



FOR IMMEDIATE RELEASE
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Illinois Critical Access Hospitals Enhance Quality of Care in Rural Illinois

Princeton, IL – Illinois' 51 critical access hospitals are essential to rural health care and play an important role in its delivery as a safety net for rural patients. Critical access hospitals deliver high quality care in an environment that is complex and demanding. The quality performance of Illinois' critical access hospitals is documented in a new report released today, *Illinois Critical Access Hospitals: Enhancing Quality of Care in Rural Illinois*. The report was prepared by Northern Illinois University Center for Governmental Studies with funding and technical support provided by the Illinois Critical Access Hospital Network.

This research assessed the ability of Illinois' critical access hospitals to meet the quality of care standards that will be required by the federal Patient Protection and Affordable Care Act, signed into law in 2010. The PPACA will link Medicare payments to health care outcomes beginning in October 2012. Hospitals will be required to report quality of care data for a selected number of health care services related to heart disease, pneumonia, surgical care, health care associated infections, and patient perception of care. Critical access hospitals nationwide are concerned that current quality of care measures and reporting formats may not necessarily consider the distinct characteristics of rural health care delivery. Many critical access hospitals do not have enough data to be statistically significant.

The Northern Illinois University researchers documented that Illinois critical access hospitals achieved important quality of care and value of care benchmarks, and that they had implemented multiple quality improvement projects. Using the most current data available, the research revealed that the Illinois critical access hospitals provided quality care:

- achieved higher quality scores than their peers nationwide in nine rural-relevant quality indicators
- demonstrated continuous improvement in these quality measures from 2007 through 2009
- ranked higher in patient satisfaction than non-critical access hospitals in 2010
- provided inpatient care at a lower cost per inpatient than all non-critical access hospitals in the state

Multiple quality improvement initiatives recently implemented by Illinois' critical access hospitals were identified by the researchers. Illinois is one of only 10 states with 100 percent participation by its critical access hospitals in the Medicare Beneficiary Quality Improvement

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Illinois Critical Access Hospitals Achieve Milestones, cont.

Project. Additional quality improvement efforts implemented by the critical access hospitals follow guidelines developed by a variety of state and national entities:

- Illinois Critical Access Hospital Network's Quality Alliance Project
- Johns Hopkins University Quality and Safety Research Group's Comprehensive Unit-based Safety Program (CUSP)
- Six Sigma improvement processes
- TeamSTEPPS Project jointly developed by the Agency for Healthcare Research and Quality and the Department of Defense
- Project BOOST developed by the Society of Hospital Medicine
- Project RED created by Boston University's College of Medicine

The Illinois Critical Access Hospital Network and member hospitals are working together to explore multiple approaches and opportunities to continue to achieve the highest quality of care for the communities and residents they serve. The national Flex Monitoring Team, with representatives from the Rural Health Research Centers at the Universities of Minnesota, North Carolina-Chapel Hill, and Southern Maine, is guiding critical access hospitals and rural health thought leaders nationwide in the identification of rural relevant quality, financial and community impact performance measures. The goals of all critical access hospitals are to provide the highest quality of care, outcomes, and value.

About the Illinois Critical Access Hospital Network

The Illinois Critical Access Hospital Network represents the 51 Medicare-certified critical access hospitals in Illinois. ICAHN was established in 2003 as a nonprofit corporation to share resources, provide education, and promote operational efficiencies among its members to enhance health care services for the rural communities and residents they serve.

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ILLINOIS CRITICAL ACCESS HOSPITALS:

Enhancing Quality of Care in Rural Illinois

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ABSTRACT

Critical access hospitals (CAHs) are essential to rural health care and play an important role in its delivery as a safety net for rural patients. While CAHs operate in a challenging environment of shifting demographics and populations struggling with declining economic trends, they continue to provide high quality health care. Through innovative approaches focused on continuous improvement, Illinois CAHs rank high on several nationally measured patient outcomes, patient satisfaction indicators, and provide a high value, affordable option for rural patients. They are committed to exploring “rural relevant” measures that consider the distinct characteristics of rural health care delivery, while continuing efforts to increase the number of CAHs reporting on all national measures, and prepare for upcoming required reporting. CAHs must identify and leverage strengths and address areas for improvement by implementing promising practices and processes in their hospitals. The effort required to accomplish meaningful quality of care outcomes is major, but delivering effective care will benefit patients, hospitals, and the community as a whole.

INTRODUCTION

“At first, most Americans are surprised to discover that at present, there is limited measurement of quality or efficiency in any part of the health care delivery system. If we follow the old adage you only manage what you measure then apparently we are not managing the quality of the care that we are delivering.”

This quote from, “*Building a Sustainable 21st Century Healthcare System*,”¹ represents a challenge to all health care providers that in order to deliver the highest quality of care, reporting on relevant patient outcomes, processes of care, and other quality of care indicators is needed. As the *Patient Protection and Affordable Care Act* (PPACA) takes effect in different phases with each passing fiscal year, effective management of the quality of care delivered in the American health care system will become mandatory.² The issue of quality health care will increase in importance for rural hospitals, public officials, and community leaders because quality of care is linked to community wellness. With an aging population, residents will be more interested in living in areas with access to high quality health care and services. Hospitals, of course, play a prominent role in delivering this care so maintaining hospitals will continue to be high on local, state, and national policy agendas.

The challenges facing health care delivery are changing due to demographic shifts in population and economic structure. The challenges caused by these shifts alter the types of health care services needed, the human resources available to provide them, and the capacity of rural health care providers



For access to the interactive, web version, as well as the printable version, of this report please go to www.cgsniu.org

TABLE 1. DEMOGRAPHICS

INDICATORS	ILLINOIS RURAL COUNTIES*	STATE OF ILLINOIS
Total Population (2010)	1,679,801	12,830,632
<i>Percent Change 2000 - 2010</i>	-1.5%	3.3%
Population 65 Years and Older (2010)	286,156	1,601,352
<i>Percent</i>	17.0%	12.5%
Uninsured Persons (Under Age 65)	182,840	1,658,111
<i>Percent</i>	13.9%	15.0%
Persons in Poverty (All Persons)	232,568	1,732,129
<i>Percent</i>	13.8%	13.8%

DATA SOURCES:
 (1) U.S. Census Bureau, Decennial Census of Population and Housing, 2000, 2010.
 (2) U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE), 2009.
 (3) U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE), 2010.

*NOTE: Illinois Rural Counties include both Non-Metro and Micropolitan Statistical Areas with a population below 50,000. U.S. Census data includes margins of error and confidence intervals to reduce uncertainty in determining persons in poverty and uninsured persons estimates.

to maintain a high standard for quality of care. The National Advisory Committee on Rural Health recognized several challenges facing U.S. health care in a webinar³ on December 2011, and reported:

- » Rural America has 20.0% of the total population;
- » Rural America has 10.0% of the nation's physicians;
- » Number of health professional shortage areas (HPSA's) are 42.0% higher in rural areas;
- » Small businesses are more prevalent in rural areas as key employers which has implications for insurance issues;
- » 25.0% of rural adults are uninsured; and
- » Rural areas depend heavily on public programs, especially Medicare and Medicaid.

Health care in rural Illinois faces many challenges similar to the nation. Nationally, a greater proportion of rural residents than urban residents are uninsured or covered through public/governmental sources.⁴ Also, according to U.S. Census 2010, 43.6 million people were in poverty, the largest number in the 51 years since poverty has been measured. These challenges have implications for critical access hospitals (CAHs) and other rural health care providers because they affect the primary revenue streams and types of care demanded in the area served.

In Illinois, total populations declined in rural areas by 1.5% between 2000 and 2010, while rural elderly populations grew by 2.1% (Table 1). Also, the rural areas that Illinois CAHs serve have a greater proportion of elderly residents (17.0%) compared to the state of Illinois average (12.5%).⁵ In Illinois, approximately 1.7 million (15.0%) residents are uninsured. Rural residents represent more than 182,800 (13.9%) of the uninsured in Illinois, approximately 1 in every 7 people (Table 1). **In the smallest and most remote rural areas (population less than 2,500), the uninsured rate is 23.0%, approximately 1 in every 4 people, compared to an urban rate of 19.0%.** The uninsured populations affect CAHs and other health agencies because people without insurance are more likely to go without preventive care, to delay or forgo medical care, and to die prematurely.⁶ Also, the uninsured may turn to emergency rooms for care where, often, they may be charged more than insured patients.

There is a link between the uninsured and poverty. The national recession will have long lasting effects on the economy, especially in rural areas. A majority (60.0%) of the uninsured in America have at least one full-time worker in their family.⁷ Uninsured workers are more likely than insured workers to have low-wage jobs; 40.0% of the uninsured have

family incomes below the federal poverty level.^a The poverty rate in rural Illinois counties was 13.8%, or 1 in 7 rural residents below the poverty line (Table 1).

1 in 7 Illinois rural residents are uninsured and below the poverty line.

The combination of challenging economic and demographic shifts and the demand for quality health care creates a need for continued innovative approaches by rural providers. Data collection,

collaborative efforts, technology, and other innovations enable providers to meet ever-increasing demand for services while using the limited resources, both personnel and financial, available to them.

a) The 2010 federal poverty level for a family of four was \$22,050.

IDENTIFYING ILLINOIS CAH ISSUES AND CHALLENGES

While the Centers for Medicare and Medicaid Services (CMS) currently require hospitals to report quality of care information to receive full reimbursement, the need for quality health care at an affordable cost, along with recent legislative requirements for measuring quality outcomes, carry significant implications for all involved in the health care sector. Recognizing these facts, the Illinois Critical Access Hospital Network (ICAHN) asked the Center for Governmental Studies (CGS) at Northern Illinois University to prepare white papers on the evolving issues in rural health care as identified and prioritized by Illinois CAHs. A series of meetings and discussions with CEOs, human resource representatives, quality control associates, health care professionals, and ICAHN staff created a framework to identify and select issues. The criteria included:

- » A 1-3 year planning horizon as optimal given the changing health care landscape;
- » Emerging issues specific to CAHs and rural health providers; and
- » Issues involving entrepreneurial and innovative processes and outcomes.

Using the criteria, an ICAHN advisory committee prioritized the list of challenges into three interconnected topics requiring further research (Figure 1):

1. Quality of Care and Measurement
2. Collaboration and Collaborative Models
3. Community Wellness/Interaction

This initial issue paper addresses quality of care and its measurement by hospitals and CAHs. It is important to define the context of the quality of care

issue, recognize areas where CAHs excel, acknowledge the commitment to improving quality of care, and highlight innovations for implementing those improvements. It is also imperative to encourage discussion about the importance of quality of care in rural hospitals, rural relevant quality of care measures, and promising practices for improvement. Quality of care is a continuous improvement process, not a destination, and CAHs are engaged in these improvement efforts.

The following sections address the unique mission of CAHs, the value they provide through positive patient outcomes, high patient satisfaction, efficiency, and a commitment to improvement.

FIGURE 1. CAH PRIORITIES



SOURCE: CGS AND ICAHN VISION COMMITTEE, 2011

CRITICAL ACCESS HOSPITAL: A UNIQUE MISSION

The quality of care challenges facing CAHs are rooted in their unique purpose and mission. Created under the Medicare Rural Hospital Flexibility (Flex) Program in 1997, critical access hospitals ensure access to quality health care for rural residents and stabilize small rural hospitals through service enhancement, improving quality of care, and gaining economies of scale through network participation (www.icaahn.org). A CAH is a licensed, acute care hospital with specific operations requirements that differ from its urban and rural counterparts in several ways, including:

- » 25 or fewer beds;
- » Average length of stay less than 96 hours;
- » Furnish 24-hour emergency services;
- » Located in a designated rural area; and
- » Meet program and distance requirements.

Due to program limitations for inpatient length of stay and number of beds, there is a greater focus on outpatient and primary care services for CAHs. In addition, CAHs have a different reimbursement structure, receiving cost plus one percent for services provided to Medicare patients. A CAH provides both inpatient and outpatient services, again with some limitations on inpatient services due to length of stay and number of beds, but no limit on outpatient services. As of March 2011, there were 1,327 CAHs in 45 states, with 51 located in the state of Illinois⁸ (Figure 2). In comparison, Kansas has the highest number (83), followed by Iowa (82), Minnesota (79), and Texas (79). Five states—Connecticut, Delaware, Maryland, New Jersey, and Rhode Island—have no CAHs.

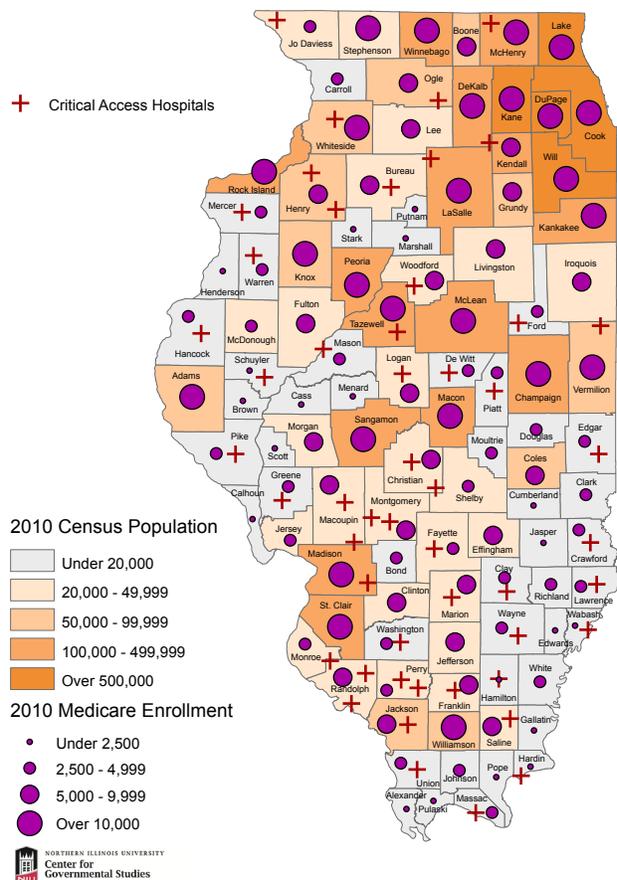
CAHs deliver high quality care in an environment that is complex and demanding. CAHs exist in smaller rural markets with less availability of physicians, specialist physicians, and advanced clinical capabilities. They also have a high density of elderly and Medicare patients (Figure 2). Because CAHs are sometimes the only access point that patients have for immediate care, their role is often to provide care in the “golden hour,” the time during which there is

Quality of care is a continuous improvement process, not a destination.

the highest possibility that prompt medical treatment will prevent death.

CAHs also provide a variety of resources for their communities including health education, wellness programs, and physical facilities such as gyms, as well as often being one of the largest employers. By strengthening the continuum of health care services and measuring rural relevant outcomes, CAHs can continue to play a vital role in rural communities. A core purpose of CAHs is to be a safety net for rural patients, and while CAHs have been compared to their urban counterparts on quality of care measures

FIGURE 2. CAH LOCATION AND 2010 CENSUS POPULATION



in recent literature,⁹ it is important to examine factors affecting quality of care in rural settings and

the leading role that CAHs and ICAHN can play in overcoming any barriers to providing quality care.

CRITICAL ACCESS HOSPITALS: VALUE-ADDED HEALTH CARE

Quality of care is complex because it addresses two separate but intertwined concepts: quality of care and measuring quality of care. However, in the end quality is about the value that a hospital provides to its patients and the community. Value in CAHs means delivering the highest level of care with the most efficient use of resources. CAHs strive, as any hospital does, to achieve high value. Porter (2010)¹⁰ states that if one thinks of patients as customers, then value in health care is measured by the outcomes achieved, not necessarily by only the volume of services delivered or by the process of care used. Cost reductions that disregard outcomes achieved are harmful and can limit effective care. Ensuring value is a process that can only be increased when all providers/stakeholders measure, report, and compare outcomes (Figure 3).

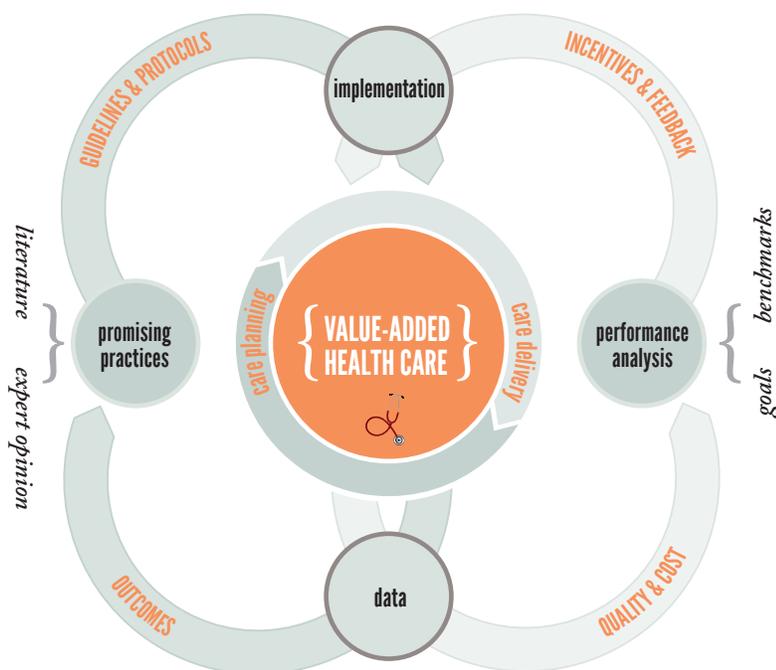
It is important to recognize that CAHs have not been required to publicly report quality measures partly because of their type of Medicare

reimbursement system. Many CAHs do not have enough data to report to be statistically significant and public reporting has been voluntary for CAHs. While the U.S. has always valued high quality health care, now the reimbursement process is changing to reward high quality rather than high volume. It becomes critically important for CAHs to publicly report, demonstrating the quality of care provided and developing a reporting methodology that will take into account a lower number of cases. CAHs will be required to be quality reporters beginning in 2013, following a national demonstration project in 2012.

PPACA proposes linking payments to quality outcomes through Medicare Value-Based Purchasing (VBP) programs starting in October 2012. CAHs can anticipate having their Medicare payments eventually tied to their performance and no longer voluntary. In VBP, hospital performance is required to be publicly reported including measures on treating heart attacks, heart failure, pneumonia, surgical care, health care associated infections, and patients' perception of care in order for hospitals to qualify for financial incentives for improvement in care.¹¹ While public reporting is not currently mandatory for CAHs, in 2013 when CAHs become mandatory reporters, VBP will be increasingly important. VBP has the potential to affect CAHs at a higher level than non-CAHs for two reasons:

1. CAHs are currently reimbursed at cost plus one percent for Medicare patients, so financial incentives for quality outcomes may be more significant, especially if the indicators measured are not reflective of rural outcomes.

FIGURE 3. CAHS CREATE VALUE-ADDED HEALTH CARE

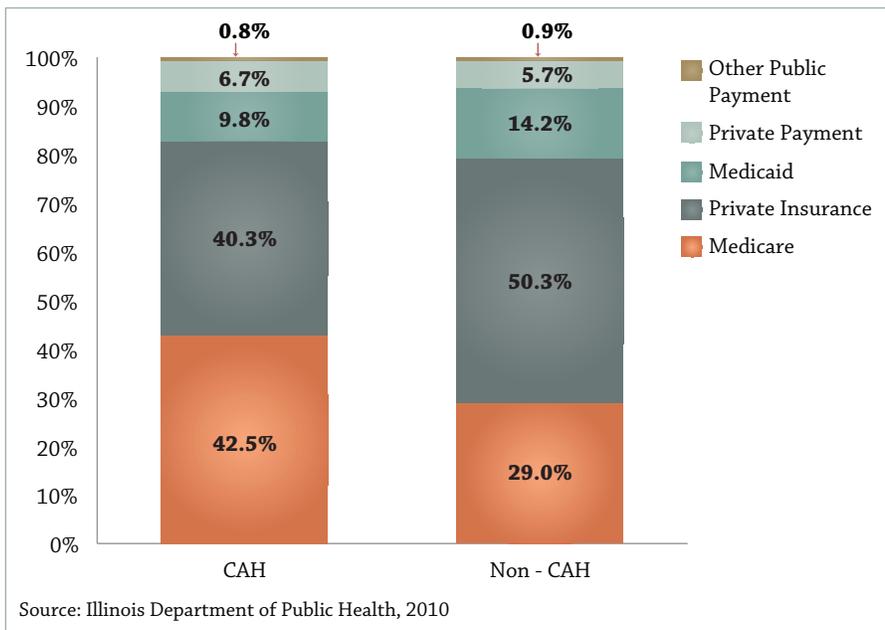


SOURCE: CGS AND ICAHN VISION COMMITTEE, 2011

- CAH revenues account for a proportionately higher rate of Medicare reimbursements than other types of payments (42.5%) as well as higher than non-CAH Medicare reimbursements (29.0%) (Figure 4).

In addition to Medicare, other forms of public assistance such as Medicaid, which may also be affected by federal reporting guidelines, combine to more than 53.0% of total patient revenues for CAHs. It is essential that CAHs be aware of how VBP will affect their financial health.

FIGURE 4. PATIENT REVENUES BY SOURCE



QUALITY OF CARE REPORTING ADDS VALUE

With the increasing focus on quality of care, it is important for CAHs to measure the value of the services, and perception of the care, they provide to their patients. One way CAHs currently measure value and quality is through a unique collaboration with the Flex Monitoring Team,¹² which specifically focuses on data collection and analysis for CAHs in the U.S. The evaluative work of the Flex Monitoring Team, led by the Rural Health Research Centers at the Universities of Minnesota, North Carolina-Chapel Hill and Southern Maine, has helped guide CAHs to identify and implement effective quality improvement programs. They collect data on national measures, as well as develop “rural relevant” quality, financial, and community impact performance measures to help understand the impact of CAHs and the Flex Program. Without this research, the assessment of quality of care in CAHs would be incomplete.

The current publicly reported measures have raised some concern within the rural health care community, and CAHs in particular. Current national measurements focus on:

- » Inpatient process of care measures;
- » Recommended treatments for acute myocardial infarction (AMI), heart failure, pneumonia, surgical care improvement, and children’s asthma care;
- » Outpatient AMI/chest pain and surgical process of care measures;
- » Hospital 30-day risk-adjusted mortality and readmission rates calculated by CMS; and
- » Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey Results.^b

CAHs’ concern is not an objection to the public reporting of performance data, rather it is a belief that current measures and reporting formats may not necessarily consider the distinct characteristics of rural health care delivery.¹³ Selected current national measures are appropriate for both urban

b) A national, standardized survey of patients’ perspectives of hospital care. The HCAHPS is administered to a random sample of adult patients across medical conditions between 48 hours and six weeks after discharge (www.cms.org). For sample survey click here.

“The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” – QUALITY OF CARE DEFINITION, INSTITUTE OF MEDICINE

and rural areas. In addition, some measures may only relate to rural hospitals, CAHs, or urban hospitals, which makes urban to rural and even rural to rural comparisons difficult. While these concerns are valid, the reporting is necessary and helps identify room for improvement regardless of geographic location.

Although some of the current national measures are not as relevant to CAHs, several indicators show continuous improvement on measures of pneumonia, heart failure, and patient satisfaction. In addition to annual improvement, on the following five measures, CAHs in Illinois out rank the CAH national average, are above 90.0%, and have improved since 2007 (Table 2):

- » Pneumonia: Timely Administration of Initial Antibiotic (96.8%);
- » Pneumonia: Blood Culture Prior to First Antibiotic (93.5%);
- » SCI: Preventative Antibiotic(s) 1 Hour before Incision (91.9%);
- » Heart Failure: Smoking Cessation Advice (91.6%); and
- » Pneumonia: Smoking Cessation Advice (90.4%).

Also, all of the measures in Table 2 show a continuous improvement in quality measure scores since 2007, which demonstrates a commitment to both improvement of reporting and improvement of quality.

TABLE 2. ANNUAL COMPARISONS OF CAH QUALITY MEASURE SCORES

QUALITY MEASURE	2009		2008		2007	
	IL CAHS	CAHS NATIONALLY	IL CAHS	CAHS NATIONALLY	IL CAHS	CAHS NATIONALLY
Pneumonia: Timely Administration of Initial Antibiotic	96.8%	95.0%	96.1%	94.4%	94.5%	94.2%
Surgical Care Improvement (SCI): Received Appropriate Preventative Antibiotic(s)	94.1	96.0	89.5	94.7	88.9	92.6
Pneumonia: Blood Culture Prior to First Antibiotic	93.5	92.0	91.8	90.7	91.7	90.5
SCI: Preventative Antibiotic(s) 1 Hour before Incision	91.9	91.6	90.8	88.4	84.8	86.3
Heart Failure: Smoking Cessation Advice	91.6	85.6	89.7	83.3	84.0	78.3
Pneumonia: Smoking Cessation Advice	90.4	86.2	88.8	83.0	83.8	77.5
Pneumonia: Influenza Vaccination	89.8	83.1	83.4	79.9	76.6	74.7
Heart Failure: Assessment of LVS	88.7	82.7	88.5	80.0	83.9	75.8
Pneumonia: Pneumococcal Vaccination	88.1	85.9	85.3	82.7	79.8	78.1

Source: Centers for Medicare and Medicaid Services, Hospital Compare, 2007, 2008, 2009

PATIENT SATISFACTION ADDS VALUE

Using the customer analogy, customer satisfaction is the number one goal of businesses. Similarly, achieving hospital patient satisfaction and quality patient experience are important components of assessing CAH value.

Patient satisfaction can also lead to positive outcomes for staff, community, and the organization’s financial health. Perception is reality; if patients see that CAHs want to measure and improve the care provided to the them, patients will then perceive they are receiving better care and have a better experience.

CAHs use the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) to gauge patient satisfaction for services they provide. HCAHPS is used in all U.S. hospitals and is an important factor in overall assessment of a hospital’s quality of care. The most important outcome of the survey is that it provides feedback which identifies positive experiences and potential problems that can be resolved before they become serious.

HCAHPS survey results show that CAHs rank high in several important patient satisfaction categories (Table 3). In 2010, patients rated experiences at Illinois CAHs as a 7 or better (0=Worst, 10=Best) 94.0% of the time, showing overall satisfaction. Also important is that patients feel they are communicated with and have a follow-up plan when they leave. This can reduce readmissions, infections, and apprehension in patients. Nearly 85.0% of those surveyed were given information about what to do during their recovery and patients reported that their doctors and nurses always communicated well,

Illinois CAHs ranked 7 or higher in overall patient satisfaction 94% of the time.

– HCAHPS, 2010

nearly 85.0% and 82.0% respectively. This correlates with the high quality scores shown in Table 2 in categories such as Heart Failure: Smoking Cessation Advice, and Pneumonia: Smoking Cessation Advice. In each of the four categories shown in Table 3, CAHs in Illinois scored higher than non-CAHs in Illinois.

These four measures are by no means exhaustive, but they are a snapshot of the quality experiences patients have at Illinois CAHs and are identified by the Flex Monitoring Team as four relevant measures for CAHs.¹⁴ Critical access hospitals strive to reach 100.0% in patient satisfaction, quality of care measures, and number of hospitals reporting. The good news is that in 2009, the Illinois CAH participation rate for inpatient measurements (82.0%) was higher than the national rate (72.0%).¹⁵ The challenge, discussed later, is that not all CAHs report data for all inpatient, outpatient, and HCAHPS measures. This is important to note because participating and non-participating CAHs differ significantly in organizational measures such as beds and average daily census which may affect the data. In addition, more CAHs reporting will result in clearer and more accurate results.

TABLE 3. HCAHPS PATIENT SATISFACTION SURVEY

PATIENTS...	IL CAHS	IL NON-CAHS
...Rated hospital a 7 or better (0 to 10 scale)	94.0%	90.2%
...Were given information about what to do during recovery	84.8	81.5
...Reported that their doctors “Always” communicated well	84.6	78.8
...Reported that their nurses “Always” communicated well	81.7	74.4

SOURCE: HCAHPS, 2010.

NOTE: 41.3% of CAHs in Illinois reported patient satisfaction data to HCAHPS, which was higher than the national average (35.4%).

EFFICIENCY ADDS VALUE

As discussed, Illinois CAHs rank high on several national quality of care measures and on important patient satisfaction indicators. These scores also show continuous improvement over time, which demonstrates a commitment to adding value to rural health care and providing quality of care

in a cost-effective way. Cost-effectiveness is an important goal. Value, as a component of quality, means efficiently using resources to deliver the highest quality of care. It only becomes an issue if a hospital or business places cost-effectiveness above quality for its patients or customers.

FIGURE 5. AVERAGE REIMBURSEMENT BY REVENUE SOURCE PER INPATIENT

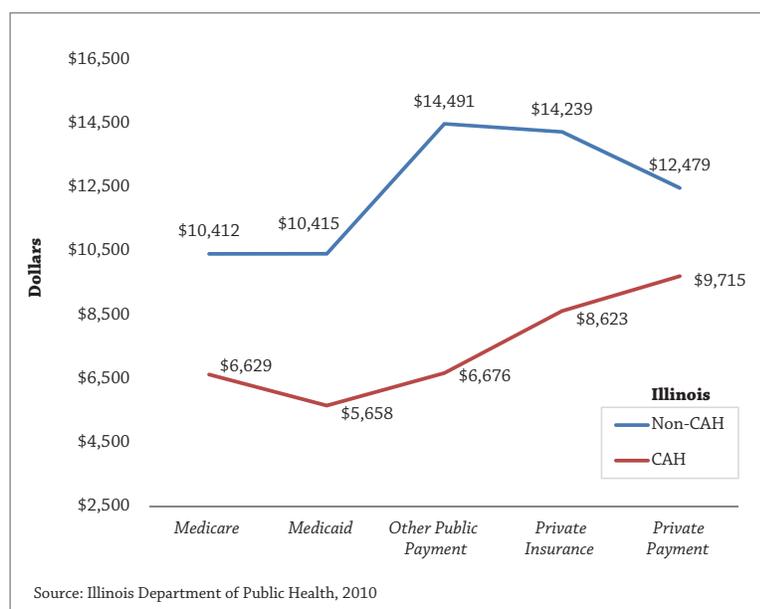
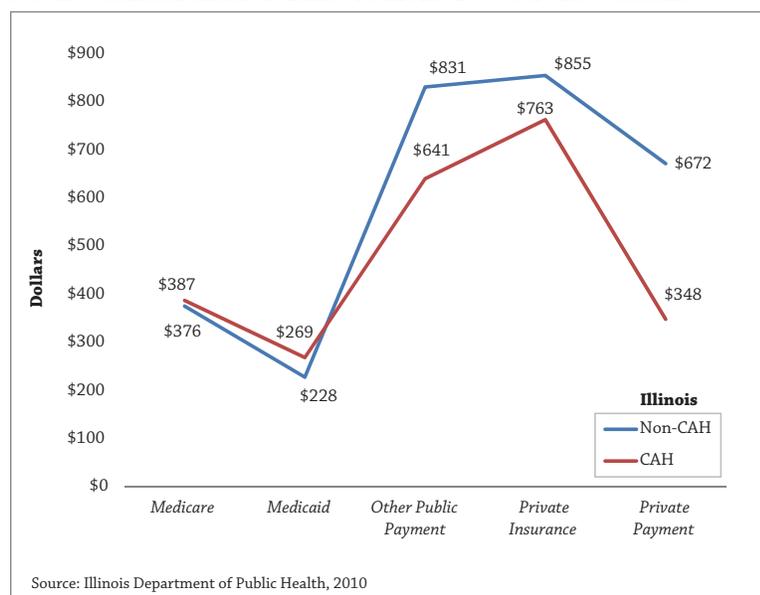


FIGURE 6. AVERAGE REIMBURSEMENT BY REVENUE SOURCE PER OUTPATIENT



The “cost” per inpatient at Illinois CAHs is lower than non-CAHs^c for all five revenue sources represented in Figure 5. As mentioned earlier, Medicare represents nearly 43.0% of the inpatient revenues in Illinois CAHs and, in 2010, Medicare reimbursed CAHs at a rate of \$6,629 per patient compared to \$10,412 (37.0% higher average reimbursement) for all non-CAHs. Even when accounting for a reimbursement rate of cost plus one percent for Medicare patients, CAHs still have a lower reimbursement per inpatient compared to non-CAHs. Lower cost per inpatient continues with other forms of public payment, as well as private insurance and private payment.

Outpatient revenues represented 76.0% of total CAH revenues in 2010.¹⁶ While CAHs had a slightly higher Medicare and Medicaid cost per outpatient (Figure 6), costs were lower for other forms of public payment, private insurance, and private payment. The slightly higher Medicare amount could be a result of the cost plus one percent reimbursement rate CAHs receive.

Understanding and defining value are difficult. Looking at inpatient and outpatient costs only begins to explore cost-effectiveness as a measure of value. CAHs and non-CAHs differ in

c) A per patient cost by revenue source was calculated using data from the Illinois Department of Public Health Annual Hospital Questionnaire, 2010. “Revenues” were divided by the number of “Patients by Payment Source” to achieve an average cost by revenue source per inpatient and outpatient.

services offered, geographical location (affecting cost of living), maximum length of stay, and many other characteristics that can affect the figures. It is also important to recognize that the expenditures by payers may not always equal the actual cost incurred by the provider of the service. However, it is important to analyze cost as a component of

efficiency and, ultimately, quality of care and value. CAHs have positive patient outcomes, high patient satisfaction, and competitive, if not better, cost per patient measures, which all indicate that CAHs provide a high value health care option to patients in rural areas.

QUALITY OF CARE CHALLENGES AND IMPROVEMENT STRATEGIES

CAHs face several challenges with regard to quality of care. The positive aspect of any challenge is the innovation and improvement it encourages. The three main challenges discussed in the following sections are: rural relevant measures and public reporting of data, increasing efficiency and improving process of care measures, and addressing readmission legislation.

Illinois CAHs have many quality of care improvement initiatives underway. The initiatives involve federal and state programs as well as local collaborative

strategies to improve quality. Other states also engage in improvement strategies and several are featured here to provide more insight into new and existing programs that could be initiated or enhanced in Illinois. An overview of the challenging issue is presented. Next, the specific challenge is discussed in detail, followed by examples of innovative programs that address the issue. Last, when available, specific examples of CAHs and other health care providers successfully implementing the innovative programs in Illinois and across the U.S. are examined.

RURAL RELEVANT MEASURES AND PUBLIC REPORTING OF DATA

Standard quality metrics used for non-CAH facilities focus on measures for comprehensive services that many CAHs do not offer. As stated earlier, CAHs address the unique needs of rural populations, but often are limited by financial and personnel resources. As one example, CAHs admit only those patients who can be treated safely in smaller hospitals and transfer the more acutely ill patients to larger hospitals. Previous research has often excluded patients transferred to a larger hospital from some of the analysis.

To improve quality, rural providers must adopt a holistic approach to quality improvement, including guidelines and training, standardized performance measures (both national and rural relevant), performance measurement reporting with instantaneous data feedback capabilities (electronic health records), and quality improvement processes and resources (refer to Figure 3). Currently, many positive steps are being taken and more improvements can be made to ensure quality improvement in rural communities. These include identifying rural relevant measures and increasing the number of Illinois CAHs reporting quality of care data.

THE CHALLENGE:

RURAL RELEVANCY OF QUALITY CARE MEASURES

Recent health care legislation has caused substantial growth in, and pressure for, the use of standardized measurements. CAHs and rural communities could benefit substantially from the development of these quality measurement tools. Current quality of care measures apply to both rural and urban settings. But there are instances where measure sets must be adapted to be useful in rural settings, or as Flex Monitoring states, rural relevant. Public reporting of quality data provides an important opportunity for CAHs to assess and improve their performance on national standards of care, as well as standards specific to CAHs and their unique mission. According to the Flex Monitoring Team, developing a definition, or criteria, for what constitutes rural relevant quality care measures is key.¹⁷ These could include:

- » Addressing the issue of volume of cases in reportable categories
- » Usefulness
 - Internal usefulness for quality improvement(QI) processes;

- External usefulness for public reporting and for value-based purchasing; and
- Usefulness for care coordination.
- » Ease of data collection
 - Calculation using claims data;
 - Effort required for medical record abstraction; and
 - Feasibility of using data in EHRs.

**THE INNOVATION:
QUALITY OF CARE IMPROVEMENT STRATEGIES AND
MBQIP (MEDICARE BENEFICIARY QUALITY IMPROVEMENT PROJECT)**

Improvements and strategies already are being examined by entities such as the Flex Monitoring Team, and Office of Rural Health Policy (ORHP) programs including MBQIP. MBQIP provides CAHs with technical assistance and national benchmarks to improve health care outcomes. The National Rural Health Resource Center writes that participation in MBQIP creates a win/win situation for CAHs and patients. First, engagement in quality improvement initiatives will improve patient care, hospital services, administration, and operations. Second, it also allows for clear benchmarking and identification of best practices, helping CAHs prepare for required reporting and rural relevant measures. Third, it fulfills the quality improvement (QI) portion of the Flex Grant requirements.¹⁸

MBQIP addresses the challenges of defining and reporting rural relevant quality measurements and adopting proven clinical delivery models that enhance quality and performance-based value. Many CAHs participate, including 100.0% of Illinois CAHs.¹⁹ Other interesting MBQIP participation updates (as of January 4, 2012) include:²⁰

- » 93.0% of states with CAHs currently participate in MBQIP (42 of 45);
- » Minnesota has the highest number of CAHs participating (73);
- » Ten states have 100.0% of CAHs participating (AL, HI, IL, IN, ME, MI, NM, PA, SC, and WV); and
- » Twenty-four additional states have 50.0% or more of their CAHs participating.

**PROMISING PRACTICE:
CAHS CREATE RURAL RELEVANT MEASURES**

Illinois CAHs are making great improvements in measuring quality of care, including participation by all 51 CAHs in MBQIP and using the Flex Monitoring Team and ICAHN to foster discussions on rural relevant measures. Examples also exist in other states, such as Michigan and Montana, that have already created rural relevant indicators and are collecting and analyzing data to help understand quality of care in a rural setting better. Michigan Critical Access Hospital (MICAHA) Quality Network and Montana Rural Healthcare Performance Improvement Network (PIN) have created a measurement system that includes 26 quality metrics *applicable to rural situations* and all Michigan CAHs have access to a web-based clinical benchmarking reporter. As a result, Michigan CAHs can see where improvement is needed, but most important is that the performance measures are rural relevant for rural facilities.

Ed Gamache, President of MICAHA and CEO of Deckerville Hospital, provides an excellent example in a recent National Rural Health Association article,²¹

“Smaller hospitals have been left out of the quality measurement arena or saddled with terms like “insufficient discharges”. MICAHA helps overcome that challenge by giving Critical Access Hospitals (CAHs) ways to collectively measure and report performance data and even help develop measures that make sense for CAHs by looking at the important and unique roles that CAHs play in the health care system. For example, while CAHs may not discharge that many patients, they do treat and then transfer a lot of patients to other hospitals for further care. The status and stability of patients at the point of transfer, then, as measured by taking vital signs within 15 minutes of transfer, is an appropriate quality of care measure in the CAH setting.”

MICAHA has created a set of measures specific to the type of care CAHs administer, and in doing so, more accurately tells the story of value and quality in CAHs.

In Montana, PIN has a clinical benchmarking tool²² focused on similar measures useful for evaluating the quality of diagnosis and treatment

in rural Montana facilities including measures of interest nationally, for the MBQIP and to CAHs. This approach allows different types of data to be collected with one form, addressing national measures and allowing for rural relevant measures to be captured. The Montana example could serve as a guide for Illinois CAHs in discussions about suitable rural quality of care measures.

The Flex Monitoring Team also proposes several outpatient rural relevant measures and areas where CAHs could focus:

- » Emergency Department (ED);
- » Outpatient Surgery;
- » Imaging (e.g., CT scans, mammography);
- » Structural measures (e.g., use of health information technology);
- » Measures for specific clinical conditions: diabetes, cancer, and heart failure; and
- » Other measures (e.g., vaccination, medication reconciliation).

Another possibility in terms of rural relevant measures is to consider that CAHs are often a “Community Hub”²³ playing a coordinating role in community wellness. Their outreach function extends beyond economic impact to community enhancement. This role could encourage collection of often “intangible” measures relevant to population health and community-wide services such as affordable care close to home and increased community wellness.

THE CHALLENGE:

100% PARTICIPATION BY ILLINOIS CAHS IN PUBLIC REPORTING

A second reporting challenge, separate from rural relevancy but equally important, is the small percentage of Illinois CAHs reporting quality of care data for inpatient, outpatient, and HCAHPS. While the voluntary reporting requirements for CAH outpatient and patient satisfaction measures may account for the smaller percentage, Illinois CAHs have pledged to publicly report all inpatient data to Hospital Compare. Hospital Compare is a national data repository created by CMS and the Hospital Quality Alliance (HQA) that collects data on quality care and patient satisfaction measures. In 2009, Illinois CAHs had a Hospital

Compare inpatient reporting participation rate of 82.4%, higher than the national rate (72.0%).^d

Non-response is an issue both nationally and in Illinois. In July 2011, at a Flex Monitoring conference in Portland, Maine, the Director of the University of Minnesota Rural Health Research Center explained the top three reasons given by CAHs for non-response on quality measures:²⁴

1. The measures are not “rural relevant”;
2. We have our own quality measurement system; and
3. CMS does not require CAHs to participate.

Nationally, participation in Hospital Compare did increase from 41.0% of CAHs in 2004 to 72.0% of CAHs in 2009, with states ranging from 11.0% to 100.0% reporting. Outpatient data was only reported by about 16.0% of CAHs.²⁵ Illinois CAHs also reported outpatient measures at a higher rate than the national average (23.5%). For patient satisfaction, 41.2% of Illinois CAHs reported HCAHPS compared to a national rate of 35.0%. However, more than 25.0% of Illinois CAHs did not report any quality of care data, and this must improve to increase accuracy of quality comparisons and create accountability for all CAHs.²⁶ As mandatory reporting requirements take effect these numbers will increase, however, the more CAHs can do now to prepare the better off the hospitals will be when the requirements are in place.

THE INNOVATION:

FLEX MONITORING TEAM CALLS FOR ACTION

In January 2012, the Flex Monitoring Team produced a policy brief that described the need for a comprehensive set of quality measures relevant for CAHs, including appropriate care for inpatients with specific medical conditions, appropriate care across multiple medical conditions, and Emergency Department measures.²⁷ In addition to the importance of rural relevant measures, the Flex Monitoring Team emphasized that all CAHs must report on measures, both national and rural relevant, for accuracy and validity of results.

^d Defined as publicly reporting data on at least one inpatient process of care measure

ICAHN scorecard allows Illinois CAHs to share data and “best practices” to improve quality of patient care and services.

CAHs more likely will report data if they believe it is relevant to the services they provide. Rural relevant indicators, including those recently published by the Flex Monitoring Team, will be necessary to increase the number of CAHs reporting. There are also many agencies collecting quality of care data, both voluntary and mandatory, therefore it may be difficult for CAHs to decide which data to collect and for which agencies. For example, Hospital Compare, as mentioned, is a mandatory national database, while the Illinois Hospital Report Card (IHRC) is the Illinois Department of Public Health’s mandatory state database. The IHRC mainly gives consumers access to information on the quality of health care provided in Illinois. Illinois CAHs are required to report data on infection rates as well as nurse staffing data. Recently, ICAHN created a chart that identifies all reporting options for Illinois CAHs. This chart can guide CAHs to choose the best reporting options for each hospital (see Appendix -Quality Measure Reporting Tools for CAHs). It may also serve as a reminder of opportunities to participate in creating additional measures.

According to the Flex Monitoring Team,²⁸ the long-term viability of the Flex Program requires national data on program effectiveness. Its overall conclusions on quality of care reporting are:

- » Existing state and multi-state quality reporting and benchmarking efforts are important and should continue, but comparable national data are needed;
- » All CAHs should report on a core set of measures in the same way so the data are comparable nationally; and
- » Public reporting of quality data provides a richer environment for CAH benchmarking and QI.

One viable option is the anticipated CMS Critical Access Hospital Demonstration Project set to begin in 2012, with required reporting by FY 2013. This is an opportunity for ICAHN Illinois CAHs to lead the way in establishing rural relevant data measures.

PROMISING PRACTICE: ICAHN QUALITY ALLIANCE PROJECT

The ICAHN Quality Alliance Project is an on-line scorecard and quality improvement data repository to collect quality, financial, and laboratory measures. Network member hospitals share data to determine “best practices” and to improve the quality of patient care and services throughout the critical access network. While only clinical measures were collected when the project began in 2003, the measures have expanded to include financial and laboratory indicators (Table 4).

ICAHN will continue to increase the usefulness of the scorecard beyond identifying best practices among peers. Future plans include enhancing the data repository capabilities, improving ease of use, developing comparison capabilities for analysis with other states, and sharing more promising practices developed from the data.

PROMISING PRACTICE: RURAL HEALTH PERFORMANCE IMPROVEMENT NETWORKS

In Montana, all 48 CAHs have voluntarily joined the Montana Rural Healthcare Performance Improvement Network (PIN), initially formed in 2002 with only 14 CAHs. The PIN demonstrates measurable quality improvement (QI) results through clinical studies, and report not only national measures, but collect rural relevant measures as well. Montana’s PIN uses an advisory panel, the board of directors, and frontline staff in developing quality of care measures and therefore all 48 CAHs have a stake in reporting data that is relevant for the work they perform.

TABLE 4. 2011 ICAHN SCORECARD MEASUREMENTS AND OUTCOMES

QUALITY	FINANCE	LABORATORY
Patient falls Medication errors Surgical wound infections Chest pain/AMI CHF Pneumonia and smoking history and received cessation advice SIP (Surgical Infection Prevention)	Total gross patient revenue Total other operating revenue Bad debts (net of recovery) Charity Non-operating revenue Operating expenses Net income General operating cash General operating cash sec/invst Board/internally designated cash Board/internally designated sec/invst Depreciation expense Current assets Current liabilities	Blood utilization rate Blood culture contamination rate Total critical values reported Number critical values appropriately called Corrected reports /total billable Inpatient billable Inpatient days Billable lab tests per month Worked hours/month (non-24/7 CAH) Worked hours/month (24/7 CAH) STAT Troponin turnaround time Labor expense per billable Non-labor expense per billable
OUTCOMES	OUTCOMES	OUTCOMES
<ul style="list-style-type: none"> » Reduced rate of patient falls (inpatient and swing) » Reduced medication errors 	<ul style="list-style-type: none"> » Consistent positive margins in each calendar year of >3 percent and an average margin over 3 calendar years of >5 percent » Consistent gross accounts receivable (AR) days of less than 65 	<ul style="list-style-type: none"> » Reduced supply cost per test » Reduced blood culture contamination rates » Increased incidence of critical values meeting policy parameters

INCREASING EFFICIENCY AND IMPROVING PROCESS OF CARE MEASURES

Another CAH quality of care challenge involves process improvement strategies including collaboration, communication, and variation reduction. When a patient receives treatment at the hospital, the health care team should take specific steps to ensure that correct procedures are followed based on a patient’s condition and subsequent treatment. These may include tests, procedures, medication, and/or counseling. Current reports focus on CAH success in treating heart attacks, heart failure, and pneumonia. CMS Hospital Compare also provides information about prevention of infections after surgery and special treatments given to surgical patients who have chronic conditions such as heart failure. For health care providers, improving process of care measures is vital to increasing efficiency and quality of care.

THE CHALLENGE:

ILLINOIS CAH PROCESS MEASURE SCORES ARE NOT AT 100%

CAHs in Illinois are engaged in efforts to increase quality reporting as well as improve overall quality in their rural hospitals. One recognized area for improvement involves current process measures focused on discharge instructions to patients and on thorough reporting of procedures. While Illinois CAHs are improving, recent studies identified that CAHs nationally score lower than their urban counterparts on some national process of care measures.²⁹ Many adjustments involve simple protocol improvements that are attainable and will increase scores for quality of care and process of care measures.

THE INNOVATION:**COMPREHENSIVE UNIT-BASED SAFETY PROGRAM (CUSP)**

Infection prevention is often viewed as one of the most important issues for hospitals, with over 2 million hospital-acquired infections occurring in U.S. hospitals each year resulting in \$4.5 billion in excess health care costs annually.³⁰ Johns Hopkins University Quality and Safety Research Group (JHU QSRG) and the Keystone Center for Patient Safety and Quality of the Michigan Health and Hospital Association (MHA Keystone) are implementing a national patient safety program proven to reduce specific hospital-acquired infections (HAIs). The Comprehensive Unit-based Safety Program (CUSP) was designed to create a hospital culture focused on safety and also to help clinical teams learn from mistakes by integrating safety practices into their daily work. CUSP helps tap into staff knowledge and empowers staff to fix hazards that pose the greatest perceived risks.

PROMISING PRACTICE:**FERRELL HOSPITAL IN ELDORADO, ILLINOIS EMBRACES CUSP**

In Eldorado, Illinois,³¹ Ferrell Hospital, a 25-bed CAH, used CUSP to create a central line-associated blood stream infections (CLABSI) improvement team in late 2009. As a component of this program, the hospital initiated staff education and conducted a culture assessment. This approach was designed to educate staff about CUSP, but more importantly about the culture of patient safety at the hospital. While the ultimate goal was zero infections, many associated tasks improved overall practices in the hospital. The improvement team reduced variation and human error by reporting any issues with central lines, from communication to protocol. While observation and reporting seem simple, they made a vast difference.

THE INNOVATION:**SIX SIGMA® IMPROVEMENT TEAMS**

Another effort to increase efficiency, improve process of care scores, and enhance quality at CAHs involves a unique approach to standardizing and measuring processes called Six Sigma (SS).³² SS emphasizes the DMAIC approach (define, measure, analyze, improve

and control) to problem solving and has been applied to industries from manufacturing to health care. SS emphasizes a grass roots, team-oriented effort for improvement projects ranging from small to large in magnitude. SS takes a statistical approach to solving challenges and also offers a simple format to understand each issue. One example that helps explain the process is standardizing surgery room preparation time (Table 5).

PROMISING PRACTICE:**OSF HOLY FAMILY MEDICAL CENTER****MONMOUTH, ILLINOIS IMPROVES CORE MEASURES**

The OSF Holy Family Medical Center (HFMC) in Monmouth, Illinois engaged in several initiatives using Six Sigma in FY 2011. The first, the Surgical Care Improvement Project (SCIP) Core Measures Team established in October 2010, is focused on ensuring that all SCIP measures, including infection prevention process of care measures, are completed on every surgical patient. Once improvements had been identified by the team, the staff implemented solutions beginning in January 2011. The suggested solutions included improving the Deep Vein Thrombosis (DVT) risk assessment tool, updating pre-operation order sets to include core indicator measures, updating the surgical checklist for all areas to include core measures, and improving hand-off detail. Although the SCIP at OSF is fairly new, the staff has documented a slight improvement in composite scores based on measuring reductions in infection rate on all surgical patients over the last several months.

A second Six Sigma initiative includes improvement in communication and patient transition with the Interdepartmental Hand-off Team (IHT). Also established in October 2010, the focus of this team is to develop a process that improves the quality and timing of information provided during hand-offs between departments. Based on Culture and Safety staff surveys conducted in 2008 and 2010, staff rated the communication associated with patient hand-offs and transitions very low. The IHT suggested improvements to hand-off communication that began in January 2011 and included the Ticket to Ride, imaging communication e-form, interdisciplinary rounds,

TABLE 5. SIX SIGMA PROCESS MEASURE EXAMPLE: STANDARDIZING SURGERY ROOM PREPARATION TIME

DEFINE	MEASURE	ANALYZE	IMPROVE	CONTROL
Standardize prep time for surgery room to increase consistency.	Write the process that all follow in prepping the surgery room. If no standard, then first step is to create a process map. Project leader can take sample of times to prepare surgery room over several days or weeks.	Plot and measure the difference in the prep times to see if they meet the mathematical standards from Six Sigma process.	Brainstorm as a team how process changes can improve the consistency of times. Approach is repeated until the difference in prep times meet required standards.	Train staff on new procedures so that the problem of inconsistent prep times does not return. Could include: restocking after each procedure, organizing materials closer to surgical rooms, posted assignments for each staff member.
				

and face-to-face bedside reports. A repeat survey was completed in August 2011, and although there is still room for improvement, the results improved considerably for such a short time period.

- » Unit-to-Unit communication questions increased from 30.0% positive responses to 62.0%; and
- » Shift-to-Shift communication questions increased from 33.0% positive responses to 57.0%.

**THE INNOVATION:
TEAMSTEPS® (STRATEGIES AND TOOLS TO ENHANCE PERFORMANCE AND PATIENT SAFETY)**

The TeamSTEPS Project³³ is a teamwork system based on lessons learned from organizations that track effectiveness and implement improvement strategies consistently, such as the military and emergency response services. The Agency for Healthcare Research and Quality (AHRQ) and the Department of Defense collaborate on this national training and support network. TeamSTEPS provides safer patient care by producing highly effective medical teams that understand their roles

and responsibilities. The STEPPS method allows for conflict resolution and information sharing because it eliminates barriers to quality and safety. Similar to CUSP, which focuses on teamwork, staff cooperation, and functionality, TeamSTEPS works within the daily routine of a hospital and can be customized to meet a hospital’s specific need(s). The results are measured using the AHRQ Hospital Survey on Patient Safety Culture before and after TeamSTEPS has been used in the CAH.^e

**PROMISING PRACTICE:
CAHS MODIFYING TEAMSTEPS TO INCREASE SUCCESS**

The flexible design of the TeamSTEPS approach provides CAHs an opportunity to tailor use of the program, with only those tools, concepts, and strategies suited for their organization. This is important because many programs and initiatives are developed with larger hospitals in mind, making modification by CAHs sometimes difficult. In a June 2011 Flex Monitoring Team Policy Brief, “Improving Hospital Patient Safety Through Teamwork: The Use

e) There is a CAH rural-adapted version of the TeamSTEPS survey tool available from the University of Nebraska Medical Center

of TeamSTEPPS In Critical Access Hospitals,”³⁴ the authors write that TeamSTEPPS can be an “effective and feasible intervention tool for improving communication, enhancing teamwork, and reducing errors.” The Flex Monitoring Team staff convened a rural patient safety expert panel to offer guidance to CAHs that may consider implementing the program. Some suggestions from this panel include:

1. Modify expectations and gain real change in patient safety culture;
2. Be clear about priority patient safety problems and gain buy-in from key staff;
3. Plan training delivery to suit CAH staff participants’ different schedules/learning styles;

ADDRESSING READMISSIONS LEGISLATION

Readmissions are another challenge in rural areas that often cost hospitals, insurance agencies, and patients considerable time and resources. Readmission rates include patients readmitted to a hospital within 30 days of discharge from a previous hospital stay for heart attack, heart failure, or pneumonia. The Department of Health and Human Services (HHS) notes that these three conditions account for some of the highest rates of readmission and result in billions of dollars in unnecessary Medicare spending.

There were more than 50,000 readmissions to Illinois hospitals in 2009, with each patient spending, on average, five additional days in the hospital.³⁵ Under the PPACA, a hospital may risk a reduction in Medicare payments if it has an excessive readmission rate. As mentioned earlier, Medicare is the largest portion of CAH revenues, so this issue is increasingly important. Currently, there is no protocol on reducing readmissions and avoiding financial penalties, but CAHs are addressing the problem of readmission rates through several innovative programs discussed in the next sections.

4. Use available resources to support the training^f; and
5. Build a patient safety infrastructure that helps sustain culture change at CAHs.

Several Illinois CAHs are implementing all or parts of this teamwork approach. TeamSTEPPS is a relatively new approach for CAHs, and ICAHN is continuing to monitor its effectiveness and adaptability to CAHs in Illinois.

f) AHRQ conducted webinars addressing the National Implementation of TeamSTEPPS. In one, TeamSTEPPS and Critical Access Hospitals, the importance of conducting a comprehensive readiness assessment is emphasized.

THE CHALLENGE: READMISSION RATE REDUCTION

In 2010, the national average for readmission rates was 21.1%. In comparison, all Illinois hospitals had a readmission rate of 21.7%^g, while Illinois CAHs were just below the national average with 20.8%.^h According to the Illinois Hospital Association, if Illinois hospitals could reduce their rates to the current national average, a change of 0.6%, Illinois payers could save approximately \$150 million in the first year alone. These savings are important because the recently passed health care reform legislation includes several mandatory provisions aimed at reducing readmissions and improving care transitions. Recent readmission legislation will take effect over several fiscal years:

FY2013: Inpatient Prospective Payment System (PPS) hospitals with higher-than-expected readmissions rates will experience decreased

g) Data.medicare.gov. Based on CMS reported data, some hospitals are not required to report on all measures, while other measures were not included because the case numbers were too small (less than 25) to be reliable.

h) Data.medicare.gov. Based on the average readmission rates for heart attack, heart failure and pneumonia for 46 Illinois CAHs reporting, with only 2 CAHs reporting on heart attack readmission because the case numbers were too small (less than 25) to be reliable.

Medicare payments for all Medicare discharges. Evaluation will be based on the 30-day readmission measures for heart attack, heart failure, and pneumonia that are currently part of the Medicare pay-for-reporting program and reported to Hospital Compare.

FY2015: The list of conditions can be expanded to include chronic obstructive pulmonary disease (COPD) and several cardiac and vascular surgical procedures, as well as any other condition or procedure the Secretary chooses.

THE INNOVATION: PROJECT BOOST AND RAISING THE BAR

Illinois CAHs already are taking the necessary steps to reduce readmission rates by participating in Project BOOST (Better Outcomes for Older adults through Safe Transition), a national initiative led by the Society of Hospital Medicine to improve the care of patients as they transition from hospital to home.³⁶ Project BOOST has national mentors that help hospital teams to understand current processes plus create and implement action plans for organizational change if needed. In addition to mentoring, Project Boost offers webinars, educational online resources, training sessions, and other tools that help transition care. It also provides evidence-based clinical interventions that can be matched to each unique hospital environment. Project BOOST has four main objectives that coincide with addressing the challenges Illinois CAHs face and align with the goals of the recent federal legislation:

- » Identify high-risk patients on admission and develop risk-specific interventions;
- » Reduce 30-day readmission rates for general medicine patients (focus on older adults);
- » Reduce length of stay; and
- » Improve facility patient satisfaction and HCAHPS scores.

Another innovation is the Illinois Hospital Association's (IHA) "Raising the Bar" initiative to increase the level of health care quality and make Illinois a national leader in quality care and patient safety.³⁷

PROMISING PRACTICE: ILLINOIS CAHS PARTICIPATING AT HIGH LEVELS

As of January 2012, 23 of 51 Illinois CAHs participated in Project BOOST, according to Angie Charlet, Director of Quality Services for the Illinois Critical Access Hospital Network. Through "Raising the Bar," 200 Illinois hospitals, including 48 CAHs (94.0%), are engaged in specific interventions over the next 3 years to reduce hospital readmissions and hospital-acquired infections and to share best practices and new methods.³⁸ The hospitals committed to collaborate on programs aimed at satisfying the federal legislation as well as increasing quality of care by:

- » Reducing 30-day hospital readmission rates for congestive heart failure, heart attack, and pneumonia; and
- » Reducing hospital-acquired conditions and infections such as Methicillin-resistant Staphylococcus aureus (MRSA), C. difficile, central line-associated bloodstream infections (CLABSI), catheter-associated urinary tract infections (CAUTI), surgical-site infections, and deep vein thrombosis (DVT) and pulmonary embolism following certain orthopedic procedures.

THE INNOVATION: PROJECT RED (RE-ENGINEERED DISCHARGE) TEAM REDUCING 30-DAY READMISSIONS

Project RED was created by Boston University's College of Medicine as a patient-centered, standardized approach to discharge planning and discharge education.³⁹ The program was initially funded by the AHRQ which currently contracts with the Joint Commission Research (JCR) to help hospitals implement the Project RED intervention, aimed at improving patient preparedness for self-care and at reducing the likelihood of readmission.

PROMISING PRACTICE: PROJECT RED STARTS IN WESTERN ILLINOIS

The Western Region, consisting of OSF Holy Family Medical Center and OSF St. Mary's Medical Center, began participating in Project RED in September 2011, to collaborate and develop programs and processes

that reduce readmission rates. As mentioned earlier, beginning FY13 CMS will hold hospitals accountable and adjust payments to hospitals based on readmission rates. Illinois Hospital Report Card data shows that between July 2006 and June 2010:

- » The national rate for all causes of readmissions was 21.0%;
- » The state of Illinois rate for all causes of readmissions was 21.6%: and
- » HFMC and SMMC had readmission rates for all causes of 22.1% and 21.2%, respectively.

Several process steps and measures were needed to reduce readmissions at both facilities:

- » Identify inpatients at “high risk for readmission” during the admission process using screening tool;

- » Provide “Teach Back” education to patients of “symptoms to look for which would prompt you to call your home care nurse or provider”;
- » Obtain a home health care order for high risk patients;
- » Staff contacts patients to schedule an appointment with their provider within 5 business days; and
- » Provide a 48-hour follow-up call to check on patient’s condition.

Project RED is in the beginning phases for both HFMC and SMMC and data are just beginning to be interpreted from the first month, including the finding that 43.0% of inpatients are at a high risk for readmissions. Process steps are in place and being monitored and more results will be available when the pilot ends in November 2012.

CONCLUSIONS

Patients suffer harm because of three types of quality problems. The first is when patients do not receive beneficial health services (underuse). The second is when patients undergo treatments or procedures that will not benefit their condition (overuse). The third is when patients receive correct medical services, but those services are not provided adequately, exposing patients to added risk of complications (misuse).⁴⁰ To overcome these quality of care issues, CAHs must identify and leverage strengths, address the challenges and areas for improvement, and implement promising practices and processes in their hospitals.

While rural health care is both changing and challenging, CAHs in Illinois are innovating to improve and measure the quality of care they provide for patients and communities. ICAHN provides technical assistance, educational programming, and, when possible, grant funds to support CAH efforts to improve quality of care. ICAHN also is leading the effort to accomplish meaningful quality of care outcomes based on the benefits of fewer errors, improvement in the delivery of effective care, and ultimately enhancing the quality of rural health care.

ICAHN and Illinois CAHs can explore several approaches and opportunities to continue to achieve the highest quality of care. These include:

1. *Collectively Develop “Rural Relevant” Quality Measures for Illinois CAHs.*

The rural relevant measures list can begin with the Flex Monitoring Team recommendations and a review of successful rural relevant measures used in Michigan and Montana. However, focus groups and surveys may be needed to create a list of measures that all CAHs in Illinois can measure, report, and utilize. The more universally accepted the indicators, the more likely the measures can be reported to one source or through one method. Streamlining the reporting would go a long way to increasing reporting by CAHs and all hospitals.

Identifying rural relevant measures could possibly be incorporated into the Centers for Medicare and Medicaid Services Health Care Quality Demonstration program with ICAHN member hospitals, as a group, examining rural

relevant indicators and suggesting them as proposed measures for future use.

2. *Utilize Data to Improve Process Measures*

CAHs can explore initiatives like the Comprehensive Unit-based Safety Program (CUSP) and other process-oriented trainings to help increase quality and quality scores on all process measures. Collaborating with other rural health care agencies to train staff is a cost and time-saving option. Creating a culture of patient safety at each CAH will ensure that process measures improve continuously. Using data analysis capabilities from IDPH Illinois Hospital Report Card and CMS Hospital Compare will be useful because CAHs are currently required to report to these entities and the databases may be more accurate and robust.

3. *Annually Assess Data of Critical Access Hospitals*

Explore annually updating comparative and time-series data on the value provided by CAHs. This can be done for outpatient data, inpatient data, or both. It can also incorporate rural data, including more intangible measures such as the community hub aspect. If measures are set by ICAHN members, an annually updated database can be developed.

4. *Enhance ICAHN Website as a Comprehensive Resource for CAHs*

CAHs will more likely publicly report data if they know it will be posted regularly and that the data can be translated into actionable information that is easily shared with, and understood by, stakeholders. This will bring a level of accountability to the process. The Flex Monitoring Team, CMS, IDPH, and others already use data collected from various sources and compile informative reports, but posting regularly on ICAHN's website as well will be helpful. With readily available data and Flex Monitoring Team information this can be accomplished at relatively low cost. This

data must be updated regularly. ICAHN has a website development team that is evaluating best approaches to displaying and summarizing data. Online access to data and reports will likely be a feature of the redesigned website. The redesign will help create an interactive experience for CAHs, patients, and other agencies who will find the data useful.

5. *Illinois Critical Access Hospital Best Practices Manual*

Illinois CAHs are making major strides, so sharing information regularly is important, including promising practices that improve quality of care and encourage collaboration and knowledge-transfer among CAHs. In 2010, Illinois critical access hospital CEOs responded to an email survey and described quality of care improvement efforts in their hospitals. By exploring their efforts in more detail and publishing their success stories, implementation by others can be achieved more easily.

Below is a list of improvements in quality of care processes implemented by Illinois CAHs:

- » Added patient safety bar code scanning of medication;
- » Implemented standard heparin protocol;
- » Implemented hospitalist program;
- » Implemented a new IT system to improve quality, safety, efficiency, and improve care coordination;
- » Reported monthly to all staff on quality improvement initiatives, also posted on hospital web site;
- » Merged with a large health care system to improve benchmarking and patient safety initiatives;
- » Established a cabinet of medical staff to meet monthly and review/evaluate performance on quality measures;
- » Used A3-Mapping from Lean Health Care Performance Partners and Six Sigma to improve quality; and
- » Implemented monthly review and analysis of patient satisfaction data from Healthstream regarding quality indicators.

Michigan's MICAHA has several quality projects underway and shares information annually by publishing a Best Practices Model.⁴¹ The aim, goals, interventions, tools, barriers to overcome, improvements from the intervention, successes, lessons learned, and plans for sustaining or improving current results for each practice are described in the publication. ICAHN highlights member hospitals for promising practices at different events and through press releases, but a quarterly or yearly publication would help enhance the profile of Illinois CAHs to patients, public officials, and other CAHs.

6. *Distribute a Monthly or Quarterly ICAHN Newsletter*

Compile and distribute on a regular schedule relevant information on promising practices, legislative and regulatory proposals, and upcoming conferences and meetings. While an annual report and a best practices manual are excellent, a monthly or quarterly newsletter allows for communication of time-sensitive information. This could be a collaborative effort with other health care organizations or a newsletter that ICAHN produces. North Dakota's Quality News is a useful example to review.⁴²

7. *"Strategic Doing" Initiative for Stakeholders*

As rural relevant quality of care measures continue to be proposed and implemented, CAHs, ICAHN, and other stakeholders would benefit from strategic planning sessions that discuss how upcoming reporting requirements and new measures can be implemented successfully. ICAHN should continue to prepare CAHs for legislative and regulatory changes. ICAHN should also explore best practices in strategic planning to understand which model is the best fit for CAHs.

8. *Unique Collaborative Approaches*

Develop collaborative relationships beyond the traditional state and government agencies to include foundations, universities, private

insurance agencies, and other state CAH networks. These approaches may include incentive programs, collaborating on quality of care training, and measurement initiatives to share cost, resources, and talent. Current quality of care initiatives such as MBQIP, Project BOOST, Raising the Bar and networks such as ICAHN, MICAHA, and PIN are all examples of collaboration and networking in a new era of health care delivery. Innovative collaborative efforts, including promising practices in management, technology, and networking will be explored in a forthcoming ICAHN paper on Collaboration and Collaborative Models to be published in Summer 2012.

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As always, the findings and conclusions presented in this report are those of the authors/project team alone and do not necessarily reflect the views, opinions, or policies of the officers and/or trustees of Northern Illinois University. For more information, please contact Melissa Henriksen, mhenriksen@niu.edu or 815-753-0323.

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APPENDIX: QUALITY MEASURE REPORTING TOOLS FOR CAHS

CATEGORIES OF DATA COLLECTED AND REPORTED	AGENCY RECEIVING DATA	SUBMISSION METHOD	MANDATORY OR VOLUNTARY REPORTING	AGENCY THAT DISPLAYS DATA
Hospital Inpatient Quality Reporting Program PN, HF, AMI, SCIP Hospital Outpatient Quality Reporting Program OP Surg, Chest pain, AMI	QIO Clinical Warehouse	Information abstracted by hospital and submitted electronically: 1. via CART Tool through Qnet, or 2. vendor such as IHA COMPdata	Voluntary for CAH	Hospital Compare (website hosted by CMS) IL Hospital Report Card (website hosted by IL Department of Public Health) IHA Quality Care Institute Joint Commission Quality Reports
OIE: Outpatient Imaging Efficiency Measures OP8 - OP 15 (See Qnet for entire listing)	Data extracted from Medicare payment claims submitted by hospitals	Claims-based data; extracted from billing; not abstracted by hospital	Voluntary for CAH; if elect to report Hospital Outpatient Quality Data, measures will display in IL data	Hospital Compare
Nurse Staffing Information: Nrsrg hrs./pt. day (RN, LPN, Assistive Nrsrg) and total IP days	Illinois Hospital Association COMPdata website or IDPH site	Data entered on COMPdata website	Mandatory per Hospital Report Card Act (HRCA)	HRCA
Surgical Care Improvement Project (SCIP)	IHA COMPdata website	Information abstracted by hospital and submitted to IHA COMPdata	Mandatory for Illinois	HRCA Hospital Compare
CLABSI	Via NHSN (National Health Safety Network) to CDC/IDPH	NHSN reporting system	Illinois Mandate	HRCA
SSI Total Knees	Via NHSN to CDC/IDPH	NHSN reporting system	Illinois Mandate	HRCA
MRSA	Via NHSN to CDC/IDPH	NHSN reporting system	Illinois Mandate, Jan. 2012	HRCA
C.Diff	Via NHSN to CDC/IDPH	NHSN reporting system	Illinois Mandate, Jan. 2012	HRCA
VAP	Via NHSN to CDC/IDPH	NHSN reporting system	Illinois Mandate, 2013	HRCA
CAUTI	Via NHSN to CDC/IDPH	NHSN reporting system	Illinois Mandate, 2014	HRCA
Readmission Rates	Medicare claims data and UB Adm Data submitted by hospitals	Claims-based data - not abstracted by hospital	NA	Hospital Compare IL Hospital Report Card IHA Quality Care Institute
Mortality Rates	Data is taken from Medicare Claims submitted for payment by hospital and UB Adm Data	Claims-based data, not abstracted by hospital	NA	Hospital Compare IL Hospital Report Card IHA Quality Care Institute

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Meaningful Use	CMS	Online attestation	Voluntary	CMS
UB Administrative Data (Consumer Guide)	IHA COMPdata website	Electronic submission via COMPdata website	Mandatory	Agency for Healthcare Research and Quality (AHRQ) Hospital Compare Hospital Report Card IHA Transparency website
MBQIB (Medicare Beneficiary Quality Improvement Project)	No additional data submission by hospital, Federal Office of Rural Health Policy accesses Hospital Compare	NA	Voluntary (all 51 Illinois CAHs have signed commitment letters to report)	Federal Office of Rural Health Policy
Cancer Registry	IDPH designated site			
Trauma Registry	IDPH designated site			
EDAP or SEDP Designation	IDPH designated site		Mandatory for designation	
Perinatal Indicators	IDPH designated site		Mandatory for designation	
Core Measures	Joint Commission	Vendor submission method	Mandatory to collect, not mandatory to submit; must verify during survey	Joint Commission
National Patient Safety Goals	Joint Commission	Vendor submission method	Mandatory to collect, not mandatory to submit; must verify during survey	Joint Commission
OASIS Quality Measures for Home Health	CMS	Electronic submission via CMS download	Mandatory for all Medicare-certified home health agencies	CASPER on CMS site and Home Health Compare site
Physician Quality Reporting System (PQRS)	Qualified vendors and EHR vendors	Claims registry, EHR, DM Measures Group (C/R)	Voluntary	Various, based on measure
Project RED/BOOST	IHA	IHA submission method	Voluntary	Accessible only to project participants
Pharmacy/CAUTI Improvement Projects	QIO	QIO submission method	Voluntary	Accessible only to project participants
Nursing Indicators	NDNQI Tool	NDNQI site	Voluntary	Accessible only to organization members
Quality of Care and Financial Data	ICAHN Scorecard	Manual data entry to ICAHN Scorecard	Voluntary	Accessible only to ICAHN Scorecard participants

RURAL HEALTH CARE WHITE PAPER SERIES: ISSUE I

ILLINOIS CRITICAL ACCESS HOSPITALS: *Enhancing Quality of Care in Rural Illinois*

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