. Heart Failure: ACE Inhibitor or ARB for LVSD

■ All CAHs Nationally

■ Ohio CAHs
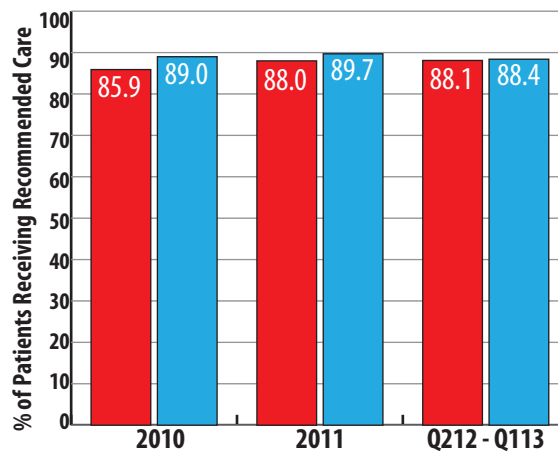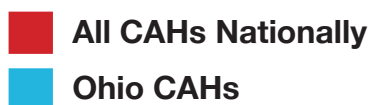
Figure 5. Pneumonia: Blood Culture Prior to First Antibiotic

	2010	2011	Q212 - Q113
All CAHs Nationally	93.6	94.4	95.2
Ohio CAHs	95.5	95.0	95.6
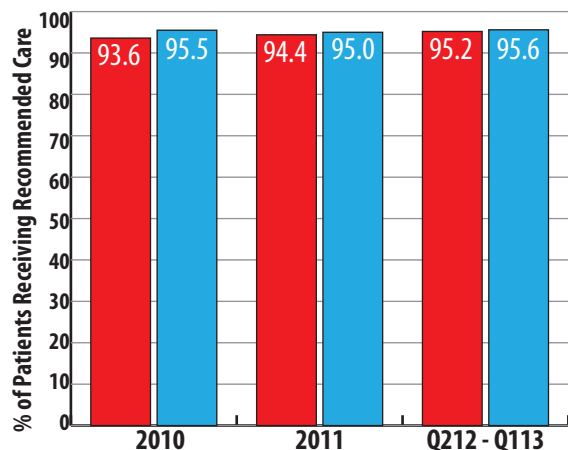
Figure 6. Pneumonia: Most Appropriate Initial Antibiotic(s)

	2010	2011	Q212 - Q113
All CAHs Nationally	88.7	89.4	89.0
Ohio CAHs	90.6	91.7	92.2
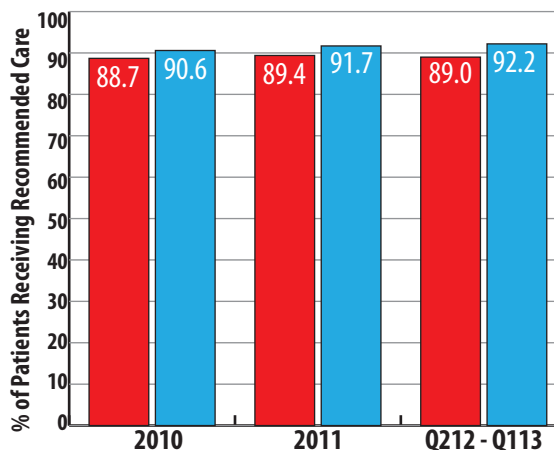
Figure 7. Surgery: Preventative Antibiotic(s) One Hour Before Incision

	2010	2011	Q212 - Q113
All CAHs Nationally	92.9	95.1	96.3
Ohio CAHs	95.1	95.6	96.3
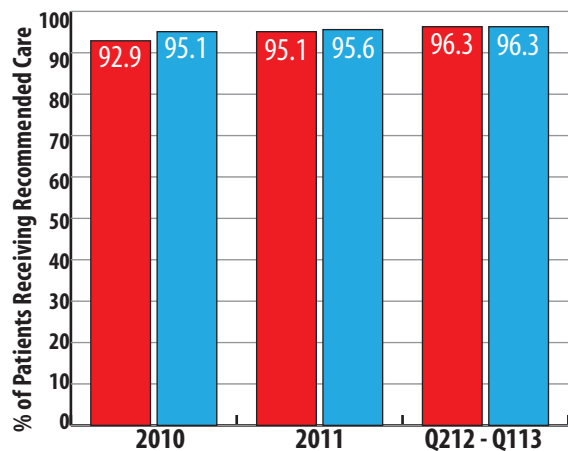
Figure 8. Surgery: Received Appropriate Preventative Antibiotic(s)

	2010	2011	Q212 - Q113
All CAHs Nationally	96.7	97.6	98.1
Ohio CAHs	97.8	98.5	98.7
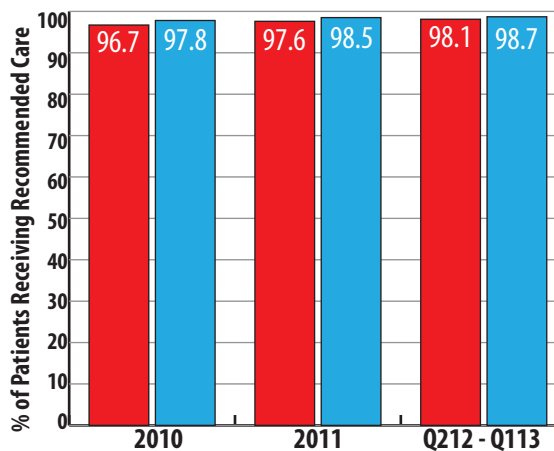
Figure 9. Surgery: Preventative Antibiotic(s) Stopped Within 24 Hours Post Surgery

	2010	2011	Q212 - Q113
All CAHs Nationally	93.6	94.4	96.4
Ohio CAHs	96.6	94.8	96.5
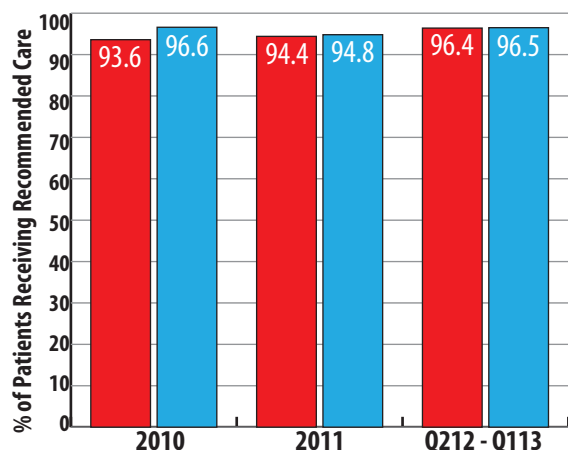
Figure 10. Surgery: Received Blood Clot Prevention Treatments 24 Hours Pre/Post Surgery

	2010	2011	Q212 - Q113
All CAHs Nationally	89.7	95.2	96.5
Ohio CAHs	84.9	95.6	98.0
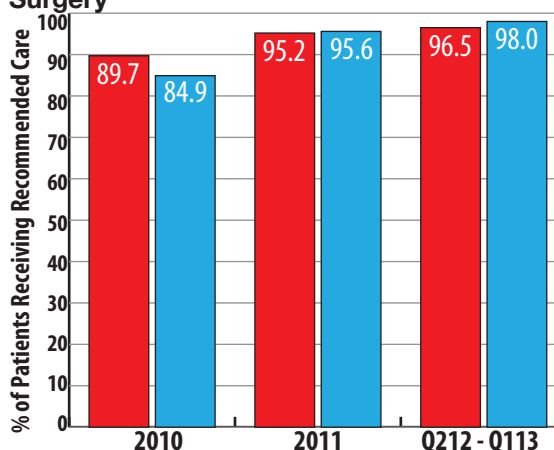
■ All CAHs Nationally

■ Ohio CAHs

Figure 11. Surgery: Patient on Beta Blockers Prior to Admission and Pre/Post Surgery

Figure 12. Surgery: Urinary Catheter Removed 1st / 2nd Day After Surgery

Figure 13. Outpatient AMI/Chest Pain: Aspirin at Arrival

Figure 14. Outpatient Surgery: Preventative Antibiotic(s) Administered 1 Hour Before Incision

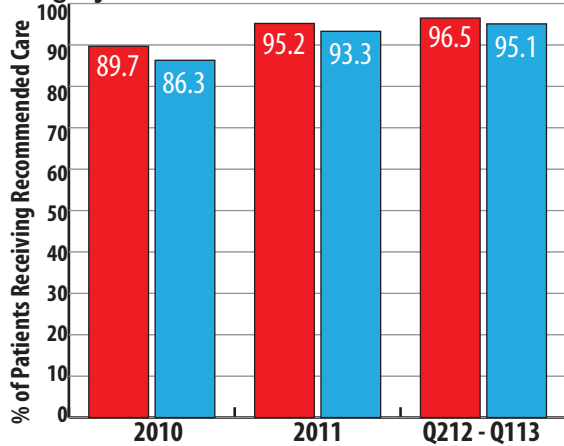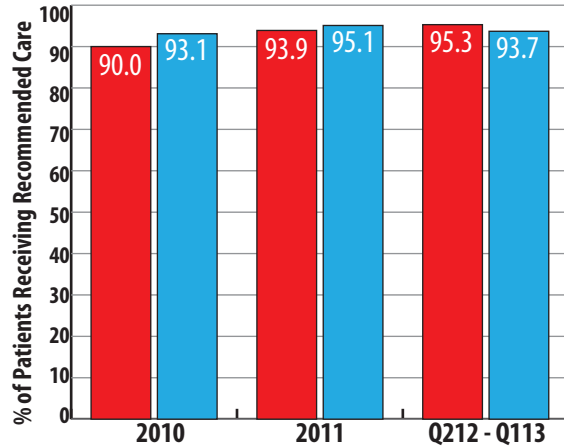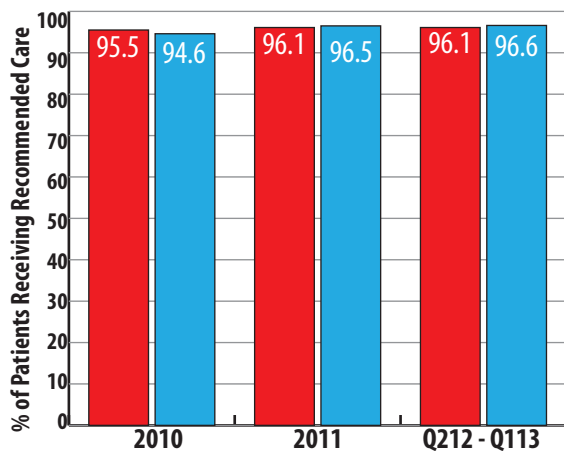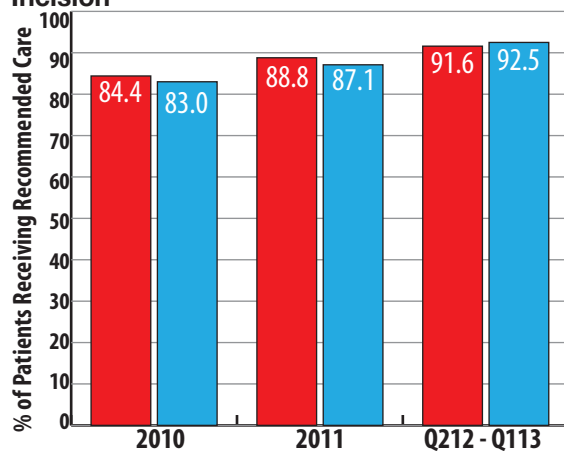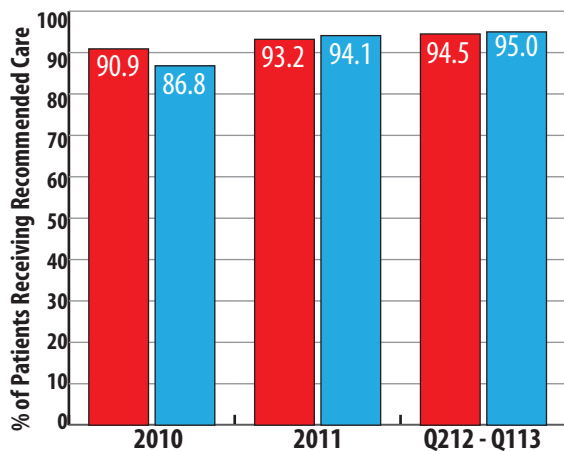**Figure 15. Outpatient Surgery: Received Appropriate Preventative Antibiotic(s)**

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35

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

Hospital Name	City	Inpatient	Outpatient	HCAHPS
ADAMS COUNTY REGIONAL MEDICAL CENTER	SEAMAN	X		X
AULTMAN ORRVILLE HOSPITAL	ORRVILLE	X	X	X
BARNESVILLE HOSPITAL ASSOCIATION INC	BARNESVILLE	X		X
BLUFFTON HOSPITAL	BLUFFTON	X	X	X
BUCYRUS COMMUNITY HOSPITAL	BUCYRUS	X		X
COMMUNITY HOSPITALS AND WELLNESS CENTERS	MONTPELIER		X	
COMMUNITY MEMORIAL HOSPITAL	HICKSVILLE	X	X	
DEFIANCE REGIONAL MEDICAL CENTER	DEFIANCE	X		X
DOCTORS HOSPITAL OF NELSONVILLE	NELSONVILLE			X
FAYETTE COUNTY MEMORIAL HOSPITAL	WASHINGTON CH	X	X	X
FOSTORIA COMMUNITY HOSPITAL	FOSTORIA	X	X	X
FULTON COUNTY HEALTH CENTER	WAUSEON	X	X	X
GALION COMMUNITY HOSPITAL	GALION	X		X
H B MAGRUDER MEMORIAL HOSPITAL	PORT CLINTON	X	X	X
HARDIN MEMORIAL HOSPITAL	KENTON	X		X
HARRISON COMMUNITY HOSPITAL	CADIZ	X	X	
HENRY COUNTY HOSPITAL INC	NAPOLEON	X	X	X
HIGHLAND DISTRICT HOSPITAL	HILLSBORO	X	X	X
HOCKING VALLEY COMMUNITY HOSPITAL	LOGAN	X	X	X
HOLZER MEDICAL CENTER JACKSON	JACKSON	X	X	X
LODI COMMUNITY HOSPITAL	LODI	X	X	X
MEDCENTRAL HEALTH SYSTEM SHELBY HOSPITAL	SHELBY			X
MERCY ALLEN HOSPITAL	OBERLIN	X	X	X

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36

Hospital Name	City	Inpatient	Outpatient	HCAHPS
MERCY MEMORIAL HOSPITAL	URBANA	X	X	X
MERCY WILLARD HOSPITAL	WILLARD	X	X	X
MORROW COUNTY HOSPITAL	MOUNT GILEAD	X	X	X
PAULDING COUNTY HOSPITAL	PAULDING	X	X	X
PIKE COMMUNITY HOSPITAL	WAVERLY	X		X
SELBY GENERAL HOSPITAL	MARIETTA	X	X	X
TRINITY HOSPITAL TWIN CITY	DENNISON	X		X
UHHS MEMORIAL HOSPITAL OF GENEVA	GENEVA	X	X	X
UNIVERSITY HOSPITALS CONNEAUT MEDICAL CENTER	CONNEAUT	X	X	X
WYANDOT MEMORIAL HOSPITAL	UPPER SANDUSKY	X		X
GREENFIELD AREA MEDICAL CENTER	GREENFIELD			

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37